Form MF–103
Revised Oct. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED MAR 20 1958 DMEA

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)

Battle Axe Mining Company
1790 Glen Ayr Drive
Denver 15, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
MAR 18 1958
REGION III
DENVER, COLORADO

DMEA
DEPARTMENT OF THE INTERIOR
APR 4 - 1958
REGION III
DENVER, COLORADO

APPLICANT NOT TO USE THIS BLOCK

Docket Number	4965
Date Received	3-20-58
Government Participation %	50
Region	III
Division Code	700

BUSINESS ORGANIZATION (Check one)

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

State in which firm is organized: Colorado

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
E. E. Corder	460 South Clay St., Denver We 5 3629	President
Howard Eggleston	Medicine Bow, Wyoming	Vice-Pres.
Henry R. Keller	1790 Glen Ayr Dr., Denver Be 7-6044	Secy-Treas. Wood Prof. DFC EAT 6347 6684

Consultants Melbye & Merwin Cr 9-4268 off Cr 9-1542

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

Estimated Cost of Project: $ 7410

LOCATION OF PROPERTY

Name	County	State
Night Owl Property	Albany Co.	Wyoming

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order–I, Revised, "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.

March 14, 1958
Dated

E. E. Corder
BY *(Signature)*

President, Battle Axe Mining Company
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, Revised.

(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. 25960

Battle Axe Mining Company
1790 Glen Ayr Drive
Denver 19, Colorado

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APPLICATION FOR AID
in an
EXPLORATION PROJECT
NIGHT OWL PROPERTY
Albany County, Wyoming

1. Applicants Property Rights:

a) The property consists of the following unpatented mining claims in Sections 6, 7, and 18, T28N, R76W, and Sections 1, 12, and 13, T28N, R77W, Albany County, Wyoming.

Claim	Date	Book	Page No.
Night Owl 1-A through 8-A	9-12-56	71	53-60
9-A through 16-A	10-4-56	71	384-391
17-A	10-10-56	71	449
1-B through 2-B	10-4-56	71	392 and 393
3-B through 7-B	10-10-56	71	444-448
8-B through 14-B	10-20-56	72	1-7
1-C through 5-C	10-15-56	71	515-519
6-C through 10-C	12-3-56	72	548-552
11-C through 15-C	11-25-57	81	340-344

They are recorded in the Albany County courthouse, Laramie, Wyo.

Also included is a lease from the Two Bar Livestock Company on all lands owned by them in Sections 11, 12, and 14, T28N, R77W, Albany County, Wyoming. Specifically, this would include:

SW¼ NE¼; S½ NW¼; NW¼ SW ¼; Section 12
S½ N½; SW¼; W½ SE¼; NE¼ SE¼; Section 11
NW¼ NW¼; Section 14

See the land map, Plate 1, for property locations.

b) The recognized name is the Night Owl Property.

c) The Night Owl claims were originally located for the Night Owl Company by Howard Eggleston, Marie Eggleston, Harvey Eggleston, Fred Gayman, Glen Gayman, Dick Farrell, Al Williams, Henry Keller, E. E. Corder, and Mildred Corder. Battle Axe Mining Company now has full ownership through an assignment from the Night Owl Company, represented by the above listed people. Copies of the assignment are attached as Exhibit A.

d) There are no liens, encumbrances, or mortgages of any kind on the property.

Battle Axe Mining Company
1790 Glen Ayr Drive
Denver 15, Colorado

2. Physical Description

a) Battle Axe Mining Company has conducted all exploratory and mining operations on the property. Exploration has consisted of approximately 2000 feet of drilling, although most of this was 10-foot holes drilled for assessment purposes and with only slight regard to geological features.

In addition to purely assessment drilling, 7 or 8, 10'-20' holes were drilled in the vicinity of the mine pit, but the type of drill used would not penetrate the hard agate bed. Also, 2 holes were drilled west of the mine area; a 70-foot hole on Claim 1-B and a 50-foot hole ½ mile farther west. Both of these showed slight radioactivity of over twice background. Also, to the southeast of the mine area, 4 deeper holes were drilled; a 45-foot hole on Claim 12-C, 1 150-foot hole on Claim 10-C, a 70-foot hole north of 10-C, and another 60-foot hole farther east. Four holes, 40-50 feet deep, were drilled in the vicinity of Station 18, and one is located on Plate 2. All drill holes were probed, but neither radiometric or geologic logs were made.

In addition, Battle Axe did considerable roadbuilding and bulldozer work in the mine area, and a total of 91.306 tons of ore were shipped from the one small pit.

b) Battle Axe Mining Company conducted all exploratory and mining operations with their own funds.

c) The copies of the ore settlement sheets from the buyer, Lucius Pitkin, Inc., Riverton, Wyoming, were sent to the Atomic Energy Commission for certification purposes and are no longer available. If desired, the following list of shipments may be checked with Lucius Pitkin, Inc.

Date	Liquidation No.	Tons	Grade-%U_3O_8
Oct. 1956	2066	8.390	0.22
Dec. 1956	2569	35.409	0.18
Dec. 1956	2447	47.507	0.17
	Total	91.306 Tons	

d) There are no known ore reserves on the property. There is still highly radioactive material remaining in the pit, similar to what was shipped, but the extent and grade of this has not been determined.

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e). Geological Features of the Property-(See Plate 2)

Rock Types: There are three formations present in the mapped area. The oldest rocks, consisting of the pre-Cambrian granites, outcrop at the bottom of the hill immediately north of the mine. They are the typical yellow-brown to red-brown granites which form the core of the Medicine Bow range to the east, or the Laramie Range as it is often called. The top of the granite is a major unconformity, since the formation resting on the granite is the Mississippian Madison , which in this locality usually includes the Mississippian Amsden formation. The only lithologies exposed are those near the top, which consist of a brown to blue agate or chert bed overlain by a tan, thin-bedded limestone, which has abundant crystalline calcite, agate, and chert. The contact beween the Madison and the Pennsylvanian Casper formations has been inferred on the map, as the beds outcropping near the top of the hill are part of the Casper formation. They are pink, cherty limestone and light red-brown silicified sandstone.

The Tertiary white River formation lies against the Madison and Casper formations to the west of the hill and would start about at the west edge of the mapped area. It composes the valley fill and extends out into Shirley Basin, where large uranium deposits are now being found in the White River and/or Wind River formations.

The University of Wyoming thesis by Phillip Konkel, The Geology of the Northeast Portion of the Laramie Basin, Little Medicine District, Wyoming, 1935, is the most complete reference.

Structure: The beds exhibit only the regional dip of about 5° west to southwest. Although not readily discernible because of few outcrops, there appears to be north-south faults both to the east and west of the mine. They may have fractured the rocks between and partially accounted for the uranium localization.

Mineralization: The uranium mineralization which was mined from the open cut on Night Owl 1-A is largely confined to the agate or chert bed in the upper part of the Madison formation. The agate and chert occur as joint and solution cavity fillings with the openings lined with small quartz crystals. This material is somewhat brecciated and recemented, possibly from sedimentary processes, since specific faulting is not obvious. However, the two N-S faults may have been a factor in uranium localization and they may have been the channelways for introduction of uranium. Specific uranium minerals are difficult to identify as it is apparently finely intermixed with the silica.

The radioactive outcrop extends for about 250 feet, although the agate bed can be traced for a total distance of 1000 feet around the hill. It dips at about the same dip as the limestones and sandstones and is therefore a sedimentary unit which can be pro-

Battle Axe Mining Company
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Denver 15, Colorado

jected within the immediate area. (See cross-section, Plate 3)

There is a distinct possibility of uranium mineralization occurring in other lithologies in this area, similar to that of the Pryor Mountains. The small pit at Station 2 is considerably above the agate bed and in the limestone and shows some radioactivity. The granite outcrop at the bottom of the hill (Station 7) is considerably altered to kaolin, similar to that in areas of uranium mineralization, and some radioactivity is present. Although specific faulting cannot be seen, a N-S fault must extend through that vicinity. Also, the Mississippian Madison-Amsden contact zone is the same as that mineralized in the Pryor and Shirley Mountain areas of Wyoming. One hole was drilled to the west of the hill near the old schoolhouse on Claim 1-B; it was 70 feet deep, in the White River formation, and encountered abnormal radioactivity of about twice background near the bottom, presumably near the contact with older rocks.

f) We expect to find ore for the following reasons:
1. The fact that 91 tons of uranium ore averaging .17%-.22% U_3O_8 were shipped from one small pit indicates that this type of mineralization can be of an economic grade.

2. The agate bed is a sedimentary unit which can be traced throughout the immediate area. The brecciated nature of the rock, whether from sedimentary or fault processes, has provided a place of deposition for uranium solutions.

3. Since anomalous radioactivity is found in the altered pre-Cambrian granite, in the Madison limestones, and in the White River formation, there is a distinct and favorable possibility of finding uranium mineralization in the other lithologies. Extensive soil cover has allowed only very limited outcrops and therefore discovery would be difficult by normal surface prospecting.

Two representative channel samples were taken by S. S. Merwin, Consulting Geologist, who made the preliminary geological evaluation. They are located Plate 2 and copies of the assay certificates are attached as Exhibit B.

		$\%U_3O_8$	%eU
Sample #1-	Main pit	.234	.21
Sample #2-	Outcrop in small pit. 135' E of main pit	.227	.17

g) Three maps are enclosed with the application. They do not have to be returned.

Plate 1	Land Plat
Plate 2	Plan Geological Map
Plate 3	Geological Cross-Section

Battle Axe Mining Company
1790 Glen Ayr Drive
Denver 15, Colorado

3. Accessibility of Project

a) Mr. Howard Eggleston, Medicine Bow, Wyoming will meet the DMEA representatives at his ranch, where he lives, and will show them the property. This ranch may be reached by traveling north on the paved highway from Medicine Bow for 21 miles; turn right on the Cole Springs road and travel for 23 miles on this winding good dirt road; turn left and travel 2½ miles on a dirt road to the Eggleston ranch, which is situated in the bottom of a rather pronounced valley. The mine is then about 2½ miles east of the ranch on an unimproved but fairly good dirt road, which can be readily improved with a minimum of bulldozer work to facilitate ore haulage. The property is readily accessible except for periods during and after snowstorms and ground blizzards, when snow plows would be needed to maintain accessibility.

b) The nearest shipping point is Medicine Bow, 49 miles south, on the Union Pacific Railroad. Medicine Bow would also be the nearest supply point. Past work has always been done by people residing at the ranch. Since Medicine Bow is rather distant, housing facilities would have to be constructed for the employees at the ranch, in the event of a mining operation.

4. The Exploration Project

a) The proposed exploration project consists essentially of NX core and non-core drilling with bulldozer work only for preparation of drill access roads. Drill-hole locations are shown on Plate 2, which illustrates the relationship to geologic features and property boundaries.

Part of the holes are planned to drill just through the mineralized agate bed and part are planned to drill to the granite in the vicinity of the N-S fault and altered radioactive granite at the northeast edge of the mapped area. Two core holes are proposed for stratigraphic purposes and for accurate assays in the event of a uranium discovery. Furthermore, since the agate material is difficult to drill with normal rotary bits, it is proposed that this approximate 6-foot bed be cored in each hole, since the bits will have to be changed anyway. This will add about 50 feet total additional coring in hole nos. 1-3 and 5-9.

Phase 1: The following list of drill-hole depths is proposed on the basis of allowing 5 feet more than the projected position of the agate bed and 10 feet more than the depth of the granite, and on a 200-foot spacing.

Battle Axe Mining Company
1790 Glen Ayr Drive
Denver 15, Colorado

Hole No.	Coordinates N	Coordinates E	Depth	Type
1	20,100	20,200	55'	Non-core
2	20.150	20,400	65'	"
3	20,150	20,600	75'	"
4	20,150	20,800	225'	Core
5	20,150	21,000	100'	Non-core
6	20,350	20,600	55'	"
7	20,350	20,800	70'	"
8	20,350	21,000	40'	"
9	20,350	21,200	150'	"
10	20,600	20,900	115'	"
11	20,600	21,100	75'	Core
12	20,800	20,700	80'	Non-core
13	20,800	20,900	80'	"
14	20,800	21,100	50'	"
15	20,950	21,000	40'	"
		Total	1275'	
			350'	Core
			925'	Non-core

Phase 2: 1000 feet of drilling is proposed as 100-foot offsets to mineralized holes found under Phase 1. Since drilling will be in mineralized zones, it is believed that 400 feet of coring and 600 feet of non-coring will be necessary.

Technical supervision by the consulting firm of Melbye and Merwin, 1117 Washington Avenue, Golden, Colorado will be provided to supervise drilling, log cores and cuttings, probe the holes, and prepare samples for assay. Fifty assays are estimated as necessary for Phase 1 and 75 for Phase 2, and cuttings or core will be assayed on 2 or 2.5-foot intervals, depending on type of drill, from all anomalous zones discovered by probing. Complete logs and maps will be prepared and drafted by Melbye and Merwin.

b) No access road to the project is required, but individual roads to each drill site must be prepared. These will consist of the minimum trail necessary to move in a portable truck-mounted drill of the Failing or Portadrill type.

c) In the event the exploration contract is executed, work will start within 30 days and Phase 1 will be completed within 90 days of execution. Phase 2 will be completed within 60 days from its approval date.

The applicant anticipates a drilling progress of 40 feet per day while coring and 150 feet per day in non-coring.

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5. Experience

Mr. E. E. Corder, president of Battle Axe Mining Company, has been and is successfully engaged in the cattle and sheep business in many phases and in construction contracting. His business experience will be of value in guiding company operations.

All direct supervision of exploration and mining operations will be handled by the consulting firm of Melbye and Merwin, who are successfully engaged in geological-geophysical exploration and in mine management, both in the western United States and Mexico. The partners in this firm have each had 6-8 years experience for such companies as New Jersey Zinc Company, Anaconda Company, and Kennecott Copper Corporation, as instructor in geology at the Colorado School of Mines, and as consultants to Phelps-Dodge Copper Corporation, Southern Pacific Railroad, Wyoming Uranium Corporation, Colorado Fuel and Iron Corporation, and many other companies and individuals.

6. Estimate of Costs

a) Independent Contracts- All work will be completed by independent contractors.

Phase 1

Rotary core drilling-NX	350 feet @ $4	$1400
Rotary non-core drilling	925 feet @ $1	925
Bulldozing	20 hours @ $10	200
Technical Supervision(including all field expenses, drafting, and radiometric probing)	1275 feet @ $.80	1020
	Total	$3545

Phase 2

Rotary core drilling	400 feet @ $4	$1600
Rotary non-core drilling	600 feet @ $1	600
Bulldozing	15 hours @ $10	150
Technical supervision (as above)	1000 feet @ $.80	800
		$3150

Total Phase 1 and 2, Ind. Contrs. $6695

b) Personal Services- They have been included under 6 (a).

Battle Axe Mining Company
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c) Operating Materials and Supplies-

Phase 1

Wooden core boxes	14 @ $3	$ 42

Phase 2

Wooden core boxes	16 @ $3	$ 48
	Total Supplies	$ 90

d) Operating Equipment- None

e) Initial Rehabilitation and Repairs- None

f) New Buildings, Fixtures, and Installations- None

g) Miscellaneous

Phase 1

Assays	50 @ $5	$250

Phase 2

Assays	75 @ $5	$375
	Total Phase 1 and 2, Miscellaneous	$625

Note: Drilling bids will be supplied to the DMEA upon receipt, but present estimated costs are based on the operator's experience in Wyoming regarding drilling costs. Past contract non-core drilling on the Night Owl claims has been at the rate of $1 per foot.

Recapitulation of Costs

Total- Phase 1	$3837
Total- Phase 2	3573
Total Cost of Project	$7410

7. a) Battle Axe Mining Company is prepared to furnish 50% of the project cost, or $1918.50 under Phase 1 and $1786.50 under Phase 2, according to Sect. 7 of DMEA Order-1, Revised.

b) All of this share will be furnished by providing money.

EXHIBIT A

PERMIT TO PROSPECT WITH OPTION TO LEASE

COPY
DMEA
RECEIVED MAR 20 1957
DATE | INITIALS | CODE

THIS AGREEMENT is entered into between Two Bar Livestock Company, hereinafter known as the owner, and [redacted], hereinafter known as the prospector, this 19 day of March, 1957.

1. Consideration: The consideration for this agreement is the sum of One Dollar ($1.00) in hand paid to the owner by the prospector together with other good and valuable considerations, receipt of which are hereby mutually acknowledged.

2. Permit to Prospect: The owner hereby grants to the prospector the right to enter in and on the lands or mining claims of the owner, and any part thereof (to-wit: Sections 11, 12, and 14, Township 28, Range 77 West) and to prospect for all minerals, including coal, oil, and uranium, and sink such prospect shafts and slopes, or drill such holes as may be necessary to ascertain the quantity and quality of any mineral in and on and underlying the land, such privilege so hereby granted to continue in full force and effect to and until the _____ day of _____, 195__.

~~3. Option to Lease: The owner grants to the prospector until the _____ day of _____, 195__, an option on the terms and conditions set forth herein, to receive a mining lease and oil lease of all mineral properties in and on and underlying the above described property.~~

4. Work and Exploration: All prospecting, exploration, testing, development and work done under this agreement shall be done at the discretion of the prospector and at his own expense, provided that all work done and all improvements made by the prospector on said property, or any part thereof, under the terms hereof during the period of said option shall be done in a miner-like and

placed upon said premises prior to the exercise of said option by the prospector for use in said work shall not become a fixture but shall remain the property of the prospector and subject to removal by the prospector, and in the event the prospector does not exercise his option to lease he shall be entitled to remove all of said equipment, tools, machinery, structures, improvements, and personal property from said premises within 30 days from the expiration of said option.

5. Samples: The prospector shall have the right prior to the exercise of his option to lease to remove and take as his own assay samples and mill tests from said property in reasonable quantities.

6. Failure to Exercise Option to Lease: In the event the prospector shall elect not to exercise the option to lease, he shall peaceably surrender and vacate the said property, free and clear of any liens and incumbrances incurred by the prospector in his operation, but the prospector shall not be held liable for any damages or compensation for the sinking of shafts, slopes, or prospect holes.

7. Indemnity: The prospector during his occupation of said property and all thereof, agrees to protect said property and all thereof against all claims of labor and materialmen and other liens and liabilities arising out of the acts of the prospector on said property, and the prospector further agrees to hold harmless the owner against any and all claims for damages for injury incurred by workmen in his employ at said properties, or any other person or persons.

Signed in duplicate the date first above written.

TWO BAR LIVESTOCK COMPANY

By _____
Owner

_____
Prospector

EXHIBIT B

2114 CURTIS STREET

TEL. [illegible]

CHEMISTS ○ ASSAYERS ○ ENGINEERS

DENVER 5, COLORADO

Folio

Date

[illegible]

We hereby Certify, that the samples assayed for you gave the following results:

DESCRIPTION	URANIUM OXIDE U_3O_8	VANADIUM PENTOXIDE V_2O_5	LIME CaO	RADIOMETRIC EQUIVALENT eU	THORIUM OXIDE ThO_2	[illegible]	COMBINED [illegible] OXIDES
[illegible]	0.2[illegible]			0.[illegible]			
[illegible]	0.2[illegible]			0.[illegible]			

PLEASE PAY FROM THIS [illegible] AS NO OTHER STATEMENT WILL BE MAILED. THANK YOU.

Charge $ 30.00

CHARLES O. PARKER & CO.

CHEMISTS, ASSAYERS and ENGINEERS

EXTRA COPY
D M E A
RECEIVED MAR 20 1958

DATE	INITIALS	CODE

Memorandum May 19, 1958

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

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

Subject: Review of field examination report, DMEA 1965 (uranium), Robbins Ann Mining Co., Eight Oak claims, Albany County, Wyoming.

The examining team report that there is insufficient evidence of significant uranium mineralization to warrant participation by the Government in an exploration project on the applicant's property.

The applicant controls 3,500 acres of land. Metallurgical tests of the ore by the AEC showed an uranium recovery of only about 45 percent. The examiners report that uranium occurs in small widely scattered near-surface deposits of little or no economic significance.

I agree with the examining team's recommendation for denial of the application for the main reason that a significant discovery would not be likely to result from the proposed work.

W. P. Williams

Copy to: DMEA (3)
C. I. Gardner
Janet Fenn, 3543
Docket file
Chrono. file
Director's reading
Branch reading

WPWilliams:gbb
G-MD: 5/23/58

4965

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224 New Customhouse
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May 6, 1958

Memorandum

To: Secretary to the Operating Committee

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

Subject: Docket No. DMEA 4965 (Uranium) Battle Axe Mining Company (Night Owl claims) Albany County, Wyoming - Joint Engineering and Geologic Report

Enclosed are the original and two copies of the joint report of examination on the subject property by D. H. Richter, USGS, and E. O. Binyon, USBM.

The field examiners conclude that exploration of the property will not result in the discovery of significant ore deposits and that Government participation in an exploration program is not warranted. Accordingly, they recommend that the application be denied.

We concur in this recommendation.

Original signed by
E. N. HARSHMAN

E. N. Harshman

EHC:dp
cc: Harshman
DMEA/DPC (2)
Baker
Docket
Caron.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

DMEA 4965

Battle Axe Mining Company

Night Owl claims

Albany County, Wyoming

Uranium

Joint Engineering and Geologic Report

by

D. H. Richter, Geologist
Geological Survey

E. O. Binyon, Mining Engineer
Bureau of Mines

May 2, 1958

Reviewed by
DMEA OPERATING COMMITTEE

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(date)

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DMEA 4965

BATTLE AXE MINING COMPANY
NIGHT OWL CLAIMS
ALBANY COUNTY, WYOMING

INTRODUCTION AND SUMMARY

The Battle Axe Mining Company, a Colorado Corporation, 1790 Glen Ayr Drive, Denver, Colorado, has applied to the Defense Minerals Exploration Administration for aid in exploration of a portion of the Night Owl claims and leased land for uranium. The claims are in secs. 6, 7, and 18, T. 28 N., R. 76 W. and secs. 1, 12, and 13, T. 28 N., R. 77 W., and the leased lands are in secs. 11, 12, and 14, T. 28 N., R. 77 W., 6th principal meridian, Albany County, Wyoming.

The applicant requests exploration of the property by a two-phase program comprising 750 feet of core drilling, 1,525 feet of non-core drilling, and 35 hours of bulldozer operations with an allowance for supervision. The total estimated cost is $6,695.00.

As proposed the program is designed to explore, with some of the holes, a mineralized agate bed in the Madison limestone (Mississippian) and with others to explore to the granite basement rock near faults.

A field examination was made on April 15, 1958, by D. H. Richter, geologist, U. S. Geological Survey, and E. O. Binyon, mining engineer, U. S. Bureau of Mines. After repeated attempts to arrange a meeting

with Howard Eggleston, who was to accompany the examining team, had failed, Henry R. Keller, secretary and treasurer of the company, was contacted and arrangements were made to make the examination without a representative of the company being present.

In the opinion of the examining team, there is insufficient evidence of significant uranium mineralization to warrant participation by the Government in an exploration program of the property, and it is recommended that the application be denied.

ACKNOWLEDGMENTS

Thanks are due Millard Rayner, Chief, A.E.C., Sub-Office, and Howard Geslin, A.E.C. geologist at Casper, Wyoming, for information concerning the property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The claims and leased land, a contiguous tract, except for claim 17A, are in secs. 6, 7, and 18, T. 28 N., R. 76 W., and secs. 1, 11, 12, 13, and 14, T. 28 N., R. 77 W., 6th principal meridian, Albany County, Wyoming (figs. 1 and 2). Medicine Bow, a small community on U. S. Highway 30, fifty-six miles northwest of Laramie, Wyoming, is the nearest town and railpoint. It is not a supply or equipment center;

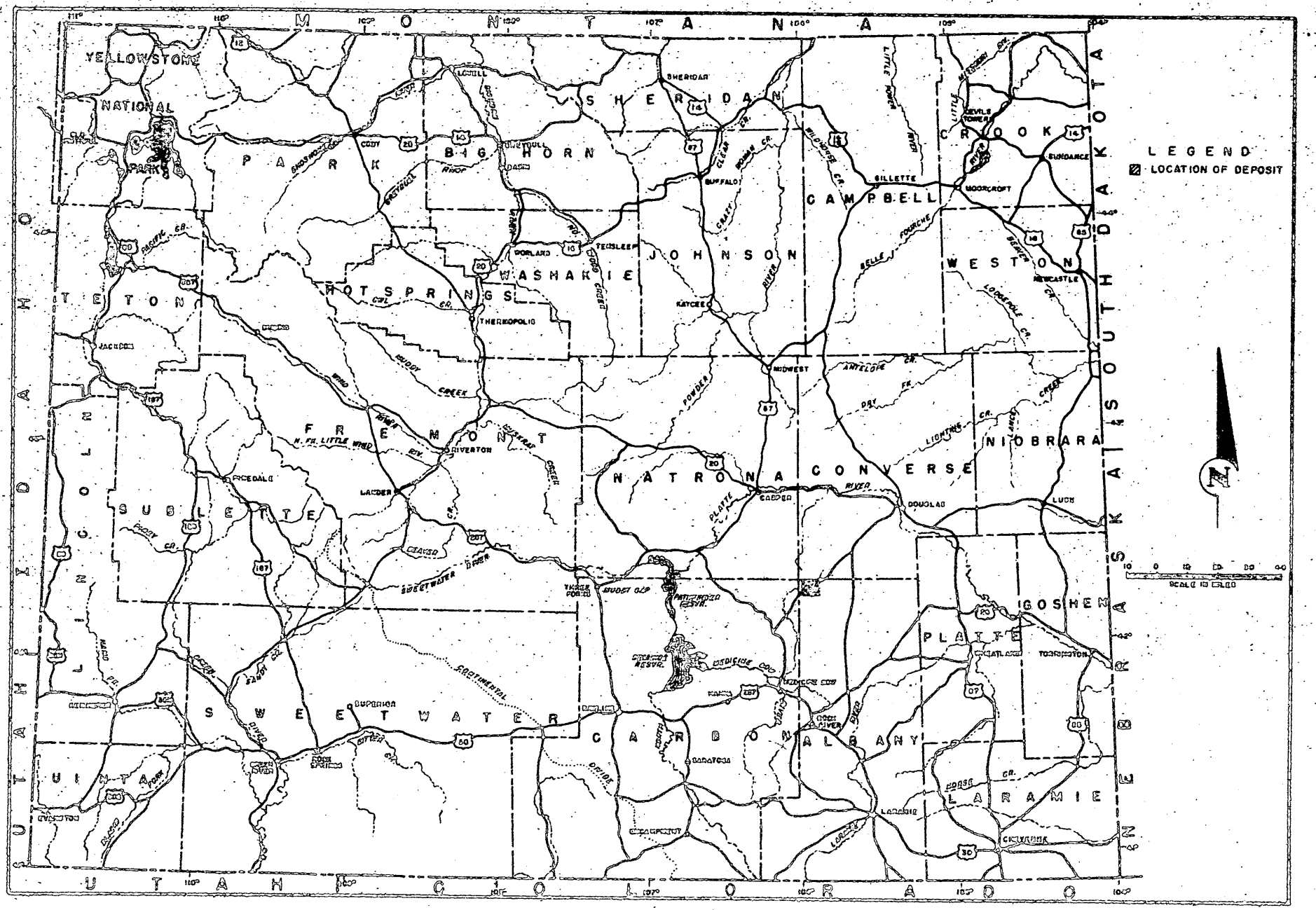

FIGURE 1 - LOCATION MAP, BATTLE AXE MINING COMPANY, NIGHT OWL CLAIMS, ALBANY COUNTY, WYO. DMEA 4965

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any major items would have to be purchased at Casper, 63 miles to the northwest, or Laramie, 98 miles south of the property.

To reach the property from Medicine Bow take the state secondary road 0405 going north to Casper, continue for 17.1 miles (to the end of the surface road) and bear right onto the old Casper road, continue on this dirt road for 13.5 miles and take the right road at the junction. This road is signed "La Prele Ranger Station" continue for 5 miles then turn left onto an unimproved dirt road and continue for 4 miles to the Howard Eggleston ranch. Go through the corral and continue east on an unimproved dirt road for 2.7 miles to the property.

The property is on the western edge of the foothills of the Laramie Mountains in an area of low to moderate relief. Altitude at the mine workings is about 6,800 feet and on the north fork of the Little Medicine Bow River, which cuts east and west through the approximate center (north and south) of the claims, the altitude is about 230 feet lower or approximately 6,570 feet. The land is used for grazing sheep and has considerable grass growth. There is no timber on the property. Water is readily available from the north fork of the Little Medicine Bow River. No electric power is available at or near the property.

The climate is typical of Wyoming and the plains states. Summers are moderate with the maximum temperature seldom exceeding 90°. Winters are usually severe; subzero temperatures are not uncommon and blizzard conditions can cause shutdowns of outside operations for brief periods.

The roads from Medicine Bow into the property are made impassable by heavy snow or rainfall.

OWNERSHIP

In the application it is stated that the Night Owl unpatented mining claims are owned by the Battle Axe Mining Company and that the land shown on the map as owned by the Two-Bar Livestock is held under lease by the company. The applicant's map does not show claims 5A, 6A, 4B through 14B, 13E through 15E and that portion of leased land in the S 1/2 N 1/2, SW 1/4, W 1/2 of SE 1/4 and NE 1/4 of sec. 11, and NW 1/4 NW 1/4 of sec. 14.

In area the property includes 950.35 acres of claimed land and 640 acres of leased land or a total of 1,590.35 acres.

HISTORY AND PRODUCTION

The claims were located in the fall and winter of 1956, and in November 1957, by Howard Eggleston et al for the Night Owl Company. Mining operations were started immediately and shipments totaling 91.306 tons with an average grade of 0.178 percent U_3O_8 were made to the A.E.C. buying station at Riverton, Wyoming. According to verbal communication from the A.E.C. officials at Casper, metallurgical tests of the ore indicated a probable recovery of about 45 percent or about half the normal recovery from other uranium ores.

PRESENT STATUS

The property is not being worked at present and there have been no ore shipments other than those mentioned above.

GEOLOGY AND MINERAL DEPOSITS

The Night Owl claims are on the extreme western flank of the Laramie Mountains along the present eastern physiographic border of the Shirley basin--a relatively small Tertiary basin in southeast Wyoming. In the general area of the claims, gently westward-dipping upper Paleozoic rocks unconformably overlie Precambrian granite. Semiconsolidated Tertiary rocks, probably equivalent to either the Wind River or White River formations, or both, are now exposed only in the topographically low areas, but undoubtedly at one time covered a major portion of the older rocks.

The Paleozoic rocks in the immediate vicinity of the Night Owl prospect are very poorly exposed. In a vertical distance of 200 feet above the assumed Precambrian-Paleozoic contact only a few outcrops of brown silicified limestone and thin-bedded pink to buff sandy limestones and limey sandstones were observed. These sandy limestones and sandstones, which appear to be fairly resistant to erosion, cap the higher elevations at the prospect area, and are considered by the applicant

and others [1] to represent the Pennsylvanian Casper formation (fig. 3). The brown silicified limestones which are exposed below the sandy calcareous rocks are tentatively assigned to the Mississippian Madison or Amsden formation. Only two stratigraphic units in the Mississippian rocks were observed--a thin bed of brown silicified limestone containing pink and gray banded chert nodules in the lower part and a highly silicified zone in the prospect area near the top of the section. The remainder of the section is covered and probably consists of soft limestones and shales.

The prospect area in the central part of sec. 12, T. 28 N., R. 77 W., occupies a narrow restricted zone about 200 feet long and 50 feet wide in the Madison rocks, approximately 15 feet below the inferred Madison-Casper contact (fig. 3). The rocks exposed in this area are now chiefly brown to gray-brown massive and vuggy cherts or jasperoids, representing an almost complete replacement of the original limestone by cryptocrystalline silica. Vugs and openings in the jasperoid are generally lined with creamy opaline fluorescent chalcedony. Two strong radioactivity anomalies with an intensity greater than 20 times the background of 0.015 mr/hr occur in the prospect area. One is over the mine pit (now snow-filled) from which 91 tons of material containing approximately 0.18 percent U_3O_8 is reported to have been mined and the

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1/ Konkel, P. (1935), The Geology of the Northeast Portion of the Laramie Basin, Little Medicine District, Wyoming; Unpubl. Master's Thesis, Univ. of Wyoming.

other is about 150 feet to the east over an exposure of gray jasperoid. Megascopically the rocks in the anomalous areas (samples of rock from the mine pit were furnished by the applicant) are very similar to those exposed elsewhere in the prospect area. Laboratory studies, however, also revealed the presence of abundant cryptocrystalline apatite and minor amounts of manganese oxides, both of which are associated with the late chalcedony. The rocks have a typical botryoidal structure exhibiting the following general sequence of minerals outward from the core, or surface of the jasperoid:

Stages of deposition from oldest to youngest	1) Black manganese oxides
	2) Alternating bands of apatite and chalcedony
	3) Chalcedony
	4) Drusy crystalline quartz and calcite (very minor and not present in all specimens)

No uranium minerals were observed, or have been reported, from the area. From the brief laboratory studies conducted for this report, and from the strong yellow-green fluorescence, it appears that most of the uranium is contained in the apatite, with minor amounts in the chalcedony and late calcite. Neither the jasperoid that constitutes the main host rock in the prospect area or the banded cherts, lower in the stratigraphic sequence, exhibit any fluorescence. A selected sample (4965-1) from the

exposure (fig. 3) showing the strongest radioactivity (90 times background) assayed 0.22 percent eU_3O_8 and 0.26 percent chemical U_3O_8. The radioactivity in the Precambrian granite, underlying the Madison rocks, which approaches a maximum of 3 times background, is not considered significant.

Openings in the chert or jasperoid, which along with the silicification, are a late diagenetic feature, appear to be the chief control for the deposition of the minerals in the prospect area. The mineralizing solutions were very probably descending cold waters, which derived their silica and phosphate, and uranium and other cations principally from the overlying Tertiary sediments. Upon entering open or vuggy zones in the Paleozoic rocks at the base of Tertiary sediments, equilibrium changes caused precipitation of distinct mineral components.

The applicant's contention that the uranium occurs in an "agate bed"--a distinct stratigraphic horizon in the Madison formation--with a possible increase in grade and abundance under the overlying younger rocks appears untenable in light of the information available. The localization of the various uranium-bearing minerals was apparently dependent primarily on the availability of open space in the Madison rocks when the general area was covered by Tertiary sediments. Although these relatively open areas are undoubtedly scattered throughout the Madison rocks, only those near the old Tertiary-Madison contact would probably be receptive, or would allow entrance, to the cold descending

mineralizing solutions. Furthermore, if erosion of the Paleozoic rocks has been negligible since the removal of the Tertiary sediments, as is generally assumed, the present exposed Paleozoic surface should closely approximate the original pre-Tertiary surface and consequently the radioactive anomalies now present in a given area should be a rough measure of the anomalies to be expected elsewhere on a similar Paleozoic surface. The paucity of radioactivity anomalies and abundance of seemingly potential host rock (fig. 3) on and around the subject property therefore does not enhance the area's uranium potential.

In summary, it appears that the uranium occurs in small widely scattered near-surface deposits of little or no economic significance which do not warrant exploration.

ORE RESERVES

No estimate of ore reserves is possible at this time.

APPLICANT'S PROPOSED EXPLORATION PROGRAM AND COSTS

The applicant proposes to explore a purported mineralized agatized bed about 6 feet thick in the Madison limestone formation (Mississippian) by a two-phase core and non-core drilling program. Under Phase I two core holes with a total footage of 300 feet and 13 non-core holes with

an aggregate total depth of 975 feet are to be drilled. Coring is to be done in the non-core holes through the purported mineralized bed making a total of 350 feet of core and 925 feet of non-core holes.

Under Phase II, it is proposed that 1,000 feet of hole be drilled as offsets on 100-foot centers to mineralized holes of Phase I, 400 feet to be cored and 600 feet to be drilled non-core.

Estimated cost of the work is as follows:

Independent Contracts

Phase I

Rotary core drilling - NX 350 feet at $4/ft.	$ 1,400.00	
Rotary non-core drilling - 925 feet at $1/ft.	925.00	
Bulldozing - 20 hrs. at $10/hr.	200.00	
Technical supervision (including all field expenses, drafting and radiometric probing) 1,275 feet at $0.80/ft.	1,020.00	
Total Independent Contracts Phase I		$ 3,545.00

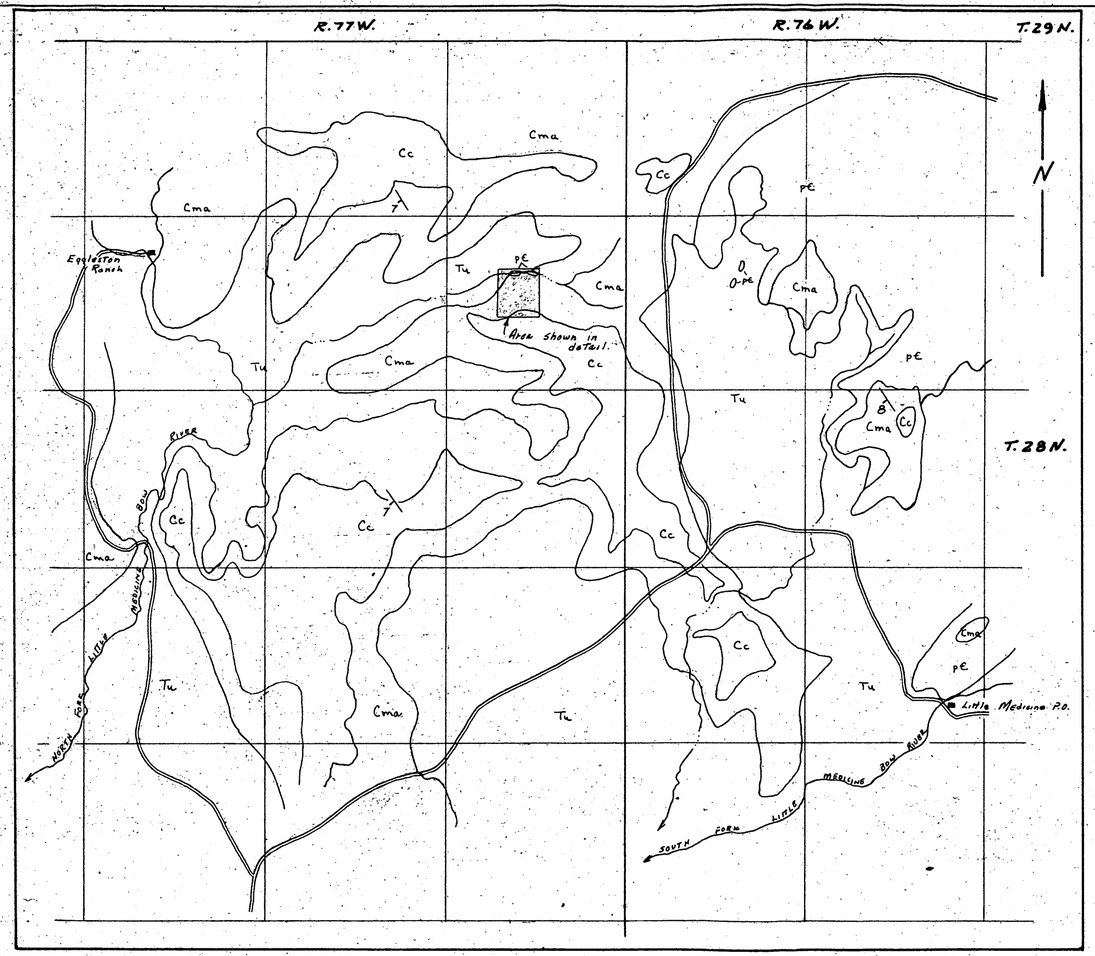
Phase II

Rotary core drilling 400 ft. at $4/ft.	$ 1,600.00	
Rotary non-core drilling 600 ft. at $1/ft.	600.00	
Bulldozing 15 hrs. at $10/hr.	150.00	
Technical supervision (as above) 1,000 ft. at $0.80/ft.	800.00	
Total Independent Contracts Phase II		$ 3,150.00
Total Independent Contracts Phases I and II		$ 6,695.00

Operating materials and supplies		
Core boxes Phase I, 14 $3/ea.	$ 42.00	
Phase II, 16 at $3/ea.	48.00	
Total operating materials and supplies Phases I and II		$ 90.00
Operating Equipment	None	
Initial Rehabilitation and Repairs	None	
New Buildings, Fixtures, Installations	None	
Miscellaneous		
Analyses Phase I, 50 assays at $5/ea.	$ 250.00	
Phase II, 75 assays at $5/ea.	375.00	
Total Miscellaneous Phases I and II		$ 625.00
Total cost Phase I	$ 3,837.00	
Total cost Phase II	3,573.00	
Total cost of project		$ 7,410.00
Government's share at 50 percent		
Phase I	$ 1,918.50	
Phase II	1,786.50	
Total Government's share		$ 3,705.00

CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of the examining team that exploration of the property will not result in the discovery of significant ore deposits and that Government participation in an exploration program is not warranted. It is therefore recommended that the application be denied.



EXPLANATION

Tu — Tertiary rocks, undivided, and including some Quaternary alluvium.

Carboniferous:

Cc — Casper formation.

Cma — Madison and Amsden formations, undifferentiated.

pЄ — Precambrian rocks

Approximate contact

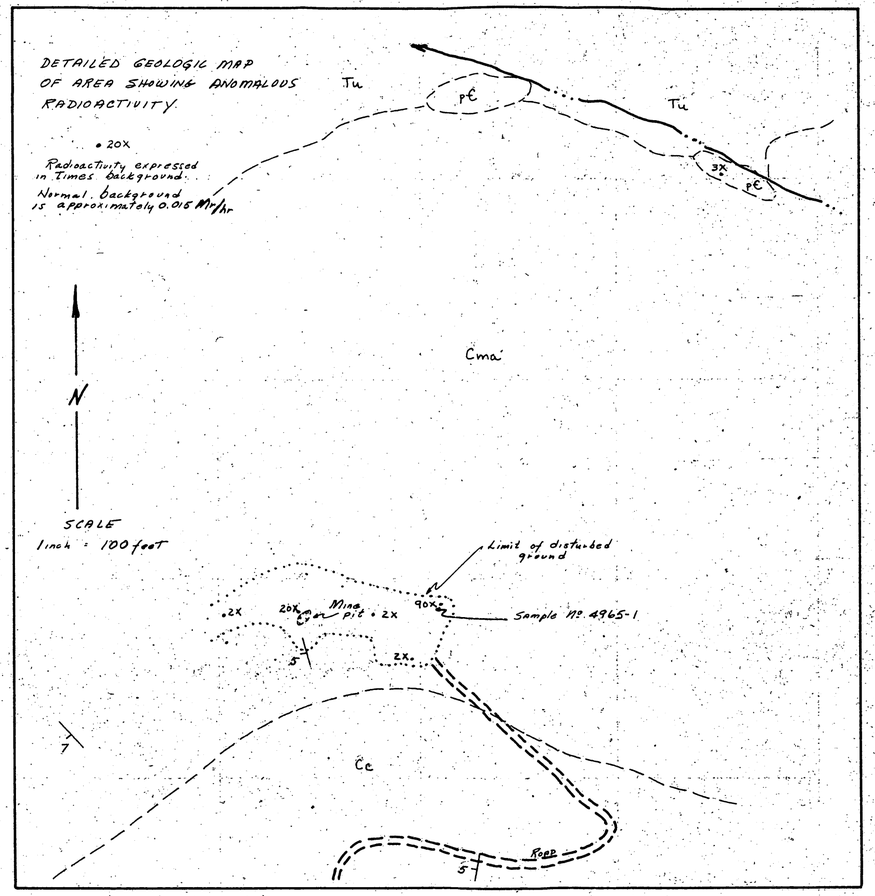
Attitude of beds

APPROXIMATE SCALE
$1\frac{3}{4}$" = 1 mile

SOURCES OF INFORMATION

Aerial photographs and Applicant's map

Konkel, P., Univ. Wyoming Thesis, 1935.



D. RICHTER 4-58

FIGURE 3 — GENERAL AND DETAILED GEOLOGIC SKETCH MAPS OF THE NIGHT OWL CLAIMS AREA, BATTLE AXE MINING COMPANY, ALBANY COUNTY, WYOMING.

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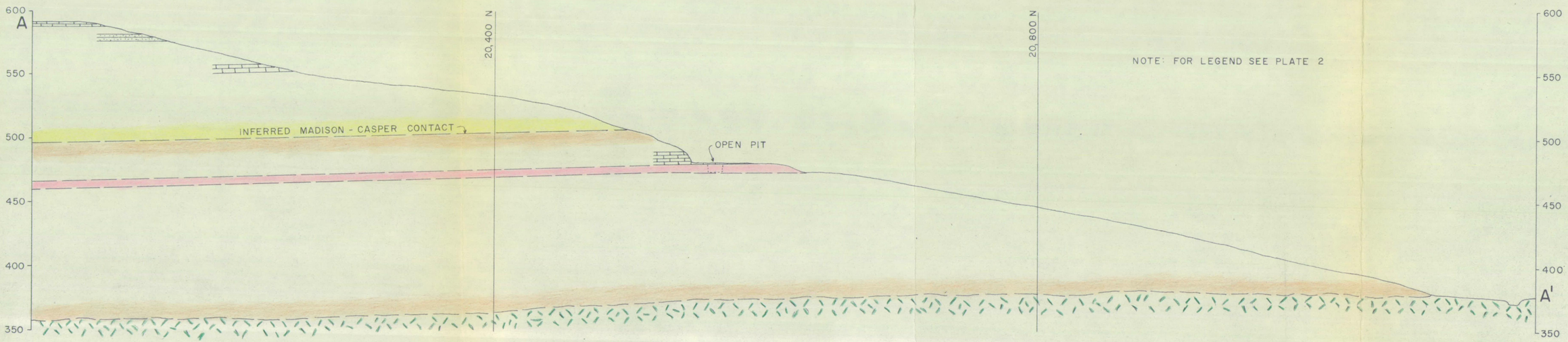
BATTLE AXE MINING COMPANY

GEOLOGICAL CROSS-SECTION A-A'

NIGHT OWL CLAIM 1-A

SCALE 1" = 50' MARCH, 1958

NOTE: FOR LEGEND SEE PLATE 2



SECTION LOOKING WEST

PLATE 3

MELBYE & MERWIN

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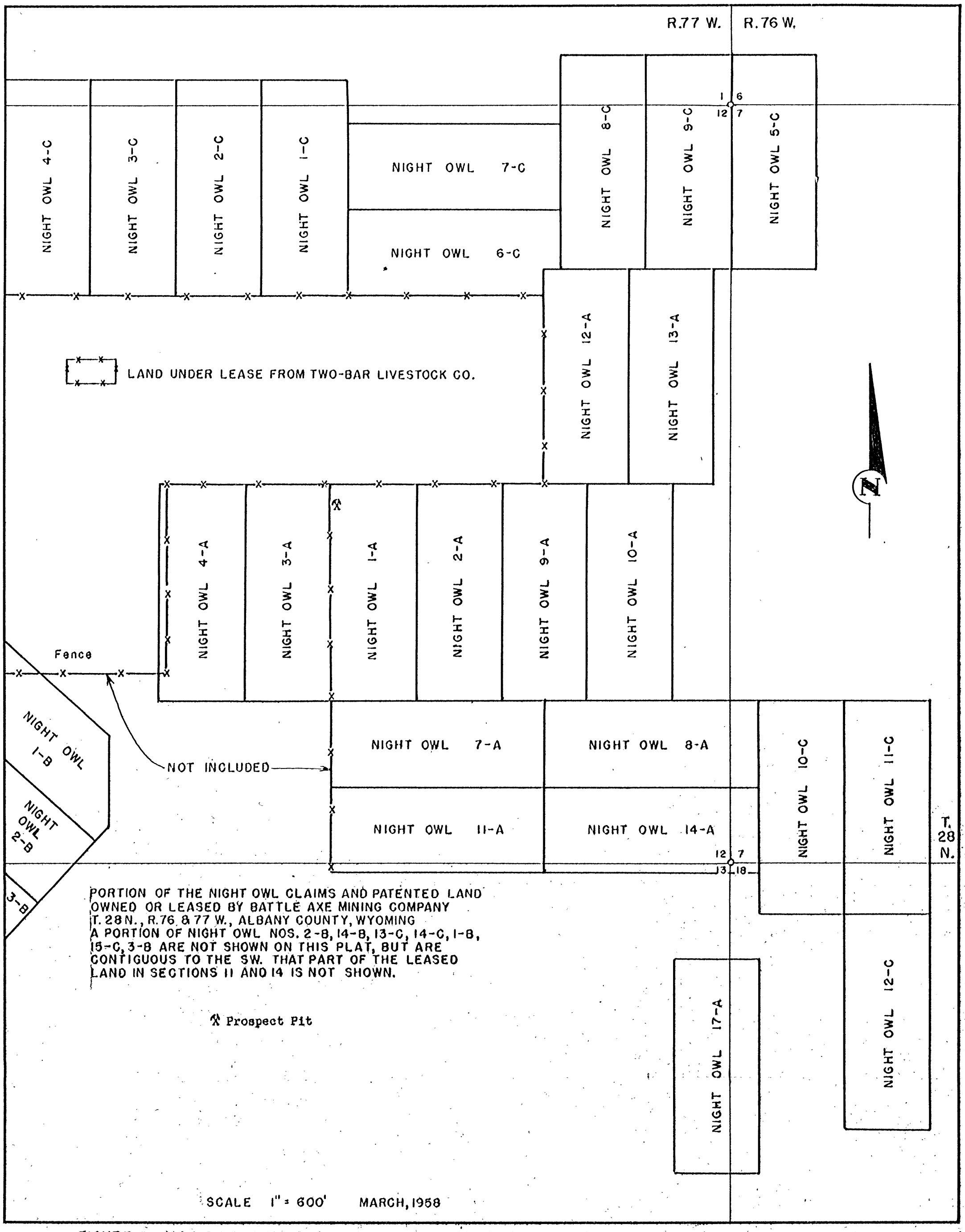
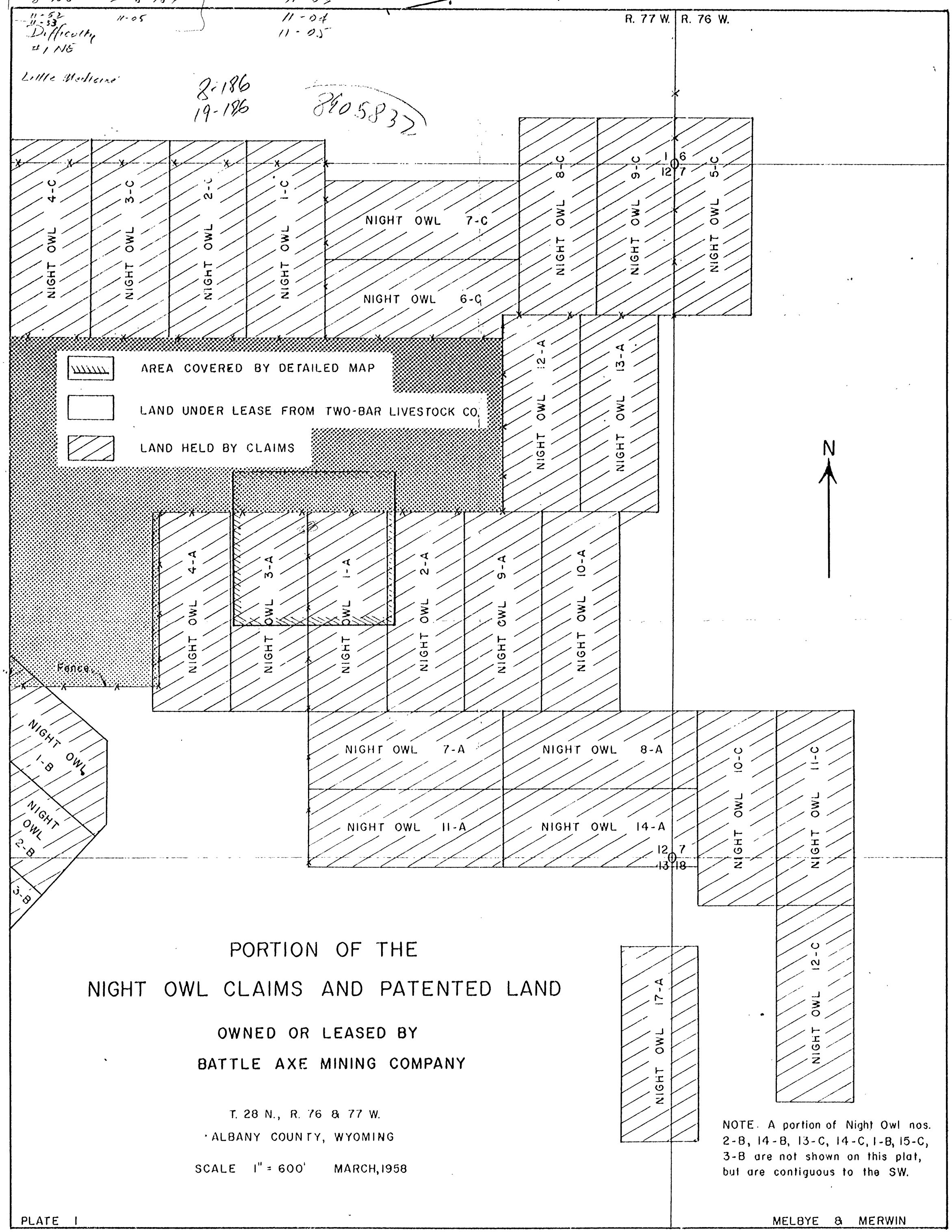


FIGURE 2 – MAP OF CLAIMS AND LEASED, BATTLE AXE MINING COMPANY, ALBANY COUNTY, WYO. DMEA 4965

19-183 → 19-188
8-185 → 8-187
11-52
11-53
11-05
Difficulty
#1 NE
Little Medicine
11-02
11-03
11-04
11-05
OS-CM
8-186
19-186
840583



PORTION OF THE NIGHT OWL CLAIMS AND PATENTED LAND

OWNED OR LEASED BY

BATTLE AXE MINING COMPANY

T. 28 N., R. 76 & 77 W.

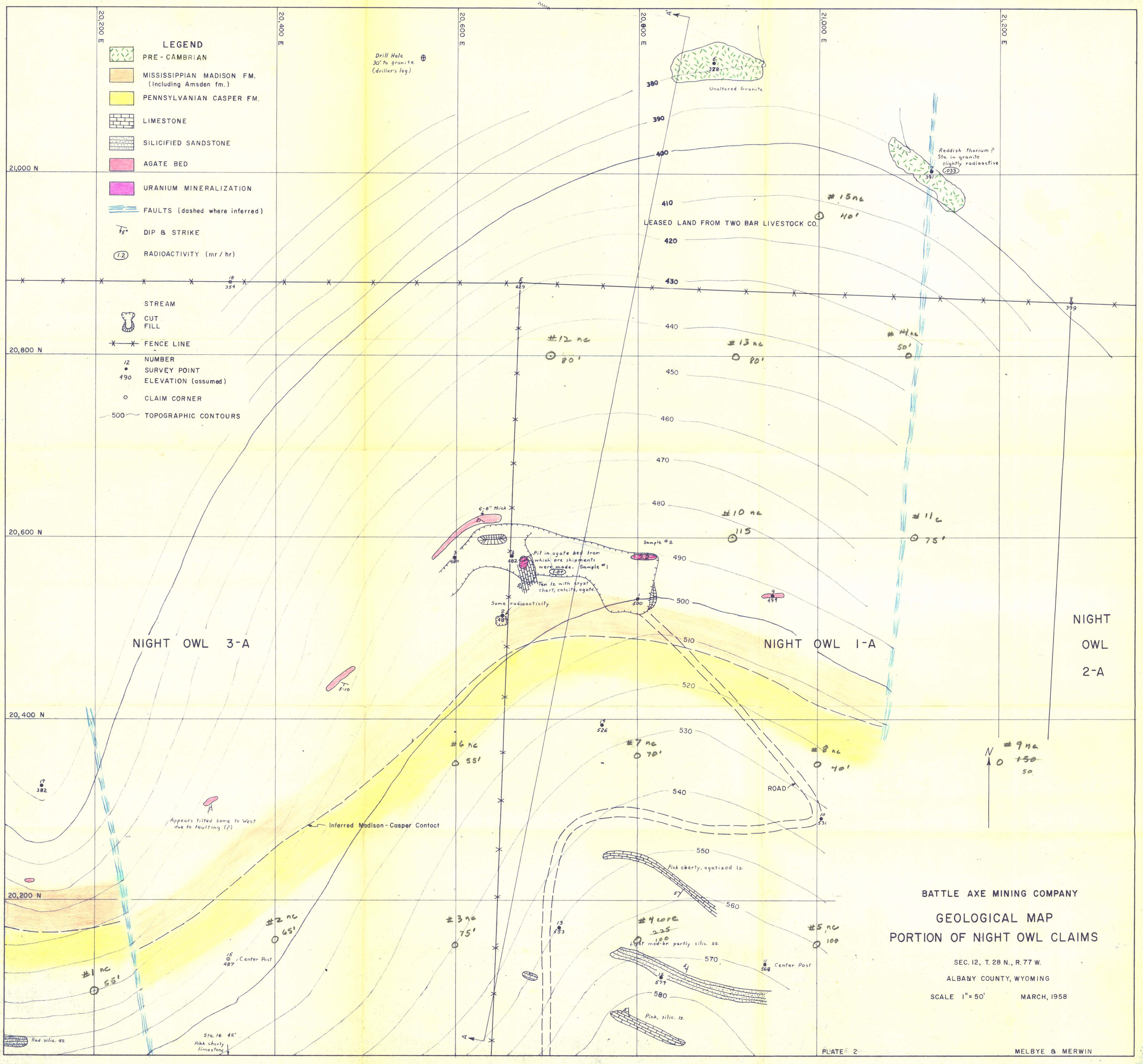
ALBANY COUNTY, WYOMING

SCALE 1" = 600' MARCH, 1958

NOTE. A portion of Night Owl nos. 2-B, 14-B, 13-C, 14-C, 1-B, 15-C, 3-B are not shown on this plat, but are contiguous to the SW.

PLATE I

MELBYE & MERWIN



BATTLE AXE MINING COMPANY

GEOLOGICAL MAP
PORTION OF NIGHT OWL CLAIMS

SEC. 12, T. 28 N., R. 77 W.

ALBANY COUNTY, WYOMING

SCALE 1" = 50' MARCH, 1958

PLATE 2

MELBYE & MERWIN