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To:	700	Date	4/3/56
To:	Mittendorf	Date	4-10-56
To:	Mr Crawford	Date	5-3-56
To:	Operating Com.	Date	5-14-56
To:	F.E. Johnson	Date	5-16-56
To:	[illegible]	Date	5-16-56
To:	Mr. Mittendorf	Date	7-9-56
To:	Operating Com.	Date	10-31-56
To:	FEJ	Date	10/31/56
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

IN REPLY REFER TO:

RECEIVED
2 1956
D.M.E.A.

October 29, 1956

Re: DMEA 4236
Black Hills Exploration Co.
Black Vein Claims
Crook County, Wyoming
White Cloud Claims
Pennington Co., S. Dakota
$202,150 - 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 drilling and underground work two groups of claims, 80 miles apart and with differing types of uranium mineralization.

At the Black vein property uranium is found in a thin carbonaceous shale of the Fall River formation. At the White Cloud property the mineralization occurs in sandstone and conglomerate of the Cambrian Deadwood formation. The examiners found a thin low grade shale at the Black vein property. A sample of the radioactive material across 15 inches of thickness assayed 0.095% U_3O_8. No samples were taken at the White Cloud property. Scintillometer readings were taken at several places without finding marked radioactivity. Sample results submitted by the applicant were of samples taken on a property a mile distant.

Because of the low grade and small thickness of the radioactive shale and the low grade of the sandstone-conglomerate, the examiners concluded significant quantities of worthwhile material are lacking and recommend denial of the application.

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

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

IN REPLY REFER TO:

October 29, 1956

Re: DMEA 4236
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I concur with that recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/56
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

700

FILE COPY
Surname:

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

NOV - 1 1956

Mr. Willis F. Aye, President
Black Hills Exploration Company
510 Main
Miles City, Montana

Re: Docket No. DMEA-4236 (Uranium)
Black Vein Claims Group
Crook County, Wyoming, and
White Cloud Claim Group, et al.
Pennington County, South Dakota

Dear Mr. Aye:

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

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

Careful study of all our information, although noting 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.

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

Sincerely yours,

C. O. Mittendorf

Administrator

FLKnouse/izm 10-29-56
cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
Operating Committee
DMEA Field Team, Reg. III, (2)
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

RCS.

Code 700

Docket

Summary of Proposed Project

October 29, 1956

Object: Denial of application for an exploration project.

Docket No.: DMEA-4236

Commodity: Uranium

Applicant: Black Hills Exploration Company
510 Main
MilesCity, Montana

Property: Consists of two claim groups about 80 miles apart as follows: (1) Known as the Black Vein claims, 16 continguous unpatented lode mining claims - Black Vein Nos. 1 to 16, inclusive, in secs. 10 and 15, T. 56 N., R. 66 W., 6th P.M., Cook County, Wyoming, and (2) the White Cloud et al., claims, in two groups totaling 15 unpatented lode mining claims. (three contiguous claims in one group and 12 contiguous claims in another group separated by about 600 feet) White Cloud Nos. 1 to 9, inclusive; Marion Nos. 2, 3, and 4, Lucky Lady No. 1, Lucky Girl No. 1, and Lucky Baby, in secs. 25 and 26, T. 2 N., R. 2 E., B.H.P.M., Pennington County, South Dakota. The Applicant is the owner of the claims.

Date of Application: March 26, 1956

Work Proposed:

Applicant made no specific proposal as to the work division between the subject properties. Also locations of proposed work, i.e., drill holes, drifts, and bulldozer cuts shown on the maps submitted are only approximate as to locations. However, proposed drill hole patterns are on 600-foot centers with closer spaced holes in areas where significant mineralization is discovered. Hole depths are expected to range from 20 to 200 feet. The proposed program is designed to explore a radioactive carbonaceous shale about 3 feet thick of Lower Cretaceous age underlying the Black Vein claims, and high radioactive sediments of the Cambrian Deadwood formation underlying the White Cloud claim group. The proposed work consists of 20,000 feet of core drilling, 1,000 feet of drifting, 100,000 yards of dirt excavation and 5,000 yards of rock excavation (in bulldozer cuts) at an estimated total cost of $202,150,00

The Applicant has drilled an unknown number of 4-inch auger holes 10 to 50 feet deep, on the property. However, no records were kept of the hole locations or radiometric probing results. Two sample analyses were submitted with the application; reported to have been taken from mineralized exposures on the claims, which showed the following values: 0.035% U_3O_8 and 0.09% V_2O_5; and 0.30% U_3O_8, and 0.08% V_2O_5.

Cost of Proposed Work

20,000 ft. core drilling @ $4.00/ft.	$80,000.00	
1,000 ft. drifting @ $30.00/ft.	30,000.00	
100,000 yds. of dirt excavation @ $0.20/yd.	20,000.00	
5,000 yds. of rock excavation @ $2.00/yd.	10,000.00	
TOTAL		$140,000.00

Labor, Supervision & Consultants

Labor	$1,000.00	
Supervision	8,000.00	
Consultants, Geologist & Engineer	6,000.00	
TOTAL		$15,000.00

Operating Materials & Supplies

Engineering Stakes	$1,000.00	
Engineering Equipment	600.00	
Blasting explosives	300.00	
Miscellaneous Equipment	400.00	
TOTAL		$2,300.00

Operating Equipment

Pickup truck	$2,000.00	
Pickup operating cost	1,500.00	
Counter rental	500.00	
Light Plant	650.00	
TOTAL		$4,650.00

Miscellaneous

Analytical work, 2,000 holes @ $10.00	$20,000.00	
Accounting	4,000.00	
Workman's compensation	2,500.00	
Liability insurance	700.00	
Payroll taxes	3,000.00	
TOTAL		$30,200.00

Contingencies	$10,000.00
Total Estimated Cost of the Project	$202,150.00
Government Participation @ 75%	$151,612.50

Field Team Report - October 15, 1956 (Joint report by D. H. Richter, USGS, and D. E. Redmon, USBM)

Black Vein Claim Group

The Cretaceous Fall River formation is the principal uranium producing horizon in the Black Hills area, and consists of an interbedded sandstone, siltstone, and mudstone series of marine origin. This formation is approximately 125 feet thick in the vicinity of the claims.

Cursory scintillometer examination of the claims revealed only slight radioactivity anomalies. Highest readings were over a thin, 1 to 2-foot thick carbonaceous shale bed where values of 0.035 to 0.050 Mr/hr (background 0.005 to 0.01 MR/hr) were observed. In two other places calcareous sandstone, overlying the shale bed were very slightly radioactive giving values of approximately 2X background.

The AEC core drilled a deep hole in the northwest corner of claim No. 6 and found only slight radioactivity 40 feet below the surface in the carbonaceous shale, and 266 feet below the surface in the Lakota sandstone.

Chips of the strongest radioactive material from the thin carbonaceous shale chemically analyzed 0.095 percent U_3O_8.

White Cloud Claim Group

The consolidated rocks exposed on these claims consists of metamorphic and sedimentary rocks ranging in age from Precambrian to Mississippian. The Applicant's principal interest in these claims is in the Cambrian Deadwood formation consisting of a lower conglomeratic section, 45 feet thick, and an upper coarse sandstone section approximately 40 feet thick, where a few minor radioactive anomalies have been found.

Scintillometer examinations were made of a number of small pits in both the sandstone and conglomerate, where, according to the Applicant, high radioactivity was present. The highest found was 0.025 Mr/hr (background 0.007 Mr/hr) in a pit on the White Cloud No. 1 claim. In two pits in the Marion claims, some very slight radioactivity (2X background) was noted. During the course of the examination it was determined that the two sample analyses submitted with the application did not come from the subject property as was reported.

The deposits on the subject property and in similar type occurrences throughout the Black Hills are not, at the present time, economically significant.

It is concluded that an exploration program would not disclose economical uranium mineralization on either of the properties. Therefore, it is recommended that the application for DMEA assistance be denied.

Field Team concurs with the examining team's recommendation.

Comments of Commodity Specialists:

USBM, John E. Crawford, October 26, 1956:

Concurs with Field Team's recommendation.

USGS, N. E. Nelson, October 29, 1956:

Concurs with Field Team's recommendation.

Rare & Miscellaneous Metals Div., F. L. Knouse, October 29, 1956:

The examination of the subject properties indicates rather conclusively, that the probability of making a significant discovery of uranium ore on either of the properties is remote. Therefore, the application for Government aid to further explore these claims should be denied.

Conclusions:

A review of all our information relating to the proposed exploration project indicates that, the probability of making a significant discovery of uranium on the subject properties is remote. Therefore, the application should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

10/29/56

RECEIVED
OCT 29 1956

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

Date October 26, 1956

DMEA Docket No. 4236
DMEA Contract No.
Commodity U_3O_8
Name of applicant Black Hills Exploration
Name of property Black Vein & White Cloud Claims
Location of property Crook Co., Wyo., Pennington Co., S. Dak.
Estimated cost of project $202,150.00

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: John E. Crawford, Bureau of Mines, Member
Uranium Commodity Committee

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

1. Date of subject document: _____. 2. Date received by reviewer: 10/26.

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

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

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

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

7. Explain items marked yes above:

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

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

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

10/29/56

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

224 New Customhouse
Denver 2, Colorado

October 19, 1956

Memorandum

To: Secretary to the Operating Committee

From: DMEA Field Team, Region III

Subject: Docket DMEA 4236 (Uranium) Black Hills Exploration Company (Black Vein Claims) Crook County, Wyoming and (White Cloud Claims) Pennington County, South Dakota

Enclosed are the original and three copies of a joint engineering and geologic report of examination on the subject properties.

The field examiners conclude that further exploration on these properties would not disclose significant amounts of uranium ore. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver
Executive Officer

Reviewed by
DMEA OPERATING COMMITTEE
10-26-56
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
OCT 18 1956
REGION III
DENVER, COLORADO

TRANSMITTED
OCT 19 1956

October 16, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

RECEIVED
OCT 22 1956

From: E. N. Harshman
J. F. Shaw

Subject: DMEA Docket 4236 (Uranium), Black Hills Exploration Company (Black Vein claims, Crook County, Wyoming, and White Cloud, etc., claims, Pennington County, South Dakota

Enclosed are the original and nine copies of a joint engineering and geologic report covering an examination of the subject property by D. E. Redmon, U. S. Bureau of Mines, and D. H. Richter, U. S. Geological Survey.

The applicant proposes to explore for uranium on two properties - (1) the Black Vein claims, Crook County, Wyoming, and (2) the White Cloud, etc., claims, Pennington County, South Dakota, by a program of tunneling, drilling, and bulldozer trenching to cost an estimated $202,150.

On the Black Vein claims uranium in very minor quantities occurs in the Cretaceous sedimentary rocks of the Fall River formation. No production has been made to date from this property and only insignificant mineralization has been encountered in auger holes drilled by the applicant. On the White Cloud, etc., claims weak radioactivity anomalies have been prospected in the Cambrian Deadwood formation.

Reviewed by
DMEA OPERATING COMMITTEE
10-26-56
(date)

The examiners conclude that there is little probability of finding significant uranium deposits on either of the two groups of claims and recommend that the application for exploration assistance, DMEA Docket 4236, be denied.

We concur with the examining team's conclusions and recommendations.

The completion of this report was delayed two to three weeks pending analyses of samples.

R A Konschnecky for
J. F. Shaw
Supervising Mining Engineer

for R U King
E. N. Harshman
Member, Field Team

Enclosures

RUKing:arh

FOR UNITED STATES GOVERNMENT USE ONLY

TRANSMITTED
OCT 19 1956

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
OCT 22 1956

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 4236

Black Hills Exploration Company

Black Vein claims, Crook County, Wyoming

White Cloud, Marion, and Luckey claims

Pennington County, South Dakota

Uranium

Joint Engineering and Geologic Report

by

D. H. Richter, Geologist
Geological Survey

D. E. Redmon, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
10-26-56
(date)

October 15, 1956

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ILLUSTRATIONS

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1. General area map, Black Vein claims, Black Hills Exploration Company, Crook County, Wyoming	3
2. Claim area map, White Cloud claims, Black Hills Exploration Company, Pennington County, South Dakota	4
3. Geologic map of the Black Vein claims, Crook County, Wyoming	14
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RECEIVED
OCT 22 1956

DMEA 4236

BLACK HILLS EXPLORATION COMPANY
BLACK VEIN CLAIMS, CROOK COUNTY, WYOMING
WHITE CLOUD, MARION, AND LUCKEY CLAIMS
PENNINGTON COUNTY, SOUTH DAKOTA

INTRODUCTION

Black Hills Exploration Company, 510 Main, Miles City, Montana, a South Dakota corporation, requested DMEA assistance to explore for uranium on its Black Vein claims in Crook County, Wyoming, and its White Cloud, Marion, and Luckey claims in Pennington County, South Dakota. The application was received March 28, 1956, by DMEA, Denver, Colorado. Processing was deferred pending receipt of additional information from applicant, and the application was released for examination on August 10, 1956.

The applicant proposed to explore for uranium by drilling, tunneling, and bulldozer cuts on two properties that are about 80 miles apart. The total estimated cost was $202,150.

A Region III DMEA examining team composed of D. H. Richter, U. S. Geological Survey, and D. E. Redmon, U. S. Bureau of Mines, investigated the properties on September 11 and 12, 1956, accompanied by Willis Aye, president of the company.

SUMMARY

The property consists of 31 unpatented mining claims from which there has been no production to date.

The Black Vein claims in Wyoming are underlain by Cretaceous rocks of the Skull Creek and Fall River formations. They have been partly explored by drilling 4-inch auger holes 10 to 50 feet deep on outcrops and radioactivity anomalies. No records were kept of the radiometric probe results, but apparently no significant mineralization was encountered. AEC hole no. 100 was drilled on the property, and AEC personnel indicated slight interest in further exploration. A sample of radioactive carbonaceous shale (lignite?), which averages 15 inches thick, contained 0.095 percent U_3O_8.

The White Cloud, Marion, and Luckey claim groups in South Dakota are underlain by a series of Precambrian metasediments and lower Paleozoic sediments. The Cambrian Deadwood formation, which is approximately 85 feet thick consists of sandstone and conglomerate, and contains a few weak radioactivity anomalies. Radioactivity checks in several bulldozer excavations showed a maximum of 0.025 Mr/hr with a background of 0.007 Mr/hr.

It is concluded that there is little probability of finding significant quantities of uranium ore on either of the two properties.

It is recommended that the application for DMEA assistance be denied.

ACKNOWLEDGMENTS

Personnel of the AEC office, Denver, Colorado, were consulted, and information on the general mineralization of the subject area was obtained. The AEC office at Spearfish, South Dakota, made available to the examining team, the radiometric log of AEC hole no. 100, drilled on the Black Vein claim. Mr. Robert Davis, U. S. Geological Survey, who is mapping in the area, accompanied the examining team to the Wyoming property.

LOCATION, TOPOGRAPHY, PHYSICAL FEATURES

The property consists of two widely separated groups of claims.

Black Vein claims

The Black Vein claims are in secs. 10 and 15, T. 56 N., R. 66 W., 6th P. M., Crook County, Wyoming _/. This group is reached by first travelling west on Highway 24 from Hulett, Wyoming, then turning right immediately after crossing the Belle Fourche River bridge (fig. 1). Proceed 1 mile and turn right on a well-travelled dirt road. Stay on this road for 16.0 miles, then turn left at the high-pressure gasoline valve and proceed one-half mile south on an ill-defined trail. One then will be about at the center of the west side line of Black Vein claim No. 6.

_/ Applicant's map is in error as to section numbers.

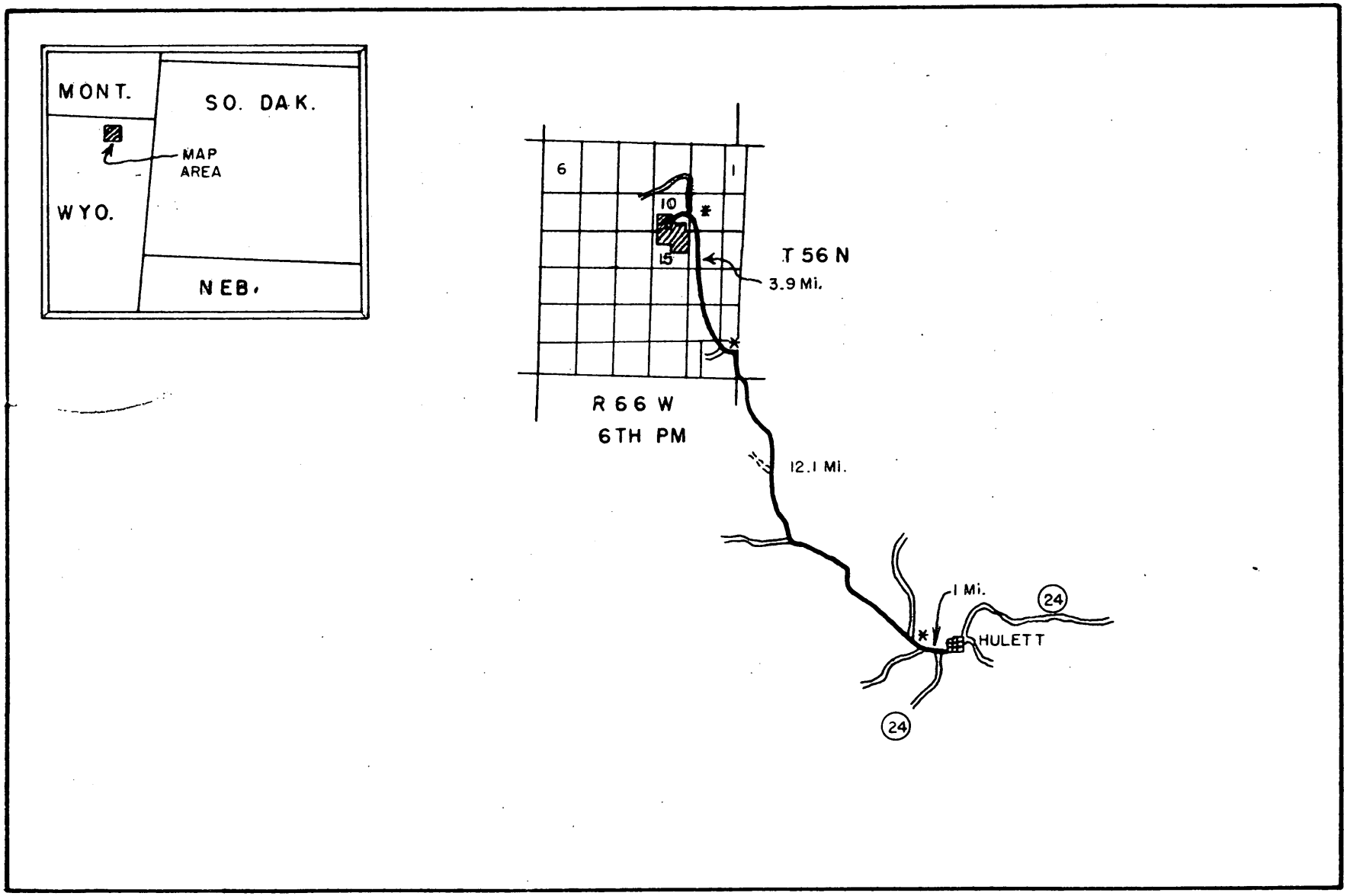


FIGURE 1-GENERAL AREA MAP, BLACK VEIN CLAIMS, BLACK HILLS EXPLORATION COMPANY, CROOK COUNTY, WYOMING. DMEA 4236

The surface of the claims dips gently to the northwest. Topographic relief does not exceed 75 feet.

There is moderate rainfall during the warm months, and heavy drifting snow during the winter. There are no permanent streams; water would have to be hauled about 2 miles. There is no usable timber, and only scattered sage and other low-growing brush occur on the property.

Labor and housing are available in Hulett and at local ranches. Operating supplies are available in Hulett, Wyoming, Sundance, Wyoming, and Belle Fourche, South Dakota.

White Cloud, Marion, and Luckey claims

This group is in secs. 25 and 26, T. 2 N., R. 2 E., Black Hills P. M., Pennington County, South Dakota (fig. 2). The claims are reached from Rockford, South Dakota, by traveling west 6 miles, then turning left on the Deerfield road for 3.5 miles, and then turning right on a Forest Service road toward the Rhoades ranch. Proceed 1.3 miles, turn left on Rhoades ranch road for 1.6 miles, then turn left on the Taylor Springs road for 1 mile. The Marion claims will then be down slope to the left.

The claims lie at an average altitude of 6,600 feet, the greatest difference in altitude being about 600 feet.

The climate is moderate during much of the year, but heavy snowfalls occur during winter months. There are permanent springs on the

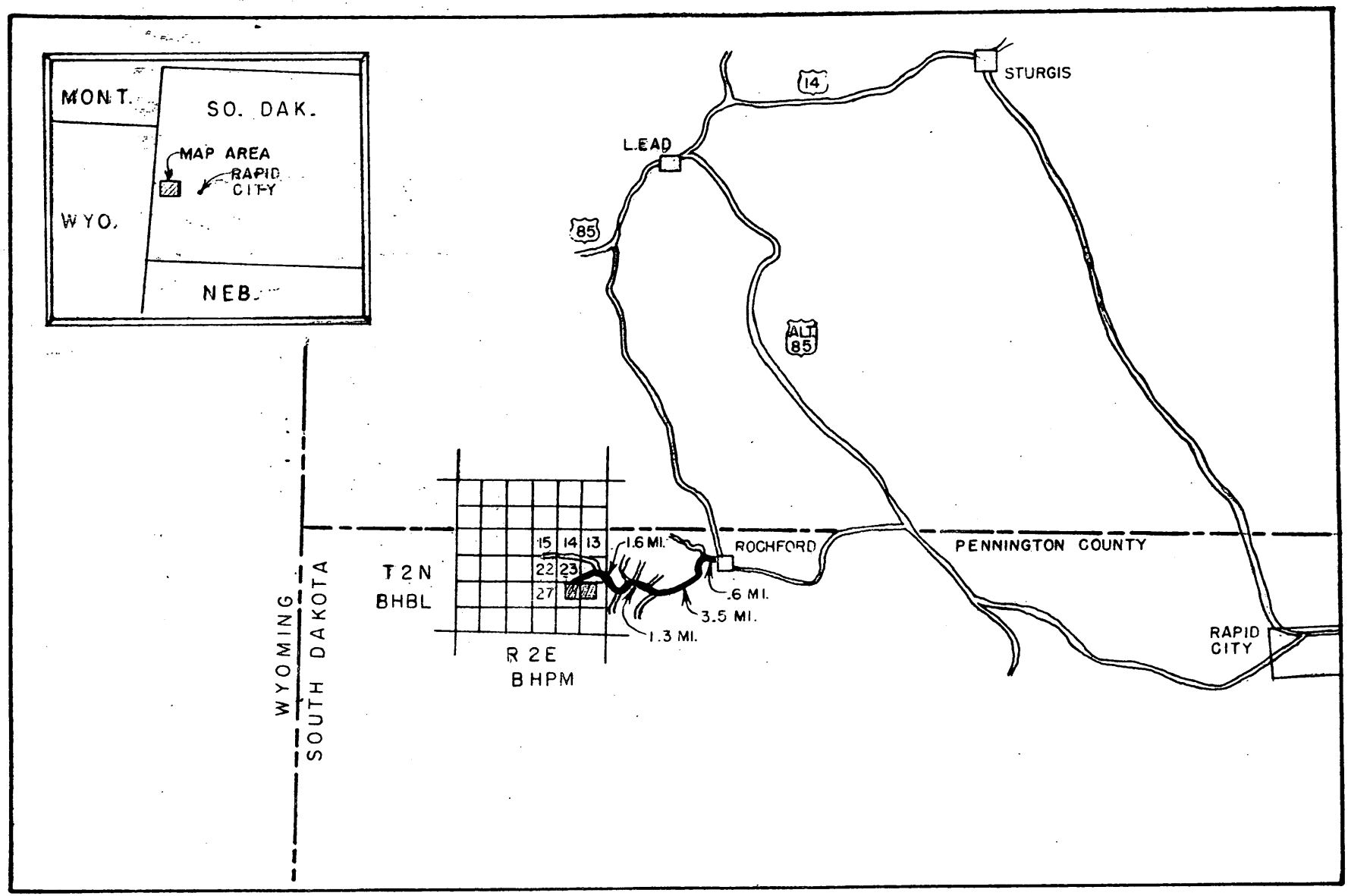


FIGURE 2 - CLAIM AREA MAP, WHITE CLOUD CLAIMS, BLACK HILLS EXPLORATION COMPANY, PENNINGTON COUNTY, SOUTH DAKOTA. DMEA 4236

property with adequate flow to supply a small mining operation. Considerable timber is available, consisting of ponderosa pine, spruce, and aspen.

Labor and housing are available in nearby communities and local ranches. Operating supplies can be purchased in Lead and Deadwood, South Dakota. There is no electrical power supply in the immediate vicinity.

HISTORY, PRODUCTION, AND OWNERSHIP

The Black Hills Exploration Company's ownership of the subject claims is based on quit-claim deeds. Photostats of the deeds accompanied the original application.

Filing records of the subject claims are reported to be as follows:

The Black Vein Lode mining claims, T. 56 N., R. 66 W., 6th P. M., filed in the office of the County Clerk and Recorder of Crook County, Wyoming:

Claim No.	Name	Date	Book	Page
158146	Lode Black Vein No. 1	Feb. 10, 1954	10	138
158147	" " " No. 2	" " "	10	139
158290	" " " No. 3	Feb. 26, 1954	10	209
158447	" " " No. 4	Mar. 12, 1954	10	313
158448	" " " No. 5	" " "	10	314
158449	" " " No. 6	" " "	10	315

Claim No.	Name	Date	Book	Page
158450	Lode Black Vein No. 7	Mar. 12, 1954	10	316
158451	" " " No. 8	" " "	10	317
158452	" " " No. 9	" " "	10	318
158453	" " " No. 10	" " "	10	319
158454	" " " No. 11	" " "	10	320
158455	" " " No. 12	" " "	10	321
158456	" " " No. 13	" " "	10	322
158457	" " " No. 14	" " "	10	323
158458	" " " No. 15	" " "	10	324
158459	" " " No. 16	" " "	10	325

Claims in T. 2 N., R. 2 E., Black Hills P. M., recorded in the office of the Register of Deeds, Pennington County, South Dakota:

White Cloud Lode mining claims Nos. 1 to 9, inclusive, Book 149, pages 263 to 271, inclusive.

The Marion Nos. 1, 2, and 3, Book 49, pages 483, 484, 485.

Luckey Lady No. 1, Luckey Girl No. 1, and Luckey Baby, Book 49, pages 272, 273, 274.

Interest was first shown on these properties in 1954 when radioactivity anomalies were noted.

The Black Lode claims are located 3 miles north of the Sodak Busfield mine in Crook County, Wyoming. The applicant has drilled several 4-inch auger holes 10 to 50 feet deep, on the property; no

records were kept of the hole locations or radiometric probing results. AEC hole no. 100 disclosed no significant uranium mineralization.

There has been no ore production.

The White Cloud, Marion, and Luckey claims were located on the strength of a few low radioactivity anomalies and because of local interest in the area. The applicant drilled several holes on the property but no records were kept of the radiometric probing results.

There has been no ore production.

GEOLOGY

Black Vein claim group

The Black Vein claim group is in Crook County, Wyoming, in the northwestern part of the Black Hills. Gently-dipping consolidated rocks of the Cretaceous Skull Creek and Fall River formations are exposed on the claims.

The Fall River formation, which is one of the principal uranium-producing horizons in the Black Hills area, consists of an interbedded sandstone, siltstone, and mudstone series of marine origin. In the vicinity of the Black Vein claims the Fall River formation is approximately 125 feet thick and has the following generalized lithology:

	Feet
Skull Creek shale	--
Fall River formation	
Massive- to thin-bedded tan sandstone containing ripple marks and crossbedding. Calcareous in upper part. (SS No. 3)	10-20

	Feet
Interbedded siltstones, mudstone, and thin sandstones. A slightly radioactive carbonaceous shale, 1 to 2 feet thick, is consistently present at base.	20-25
Massive tan sandstone with ripple marks and crossbedding. (SS No. 2)	20
Interbedded sandstone, siltstone, and mudstone.	20-40
Massive tan sandstone. (SS No. 1)	20-30

Only Fall River rocks above SS No. 2 and the overlying Skull Creek shale are exposed on the property (fig. 3).

The structure in the claim area is apparently very simple and with the exception of the rocks in parts of the Black Vein claims Nos. 2 and 3, the average strike is NE, and the dip is 2° to 3° NW. On claims Nos. 2 and 3, however, there is a slight reversal of dip to the south (strike N. 70° E. to EW; dip 2° to 3° S.) indicating a small anticlinal or domal structure plunging southwest. According to R. Davis, U. S. Geological Survey geologist, these small structural rolls and/or domes are very common in this section of the Black Hills and do not appear to have any influence on the deposition of uranium ore.

Cursory scintillometer examination of the claims revealed only slight radioactivity anomalies. Highest readings were over the thin carbonaceous shale bed, which overlies SS No. 2, where values of 0.035 to 0.050 Mr/hr (background 0.005 to 0.01 Mr/hr) were obtained. In two other places the calcareous sandstones of SS No. 3 were very slightly radioactive, giving values of approximately 2X background.

The AEC, which core-drilled a deep hole (AEC D.H. No. 100) in the northwest corner of claim no. 6 (fig. 3), found only slight radioactivity, 40 feet below the surface in the carbonaceous shale, and 266 feet below the surface in the Lakota formation. The applicant has also done considerable drilling on the property but failed to keep any record of the work.

Chips of the strongest radioactive material from the thin carbonaceous shale chemically analyzed 0.095 percent U_3O_8.

The Western Uranium Company and the Sodak Uranium and Mining Company operate two small open-pit mines 2 and 2-1/2 miles, respectively, south of the Black Vein claims. Both mines are producing black-type uranium ore from the vicinity of the carbonaceous shale bed in the upper part of the Fall River formation. However, in these cases, the carbonaceous shale has apparently thickened, from the exposures observed to the north, to a bed, or series of beds, up to 8 feet thick. No ore control, other than this stratigraphic thickening, is known.

White Cloud, Marion, and Luckey claim groups

The consolidated rocks, exposed on the White Cloud, Marion, and Luckey claim groups in Pennington County, South Dakota, consist of metamorphic and sedimentary rocks ranging in age from Precambrian to Mississippian. The Paleozoic sedimentary rocks are essentially flat-lying; the Precambrian metamorphic rocks, unconformably underlying the Paleozoic rocks, are a series of tightly folded schists and quartzites.

The applicant's principal interest in these claim groups is in the Cambrian Deadwood formation, where a few very minor radioactivity anomalies have been found. The Deadwood formation, which directly overlies the truncated Precambrian rocks is, in the area examined, a marine-beach deposit consisting of a lower conglomeratic section, 45 feet thick, and an upper coarse sandstone section approximately 40 feet thick. The rocks are characteristically yellow-brown to brown, with the exception of the very top of the formation where a thin, glauconitic greenish shale is usually present. Rounded pebbles in the conglomerate are usually quartz, although many metamorphic rocks were observed. Overlying the Deadwood formation is a thick series of massive Mississippian limestone beds of the Pahasapa and Englewood formations (fig. 4).

No structures, either folded or faulted, were observed in the Paleozoic sedimentary rocks.

Scintillometer examinations were made in a number of small pits, in both the sandstone and conglomerate, where, according to the applicant, high radioactivity was present. The highest the writers could find was 0.025 Mr/hr (background 0.007 Mr/hr) in a pit in White Cloud No. 1. In two pits in the Marion claim group some very slight radioactivity (2X background) was noted. During the course of the examination it was determined that the two analyses _/ submitted with

---

_/ 0.035 percent U_3O_8; 0.09 percent ThO_2
0.30 percent U_3O_8; 0.08 percent ThO_2

the application did not come from the subject property, but from claims in the Deadwood formation, over a mile distant. It was the applicant's contention that similar material might also underly the subject property and apparently there was no hesitation in forwarding the analytical results. The applicant also has done considerable drilling on this property, but again has kept no record of the work.

The radioactivity is probably due to limited concentrations of uranium- and thorium-bearing minerals in beach sands derived from the old Precambrian land mass and deposited during Cambrian time in the Deadwood formation. The deposits on the subject property and in similar type occurrences throughout the Black Hills are not, at the present time, economically significant.

PRESENT STATUS

No equipment or improvements were seen on either of the claim groups. The applicant is reported to own a truck-mounted foy hydraulic rotary core drill and a water truck, both being 1952 models.

APPLICANT'S PROPOSAL AND COST ESTIMATE

The applicant makes no specific proposal as to work division between the subject properties. Holes, drifts, and bulldozer cuts indicated on the applicant's claim map are only approximate as to location. Many of the indicated holes are on end lines or side lines of claims that are not contiguous with other company property.

Estimate of costs:

(a) Independent Contracts

Core drilling 20,000 ft. @ $4/ft.	$80,000.00	
Drifting 1,000 ft @ $30/ft.	30,000.00	
Material moved:		
Dirt 100,000 cu,yd @ $.20/yd.	20,000.00	
Rock 5,000 cu.yds.@ $2/yd.	10,000.00	
		$140,000.00

(b) Labor, supervision, consultants.

Labor: cutting trees, making trails, etc.	1,000.00	
Supervision: to direct the work of the crews drilling, drifting, bulldozing, etc.	8,000.00	
Consultants:		
Engineering	3,000.00	
Geologists	3,000.00	
		15,000.00

(c) Operating materials and Supplies:

1. Engineering stakes	1,000.00	
2. Engineering equipment (small)	600.00	
3. Blasting powder	300.00	
4. Misc. equipment	400.00	
		2,300.00

(d) Operating Equipment:

1. Pickup	2,000.00	
2. Operation costs of pickup	1,500.00	
3. Counters rental	500.00	
4. Light plant	650.00	
		4,650.00.

(e) Rehabilitation and repairs:

None.

(f) New buildings, Improvements, Installations:

None.

(g) Miscellaneous:

1. Analytical work, 2,000 holes @ $10	$20,000.00	
2. Accounting	4,000.00	
3. Workman's Compensation	2,500.00	
4. Employees Liability Insurance	700.00	
5. Payroll taxes	3,000.00	
		$ 30,200.00
(h) Contingencies:		10,000.00
Grand Total		$202,150.00

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that an exploration program would not disclose commercial uranium mineralization on either of the two properties due to the following reasons:

1. In the Black Vein claim group the radioactive carbonaceous shale, which is apparently closely associated with uranium mineralization in two mines 2 miles distant, is very thin.

2. A representative sample of this carbonaceous shale, taken from the area of strongest radioactivity, chemically analyzed only 0.095 percent U_3O_8.

3. Holes drilled by the applicant and the AEC on the Black Vein claims failed to disclose any significant radioactivity.

4. The presence of a small anticlinal or domal structure on the Black Vein claims does not enhance the uranium potential of the property.

5. In the White Cloud, Marion, and Luckey claim groups only a few very weak radioactivity anomalies were observed. The strongest anomaly gave 0.025 Mr/hr against a background of approximately 0.005 - 0.01 Mr/hr.

6. The weak radioactivity is probably due to the scattered concentration of uranium- and thorium-bearing minerals in beach sands of the Deadwood formation. No economically significant deposits of this type are known to occur in the Black Hills.

It is recommended that the application for DMEA assistance be denied.

8/16/56

August 13, 1956

DMEA
Date Rec'd

AUG 14 1956

BUREAU OF MINES
Denver, Colorado

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4236 (Uranium), Black Hills Exploration Co., (Black Vein claims group), Crook County, Wyoming, and (White Cloud claim group et al) Pennington County, S. D.

The application for Black Hills Exploration Company, DMEA 4236 in the amount of $202,150.00 was received in this office on August 13, 1956.

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

JOHN F. SHAW

John F. Shaw

cc: W. M. Traver (2)
E. N. Marshman
J. F. Shaw
Sec. Op. Com (2)

RECEIVED
AUG 16 1956

8/14/56

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

RECEIVED
AUG 13 1956

224 New Customhouse
Denver 2, Colorado

August 10, 1956

Memorandum

To: John F. Shaw (w/brochure)
E. N. Harshman

From: DMEA Field Team, Region III

Subject: Docket DMEA-4236 (Uranium), Black Hills Exploration Company, (Black Vein Claims group), Crook County, Wyoming and (White Cloud Claim group et al) Pennington County, South Dakota

Enclosed is the subject application in the amount of $202,150.00. A field examination and suitable report are requested.

Enclosed for your information are a copy of a letter from the Chairman of the Operating Committee, dated May 17, 1956, and memoranda of review of the application by H. E. Balsam, John E. Crawford and James Pacos. The supplementary data submitted by the applicant mentioned in the second paragraph of the Chairman's letter are also enclosed.

Please return the brochure with the Report of Examination.

DMEA Field Team, Region III

W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosures

EMC/pw

cc: 1 w/orig.
Sec.Op.Comm. (2)
DMEA-4236
Chron

7/23/56

RECEIVED
JUL 23 1956

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

July 17, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4236 (Uranium) Black Hills Exploration Company, (Black Vein claims group), Crook County, Wyoming and (White Cloud claim group, et al.) Pennington County, South Dakota

Enclosed are three copies each of two drilling bids submitted by the Applicant. One copy of these bids is being retained in this office with our copy of the brochure.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

DMEA
Date Rec'd.
JUL 16 1956
BUREAU OF MINES
Denver, Colorado

510 Main
Miles City, Montana
July 13, 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

RECEIVED
JUL 23 1956

Dear Mr. Traver:

Re: DMEA Docket 4236 (Uranium)
Black Vein claims group, Crook County, Wyoming and White Cloud claim group, et al., Pennington County, South Dakota

Enclosed are copies of bids from the T. W. Buell Drilling Co. and the Black Hills Exploration Co.

We contacted severalother drillers in this area but these were the only ones who would make a bid on the basis of price per foot.

We contacted the Askins Drilling Co. as they have done some drilling in that area. Mr. Askins said that the only way he would bid was on the hourly basis. His bid would be $20.00 per hour for tower time including standby time. He said that this is a tough area and the only way he would bid is on the hourly basis.

On June 30th we submitted to your office information regarding the ownership of the claims.

At that time you siad that you would make a field examination of the property. We would appreciate it if you could make this examination as soon as possible so that the exploration work canbe started.

We would appreciate hearing from you regarding the approval of our request for assistance.

Very truly yours,

C. Max Hughes Vice Pres.

Black Hills Exploration Co.
510 Main
Miles City, Montana

BLACK HILLS EXPLORATION COMPANY
Miles City, Montana

RECEIVED JUL 23 1956

INVITATION TO BID FOR DRILLING ON BLACK VEIN CLAIMS IN CROOK COUNTY, WYOMING AND WHITETAIL CLAIMS IN PENNINGTON COUNTY, SOUTH DAKOTA.

Date: June 22, 1956

1. Open bids are to be submitted subject to the following conditions for furnishing all labor, materials and services for performing the drilling of 20,000 feet of core and non-core drilling on the above claims.

2. The bids are to be made on the 20,000 feet of drilling in groups of 5,000 feet. The Company reserves the right to terminate the drilling at any time after 5,000 feet has been drilled.

3. The Contractor is to produce cores which will have a minimum dia. of 1 3/8" and a maximum of 2½". The core hole is to have a minimum dia. of 2 3/8". The non-core drilling holes are to have a minimum dia. of 3½".

4. The work will be supervised by an engineer provided by the Company who will designate the location, number, depths of all holes to be drilled and when and the lengths of the cores to be taken.

5. The Contractor is to start drilling operations within 15 days after receipt of notice to start drilling.

6. The Contractor shall at all times proceed with the work in a continous, dilegent and workmanlike manner.

7. The Contractor shall be paid on the first of each monthe for 80% of the footage of drilling completed during the previous month. The balance of the drilling or the 20% will be paid when the drilling is fully completed or the contract is cancelled. Invoices are to be presented to the Company showing the completed footage of core and non-core drilling.

8. The Company reserves the right to reject any or all bids.

9. Bids are to be delivered to the Black Hills Exploration Company, 510 Main, Miles City, Montana by 10:00 AM on June 30, 1956 in order to be considered.

10. Copies of the bid forms may be obtained from the Companies office at 510 Main, Miles City, Montana.

11. Maps of the areasto be drilled may be seen at the Companies office at 510 Main, Miles City, Montana.

RECEIVED
JUL 23 1956

BID AND SCHEDULE OF UNIT PRICES

BLACK HILLS EXPLORATION COMPANY
510 Main, Miles City, Montana

The undersigned agrees to furnish all the labor, materials and services to drill for the Black Hills Exploration Company 20,000 feet of core and non-core drilling according to the specifications set forth in the invitations to bid.

BLACK VEIN CLAIMS, CROOK COUNTY, WYOMING

Groups	Depth	Core drilling Estimated Feet	Core drilling Price per foot	Non-core drilling Estimated feet	Non-core drilling Price per foot
First group of 2,500 feet	0-200	1000	$ 7.00	1500	$ 5.00
Second group of 2,500 feet	0-200	1000	$ 7.00	1500	$ 5.00
Third group of 2,500 feet	0-200	1000	$ 7.00	1500	$ 5.00
Fourth group of 2,500 feet	0-200	1000	$ 7.00	1500	$ 5.00

WHITE TAIL CLAIMS, PENNINGTON COUNTY, SOUTH DAKOTA

Groups	Depth	Core drilling Estimated feet	Core drilling Price per foot	Non-core drilling Estimated feet	Non-core drilling Price per foot
First group of 2,500 feet	0-200	1000	$ 13.00	1500	$ 10.50
Second group of 2,500 feet	0-200	1000	$ 13.00	1500	$ 10.50
Third group of 2,500 feet	0-200	1000	$ 13.00	1500	$ 10.50
Fourth group of 2,500 feet	0-200	1000	$ 13.00	1500	$ 10.50

Date 7-12-56.

T.W. Buell - Drilling

by T.W. Buell

address Box 154, Miles City, Mont.

BLACK HILLS EXPLORATION COMPANY
Miles City, Montana

INVITATION TO BID FOR DRILLING ON BLACK VEIN CLAIMS IN CROOK COUNTY, WYOMING AND WHITETAIL CLAIMS IN PENNINGTON COUNTY, SOUTH DAKOTA.

Date: June 22, 1956

1. Open bids are to be submitted subject to the following conditions for furnishing all labor, materials and services for performing the drilling of 20,000 feet of core and non-core drilling on the above claims.

2. The bids are to be made on the 20,000 feet of drilling in groups of 5,000 feet. The Company reserves the right to terminate the drilling at any time after 5,000 feet has been drilled.

3. The Contractor is to produce cores which will have a minimum dia. of 1 3/8" and a maximum of 2½". The core hole is to have a minimum dia. of 2 3/8". The non-core drilling holes are to have a minimum dia. of 3½".

4. The work will be supervised by an engineer provided by the Company who will designate the location, number, depths of all holes to be drilled and when and the lengths of the cores to be taken.

5. The Contractor is to start drilling operations within 15 days after receipt of notice to start drilling.

6. The Contractor shall at all times proceed with the work in a continous, diligent and workmanlike manner.

7. The Contractor shall be paid on the first of each menthe for 80% of the footage of drilling completed during the previous month. The balance of the drilling or the 20% will be paid when the drilling is fully completed or the contract is cancelled. Invoices are to be presented to the Company showing the completed footage of core and non-core drilling.

8. The Company reserves the right to reject any or all bids.

9. Bids are to be delivered to the Black Hills Exploration Company, 510 Main, Miles City, Montana by 10:00 AM on June 30, 1956 in order to be considered.

10. Copies of the bid forms may be obtained from the Companies office at 510 Main, Miles City, Montana.

11. Maps of the areasto be drilled may be seen at the Companies office at 510 Main, Miles City, Montana.

BID AND SCHEDULE OF UNIT PRICES

BLACK HILLS EXPLORATION COMPANY
510 Main, Miles City, Montana

The undersigned agrees to furnish all the labor, materials and services to drill for the Black Hills Exploration Company 20,000 feet of core and non-core drilling according to the specifications set forth in the invitations to bid.

BLACK VEIN CLAIMS, CROOK COUNTY, WYOMING

Groups	Depth	Core drilling		Non-core drilling	
		Estimated Feet	Price per foot	Estimated feet	Price per foot
First group of 2,500 feet	0-200	1000	$ 4.50	1500	$ 3.50
Second group of 2,500 feet	0-200	1000	$ 4.50	1500	$ 3.50
Third group of 2,500 feet	0-200	1000	$ 4.50	1500	$ 3.50
Fourth group of 2,500 feet	0-200	1000	$ 4.50	1500	$ 3.50

WHITE TAIL CLAIMS, PENNINGTON COUNTY, SOUTH DAKOTA

Groups	Depth	Core drilling		Non-core drilling	
		Estimated feet	Price per foot	Estimated feet	Price per foot
First group of 2,500 feet	0-200	1000	$ 9.00	1500	$ 6.00
Second group of 2,500 feet	0-200	1000	$ 9.00	1500	$ 6.00
Third group of 2,500 feet	0-200	1000	$ 9.00	1500	$ 6.00
Fourth group of 2,500 feet	0-200	1000	$ 9.00	1500	$ 6.00

Date July 11, 1956

Black Hills Exploration Co
by C. Paul Hughes, Vice President
address Box 503 Miles City Mont

7-16-56

RECEIVED
JUL 16 1956

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

July 13, 1956

224 New Customhouse
Denver 2, Colorado

Mr. Willis F. Aye, President
Black Hills Exploration Company
510 Main
Miles City, Montana

Re: Docket DMEA 4236 (Wrandum) Black Vein Claims group, Crook County, Wyoming and White Cloud Claim group, et al., Pennington County, South Dakota

Dear Mr. Aye:

Your letter of June 30, 1956 stated that you were in the process of obtaining drilling bids. Will you please advise when we may expect to receive the three competitive bids for drilling.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

WMC:ab

cc: ~~Chair.~~ Secr. Op. Comm. (2)
Docket 4236
Marshman
Shaw (2)
Chron.

Surname copy

700

J. K. Bowman
Ellis
Mittendorf

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

JUL 2 - 1956

Mr. William F. Aye, President
Black Hills Exploration Company
510 Main
Miles City, Montana

Re: Docket No. DMEA-4236 (Uranium)
Black Vein Claims Group
Crook County, Wyoming, and
White Cloud Claim Group, et al.
Pennington County, South Dakota

Dear Mr. Aye:

This will acknowledge receipt of your letter, dated June 30, to the Administrator, and enclosures referred to therein, in compliance with the Administrator's letter of May 17, 1956. We note you have forwarded copies of the enclosed instruments to our Denver office.

With reference to the last paragraph of your letter, please note our letter of May 17 stated that the claim location certificates would be returned to you when we have no further need of them. However, since the instruments forwarded with your letter of June 30 contain the information we will require, we are returning said certificates listed below:

1. Two location notices, Nos. 158146 and 158147, both dated February 9, 1954, covering Black Vein Nos. 1 and 2, respectively.
2. One location notice, No. 158290, dated February 26, 1954, covering Black Vein No. 3.
3. Thirteen photostat copies of location notices as follows:

Number	Date	Lode
158447	March 9, 1954	Black Vein No. 4
158448	"	" " " 5
158449	March 11, 1954	" " " 6
158450	March 9, 1954	" " " 7
158451	March 11, 1954	" " " 8
158452	March 9, 1954	" " " 9
158453	"	" " " 10
158454	"	" " " 11
158455	"	" " " 12
158456	"	" " " 13
158457	"	" " " 14
158458	"	" " " 15
158459	"	" " " 16

4. Sixteen original location certificates, as follows:

Number	Date	Lode
23522	August 6, 1954	Marian number 2
23523	"	" " 3
23524	"	" " 4
No number	"	Marian Number 2
21995	July 6, 1954	Luckey Lady No. 1
21994	"	White Cloud No. 9
21993	"	" " " 8
21992	"	" " " 7
21991	June 30, 1954	" " " 6
21990	"	" " " 5
21989	"	" " " 4
21988	"	" " " 3
21987	"	" " " 2
21986	"	" " " 1
21997	July 6, 1954	Luckey Baby
21996	"	Luckey Girl No. 1

Sincerely yours,

Ernest Wm. Willis, Chief
Rare and Miscellaneous
Metals Division

FLKnouse/gla
7-9-56
cc to: Admr.'s Reading File
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700, Mr. Knouse
DMEA Field Team, Region III (2)

7-3-56

Miles City, Montana
June 30, 1956

RECEIVED
JUL 3 - 1956

Mr. C. O. Mittendorf, Administrator
US Department of Interior
Defense Minerals Exploration Administration
Washington 25, D.C.

Dear Mr. Mittendorf:

Re: Docket No. DMEA-4236 (Uranium)
Black Vein Claims Group
Crook County, Wyoming, and
White Cloud Claim Group, et al.
Pennington County, South Dakota

Enclosed are copies of quit claim deeds and assignments which show that the Black Hills Exploration Company owned the claims shown on our application for assistance to explore these claims.

We are sending a copy of these instruments to Mr. W. M. Traver today.

We are also in the process of obtaining bids for drilling and these will be submitted to Mr. Traver as soon as they are received.

We are sorry that it has taken so long to get these instruments to you. The deeds that were recorded in Wyoming were not returned to our attorney after recording. After considerable correspondence we were able to find the original copies.

In your letter of May 17th you state that you are returning claim location certificates. To my knowledge we have not received them.

Very truly yours,

Wellis F. Aye

Black Hills Exploration Co.
510 Main
Miles City, Montana

Surname copy 700

F L Knouse
H
Stilsgaard
Geehan
Selfridge
Johnson

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

Mr. Willis F. Aye, President
Black Hills Exploration Company MAY 17 1956
510 Main
Miles City, Montana

Re: Docket No. DMEA-4236 (Uranium)
Black Vein Claims Group
Crook County, Wyoming, and
White Cloud Claim Group, et al.
Pennington County, South Dakota

Dear Mr. Aye:

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

In the meantime, so the processing of your application will not be delayed, please clarify or furnish the following:

1. With your application you submitted "Location Certificates" for the claims you propose to explore, located in the names of various individuals. However, there was no evidence submitted that the Applicant, Black Hills Exploration Company, controls these claims.

2. If the officials of the applicant company own these claims, we will require evidence that they are controlled by the company, by furnishing a copy of a lease, assignment, or other instrument to Mr. W. M. Traver at the above address and also to this office.

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

When we have no further need of the claim location certificates which you submitted with your application, they will be returned to you.

Sincerely yours,

C. O. Mittendorf

Administrator

FLKnouse/gla
5-14-56
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Knouse DMEA Field Team, Region III (2)

R.C.S.

5/24/56

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

RECEIVED
MAY 24 1956

May 22, 1956

224 New Customhouse
Denver 2, Colorado

Mr. Willis F. Aye, President
Black Hills Exploration Company
510 Main
Miles City, Montana

Re: DMEA Docket 4236 (Uranium) Black Vein claims group, Crook County, Wyoming and White Cloud claim group, et al., Pennington County, South Dakota

Dear Mr. Aye:

Reference is made to Mr. C. O. Mittendorf's letter to you dated May 17, 1956 on the captioned docket. The field examination on this property will not be made until we receive the information requested in Mr. Mittendorf's letter.

We will also require bids from three contractors on your proposed drilling. Please do not hold this other information while waiting for the three drilling bids as these bids may be submitted to this office as they are received by you.

Very truly yours,

J. W. Townsend

J. W. Townsend
Acting Executive Officer, DMEA
Field Team, Region III

HMC:ab

cc: Chair. Op. Comm. (2)
Docket 4236
Harshman
Shaw (2)
Chron.

Surname copy 700

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

J Kasmer
Selfridge
yes for review

MAY 17 1956

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
22d New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4236 (Uranium)
Black Hills Exploration Company
Black Vein Claims Group
Crook County, Wyoming, and
White Cloud Claim Group, et al.
Pennington County, South Dakota

Dear Mr. Traver:

The captioned application is referred to your office for either a field examination and report on the proposed project or the Field Team's recommendations based on information available to your office. Since the application contains no evidence that the claims concerned are controlled by the Applicant, we have requested the Applicant to furnish such evidence. Therefore, if a field examination is to be made, we suggest deferring it until this proof is furnished. A copy of the application was retained by your office.

Enclosed are copies of memoranda, dated April 6 and 10, and May 10, 1956, from Mr. H. E. Nelson, USGS, Mr. James Paone and Mr. J. E. Crawford, USBM, respectively, relating to the subject project. In addition, there are enclosed two sets of supplementary data submitted by the Applicant, consisting of a letter of two pages, dated April 30, 1956, two assay certificates, and two claim maps which show the two claim groups.

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

1. Nine copies of maps showing mineralized exposures, holes drilled by AEC, and results obtained, if available; sample location and assay values (reported by the Applicant, and of any additional samples taken by the examining team); and recommended work, all in relation to the boundaries of the claims;

R.C.S.

2. Bids from three contractors if drilling is recommended and is to be done by an independent contractor; and

3. The Applicant should be requested to furnish Consent to Lien forms signed by all the owners of all the claims that are not owned by the Applicant.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JB)

Enclosures

APPROVED:

/s/ Robert W. Geehan (JB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JB)
Member, Geological Survey

FLKnouse/gla
5-14-56

cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

5-11-56

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

RECEIVED
MAY 11 1956

May 10, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Additional Information, DMEA Docket 4236, Black Vein Claims Group, Crook County, Wyo., and White Cloud Claim Group, et al., Pennington County, S. Dak.

I have reviewed the attached additional information, DMEA Docket 4236, Black Vein Claims Group, Crook County, Wyo., and White Cloud Claim Group, et al., Pennington County, S. Dak., dated April 30, and received in this office May 5, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

Additional information was requested of the applicant on April 11, 1956, by DMEA. The applicant submitted maps showing in some detail the proposed exploration work. Assay reports on three samples taken from the claims indicate 0.10, 0.035, and 0.30 percent U_3O_8 respectively.

Although a project of the magnitude proposed does not appear to be warranted by the information submitted, we recommend that the application be referred to the field team for appropriate action and that the field team be requested to consult with D. L. Everhart, Acting Chief, Denver Exploration Branch, Atomic Energy Commission, inasmuch as the Commission has done some drilling on the subject property.

John E Crawford
John E. Crawford

Attachment

5-9-56

IN REPLY REFER TO:

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

RECEIVED
MAY 8 - 1956

May 7, 1956

Re: DMEA 4236
Black Hills Exploration Co.
Black Vein Claims
Crook Co., Wyoming
White Cloud Claims
Pennington Co., South Dakota
$202,150.00 - Uranium

Memorandum

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

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

Subject: Review of supplementary information supporting application.

The additional maps and narrative assist in visualizing the exploratory project and one of the 3 samples reported bears evidence of the presence of ore grade material. Otherwise the information is too general to support the application.

In view of the several outcrops that give high readings, an examination is believed justified.

Referral of the application to the Field Team is again recommended.

N. E. Nelson

N. E. Nelson

5/4/56

5-2-56

Miles City, Montana
510 Main
April 30, 1956

RECEIVED
MAY 2 - 1956

Mr. Ernest W. Ellis, Chief
Rare and Miscellaneous
Metals Division
Department of Interior
Washington 25, D. C.

Re: Docket No. DMEA-4236 (Uranium)
Black Vein Claims Group
Crook County, Wyoming, and
White Cloud Claim Group, et al.
Pennington County, South Dakota

Dear Mr. Ellis:

We are enclosing the following maps, assays and information requested in your letter of April 11 :

1. Enclosed are 4 copies of maps of claims in Wyoming and South Dakota.

2. Enclosed are 4 copies each of 2 different assays of radio-active materials that was taken from the mineralized exposures.

3. In reply to your questions No. 1:

   On the previous map that we sent you the names of the claims were not the same as they appear on the certificate of notice. They are corrected on the enclosed maps. The names on the location certificates are correct. It would be best to use the new maps and not the original ones.

   In reply to question No. 2:

   a. The mineralized exposure on the White Cloud Claims is shown by the dashed line with the main outcrops shown where high radio activity was found. On the Black Vein Claims the mineralization is not continuously exposed but it does outcrop at the locations shown on the map.

   b. The certicates of analysis were taken from the mineralized exposures on the claims.

   c. The maps show in some detail the location of the proposed drill holes, where the drifts are to be made, proposed excavations and where the major trails are to be built in order to complete the exploration work. Some changes in the location of the proposed work will probably be necessary but the major work will be done as shown on the map. It is planned that the drill holes will be drilled in a pattern, spacing them about 600 feet apart on the start. If a good showing is found in a certain area then closer spacing will be used to locate the ore body. You will notice on the map we have shown areas where we propose to drill a group of holes. These are areas where we believe there are good deposits. The depth of the holes will vary from 30 to 200 feet.

The Black Vein Claims are located in the Fall River Sandstone formation of the Lower Cretaceous period. The sandstone appears to be about 20' thick. There is a carboniferous shale about 3' thick which is exposed at several places and is radio-active. The results of the AEC drilling on the Black Vein Claims has been requested but to date it has not been compiled and submitted to us.

The White Cloud Claims are located in the Deadwood formation of the Upper Cambrian period. The formation is exposed along the dashed line shown on the map. The exposure varies from 1 to 10'. It is highly radio-active at the locations where proposed drifts and excavations are to be made. The thickness or area of the ore body cannot be determined except by extensive drilling, excavating or drifts.

We believe that these claims contain large quantites of commercial ore, but in order to locate these deposits considerable exploration must be done. It is our desire to make these explorations and as soon as the deposits are located we plan to start mining them.

We hope that the maps and this letter have fully answered your questions and that you will now be able to complete our application. Weather conditions are such now that we can operate at a maximum of efficiency. Please let us hear from you at an early date.

Very truly yours,

Willis F. Aye

Willis F. Aye, President
Black Hills Exploration Co.

700

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

FILE COPY
Surname:
J. Kaupel
Ellis
Matthews

APR 11 1956

Mr. Willis F. Aye, President
Black Hills Exploration Company
510 Main
Miles City, Montana

Re: Docket No. DMEA-4236 (Uranium)
Black Vein claims group
Crook County, Wyoming, and
White Cloud claim group, et al.
Pennington County, South Dakota

Dear Mr. Aye:

This is with reference to your application for Government aid to explore the subject property.

In order that we may continue to process your application, please clarify and furnish the following:

1. The map submitted with your application entitled "Black Hills Exploration Company Miles City, Mont Acreage in Claims - 320" of the claims in Pennington County, South Dakota, show different names from those shown on the "Location Certificates." They are as follows:

Claim Names on Map	Claim Names on Location Certificates
Marion No. 2	Marian No. 2
Marion No. 3	Marian No. 3
Marion No. 4	Marian No. 4
Lucky Baby	Luckey Baby
Lucky Lady	Luckey Lady No. 1
Lucky Girl	Luckey Girl No. 1

Therefore, please furnish a claim map which shows the location and name of each claim as it is recorded. If the names of these claims are in error and the location as shown on the map is correct, furnish the information required to make the correction on the map.

2. Under Item 4-c in the narrative attached to your application you state "Deadwood Series of the Precambrian Formation. Assays of surface material indicate high grade radio active minerals. Scintillators and geiger counters show high readings in area and several samples taken from the area show commercial ore." Also under

R.C.G.

Item 6-a you propose to explore these groups of claims by means of 20,000 feet of core drilling, 1,000 feet of drifting and moving 100,000 cubic yards of dirt, 5,000 cubic yards of rock, and an unstated amount of trails. In order for us to evaluate the merits of your proposed exploration program, you should furnish the following:

On maps or sketches, drawn to scale, of the claims in Wyoming and South Dakota, show (a) the locations and extent of the mineralized exposures; (b) location of samples taken with their chemical analyses, and certified assay certificate; and (c) location of the proposed drill holes, drifting, excavations, and trails, all in relation to the property boundaries. In addition, please furnish a narrative description of each mineralized exposure i.e., length, width, and mineralization, and any other local geological features as justification for the proposed project.

We note that the AEC did considerable drilling on the claims in Wyoming. If the results of this drilling are available, this information would be helpful and should be submitted.

You should furnish four copies of the above information to enable us to continue processing your application with a minimum of delay.

Sincerely yours,

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

FLKnouse/izm 4-10-56
cc to: Docket
Code 700
Mr. Knouse
Admr.(s Reading File
DMEA Field Team, Region III (2)
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

4-10-56

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

RECEIVED
APR 10 1956

April 10, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Application for assistance, DMEA Docket 4236, Black Hills Exploration Company, Pennington County, South Dakota, and Crook County, Wyoming

I have reviewed the attached application, Black Hills Exploration Company, DMEA Docket 4236, dated March 26 and received in this office April 4. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The Black Hills Exploration Company has applied for DMEA assistance to explore for uranium on Secs. 25 and 26, T. 2 N., R. 2 E., BPM, Pennington County, South Dakota, and Secs. 12 and 15, T. 56 N., R. 66 W., sixth PM, Crook County, Wyoming. The total estimated cost of the project is $202,150.00.

The application contains little supporting evidence. Additional information such as geologic features, type of mineralization, results of sampling, results of AEC drilling, and description of the proposed work should be requested of the applicant.

James Paone

James Paone

Attachment

4-9-56

IN REPLY REFER TO:

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

RECEIVED
APR 9 - 1956

April 6, 1956

Re: DMEA 4236
Black Hills Exploration Co.
Mining claims in Pennington Co.,
S. D., and Crook Co., Wyoming
$202,150.00 - 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 bulldozing, core drilling, and drifting at least two groups of claims, a group in South Dakota and probably one in Wyoming, but the application does not say as much. Nor does the application say or show where or how much work is to be done at each of the 2(?) places.

The work requested consists of:--

Core drilling 20,000 feet at $4.00	$ 80,000.00
Drifting 1,000 feet at $30.00	30,000.00
Moving dirt 100,000 yds. at .20/cu yd.	20,000.00
Moving rock 5,000 yds. at $2.00/cu yd.	10,000.00
Labor, consultants, etc.	15,000.00
Operating supplies	2,300.00
Operating equipment	4,650.00
Miscellaneous	30,200.00
Contingencies	10,000.00
Total	$202,150.00

Little information is given in support of the application, other than to say scintillators and geiger counters have shown high readings and small samples show commercial ore. The material is said to come from the Deadwood series of Cambrian (not Precambrian) age.

Few, if any, written reports bear on the subject. A verbal report (R. W.) is not encouraging as for the Pennington County occurrence.

No information is available concerning the Wyoming area.

Referral to the Field Team for appropriate treatment is recommended.

N. E. Nelson

N. E. Nelson

April 4, 1956
Subject: DMEA-4236
Re: Exploration Assistance

Black Hills Exploration Company
510 Main
Miles City, Montana

Gentlemen:

The receipt of your application dated March 26, 1956, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4236 and referred to the Rare & Misc. Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

April 4, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region III.

DMEA
- 4236 Black Hills Exploration Company

Robert E. Adams
Chief, Operation's Control
and Statistics Division

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

APR

March 29, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Aid (Uranium-Copper-Cobalt) Black Hills Exploration Company, Pennington County, South Dakota and Crook County, Wyoming

Enclosed are three copies of the subject application in the amount of $202,150.00 and three copies of our reply to the applicant. One copy of Form MF-103 and Cost Estimates is being retained in our file.

The applicant has given no description of the work, and only two maps accompanied the application, one map showing the claims in Pennington County, South Dakota and the other map showing the claims in Crook County, Wyoming. These are being forwarded with your copies of the application. One copy of Location Notices on the Black Vein claims and Location Certificates on the South Dakota claims were submitted by the applicant and are also enclosed with your copies of the application.

W. M. Traver

W. M. Traver

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd.
MAR 28 1956
BUREAU OF MINES
Denver, Colorado

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

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

RECEIVED
APR 2 - 1956

Not to be filled in by applicant

Docket No. DMEA-4236
Metal or Mineral Uranium, Copper, Cobalt
Date Received 4-2-56
Estimated Cost $202,150.00
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: BLACK HILLS EXPLORATION COMPANY
510 Main
Miles City, Montana

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Sections 25 & 26 T2N R2E BPM Pennington Co. South Dakota and Sections 12 & 15 T56N R66W 6thPM Crook County, Wyoming. See attached copies of mining claims and maps showing location of claims. Please return the copies of the claim location notices when thru with them

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Mining claims on government owned minerals.

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

(*e*) If you own the land, describe any liens or encumbrances on it none

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

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

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

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

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

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you will to explore Uranium and other radio active minerals, copper, cobalt and others.

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

(*c*) The work will start within 30 days and be completed within 24 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [X] Use of equipment owned by you [X] Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated March 26, 1956.

BLACK HILLS EPLORATION COMPANY
(Applicant)

By William F. Cage

President

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

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

1. c. Willis F. Aye, President 510½ Main, Miles City, Montana

George M. Durst, Secretary-Treasurer, 13 S. 6th. Miles City, Montana

4. Physical Description

a. No mining is being done at present and none has been done in the past. The claims are readily accessible by car or pickup.

RECEIVED APR 8 - 1953

b. No mining has been done and the ore reserves are unknown.

c. Deadwood series of the Precambrian formation. Assays of surface material indicate high grade radio active minerals. Scintillators and gieger counters show high readings in area and small samples taken from the area show commercial ore. 3

d. County highway within 5 miles and Forest road passes through South Dakota Claims. Wyoming Claims are on County Road. Railroad at Rochford S.D. 8 miles from claimsBurlington. South Dakota Claims 25 miles from Deadwood, S. D.

e. Plenty of experienced manpower available as this is a mining area. Materials are readily available by truck or railroad. Same is true of supplies. The applicant has a truck mounted Joy hydraulic rotary core drill individually gas driven mounted on a Marvin Harrington FWD chassis powered by Ford V8 motors and water truck on came chassis both are 1952 models. Other small and heavy equipment are available in the area on a rental or purchase basis.
Water is available from springs and creeks.
Electric power is within 3 miles.

5. d. Group comprising corporation have been prospecting as a whole for over 4 years. Have had wide experience in locating radio active ores in Black Hills. Are carrying on mining operations in other parts of the Black Hills. Corporation has equipment to do explorative drilling and experienced operators. Miners to drive the drifts are available in the Black Hills. Corporation officers will supervise the operations. They are made up of men who have had experience in mining, engineering and business enterprises. The AEC did considerable drilling on the claims in Wyoming. ?

6. Estimate of Costs.

a. It is planned to do the explorative work on a unit basis. Some of the work will be done with applicant's owned equipment. For this reason the estimate of work is shown on a unit basis for that part of the work.

Core drilling	20,000' @ $4.00/ foot	$80,000.00	
Drifting	1,000' @ 30.00/ foot	30,000.00	
Material moved			
Dirt cuyds	100,000 @ $.20/yd	20,000.00	
Rock cuyds	5,000 @$2.00/yd	10,000.00	
		$140,000.00	$140,000.00

6. b. Labor, Supervision consultants

Labor cut trees make trails and so forth	$1,000.00	
Supervision: To direct the work of the crews drilling drifing, bulldozing etc.	$8,000.00	
Consultants;		
Engineering	$3,000.00	
Geologists	$3,000.00	
	$15,000.00	$15,000.00
c. Operating materials & Supplies		
1. Engineering stakes	$1,000.00	
2. Engineering equipment(small)	600.00	
3. Blasting powder	300.00	
4. Misc. equipment	$ 400.00	
	$2,300.00	$2,300.00
d. Operating Equipment		
1. Pickup	$2,000.00	
2. Operation costs of pickup	1,500.00	
3. Counters renatal	500.00	
4. Light plant	4,650.00	
	$4,650.00	$4,650.00
e. None		
f. None		
g. Miscellaneous		
1. Analytical Work- 2000 holes @ $10	$20,000.00	
2. Accounting	4,000.00	
3. Workman's Compensation	2,500.00	
4. Employees Liability Insurance	700.00	
5. Payroll taxes	3,000.00	
	$30,200.00	$30,200.00
h. Contingencies		$10,000.00
	Total	$202,150.00

7. a. Yes Our share will be furnished in the form of labor and funds from the company.

b. Company funds and equipment is avaialble to furnish our share of the cost. Manpower is available from the company officers and other interested parties.

STATE OF MONTANA)
) ss.
COUNTY OF CUSTER)

On this 16 day of March in the year A.D. 1956, before me, personally appeared JOHN A. AYE, JOHN L. AYE, WILLIS F. AYE, C. MAX HUGHES, WAYNE STRATTON, W. E. Stokes, Sr. W.E. STOKES, JR., JOHN T. SYMONDS and BEN J. STRATTON, known to me to be the persons who are described in, and who executed the foregoing instrument, and they acknowledged to me that they executed the same.

Ada M. Ave Hadley
Notary Public

My commission expires on the

17 day of March 1957.

9906

STATE OF SOUTH DAKOTA, COUNTY OF PENNINGTON-SS.
FILED THIS 30 DAY OF Apr 1956 AT 10 O'CLOCK A M. BOOK 111 PAGE 237 Deeds
Willis L. Sayler BY Verna Dreger FEES $ 1.00
REGISTER OF DEEDS DEPUTY

RECORDED
INDEXED

QUIT CLAIM DEED

JOHN A. AYE, JOHN L. AYE, WILLIS F. AYE, C. MAX HUGHES, WAYNE STRATTON, W.E. STOKES, SR., W.E. STOKES, JR., JOHN T. SYMONDS and BEN J. STRATTON, grantors, all of Miles City, County of Custer, State of Montana, for and in consideration of TEN DOLLARS and other valuable consideration, Convey and Quitclaim to BLACK HILLS EXPLORATION COMPANY, a South Dakota corporation, the grantee, of Deadwood, South Dakota, all interest of the grantors in the unpatented mining claims in the Rochford and unorganized mining districts in the County of Pennington, State of South Dakota, to-wit:

The White Cloud Lode Mining Claims bearing Nos. 1 to 9, both inclusive, as said mining claims are bounded and described in location certificates appearing of record in the office of the Register of Deeds of said Pennington County, Rapid City, South Dakota in Book 49 on pages 263 to 271, both inclusive.

The Marian Number 2, Marian Number 3 and Marian Number 4 mining claims as the same are bounded and described in location certificates appearing of record in the office of the Register of Deeds of said Pennington County, Rapid City, South Dakota in Book 49 on pages 483, 484, and 485.

The Luckey Lady No. 1, Luckey Girl No. 1 and Luckey Baby mining claims as the same are bounded and described in location certificates appearing of record in the office of the Register of Deeds of said Pennington County, Rapid City, South Dakota in Book 49 on pages 272, 273 and 274.

(This conveyance is given in exchange for stock of the grantee corporation and without monetary consideration to the grantors.)

Dated this 17 day of March, 1956.

John L. Aye
John A. Aye
W. E. Stokes Jr.
Wayne Stratton
Willis F. Aye
C. Max Hughes
Ben J. Stratton
John T. Symonds
W. E. Stokes Sr.

No. 168930 Filed for record May,8,1956 at 3:00 o'clock P.M. Book 27 Photos Page 360 Francis Hejde County Clerk

QUIT CLAIM DEED

JOHN A. AYE, JOHN L. AYE, WILLIS F. AYE, WAYNE STRATTON and W.E. STOKES, JR., all of Miles City, Custer County, State of Montana, grantors, for and in consideration of TEN DOLLARS and other valuable consideration, Convey and Quitclaim to BLACK HILLS EXPLORATION COMPANY, a South Dakota corporation, the grantee, of Deadwood, South Dakota, all interest of the grantors in the unpatented Lode Mining Claims in the County of Crook, State of Wyoming, to-wit:

> The Black Vein Lode Mining Claims bearing Nos. 1 to 19, both inclusive, as said mining claims are bounded and described in the office of the County Clerk and recorder in Sundance, Wyoming, all of said claims being located in Township 56N, Range 66 W of the 6th Principal Meridian and which said claims were originally located by the grantors herein.

(This conveyance is given in exchange for stock of the grantee corporation and without monetary consideration to the grantors.)

Dated this 16 day of March, 1956.

John A. Aye
W.E. Stokes Jr.
Wayne Stratton
Willis F. Aye
John L. Aye

STATE OF MONTANA)
) ss.
COUNTY OF CUSTER)

On this 16 day of March in the year A.D. 1956, before me, personally appeared JOHN A. AYE, JOHN L. AYE, WILLIS F. AYE, WAYNE STRATTON and W.E. STOKES, JR., known to me to be the persons who are described in, and who executed the foregoing instrument, and they acknowledged to me that they executed the same.

Ada M. Aye Talley
Notary Public

My commission expires on the 17 day of March 1957.

Quit Claim Deed
John A. Aye etal
to
Black Hills Exploration
Company

168930

STATE OF WYOMING }
COUNTY OF CROOK } ss

This Instrument was filed for record at 3 P. o'clock M., on the 8 day of May A.D. 19 56 and duly recorded in Book 27 photo on Page 360

Francis Hejde
County Clerk and Ex-Officio Register of Deeds

By _____ Deputy

When Recorded Return To:

Recorded ✓
Indexed ✓
Abstracted ✓
Checked

No. 168110 Filed for record Feb. 8, 1956 at 9:00 o'clock A.M.; Recorded Book 26 of photos page 326. Francis Hejde, County Clerk.

A S S I G N M E N T

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, PAUL E. FRY and ANNA F. FRY, his wife, of Miles City, Montana, for a good and valuable consideration, do hereby transfer, assign and set over unto JOHN A. AYE of Miles City, Montana, all of our right, title, estate and interest in and to the following claims and property covered thereby, said claims being filed in the office of the County Clerk and Recorder of Crook County, Wyoming, to-wit:

1. Claim No. 158146 filed on February 10, 1954 at 9:00 o'clock A. M., in Book 10 Photos, at page 138. Lode Black Vein No. 1.

2. Claim No. 158147 filed on February 10, 1954 at 9:00 o'clock A.M., in Book 10 Photos, at page 139. Lode Black Vein No. 2.

3. Claim No. 158290 filed on February 26, 1954 at 2:30 o'clock P.M., in Book 10 Photos, at page 209. Lode Black Vein No. 3.

4. Claim No. 158447 filed on March 12, 1954, at 10:10 A.M., in Book 10 Photos, at page 313. Lode Black Vein No. 4.

5. Claim No. 158448 filed on March 12, 1954, at 10:10 o'clock A.M. in Book 10 Photos, at page 314. Lode Black Vein No. 5.

6. Claim No. 158449, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 315. Lode Black Vein No. 6.

7. Claim No. 158450, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 316. Lode Black Vein No. 7.

8. Claim No. 158451, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 317. Lode Black Vein No. 8.

9. Claim No. 158452, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 318. Lode Black Vein No. 9.

10. Claim No. 158453, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 319. Lode Black Vein No. 10.

11. Claim No. 158454, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 320. Lode Black Vein No. 11.

12. Claim No. 158455, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 321. Lode Black Vein No. 12.

13. Claim No. 158456, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 322. Lode Black Vein No. 13.

14. Claim No. 158457, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page323. Lode Black Vein No. 14.

15. Claim No.158458, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 324. Lode Black Vein No. 15.

16. Claim No. 158459, filed on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 325. Lode Black Vein No. 16.

Star Printing Co. Miles City,

17. Claim entitled Black Vein No. 17, the same being recorded in Book 10 of Photos, at page 444.

18. Claim entitled Black Vein No. 18, the same being recorded in Book 10 of Photos, at page 445.

19. Claim entitled Black Vein No. 19, the same being recorded in Book 11 of Photos at page 274.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

Paul E. Fry (SEAL)
Paul E. Fry

Anna F. Fry (SEAL)
Anna F. Fry

STATE OF MONTANA)
:SS
COUNTY OF CUSTER)

On this 31st day of October, 1955, before me, the undersigned, a Notary Public for the State of Montana, personally appeared Paul E. Fry and Anna F. Fry, his wife, known to me to be the persons whose names are subscribed to the within instrument and who acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year first above written.

Notary Public for the State of Montana
Residing at Miles City, Montana
My Commission Expires Oct 19, 1957

168110

Assignment
Paul E. Fry et ux
to
John A. Ayr.

STATE OF WYOMING }
COUNTY OF CROOK } ss

This Instrument was filed for record at 9:00 o'clock A M. on the 8 day of February A. D. 1956 and duly recorded in Book 36 of Mortgages on Page 376

County Clerk and Ex-Officio Register of Deeds
By Virginia J. Hall Deputy

Recorded ✓
Indexed ✓
Abstracted ✓
Checked

No. 168109 Filed for record Feb. 8, 1956 at 9:00 o'clock A.M.; Recorded
Book 26 of photos, page 324. Francis Hejde, County Clerk.

ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, HORACE HEIDT and Lorraine HEIDT, his wife, of Van Nuys, California, for a good and valuable consideration, do hereby transfer, assign and set over unto JOHN A. AYE of Miles City, Montana, all of our right, title, estate and interest in and to the following claims and property covered thereby, said claims being filed in the office of the County Clerk and Recorder of Crook County, Wyoming, to-wit:

1. Claim No. 158447, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A. M., in Book 10 Photos, at page 313.
   Lode Black Vein No. 4
2. Claim No. 158448, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 314.
   Lode Black Vein No. 5
3. Claim No. 158449, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 315.
   Lode Black Vein No. 6
4. Claim No. 158450, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A. M., in Book 10 Photos, at page 316.
   Lode Black Vein No. 7
5. Claim No. 158451, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 317.
   Lode Black Vein No. 8
6. Claim No. 158452, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 318.
   Lode Black Vein No. 9
7. Claim No. 158453, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 319.
   Lode Black Vein No. 10
8. Claim No. 158454, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 320.
   Lode Black Vein No. 11
9. Claim No. 158455, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 321.
   Lode Black Vein No. 12
10. Claim No. 158456, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 322.
    Lode Black Vein No. 13
11. Claim No. 158457, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 323.
    Lode Black Vein No. 14
12. Claim No. 158458, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 324.
    Lode Black Vein No. 15
13. Claim No. 158459, dated March 11, 1954, filed for record on March 12, 1954, at 10:10 o'clock A.M., in Book 10 Photos, at page 325.
    Lode Black Vein No. 16

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

Horace Heidt (SEAL)

Lorraine Heidt (SEAL)

LEAVITT & LUCAS
MILES CITY, MONT.

STATE OF ~~CALIFORNIA~~ Pennsylvania)
: ss
COUNTY OF Allegheny)

On this 28th day of April, 1955, before me, the undersigned, a Notary Public for the State of California, personally appeared Horace Heidt ~~and Lorraine Heidt, his wife~~, known to me to be the person whose names ~~are~~ is subscribed to the within instrument and who acknowledged to me that ~~they~~ he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year first above written.

Herbert H. Kunde
Notary Public for the State of Pennsylvania.
Residing at 4400 Center Ave. Pittsburgh, Pa.
My Commission expires

NOTARY PUBLIC
HERBERT H. KUNDE, Notary Public
MY COMMISSION EXPIRES
APRIL 20, 1957

STATE OF CALIFORNIA)
: ss.
COUNTY OF LOS ANGELES)

On This 12th day of May, 1955, before me, the undersigned, a Notary public in and for the State of California, personally appeared Lorraine Heidt, known to me to be the person whose name is subscribed to the within instrument and who acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year first above written.

Helen E. Dinsmore
Notary Public in and for the State of California, County of Los Angeles.

My Commission Expires Nov. 14, 1955

168409

Assignment
Horace Heidt et ux
to
John A. Cope

STATE OF WYOMING)
COUNTY OF CROOK) ss

This Instrument was filed for record at 7:00 o'clock A M., on the 8 day of February A.D. 1956 and duly recorded in book 36 of Assignments on Page 324

County Clerk and Ex-Officio Register of Deeds
Virginia J. Hegele Deputy
When Recorded Return To

Recorded ✓
Indexed ✓
Abstracted ✓
Checked

Midland National Life Insurance Co
John A. Cope Agency
516 Main
Miles City, Montana
285

THE BROWN LABORATORY
2263 Broadway
GRAND JUNCTION, COLORADO

ANALYTICAL DEPARTMENT

PHONE 1543-W

CERTIFICATE OF ANALYSIS

TO

Stokes & Stratton Jewelers
5 North 8th Street
Miles City, Montana

Date 11-8-55
Order No. 5183-S

Material: Ore Samples
Received: 11-5-55
For: Analysis

Lab. No.	Your No.	Description	$\%U_3O_8$	$\%V_2O_5$	$\%CaCO_3$
5183-1			0.10		

F. D. Brown
Analyst.

Engineering & Mining Experiment Station
South Dakota School of Mines & Technology
Rapid City, S. D.

REPORT OF SPECTROGRAPHIC ANALYSES

For Everett Printz, 3-step Mining Co., Rochford, S.D.

November 22, 1955

Emission Spectroscopy ___

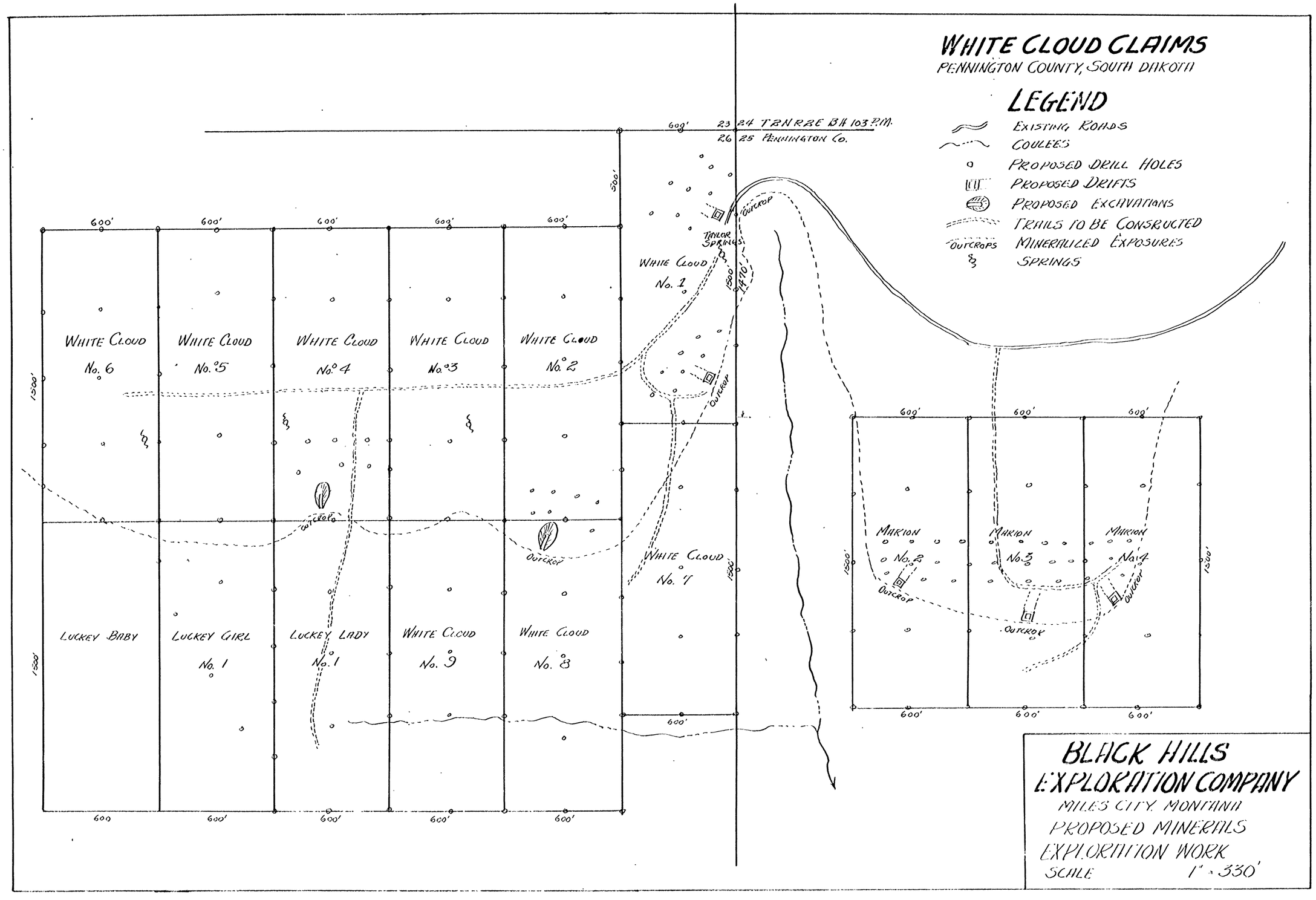
X-ray Spectroscopy x

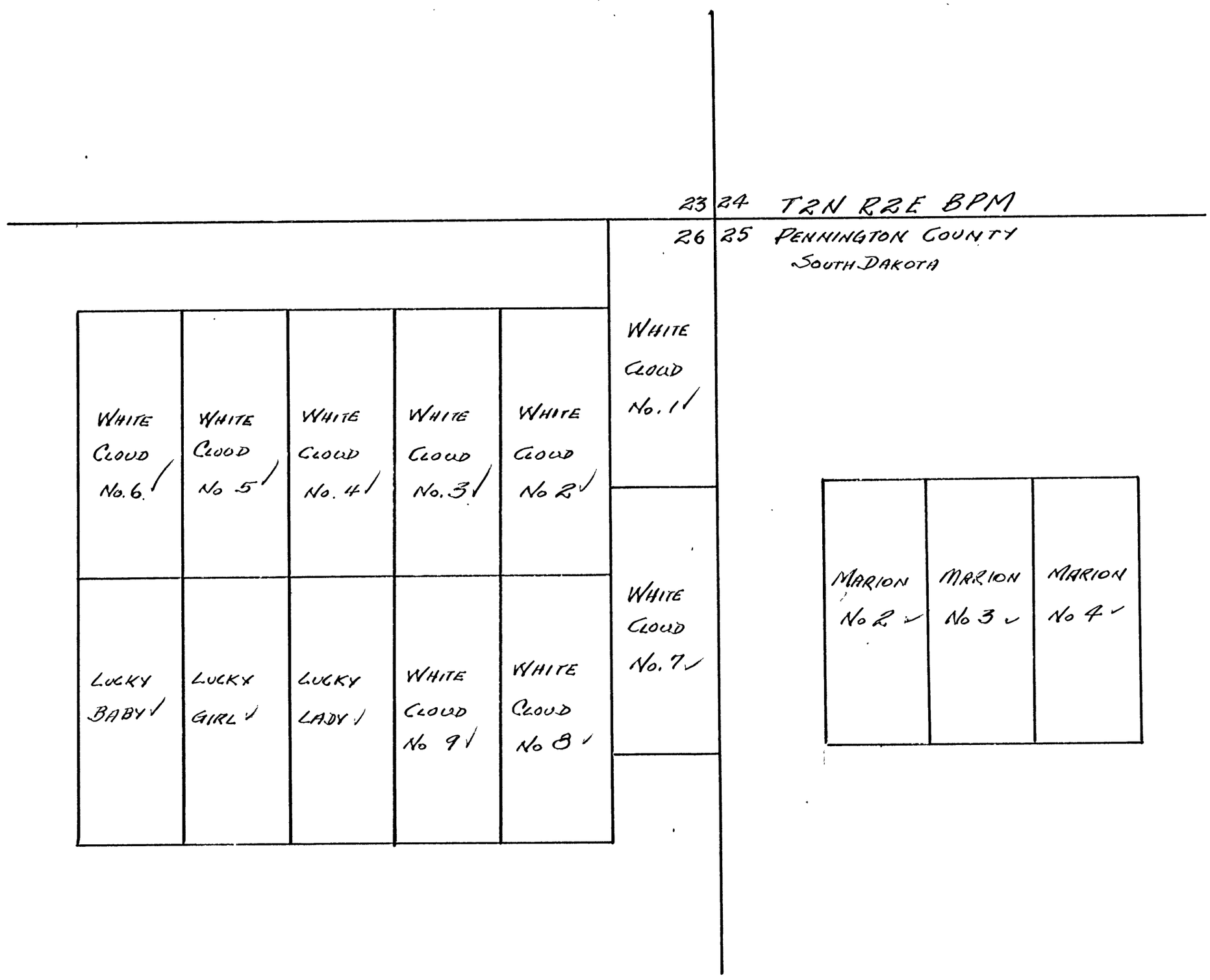
X-ray Diffraction ___

Sample No.	Description	By Analysis
399B	no. 1	0.035% U_3O_8, 0.09% ThO_2
400B	no. 2	0.30% " 0.08% "

Remarks

Analyst A. L. Lingard

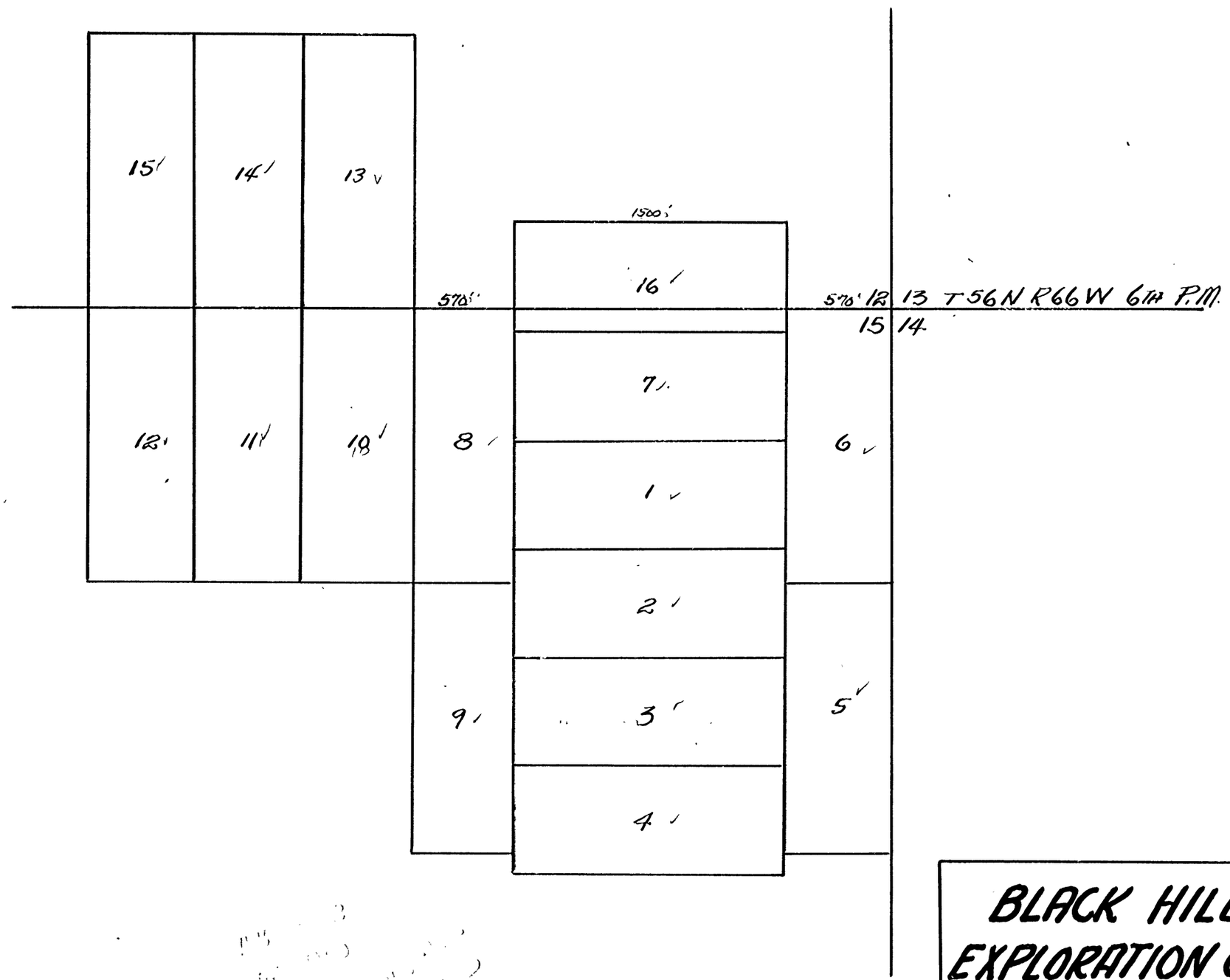

WHITE CLOUD CLAIMS
PENNINGTON COUNTY, SOUTH DAKOTA
LEGEND
EXISTING ROADS
COULEES
PROPOSED DRILL HOLES
PROPOSED DRIFTS
PROPOSED EXCAVATIONS
TRAILS TO BE CONSRUCTED
OUTCROPS MINERALIZED EXPOSURES
SPRINGS
23 24 T 2 N R 2 E B.H. 10.3 P.M.
26 25 PENNINGTON CO.
600'
500'
1500'
1470'
TAYLOR SPRINGS
OUTCROP
WHITE CLOUD No. 1
WHITE CLOUD No. 6
WHITE CLOUD No. 5
WHITE CLOUD No. 4
WHITE CLOUD No. 3
WHITE CLOUD No. 2
WHITE CLOUD No. 7
LUCKEY BABY
LUCKEY GIRL No. 1
LUCKEY LADY No. 1
WHITE CLOUD No. 9
WHITE CLOUD No. 8
MARION No. 2
MARION No. 3
MARION No. 4
BLACK HILLS EXPLORATION COMPANY
MILES CITY, MONTANA
PROPOSED MINERALS EXPLORATION WORK
SCALE 1" = 330'



BLACK HILLS
EXPLORATION COMPANY
MILES CITY, MONT
ACREAGE IN CLAIMS - 320
SCALE 1" = 660'

BLACK VEIN CLAIMS

CROOK COUNTY, WYOMING



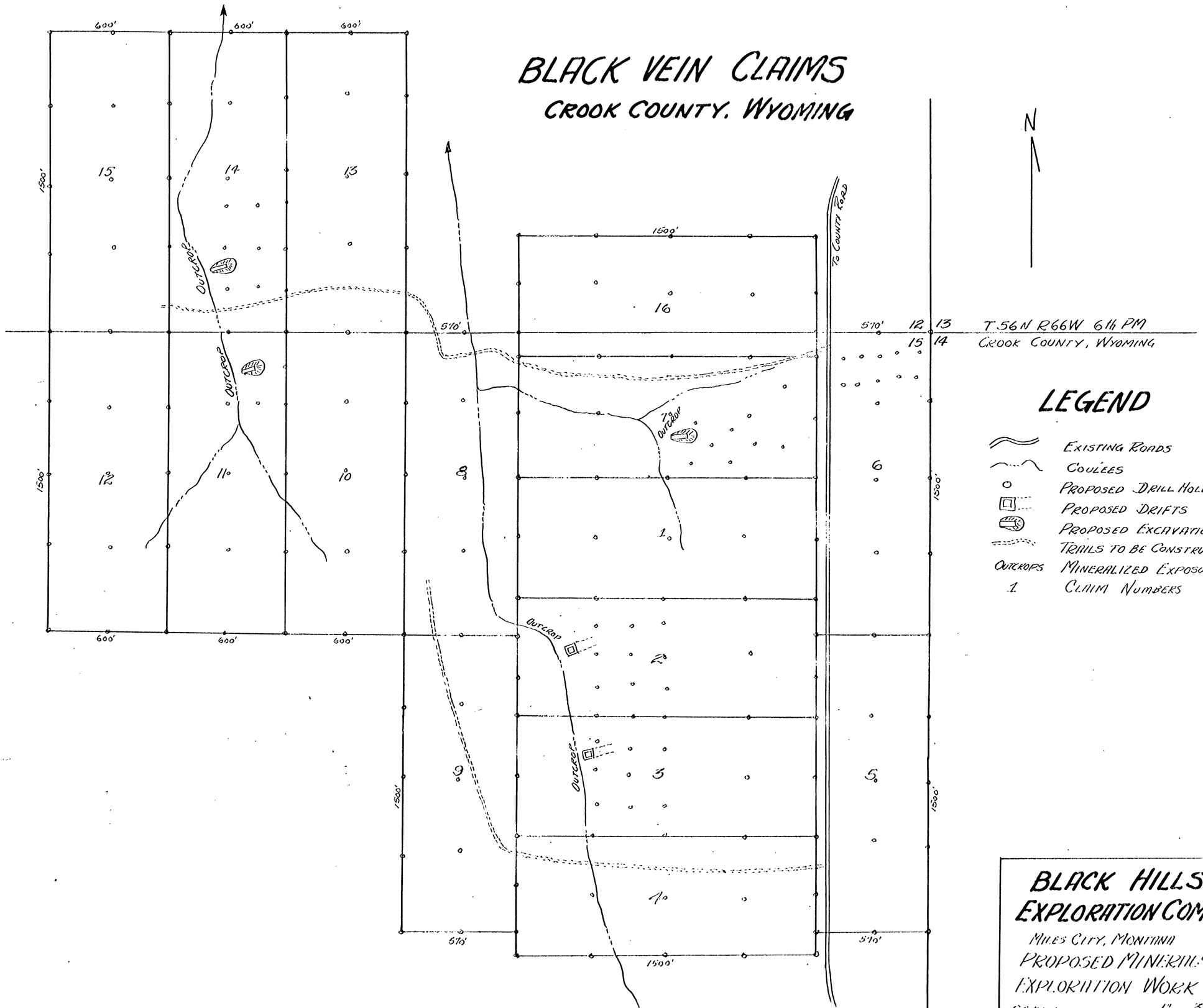
BLACK HILLS EXPLORATION COMPANY

MILES CITY, MONTANA

ACREAGE IN CLAIMS -327

SCALE 1" = 660'

BLACK VEIN CLAIMS
CROOK COUNTY, WYOMING



BLACK HILLS EXPLORATION COMPANY

MILES CITY, MONTANA

PROPOSED MINERALS EXPLORATION WORK

SCALE 1" = 350'

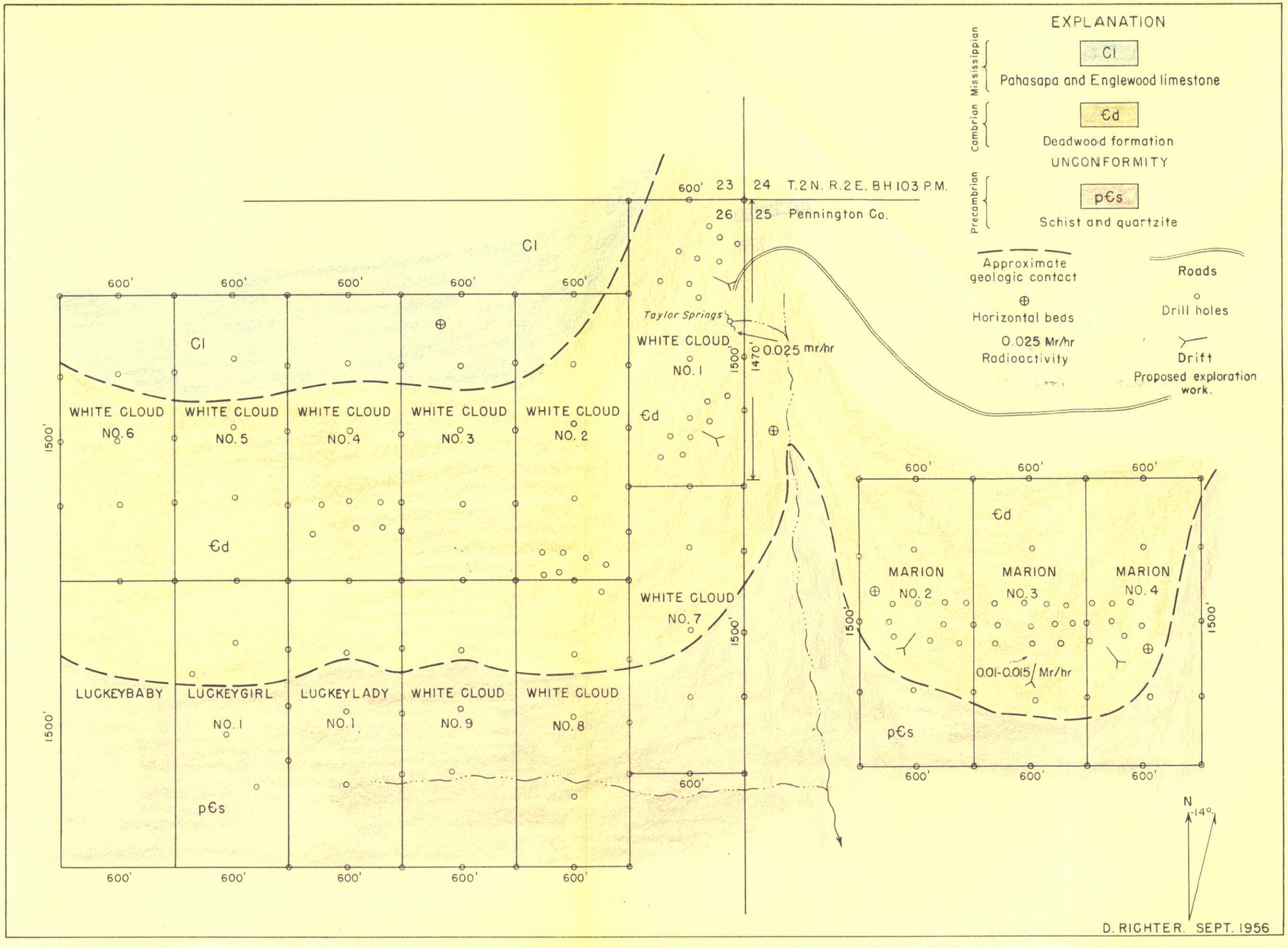


FIGURE 4. GEOLOGIC MAP OF THE WHITE CLOUD, MARION AND LUCKEY CLAIM GROUPS, PENNINGTON COUNTY, SOUTH DAKOTA

Scale: 1" = 500'
0 500 1000 1500 feet

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXAMINATION REPORT
DMEA 4236

PREPARED FOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

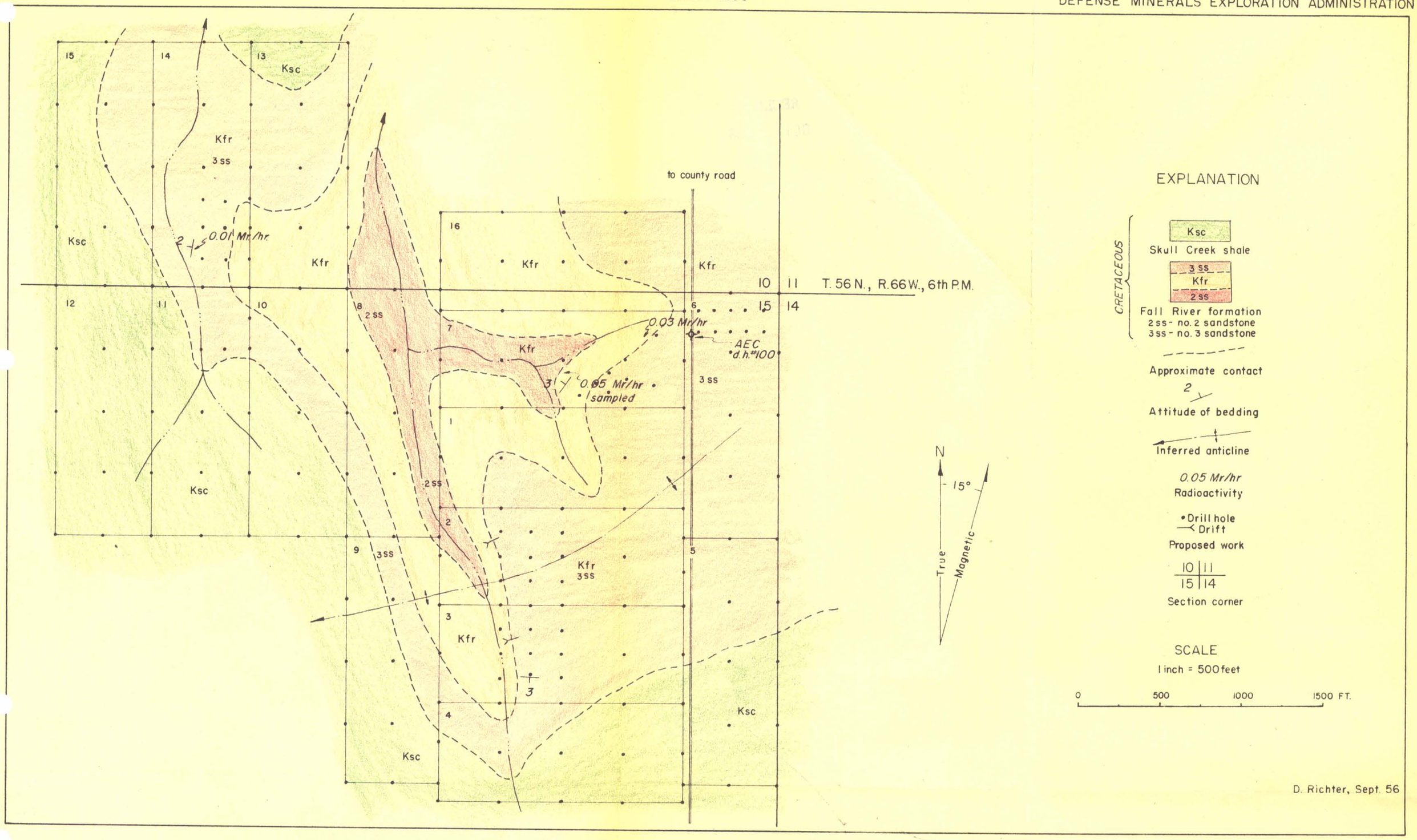


FIGURE 3. GEOLOGIC MAP OF THE BLACK VEIN CLAIMS, CROOK COUNTY, WYOMING.