UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

224 New Customhouse
Denver 2, Colorado

December 22, 1954

Memorandum

To: Chief Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket [illegible] (Uranium), Wyoming, Uranium Corporation; Beatrice, Helen May, and Fred's Fourth and Fremont County, Wyoming.

Enclosed are eleven copies of the engineering report of examination and supplemental report on the subject claims.

The applicant requested $[illegible],125.00 for trenching and drilling. The engineer examiner recommended exploration consisting of bulldozer trenching and rotary drilling in their areas at a total estimated cost of $[illegible],125. Since the time of the field examination the applicant has failed to submit a map showing existing conditions and he was disapproved in the instance. The applicant requested that the Beatrice group be withdrawn from the application and the Helen May group would locate the recommended exploration outside the property boundaries.

It is recommended that the application be denied without prejudice. If and when the applicant resolves the claim conflicts and is able to submit proof of ownership or lease with a new application another field examination could be in order.

W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
October 27, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3462 (Uranium) Wyoming Uranium Corporation (Beatrice, Helen May and Fred's Folly areas) Fremont County, Wyoming

Enclosed are the original and ten copies of a Summary, Conclusions, and Recommendations by D. R. Maclaren, Geological Survey, and J. H. Soule', Bureau of Mines and of Soule's engineering report on the above docket.

Soule' concludes that the applicant's property, where exploration is requested, has a good potential for the discovery of worthwhile uranium ore as indicated by samples. He recommends a project of bulldozer trenching and wagon drilling on three areas at a total cost of $17,618.25, including the trenching, access road drill site preparation and sampling with analyses under the unit cost for drilling of $1.69 a foot for 10,425 feet of drilling.

I concur with his recommendations.

Before a contract is entered into by the Government the local reputation of H. T. Armstrong should be investigated and also the validity of property ownership.

Copy of the application submitted with your memorandum of August 17, 1954, instructing that field examination be made and a report prepared is also enclosed, in addition to a revised supplemental proposal for exploration by the applicant submitted direct to the Geological participant in the examination, D. R. Maclaren. Our records indicate you were also furnished with two copies of this proposal.

W. M. Graner

W. M. Graner

WMG/lei

Enclosures

cc: 10
DMEA 3462
DMEA Chron.

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

December 8, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3462 (uranium), Wyoming Uranium Corporation, Fremont County, Wyoming

Enclosed are 11 copies of a memorandum report by D. R. MacLaren of the U. S. Geological Survey covering the above docket.

MacLaren lists and discusses a number of critical inaccuracies in the data submitted by the applicant and concludes that it is impossible to process the application with any assurance that an exploration program would be carried out on claims controlled by the applicant.

Exploration in the Crooks Gap area may be warranted but the applicant has failed to submit data to justify Government participation in the program proposed by him or any modification of it. It therefore is recommended that the application for exploration assistance (DMEA Docket 3462) be denied without prejudice, with an understanding that when claim conflicts are resolved, claim boundaries and locations are definitely fixed, and proof of claim ownership or lease is available, a new application for exploration assistance will receive favorable consideration.

E. M. Hackman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

October 22, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3462, Wyoming Uranium Corporation, Fremont County, Wyoming

Enclosed are 11 copies of a geologic report by D. R. MacLaren of the U. S. Geological Survey covering the above docket.

Uranium ore has been found along a thrust fault contact between undifferentiated Triassic rocks and Cody shale and in the basal part of the Wasatch formation. MacLaren concludes that exploration on the Beatrice claim group, the Helen May claim group, and the Fred's Folly claim will result in the discovery of significant amounts of uranium ore. He therefore recommends a program of exploration consisting of a maximum of 350 feet of trenching and 10,425 feet of wagon drill holes.

I concur in this recommendation.

The brochure is also enclosed.

E. N. Hershman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (12)

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
December 8, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: J. H. Soule'

Subject: DMEA 3462 (Uranium) Wyoming Uranium Corporation, (Beatrice, Helen May and Fred's Folly areas) Fremont County, Wyoming. Suggested revision of the proposed program

Additional information pertaining to the subject project has been received and the following revisions of the proposed project seem to be in order.

First; there is a conflict on the Beatrice group of claims which is at present the basis of a lawsuit. Because ownership of the claim group is in doubt, all the proposed work on this group should be cancelled. This amounts to 10 hours of bulldozing at a total cost of $100.00 plus 700 feet of drilling for a total cost of $1,176.00. This is a reduction of $1,276.00 from the proposed project cost.

Second; a rearrangement of some of the Helen May claims has been made. This will place some of the proposed drilling outside of the altered claim boundaries. These holes, footage and costs at $1.68 per foot should be deleted from the proposal. I do not have a copy of the revised claim map, so I am unable to state the exact footage to be considered for reduction.

In discussing the proposed program with D. B. Macharen of the Geological Survey, it appears that an iso-rad map from the applicant of Section 16 indicates anomalies and perhaps additional drilling could be done there. Possibly the best approach would be to allow proposals stand as they are; throw out the Beatrice group, and then allow what proposed drilling falls outside of the revised Helen May group to be applied to other areas with the prior written approval of the DMEA Region IV Field Team and be guided by the geologist Macharen's recommendations.

J. H. Everett, for
John H. Soule'
Mining Engineer

Reviewed by
DMEA CREDITING COMMITTEE
12-27-54
(date)

JHS/dj
cct
3462
Chron

December 7, 1954

Memorandum

To: Mr. A. H. Koschmann

From: D. R. MacLaren

Subject: DMEA Docket 3462 (uranium), Wyoming Uranium Corporation, Fremont County, Wyoming

In a letter dated October 6, 1954, the Field Team requested the subject applicant to "---please state the nature and kind of all conflicts which exist as to these mining claims. These statements should be supported by a map showing all adverse claims of any kind." This request was repeated in a letter dated November 10, 1954.

In a letter dated November 22, 1954, the applicant requested that the Beatrice group of claims be dropped from further consideration until a pending dispute be settled in court, and that the proposed program on the Helen May group of claims and in School Section 16 be processed. No mention was made of the Fred's Folly claim which is included in the original application as well as in the recommendations in my original geologic report. Enclosed with the letter of November 22 are two maps showing the results of a radiometric survey on parts of the Helen May group and on the School Section 16, and one map showing the purported location of the Helen May group. The latter is quite different from the one submitted with the original application. Also there are several critical inaccuracies in and omissions from this map. The more important of which are:

1. The ray tying the NW corner of Section 20 to the SW corner of Claim No. 4 (NW corner, Claim No. 3) is drawn on a bearing of S. 78° E. while the scaled distance is 1,960 to 1,965 feet. If this ray is drawn on the bearing of S. 84° 19' E. for a distance of 2,175 feet as indicated numerically on the map, the SW corner of

Reviewed by DMEA Operating Committee 12-27-54 (date)

Claim No. 4 would be about 280 feet N. 63° 30' E. of the position as shown on the map. The two rays shown as intersecting at, and therefore locating, the SW corner of Claim No. 4 were plotted, at the bearings and distances shown, from the respective NW and SW corners of Section 20 on the Crooks Creek NE Quadrangle topographic sheet. The result was two points about 40 feet apart, either of which could be the correct position of the tie-in corner.

2. The lower south side line of Claim No. 3 is shown as being 875 feet from the SW corner to the lower east side line but the scaled distance as drawn is about 910 feet. The length of the upper south side line is shown as being 825 feet to the east end line, but the scaled distance is about 960 feet. The lengths of the lower and upper east end lines are not given, and because of the above discrepancies, cannot be scaled with any assurance of approximate accuracy. For the same reason, because the distance from the NE corner of Claim No. 3 to the NW corner of Claim No. 2 is not given, the new location of Claim No. 2 is not established. In other words, the claims cannot be located with respect to any section corner, the "bite" taken out of Claim No. 3 is not accurately defined, nor is the position of Claim No. 2.

The geology (figure 3, original geologic report) is mapped with respect to land lines (section corners) and the drilling program laid out in the original report (figure 3) is directly related to the geology. Therefore until the claims of the Helen May group are accurately tied to a section corner and are accurately located on a map with respect to each other, it is impossible to prepare an exploration program with any assurance that it can be carried out on claims controlled by the subject applicant.

The title block of the radiometric map of the School Section 16 shows "Section 16 area" implying that the area indicated by boundary line is Section 16. This is further indicated by the Figure 16 near the center of the square. If this is the case, the scale given as 1 inch equals 200 feet is in error. If the scale is correct, the area is only a 1/4 section and which 1/4 is not indicated. There are no surface or land features indicated on the map by the engineer who prepared it and therefore it is impossible to determine whether the scale or the area is in error.

Although exploration in the Cracks Gap area may lead to the discovery of significant uranium deposits as concluded in the original geologic report for this docket, the information available regarding the location of the applicant's claims or holdings is too indefinite and inaccurate to assure that specific recommendations can be carried out on property controlled by the applicant. It is therefore recommended that the Beatrice claims be dropped as requested and that no further consideration be given to the other phases of the application until the applicant furnishes:

1. Accurate maps showing the location of the Helen Ray claims with respect to section corners;

2. A copy of a lease showing that he has control of the School Section 16;

3. The proper scale of the radiometric map of the School Section 16;

4. A statement of his intent regarding the Fred's Folly claim.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3462, Wyoming Uranium Corporation

Beatrice, Helen May and Fred's Folly Areas

Crook's Gap Area

Fremont County, Wyoming

Uranium

D. R. MacLaren, Geologist
Geological Survey

J. H. Soulé, Mining Engineer
Bureau of Mines

October 1, 1954

DMEA
12-27-54

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY GROUPS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

Summary, Conclusions, and Recommendations

By D. R. Maclaren, Geologist
Geological Survey

J. H. Soule, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

DMEA 3462

WYOMING URANIUM CORPORATION
DEVINICE, HELEN MAY AND FRED'S FOLLY GROUPS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By L. R. MacLaren and J. H. Soule

The Wyoming Uranium Corporation applied for Government assistance to explore their property in the Crook's Gap area, Fremont County, Wyoming. The application was docketed DMEA 3462 and the property was examined on August 24 and 25, 1954. The original application proposed trenching and drilling to cost a total of $33,125.00. This, the applicant reduced by a revised schedule to trenching and drilling to cost $10,453.25.

The property consists of 108 Atomic Energy Commission tracts with the intention of establishing lode claims and 2 sections of land leased from the State of Wyoming. This land is almost wholly within T. 28 N., R. 92 W., sixth principal meridian.

The area is in a semiarid region with comfortable summers and freezing winters. Vegetation is scant, consisting largely of range grasses and sagebrush. The altitude averages about 7,000 feet and the terrain is hilly but not generally rugged. Labor, accommodations, and communications must be obtained elsewhere, probably at Lander, Wyoming, some 60 miles to the northwest.

The deposits are recent discoveries and no production has been obtained therefrom. Only about 1,000 tons of ore has been produced from the district and this was from an adjoining claim.

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

RECEIVED

224 New Customhouse
Denver 2, Colorado

October 29, 1954

B4456

Mr. Hepburn T. Armstrong, President
Wyoming Uranium Corporation
Box 341
Lander, Wyoming

Re: Docket No. DMEA 3462

Dear Mr. Armstrong:

We have had no reply to our letter of October 6, 1954 in which we requested a statement from you regarding all conflicts which exist on your mining claims supported by map showing all adverse claims of any kind.

If we receive no reply within 30 days, we will presume that you are no longer interested in the exploration of this property and will close the docket.

Yours very truly,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region 1V

E. N. Hauckman
for A. H. Koschmann
DMEA Field Team, Region 1V

HMC:mn

cc: WMTraver
AHKoschmann
Administrator ✓
Docket
Chron.
ABrokaw

At the north end of the area, on the Beatrice claim, Triassic beds have a faulted contact with the Cody shale of Cretaceous age. Samples taken along the fault, or close to it, in the Triassic beds indicate the presence of uranium-bearing minerals. The average grade of a 900 to 1,200 pound sample taken by the applicant assayed 0.57 percent U_3O_8. Of two channel samples taken by the examiners, one assayed 1.08 percent, the other, 0.14 percent U_3O_8.

South of the Beatrice claim, several high radioactive anomalies were found in the basal member of the Wasatch formation of Tertiary age, that overlies the Tertiary Fort Union sandstone. In general, the beds of the Wasatch strike from southeast, to east-west, to northwest, and dip from 14° to 18° northeast, south and southwest, suggesting an anticlinal fold plunging slightly to the south. Samples taken by Atomic Energy Commission geologists from the Wasatch on the Helen May claims show a streak of material 7.5 to 8.5 feet thick, having an average grade of 0.4 percent U_3O_8. About a mile south and east of the Helen May claims, the Cole River Development Company has shipped at least 887 tons of ore having an average grade of 0.23 percent U_3O_8 from the Wasatch formation.

Because a significant discovery is possible, a project is proposed that is comprised of 350 feet of bulldozer trenching in the Beatrice area plus a maximum of 10,425 feet of wagon drilling, 700 feet in the Beatrice area, 7,825 feet in the Helen May area, and 1,900 feet in the Fred's Folly area.

Unit costs for the work are $10.00 per hour for 10 hours of bulldozer trenching and $1.66 per foot for 10,425 feet of wagon drilling. The total costs will be $100.00 for trenching and $17,514.00 for drilling. Including the trenching with the drilling, a unit cost of $1.69 per foot of drilling is obtained which results in a total project cost of $17,616.25. The unit cost of drilling includes access roads, sampling, engineering, supervision and other costs, as well as the drilling. All work is to be done in a workmanlike manner.

It is recommended that Government assistance be granted the Wyoming Uranium Corporation in exploring their property in the Crook's Gap area, Fremont County, Wyoming. Before this is done, however, a thorough investigation of the ownership of the mining claims involved in the application should be made to determine if the Wyoming Uranium Corporation has valid title.

WYOMING URANIUM CORPORATION

FREMONT COUNTY, WYOMING

DMEA DOCKET 3462

Geologic Report

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

By D. R. MacLaren
U. S. Geological Survey

WYOMING URANIUM CORPORATION
FREMONT COUNTY, WYOMING

INTRODUCTION

Wyoming Uranium Corporation of Lander, Wyoming, has applied to the Defense Minerals Exploration Administration for assistance to explore for uranium in the Crooks Gap district, Fremont County, Wyoming. Originally the applicant proposed to explore on some 97 claims by bulldozing trenches and wagon drilling 21,100 feet of holes at an estimated cost of $33,125 of which the Government's share would be 75% or $24,843.75. The proposed program was indefinite and entirely too flexible. Subsequently the applicant presented a more definite amended program that proposed to explore on 12 claims by trenching and wagon drilling 3,655 feet of holes at an estimated cost of $10,453.25 (Government's share 75% or $7,839.94).

The claims to be explored are in T. 28 N., R. 92 W., 6th P.M., and comprise the Beatrice-Marie Russell group of three full claims and two fractions in sections 8 and 9, the Helen May group of six claims in sections 17 and 20, one claim in section 21, and all of school section 16. The claims are accessible throughout the year and may be reached from Rawlins, Wyoming, by following U. S. Highway 287 for about 72 miles west, thence by following a fair graded gravel road about 6.6 miles south.

The property was examined July 24 and 25, 1954, in the company of Jack Soule of the U. S. Bureau of Mines, Robert U. King and R. A. Gulinger of the U. S. Geological Survey, and Hepburn T. Armstrong, president, and Jack Bogratt, geologist, representing the applicant corporation.

Mr. Armstrong advised the examiners that the Beatrice-Marie Russell claim group was in conflict with claims of Metallics Unincorporated but that he had the prior rights and that the conflictuss being settled satisfactorily to both parties. Files of the Recorder's Office were not checked by the examiners.

Charles Towle, chief of the Denver Exploration Branch of the Atomic Energy Commission was consulted and made available such information from his files as was pertinent to this investigation. James G. Stephens of the Fuels Branch, U. S. Geological Survey, who has been working in the Crooks Gap area furnished a preliminary geologic sketch of the district and certain stratigraphic information that has been very helpful.

It is concluded that the chance of making a significant discovery of uranium ore on the Helen May and Fred's Folly claims is good, and that the chance is fair on the Beatrice- Marie Russell claims. It is therefore recommended that the application, slightly modified, be approved.

GEOLOGY

Rocks in the area range in age from pre-Cambrian to Cretaceous (figure 3). On the Beatrice - Marie Russell claims at least three faults are indicated by interruptions in the rock sequence. From northeast to southwest, pre-Cambrian rocks have a faulted contact with a narrow band of Cambrian beds (undifferentiated), the Cambrian beds have a faulted contact with Triassic beds (undifferentiated), and the Triassic beds have a faulted contact with the Cody shale (?) of Cretaceous age.

The fault between the pre-Cambrian and Cambrian beds has been traced for over two miles but none of the other faults have been accurately

mapped although each has been identified at several points of outcrop. Near or on the fault between the Triassic beds and the Cody shale (?) is a highly radioactive zone that gives scintillometer readings up to 9 MR/hr. A bulk sample taken by the applicant from three or four small pits along the radioactive zone was sent to Rifle, Colorado, for assay. According to the applicant the sample assayed .57% U_3O_8. The examiners cut one-foot channels from two of the pits which assayed 1.08% U_3O_8 and .14% U_3O_8. Because all three samples were taken at the surface and within a small area, they cannot be considered as representative of an ore body. However, they indicate an ore potential sufficient to justify further cautious exploration by trenching and drilling even though the probability of finding a significant ore body in this area is not considered to be too good.

South of the Beatrice - Marie Russell claims, on the Helen May group in sections 17 and 20, on Fred's Folly claim in section 21, and in school section 16, the geology is apparently simple. A normal sequence of sediments comprising beds of the Fort Union sandstone and the conglomerate basal member of the Wasatch formation, both of Tertiary age, overlie the Cody shale. Near the northwest half of Helen May Claim No. 6 they strike N. 46° E. and dip 10° southeast, near the east end of the Helen May No. 4 claim they strike nearly east and west and dip 13° south, and near the center of the same claim they strike N. 85° W. and dip 16° southwest. Although the area has not been mapped in detail, the swing in strike and the apparent continuity of the beds strongly suggests an anticlinal structure gently plunging to the southeast. The east and south flanks of the anticline are covered by the basal conglomeratic member of the Wasatch formation.

A trench near the northwest corner of section 16 exposes a streak of carbonaceous material two to four inches thick between layers of coarse arkosic sand and shale. On and just below the surface are granitic boulders, up to five feet in diameter and occasionally larger. This is typical of the basal member of the Wasatch formation. Scintillometer readings along and just below the carbonaceous streak showed radiation up to 1 MR/hr, apparently coming from unidentified yellow secondary uranium minerals.

On the Helen May No. 4 claim a trench 75 to 100 feet long and up to 6 feet deep has been bulldozed along the side of a ridge, just below the crest and parallel to the strike of the beds. The material exposed is coarse arkosic sand of the Sawatch formation. The bottom of the trench exposes a small area about two feet long and one foot wide that contains unidentified yellow uranium minerals giving a radiation of 5 MR/hr. About fifteen feet away, in the side of the trench is a lens of similar appearance about ten feet long and up to four feet thick that gave a radiation of 4.5 to 5 MR/hr. About 100 feet east of this trench are three bulldozed trenches cutting up the north slope of the ridge across the ends of the beds that dip into the hill side. Samples taken from one of these trenches by AEC geologists indicate a zone 8.5 feet thick that has an average grade of .41% U_3O_8. Other samples taken by the AEC geologists from the north slope below the 75 to 100-foot trench indicate a zone 7.5 feet thick that has an average grade of .44% U_3O_8. A few days after the DMEA examination the applicant put down seven shallow drill holes four of them approximately within the limits of the 75 to 100 foot trench, the other three fifty to one-hundred feet south of the trench. The first four holes indicate a lens of ore at least 150 feet long. The other three holes did not indicate ore. Combining the first four holes

and by four drill holes put down by the applicant; radiometric anomalies up to 5 MR/hr. were found at several places in the Wasatch on the Helen May group and on Fred's Folly claims 887.5 tons of ore said to have an average grade of .23% U_3O_8, and twenty tons of ore expected to average .4% U_3O_8 have been mined from the Wasatch formation near the Helen May and Fred's Folly claim. Therefore it is concluded that the chance of making a significant discovery of uranium ore on the Helen May group or on Fred's Folly claim is good.

It is recommended that the following program be approved.

BEATRICE - MARIE RUSSELL CLAIMS: Provision should be made to bulldoze four trenches across the mineralized fault or ore zone to determine its true character, position, and extent. Each trench should be at least 3 feet deep but the length of any given trench must be left to the judgment of the operator. However, the total length of trenching should not exceed 350 feet. The approximate location of the trenches is shown in figure 4. Numbered for convenience of identification and not necessarily to indicate the order of work, Trench No. 1 is 100 feet west of the sampled pits, Trench No. 2 is 400 feet west of No. 1, Trench No. 3 is 400 feet east of No. 1, and Trench No. 4 is 400 feet east of No. 3. All trenches are to be logged radiometrically and channel samples of any high anomalies are to be taken and assayed chemically. Provision should also be made to wagon drill seven holes totalling not more than 700 feet in depth at locations approximately as shown in figure 4. The holes are not to be drilled until written authorization has been given by the Field Team, which should not be done until enough of the trenching has been completed to give a clearer picture of the attitude and probable value of the mineralized zone. The bearing, pitch, and accurate location of the holes cannot be given until

sufficient information from the trenching has been obtained.

HELEN MAY CLAIMS: Provision should be made to wagon drill 18 holes totalling not more than 1,225 feet at locations shown approximately in figure 5. Holes are to be spaced at 100 foot centers on four rows 50 feet apart. The first row should be about 50 feet south of and approximately parallel to the Wasatch - Fort Union contact. Holes in the second and fourth rows are to be drilled half way between lines connecting corresponding holes in the first and third rows. This group of closely spaced holes should cover the area south of the trenches and holes already existent that indicate a small ore body. To explore the remaining favorable area in the Helen May claims, provision should be made to wagon drill 46 holes totalling not more than 4,600 feet at the corners of 200 foot squares as shown in figure 5. The northwestmost row of holes should be 100 feet south of and approximately parallel to the Wasatch - Fort Union contact as it crosses Claim No. 4. Provision should also be made to drill an additional 2,000 feet of offset holes where justified by the results of preliminary drilling. No offset holes should be allowed unless authorized in writing by the Field Team. The order in which holes are drilled is immaterial, as long as the grid pattern is closely adhered to, the number of holes on 100 foot centers does not exceed 18 and their total footage does not exceed 1,225, and the number of holes on 200 foot centers does not exceed 46 and their total footage does not exceed 4,600 feet. No hole should be drilled deeper than 10 feet beyond the Wasatch - Fort Union contact.

FRED'S FOLLY CLAIM: Provision should be made to wagon drill 9 holes totalling not more than 900 feet in depth at the corners of 200 foot

squares as shown in figure 6. The north, east, and west rows of holes are to be 100 feet inside of the corresponding boundaries. Provision should also be made to drill an additional 1,000 feet of offset holes where ore possibilities are indicated by the preliminary drilling.

All holes drilled under this program must be logged radiometrically, and where anomolies are high, samples must be taken and chemically assayed. Logging and sampling must be done as drilling progresses.

Because of the very steep slopes and the depth of holes necessary for satisfactory information, and without prejudice to the area, neither trenching nor drilling is recommended at this time on the school section 16.

DMEA 3468

WYOMING URANIUM CORPORATION
BEAVERCOE, HELEN MAY AND FRED'S FOLLY AREAS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

Engineering Report

By J. H. Spain
Mining Engineer
Bureau of Mines

Reviewed
DMEA OPERATING COMMITTEE
12-27-54
(date)

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY AREAS
CROOKS'S GAP AREA
FREMONT COUNTY, WYOMING

CONTENTS

Engineering Report — Page

Introduction 1
Acknowledgments 2
Location, topography, and physical features 2
History and production 3
Ownership and extent 4
Description of the deposits 4
Minimum ore reserves 5
Present status 5
Project proposals and costs 6
Beatrice area 6
Section 16 8
Helen May claims 8
Fred's Folly 9
Project costs 12
Conclusions 14
Recommendations 15

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Wyoming Uranium Corporation, Crook's Gap Area, Fremont County, Wyoming 2

2. Claim Map, Wyoming Uranium Corporation, Crook's Gap Area, Fremont County, Wyoming 2

3. Showing location of claims and geology, Crook's Gap Area, Wyoming, Wyoming Uranium Corporation ..... *

4. Beatrice group of claims showing approximate location of recommended trenches and wagon drill holes with respect to uranium-bearing fault, Wyoming Uranium Corporation, Crook's Gap Area, Wyoming ..... *

5. Helen May group of claims showing location of recommended wagon drill holes, Wyoming Uranium Corporation, Crook's Gap Area, Wyoming ..... *

6. Fred's Folly claim showing location of recommended wagon drill holes, Wyoming Uranium Corporation, Crook's Gap Area, Wyoming ..... *

*See figures with geologic report

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY AREAS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

ENGINEERING REPORT

By J. H. Soulé

INTRODUCTION

In August 1954, the Wyoming Uranium Corporation applied to the Defense Minerals Exploration Administration for Government assistance to explore recently discovered uranium deposits in the Crook's Gap area, Fremont County, Wyoming. The application was docketed DMEA 3462 and was sent to the field for an examination of the property. The field investigation was made on August 24 and 25, 1954, by a Region IV examining team. R. King, P. Theobald, and R. Quilinger of the Geological Survey, and H. T. Armstrong and Jack W. Bogratt, president and geologist, respectively, of the applicant corporation, accompanied the examining team over the property.

The original application proposed 21,100 feet of drilling and 450 hours of bulldozing in trenches and access roads for a total project cost of $33,125.00. This proposal later was revised to a program consisting of 3,655 feet of drilling and 300 hours of bulldozing. The reduced program resulted from an elimination of some purely speculative work. The cost of the reduced program was estimated as $10,453.25.

ACKNOWLEDGMENTS

Acknowledgments are due H. T. Armstrong and Jack W. Bogrett of the Wyoming Uranium Corporation for showing the examining team over the Crook's Gap property and for furnishing much relevant data pertaining to the district. Acknowledgment also is due to the assistance rendered by personnel of the Geological Survey and the Bureau of Mines who furnished additional information and otherwise aided in the preparation of this report.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Wyoming Uranium Corporation desires to explore its property situated in the Crook's Gap area, Fremont County, Wyoming (fig. 1). The claims and leased land lie almost wholly within T. 28 N., R. 92 W., sixth principal meridian, with a little overlap into the adjacent townships to the south and west. The areas to be explored lie in sections 8, 9, 16, 17, 20, and 21 of the above township.

The area is reached by travelling U. S. Highway 287 for 72 miles northwesterly from Rawlins, Wyoming, or the same highway for 49 miles southeasterly from Lander, Wyoming. From this point, travel southerly on a graveled road for 6.6 miles to a road junction. This road junction is in the northwest part of figure 2, which shows the roads leading to the various areas.

The altitude of the area averages nearly 7,000 feet with a range of from 6,500 feet in the northwest to over 8,300 feet in the east. The prospective project sites are at altitudes that range from about 6,760 feet to a high of about 7,409 feet. The region is mountainous

but not generally rugged. Steep slopes are common. Much of the flanking valleys can be traversed by motor vehicles with four-wheel drive.

The climate is semiarid with an estimated average annual precipitation of about 10 inches. Summer temperatures rarely exceed 100° and sub-zero winter weather is common. Strong winds are characteristic.

Vegetation consists largely of range grasses and sagebrush, with small stands of pine at the higher altitudes. Little of this timber would be suitable for mining purposes.

Labor, accommodations, and communication services are available no closer than Lander which is nearly 60 miles by road northwest of the Crook's Gap area. Minor supplies also are available at Lander which also is the nearest rail point. However, as most of the uranium ore treatment plants are located south of Wyoming, the most economical transportation costs would be effected by hauling ores to Rawlins, some 80 miles to the southeast.

HISTORY AND PRODUCTION

The discovery of uranium minerals in the Crook's Gap area was a relatively recent event. The claims of the Wyoming Uranium Corporation are recent locations and leases and no production, except a reported 1,200 pound test shipment has been obtained from the property. Approximately 1,000 tons of ore containing a reported 0.22 percent U_3O_8 has been recently shipped from the nearby Tom-Hall claims of the Coke River Development Company. These claims are south and west of the most important claims of the Wyoming Uranium Corporation.

OWNERSHIP AND EXTENT

The Wyoming Uranium Corporation claims a total of 108 U. S. Atomic Energy Commission lease tracts with the intention of establishing lode mining claims. A listing in the application brochure shows only 105 tracts and a claim map with the brochure shows only 99 tracts. In addition, the company has leased from the State of Wyoming, secs. 16 and 36, T. 28 N., R. 92 W., sixth principal meridian. An approximate total of 3,300 acres of land in the Crook's Gap area is claimed or leased by the corporation. The claims are shown on figure 2. It is suggested that all of this property be made subject to royalty. Landlord's subordination agreements should be obtained from the State of Wyoming for the two sections of state land leased by the corporation.

There seems to be some question of claim conflict on the Beatrice group whether this is clarified by a letter in the brochure from Frank E. Hayes, Attorney of Lander, Wyoming, which states that H. T. Armstrong of the Wyoming Uranium Corporation is the senior applicant and has senior rights to the claims, should be investigated further. There are also some questions regarding the local reputation of H. T. Armstrong which should be looked into critically before a contract is entered into.

DESCRIPTION OF THE DEPOSITS

Insufficient development work has been done on the property of the Wyoming Uranium Corporation to determine the nature of the deposits with accuracy. However, uranium minerals occur at five known points on the property with most of the mineralization occurring near the base of the Tertiary Wasatch formation. This is underlain by the Ft. Union formation,

also of Tertiary age. No uranium mineralization is known in the Ft. Union formation. The mineralization in the Wasatch formation appears to occur near its base. In the northern part of the area and on the Beatrice group of claims, uranium mineralization seems to be related to a fault.

MINEABLE ORE RESERVES

There are no ore reserves of any category on the property of the Wyoming Uranium Corporation. This probably is due to the lack of development. However, uranium minerals are known in five localities on the property and three of these seem to be worthy of exploration. Two samples were taken by the examining team and these contained 0.140 and 1.08 percent U_3O_8. Other samples taken by the applicant and by the Atomic Energy Commission ranged in value from 0.04 to 11.7 percent U_3O_8. The latter was a picked sample taken by the applicant, and its location is not known.

PRESENT STATUS

The property of the Wyoming Uranium Corporation in the Crook's Gap area, Fremont County, Wyoming, is a recent discovery and is practically unexplored. At the time of the DMEA examination, only a small amount of bulldozer trenching had been done and subsequent to the examination, the applicant drilled seven holes in the Kelsey Bay area (fig. 2). Four of these holes contained material of ore grade and three were barren. At the present time, the applicant seems to be waiting for the results of this examination and is doing no exploratory work on the property.

PROJECT PROPOSALS AND COSTS

The preliminary proposal submitted by the Wyoming Uranium Corporation to explore its property in the Creek's Gap area was to consist of 450 hours of bulldozer trenching and 21,100 feet of drilling for a total cost of $33,125.00. Much of this work was purely speculative and a revised program was submitted by the applicant. The revised program proposed 300 hours of bulldozer trenching and 3,655 feet of drilling for a total cost of $10,453.25. The work was to be done in five areas: the Beatrice, the Helen May, Fred's Folly and in the northwest and southwest corners of section 16. The revised proposal is detailed in the following table.

TABLE I
Revised Program of the Wyoming Uranium Corporation

	Bulldozer Trenching		Drilling			
Area	Hours	Cost	Holes	Feet	Cost	Adm. Costs
Helen May	100	$1,000.00	23	2,130	$2,449.50	$1,500.00
Beatrice	100	1,000.00	15	900	1,035.00	1,500.00
Others	100	1,000.00	5	625	718.75	750.00
Totals	300	$3,000.00	43	3,655	$4,203.25	$3,250.00

Total cost of proposed program - $10,453.25

The above program still was indefinite with respect to the locations of the trenches and the drill holes. A more definite program is discussed in the following paragraphs. The areas are shown on figure 2.

Beatrice Area:

This area is the most northerly of the areas and consists of the Beatrice claims, Nos. 1, 2, 3, and 4, and the Marie Russell claim.

The known mineralization occurs on the Beatrice No. 3 claim and samples contained up to 1.08 percent U_3O_8 for cut samples. The uranium mineralization seems to be associated with a fault on which there is little information concerning its lateral and vertical trend. It is important that this trend be established. The best way to do this would be by trenching.

It is proposed that four trenches totalling not over 350 feet be excavated. The first trench will be placed 100 feet west of the outcrop from which the applicants shipped a bulk sample. This trench will not exceed 50 feet in length. Three additional trenches will be excavated at intervals of 400 feet west and 400 and 800 feet east of the first trench to extend the trace of the fault. These three trenches will not exceed 300 feet in the aggregate, or 350 feet for all trenching. Most of the trenches will be of minimum excavation except where the trace of the fault is encountered. Here, excavation to a greater depth will be allowed in an effort to determine the dip of the fault which should be northerly.

Each trench will be logged radiometrically for each 2 feet through the trench with special attention to the area of the fault. It is upon these results that drilling will be done. There should be at least four channel samples taken from the trenches to verify and check the radiometric results.

Dependent upon the results obtained by the trenching and subject to approval by the DMEA Region IV Field Team, seven wagon drill holes will be drilled on the down dip side of the fault to intersect

the fault at about 100 feet down dip from the line of the surface trace of the fault. The holes will be spaced on 200-foot centers, on line with and midway between each trench. The estimated footage for this drilling is 700 feet.

Summarizing the work to be done on the Beatrice claims, there will be four trenches excavated not exceeding an aggregate length of 350 feet followed by, and with the prior written permission of the DMEA Region IV Field Team, seven wagon drill holes aggregating not over 700 feet. The plan of the drilling and trenching is shown on figure 4 with the geologic report.

Section 16

The applicants proposed some work in the northwest and southwest corners of section 16. No work is justified because of the insignificant targets presented in the upper part of Wasatch formation. The more promising lower part of the formation lies too deep to warrant exploration at this time.

Helen May claims:

This group appears to be the most promising at the present time and here most of the work is recommended. No trenching is justified and all of the work is to be wagon drilling.

The Wyoming Uranium Corporation has done a small amount of drilling on this group of claims. All of the work was concentrated near the outcrop of mineralization as exposed in one trench. Eighteen holes are recommended to be drilled on a coordinate system at 100-feet intervals

as shown on figure 5 with the geologic report. These holes will aggregate 1,225 feet in length. It will be noted that the holes are grouped back of the outcrop that was partially drilled by the applicant. No project hole is to be drilled nearer than 50 feet to a hole previously drilled by the applicant.

Following, but not dependent upon, will be the drilling of 46 holes totalling 4,600 feet on a coordinate system, the hole intervals being 200 feet. These holes are also shown on figure 5 with the geologic report. Following this drilling and with the prior written permission of the DMEA Region IV Field Team, 2,000 feet of drilling of offset holes will be allowed. This drilling will be dependent upon the results of the coordinate drilling.

Summarizing the work to be done on the Helen May group of claims, 18 holes totalling 1,225 feet will be drilled on a closely spaced coordinate system, 46 holes totalling 4,600 feet will be drilled on a widely spaced coordinate system and this will be followed by 2,000 feet of offset drilling to be determined after the drilling is completed on the coordinate systems.

Fred's Folly:

The applicant proposed a little trenching on this claim but no drilling. It seems that no trenching is justified and that drilling is justified. A glance at the geologic map, figure 3 with the geologic report, shows that the contact between the Wasatch and Ft. Union formations lies to the east of the claim. The Wasatch formation practically covers all of the claim and some drilling to the Ft. Union formation may disclose ore bodies in the area where uranium mineralization is known. It is planned to drill nine holes totalling

900 feet on a 200-foot coordinate system as shown on figure 6 with the geologic report. This will be followed, with the prior written permission of the DMEA Region IV Field Team, by 1,000 feet of offset drilling to be determined from the results obtained in the coordinate drilling.

A summary of the work proposed on Fred's Folly claim is nine holes totalling 900 feet with an additional 1,000 feet of offset drilling to be determined by the results of the first drilling.

Some access road construction is necessary in the three areas of the proposed work, for the moving in and out of the drill equipment. It is estimated that 11,000 feet of access road will be required. This is divided as follows:

Beatrice area	1,200 feet
Helen May area	8,800 "
Fred's Folly claim	1,000 "
Total	11,000 feet

As access roads are to be provided for the drilling, the hole sites must be reasonably close to the sites on the coordinate system. No variation of more than 5 feet should be tolerated except in a very few instances where the topography is exceptionally steep. Any exceptions will have to be approved, but not necessarily before drilling. Because of the above conditions, the work will demand close engineering throughout the project. It is estimated that one-half time of an engineer is required for the life of the project. An accurate surface map should be prepared, showing the location of all

of the project work and the elevations of the collars of all drill holes. The project work means the trenches, drill holes, and the access roads.

Sampling will be one of the most important parts of the work. All trenches will be traversed with a Geiger or scintillation counter and the results recorded. At least four channel samples should be taken and analyzed. All holes should be logged geologically as well as radiometrically. If it is not possible to log them radiometrically, each sample should be tested with the counter and the results recorded. Samples through the mineralized zone will be taken at intervals of not more than 2 feet and a representative portion will be saved for the disposal of the DMEA. All samples will be properly marked. It is upon these results that much subsequent drilling will be based. At least 20 of these samples, widely and judicially selected, will be analyzed by chemical methods to check the radiometric work. For this work, one-half time of an engineer-geologist is required as well as part time for a helper.

The time schedule for the project is as follows: 5 days are allowed for preliminary work and the rest of the project will be dependent upon the drilling. A total of 10,425 feet of drilling is the maximum proposed and this should average 60 feet per day. The drilling should be completed in 173 days which makes a total of 178 days for the project. This is nearly 7 months and the costs are based upon this figure. However, 12 months should be allowed for completion of the project.

Project Costs

The costs of the project are based upon the following estimates and contract prices. It is estimated that the 350 feet of trenching on the Beatrice claims will require the removal of not more than 424 cubic yards of material. Seventy yards of material per hour should be moved at 100 percent efficiency and 75 percent is assumed for the type of ground to be moved. This reduces to 52.5 yards per hour, which for the 424 yards indicates that the work should be done in not more than 8 hours. A 2-hour allowance is made for moving to the trench sites which makes a total of 10 hours maximum for bulldozer trenching. The rental of the bulldozer is by contract at $10.00 per hour which makes the total cost of $100.00 for the trenching. Additional work for the bulldozer is planned for the access roads to the drill sites.

A total of 10,425 feet, a maximum, of wagon drilling is proposed. This, reportedly, will be contracted at a rate of $1.00 per foot. This makes a total of $10,425.00 for the drilling alone. The access road, engineering, and other costs will be added to the drilling costs to obtain a unit cost per foot of drilling.

A maximum of 11,000 feet of access road to the drill sites is proposed. This should be done for $0.17 per foot as elaborate roads are not necessary. For the 11,000 feet, the cost will be $1,870.00.

Engineering, supervision, sampling costs, estimated to be $750.00 per month for 7 months, total $5,250.00. This is detailed in the following table.

TABLE II
Distribution of Administration Costs

Item	Unit	Rate	Cost
Engineer-geologist			
Half time surveying and supervision	Month	$600.00	$300.00
Half time sampling and supervision	Month	600.00	300.00
Part time help surveying and sampling	Month	100.00	100.00
Chemical analyses, transportation, samples, etc.			50.00
	Total		$750.00

By adding the drilling cost of $10,425.00, the access road cost of $1,870.00, and the engineering-sampling-supervision cost of $5,250.00, the total is $17,545.00. Dividing this total by 10,425 feet of drilling, a unit cost per foot of drilling is $1.68. Reversing this procedure and multiplying the $1.68 by the 10,425 feet of drilling, the product is $17,514.00 which will be the project cost, exclusive of trenching. The trenching will add $100.00 to the $17,514.00 drilling cost for a total project cost of $17,614.00. The difference between the $17,514.00 and the $17,545.00 is due to the use of $1.68 instead of $1.68297 as calculated.

In the interest of simplicity, it may be desirable to include the trenching costs in the unit cost of the drilling. By adding the $100.00 to the $17,545.00 and dividing by the 10,425 feet of drilling, we obtain a figure of $1.69 per foot. Reversing the calculations as was previously done, the total project cost becomes $17,618.25.

It is noted that the above costs are somewhat higher than the drilling in other areas. This is, in part, due to the higher contract price for the drilling and the inclusion of access road, sampling,

and engineering costs with the drilling. These latter costs are necessary because the applicant corporation must hire competent technical help.

As previously stated, the proposed over-all cost of the project will be $17,614.00 or $17,618.25. The Government's contribution to the costs is 75 percent of the above totals, or $13,210.50 or $13,213.69, respectively. These totals are somewhat less than asked by the applicant corporation in their original proposal and somewhat more than in their revised proposal. The excess over the revised proposal is due largely to a more thorough exploration plan.

CONCLUSIONS

The Wyoming Uranium Corporation has applied for Government assistance to explore their property in the Crook's Gap area, Fremont County, Wyoming. The strategic importance of the metal uranium is too well known to deserve further comment. There are three areas on the property that contain appreciable uranium as indicated by samples and that may lead to orebodies of significant size. To this end an exploration project is proposed.

The planned work consists of trenching and road construction with a bulldozer, wagon drilling, and engineering and sampling. A bulldozer and drill rig are available for the work according to the applicants. Also available is an engineer-geologist for the technical aspects of the project.

The property is readily accessible although somewhat isolated, being about 55 miles by road from Lander, Wyoming, the nearest supply point of consequence.

The president of the applicant corporation, H. T. Armstrong, is totally inexperienced in mining and allied arts. However, he has obtained the services of Jack Bagrett, a graduate geologist who seems to be fully competent. It is assumed he or someone equally qualified will be in charge of project operations.

RECOMMENDATIONS

Because three promising areas of uranium mineralization are known to occur on the Crook's Gap property of the Wyoming Uranium Corporation and because a significant discovery is possible, it is recommended that Government assistance be granted the corporation to explore their property. The proposed project will consist of trenching and drilling in three of the most promising areas. These areas are the Beatrice, the Helen May, and Fred's Polly. Details of the recommendations are listed in the following paragraphs.

Four trenches not to exceed 350 feet and spaced on 400-foot centers will be excavated on the Beatrice group of claims to determine the strike and dip of a mineralized fault zone. Dependant upon the results of the trenching and with the prior written approval of the DMEA Region IV Field Team, seven wagon drill holes totalling no more than 700 feet will be drilled to intersect the fault at a down-dip distance of 100 feet from the surface. The trenching and drilling plan is shown on figure 4 with the geologic report.

Eighteen holes totalling not more than 1,225 feet will be drilled on a 100-foot coordinate system placed back or south of the promising outcrop on the Helen May group of claims. This will

be followed by wagon drilling 46 holes totalling not more than 4,600 feet on a 200-foot coordinate system. This drilling is proposed and prior written permission from the DMEA Region IV Field Team is not required. The plan of the coordinate systems is shown on figure 5 with the geologic report. The above drilling may be followed by 2,800 feet of offset drilling subject to approval of and prior written permission of the DMEA Region IV Field Team.

Nine wagon drill holes totalling not more than 900 feet are to be drilled on the Fred's Folly claim and on a 200-foot coordinate system as shown on figure 6 with the geologic report. This may be followed, with the approval of and the prior written permission of the DMEA Region IV Field Team, by 1,000 feet of offset drilling.

In summary, 350 feet of trenching is to be done on the Beatrice group of claims. A maximum of 10,425 feet of wagon drilling will be done and will be distributed as follows: Beatrice group, 700 feet; Helen May group, 7,825 feet; and Fred's Folly claim, 1,900 feet. Access roads to the drill sites will be provided by the project.

The following suggestions are offered:

1. An accurate surface map will be prepared showing the locations of all trenches, drill holes with their collar elevations, and all access roads to the drill sites.

2. No drill holes will be drilled more than 5 feet from the proposed locations on the coordinate system, as indicated on maps, and no hole will be drilled more than 5 feet beyond the mineralized

structure on the Beatrice claims or more than 5 feet into the Ft. Union formation on the other areas. No hole shall be drilled nearer than 50 feet from an existing hole.

3. Samples will be taken at 2-foot intervals throughout any mineralized zones. A representative portion of each sample will be saved for the disposition of the DMEA.

4. Geologic and radiometric logs of every drill hole will be made and furnished to the DMEA. The holes should be logged with an "in-hole" instrument, but lacking this a careful radiometric analysis of each sample will suffice.

5. At least 20 drill hole and 4 trench channel samples will be submitted for chemical analyses.

6. All trenches will be traversed radiometrically and the results recorded.

Not over 10 hours of trenching will be done on the Beatrice group of claims at a rate of $10.00 per hour for a total of $100.00. A maximum of 10,425 feet of drilling may be done at a unit cost of $1.68 per foot. This unit cost includes all drilling, access roads, engineering, sampling, supervision, and any other costs, excepting trenching, that are chargeable to the project. The total project costs will be $17,514.00 plus $100.00, for a grand total of $17,614.00.

For simplicity, it may be desirable to base all trenching, drilling, sampling, engineering, supervision, and other costs on a unit drilling cost. In this case, 10,425 feet of drilling will be done at a rate of $1.69 per foot which will include 350 feet of trenching

on the Beatrice claims, all engineering, sampling, supervision, and other costs. Under this method, the total project costs will be $17,618.25.

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

COPY

224 New Customhouse
Denver 2, Colorado

December 10, 1954

Mr. Hepburn T. Armstrong, President
Wyoming Uranium Corporation
P. O. Box 24
Lander, Wyoming

Re: Docket No. DMEA 3462

Dear Mr. Armstrong:

Reference is made to your application for Government aid on the Beatrice, Helen May, Fred's Folly and School Section.

Since the time of the field examination of the property, you have requested that proposed exploration work on the Beatrice group be dropped, and have made no statement of your intent on the Fred's Folly claim. The map of the Helen May group submitted with your original application and used by the field examiner, was at a later date amended by you, which amendment left a part of the proposed exploration work outside your property boundaries.

Our letters to you dated October 6 and October 29, 1954, requesting that you state the nature and kind of all complications which exist as to these mining claims, supported by a map showing all adverse claims of any kind, were not satisfactorily answered.

Under these circumstances, your application is denied without prejudice. A new application may be submitted and will be considered at such time as your claim complications are resolved, claim boundaries and locations are definitely fixed, and proof of claim ownership and/or leases are submitted with the new application.

Very truly yours,

/s/ W. H. KING
W. H. King

/s/ E. N. HARSHMAN
E. N. Harshman
for A. H. Koschmann
DMEA Field Team, Region IV

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

HMC:dm
cc: Administrator
DMEA
AHKoschmann
WMTraver
Mining Division
AEC

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

224 New Customhouse
Denver 2, Colorado

December 10, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3462 (Uranium), Wyoming Uranium Corporation; Beatrice, Helen May, and Fred's Folly areas, Fremont County, Wyoming.

Enclosed are four copies of the report of examination and supplemental report on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

W. H. King

W. H. King

E. N. Harshman

E. N. Harshman
for A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

224 New Customhouse
Denver 2, Colorado

December 15, 1954

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket 3462 (Uranium), Wyoming Uranium Corporation; Beatrice, Helen May, and Fred's Folly areas, Fremont County, Wyoming.

Enclosed are eleven copies of the engineering report of examination and supplemental report on the subject docket.

The applicant requested $33,125.00 for trenching and drilling. The engineer examiner recommended exploration consisting of bulldozer trenching and wagon drilling in their areas at a total estimated cost of $17,618.25. Since the time of the field examination the applicant has failed to submit a map showing existing conflicts and he was dispossessed in one instance. The applicant requested that the Beatrice group be withdrawn from the application and his amended map of the Helen May group would locate the recommended exploration outside the property boundaries.

It is recommended that the application be denied without prejudice. If and when the applicant resolves his claim conflicts and is able to submit proof of ownership or lease with a new application another field examination would be in order.

W. H. King

W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
October 27, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3462 (Uranium) Wyoming Uranium Corporation (Beatrice, Helen May and Fred's Folly areas) Fremont County, Wyoming

Enclosed are the original and ten copies of a Summary, Conclusions, and Recommendations by D. R. MacLaren, Geological Survey, and J. H. Soule', Bureau of Mines and of Soule's engineering report on the above docket.

Soule' concludes that the applicant's property, where exploration is requested, has a good potential for the discovery of worthwhile uranium ore as indicated by samples. He recommends a project of bulldozer trenching and wagon drilling on three areas at a total cost of $17,618.25, including the trenching, access road drill site preparation and sampling with analyses under the unit cost for drilling of $1.69 a foot for 10,425 feet of drilling.

I concur with his recommendations.

Before a contract is entered into by the Government the local reputation of H. T. Armstrong should be investigated and also the validity of property ownership.

Copy of the application submitted with your memorandum of August 17, 1954, instructing that field examination be made and a report prepared is also enclosed, in addition to a revised supplemental proposal for exploration by the applicant submitted direct to the Geological participant in the examination, D. R. MacLaren. Our records indicate you were also furnished with two copies of this proposal.

W. M. Traver

W. M. Traver

WMT/ici

Enclosures

cc: 10
DMEA 3462
DMEA Chron.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

December 8, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3462 (uranium), Wyoming Uranium Corporation, Fremont County, Wyoming

Enclosed are 11 copies of a memorandum report by D. R. MacLaren of the U. S. Geological Survey covering the above docket.

MacLaren lists and discusses a number of critical inaccuracies in the data submitted by the applicant and concludes that it is impossible to process the application with any assurance that an exploration program would be carried out on claims controlled by the applicant.

Exploration in the Crooks Gap area may be warranted but the applicant has failed to submit data to justify Government participation in the program proposed by him or any modification of it. It therefore is recommended that the application for exploration assistance (DMEA Docket 3462) be denied without prejudice, with an understanding that when claim conflicts are resolved, claim boundaries and locations are definitely fixed, and proof of claim ownership or lease is available, a new application for exploration assistance will receive favorable consideration.

E. M. Hawkman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

October 22, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3462, Wyoming Uranium Corporation, Fremont County, Wyoming

Enclosed are 11 copies of a geologic report by D. R. MacLaren of the U. S. Geological Survey covering the above docket.

Uranium ore has been found along a thrust fault contact between undifferentiated Triassic rocks and Cody shale and in the basal part of the Wasatch formation. MacLaren concludes that exploration on the Beatrice claim group, the Helen May claim group, and the Fred's Folly claim will result in the discovery of significant amounts of uranium ore. He therefore recommends a program of exploration consisting of a maximum of 350 feet of trenching and 10,425 feet of wagon drill holes.

I concur in this recommendation.

The brochure is also enclosed.

E. M. Hackman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (12)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
December 8, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: J. H. Soule'

Subject: BMRA 3462 (Uranium) Wyoming Uranium Corporation, (Beatrice, Helen May and Fred's Folly areas) Fremont County, Wyoming. Suggested revision of the proposed program

Additional information pertaining to the subject project has been received and the following revisions of the proposed project seem to be in order.

First; there is a conflict on the Beatrice group of claims which is at present the basis of a lawsuit. Because ownership of the claim group is in doubt, all the proposed work on this group should be cancelled. This amounts to 10 hours of bulldozing at a total cost of $100.00 plus 700 feet of drilling for a total cost of $1,176.00. This is a reduction of $1,276.00 from the proposed project cost.

Second; a rearrangement of some of the Helen May claims has been made. This will place some of the proposed drilling outside of the altered claim boundaries. These holes, footage and costs at $1.68 per foot should be deleted from the proposal. I do not have a copy of the revised claim map, so I am unable to state the exact footage to be considered for reduction.

In discussing the proposed program with B. R. MacLaren of the Geological Survey, it appears that an iso-rad map from the applicant of section 16 indicates anomalies and perhaps additional drilling could be done there. Possibly the best approach would be to allow proposals stand as they are; throw out the Beatrice group, and then allow what proposed drilling falls outside of the revised Helen May group to be applied to other areas with the prior written approval of the BMRA Region IV Field Team and be guided by the geologist MacLaren's recommendations.

L. A. Everitt for
John H. Soule'
Mining Engineer

JHS/dj
cc: 8
3462
Charon

December 7, 1954

Memorandum

To: Mr. A. H. Koschmann

From: D. R. MacLaren

Subject: DMEA Docket 3462 (uranium), Wyoming Uranium Corporation, Fremont County, Wyoming

In a letter dated October 6, 1954, the Field Team requested the subject applicant to "---please state the nature and kind of all conflicts which exist as to these mining claims. These statements should be supported by a map showing all adverse claims of any kind." This request was repeated in a letter dated November 10, 1954.

In a letter dated November 22, 1954, the applicant requested that the Beatrice group of claims be dropped from further consideration until a pending dispute be settled in court, and that the proposed program on the Helen May group of claims and in School Section 16 be processed. No mention was made of the Fred's Folly claim which is included in the original application as well as in the recommendations in my original geologic report. Enclosed with the letter of November 22 are two maps showing the results of a radiometric survey on parts of the Helen May group and on the School Section 16, and one map showing the purported location of the Helen May group. The letter is quite different from the one submitted with the original application. Also there are several critical inaccuracies in and omissions from this map, The more important of which are:

1. The ray tying the NW corner of Section 20 to the SW corner of Claim No. 4 (NW corner, Claim No. 5) is drawn on a bearing of S. 78° E. while the scaled distance is 1,960 to 1,965 feet. If this ray is drawn on the bearing of S. 84° 19' E. for a distance of 2,175 feet as indicated numerically on the map, the SW corner of

Claim No. 4 would be about 280 feet N. 63° 30' E. of the position as shown on the map. The two rays shown as intersecting at, and therefore locating, the SW corner of Claim No. 4 were plotted, at the bearings and distances shown, from the respective NW and SW corners of Section 20 on the Crooks Creek NE Quadrangle topographic sheet. The result was two points about 40 feet apart, either of which could be the correct position of the tie-in corner.

2. The lower south side line of Claim No. 3 is shown as being 875 feet from the SW corner to the lower east side line but the scaled distance as drawn is about 910 feet. The length of the upper south side line is shown as being 625 feet to the east end line, but the scaled distance is about 560 feet. The lengths of the lower and upper east end lines are not given, and because of the above discrepancies, cannot be scaled with any assurance of approximate accuracy. For the same reason, because the distance from the NE corner of Claim No. 3 to the NW corner of Claim No. 2 is not given, the new location of Claim No. 2 is not established. In other words, the claims cannot be located with respect to any section corner, the "bite" taken out of Claim No. 3 is not accurately defined, nor is the position of Claim No. 2.

The geology (figure 3, original geologic report) is mapped with respect to land lines (section corners) and the drilling program laid out in the original report (figure 3) is directly related to the geology. Therefore until the claims of the Helen May group are accurately tied to a section corner and are accurately located on a map with respect to each other, it is impossible to prepare an exploration program with any assurance that it can be carried out on claims controlled by the subject applicant.

The title block of the radiometric map of the School Section 16 shows "Section 16 area" implying that the area indicated by boundary line is Section 16. This is further indicated by the Figure 16 near the center of the square. If this is the case, the scale given as 1 inch equals 200 feet is in error. If the scale is correct, the area is only a 1/4 section and which 1/4 is not indicated. There are no surface or land features indicated on the map by the engineer who prepared it and therefore it is impossible to determine whether the scale or the area is in error.

Although exploration in the Crooks Gap area may lead to the discovery of significant uranium deposits as concluded in the original geologic report for this docket, the information available regarding the location of the applicant's claims or holdings is too indefinite and inaccurate to assure that specific recommendations can be carried out on property controlled by the applicant. It is therefore recommended that the Beatrice claims be dropped as requested and that no further consideration be given to the other phases of the application until the applicant furnishes:

1. Accurate maps showing the location of the Helen May claims with respect to section corners;

2. A copy of a lease showing that he has control of the School Section 16;

3. The proper scale of the radiometric map of the School Section 16;

4. A statement of his intent regarding the Fred's Folly claim.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3462, Wyoming Uranium Corporation

Beatrice, Helen May and Fred's Folly Areas

Crook's Gap Area

Fremont County, Wyoming

Uranium

D. R. MacLaren, Geologist
Geological Survey

J. H. Soulé, Mining Engineer
Bureau of Mines

October 1, 1954

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY GROUPS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

Summary, Conclusions, and Recommendations

By D. R. MacLaren, Geologist
Geological Survey

J. H. Soulé, Mining Engineer
Bureau of Mines

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY GROUPS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By D. R. MacLaren and J. H. Soule'

The Wyoming Uranium Corporation applied for Government assistance to explore their property in the Crook's Gap area, Fremont County, Wyoming. The application was docketed DMEA 3462 and the property was examined on August 24 and 25, 1954. The original application proposed trenching and drilling to cost a total of $33,125.00. This, the applicant reduced by a revised schedule to trenching and drilling to cost $10,453.25.

The property consists of 108 Atomic Energy Commission tracts with the intention of establishing lode claims and 2 sections of land leased from the State of Wyoming. This land is almost wholly within T. 28 N., R. 92 W., sixth principal meridian.

The area is in a semiarid region with comfortable summers and freezing winters. Vegetation is scant, consisting largely of range grasses and sagebrush. The altitude averages about 7,000 feet and the terrain is hilly but not generally rugged. Labor, accommodations, and communications must be obtained elsewhere, probably at Lander, Wyoming, some 60 miles to the northwest.

The deposits are recent discoveries and no production has been obtained therefrom. Only about 1,000 tons of ore has been produced from the district and this was from an adjoining claim.

At the north end of the area, on the Beatrice claim, Triassic beds have a faulted contact with the Cody shale of Cretaceous age. Samples taken along the fault, or close to it, in the Triassic beds indicate the presence of uranium-bearing minerals. The average grade of a 900 to 1,200 pound sample taken by the applicant assayed 0.57 percent U_3O_8. Of two channel samples taken by the examiners, one assayed 1.08 percent, the other, 0.14 percent U_3O_8.

South of the Beatrice claim, several high radioactive anomalies were found in the basal member of the Wasatch formation of Tertiary age, that overlies the Tertiary Fort Union sandstone. In general, the beds of the Wasatch strike from southeast, to east-west, to northwest, and dip from 16° to 18° northeast, south and southwest, suggesting an anticlinal fold plunging slightly to the south. Samples taken by Atomic Energy Commission geologists from the Wasatch on the Helen May claims show a streak of material 7.5 to 8.5 feet thick, having an average grade of 0.4 percent U_3O_8. About a mile south and east of the Helen May claims, the Coke River Development Company has shipped at least 887 tons of ore having an average grade of 0.23 percent U_3O_8 from the Wasatch formation.

Because a significant discovery is possible, a project is proposed that is comprised of 350 feet of bulldozer trenching in the Beatrice area plus a maximum of 10,425 feet of wagon drilling, 700 feet in the Beatrice area, 7,825 feet in the Helen May area, and 1,900 feet in the Fred's Folly area.

Unit costs for the work are $10.00 per hour for 10 hours of bulldozer trenching and $1.68 per foot for 10,425 feet of wagon drilling. The total costs will be $100.00 for trenching and $17,514.00 for drilling. Including the trenching with the drilling, a unit cost of $1.69 per foot of drilling is obtained which results in a total project cost of $17,618.25. The unit cost of drilling includes access roads, sampling, engineering, supervision and other costs, as well as the drilling. All work is to be done in a workmanlike manner.

It is recommended that Government assistance be granted the Wyoming Uranium Corporation in exploring their property in the Crook's Gap area, Fremont County, Wyoming. Before this is done, however, a thorough investigation of the ownership of the mining claims involved in the application should be made to determine if the Wyoming Uranium Corporation has valid title.

WYOMING URANIUM CORPORATION

FREMONT COUNTY, WYOMING

DMEA DOCKET 3462

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

WYOMING URANIUM CORPORATION
FREMONT COUNTY, WYOMING

INTRODUCTION

Wyoming Uranium Corporation of Lander, Wyoming, has applied to the Defense Minerals Exploration Administration for assistance to explore for uranium in the Crooks Gap district, Fremont County, Wyoming. Originally the applicant proposed to explore on some 97 claims by bulldozing trenches and wagon drilling 21,100 feet of holes at an estimated cost of $33,125 of which the Government's share would be 75% or $24,843.75. The proposed program was indefinite and entirely too flexible. Subsequently the applicant presented a more definite amended program that proposed to explore on 12 claims by trenching and wagon drilling 3,655 feet of holes at an estimated cost of $10,453.25 (Government's share 75% or $7,839.94).

The claims to be explored are in T. 28 N., R. 92 W., 6th P.M., and comprise the Beatrice-Marie Russell group of three full claims and two fractions in sections 8 and 9, the Helen May group of six claims in sections 17 and 20, one claim in section 21, and all of school section 16. The claims are accessible throughout the year and may be reached from Rawlins, Wyoming, by following U. S. Highway 287 for about 72 miles west, thence by following a fair graded gravel road about 6.6 miles south.

The property was examined July 24 and 25, 1954, in the company of Jack Soule of the U. S. Bureau of Mines, Robert U. King and R. A. Guilinger of the U. S. Geological Survey, and Hepburn T. Armstrong, president, and Jack Bogrett, geologist, representing the applicant corporation.

Mr. Armstrong advised the examiners that the Beatrice-Marie Russell claim group was in conflict with claims of Metallics Unincorporated but that he had the prior rights and that the conflictwas being settled satisfactority to both parties. Files of the Recorder's Office were not checked by the examiners.

Charles Towle, chief of the Denver Exploration Branch of the Atomic Energy Commission was consulted and made available such information from his files as was pertinent to this investigation. James G. Stephens of the Fuels Branch, U. S. Geological Survey, who has been working in the Crooks Gap area furnished a preliminary geologic sketch of the district and certain stratigraphic information that has been very helpful.

It is concluded that the chance of making a significant discovery of uranium ore on the Helen May and Fred's Folly claims is good, and that the chance is fair on the Beatrice- Marie Russell claims. It is therefore recommended that the application, slightly modified, be approved.

GEOLOGY

Rocks in the area range in age from pre-Cambrian to Cretaceous (figure 3). On the Beatrice - Marie Russell claims at least three faults are indicated by interruptions in the rock sequence. From northeast to southwest, pre-Cambrian rocks have a faulted contact with a narrow band of Cambrian beds (undifferentiated), the Cambrian beds have a faulted contact with Triassic beds (undifferentiated), and the Triassic beds have a faulted contact with the Cody shale (?) of Cretaceous age.

The fault between the pre-Cambrian and Cambrian beds has been traced for over two miles but none of the other faults have been accurately

mapped although each has been identified at several points of outcrop. Near or on the fault between the Triassic beds and the Cody shale (?) is a highly radioactive zone that gives scintillometer readings up to 5 MR/hr. A bulk sample taken by the applicant from three or four small pits along the radioactive zone was sent to Rifle, Colorado, for assay. According to the applicant the sample assayed .57% U_3O_8. The examiners cut one-foot channels from two of the pits which assayed 1.08% U_3O_8 and .14% U_3O_8. Because all three samples were taken at the surface and within a small area, they cannot be considered as representative of an ore body. However, they indicate an ore potential sufficient to justify further cautious exploration by trenching and drilling even through the probability of finding a significant ore body in this area is not considered to be too good.

South of the Beatrice - Marie Russell claims, on the Helen May group in sections 17 and 20, on Fred's Folly claim in section 21, and in school section 16, the geology is apparently simple. A normal sequence of sediments comprising beds of the Fort Union sandstone and the conglomerate basal member of the Wasatch formation, both of Tertiary age, overlie the Cody shale. Near the northwest half of Helen May Claim No. 6 they strike N. 46° E. and dip 10° southeast, near the east end of the Helen May No. 4 claim they strike nearly east and west and dip 13° south, and near the center of the same claim they strike N. 85° W. and dip 16° southwest. Although the area has not been mapped in detail, the swing in strike and the apparent continuity of the beds strongly suggests an anticlinal structure gently plunging to the southeast. The east and south flanks of the anticline are covered by the basal conglomeratic member of the Wasatch formation.

A trench near the northwest corner of section 16 exposes a streak of carbonaceous material two to four inches thick between layers of coarse arkosic sand and shale. On and just below the surface are granitic boulders, up to five feet in diameter and occasionally larger. This is typical of the basal member of the Wasatch formation. Scintillometer readings along and just below the carbonaceous streak showed radiation up to 1 MR/hr, apparently coming from unidentified yellow secondary uranium minerals.

On the Helen May No. 4 claim a trench 75 to 100 feet long and up to 6 feet deep has been bulldozed along the side of a ridge , just below the crest and parallel to the strike of the beds. The material exposed is coarse arkosic sand of the Sawatch formation. The bottom of the trench exposes a small area about two feet long and one foot wide that contains unidentified yellow uranium minerals giving a radiation of 5 MR/hr. About fifteen feet away, in the side of the trench is a lens of similar appearance about ten feet long and up to four feet thick that gave a radiation of 4.5 to 5 MR/hr. About 100 feet east of this trench are three bulldozed trenches cutting up the north slope of the ridge across the ends of the beds that dip into the hill side. Samples taken from one of these trenches by AEC geologists indicate a zone 8.5 feet thick that has an average grade of .41% U_3O_8. Other samples taken by the AEC geologists from the north slope below the 75 to 100-foot trench indicate a zone 7.5 feet thick that has an average grade of .44% U_3O_8. A few days after the DMEA examination the applicant put down seven shallow drill holes four of them approximately within the limits of the 75 to 100 foot trench, the other three fifty to one-hundred feet south of the trench. The first four holes indicate a lens of ore at least 150 feet long. The other three holes did not indicate ore. Combining the first four holes

with the two locations sampled by the AEC there is an inferred ore body at least 150 feet long, averaging 100 feet wide, and about four feet thick having an average grade of .35% U_3O_8. The location of the trenches, the AEC sample sites, and the first four drill holes as shown on figure 5 are only approximate as no survey of the locations was made.

A small pit on the Fred's Folly claim (figure 6) about one foot in diameter and one foot deep does not disclose any identifiable uranium mineral but scintillometer readings well above normal background were obtained. The surface of the ground is stratigraphically in the basal member of the Wasatch formation and is an attractive area for a few exploratory drill holes.

A little over a mile southeast of the Helen May group, Coke River Mining Company has already shipped 887.5 tons of ore said to have an average grade of .23% U_3O_8. Whitaker Brothers are reported to have shipped twenty tons of ore at an estimated grade of .4% U_3O_8 from claims adjacent to the east boundary of Helen May Claim No. 6.

CONCLUSIONS AND RECOMMENDATIONS

On the Beatrice - Marie Russell claims radiometric anomalies up to 5 MR/hr. were recorded at several places along or near a thrust fault between Triassic and Cretaceous sedimentary beds; a bulk sample of 900 pounds taken by the applicant from three or four small pits along the fault assayed .57% U_3O_8; two channel samples taken by the DMEA examiners from two of the pits assayed 1.08% U_3O_8 and .14% U_3O_8 respectively. Therefore it is concluded that additional cautious exploration along or near the fault is justified.

On the Helen May group a small ore body in the basal member of the Wasatch formation is indicated by two samples taken by AEC geologists

and by four drill holes put down by the applicant; radiometric anomolies up to 5 MR/hr. were found at several places in the Wasatch on the Helen May group and on Fred's Folly claim; 887.5 tons of ore said to have an average grade of .23% U_3O_8, and twenty tons of ore expected to average .4% U_3O_8 have been mined from the Wasatch formation near the Helen May and Fred's Folly claim. Therefore it is concluded that the chance of making a significant discovery of uranium ore on the Helen May group or on Fred's Folly claim is good.

It is recommended that the following program be approved.

BEATRICE - MARIE RUSSELL CLAIMS: Provision should be made to bulldoze four trenches across the mineralized fault or ore zone to determine its true character, position, and extent. Each trench should be at least 3 feet deep but the length of any given trench must be left to the judgment of the operator. However, the total length of trenching should not exceed 350 feet. The approximate location of the trenches is shown in figure 4. Numbered for convenience of identification and not necessarily to indicate the order of work, Trench No. 1 is 100 feet west of the sampled pits, Trench No. 2 is 400 feet west of No. 1, Trench No. 3 is 400 feet east of No. 1, and Trench No. 4 is 400 feet east of No. 3. All trenches are to be logged radiometrically and channel samples of any high anomalies are to be taken and assayed chemically. Provision should also be made to wagon drill seven holes totalling not more than 700 feet in depth at locations approximately as shown in figure 4. The holes are not to be drilled until written authorization has been given by the Field Team, which should not be done until enough of the trenching has been completed to give a clearer picture of the attitude and probable value of the mineralized zone. The bearing, pitch, and accurate location of the holes cannot be given until

sufficient information from the trenching has been obtained.

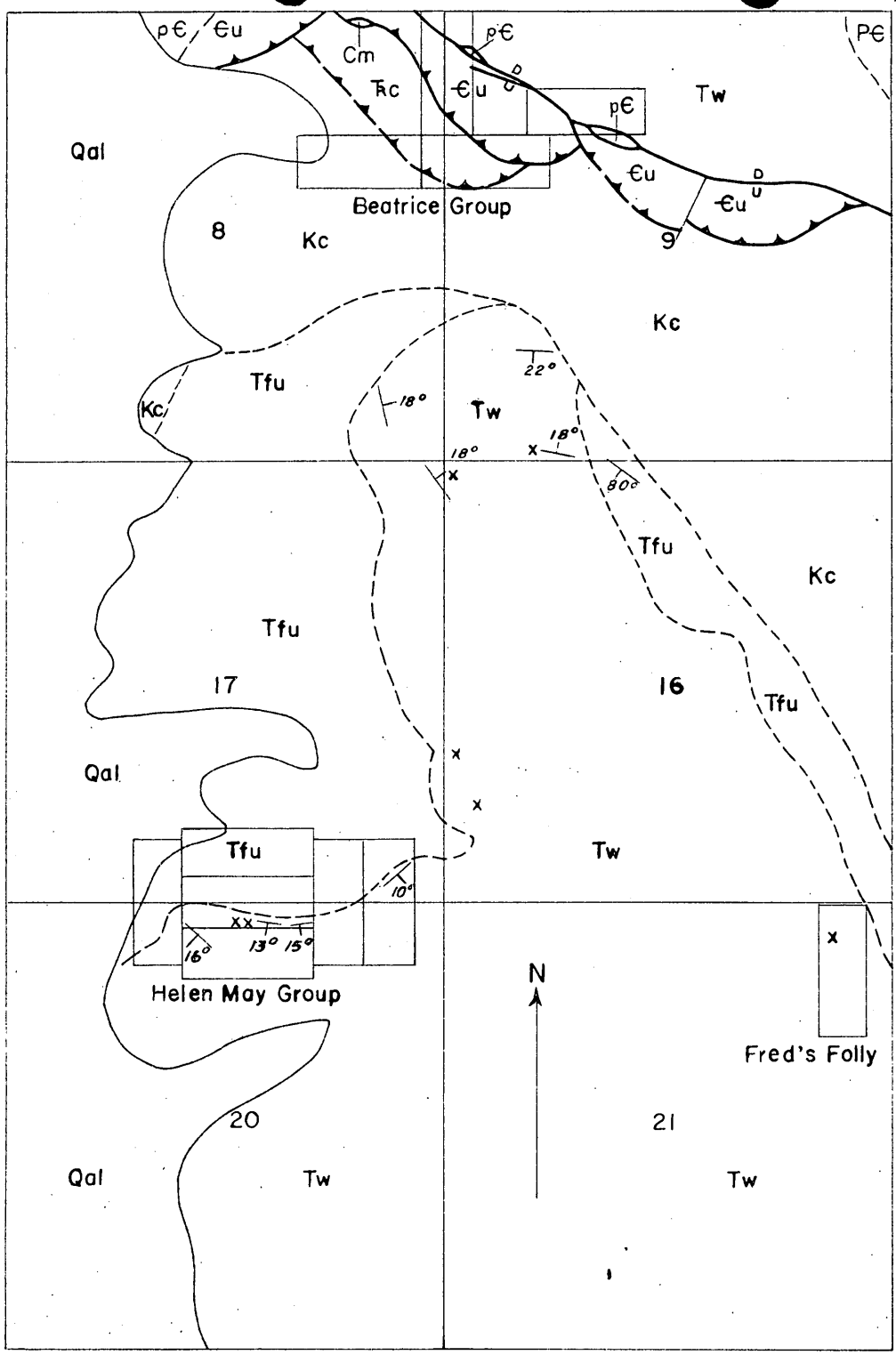
HELEN MAY CLAIMS: Provision should be made to wagon drill 18 holes totalling not more than 1,225 feet at locations shown approximately in figure 5. Holes are to be spaced at 100 foot centers on four rows 50 feet apart. The first row should be about 50 feet south of and approximately parallel to the Wasatch - Fort Union contact. Holes in the second and fourth rows are to be drilled half way between lines connecting corresponding holes in the first and third rows. This group of closely spaced holes should cover the area south of the trenches and holes already existent that indicate a small ore body. To explore the remaining favorable area in the Helen May claims, provision should be made to wagon drill 46 holes totalling not more than 4,600 feet at the corners of 200 foot squares as shown in figure 5. The northernmost row of holes should be 100 feet south of and approximately parallel to the Wasatch - Fort Union contact as it crosses Claim No. 4. Provision should also be made to drill an additional 2,000 feet of offset holes where justified by the results of preliminary drilling. No offset holes should be allowed unless authorized in writing by the Field Team. The order in which holes are drilled is immaterial, as long as the grid pattern is closely adhered to, the number of holes on 100 foot centers does not exceed 18 and their total footage does not exceed 1,225, and the number of holes on 200 foot centers does not exceed 46 and their total footage does not exceed 4,600 feet. No hole should be drilled deeper than 10 feet beyond the Wasatch - Fort Union contact.

FRED'S FOLLY CLAIM: Provision should be made to wagon drill 9 holes totalling not more than 900 feet in depth at the corners of 200 foot

squares as shown in figure 6. The north, east, and west rows of holes are to be 100 feet inside of the corresponding boundaries. Provision should also be made to drill an additional 1,000 feet of offset holes where ore possibilities are indicated by the preliminary drilling.

All holes drilled under this program must be logged radiometrically, and where anomolies are high, samples must be taken and chemically assayed. Logging and sampling must be done as drilling progresses.

Because of the very steep slopes and the depth of holes necessary for satisfactory information, and without prejudice to the area, neither trenching nor drilling is recommended at this time on the school section 16.



EXPLANATION

RECENT
- Qal — Alluvium

TERTIARY
- Tw — Wasatch formation
- Tfu — Fort Union ss

CRETACEOUS
- Kc — Cody Shale

TRIASSIC
- Ꞧc — Chugwater formation

CAMBRIAN
- Єu — Undifferentiated

PRE-CAMBRIAN
- pЄ — Granite

Contact

Fault

Thrust fault
(Saw teeth on upper side of plate)

18° Stike and dip of bedding

x Location of pits

NOTE: Geology from prelimary mapping by James G. Stephens, U.S.G.S. Base map from Crooks Gap NE topographic sheet. Scale 1:24,000.

Geology by D.R MacLaren September, 1954.

FIGURE 3- SHOWING LOCATION OF CLAIMS AND GEOLOGY, CROOKS GAP AREA, WYOMING. WYOMING URANIUM CORPORATION.

1,000 0 1,000 Feet

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY AREAS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

Engineering Report

By J. H. Soule'
Mining Engineer
Bureau of Mines

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY AREAS
CROOKS'S GAP AREA
FREMONT COUNTY, WYOMING

CONTENTS

Engineering Report — Page

Introduction 1
Acknowledgments 2
Location, topography, and physical features 2
History and production 3
Ownership and extent 4
Description of the deposits 4
Mineable ore reserves 5
Present status 5
Project proposals and costs 6
  Beatrice area 6
  Section 16 8
  Helen May claims 8
  Fred's Folly 9
  Project costs 12
Conclusions 14
Recommendations 15

ILLUSTRATIONS

Figure		Follows Page
1.	Location map, Wyoming Uranium Corporation, Crook's Gap Area, Fremont County, Wyoming	2
2.	Claim Map, Wyoming Uranium Corporation, Crook's Gap Area, Fremont County, Wyoming	2
3.	Showing location of claims and geology, Crook's Gap Area, Wyoming, Wyoming Uranium Corporation	*
4.	Beatrice group of claims showing approximate location of recommended trenches and wagon drill holes with respect to uranium-bearing fault, Wyoming Uranium Corporation, Crook's Gap Area, Wyoming	*
5.	Helen May group of claims showing location of recommended wagon drill holes, Wyoming Uranium Corporation, Crook's Gap Area, Wyoming	*
6.	Fred's Folly claim showing location of recommended wagon drill holes, Wyoming Uranium Corporation, Crook's Gap Area, Wyoming	*

*See figures with geologic report

DMEA 3462

WYOMING URANIUM CORPORATION
BEATRICE, HELEN MAY AND FRED'S FOLLY AREAS
CROOK'S GAP AREA
FREMONT COUNTY, WYOMING

ENGINEERING REPORT

By J. H. Soulé

INTRODUCTION

In August 1954, the Wyoming Uranium Corporation applied to the Defense Minerals Exploration Administration for Government assistance to explore recently discovered uranium deposits in the Crook's Gap area, Fremont County, Wyoming. The application was docketed DMEA 3462 and was sent to the field for an examination of the property. The field investigation was made on August 24 and 25, 1954, by a Region IV examining team. R. King, P. Theobald, and R. Guilinger of the Geological Survey, and H. T. Armstrong and Jack W. Bogrett, president and geologist, respectively, of the applicant corporation, accompanied the examining team over the property.

The original application proposed 21,100 feet of drilling and 450 hours of bulldozing in trenches and access roads for a total project cost of $33,125.00. This proposal later was revised to a program consisting of 3,655 feet of drilling and 300 hours of bulldozing. The reduced program resulted from an elimination of some purely speculative work. The cost of the reduced program was estimated as $10,453.25.

ACKNOWLEDGMENTS

Acknowledgments are due H. T. Armstrong and Jack W. Bogrett of the Wyoming Uranium Corporation for showing the examining team over the Crook's Gap property and for furnishing much relevant data pertaining to the district. Acknowledgment also is due to the assistance rendered by personnel of the Geological Survey and the Bureau of Mines who furnished additional information and otherwise aided in the preparation of this report.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Wyoming Uranium Corporation desires to explore its property situated in the Crook's Gap area, Fremont County, Wyoming (fig. 1). The claims and leased land lie almost wholly within T. 28 N., R. 92 W., sixth principal meridian, with a little overlap into the adjacent townships to the south and west. The areas to be explored lie in sections 8, 9, 16, 17, 20, and 21 of the above township.

The area is reached by travelling U. S. Highway 287 for 72 miles northwesterly from Rawlins, Wyoming, or the same highway for 49 miles southeasterly from Lander, Wyoming. From this point, travel southerly on a graveled road for 6.6 miles to a road junction. This road junction is in the northwest part of figure 2, which shows the roads leading to the various areas.

The altitude of the area averages nearly 7,000 feet with a range of from 6,500 feet in the northwest to over 8,300 feet in the east. The prospective project sites are at altitudes that range from about 6,760 feet to a high of about 7,409 feet. The region is mountainous

but not generally rugged. Steep slopes are common. Much of the flanking valleys can be traversed by motor vehicles with four-wheel drive.

The climate is semiarid with an estimated average annual precipitation of about 10 inches. Summer temperatures rarely exceed 100° and sub-zero winter weather is common. Strong winds are characteristic.

Vegetation consists largely of range grasses and sagebrush, with small stands of pine at the higher altitudes. Little of this timber would be suitable for mining purposes.

Labor, accommodations, and communication services are available no closer than Lander which is nearly 60 miles by road northwest of the Crook's Gap area. Minor supplies also are available at Lander which also is the nearest rail point. However, as most of the uranium ore treatment plants are located south of Wyoming, the most economical transportation costs would be effected by hauling ores to Rawlins, some 80 miles to the southeast.

HISTORY AND PRODUCTION

The discovery of uranium minerals in the Crook's Gap area was a relatively recent event. The claims of the Wyoming Uranium Corporation are recent locations and leases and no production, except a reported 1,200 pound test shipment has been obtained from the property. Approximately 1,000 tons of ore containing a reported 0.22 percent U_3O_8 has been recently shipped from the nearby Sno-Ball claims of the Coke River Development Company. These claims are south and west of the most important claims of the Wyoming Uranium Corporation.

OWNERSHIP AND EXTENT

The Wyoming Uranium Corporation claims a total of 108 U. S. Atomic Energy Commission lease tracts with the intention of establishing lode mining claims. A listing in the application brochure shows only 105 tracts and a claim map with the brochure shows only 99 tracts. In addition, the company has leased from the State of Wyoming, secs. 16 and 36, T. 28 N., R. 92 W., sixth principal meridian. An approximate total of 3,300 acres of land in the Crook's Gap area is claimed or leased by the corporation. The claims are shown on figure 2. It is suggested that all of this property be made subject to royalty. Landlord's subordination agreements should be obtained from the State of Wyoming for the two sections of state land leased by the corporation.

There seems to be some question of claim conflict on the Beatrice group; whether this is clarified by a letter in the brochure from Frank E. Hayes, Attorney of Lander, Wyoming, which states that H. T. Armstrong of the Wyoming Uranium Corporation is the senior applicant and has senior rights to the claims, should be investigated further. There are also some questions regarding the local reputation of H. T. Armstrong which should be looked into critically before a contract is entered into.

DESCRIPTION OF THE DEPOSITS

Insufficient development work has been done on the property of the Wyoming Uranium Corporation to determine the nature of the deposits with accuracy. However, uranium minerals occur at five known points on the property with most of the mineralization occurring near the base of the Tertiary Wasatch formation. This is underlain by the Ft. Union formation,

also of Tertiary age. No uranium mineralization is known in the Ft. Union formation. The mineralization in the Wasatch formation appears to occur near its base. In the northern part of the area and on the Beatrice group of claims, uranium mineralization seems to be related to a fault.

MINEABLE ORE RESERVES

There are no ore reserves of any category on the property of the Wyoming Uranium Corporation. This probably is due to the lack of development. However, uranium minerals are known in five localities on the property and three of these seem to be worthy of exploration. Two samples were taken by the examining team and these contained 0.140 and 1.08 percent U_3O_8. Other samples taken by the applicant and by the Atomic Energy Commission ranged in value from 0.04 to 11.7 percent U_3O_8. The latter was a picked sample taken by the applicant, and its location is not known.

PRESENT STATUS

The property of the Wyoming Uranium Corporation in the Crook's Gap area, Fremont County, Wyoming, is a recent discovery and is practically unexplored. At the time of the DMEA examination, only a small amount of bulldozer trenching had been done and subsequent to the examination, the applicant drilled seven holes in the Helen May area (fig. 2). Four of these holes contained material of ore grade and three were barren. At the present time, the applicant seems to be waiting for the results of this examination and is doing no exploratory work on the property.

PROJECT PROPOSALS AND COSTS

The preliminary proposal submitted by the Wyoming Uranium Corporation to explore its property in the Crook's Gap area was to consist of 450 hours of bulldozer trenching and 21,100 feet of drilling for a total cost of $33,125.00. Much of this work was purely speculative and a revised program was submitted by the applicant. The revised program proposed 300 hours of bulldozer trenching and 3,655 feet of drilling for a total cost of $10,453.25. The work was to be done in five areas: the Beatrice, the Helen May, Fred's Folly and in the northwest and southwest corners of section 16. The revised proposal is detailed in the following table.

TABLE I
Revised Program of the Wyoming Uranium Corporation

Area	Bulldozer Trenching		Drilling			Adm. Costs
	Hours	Cost	Holes	Feet	Cost	
Helen May	100	$1,000.00	23	2,130	$2,449.50	$1,500.00
Beatrice	100	1,000.00	15	900	1,035.00	1,500.00
Others	100	1,000.00	5	625	718.75	750.00
Totals	300	$3,000.00	43	3,655	$4,203.25	$3,250.00

Total cost of proposed program - $10,453.25

The above program still was indefinite with respect to the locations of the trenches and the drill holes. A more definite program is discussed in the following paragraphs. The areas are shown on figure 2.

Beatrice Area:

This area is the most northerly of the areas and consists of the Beatrice claims, Nos. 1, 2, 3, and 4, and the Marie Russell claim.

The known mineralization occurs on the Beatrice No. 3 claim and samples contained up to 1.08 percent U_3O_8 for cut samples. The uranium mineralization seems to be associated with a fault on which there is little information concerning its lateral and vertical trend. It is important that this trend be established. The best way to do this would be by trenching.

It is proposed that four trenches totalling not over 350 feet be excavated. The first trench will be placed 100 feet west of the outcrop from which the applicants shipped a bulk sample. This trench will not exceed 50 feet in length. Three additional trenches will be excavated at intervals of 400 feet west and 400 and 800 feet east of the first trench to extend the trace of the fault. These three trenches will not exceed 300 feet in the aggregate, or 350 feet for all trenching. Most of the trenches will be of minimum excavation except where the trace of the fault is encountered. Here, excavation to a greater depth will be allowed in an effort to determine the dip of the fault which should be northerly.

Each trench will be logged radiometrically for each 2 feet through the trench with special attention to the area of the fault. It is upon these results that drilling will be done. There should be at least four channel samples taken from the trenches to verify and check the radiometric results.

Dependent upon the results obtained by the trenching and subject to approval by the DMEA Region IV Field Team, seven wagon drill holes will be drilled on the down dip side of the fault to intersect

the fault at about 100 feet down dip from the line of the surface trace of the fault. The holes will be spaced on 200-foot centers, on line with and midway between each trench. The estimated footage for this drilling is 700 feet.

Summarizing the work to be done on the Beatrice claims, there will be four trenches excavated not exceeding an aggregate length of 350 feet followed by, and with the prior written permission of the DMEA Region IV Field Team, seven wagon drill holes aggregating not over 700 feet. The plan of the drilling and trenching is shown on figure 4 with the geologic report.

Section 16

The applicants proposed some work in the northwest and southwest corners of section 16. No work is justified because of the insignificant targets presented in the upper part of Wasatch formation. The more promising lower part of the formation lies too deep to warrant exploration at this time.

Helen May claims:

This group appears to be the most promising at the present time and here most of the work is recommended. No trenching is justified and all of the work is to be wagon drilling.

The Wyoming Uranium Corporation has done a small amount of drilling on this group of claims. All of the work was concentrated near the outcrop of mineralization as exposed in one trench. Eighteen holes are recommended to be drilled on a coordinate system at 100-foot intervals

as shown on figure 5 with the geologic report. These holes will aggregate 1,225 feet in length. It will be noted that the holes are grouped back of the outcrop that was partially drilled by the applicant. No project hole is to be drilled nearer than 50 feet to a hole previously drilled by the applicant.

Following, but not dependent upon, will be the drilling of 46 holes totalling 4,600 feet on a coordinate system, the hole intervals being 200 feet. These holes are also shown on figure 5 with the geologic report. Following this drilling and with the prior written permission of the DMEA Region IV Field Team, 2,000 feet of drilling of offset holes will be allowed. This drilling will be dependent upon the results of the coordinate drilling.

Summarizing the work to be done on the Helen May group of claims, 18 holes totalling 1,225 feet will be drilled on a closely spaced coordinate system, 46 holes totalling 4,600 feet will be drilled on a widely spaced coordinate system and this will be followed by 2,000 feet of offset drilling to be determined after the drilling is completed on the coordinate systems.

Fred's Folly:

The applicant proposed a little trenching on this claim but no drilling. It seems that no trenching is justified and that drilling is justified. A glance at the geologic map, figure 3 with the geologic report, shows that the contact between the Wasatch and Ft. Union formations lies to the east of the claim. The Wasatch formation practically covers all of the claim and some drilling to the Ft. Union formation may disclose ore bodies in the area where uranium mineralization is known. It is planned to drill nine holes totalling

900 feet on a 200-foot coordinate system as shown on figure 6 with the geologic report. This will be followed, with the prior written permission of the DMEA Region IV Field Team, by 1,000 feet of offset drilling to be determined from the results obtained in the coordinate drilling.

A summary of the work proposed on Fred's Folly claim is nine holes totalling 900 feet with an additional 1,000 feet of offset drilling to be determined by the results of the first drilling.

Some access road construction is necessary in the three areas of the proposed work, for the moving in and out of the drill equipment. It is estimated that 11,000 feet of access road will be required. This is divided as follows:

Beatrice area	1,200 feet
Helen May area	8,800 "
Fred's Folly claim	1,000 "
Total	11,000 feet

As access roads are to be provided for the drilling, the hole sites must be reasonably close to the sites on the coordinate system. No variation of more than 5 feet should be tolerated except in a very few instances where the topography is exceptionally steep. Any exceptions will have to be approved, but not necessarily before drilling. Because of the above conditions, the work will demand close engineering throughout the project. It is estimated that one-half time of an engineer is required for the life of the project. An accurate surface map should be prepared, showing the location of all

of the project work and the elevations of the collars of all drill holes. The project work means the trenches, drill holes, and the access roads.

Sampling will be one of the most important parts of the work. All trenches will be traversed with a Geiger or scintillation counter and the results recorded. At least four channel samples should be taken and analyzed. All holes should be logged geologically as well as radiometrically. If it is not possible to log them radiometrically, each sample should be tested with the counter and the results recorded. Samples through the mineralized zone will be taken at intervals of not more than 2 feet and a representative portion will be saved for the disposal of the DMEA. All samples will be properly marked. It is upon these results that much subsequent drilling will be based. At least 20 of these samples, widely and judicially selected, will be analyzed by chemical methods to check the radiometric work. For this work, one-half time of an engineer-geologist is required as well as part time for a helper.

The time schedule for the project is as follows: 5 days are allowed for preliminary work and the rest of the project will be dependent upon the drilling. A total of 10,425 feet of drilling is the maximum proposed and this should average 60 feet per day. The drilling should be completed in 173 days which makes a total of 178 days for the project. This is nearly 7 months and the costs are based upon this figure. However, 12 months should be allowed for completion of the project.

Project Costs

The costs of the project are based upon the following estimates and contract prices. It is estimated that the 350 feet of trenching on the Beatrice claims will require the removal of not more than 424 cubic yards of material. Seventy yards of material per hour should be moved at 100 percent efficiency and 75 percent is assumed for the type of ground to be moved. This reduces to 52.5 yards per hour, which for the 424 yards indicates that the work should be done in not more than 8 hours. A 2-hour allowance is made for moving to the trench sites which makes a total of 10 hours maximum for bulldozer trenching. The rental of the bulldozer is by contract at $10.00 per hour which makes the total cost of $100.00 for the trenching. Additional work for the bulldozer is planned for the access roads to the drill sites.

A total of 10,425 feet, a maximum, of wagon drilling is proposed. This, reportedly, will be contracted at a rate of $1.00 per foot. This makes a total of $10,425.00 for the drilling alone. The access road, engineering, and other costs will be added to the drilling costs to obtain a unit cost per foot of drilling.

A maximum of 11,000 feet of access road to the drill sites is proposed. This should be done for $0.17 per foot as elaborate roads are not necessary. For the 11,000 feet, the cost will be $1,870.00.

Engineering, supervision, sampling costs, estimated to be $750.00 per month for 7 months, total $5,250.00. This is detailed in the following table.

TABLE II
Distribution of Administration Costs

Item	Unit	Rate	Cost
Engineer-geologist			
Half time surveying and supervision	Month	$600.00	$300.00
Half time sampling and supervision	Month	600.00	300.00
Part time help surveying and sampling	Month	100.00	100.00
Chemical analyses, transportation, samples, etc.			50.00
	Total		$750.00

By adding the drilling cost of $10,425.00, the access road cost of $1,870.00, and the engineering-sampling-supervision cost of $5,250.00, the total is $17,545.00. Dividing this total by 10,425 feet of drilling, a unit cost per foot of drilling is $1.68. Reversing this procedure and multiplying the $1.68 by the 10,425 feet of drilling, the product is $17,514.00 which will be the project cost, exclusive of trenching. The trenching will add $100.00 to the $17,514.00 drilling cost for a total project cost of $17,614.00. The difference between the $17,514.00 and the $17,545.00 is due to the use of $1.68 instead of $1.68297 as calculated.

In the interest of simplicity, it may be desirable to include the trenching costs in the unit cost of the drilling. By adding the $100.00 to the $17,545.00 and dividing by the 10,425 feet of drilling, we obtain a figure of $1.69 per foot. Reversing the calculations as was previously done, the total project cost becomes $17,618.25.

It is noted that the above costs are somewhat higher than the drilling in other areas. This is, in part, due to the higher contract price for the drilling and the inclusion of access road, sampling,

and engineering costs with the drilling. These latter costs are necessary because the applicant corporation must hire competent technical help.

As previously stated, the proposed over-all cost of the project will be $17,614.00 or $17,618.25. The Government's contribution to the costs is 75 percent of the above totals, or $13,210.50 or $13,213.69, respectively. These totals are somewhat less than asked by the applicant corporation in their original proposal and somewhat more than in their revised proposal. The excess over the revised proposal is due largely to a more thorough exploration plan.

CONCLUSIONS

The Wyoming Uranium Corporation has applied for Government assistance to explore their property in the Crook's Gap area, Fremont County, Wyoming. The strategic importance of the metal uranium is too well known to deserve further comment. There are three areas on the property that contain appreciable uranium as indicated by samples and that may lead to orebodies of significant size. To this end an exploration project is proposed.

The planned work consists of trenching and road construction with a bulldozer, wagon drilling, and engineering and sampling. A bulldozer and drill rig are available for the work according to the applicants. Also available is an engineer-geologist for the technical aspects of the project.

The property is readily accessible although somewhat isolated, being about 55 miles by road from Lander, Wyoming, the nearest supply point of consequence.

The president of the applicant corporation, H. T. Armstrong, is totally inexperienced in mining and allied arts. However, he has obtained the services of Jack Bogrett, a graduate geologist who seems to be fully competent. It is assumed he or someone equally qualified will be in charge of project operations.

RECOMMENDATIONS

Because three promising areas of uranium mineralization are known to occur on the Crook's Gap property of the Wyoming Uranium Corporation and because a significant discovery is possible, it is recommended that Government assistance be granted the corporation to explore their property. The proposed project will consist of trenching and drilling in three of the most promising areas. These areas are the Beatrice, the Helen May, and Fred's Folly. Details of the recommendations are listed in the following paragraphs.

Four trenches not to exceed 350 feet and spaced on 400-foot centers will be excavated on the Beatrice group of claims to determine the strike and dip of a mineralized fault zone. Dependent upon the results of the trenching and with the prior written approval of the DMEA Region IV Field Team, seven wagon drill holes totalling no more than 700 feet will be drilled to intersect the fault at a down-dip distance of 100 feet from the surface. The trenching and drilling plan is shown on figure 4 with the geologic report.

Eighteen holes totalling not more than 1,225 feet will be drilled on a 100-foot coordinate system placed back or south of the promising outcrop on the Helen May group of claims. This will

be followed by wagon drilling 46 holes totalling not more than 4,600 feet on a 200-foot coordinate system. This drilling is proposed and prior written permission from the DMEA Region IV Field Team is not required. The plan of the coordinate systems is shown on figure 5 with the geologic report. The above drilling may be followed by 2,000 feet of offset drilling subject to approval of and prior written permission of the DMEA Region IV Field Team.

Nine wagon drill holes totalling not more than 900 feet are to be drilled on the Fred's Folly claim and on a 200-foot coordinate system as shown on figure 6 with the geologic report. This may be followed, with the approval of and the prior written permission of the DMEA Region IV Field Team, by 1,000 feet of offset drilling.

In summary, 350 feet of trenching is to be done on the Beatrice group of claims. A maximum of 10,425 feet of wagon drilling will be done and will be distributed as follows: Beatrice group, 700 feet; Helen May group, 7,825 feet; and Fred's Folly claim, 1,900 feet. Access roads to the drill sites will be provided by the project.

The following suggestions are offered:

1. An accurate surface map will be prepared showing the locations of all trenches, drill holes with their collar elevations, and all access roads to the drill sites.

2. No drill holes will be drilled more than 5 feet from the proposed locations on the coordinate system, as indicated on maps, and no hole will be drilled more than 5 feet beyond the mineralized

structure on the Beatrice claims or more than 5 feet into the Ft. Union formation on the other areas. No hole shall be drilled nearer than 50 feet from an existing hole.

3. Samples will be taken at 2-foot intervals throughout any mineralized zones. A representative portion of each sample will be saved for the disposition of the DMEA.

4. Geologic and radiometric logs of every drill hole will be made and furnished to the DMEA. The holes should be logged with an "in-hole" instrument, but lacking this a careful radiometric analysis of each sample will suffice.

5. At least 20 drill hole and 4 trench channel samples will be submitted for chemical analyses.

6. All trenches will be traversed radiometrically and the results recorded.

Not over 10 hours of trenching will be done on the Beatrice group of claims at a rate of $10.00 per hour for a total of $100.00. A maximum of 10,425 feet of drilling may be done at a unit cost of $1.68 per foot. This unit cost includes all drilling, access roads, engineering, sampling, supervision, and any other costs, excepting trenching, that are chargeable to the project. The total project costs will be $17,514.00 plus $100.00, for a grand total of $17,614.00.

For simplicity, it may be desirable to base all trenching, drilling, sampling, engineering, supervision, and other costs on a unit drilling cost. In this case, 10,425 feet of drilling will be done at a rate of $1.69 per foot which will include 350 feet of trenching

on the Beatrice claims, all engineering, sampling, supervision, and other costs. Under this method, the total project costs will be $17,618.25.

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

224 New Customhouse
Denver 2, Colorado

December 10, 1954

Mr. Hepburn T. Armstrong, President
Wyoming Uranium Corporation
P. O. Box 24
Lander, Wyoming

Re: Docket No. DMEA 3462

Dear Mr. Armstrong:

Reference is made to your application for Government aid on the Beatrice, Helen May, Fred's Folly and School Section.

Since the time of the field examination of the property, you have requested that proposed exploration work on the Beatrice group be dropped, and have made no statement of your intent on the Fred's Folly claim. The map of the Helen May group submitted with your original application and used by the field examiner, was at a later date amended by you, which amendment left a part of the proposed exploration work outside your property boundaries.

Our letters to you dated October 6 and October 29, 1954, requesting that you state the nature and kind of all complications which exist as to these mining claims, supported by a map showing all adverse claims of any kind, were not satisfactorily answered.

Under these circumstances, your application is denied without prejudice. A new application may be submitted and will be considered at such time as your claim complications are resolved, claim boundaries and locations are definitely fixed, and proof of claim ownership and/or leases are submitted with the new application.

Very truly yours,

W. H. King

W. H. King

E. N. Harshman

E. N. Harshman
for A. H. Koschmann

DMEA Field Team, Region IV

HMC:dm
cc: Administrator
DMEA
AHKoschmann
WMTraver
Mining Division
AEC

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

224 New Customhouse
Denver 2, Colorado

December 10, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3462 (Uranium), Wyoming Uranium Corporation; Beatrice, Helen May, and Fred's Folly areas, Fremont County, Wyoming.

Enclosed are four copies of the report of examination and supplemental report on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

W. H. King

E. N. Harshman
for A. H. Koschmann

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 17 1954

224 New Customhouse
Denver 2, Colorado

November 10, 1954

Mr. Hepburn T. Armstrong, President
Wyoming Uranium Corporation
Box 341
Lander, Wyoming

Re: Docket No. DMEA 4452

Dear Mr. Armstrong:

This will acknowledge receipt of your postal card dated November 4, 1954, in which you stated that you would know the outcome of the temporary injunction hearing on the Beatrice claims in about ten days.

In our letter to you dated October 6, 1954, we asked you to state the nature and kind of all conflicts which exist as to all of your mining claims, and that these statements should be supported by a map showing all adverse claims of any kind.

If we receive no reply before December 31, 1954, we will presume that you are no longer interested in the exploration of this property and will close the docket.

Very truly yours,

W. H. KING

John F. Shaw
for W. H. King

A. H. KOSCHMAN

A. H. Koschmann

DMEA Field Team, Region IV

HMC:dm

cc: Subject
AHKoschman (w/encl.)
WMTraver (w/encl.)
Administraton (w/encl.)
ALBrokaw (w/encl.)
HMConnors (w/encl.)
Chron

Division of the Interior
Defense Minerals Administration
RECEIVED
NOV 17 1954

Re: Docket No. DMEA 3462

Dear Mr. King,

Nov 4, 1954

Reference is made to your letter of Oct. 28, 1954.

Have been delaying answering your of Oct. 6 to ascertain the outcome of the temporary injunction hearing on the Beatrice claims. Should know in about 10 days, but can't be sure.

Meanwhile, there is no dispute over the Helen Mey claims or Section 16. Since your team was there, we discovered a very large ground anomaly on Sec. 16. Could your team put this late date shaft the Beatrice drilling to the anomaly — or should we proceed on the Helen Mey or other parts of Sec. 16. Doubt if we could expect the Beatrice outcome for a long time.

Sincerely yours,
Stephen T. Armstrong

224 New Customhouse
Denver 2, Colorado

October 6, 1954

Mr. Hepburn T. Armstrong, President
Wyoming Uranium Corporation
Box 341
Lander, Wyoming

Re: Docket No. DMEA 3462

Dear Mr. Armstrong:

It has been reported to this office that the ownership of some mining claims involved in your application for DMEA aid has been contested and that you were dispossessed in one instance.

Before we continue to process your application please state the nature and kind of all conflicts which exist as to these mining claims. These statements should be supported by a map showing all adverse claims of any kind.

Yours very truly,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region IV

E. N. Hauchman
for A. H. Koschmann
DMEA Field Team, Region IV

HMC:dm
cc WMTraver
AHKoschmann
Administrator
Subject
Chron

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

224 New Customhouse
Denver 2, Colorado

August 20, 1954.

Memorandum

To: C. O. Mittendorf, Administrator, DMEA
Attention: Code 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMEA Form 3a and MF-103 with supporting data pertaining to the following applications for Government assistance in exploration work.

Crown Uranium Company (Uranium)
Lost Brothers Mine
San Miguel County, Colorado

Wyoming Uranium Corporation (Uranium)
Fremont County
Wyoming

W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Not to be filled in by applicant

Docket No. 3462
Metal or Mineral Uranium
Date Received
Estimated Cost $33,125
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: Wyoming Uranium Corporation, Hepburn T. Armstrong President
Box 341, Lander, Wyoming
Officers and Directors: Hepburn T. Armstrong, President-Director; Ernest B. Fowks Vice-President-Director; 22 25 Ave. 35, Venice, Calif.; Glen L. Crandall Sec.-Treas. 420 Felt Bldg., Salt Lake City, Utah; T.S. Armstrong, Director, Long Beach, Calif.

(*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. Inc. Utah *B.P. Herda, Director, Wash.,D.C.

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

(*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
(1) 108 AEC tracts-notice filed of intent to establish lode claims, TWN 28N, R92W (see attached list)
(2) Option on 2 sq. miles State School lease land TWN 28N, R92W
(3) 957 acres State School land leased by Corp., TWN 41 N, R 105 and 106 W

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

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

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

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

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

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your test shipment such operations. Also describe accessibility of mine workings for examination purposes. 1200 lbs.uranium,0.53%

(*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 (assays, maps, and other technical information submitted) may have, indicating on each whether you require its return to you. (see accompanying geologic report)

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. all claims and lease land readily accessible from paved highway; shipment to

(*e*) Contractor's ability to provide materials, supplies, equipment, water, and power. rr 63 miles Rawlins

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. Detailed program of a flexible type meeting varied requirements of extensive property and overburden—drilling, bulldozing, etc. to be worked out by field geologist of the Corp. after field consultation with DMEA rep.

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

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Combined experience in mining of President, Vice-Presidents and geologist over 40 years.

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)? Yes

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

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

Explain in detail on acompanying paper. Corp. has no cash at present time, but intends to try to raise needed funds by a stock issue. Immediate approval of DMEA aid would help Corp. raise funds.

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 August 15, 1954, 1954

Hepburn T. Armstrong
(Applicant)

By Hepburn T. Armstrong, 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.

Wyoming Uranium Corp. Hep[illegible] T. Arrestrong, President
DMEA Application, item 3 (f)

PROPERTY STATUS

Wyoming State Lease Applications, approved July 27, 1954
(Near Dubouks, Whiskey Mt. discovery)

Application	#15414	TWN 41N, R103W	308 acres
"	15415	TWN 41N, R105W	169 acres
"	15416	TWN 41N, R106W	320 acres
"	15417	TWN 41N, R106W	160 acres

Wyoming State Lease Option
Sections 16 and 36, TWN 28N, R92W, 2 square miles

AEC lease application tracts--notice of intent to withdraw applications filed with AEC and County Courthouses and intent to establish lode claims pursuant ~~xxxxx~~ the ~~xx~~ the ACT Amending the Mineral Lease & Laws, of August 14th, 1954.

Claim name:	Fremont County Courthouse Book	Pages
Beatrice 1-4	64	61-64
Marie Russell 1	64	60
Helen May 1-4	64	65-68
Helen May 5-6	64	69-70
Fred's Folly	62	493
6 Miscl. claim	64	46-51
Iceberg 1-4	64	56-59
Mason Creek 1-3	64	53-55
Snowflake	64	52
Prairie Dog 1-2	62	34-35
Hump 1-13	64	36-45
Magic Mt. 2-23	64	71-92
TV 1-19	64	93-108
Target Moscow 1-4	64	109-112
Rose 1-10	64	113-112
Vidoe 2-6	~~123~~ 64	123-128
Antelope 2-5	64	129-130

PROGRAM COST SUMMARY

Drilling: 21,100 feet, $1.25 per ft., $26,375
Bulldozing: 450 hours, $15 per hr., $6,750
Total: $33,125--Gov't. participation 75%, $24,844

Program suggested by Wyo. U. Co. and subject to change if recommended by DMSA

Program prepared following consultation with following geologists:

Written reports (enclosed) by:
- W. Don Quigley, Salt Lake City, Utah
- Jack Bogrett, Riverton, Wyo.

Precursory examination of property by: following consulting geologists:
- Ralph Apperman, Casper, Wyo. (Property acquisition geologist)
- B.A. Bartlett, Wheatland, Wyo. (Former Wyo. State geologist)
- Charles H. Melbye, Golden, Colo. (Exploration Consultant)
- Fred Haley, Sa Salt Lake City, Utah (U.S. Smelting)
- Robert Coleman, Salt Lake City, Utah (Vitro Uranium)

U.S. Government: geologists:
- W.P. Whalen, AEC, has consulted with Co. on property
- A.H. Koschmann, USGS, reviewed geologic data-has not seen property

COSTS:

Drilling: Estimated total cost per foot $1.25.
Estimated contract cost per foot $1.00
Note: This estimate may be too low as terrain is rough and large segments of the property covered with boulders.
Estimated drilling overhead cost: geologist, field foreman, trenching hand and geiger operator, general manager, contingencies, and admin. expenses $0.25 per foot.

Bulldozing: Estimated total cost per hour $15.
Contract bulldozer D6 $10 per hr., D8 $12 per hr.
Estimated overhead per hour $5: geologist, hand trenching and geiger-scintillator, general manager, contingencies, and admin. expenses.

PROGRAM:

Program is three (3) phases. Phase (1) can be outlined specifically (see enclosed maps with drilling sites as proposed. Phases (2) and (3) the drilling sites will depend upon discoveries made in phase (1).

Phase (1)

(A) Beatrice and Helen May Claims
Drilling near surface outcrops.
50' depths, 100' intervals
6 holes Beatrice
8 holes Helen May
also 2 holes at 150' Beatrice
& 2 holes at 150' Helen May
Total footage 1300'
Bulldozing 100 hours

(B) School Section 16
30' depths, 500' intervals
100 holes
50' depths, 100' intervals
20 holes near outcrops
100' depths, 1000' intervals
5 holes
Total footage 4500'
Bulldozing 100 hours

(C) Group of 80 and " of 7 claims
60' depth, 1000' int.
100 holes
100' depth, 1000' int.
4 holes
Total footage 6400'
Bulldozing 100 hrs.

(Bulldozing of routcrops, drill sites, and access roads essential to drilling).

Phase (2)

(A) same as (A) above in adjacent spots to closer delineate possible ore bodies.
Total 1300'
Bulldozing 50 hrs.

(B) 30' depth near showings
50 holes
100' depth near showings
5 holes
Total 2,000'
Bulldozing 50 hours

(C) 60' depth near showings
30 holes
Total 1800'
Bulldozing 50 hrs.

Phase (3)

(A) None--(mining)

(B) Total 2000'

(C) Total 1800'

Riverton, Wyoming
July 23, 1954.

Wyoming Uranium Corporation,
Salt Lake City, Utah.

Gentlemen:

In response to your request I have made a preliminary geological study of the uranium possibilities of the Wyoming Uranium Corporation properties located in the Crooks Gap and Dubois areas, Fremont County, Wyoming. This is a summary report of my findings relative to that study.

INTRODUCTION

The Crooks Gap area lies midway between Lander and Rawlins, Wyoming in T. 28 N., R. 92 W., 6th P.M. Within this area the Wyoming Uranium Corp. property consists of the following tracts (claims) and state mineral leases: Beatrice Nos. 1,2,3 and 4; Marie Russell No. 1 (parts of which are fractional); Iceberg Nos. 1,2,3 and 4; Mason Creek Nos. 1,2 and 3; Helen May Nos. 1, 2,3,4,5 and 6; a group of 6 claims with different names contiguous to section 16 on the west; Fred's Folly No. 1; in addition to these there are 10 groups of claims (total of 81, incl. fractional claims) contiguous, filling and surrounding section 34, T. 28 N., R. 92 W., 6th P.M. Also held by Wyoming Uranium Corp. is an option covering state mineral leases on sections 16 and 36 T. 28 N., R. 92 W., 6th P.M.

This area is easily accessible from a paved highway and the Helen May claims are within one-half mile of a landing strip.

At the present time the Coke River Mining Company is actively engaged in strip-mining the Sno-Ball claims in the area and mining operations have begun adjacent and north of the Beatrice claims.

The Dubois property consists of 957.48 non-contiguous acres of state mineral leases in T. 41 N., R. 105 and 106 W., 6th P.M., on the northern flank of the Wind River Mountains and in the northwest corner of the Wind River Basin, about 5 to 7 miles south and east of the town of Dubois, Wyoming.

Part of the property lies approximately 2 miles north of the original Dubois area discovery.

CROOKS GAP AREA

Structure and Stratigraphy

The Crooks Gap area lies between, and south of, the Sheep Creek oil field and the Crooks Gap oil field. The northern part of the area is very complex structurally, due to thrust faulting and later normal faulting involving paleozoic and mesozoic sediments. To the south of this east-west fault zone the paleozoic

and mesozoic sediments are almost completely covered unconformably by the tertiary Fort Union formation and Wasatch formation (Wind River equivalent), the latter of which contains a coarse arkosic conglomerate of rather indefinite thickness near its top. This may pa rtially explain the presence of a considerable amount of boulders strewn over the surface in certain areas. The Wasatch formation (Wind River equivalent) is mainly composed of sandstones which vary from slightly carbonaceous to very carbonaceous. These zones apparently have had the required conditions that caused the water soluble uranium minerals to be precipitated from the percolating ground waters in which they were carried. Several places in these zones were trenched and several scintallation counter readings as high as 3 to 5 milliroentgens/hour were obtained on the Helen May tracts and on and around section 16. The outcrops on the Helen May were about 50 ft. apart and very likely in the same zone. An outcrop on Fred's Folly No. 1 showed an unusually high background. The same is true of an outcrop in section 16. As near as could be determined the Wasatch formation (Wind River equivalent) dips from 3° to 5° south and southeast.

At the northern end of the area the Beatrice claims contain an outcrop of very steeply (70° south) dipping Alcova limestone, Triassic, overlain conformably by red and gray siltstones of the Chugwater formation, also Triassic. In the Chugwater formation about 60 feet above the Alcova limestone there is a uranium zone which outcrops and probably is as wide as 6 feet (it was not fully opened up) which gives a very good scintillator reading when traversed. The bedding in which this uranium zone was found crosses 3 of the Beatrice claims and may possibly extend into the Marie Russell No. 1 and because of the steep dip may extend to a considerable depth.

It appears that, as in the case of the Uranium ore in the Wasatch formation (Wind River equivalent) the soluble uranium minerals postdate deposition and in this particular case with the very nearly perpendicular attitude of the beds it is possible that perculating waters may not only have deposited the uranium minerals but may have cuased some supergene enrichment in the zone.

Ore Deposits and Conclusions

The nature of the ore bodies seems to indicate that the ore has been concentrated in favorable horizons of the host rock by perculating waters which picked up the uranium bearing minerals from a superimposed sedimentary section, possibly the volcanic ash, tuffaceous, silty Miocene sediments which probably at one time covered the area. Organic matter, perculating water channels and sometimes coarse sands seem to have aided in the precipitation.

Ore is being mined from the Sno-Ball claims by the Coke River Mining Co. This operation is about 1 mile south of the Helen May claims and about 1 mile west of the 10 groups (81 claims) in and around section 33 T. 28 N., R 92 W., 6th P.M., and about 1 mile east of the Mason Creek and Iceberg claims. Metallics Unlimited is currently engaged in operations on a group immediately north of the Beatrice group.

Ore of commercial quality has been found in several places on the property and uranium bearing minerals have been found on and around section 16, T. 28 N., R. 92 W., 6th P.M.

A cursory examination was made of section 36, same township and range. To my knowledge no leads have been found on it although it is nearly all covered with Wasatch sands and boulder float.

The property is situated in an area favorable to the development of uranium ore bodies as is evidenced by the presence of such minerals. It is believed that the ore will be discontinuous in nature and it seems that the subject property is of sufficient size to offer a good chance to find similar deposits additional to those already found on the property.

Carefully planned exploration beginning with good surface coverage and stripping followed by a reasonable drilling program is suggested and offers good possibilities of success.

DUBOIS AREA

Structure and Stratigraphy

The Dubois property is separated into several blocks and as near as could be determined from a cursory examination one block (SW¼ SW¼ of section 21 T. 41 N., R. 106 W., 6th P.M.) covers an area in which the Chugwater formation (Triassic) may be projected beneath it at a reasonable depth. The dip is about 20° to the northeast.

The remaining parts of the property are in areas where the Wind River formation outcrops. In these areas the Wind River formation has gentle dips though not always in the same direction due to controlling faulting. The Wind River formation in the area is generally composed of relatively thin buff to yellow channel sands which are separated by very dense clays.

Ore Deposits and Conclusions

I do not know of any deposits that have been found on the Dubois property but similar stratigraphy and the fact that ore has been found in the near proximity of some of the property offers the possibility that it may be present on at least some of the property. It is suggested that a rather detailed surface or aerial examination of this property be undertaken before an exploration program is decided upon.

Very truly yours,

/sgs/ Jack Bogrett

Jack Bogrett

Brief Evaluation of the Geology and Uranium Possibilities of the Wyoming Uranium Corporation Properties in Wyoming

By

W. Don Quigley
Consulting Geologist
Salt Lake City, Utah

August 9, 1954.

INTRODUCTION

The Wyoming Uranium Corporation has acquired a considerable amount of acreage (claims and state land) in five different areas in Wyoming for the purpose of uranium ore exploration and development. There are several different areas in Wyoming where uranium mineralization has been found, but thus far only one area has proven commercial quantities and production. Northeastern Wyoming around the Black Hills has several sizable deposits of good commercial grade ore and production has continued for over a year. The other areas of uranium mineralization in Wyoming have not been proven but several are undergoing extensive exploration and attempted development. Some of these are: Gas Hills area, southeast of Lander; Crooks Gap area, south of Riverton; Dubois area, near Dubois; Miller Hill area, south of Rawlins; and South Pass area, north of Rock Springs. Considerable mineralization has been found in some of these places; but since the mineralization is largely in the form of leached uranium minerals from eroded sediments, a continuous deposit of reasonable size and commercial grade is uncommon from the exploration and development accomplished to date. Of course, most of the uranium areas in Wyoming are in a very early stage of exploration and development, and as further work is done some large deposits of commercial grade ore may be found. Uranium mineralization is certainly widespread and abundant, giving good reason to suspect commercial deposits in the future. Recent work in both Gas Hills and Crooks Gap areas has uncovered uranium deposits which may prove to be commercial and profitable.

DESCRIPTION AND LOCATION OF PROPERTY

The Wyoming Uranium Corporation has the following properties in Wyoming:

Crooks Gap Property:

5 claims (Beatrice #1 thru #4 and Marie Russell #1) in Sec.8- NE¼, and Sec.9- NW¼, T.28 N., R. 92 W., 6th P.M.

12 claims (Helen May #1 thru #4, and 6 claims of different names) in Sec.17-E½, and Sec.20-NE¼, T.28 N., R. 92 W.

7 claims (Mason Creek #1, 2 and 3, and Iceberg #1 thru #4) in Sec.19-SW¼, Sec.30-NW¼, T.28 N., R.92 W., and in Sec.25-NE¼, T.28 N., R.93 W.

1 claim (Fred's Folly #1) in Sec.21-NE¼, T.28 N., R. 92 W.

81 claims (names unknown to author) in Sections 26, 27, 28, 34 and 35, T.28 N., R.92 W., and in Section 3, T. 27 N., R. 92 W.

Section 16 - all (state section), T. 28 N., R. 92 W.

Section 36 - all (state section), T. 28 N., R. 92 W.

Dubois Property:

957.48 acres of state land, T. 41 N., R. 105 and 106 W., 6th P.M.

Miller Hill Property:

3 claims (exact location unknown to author), T.17 N., R. 88 W.

South Pass Property:

11 claims (exact location unknown to author).

Laramie Property:

3 placer claims (location unknown to author).

It is also understood that the Corporation has option on additional 37 claims in the Crooks Gap area. These claims are located near and around Section 16. Certain bull-dozer cuts, four in number, located at different spots on the claims, have uncovered uranium mineralization of indeterminable extent.

With the exception of the state land, the above properties are mining claims staked according to Wyoming state law or according to the requirements of "Circular 7" of the Atomic Energy Commission. In view of recent legislation, the "Circular 7" claims will probably have to be converted to regular lode claims by accomplishing certain additional work.

The Beatrice claims in the Crooks Gap area have certain conflicts with overlapping claims held by other parties. It appears that the Beatrice claims were staked and recorded first, but they were top filed in part and are being contended by other parties.

CROOKS GAP PROPERTY

Structure and Stratigraphy:

The structure of the Crooks Gap area is complicated by several faults, both normal and thrust, as well as numerous small folds. The area in general lies along the flank of the Sweetwater arch and at the southeast end of the Wind River Mountains. The subject area lies locally on the northwest flank of Green Mountain and east of Crooks Mountain. A long regional thrust fault, running northwest-southeast, borders the region on the north. Normal faults involving displacement of both Paleozoic and Mesozoic formation cross the northern edge of the property. Other minor compression and tension faults are also common in the area.

The property lies between two oil fields located on sharp assymmetical folds. The Sheep Creek fold lies to the east and the Crooks Gap fold lies to the west.

The dip of the formations in the area ranges from 5 degrees to nearly vertical. The direction of dip is also extremely erratic.

Like the structure, the stratigraphy of the Crooks Gap area is very complicated. Sediments ranging in age from pre-Cambrian to early Tertiary are exposed on or near the property. However, with the exception of the Beatrice and Marie Russell claims, all of the property lies on early Tertiary sediments or unconsolidated boulder and gravel sediments. The Beatrice claims are located on Cambrian to Triassic sediments. Contacts are poor and covered by ~~sediments xx The formations xxxxxxxxxxxxxxxx~~ soil; also the west end of Beatrice #2 may cover some Cretaceous sediments. The formations are almost vertical at this location, with several faults along the major thrust fault causing distortion and displacement. A marked unconformity exists between the Mesozoic and Tertiary sediments. The lower Tertiary formations in the region contain coarse askosic, conglomeratic material in part, as well as unresistant siltstones, shales and sandstones.

Considerable Quaternary erosion and deposition has given rise to a cover of unconsolidated gravel and boulders over much of the property. Certain parts of this cover are stratified to some extent locally and may even be part of the Wasatch formation (Wind River equivalent).

Uranium Mineralization, Showings and Deposits:

S Several showings of uranium mineralization were observed on the Crooks Gap property. The Beatrice and Marie Russell claims had two good showings of mineralization of interesting nature. One showing consisted of a zone, approximately 4½ feet wide, traceable for a distance of around 50 feet on the surface. The mineralized zone occurred in a slightly altered shale horizon in the Triassic Chugwater (?) formation. The horizon is vertical and due to the surface covering and faults could not be definitely identified or delineated. The zone appeared to have some fault breccia and gouge material mixed with the shale. The nature of the mineralization was indeterminable. Measured radioactivity amounting to approximately .22% equivalent U_3O_8 was obtained from the zone. It is possible that waters carrying leached uranium from eroded sediments percolated through the zone and certain clay or carbonaceous material caused precipitation. It is strongly suspected that the mineralization may be limited to secondary and supergene coatings on the shale fractures and in a fault zone. Some surface work and bull-dozing were being done on this showing but were inadequate to indicate anything as to depth and extent of the mineralization. Only by uncovering a sizable face along the shale horizon through drilling and blasting or by systematic core drilling can anything definite be determined in regard to the extent of this deposit.

The second showing of significance on the Beatrice claims occurred in a black carbonaceous shale zone on the southwest side of the group. The mineralized zone is approximately 10 feet wide and can be traced for nearly 100 feet. Radioactivity is very high and measured approximately 2.65% equivalent U_3O_8 in places. A 1200-lb. sample was dug out of this zone and sent to the U.S. Vanadium Corporation at Rifle for analysis. The results showed a U_3O_8 content of .58%. Some yellow and white mineralization can be seen in the black shale, and again may well be due to supergene enrichment by surface waters. This deposit could be fairly large in size and high grade. The full extent can only be determined by further excavation, core drilling and blasting. The surface showings on this deposit are encouraging, certainly warranting further development.

Some eight or ten other showings of mineralization were observed at various locations on the rest of the Crooks Gap property. These showings, without exception, were contained in the leached and oxidized zone near the surface and are probably due to supergene enrichment by downward percolation of vadose and run-off waters. The uranium probably originated from the erosion and leaching of the over-lying White River formation (or its equivalent) which contained much volcanic ash, tuffaceous, and pyroclastic material. Frequently, the mineralization occurred as a narrow 6 to 8 inch band of liminotic stained gravel and sandy silt at the base of the soil. Pebbles and boulders are often coated with the yellow uranium mineral tyuyamunite. It is doubtful that this sort of occurrence will ever be thick enough and of sufficient size to be commercial. Occasionally, a thin carbonaceous shale and sandstone streak containing abundant mineralization was observed. These occurrences could be contained in the Wasatch formation and might be more continuous and extensive. The sediments were unconsolidated and exposures were so poor that it was difficult to determine anything conclusive in regard to these occurrences. A great deal more work will be required on such showings to determine their significance.

No mineralization was observed on the 81 claims and section 36. This part of the property is located northeast of the Sno-Ball claims presently under development by the Coke River Mining Co. Some ore has been shipped by the Coke River Mining Company and a stockpile of about 1,000 tons is waiting shipment. The U_3O_8 content is unknown. Considerable work has been done by the Coke River Mining Co. and two different zones of mineralization in the Wasatch sand have been uncovered. The zones of mineralization are not extensive and are quite irregular. It is too early to determine whether or not this will develop into a sizable profitable venture.

The 81 claims are located on the same Wasatch formation and will contain the same possible ore zones. They are covered by surface alluvium and will require drilling.

Evaluation:

The Crooks Gap property held by the Corporation is located in an unproven uranium mining district and is, therefore, highly speculative. No commercial mine of sizable extent has been proven in the area to date. However, the Coke River Mining Co. after six weeks of work, has uncovered a deposit that may prove to be commercial and profitable, since it is understood that certain quantities of commercial ore are being produced and shipped. If such is the case, then the subject property of the Corporation becomes much more valuable and less speculative.

The Beatrice claims have possibilities which are not connected with the rest of the property. The showings of mineralization on these claims are interesting and have some promise of being large. The black shale zone on the southwest side definitely warrants further work and development.

Whereas, the most of the Crooks Gap property is highly speculative at the present time, there are a number of mineralized showings on the property which warrant the expenditure of certain funds to determine their importance and extent. It is recommended that the first work be accomplished on the Beatrice claims and the work should include core drilling, wagon drilling, and surface excavation. Exploration and development work should be carried out under a very careful and organized plan. Each additional phase or exploration at a new location should be based on the findings of previous work. If the best showings cannot be extended and developed with additional work, then it might not be advisable to spend further funds on less encouraging locations.

DUBOIS PROPERTY

Evaluation:

The author did not visit this property and so must omit any details other than a rough evaluation in regard to known deposits and finds in the area. The property is largely covered by the Wind River formation. One forty-acre block may have Chugwater exposed on the surface. Some mineralization has been reported in the area approximately two miles south of one part of the property. This mineralization has not been developed and its importance is, therefore, unknown. Most of the work done in this area to date has been discouraging. Since there have been no proven discoveries or commercial deposits in this area, the Dubois property is considered highly speculative. Any development or exploration conducted on these properties should be preceded by a detailed surface radiometric survey and also should await the discovery of a proven deposit in the area.

[redacted]

[redacted]

MILLER HILL PROPERTY

Evaluation:

This specific property was not visited by the author, although previous work has been done by the author in the area. The Corporation's property lies in the heart of the airborne anomalies found by the Government. Most of the uranium mineralization in the Miller Hill area is found in an algal limestone horizon (about 12 feet thick) in the Borwns Park formation of Tertiary age. The uranium mineralization is extremely widespread but of low concentration. So far, most all of the samples analyzed have contained less than .15% equivalent U_3O_8 with the average being around .096%. This is not commercial ore at the present time and development in the Miller Hill area must await a new low cost metallurgical process for handling large quantities of low grade ore. Even though the Corporation's claims are well located, they can only be considered as potentially valuable for some time in the future.

SOUTH PASS AND LARAMIE PROPERTIES

The author is not acquainted with these properties and can make no evaluation in regard to their uranium ore possibilities.

South Pass is a gold and silver mining area, containing pegmatitic deposits.

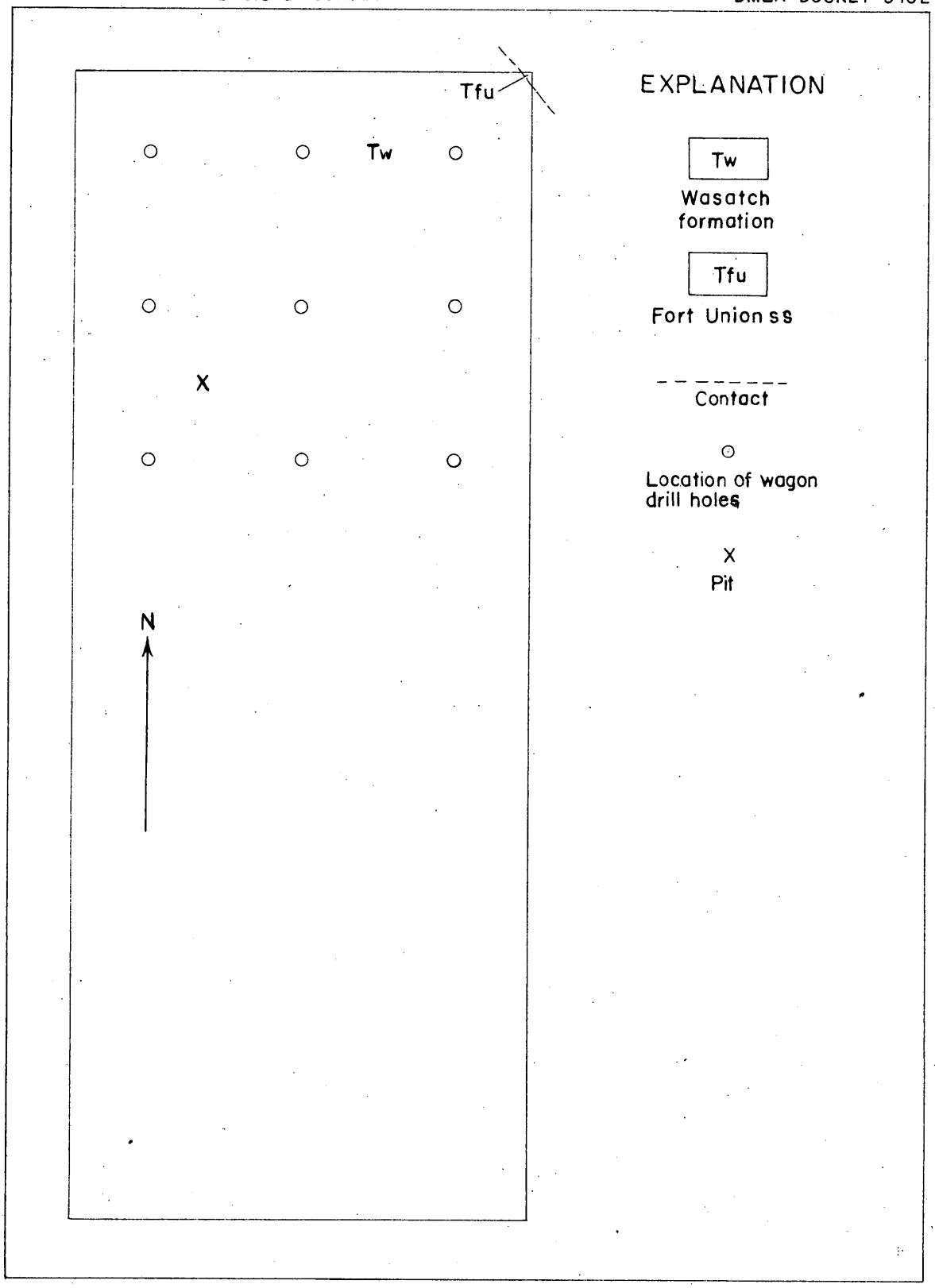
CONCLUSION

The Wyoming Uranium Corporation has considerable speculative uranium property in Wyoming. None of the property is in proven uranium mining districts. However, all the present development in the various areas is only a few months or weeks old and it is too early to determine the potential possibilities of the various districts. The Corporation's properties in the Crooks Gap area have several showings of mineralization, some of which are worthy of development. One showing in particular could possibly develop into a sizable deposit of fairly rich uranium ore.

Since no definitely proven commercial deposits have been found near the properties, they must be considered as speculative; but due to the surface evidence of mineralization, the Crooks Gap property does warrant a well planned and careful program of exploration and possible development.

/sgd/ W. Don Quigley

W. Don Quigley
Consulting Geologist



Geology by D.R. MacLaren September 1954

FIGURE 6.– FRED'S FOLLY CLAIM SHOWING LOCATION OF RECOMMENDED WAGON-DRILL HOLES, WYOMING URANIUM CORPORATION, CROOKS GAP, WYOMING

200 100 0 200 Feet

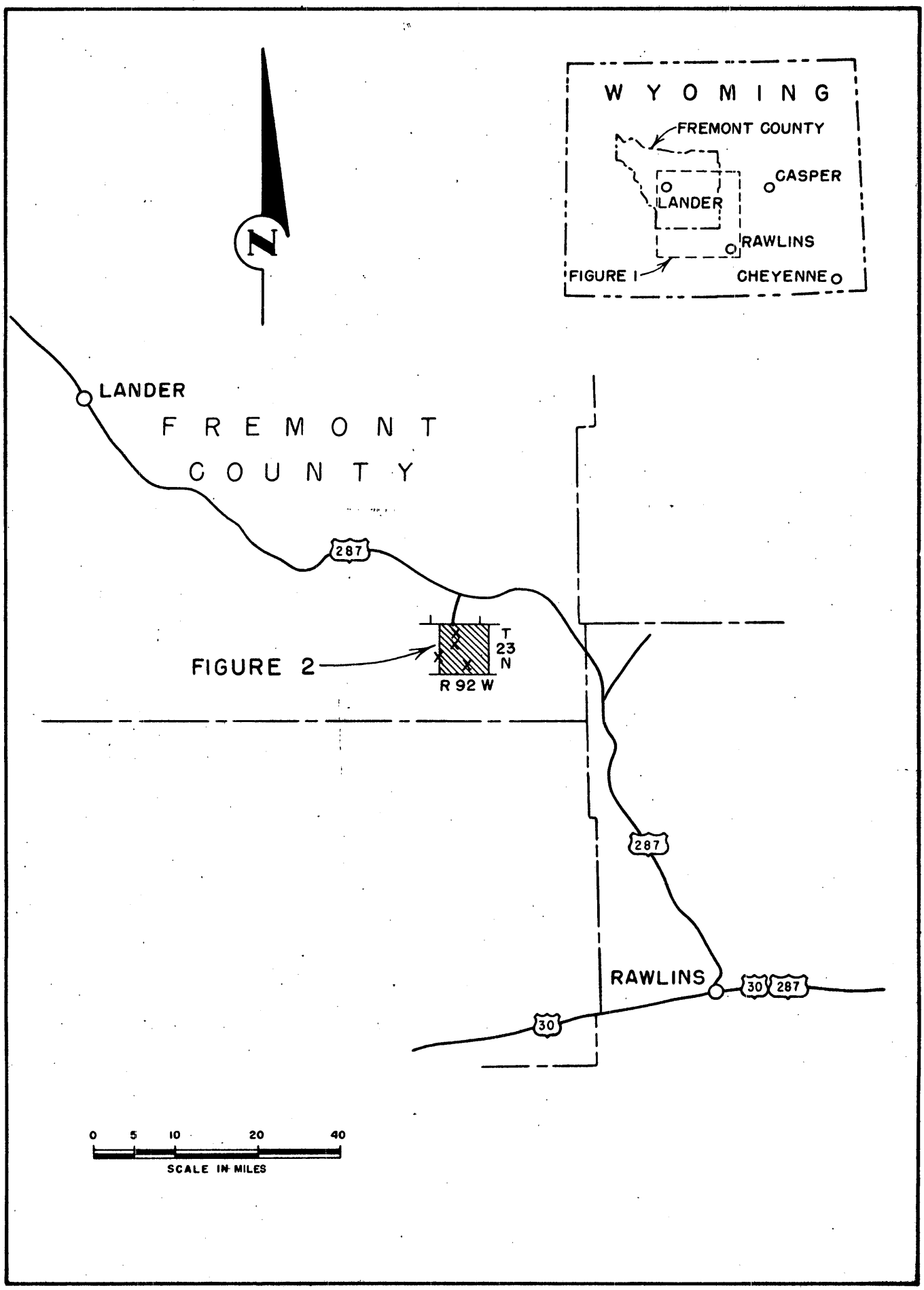


FIGURE 1 - LOCATION MAP, WYOMING URANIUM CORP., CROOK'S GAP AREA, FREMONT COUNTY, WYO. (DMEA 3462)

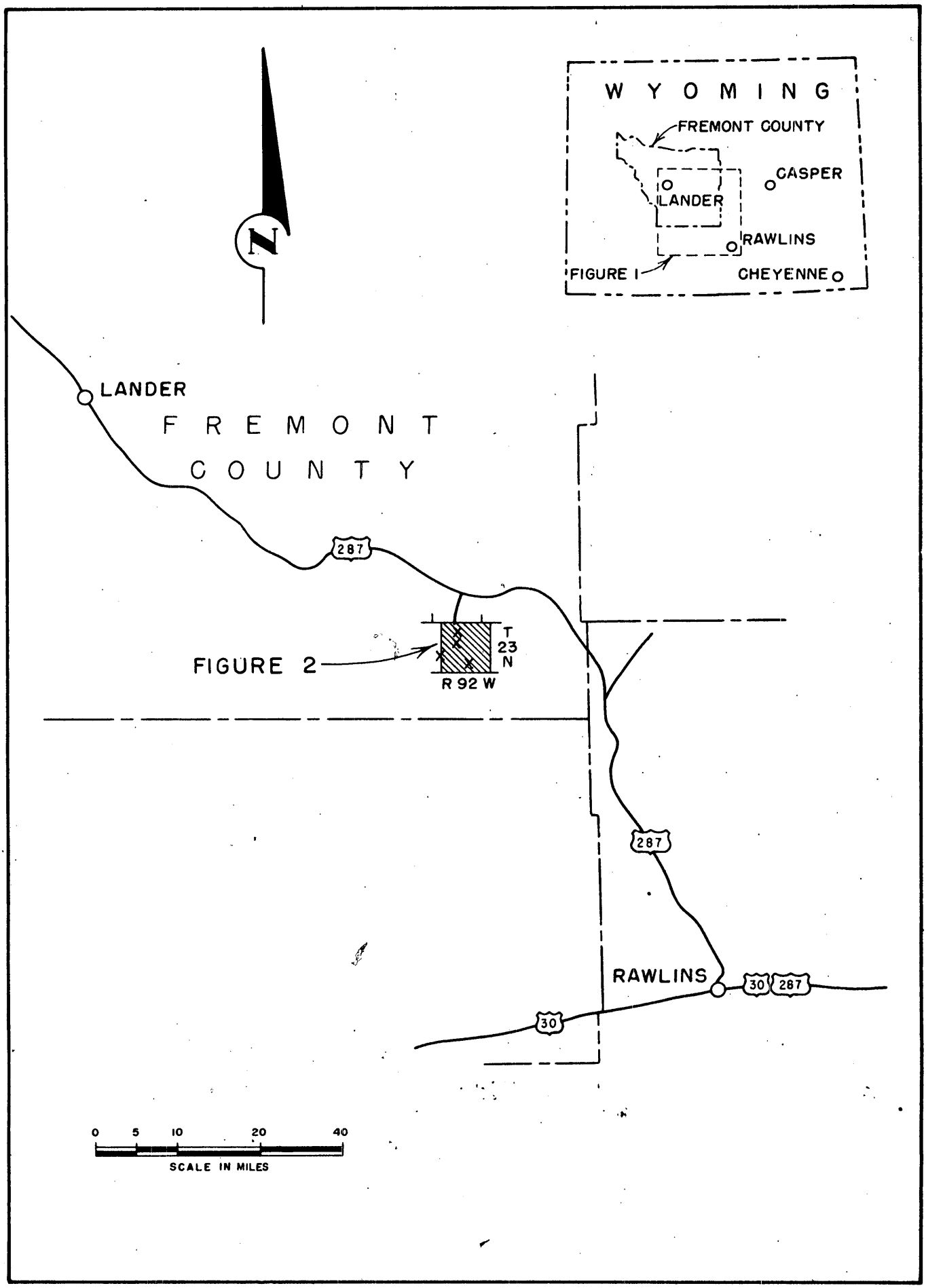
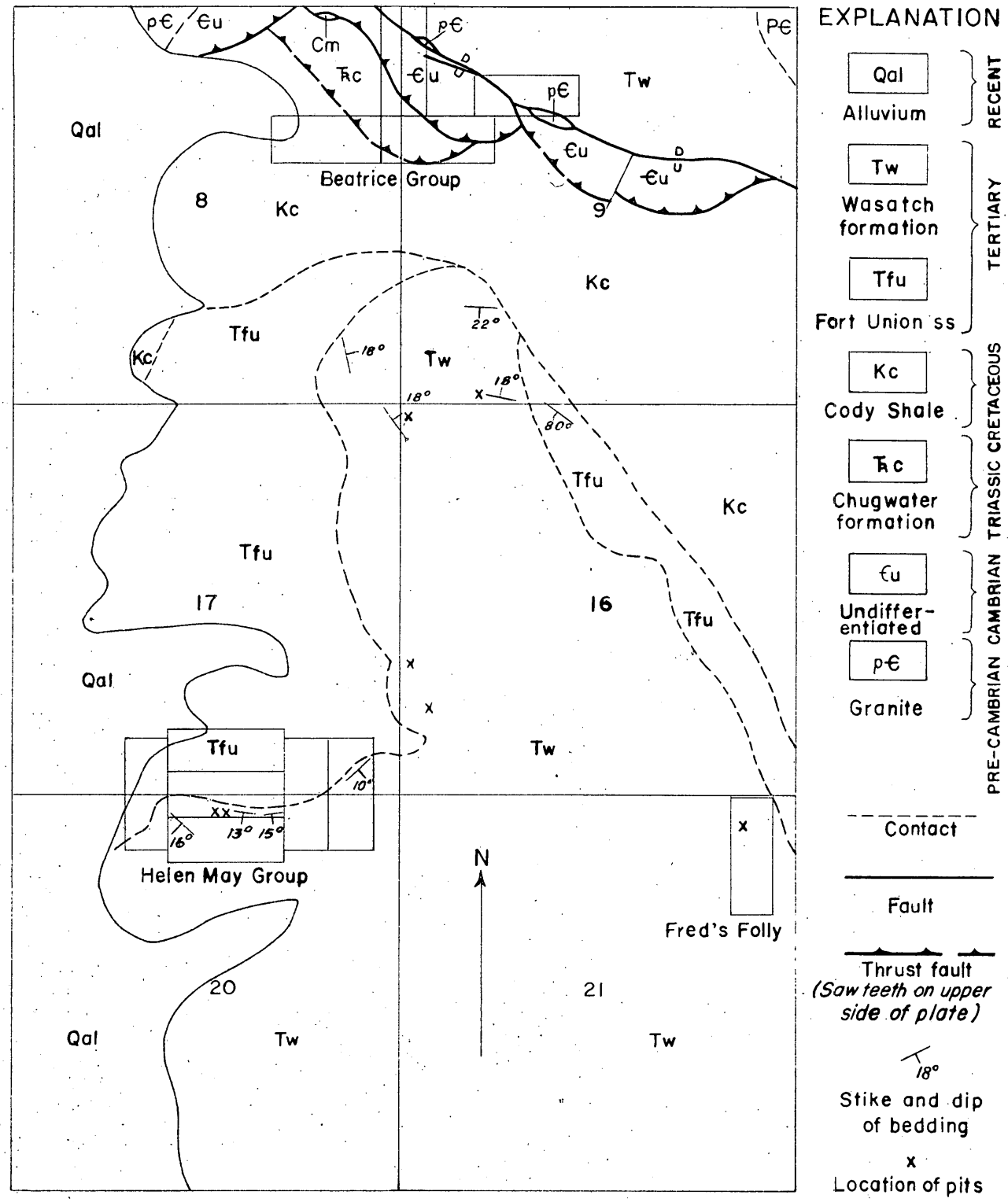


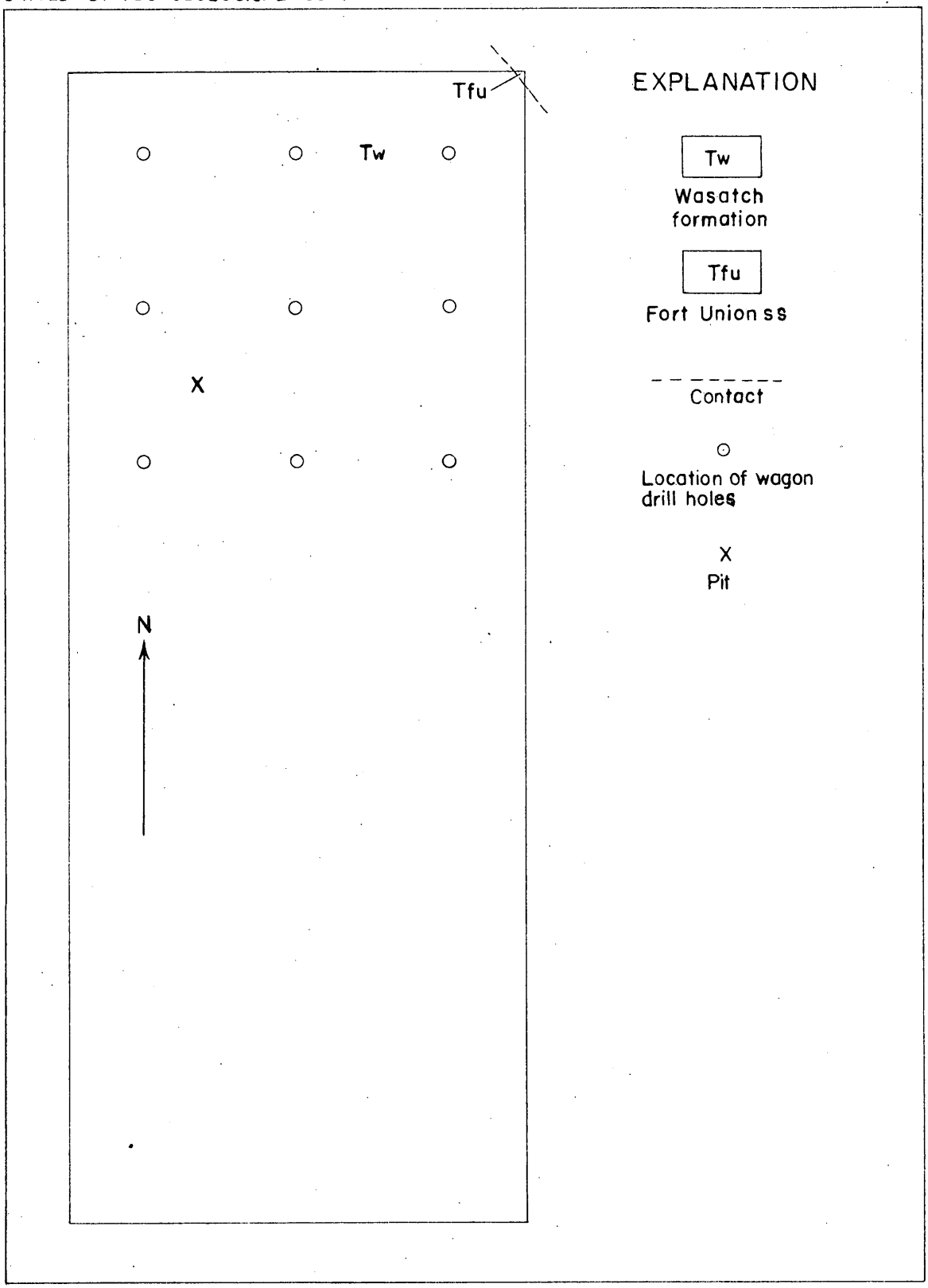
FIGURE 1 - LOCATION MAP, WYOMING URANIUM CORP., CROOK'S GAP AREA, FREMONT COUNTY, WYO. (DMEA 3462)



NOTE: Geology from prelimary mapping by James G. Stephens, U.S.G.S. Base map from Crooks Gap NE topographic sheet. Scale 1:24,000.

Geology by D.R MacLaren September, 1954.

FIGURE 3- SHOWING LOCATION OF CLAIMS AND GEOLOGY, CROOKS GAP AREA, WYOMING. WYOMING URANIUM CORPORATION.



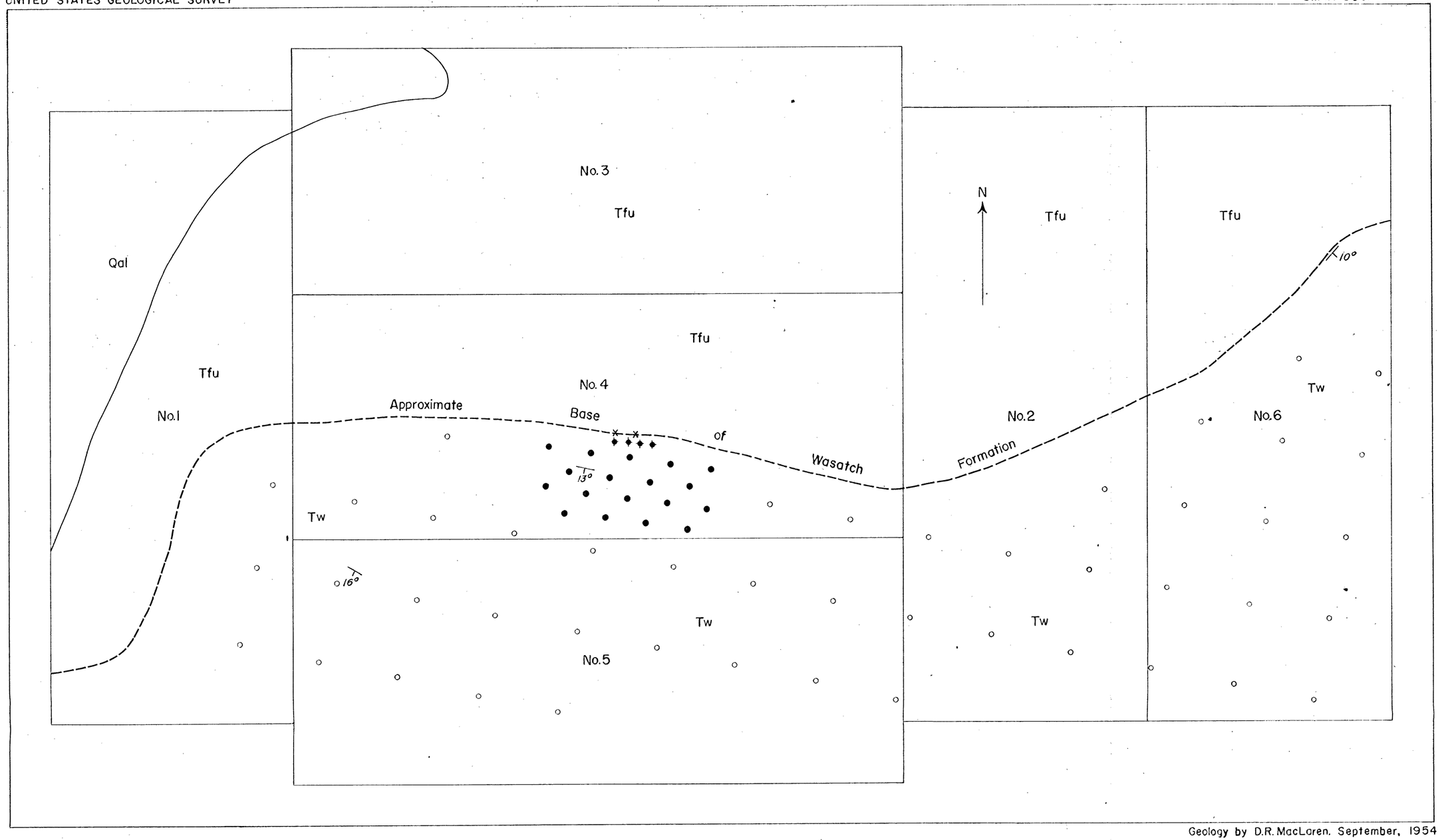
Geology by D.R. MacLaren September 1954

FIGURE 6.– FRED'S FOLLY CLAIM SHOWING LOCATION OF RECOMMENDED WAGON-DRILL HOLES, WYOMING URANIUM CORPORATION, CROOKS GAP, WYOMING

200 100 0 200 Feet

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DMEA DOCKET 3462



EXPLANATION

Qal
Alluvium

Tfu
Fort Union s.s.

Tw
Wasatch formation

No.5
Claim number

Holes drilled by operator

Location of 18 holes totaling 1225 feet

Location of 46 holes totaling 4600 feet

15°
Strike and dip of bedding

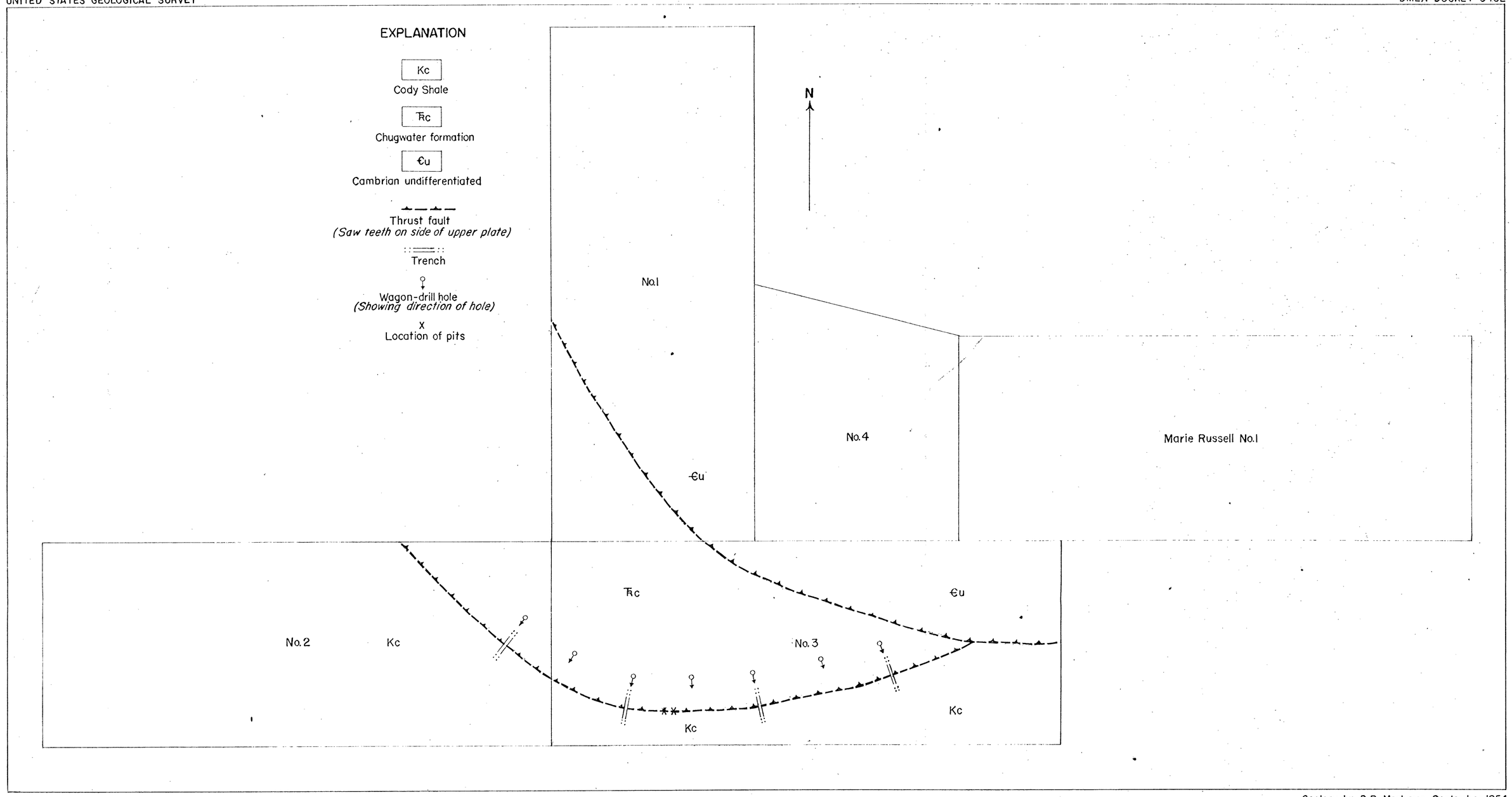
x
Location of pits

Geology by D.R. MacLaren. September, 1954

FIGURE 5.- HELEN MAY GROUP OF CLAIMS SHOWING LOCATION OF RECOMMENDED WAGON-DRILL HOLES. WYOMING URANIUM CORPORATION, CROOKS GAP AREA, WYOMING

200 100 0 200 Feet

C·A·T



Geology by D.R. MacLaren. September, 1954

FIGURE 4.- BEATRICE GROUP OF CLAIMS SHOWING APPROXIMATE LOCATION OF RECOMMENDED TRENCHES AND WAGON-DRILL HOLES, WITH RESPECT TO URANIUM BEARING FAULT. WYOMING URANIUM CORPORATION, CROOKS GAP AREA, WYOMING.

200 100 0 200 Feet

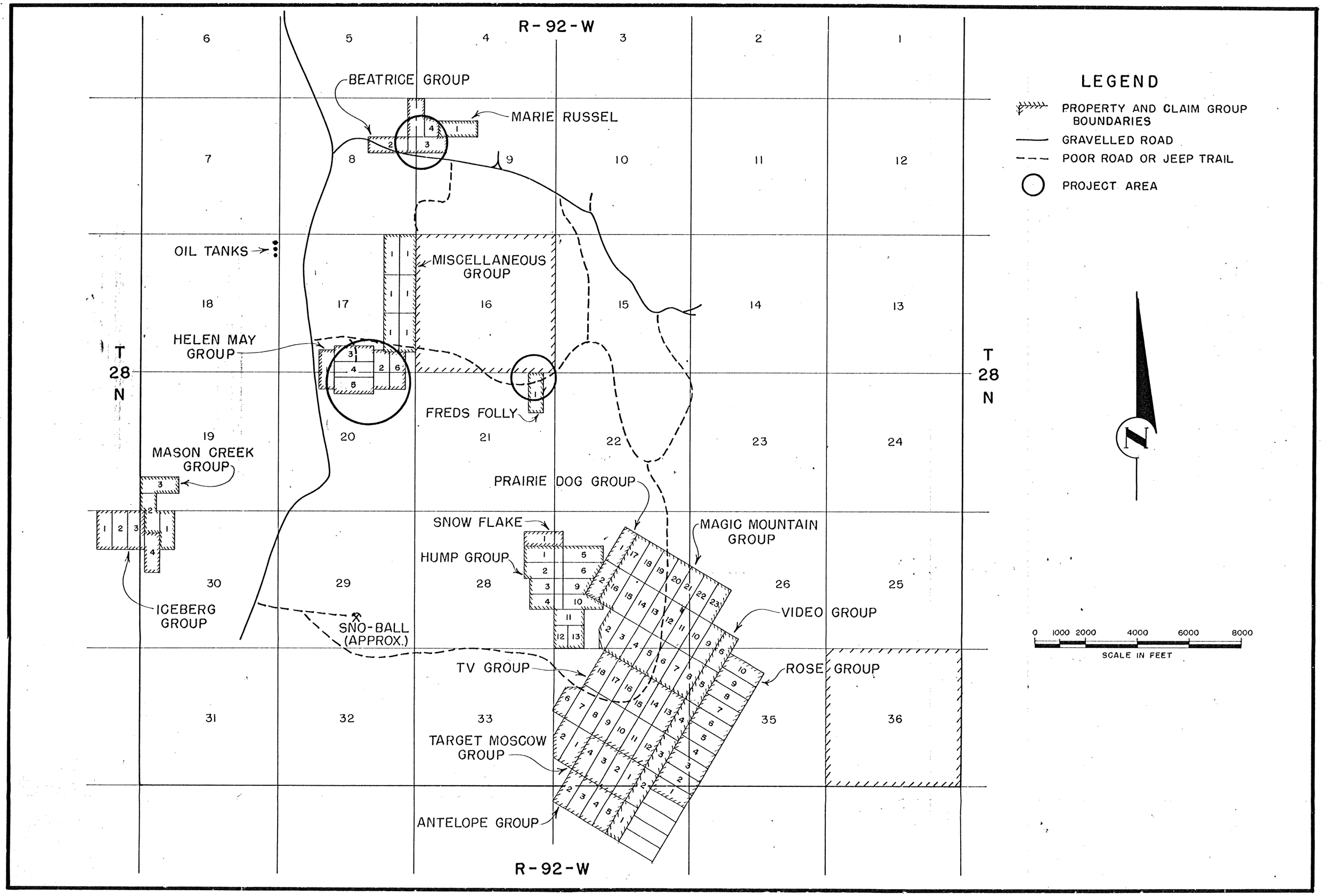


FIGURE 2 - CLAIM MAP, WYOMING URANIUM CORP., CROOK'S GAP AREA, FREMONT COUNTY, WYO. (DMEA 3462)