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DEFENSE MINERALS ADMINISTRATION
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DMA Docket No. 2173

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To:	~~Minor and Rare Metals~~	Date	~~10-18-51~~
To:	Mr. Kline	Date	10-18-51
To:	Stanley A. Tritter	Date	12/21/51
To:	F. Sommer Schmidt	Date	1/22/52
To:	CODE 700	Date	3-17-52
To:	Operating Com	Date	3-24-52
To:	Op Com	Date	8-1-52
To:	Oper Com	Date	6-24-53
To:	Oper Com	Date	7-15-53
To:		Date	
To:		Date	
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FILE COPY 700 SURNAME: 313

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

Ellis
Larrabee
Carlson
Rinkel
Hedgie
Sullivan
Hosted

JUL 15 1953

Messrs. Harold W. B. Baker, Jr.
and Charles H. Burgess
P.O. Box 103
Dearwood, Minnesota

Re: Docket No. DMEA-2173 (Monazite)
Bighorn Mountains
Sheridan County, Wyoming

Dear Sirs:

Reference is made to your application for Government aid on the proposed captioned project estimated to cost $29,905.00.

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

A careful study of your application and data available to this Agency and an examination of the property concerned reveal that the probability of disclosing minable ore reserves by your proposed exploration program is not believed to be sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Your interest in the exploration program of the Defense Minerals Exploration Administration and your willingness to participate therein are appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

R.C.H. 7-15-53

Copy to: Messrs. Harold W. B. Baker, Jr.,
and Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

EWEllis/GLA 7-8-53
cc to: Adm. Reading File
Oper. Committee
Messrs. D.M.Larrabee,
Rm. G-232 GSA
E.J.Carlson,
Rm. 3649
Ellis
J.O.Hosted,

Docket

DMEA Fm. Reg. IV(2)

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

July 9, 1953

SUMMARY OF PROPOSED PROJECT

Docket No. DMEA-2173

Applicants: Harold W. B. Baker, Jr. and Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Notation in Field Team report of 8/21/52 shows change of address to: P. O. Box 103, Dearwood, Minnesota

Subject: Denial of application

Commodity: Monazite
Location of property: Chance Mine, Sheridan County, Wyoming Region IV
Amount of application: $29,905.00
Date of application: October 10, 1951

Outline of project: The Applicants propose to explore the monazite deposits through shafts, trenches, and open cuts at unspecified points on the claims. The purpose is to determine the depth, quantity and grade of the ore and to secure representative samples for metallurgical tests.

Field Team Report: Dated: August 14, 1952
by: E. N. Harshman, Geologist, USGS
F. D. Everett, Engineer, USBM

The property was examined by the above personnel on July 9, 1952, in company with R. U.King and J. C. Olson of the USGS.

The examining team states in their report that monazite deposits were known to occur over an area of at least 30 square miles; that although the deposits may prove to be very low grade, the total monazite reserves in the area were large, and it was believed that exploration to determine distribution, volume, and grade of the ore was justified. At the time of the preparation of the Field Team report, an investigation was being conducted by the Special Minerals Investigation Branch of the Bureau of Mines to determine the value of the deposit and to provide data of value in planning additional or more detailed investigations on the entire deposit or any part thereof.

Recommendation: The Field Team recommended that this application be held in abeyance until such time as the results of the USBM investigations were available to the Applicants and the DMEA.

Accordingly, no further action was taken, pending the findings of the Special Minerals Investigation Branch of the Bureau of Mines.

Rare & Misc. Metals Division Engineer: Ernest Em. Ellis

Comments: It is my understanding that the monazite deposits are quite extensive in the area. Monazite occursin a basal conglomerate resting on pre-Cambrian granite. The maximum thickness of the conglomerate is approximately 10 feet. To produce monazite from said conglomerate would require the use of explosives. Furthermore, the mined ore would require crushing and concentrating. The gravel deposits are considerably lesser in extent than the conglomerate and are quite erratic in their monazite content.

TheSMIB report* is not available to DMEA, but an informal discussion with a representative of the Bureau of Mines indicates that nothing has been developed on the subject property that would justify DMEA in going any farther. The SMIB report was to have been furnished the Applicants on or about March 1, 1953. DMEA has received no word from the Applicants as to the contents of the SMIB report, nor an indication of their desire to pursue this application further.

Apparently the SMIB report has been made available to the Applicants and in consequence they are not interested in going ahead with the proposed exploration work. From the information available, it would appear that the application should be denied and, taking into consideration the type of the deposit and its potential value, it does not appear that we should leave the way open for the Applicants to reactivate said application.

Ernest Wm. Ellis

Ernest Wm. Ellis

Concur
JD Hasted
7/9/53

* It is our understanding that this work was done by SMIB for the benefit of the Atomic Energy Commission.

7-7-53 gla

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

224 New Customhouse
Denver 2, Colorado

June 30, 1953.

Memorandum

To: Chairman of the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA-2173 (Monazite), Harold W. B. Baker, Jr. and Charles H. Burgess, Bighorn Mountains, Sheridan County, Wyoming.

Reference is made to your letter dated June 25, 1953 requesting the findings of the Special Minerals Investigation Branch of the Bureau of Mines on the property of Baker and Burgess.

We have been advised that the Atomic Energy Commission has published a restricted report titled

"Deadwood Conglomerate, Ball Mountain Deposit, Sheridan and Deadwood Counties, Wyoming"

It is suggested that you obtain a copy of this report from the Washington office of the Atomic Energy Commission.

W. H. King.
W. H. King

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

224 New Customhouse
Denver 2, Colorado

June 30, 1953.

Memorandum

To: Chairman of the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA-2173 (Monazite), Harold W. B. Baker, Jr. and Charles H. Burgess, Bighorn Mountains, Sheridan County, Wyoming.

Reference is made to your letter dated June 25, 1953 requesting the findings of the Special Minerals Investigation Branch of the Bureau of Mines on the property of Baker and Burgess.

We have been advised that the Atomic Energy Commission has published a restricted report titled

"Deadwood Conglomerate, Ball Mountain Deposit, Sheridan and Deadwood Counties, Wyoming"

It is suggested that you obtain a copy of this report from the Washington office of the Atomic Energy Commission.

W. H. King

W. H. King

FILE COPY
SURNAME:

Docket.

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

Mr. W. H. King
Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

JUN 2 5 1953

Re: Docket No. DMEA-2173 (Monazite)
Harold W. D. Baker, Jr. and
Charles H. Burgess
Bighorn Mountains
Sheridan County, Wyoming

Dear Mr. King:

This is with reference to the above-captioned application. Since we have received no correspondence from the Field Team or from the Applicants, following the findings of the Special Minerals Investigation Branch of the Bureau of Mines, we have assumed that the Applicants are no longer interested in doing further exploration work on this property.

We have not seen the SMIB report; however, we understand that some 28 holes drilled on Applicants' property indicate that the property is submarginal, especially when taking into consideration the present value of monazite and the cost of mining and concentrating such ore. We also understand, through a representative of the Atomic Energy Commission, that the Commission is not interested in seeing this property explored any further at this time.

If you have had any correspondence with the Applicants following the Government drilling program at this property, our files do not so indicate and we would appreciate having copies made available for our files. Also, we would like to know if you have in your files the results of the drilling. If so, we would like to have at least a summary of the results.

If the Applicants still expect to do further exploration work with Government aid, it will be necessary for them to file a new application. However, since monazite is no longer on the list of eligible metals or minerals, unless the thorium content is sufficiently high to be of interest to the A. E. C., we would have to deny the application. Therefore, it is assumed that the docket should be closed. Nevertheless, we will hold it in abeyance until we receive your reply and recommendations.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

J. H. Hedges (GCS)
Member, Bureau of Mines

A. R. Kinkel, Jr. (GCS)
Member, Geological Survey

Messrs: D. H. Larrabee, Rm. G-232, GSA
L. J. Carlson, Rm. 3649
Ellis
Mr. J. O. Hosted, Rm. 3210, GSA Bldg.

EMEllis/db
6-23-53
cc to: Adm. Reading File
Operating Committee
Docket

J.H. 6-25-53

Notes by Schmidt

Baker and Burgess DMA 2173 Monazite 1/26/53

The Special Minerals Investigation under the AEC has been drilling this property during which time we did nothing with this application. The results of this drilling have now been made available by Mitch Kline this morning.

they have drilled the adjoining property of 50,000 acres, and also drilled 500 acres of the Baker property consisting of a total of 2,000 acres.

They drilled 18 holes

Average depth 18 feet

Formation Leadwood formation, the lowest member of 25 ft conglomerate.

Tonnage tested or sampled by the drilling or developed by the holes 1,300,000 tons.

Average monazite 4.2 lbs per ton worth 17.5 cents per lb or 73 cents $2.20 per ton

There is a higher layer, 5 ft thick, of 13 lbs per ton but not continuous throughout, but there is on the Burgess property 250,000 tons, and on the adjoining property anotehr 250,000 tons. The dividing line between the two properties cuts thru this higher grade "lake". However, there is 15 feet of overburden making it necessary to mine 3 tons of over burden for 1 of monazite-bearing high grade, or at 50 cents per ton $1.50 for overburden and another 50 cents for the ore, making a mining cost of $2.00 per ton; which uses up all the value in the rock for mining.

Estimate $1.60 to $2.00 per ton on scale of 1500 tons per day for mining and concentrating requiring crushing to 20 mesh to free the monazite, some of which goes down to 5 microns in size, flotation, and then magnetically treating the concentrates ad hauling them 50 miles. I personally question whether this cost can be accomplished, which is intended to be just the actual cost without royalty or profit. Merely operating cost.

It can be seen that nothing has been developed on the subject property that would justify DMEA in going any further. There is more ground that could be drilled but there is nothi g in the present 18 holes to justify further exploration work.

Baker and Burgess will be provided a report on all this work, on or about March 1 '53

by the Special Minerals Investigation, because that was the understanding when they entered the ground. But DMEA will not be provided with a report, unless they get it from the applicants or the applicants request that DMEA be so provided. Therefore the foregoing notes or any amplification can be obtained verbally from Kline, who is very cooperative so far as his regulations permit.

We can no doubt get the applicants to request a copy for us, but it looks now as though DMEA would have little grounds for further exloration, unless it is to know what is there against the day when this monazite might be wanted.

~~Furthermore we now also know what data the aplicants will have~~

9/5/52

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON 25, D. C.

222 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 2 1952

August 28, 1952

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2173 (Monazite) Baker and Burgess, Sheridan County, Wyoming

Enclosed are the original and three copies of the report pertaining to the above application.

We believe that it would be in the best interests of the Government and the applicant to await the results of the exploration proposed by the Special Minerals Investigation Branch of the Bureau of Mines under the sponsorship of the Atomic Energy Commission.

When these results are known, recommendations can be made more intelligently, and the applicant will have the advantage of submitting a new application based on the findings of the Special Minerals Investigation Branch.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
RECEIVED
SEP 2 1952

August 28, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket XX73, (Monazite) Baker and Burgess, Sheridan County, Wyoming

Enclosed are eight copies of the examination report on DMA-XX73 by F. D. Everett of the Bureau of Mines.

The applicant proposed a project in the amount of $27,985, Government participation $20,984.50.

The examining engineer recommends waiting for the results of the exploration proposed by the Special Minerals Investigation Branch of the Bureau of Mines under the sponsorship of the Atomic Energy Commission, so that a more intelligent estimate of the situation may be obtained.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9-5-52
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 25, Colorado
August 28, 1958

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Colorado Branch, Mining Division, Region IV

Subject: DMA 8173 (Uranium), Baker and Burgess, Sheridan County, Wyoming

Please find enclosed an original and two copies of F. B. Everett's supervisor report covering the subject Defense Minerals Administration Report.

Everett concludes it is too late in the season to suggest and process project work under DMA and that probably at a date not too much later the results of exploration program by the Special Minerals Investigation Branch of the Bureau of Mines under the sponsorship of the Atomic Energy Commission will be known and, at that time, recommendations can be made more intelligently. If a decision had to be made at the moment, it would have to be negative due to the fact that neither extensive recent work already performed in the immediate area indicates there is little likelihood of the deposit's containing a profitable operation. It is also evident that rehabilitation is not justified by the production potential.

I am in agreement with Everett's conclusions and recommendations that suggestions for project work be deferred for the time being.

W. M. Sirrauer, Jr.

W. M. Sirrauer, Jr.

enclosures

WMS:dd

cc: ID
DMA 8173
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA 2173, Baker and Burgess

Sheridan County, Wyoming

Monazite

Reviewed by
DMEA OPERATING COMMITTEE

9-5-52
(date)

E. N. Harshman, Geologist
U. S. Geological Survey

F. D. Everett, Mining Engineer
Bureau of Mines

August 14, 1952

August 21, 1952

Memorandum

To: A. N. Kaschmann

From: E. N. Hansmann

Subject: OMA Docket 2175, Baker and Burgess, Sheridan County, Wyoming. Memorandum.

In October 1951 Harold W. D. Baker, Jr., and Charles H. Burgess filed an application, Docket 2175, for exploring for manganese on a group of claims in T. 56 N., R. 91 W., 6th P. M., Sheridan County, Wyoming. The applicants' former address, as given in the docket, was 539 Sheridan Road, Chicago, Illinois, but they now can be reached at P. O. Box 103, Dunwoody, Minnesota.

The applicants propose to explore the manganese deposits through digging, trenching, and open cuts at prospecting points on the claims. The purpose is to determine the depth, quantity and grade of the ore and to secure representative samples for metallurgical tests. The applicants estimate the cost of the project to be $30,000.00 (Government participation 50 percent).

The property was examined on July 9, 1952, in company with R. W. King and J. C. Olson of the U. S. Geological Survey and F. G. Everett of the U. S. Bureau of Mines. Prior to the examination, an attempt to contact the applicants was unsuccessful. Mr. K. S. Moore, President of the Minerals Exploration Company, and the owners of many of the nearby claims in the area, expressed the opinion that the exploration from the proposed trenching

gravels and the claim boundaries.

The area is readily accessible from Wyoming State Highway No. 14, which passes a few miles south of the claims, and from a fair dirt road that branches from Highway 14 and follows down the Little Bighorn River.

The monazite deposits are located on a broad undulating slopes on the crest of the Bighorn mountains. Two distinct types of deposits are present in the area. One is of Cambrian, the other of Pennsylvanian age. Although of different age and origin, both types are conglomerate.

The older, and probably more extensive deposits, are found in the lower of the Middle Cambrian Deadwood formation. The monazite appears to be restricted to a basal conglomerate resting on pre-Cambrian granite. The maximum thickness of conglomerate noted during this investigation was about 10 feet, although thicknesses of 15 to 20 feet are reported by Mr. Moore. The conglomerate is reddish brown and composed of rounded quartz pebbles, rather well sorted, and generally not over 1 to 2 inches in diameter. Some silt, clay, and sand is interbedded with the conglomerate. Where exposed to weathering the conglomerate is soft and disintegrated, but where protected from weathering it is hard and well cemented.

The monazite content of the gravels does not appear to be uniform. Measurements with a Geigerograph survey meter indicate local concentration of radioactivity. Both lateral and stratigraphic variations were noted. Assays of 11 samples of the conglomerate type ore are reported by the owners to have averaged about 9 pounds of monazite per ton.

The younger deposits have resulted from the erosion of the older conglomeratic ore and subsequent redeposition of the monazite in Quaternary gravels. Two samples taken by the applicants are reported to have contained 1.0 and 0.5 pounds of monazite per ton of gravel. Both samples were taken well above the base of the gravels and it is possible that the monazite content will be higher immediately above bedrock.

Peter Kerr Sons' Company is investigating geologically similar deposits on a group of claims to the southeast and adjoining the Burgess and Baker claims. Assays on 110 samples taken by them indicate a monazite content of not over 3 pounds per ton. At this stage of investigation it appears that mining operations will have to be based on a monazite content of not over 4 pounds per ton.

At the time of this examination, Mr. A. A. McKinney, supervising engineer for the Special Minerals Investigation Division of the U. S. Bureau of Mines, was perfecting field methods for dry drilling of test holes in the monazite deposits. As of this date (August 12, 1952), drilling has started in the area southeast of the Burgess and Baker claims. Atomic Energy Commission funds are being used to finance this program, and the present plans also include drilling on the Burgess and Baker property.

The monazite deposits are known to occur over an area of at least 30 square miles. Although the deposits may prove to be very low grade, the total monazite reserves in the area are large, and it is believed that exploration to determine distribution, volume, and grade of the ore is justified. The exploration now being done by the Special Minerals Investigation Division of the U. S. Bureau of Mines, under the direction

of Mr. McKinney, may be sufficient to determine the value of the deposit. In any event, the present investigation will secure data of great value in planning additional or more detailed investigations on the cobre deposit or any part thereof.

It is recommended that the application for exploration assistance, DMA Docket 2173, be held in abeyance until such time as the results of the present investigations are available to the applicants and to the Defense Minerals Exploration Administration.

Approved
A. H. Koschmann
8/28/52

DMA 2173

BAKER AND BURGESS
SHERIDAN COUNTY, WYOMING

Engineering Report

By F. D. Kunzatt
Mining Engineer
Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado

August 14, 1952

Memorandum

To: Chief, Colorado Branch, Mining Division, Region IV

From: F. D. Everett

Subject: DMA 2173 (Monazite), Baker and Burgess, Sheridan County, Wyoming

Harold W. E. Baker, Jr., and Charles H. Burgess, P. O. Box 103, Deerwood, Minn., applied in October 1951 for a Defense Minerals Administration loan to explore monazite deposits in a project estimated to cost $29,905.00. The application was assigned Defense Minerals Administration docket number 2173. The property is near the drainage divide in the Big Horn Mountain Range, Sheridan and Big Horn Counties, Wyo., in T. 56 N., R. 91 W., 6th P. M. The property is part of an area in which low-grade monazite is known to occur. The greater portion of the area comprises claims and a school section held by the Mineral Development Company and leased to Peter Kiewit Sons' Company. The applicants have not stated the type of title by which they hold their property; a complete description of their property is clearly stated in the application. Peter Kiewit Sons' Company spent about $20,000.00 test pitting and trenching the property of the Mineral Development Company in 1951.

The monazite-bearing area was examined July 9, 1952, by F. D. Everett, mining engineer, Bureau of Mines, Nelson Hazlewood, Robert U. King, Jerry Glenn, and William Sharp, geologists, U. S. Geological Survey.

Efforts in corresponding with the applicants met with failure and neither the applicants nor their representative was available to show the property. However, K. S. Moore, president of the Mineral Development Company, willingly accompanied the examining team over the entire area including as much of the Baker and Burgess property as he was acquainted with.

Two types of deposits, solid and placer, occur in the area. The solid deposit is in the basal Flathead member of the Cambrian Deadwood formation. Monazite occurs in conglomerate section about 5 feet thick resting on the pre-Cambrian granite. The monazite-bearing conglomerate outcrops over a large table-top area but is sometimes covered with fine-grained conglomerate and sandstone. The conglomerate is covered by thicker portions of the Deadwood formation where the topography rises into hills or Bald Mountain.

The basal conglomerate exhibited considerable radioactivity, especially near the granite contact. Peter Kiewit Sons' Company has excavated several test pits in the conglomerate and has sampled these excavations for monazite.

The placer-type deposits range from gentle slopes where the Deadwood formation has eroded away to shallow, steep-sided gorges where monazite has been washed and mechanically concentrated. A few trenches 5 to 12 feet deep that exhibited marked radioactivity were observed, but most of the trenches displayed only slight radioactivity.

The area exhibiting some radioactivity is large, covering the better part of T. 56 N., R. 91 W., and might possibly be much larger.

The portion of the area owned by the applicants and seemingly having their greater interest is somewhat downhill from the flat, gently sloping table land where the Mineral development Company has its holdings. The more pronounced drainage and heavier overburden indicates the principal values might be in a placer type of deposit. However, it is not necessarily a dredging-type deposit for the terrain appears too steep and rugged for dredging equipment. Some of the area might be adapted to dredging but further investigation is necessary to make certain monazite is present and could be recovered.

Before the area can be adequately evaluated, geologic and topographic mapping is necessary. The monazite values are probably very low grade and any utilization depends on economical operations for a large production. Exploration would principally be directed toward proving large reserves.

The project proposal of the applicants is to rent a bulldozer for 1 month and a power shovel with 1/2-cubic-yard dipper for 2 months; to hire an operator, cook, engineer, and carpenter; to construct a mess hall and repair shop; and to allow $700.00 a month supervision charges. No definite work plan was presented except to cut trenches in the placer type of deposit. A year was estimated for completion of the project but funds were requested for only 3 months' operation, excepting time for receiving sample results.

Some modification would have to be made in the proposal because it would not be in the best interest of the Government to construct a mess hall and shop for a 3-month project. Rather, it would be more

desirable to contract the work and not be concerned with cook, carpenter, or equipment operator. Also, a more or less definite program should be proposed specifying location of trenches. Because the area is an important watershed, the feasibility of drill holes should be considered by the applicant.

The Special Minerals Investigation Branch of the Bureau of Mines made a preliminary 5-day reconnaissance of the area in 1951 and proposed further investigation. The results of the preliminary investigation are not available to the examining team. This branch of the Bureau of Mines is currently (August 1952) drilling test holes in the area in a project to evaluate the thorium resources; this project is financed by the Atomic Energy Commission. Mineral agreements allowing the Government to investigate the monazite deposits have been signed by the Mineral Development Company and Baker and Burgess. A. A. McKinney, supervising engineer for the Special Minerals Investigation Branch of the Bureau of Mines, Region IV, indicated work will be done with a view of investigating the area although no promise is made as to when or how any work might be done on the Baker and Burgess property.

The mapping and sampling results of work conducted by Peter Kiewit Sons' Company were made available to the examining team. Baker and Burgess also gave analytical results of 13 samples. An average of 110 sample results from the Mineral Development Company's property indicated less than 3 pounds of monazite per ton, and the average of the results from the 13 samples by Baker and Burgess was 4.5 pounds of monazite per ton.

Assuming that by selecting higher-grade portions of the deposits 6 pounds of meneite per ton could be mined, the following costs per ton of ore mined are estimated.

6 pounds of meneite per ton at 16 cents per pound	$0.96
Recoverable meneite at 70 percent	.67
Crushing to minus 1/4-inch and screening minus 10 mesh	.15
Spiraling or equivalent	.10
Tabling	.02

Mining must be accomplished for about 40 cents per ton.

CONCLUSIONS

The short field season at the property (June through October) precludes any work under a Defense Minerals Exploration Administration contract in 1952. Late in 1952 or early in 1953 some information should be made available to the owners of the property as to the results of the current Atomic Energy Commission sponsored investigation.

The loan amount is probably insufficient to prove adequate reserves to justify a profitable operation.

The ore deposits are low grade and do not indicate a profitable operation. However, because of the possible large reserves, the deposits cannot be definitely discounted.

The examining team recommends that the application be held in abeyance pending results of the Atomic Energy Commission exploration program.

Floyd D. Everett

Floyd D. Everett
Mining Engineer

FDE/hem

cc: 8

9/2/52 gla
Jad

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

WASHINGTON 25, D. C.

August 28, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 2 1952

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2173 (Monazite) Baker and Burgess, Sheridan County, Wyoming

Enclosed are the original and three copies of the report pertaining to the above application.

We believe that it would be in the best interests of the Government and the applicant to await the results of the exploration proposed by the Special Minerals Investigation Branch of the Bureau of Mines under the sponsorship of the Atomic Energy Commission.

When these results are known, recommendations can be made more intelligently, and the applicant will have the advantage of submitting a new application based on the findings of the Special Minerals Investigation Branch.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9-5-52
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
SEP 2 1952

August 28, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 2173, (Monazite) Baker and Burgess, Sheridan County, Wyoming

Enclosed are eight copies of the memorandum report on DMA-2173 by F. D. Everett of the Bureau of Mines.

The applicant proposed a project in the amount of $29,905, Government participation $26,914.50.

The examining engineer recommends waiting for the results of the exploration proposed by the Special Minerals Investigation Branch of the Bureau of Mines under the sponsorship of the Atomic Energy Commission, so that a more intelligent estimate of the situation may be obtained.

We concur in this recommendation.

W. M. King

W. M. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9-5-52

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado
August 18, 1952

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Colorado Branch, Mining Division, Region IV

Subject: DMA 2173 (Monazite), Baker and Burgess, Sheridan County, Wyoming

Please find enclosed an original and ten copies of F. D. Everett's memorandum report covering the subject Defense Minerals Administration docket.

Everett concludes it is too late in the season to suggest and process project work under DMA and that probably at a date not too much later the results of exploration proposed by the Special Minerals Investigation Branch of the Bureau of Mines under the sponsorship of the Atomic Energy Commission will be known and, at that time, recommendations can be made more intelligently. If a decision had to be made at the moment, it would have to be negative due to the fact that rather extensive recent work already performed in the immediate area indicates there is little likelihood of the deposit's sustaining a profitable operation. It is also evident that subsidization is not justified by the production potential.

I am in agreement with Everett's conclusions and recommendations that suggestions for project work be deferred for the time being.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

WMT:dd

cc 10
DMA 2173
Chron.

Reviewed by
DMA OPERATING COMMITTEE
9-5-52
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA 2173, Baker and Burgess

Sheridan County, Wyoming

Monazite

E. N. Harshman, Geologist
U. S. Geological Survey

F. D. Everett, Mining Engineer
Bureau of Mines

August 14, 1952

Reviewed by
DMEA OPERATING COMMITTEE
9-5-52
(date)

August 21, 1952

Memorandum

To: A. H. Koschmann

From: E. N. Harshman

Subject: DMA Docket 2173, Baker and Burgess, Sheridan County, Wyoming. Monazite.

In October 1951 Harold W. B. Baker, Jr., and Charles H. Burgess requested DMA assistance, Docket 2173, in exploring for monazite on a group of claims in T. 56 N., R. 91 W., 6th P. M., Sheridan County, Wyoming. The applicants' former address, as given in the docket, was 589 Sheridan Road, Glencoe, Illinois, but they now can be reached at P. O. Box 103, Dearwood, Minnesota.

The applicants propose to explore the monazite deposits through shafts, trenches, and open cuts at unspecified points on the claims. The purpose is to determine the depth, quantity and grade of the ore and to secure representative samples for metallurgical tests. The applicants estimate the cost of the project to be $29,905.00 (Government participation 90 percent).

The property was examined on July 9, 1952, in company with R. U. King and J. C. Olson of the U. S. Geological Survey and F. D. Everett of the U. S. Bureau of Mines. Prior to the examination, an attempt to contact the applicants was unsuccessful. Mr. K. S. Moore, President of the Minerals Development Company, and the locator of many of the early claims in the area, assisted the examining team in locating known exposures of monazite bearing

gravels and the claim boundaries.

The area is readily accessible from Wyoming State Highway No. 14, which passes a few miles south of the claims, and from a fair dirt road that branches from Highway 14 and follows down the Little Bighorn river.

The monazite deposits are located on a broad undulating plateau on the crest of the Bighorn mountains. Two distinct types of deposits are present in the area. One is of Cambrian, the other of Quaternary age. Although of different age and origin, both types are syngenetic.

The older, and probably more extensive deposits, are found in the lower few feet of the Middle-Cambrian Deadwood formation. The monazite appears to be restricted to a basal conglomerate resting on pre-Cambrian granite. The maximum thickness of conglomerate noted during this examination was about 10 feet, although thicknesses of 15 to 20 feet are reported by Mr. Moore. The conglomerate is redish brown and composed of rounded quartz pebbles, rather well sized, and generally not even 1 to 2 inches in diameter. Some clay, silt, and sand is interbedded with the conglomerate. Where exposed to weathering the conglomerate is soft and disintegrated, but where protected from weathering it is hard and well cemented.

The monazite content of the gravels does not appear to be uniform. Measurements with a beta-gamma survey meter indicate local concentration of radioactivity. Both lateral and stratigraphic variations were noted. Assays of 11 samples of the conglomerate type ore are reported by the applicants to have averaged about 5 pounds of monazite per ton.

The younger deposits have resulted from the erosion of the older conglomeratic ore and subsequent re-deposition of the monazite in Quaternary gravels. Two samples taken by the applicants are reported to have contained 1.0 and 5.3 pounds of monazite per ton of gravel. Both samples were taken well above the base of the gravels and it is possible that the monazite content will be higher immediately above bedrock.

Peter Kewit Sons' Company is investigating geologically similar deposits on a group of claims to the southwest and adjoining the Burgess and Baker claims. Assays on 110 samples taken by them indicate a monazite content of not over 3 pounds per ton. At this stage of investigation it appears that mining operations will have to be based on a monazite content of not over 4 pounds per ton.

At the time of this examination, Mr. A. A. McKinney, supervising engineer for the Special Minerals Investigation Division of the U. S. Bureau of Mines, was perfecting field methods for dry drilling of test holes in the monazite deposits. As of this date (August 12, 1952), drilling has started in the area southwest of the Burgess and Baker claims. Atomic Energy Commission funds are being used to finance this program, and the present plans also include drilling on the Burgess and Baker property.

The monazite deposits are known to occur over an area of at least 30 square miles. Although the deposits may prove to be very low grade, the total monazite reserves in the area are large, and it is believed that exploration to determine distribution, volume, and grade of the ore is justified. The exploration now being done by the Special Minerals Investigation Division of the U. S. Bureau of Mines, under the direction

of Mr. McKinney, may be sufficient to determine the value of the deposit. In any event, the present investigation will secure data of great value in planning additional or more detailed investigations on the entire deposit or any part thereof.

It is recommended that the application for exploration assistance, DMA Docket 2173, be held in abeyance until such time as the results of the present investigations are available to the applicants and to the Defense Minerals Exploration Administration.

Approved
A.H. Koschmann
8/22/52

DMA 2173

BAKER AND BURGESS
SHERIDAN COUNTY, WYOMING

Engineering Report

By F. D. Everett
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

9-5-52
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado

August 14, 1952

Memorandum

To: Chief, Colorado Branch, Mining Division, Region IV

From: F. D. Everett

Subject: DMA 2173 (Monazite), Baker and Burgess, Sheridan County, Wyoming

Harold W. B. Baker, Jr., and Charles H. Burgess, P. O. Box 103, Dearwood, Minn., applied in October 1951 for a Defense Minerals Administration loan to explore monazite deposits in a project estimated to cost $29,905.00. The application was assigned Defense Minerals Administration docket number 2173. The property is near the drainage divide in the Big Horn Mountain Range, Sheridan and Big Horn Counties, Wyo., in T. 56 N., R. 91 W., 6th P. M. The property is part of an area in which low-grade monazite is known to occur. The greater portion of the area comprises claims and a school section held by the Mineral Development Company and leased to Peter Kiewit Sons' Company. The applicants have not stated the type of title by which they hold their property; a complete description of their property is clearly stated in the application. Peter Kiewit Sons' Company spent about $20,000.00 test pitting and trenching the property of the Mineral Development Company in 1951.

The monazite-bearing area was examined July 9, 1952, by F. D. Everett, mining engineer, Bureau of Mines, Nelson Harshman, Robert U. King, Jerry Olsen, and William Sharp, geologists, U. S. Geological Survey.

Efforts in corresponding with the applicants met with failure and neither the applicants nor their representative was available to show the property. However, K. S. Moore, president of the Mineral Development Company, willingly accompanied the examining team over the entire area including as much of the Baker and Burgess property as he was acquainted with.

Two types of deposits, solid and placer, occur in the area. The solid deposit is in the basal Flathead member of the Cambrian Deadwood formation. Monazite occurs in conglomerate section about 5 feet thick resting on the pre-Cambrian granite. The monazite-bearing conglomerate outcrops over a large table-top area but is sometimes covered with fine-grained conglomerate and sandstone. The conglomerate is covered by thicker portions of the Deadwood formation where the topography rises into hills or Bald Mountain.

The basal conglomerate exhibited considerable radioactivity, especially near the granite contact. Peter Kiewit Sons' Company has excavated several test pits in the conglomerate and has sampled these excavations for monazite.

The placer-type deposits range from gentle slopes where the Deadwood formation has eroded away to shallow, steep-sided gorges where monazite has been washed and mechanically concentrated. A few trenches 5 to 12 feet deep that exhibited marked radioactivity were observed, but most of the trenches displayed only slight radioactivity.

The area exhibiting some radioactivity is large, covering the better part of T. 56 N., R. 91 W., and might possibly be much larger.

The portion of the area owned by the applicants and seemingly having their greater interest is somewhat downhill from the flat, gently sloping table land where the Mineral development Company has its holdings. The more pronounced drainage and heavier overburden indicates the principal values might be in a placer type of deposit. However, it is not necessarily a dredging-type deposit for the terrain appears too steep and rugged for dredging equipment. Some of the area might be adapted to dredging but further investigation is necessary to make certain monazite is present and could be recovered.

Before the area can be adequately evaluated, geologic and topographic mapping is necessary. The monazite values are probably very low-grade and any utilization depends on economical operations for a large production. Exploration would principally be directed toward proving large reserves.

The project proposal of the applicants is to rent a bulldozer for 1 month and a power shovel with 1/2-cubic-yard dipper for 2 months; to hire an operator, cook, engineer, and carpenter; to construct a mess hall and repair shop; and to allow $700.00 a month supervision charges. No definite work plan was presented except to cut trenches in the placer type of deposit. A year was estimated for completion of the project but funds were requested for only 3 months' operation, excepting time for receiving sample results.

Some modification would have to be made in the proposal because it would not be in the best interest of the Government to construct a mess hall and shop for a 3-month project. Rather, it would be more

desirable to contract the work and not be concerned with cook, carpenter, or equipment operator. Also, a more or less definite program should be proposed specifying location of trenches. Because the area is an important watershed, the feasibility of drill holes should be considered by the applicant.

The Special Minerals Investigation Branch of the Bureau of Mines made a preliminary 5-day reconnaissance of the area in 1951 and proposed further investigation. The results of the preliminary investigation are not available to the examining team. This branch of the Bureau of Mines is currently (August 1952) drilling test holes in the area in a project to evaluate the thorium resources; this project is financed by the Atomic Energy Commission. Mineral agreements allowing the Government to investigate the monazite deposits have been signed by the Mineral Development Company and Baker and Burgess. A. A. McKinney, supervising engineer for the Special Minerals Investigation Branch of the Bureau of Mines, Region IV, indicated work will be done with a view of investigating the area although no promise is made as to when or how any work might be done on the Baker and Burgess property.

The mapping and sampling results of work conducted by Peter Kiewit Sons' Company were made available to the examining team. Baker and Burgess also gave analytical results of 13 samples. An average of 110 sample results from the Mineral Development Company's property indicated less than 3 pounds of monazite per ton, and the average of the results from the 13 samples by Baker and Burgess was 4.5 pounds of monazite per ton.

Assuming that by selecting higher-grade portions of the deposits 6 pounds of monazite per ton could be mined, the following costs per ton of ore mined are estimated.

6 pounds of monazite per ton at 16 cents per pound	$0.96
Recoverable monazite at 70 percent	.67
Crushing to minus 1/4-inch and screening minus 10 mesh	.15
Spiraling or equivalent	.10
Tabling	.02

Mining must be accomplished for about 40 cents per ton.

CONCLUSIONS

The short field season at the property (June through October) precludes any work under a Defense Minerals Exploration Administration contract in 1952. Late in 1952 or early in 1953 some information should be made available to the owners of the property as to the results of the current Atomic Energy Commission sponsored investigation.

The loan amount is probably insufficient to prove adequate reserves to justify a profitable operation.

The ore deposits are low-grade and do not indicate a profitable operation. However, because of the possible large reserves, the deposits cannot be definitely discounted.

The examining team recommends that the application be held in abeyance pending results of the Atomic Energy Commission exploration program.

Floyd D Everett

Floyd D. Everett
Mining Engineer

FDE/bam

cc: 8

8/12/52 gla

1

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 11 1952

224 New Customhouse
Denver 2, Colorado

August 7, 1952

Memorandum

To: Frank E. Johnson, Chairman, Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMA-2173 (Monazite), Harold Baker & Charles Burgess, Sheridan County, Wyoming

This is in reply to your letter, dated August 4, 1952, regarding the status of the above application. The field examination has been made and a report is being prepared.

The Special Minerals Investigation Branch of the Bureau Of mines is doing rotary drilling and sampling on this deposit. Any recommendations for work under the DMEA Program should be held in abeyance pending results of the present exploration program.

W. H. King

W. H. King

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

AUG 11 1952

224 New Customhouse
Denver 2, Colorado

August 7, 1952

Memorandum

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W. H. King

W. H. King

FILE COPY
SURNAME:
700
Schmidt
Kusme

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

AUG 4 1952

Mr. [illegible] King
Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMA-2173 (Monazite)
Harold Baker & Charles Burgess
Sheridan County, Wyoming

Dear Mr. King:

Reference is made to our letter of March 25, 1952, transferring the above-captioned application to you for a field examination. We would appreciate being advised the status of your investigation.

Sincerely yours,

(signed) FRANK E. JOHNSON

Chairman, Operating Committee
FSSchmidt/jem
7/30/52
cc to: Adm. Reading File
Docket
Messrs. E.J.Carlson-1347
J.J.Norton-G-232 GSA
Ellis Schmidt
Opr. Com.
Field Team, Region IV

S.N. 8-4-52

APPROVED:
J. H. Hedges
Member, Bureau of Mines

A. M. Lemmon
Member, Geological Survey

FILE COPY
SURNAME:

Schmidt

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

AIR MAIL

MAR 25 1952

Mr. J. H. East, Jr.
Executive Officer, Region IV
DMEA Field Team
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. [illegible]-2173 (Monazite)
Sheridan County, Wyoming

Dear Mr. East:

The captioned application is being referred to you for a field examination.

In this request emphasis is laid on a memorandum by Mr. E. J. Carlson, dated March 14, 1952, the monazite commodity member for the Bureau of Mines, which is quoted for your consideration.

"Mr. [illegible] McKinney, mining engineer in Region IV, has had considerable experience in the examination and evaluation of monazite deposits during the past years as a project engineer for [illegible].I. Branch. While this engineer is not presently employed by Region IV, his services might be made available to assist a field team for this placer examination."

The exploration work proposed by this application consists of digging shafts, trenches and open cuts to bed rock, with a 1/2 yard shovel. This method of exploring the subject area should naturally be compared with the standard churn drilling and casing-driven method of sampling. It would seem advisable to drill first, a skeleton pattern of scout holes to be followed, if warranted, by additional holes to round out the details.

There is at present no map showing the location of any proposed work. The application has made no provision for any treatment of the samples of this particular placer, such as crushing the consolidated gravel of that district, screening, concentrating and Geiger countering, all of which adds up to a small laboratory scale plant and the necessary water and power.

Whether the Atomic Energy Commission will make any analyses of samples or not, this application should make provision for defraying the cost of preparing and also analysing the samples.

FSSchmidt/jem
3/21/52
Adm.Reading
Docket 1347
E.J.Carlson
J.J.Norton G-232GS
Ellis
Schmidt

Enclosures
AF ROVED: J. H. Hedges
Member, Bureau of Mines
T. P. Thayer
Member, Geological Survey

Sincerely yours,
CE 3/25
(signed) FRANK E. JOHNSON
Chairman, Operating Committee
Defense Minerals Exploration
Administration

700

FILE COPY
SURNAME:

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

Schmidt
Ellis
Hayes
Johnson

AIR MAIL

25

Mr. Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Re: Docket No. DMA-2173 (Monazite)

Dear Mr. Burgess:

Your application for assistance in exploring your property in Sheridan County, Wyoming, under the above captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration and has been referred to Mr. J. H. East, Jr., Executive Officer, DMEA Field Team, Region IV, 224 New Customhouse Building, Denver 2, Colorado, for a field examination.

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

Sincerely yours,

cc 3/25

C. O. Mittendorf (for)

Acting Administrator
Defense Minerals Exploration
Administration

FSSchmidt/jem
3/21/52
cc to: Adm. Reading File
Docket
Messrs. E.J.Carlson,Rm. 1347
J.J.Norton, Rm. G-232 GS
Ellis
Schmidt
Field Team, Region IV (2)

3/21/52

Schmidt notes

Data from conference with Carlson commodity Monazite.

concerning ~~project~~ docket 2173

The sands are consolidated to some extent about 30% will require crushing

They do not simply disintegrate with washing.

Samples may be taken every two feet because the depth is possibly shallow

say max 15 ft.

The churn drill holes may have to start at 8 inches because when one of the

hard rock like consolidated areas are stuck the cazing cannot be driven

and the hole is reduced and it should never be less than 6 inches.

~~The samples cannot simply be washed and pan concentrated and the cons weighed~~
or magnetically treated in field.
~~It requires a small plant using say first a 4 mesh screen then a labora tory~~
~~crusher (jaw or disc) then screen again thru say 6 mesh or 10 mesh then~~
~~a laboratory concentrating table a d a nother table. Cnnot crush all in~~
~~one stge because it slimes. Crush in two stages and clean the cons with the~~
~~second table. The cons are tested with a geiger counter calibrated against~~
similar material from neighboring property and the field decisions are

made on strength of the geiger counter and not by weights. There is no

magnetic belt used in the field to clen the monazite cons. That is done in the
laboratory. The determination with the geiger counter in the field is accurat or assays made on the impure cons.

to 10% plus or minus. This little plant natu ally reauires power and water

and should be located where convenient for truck to deliver samples.

Cost of this plant not known without figuring out.

~~Analyses may be made of the concentrates from the tables and not magnetically~~

separated.

3/20/52 gla

IN REPLY REFER TO:

G-MD-JJN

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

March 20, 1952

Memorandum

REVIEW OF APPLICATION DMEA-2173 (Monazite)

To: F. S. Schmidt, Rare and Miscellaneous Metals Division, DMEA

From: J. J. Norton, U. S. Geological Survey

Subject: Harold Baker and Charles Burgess application DMEA-2173 for aid in exploring the Chance monazite placer prospect.

Location of prospect: Sheridan County, Wyoming. Apparently on flank of Bighorn Mountain.

RECOMMENDATION: Field examination.

Reasons for recommendation: Applicant's data are well presented, but a field team report is needed to make sure that exploration is worth undertaking. If the field team considers the property worthy of exploration, a more complete description of the proposed work shown be obtained.

Comments: The columbium-tantalum content should be determined for a few of the samples collected in the proposed program.

JJ Norton

J. J. Norton

3/17/52 rgla

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

March 14, 1952

Memorandum

To: Rare and Miscellaneous Metals Division
Defense Minerals Exploration Administration
Ernest Ellis
Room 4070

From: E. J. Carlson
Rare and Precious Metals Branch

Subject: DMA Docket 2173, Monazite, Sheridan County, Wyoming

It is suggested that this docket be referred to the field team for examination and report. Mr. A. A. McKinney, mining engineer in Region IV, has had considerable experience in the examination and evaluation of monazite deposits during the past years as a project engineer for S.M.I. Branch. While this engineer is not presently employed by Region IV, his services might be made available to assist a field team for this placer examination.

We have not made any preliminary investigation on the properties described in this docket. We have taken samples and have maps of adjoining monazite deposits which may be similar in character and grade. It is our belief that these adjoining properties can best be explored by churn drilling. Where the formations are loose or unconsolidated churn drill casing would be driven ahead of the drill bit so as to secure true samples. The cost of churn drill exploration of this area would be much less than trenches and pits cut by bulldozer, ½ yard shovels and drilling and blasting. Only about one-half the number of employees would be needed in churn drill exploration, as compared to pitting and trenching. Besides, a large number of churn drill holes would indicate a more representative picture of the grade of ore in the entire deposit. Trenching and large pits would be more suitable in the second or development stage when large samples are desired for ore dressing and metallurgical studies.

E. J. Carlson

E. J. CARLSON by Dorothy C. Baker

Attachment

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

March 14, 1952

Memorandum

To: Rare and Miscellaneous Metals Division
Defense Minerals Exploration Administration
Ernest Ellis
Room 4070

From: E. J. Carlson
Rare and Precious Metals Branch

Subject: DMA Docket 2173, Monazite, Sheridan County, Wyoming

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E. J. CARLSON

Attachment
EJCarlson:svh
Copy to: Minerals Division
Mr. F.S. Schmidt - DMEA
Rare and Precious Metals Branch
Mr. E.J. Carlson
Files

M. Klein - 35th Fore Fuse Insp. Pri - 1345
Rare 1345

Land
monazite

Examination Summer 1951
for Rangler.

Sm/B - part of B.M. is for AEC. - funds from AEC

cannot say definitely about funds available

Sm/B has the only laboratory that

weather (June)
finished

drudging 1#/cwyd. Ce
mish metal

this year is the first year monazite is produced in the U.S.

12/21/51 Spec. Min. Dev. Branch

DMA 2173

4,000,000 c.y.
Hold for proposals to AEC in
by SMIB January

The area will be proposed
for churn drill exploration
by the SMI Br. of Bur
of Mines ~~next~~ summer
of 1952.

The Orig. proposal is for
Minerals Development Co.
property which would
be extended to include
prior ground.

Memo Schmidt Docket 2173 Monazite

An application has been received 100 and 103 dated 10/10/51

A letter 1/17/52 informs applicant that Special Minerals Investigation Bureau plans to sample this placer area including applicants area.

A letter from applicant asks when and whether this will be done letter dated 1/21

It is not possible for the field team to get into this country until June.

Kline the chief of the SSMIB cannot commit his agency to doing this work at this time He does not know that they will have the funds. But he will know by June.

If Smib does this sampling it will involve churn drilling and sampling and what is more important the analyses of the samples. There is only one laboratory in the country that can make these analyses -operated by Smib- at Weather Mountain Va. K.ine wants to know how would Burgess the applicant get his samples analysed because there is only one lab in the country can do it and that is the Bureau of mines lab.

It is therefore suggested that nothing further be done at this time with this application but that the applicants be written as ~~follows;~~ attached

~~Dear~~

700
FILE COPY
SURNAME:

Schmidt
Ellis
Middleton

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

JAN 28 1952

[illegible]

Mr. Charles [illegible] Jones
[illegible] Meridian Road
Chancoe, Illinois

re: Docket No. [illegible]-1173
(Sensible)
Meridian Quad., [illegible]

Dear Mr. Jones:

This refers to your letter of January 21, 1952, addressed to [illegible] Strategic Metals Division of the Defense Minerals Exploration Administration.

Due to poor road conditions it will be impossible for our field team to make an examination of the area involved in this application until June. It is my understanding from a conference today with Mr. [illegible] Hill, Chief of the Special Minerals Investigation Branch of the Bureau of Mines, concerning this matter, that it will be August [illegible] before he will be able definitely about his plans for drilling and sampling your area and making analysis of the samples. If this work is done by the BM it is planned to finish the work this year.

The investigation would involve sufficient drilling, sampling and analyses to satisfy the requirement of the DMEA and would be entirely following the plans of their own engineers.

On a little more than the enclosed copy of letter from Mr. [illegible] the assistant Chief Counsel of the Bureau of Land Management, that the proposed work by the Government agency would not serve as a permit work.

This office will be notified by the BM as soon as their plans are made, and this office can then either continue to process your application or have the work of the BM provide similar data to accomplish the purpose of your application. You will be informed as soon as this office knows when the BM plans to start the work.

Schmidt/jem
1-25-52

Sincerely yours,

Ernest [illegible] Ellis, Acting Chief
Core and Geo. Metals Division
Defense Mineral Exploration
Administration

cc to: Adm. Reading File
Docket
Messrs. Carlson, Rm. 1347 MI
Norton, Rm. 6-2 8
Ellis
Schmidt
Field Team, Reg. IV (2)

S.W. 1-28-52

IN REPLY REFER TO:

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

"DL:CRB"

JAN 23 1952

Mr. F. Sommer Schmidt
Defense Minerals Exploration Administration
Washington 25, D. C.

My dear Sir:

In response to your verbal inquiry as to whether work performed by the Bureau of Mines in the search for thorium can be applied by the owner of an unpatented mining claim as annual assessment work, the rule is that work can be counted as assessment work only if done by or for the benefit of the claim by the owner or in his behalf. Work done by a Federal agency to determine the worth of a deposit of thorium is not being done for the benefit of a privately owned claim and, therefore, is not applicable as assessment work. Courts have uniformly held that work done by strangers to the title cannot redound to the benefit of a claim. C. K. McCornick et al, 40 L.D. 498.

Sincerely yours,

C. R. Bradshaw
Assistant Chief Counsel

zla 1/22/52

DMA 2173

589 Sheridan Road,
Glencoe, Illinois
January 21, 1952.

Rare and Miscellaneous Metals Division,
Defense Minerals Exploration Administration,
Washington 25, D.C.

Gentlemen;

Thank you for your letter of January 17 on Docket DMA-2173(Monazite), Sheridan County, Wyoming.

I should like to ask several questions concerning our project;

1) When will you inform us that your proposal for exploration of our property during the summer of 1952 has been approved, or rejected?

2) If your proposal is carried out, when will the men from the Bureau reach the field? Before July 1?

3) To me your letter implies that the Bureau party will do more than make the usual field examination, if it does take the field. Will it dig numerous test pits, and do a thorough sampling job? If the Bureau regards our property favorably and you make a loan, is there a good chance that you could do so early enough so that our exploration could get under way this summer? Does the final sentence of the third paragraph of your letter of January 17 imply that the Bureau might, in effect, carry out the complete exploration program we proposed in our application?

4) Would work done by the Bureau party acount as assessment work on unpatented claims?

Very truly yours,

C H Burgess

C.H. Burgess

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 22 1952

700
FILE COPY
SURNAME:

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

JAN 17 1952

Feitler

Mr. Charles H. Burgess
5 9 Sheridan Road
Glencoe, Illinois

Re: Docket [illegible]-2173
(onazite,
Sheridan County, Wyoming

Dear Mr. Burgess:

In a letter of January 7, 1952, referring to the above docket [illegible] received by this office.

[illegible] your application will be [illegible] for [illegible] by the special minerals exploration branch of the United States Bureau of Mines during the summer of 1952. This will be in conjunction with a project on an adjacent property.

To avoid duplication of [illegible], we are holding your application until a decision has been made with respect to the above proposal. If [illegible], you, as owners, will be able to obtain the information [illegible] the same purpose will be served as though you had done the work.

We will let you know when a course of action has been decided.

Sincerely yours,

[illegible]

SAFeitler/jem 1-15-52
cc to: Adm. Reading File
Docket
Messrs. Carlson, R.J. Rm.1347
Norton, J.J. G-228 GS
Kline, F. Rm.1345
Ellis
Feitler
Field Team, Reg. IV (2)

[illegible], Acting Chief
Rare and Misc. Minerals Division
Defense Minerals Exploration
Administration

cc 1-17

With carbon for BMIB consideration

gfa 1/10/52

589 Sheridan Road
Glencoe, Illinois
January 7, 1952

RECEIVED
JAN 9 1952

Defense Materials Procurement Administration,
Washington, D.C.

Gentlemen,

Mr. Harold W.B.Baker and I submitted an application for an exploration loan dated October, 10, 1951, which we were later informed had been assigned Docket Number DMA-2173 referred to the Minor and Rare Metals Branch.

Can you kindly give us some word as to the status of this application, and inform us on the views of your Agency regarding it?

Very truly yours,

C H Burgess

C.H.Burgess

DEFENSE MATERIALS ADMINISTRATION WASHINGTON, D.C.
JAN 10 8 22 AM '52

General Services Administration
Federal Supply Service

SPECIAL MESSENGER RECEIPT

Date: JAN 9 1952

Deliver To: Defense Materials Procurement Admin. FSS

Description of Material: Reg. Letter C & Burgess Glencoe, Ill Reg. 503030

From: FSS Mail Room

Received By

Time of Delivery

FORM TS 1080 Rev. - December 12, 1949

GSA-FSS-DC-109930

GENERAL SERVICES ADM
COMM. & RECORDS BR
ON I

JAN 9 11 43 AM '9E

RECEIVED

Form 3811
Rev. 1-4-40

RETURN RECEIPT

Received from the Postmaster the Registered or Insured Article, the original number of which appears on the face of this Card.

1 [redacted]

2 [redacted]

(Signature of addressee's agent—Agent should enter addressee's name on line ONE above)

Date of delivery 1-9, 1952

U. S. GOVERNMENT PRINTING OFFICE 16—12421

Post Office Department
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300
(GPO)

POSTMARK OF DELIVERING OFFICE

THE UNITED ELECTRIC COAL COS.
(NAME OF SENDER)

urn to 307 N. MICHIGAN AVENUE

Street and Number, or Post Office Box, CHICAGO 1, ILLINOIS

REGISTERED ARTICLE

REGISTERED

No.

CHICAGO,

INSURED PARCEL

No. 505030

No.

ILLINOIS.

C.H. Burgess
589 Sheridan Rd.
Glencoe, Illinois

REGISTERED MAIL - return receipt requested.

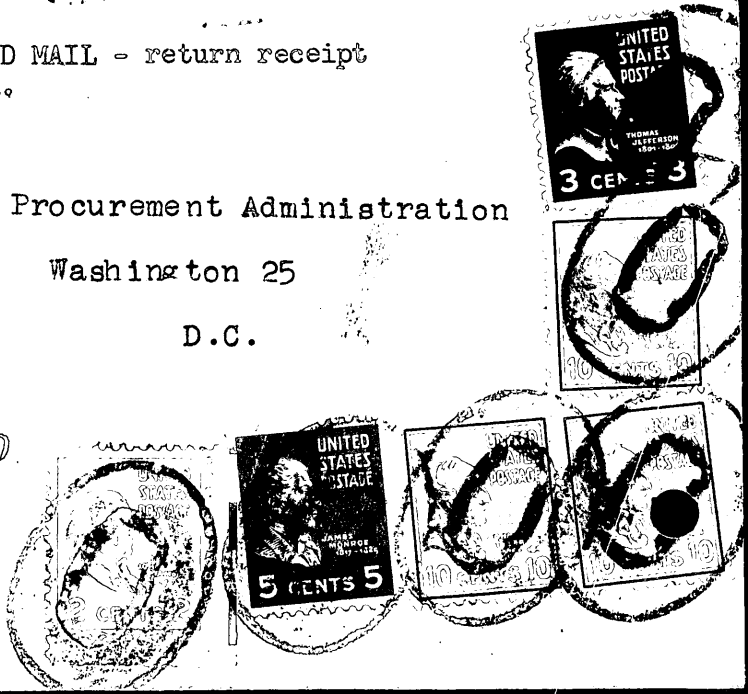
Defense Materials Procurement Administration

Washington 25

D.C.

RETURN RECEIPT REQUESTED

REGISTERED
№ 503030



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October 18, 1951

Subject: DMA-2173
Re: Exploration

Messers Harold W.B. Baker and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Gentlemen:

This will acknowledge receipt of your application dated October 10, 1951 for a loan under the Defense Production Act of 1950.

Your application was assigned Docket Number DMA- 2173 and referred to the Minor & Rare Metals Branch.

Kindly refer to DMA- 2173 in any future correspondence relating to your application.

Sincerely yours,

Robert E. Adams

Robert E. Adams, Chief
Reports and Records Unit

2463

589 Sheridan Road,
Glencoe, Illinois
October 13, 1951

DMA-2173

Mr. C.O. Mittendorf, Director
Production Expansion Division
Defense Materials Procurement Administration
Washington, D.C.

Dear Mitt,

Herewith the application forms for a loan to explore the monazite which I have discussed with you on the phone several times in the past few months.

You might possibly be interested in the fact that in 1946 I did some prospecting for manazite in the Carolinas, and that Baker, my partner, also did some field work in those states early this year, before going to Wyoming. He has done all of the work on the property in the Bighorns for which we are submitting this application, although I was fortunate enough to get out West recently and to spend a day on this property. As we have attempted to make clear in the application, a thorough sampling job, down onto bedrock, is the next step that should be taken.

Two weeks ago there wasn't enough snow on the Bighorns to speak of- just light skiffs on the highest parts. If, after looking this application over, you and members of your staff regard a field examination to be justified, I should like to consider with you the possibility of getting it in this fall. It would have to be on a catch-as-can basis, of course, but Baker is in Wyoming now, and could be ready to go on a day's notice. During the summer, one of the men from the Bureau of Mines, Winkle, who is stationed somewhere in Idaho, visited an adjoining property to ours, and he may have some ideas of the field occurrence which would be valuable. He and Baker are old friends, both having worked at Combined metals, as I understand it.

With best personal regards,

Sincerely,

Harry Burgen

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C.
OCT 17 4 06 PM '51

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.
OCT 17 3 46 PM '51

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA-2173

Date received 10-17-51

Participation

Harold W.B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Name and address of applicant

Date October 10, 1951

FILL IN THIS BLOCK

Date of application October 10, 1951

Estimated cost $29,905

Mineral or metal Monazite

Percentage of Government participation 90%

Location of mine Bighorn Mountains, Sheridan County, Wyoming

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Baker-Burgess partnership
(Name of company)

By Verdun B. Baker Jr., Partner
(Signature of authorized official)

October 10, 1951
(Date)

Charlett Burgess, Partner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Data for Form MF-103

1. See Form MF-100
2. " " "
3. " " "
4. " " "
5. " " "
6. No liens, claims or other encumbrances.
7. Applicants are the owners.
8. Balance Sheet.

Assets		Liabilities	
Cash	$3,281.90	Capital	
Property (at cost)	2,367.80	H.W.B.Baker,Jr. -	$2,824.85
	$5,649.70	C.H.Burgess -	2,824.85

9. The applicants are prepared to invest $5,000.00 more in the proposed project, which is sufficient to pay their cost of the project as detailed in question 25 of this application form.

10. a. The following areas of T 56 North, Range 91 West of the 6th P.M. are involved in the application: All of Sec. 16, SW¼ and SE¼ of Sec. 15, NE¼, SE¼, SW¼ of Sec. 14, NW¼ of Sec. 15, NE¼, NW¼, SE¼ and a portion of SW¼ of Sec. 23, most of the NE¼ of Sec. 22, a small portion of the SE¼ of Sec. 17 and a portion of the NW¼ of Sec. 21. A property adjoining that of the applicants to the South and West including portions of Sections 21, 22, 23, 27, 28 and 29 is at this date being sampled under a lease owned by the Big Horn Coal Company of Sheridan, Wyoming.

b. Legal description:

All of Sec. 16, SW¼ and SE¼ of Sec. 15, SW¼, SE¼ and NE¼ of Sec. 14, NW¼ of Sec. 13, SW¼ of Sec. 23 and those portions of the NE¼ of Sec. 22, NW¼ and NE¼ and SW¼ of Sec. 23 which lie North and East of the following described line: From a point 400' N 76°W; thence, 6300 feet N 19°E; thence, 5400 feet S 71°E from Bench Mark 9209, which Bench Mark is located in Sec. 28, T 56 North, Range 91 West of the Sixth P.M. and which point is the NW end of this line; thence, 6800 feet S 71°E to the SE end of this line.

Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

11. See Form MF-100. Former names unknown.

12. See Form MF-100.

13. "

14. "

15. Ore to be milled on property, probably by gravity concentration followed by high-tension electro-separation. Concentrates will be hauled by truck to the railroad at Kane, Wyoming, for shipment.

16. See Form MF-100

17. "

18. "

19. None

20. The exploration will be conducted with the objective of proving reserves of monazite. Gold, ilmenite and zircon also occur, and their tenor will be ascertained in the exploration for monazite. These ores occur in placer gravel deposits. (See Paragraph 12 of MF-100)

21. Prospect shafts, trenches and open-cuts are to be excavated. The aim is to determine the depth, quantity, and grade of the ore and its amenability to various metallurgical processes.

Estimated time to complete exploration: 1 year.

22. The monazite occurs in the basal conglomerate of the Deadwood formation of Cambrian age, and in Quaternary gravels containing the products of erosion of the Cambrian conglomerate. The geological basis of the project is simply the fact that monazite has been found in both of these types of occurrence which were formerly the scene of gold-washing activities. The present project would make it possible to expose and sample this ore, determine its tonnage, grade, and amenability to recovery by various metallurgical processes, and would provide the basis for an estimate of mining and milling costs.

Harold W. B. Baker, Jr.
and
Charles M. Burgess
589 Sheridan Road
Glencoe, Illinois

23. **Estimated Costs**

	Operating Costs			Capital Outlay
	Per Day	Per Mo.	For Total Period	
a. Wages & Salaries				
1 Bulldozer operator (1 month only)	$20	$600	$ 600	
1 Shovel operator (2 months only)	20	600	1200	
1 Truck driver	10	300	900	
1 Carpenter (1 month only)	20	600	600	
1 Cook	16	480	1440	
1 Engineer		350	1050	
1 Bookkeeper	10	300	900	
1 Sample tucker	10	300	900	
b. Supervisor				
1 Operating Manager		700	2100	
c. No existing facilities to repair.				
d. 1. Living quarters, mess hall, etc.				$1,000
2. Tool shed, Garage				100
e. 1. Lighting system (1000 watts)				500
2. Light truck (1 ton)				2,000
f. Rental of Equipment.				
1. Bulldozer (D-8) (1 month only)	52	1560	1560	
2. ½ yard Shovel (2 months only)	96	2880	5760	
3. Compressor & drilling equipment	15	450	450	
g. Rental of Equipment presently owned.				
1. Passenger car. 10¢ mile.		200	600	
h. Materials, Supplies, etc.				
1. Mess gear, stoves, etc.				400
2. Miscellaneous supplies and tools				350
i. Gasoline and oil	3.50	105	315	
Fuel for heating, cooking, etc.	2.00	60	180	
Water supply (pipe, plumbing, etc.)				300
Miscellaneous items			200	
j. Assaying and metallurgical equipment				5,000
" " " costs			2,500	
Contingency			1,000	
Total		$9485	22,255	7,650
Grand Total			$29,905	

Harold W. B. Baker, Jr.
and
Charles E. Burgess
539 Sheridan Road
Glencoe, Illinois

24. 1st month:

Construction of Camp.
Purchase and installation of truck, supplies, assaying and metallurgical testing equipment.
Bulldozing prospect trenches.

Capital Outlay - $7,650.00	
Operating Costs - 7,205.00	
Total Expenditures	$14,855.00

2nd month:

Excavation of trenches and cuts with power shovel.
Surveying, sampling, assaying, testing.

Expenditures	7,925.00

3rd month:

Same as second month.

Expenditures.....	7,125.00
Total - - - -	$29,905.00

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

OCT 17 3 39 PM '51

DO NOT FILL IN THIS BLOCK

Docket No. DMA-2173

Date received 10-17-51

Participation

Harold W.B. Baker, Jr.
and C
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Name and address of applicant

Date October 10, 1951

FILL IN THIS BLOCK

Date of application October 10, 1951

Estimated cost $29,905

Mineral or metal Monazite

Percentage of Government participation 90%

Location of mine Bighorn Mountains, Sheridan County, Wyoming

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
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*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
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*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
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    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
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(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
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19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

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22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

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    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Baker-Burgess partnership
(Name of company)

By Harold W. Baker Jr. Partner
(Signature of authorized official)

October 10, 1951
(Date)

Charles H. Burgess, Partner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Data for Form MF-103

1. See Form MF-100
2. " " "
3. " " "
4. " " "
5. " " "
6. No liens, claims or other encumbrances.
7. Applicants are the owners.
8. Balance Sheet.

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Cash	$3,261.90	Capital	
Property (at cost)	2,387.80	H.W.B.Baker,Jr.	- $2,824.85
	$5,649.70	C.H.Burgess	- 2,824.85

9. The applicants are prepared to invest $3,000.00 more in the proposed project, which is sufficient to pay their cost of the project as detailed in question 23 of this application form.

10. a. The following areas of T 56 North, Range 91 West of the 6th P.M. are involved in the application: All of Sec. 16, SW$\frac{1}{4}$ and SE$\frac{1}{4}$ of Sec. 15, NE$\frac{1}{4}$, SE$\frac{1}{4}$, SW$\frac{1}{4}$ of Sec. 14, NW$\frac{1}{4}$ of Sec. 13, NE$\frac{1}{4}$, NW$\frac{1}{4}$, SE$\frac{1}{4}$ and a portion of SW$\frac{1}{4}$ of Sec. 23, most of the NE$\frac{1}{4}$ of Sec. 22, a small portion of the SE$\frac{1}{4}$ of Sec. 17 and a portion of the NW$\frac{1}{4}$ of Sec. 21. A property adjoining that of the applicants to the South and West including portions of Sections 21, 22, 23, 27, 28 and 29 is at this date being sampled under a lease owned by the Big Horn Coal Company of Sheridan, Wyoming.

b. Legal description:

All of Sec. 16, SW$\frac{1}{4}$ and SE$\frac{1}{4}$ of Sec. 15, SW$\frac{1}{4}$, SE$\frac{1}{4}$ and NE$\frac{1}{4}$ of Sec. 14, NW$\frac{1}{4}$ of Sec. 13, SW$\frac{1}{4}$ of Sec. 23 and those portions of the NE$\frac{1}{4}$ of Sec. 22, NW$\frac{1}{4}$ and NE$\frac{1}{4}$ and SW$\frac{1}{4}$ of Sec. 23 which lie North and East of the following described line: From a point 400' N 76°W; thence, 6300 feet N 19°E; thence, 5400 feet S 71°E from Bench Mark 9209, which Bench Mark is located in Sec. 28, T 56 North, Range 91 West of the Sixth P.M. and which point is the NW end of this line; thence, 6600 feet S 71°E to the SE end of this line.

Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

11. See Form MF-100. Former names unknown.

12. See Form MF-100.

13. "

14. "

15. Ore to be milled on property, probably by gravity concentration followed by high-tension electro-separation. Concentrates will be hauled by truck to the railroad at Kane, Wyoming, for shipment.

16. See Form MF-100

17. "

18. "

19. None

20. The exploration will be conducted with the objective of proving reserves of monazite. Gold, ilmenite and zircon also occur, and their tenor will be ascertained in the exploration for monazite. These ores occur in placer gravel deposits. (See Paragraph 12 of MF-100)

21. Prospect shafts, trenches and open-cuts are to be excavated. The aim is to determine the depth, quantity, and grade of the ore and its amenability to various metallurgical processes.

    Estimated time to complete exploration: 1 year.

22. The monazite occurs in the basal conglomerate of the Deadwood formation of Cambrian age, and in Quaternary gravels containing the products of erosion of the Cambrian conglomerate. The geological basis of the project is simply the fact that monazite has been found in both of these types of occurrence which were formerly the scene of gold-washing activities. The present project would make it possible to expose and sample this ore, determine its tonnage, grade, and amenability to recovery by various metallurgical processes, and would provide the basis for an estimate of mining and milling costs.

Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

23. Estimated Costs

	Operating Costs			Capital Outlay
	Per Day	Per Mo.	For Total Period	
a. Wages & Salaries				
1 Bulldozer operator (1 month only)	$20	$600	$ 600	
1 Shovel operator (2 months only)	20	600	1200	
1 Truck driver	10	300	900	
1 Carpenter (1 month only)	20	600	600	
1 Cook	16	480	1440	
1 Engineer		350	1050	
1 Bookkeeper	10	300	900	
1 Sample bucker	10	300	900	
b. Supervisor				
1 Operating Manager		700	2100	
c. No existing facilities to repair.				
d. 1. Living quarters, mess hall, etc.				$1,000
2. Tool shed, Garage				100
e. 1. Lighting system (1000 watts)				500
2. Light truck (1 ton)				2,000
f. Rental of Equipment.				
1. Bulldozer (D-8) (1 month only)	52	1560	1560	
2. ½ yard Shovel (2 months only)	96	2880	5760	
3. Compressor & drilling equipment	15	450	450	
g. Rental of Equipment presently owned.				
1. Passenger car. 10¢ mile.		200	600	
h. Materials, Supplies, etc.				
1. Mess gear, stoves, etc.				400
2. Miscellaneous supplies and tools				350
i. Gasoline and oil	3.50	105	315	
Fuel for heating, cooking, etc.	2.00	60	180	
Water supply (pipe, plumbing, etc.)				300
Miscellaneous items			200	
j. Assaying and metallurgical equipment				3,000
" " " costs			2,500	
Contingency			1,000	
Total		$9485	22,255	7,650
Grand Total			$29,905	

Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

24. 1st month:

Construction of Camp.
Purchase and installation of truck, supplies, assaying and metallurgical testing equipment.
Bulldozing prospect trenches.

Capital Outlay	- $7,650.00	
Operating Costs	- 7,205.00	
Total Expenditures		$14,855.00

2nd month:

Excavation of trenches and cuts with power shovel.
Surveying, sampling, assaying, testing.

Expenditures	7,925.00

3rd month:

Same as second month.

Expenditures.....	7,125.00
Total - - - -	$29,905.00

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D. C.
OCT 17 3 40 PM '51

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA-2173

Date received 10-17-51

Participation

Harold W.B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Name and address of applicant

Date October 10, 1951

FILL IN THIS BLOCK

Date of application October 10, 1951

Estimated cost $29,905

Mineral or metal Monazite

Percentage of Government participation 90%

Location of mine Bighorn Mountains, Sheridan County, Wyoming

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Baker-Burgess partnership
(Name of company)

October 10, 1951
(Date)

By Vernon B. Baker Jr., Partner
(Signature of authorized official)

Charles H. Burgess, Partner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Harold W. B. Baker, Jr.
and
Charles M. Burgess
509 Sheridan Road
Glenoce, Illinois

Data for Form NF-105

1. See Form NF-100
2. " " "
3. " " "
4. " " "
5. " " "
6. No liens, claims or other encumbrances.
7. Applicants are the owners.
8. Balance Sheet.

Assets		Liabilities	
Cash	$5,261.90	Capital	
Property (at cost)	2,387.80	H.W.B.Baker,Jr.	- $2,824.85
	$5,649.70	C.M.Burgess	- 2,824.85

9. The applicants are prepared to invest $5,000.00 more in the proposed project, which is sufficient to pay their cost of the project as detailed in question 23 of this application form.

10. a. The following areas of T 58 North, Range 91 West of the 6th P.M. are involved in the application: All of Sec. 16, SW¼ and SE¼ of Sec. 15, NE¼, SE¼, SW¼ of Sec. 14, NW¼ of Sec. 13, NE¼, NW¼, SE¼ and a portion of SW¼ of Sec. 23, most of the NE¼ of Sec. 22, a small portion of the SE¼ of Sec. 17 and a portion of the NW¼ of Sec. 21. A property adjoining that of the applicants to the South and West including portions of Sections 21, 22, 23, 27, 28 and 29 is at this date being sampled under a lease owned by the Big Horn Coal Company of Sheridan, Wyoming.

b. Legal description:

All of Sec. 16, SW¼ and SE¼ of Sec. 15, SW¼, SE¼ and NE¼ of Sec. 14, NW¼ of Sec. 13, SW¼ of Sec. 23 and those portions of the NE¼ of Sec. 22, NW¼ and NE¼ and SW¼ of Sec. 23 which lie North and East of the following described line: From a point 400' N 78°W; thence, 6300 feet N 19°E; thence, 5400 feet S 71°E from Bench Mark 9200, which Bench Mark is located in Sec. 28, T 58 North, Range 91 West of the Sixth P.M. and which point is the NW end of this line; thence, 6600 feet S 71°E to the SE end of this line.

Harold W. B. Baker, Jr.
and
Charles H. Burgess
509 Sheridan Road
Glenoce, Illinois

11. See Form NF-100. Former names unknown.

12. See Form NF-100.

13. "

14. "

15. Ore to be milled on property, probably by gravity concentration followed by high-tension electro-separation. Concentrates will be hauled by truck to the railroad at Kaua, Wyoming, for shipment.

16. See Form NF-100

17. "

18. "

19. None

20. The exploration will be conducted with the objective of proving reserves of monazite. Gold, ilmenite and zircon also occur, and their tonnage will be ascertained in the exploration for monazite. These ores occur in placer gravel deposits. (See Paragraph 12 of NF-100)

21. Prospect shafts, trenches and open-cuts are to be excavated. The aim is to determine the depth, quantity, and grade of the ore and its amenability to various metallurgical processes.

Estimated time to complete exploration: 1 year.

22. The monazite occurs in the basal conglomerate of the Deadwood formation of Cambrian age, and in Quaternary gravels containing the products of erosion of the Cambrian conglomerate. The geological basis of the project is simply the fact that monazite has been found in both of these types of occurrence which were formerly the scene of gold-washing activities. The proposed project would make it possible to expose and sample this ore, determine its tonnage, grade, and amenability to recovery by various metallurgical processes, and would provide the basis for an estimate of mining and milling costs.

Harold W. B. Baker, Jr.
and
Charles H. Burgess
509 Sheridan Road
Glencoe, Illinois

26. Estimated Costs

	Operating Costs Per Day	Per Mo.	For Total Period	Capital Outlay
a. Wages & Salaries				
1 Bulldozer operator (1 month only)	$20	$600	$ 600	
1 Shovel operator (2 months only)	20	600	1200	
1 Truck driver	10	300	300	
1 Carpenter (1 month only)	20	600	600	
1 Cook	16	480	1440	
1 Engineer		350	1050	
1 Bookkeeper	10	300	300	
1 Sample tracker	10	300	300	
b. Supervisor				
1 Operating Manager		700	2100	
c. No existing facilities to repair.				
d. 1. Living quarters, mess hall, etc.				$1,000
2. Tool shed, Garage				100
e. 1. Lighting system (1000 watts)				300
2. Light truck (1 ton)				2,000
f. Rental of Equipment.				
1. Bulldozer (D-6) (1 month only)	52	1500	1500	
2. ½ yard Shovel (2 months only)	96	2880	5760	
3. Compressor & drilling equipment	15	450	450	
g. Rental of Equipment presently owned.				
1. Passenger car. 10¢ mile.		200	600	
h. Materials, Supplies, etc.				
1. Mess gear, stoves, etc.				400
2. Miscellaneous supplies and tools				350
i. Gasoline and oil	$.50	105	315	
Fuel for heating, cooking, etc.	2.00	60	180	
Water supply (pipe, plumbing, etc.)				350
Miscellaneous items			200	
j. Assaying and metallurgical equipment				5,000
" " " costs			2,500	
Contingency			1,000	
Total		$9435	$22,255	7,850
Grand Total			$39,904	

Harold W. B. Baker, Jr.
and
Charles H. Burgess
520 Sheridan Road
Glencoe, Illinois

24. 1st month:

Construction of Camp.
Purchase and installation of truck, supplies, assaying and metallurgical testing equipment.
Bulldozing prospect trenches.

Capital Outlay - $7,630.00
Operating Costs - 7,205.00

Total Expenditures $14,835.00

2nd month:

Excavation of trenches and cuts with power shovel.
Surveying, sampling, assaying, testing.

Expenditures 7,825.00

3rd month:

Same as second month.

Expenditures..... 7,125.00

Total - - - - $29,785.00

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.
OCT 17 3 40 PM '51

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMA-2125

Date received 10-17-51

Harold W.B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Name and address of applicant

Date October 10, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Baker-Burgess partnership
(Name of company)

By Charles H. Burgess, Partner
(Signature of authorized official)

October 10, 1951
(Date)

(Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

General Technical Data to Accompany Form MF-100

1. Materials Produced:
   (a) Monazite.
   (b) Gold; probably Ilmenite and Zircon also.

2. Name of mine: "Chance" ------ Type: Placer, undeveloped.
   (a) No shafts.
   (b) No drifts or crosscuts.
   (c) No tunnels or adits.
   (d) Various old opencuts totalling approximately 50 feet.
   (e) Potential capacity estimated at greater than 1000 tons per day of gravel.

3. (a) Nearest town is Lovell, Wyoming, 55 miles West of mine property. Nearest rail point is Lovell, Wyoming, approximately 50 miles West of mine property on Highway 14 of the State of Wyoming.
   (b) Mining District unorganized (old Bald Mountain area).
   (c) T 56 North, Range 91 West of the Sixth P.M., Sections 13, 14, 15, 16, 22, and 23.
   (d) Sheridan County, Wyoming.

4. (a) Property not now in operation.
   (b) Owners will operate.

5. Estimated date of commencement of production: Summer 1953.

6. Mining and general business experience of C. H. Burgess:
   (a) Mine geologist in employ of Anaconda Copper Mining Company, Butte, Montana, 1926-28.
   (b) Mine lessee and consultant, Butte, Montana, 1928-1941.
   (c) Worked for Administration of Export Control, Office of Price Administration, and War Production Board, Washington, D. C., 1941-1944.
   (d) Mining consultant for Hoover, Curtice & Ruby of New York, 1944-1946, carrying out assignments in Africa, South and Central America.
   (e) Geologist with M. A. Hanna Company, Minnesota, 1947.
   (f) Deputy Director and Director, Strategic Materials Division of Economic Cooperation Administration, Washington, D. C., 1948-1950.
   (g) At present employed as Treasurer, The United Electric Coal Companies, Chicago, Illinois.

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

General Technical Data to Accompany Form MF-100, Cont'd.

Mining and general business experience of Harold W. B. Baker, Jr.:

(a) Graduate of University of California, June 1939, BS in Metallurgical Eng.
(b) Experience in open pit mining, Weiser, Idaho under L. K. Roqua with the Idaho Almaden Mines Co.; two years.
(c) Experience in exploration work as Chief Exploration Engineer for Cia. Minera de Guatemala under L. K. Roqua; two years.
(d) Various experience in underground mining, gold milling, small placer operations and prospect examination in the United States and Central America.
(e) Four-and-one-half years in U. S. Air Force as pilot and Staff Officer A-5, PSSN 2162.

7. History

(a) Property has been prospected and operated sporadically on a small scale as a gold placer for some fifty years. No records are available, but operations were suspended probably because of depletion of profitable ore.
(b) Adjoining properties which lie in sections 17, 20, 21, 28, 28 and 29 have had a similar history; on them, in addition, attempts were made to mine the basal conglomerate of the Deadwood formation for gold and to treat it in a stamp mill. At present the Bighorn Coal Mining Company of Sheridan, Wyoming, is conducting exploration on these sections.
(c) Reference is made to the geological report of N. H. Darton; U.S.G.S. Folio No. 14, 1896.

8. Names and addresses of Partners:

Harold W. B. Baker, Jr.
589 Sheridan Road
Glencoe, Illinois

Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

9. Capital Stock Issues.

None

10. No production to date.

11. No production to date.

Harold W. B. Baker, Jr.
and
C. H. Burgess
599 Sheridan Road
Glencoe, Illinois

12. Ore Reserves

(a) The monazite, gold, and other heavy minerals occur in the basal conglomerate of the Deadwood formation of Cambrian age. This conglomerate averages about five feet thick, with mean pebble diameter of two inches. It was deposited on a smooth eroded surface on the Pre-Cambrian granite. The lower members of the Deadwood lie on the granite as a thin, flat mantle except where they have been eroded by streams which have cut down into the granite. To the east and west the dip of the Deadwood steepends, and the formation passes beneath younger rocks.

Three types of deposits containing monazite are distinguished:

1. The basal conglomerate in place, which has been stripped by erosion but not much loosened by disintegration. Blasting and crushing would be required in the mining and concentration of this ore, although grinding might not be necessary.
2. Deposits in which the basal conglomerate has been thoroughly disintegrated, but remains in place. Blasting and crushing would not be required.
3. Placer gravel deposits of Quaternary age which contain the weathered and transported basal conglomerate of the Deadwood, along with rock eroded from other formations.

(b) Deposit is a placer.

Harold W. H. Spaar, Jr.
and
C. H. Burgess
[illegible] Sheridan Road
Glencoe, Illinois

12(e) (1) Estimated yardages (see map, assay sheet and note 12e (2))

	Estimated Cubic Yards	Estimated Pounds/Yard
Conglomerate in place (12a 1, above)	(1,000,000 1,000,000	7-22 3- 5
Disintegrated conglomerate in place (12a 2, above)	500,000	5- 7
Loose gravel of Quaternary age (12a 3, above)	500,000	2- 3

(2) See accompanying map and assay sheet.

(3) Description of gravel;
(See 12a 1, above)

The basal conglomerate contains quartz pebbles averaging not more than two inches in diameter, embedded in an arkosic sand matrix. It is free of boulders, but some stumps would have to be removed with a bulldozer. It is tight to cemented; a firm rock, but crumbly rather than hard. Crushing would be required before washing, and possible grinding. Drilling and blasting would be required in some areas, but might not be in others.

(See 12a 2, above)
The disintegrated conglomerate in place is a fine gravel, uncemented and free of boulders, except for occasional granite blocks which were deposited on top of the conglomerate by glacial ice. It is covered with timber which is readily removed with a bulldozer.

(See 12a 3, above)
The Quaternary gravel is coarse, with the largest stones averaging about 8 inches in diameter, except for occasional granite boulders up to 3 feet in diameter which are not numerous enough to interfere with operations. Gravel is loose, and free of stumps and timber.

Harold W. S. Baker,
and
C. H. Burgess
589 Sheridan Road
Glenview, Illinois

12(e) (4) Bedrock is granite, smooth to uneven and hard.

12(e) (5) Overburden on the conglomerate in place (12a 1 above) varies from nothing to several feet of overlying sandstone, and a foot or less of soil. On the disintegrated conglomerate in place (12a 2) and the Quaternary gravels (12a 3) there is a foot or less of soil. Except on the Quaternary gravels, there is a growth of shallow-rooted pine timber which is easily uprooted and cleared by a bulldozer.

(6) Ore Reserves (see map, assay sheet and note 12c (2))

	Est. Tons	Est. Grade #Monazite/ton	Gross Value Per Ton	Recoverable Value Per Ton	Estimated Cost of Production Per Ton
Measured	-	-	-	-	-
Indicated	4,000,000	5	Unknown	Unknown	Unknown

13. Access Roads: The rail point at Kane, Wyoming lies approximately 30 miles to the West of the property on Highway 14 of the State of Wyoming. This highway is paved or being paved and passes within three miles of the property. From the property to Highway 14 is a dirt road with gentle grade which can be improved with a minimum of work and made passable for all seasons with the aid of a snowplow. This unimproved road passes through the middle of the claims owned by the applicants. Residence points for the mine will be at the scene of operations.

14. Water Supply: Detailed information is lacking on the flow in the Little Bighorn River which passes through the middle of the claims owned by the applicants. However, it was estimated in July, 1961 that some 20 to 30 second feet were flowing in the river. It was further estimated that the minimum flow probably occurs during the month of November or December and is from 10 to 15 second feet at that time. This minimum estimate is

Harold W. B. Baker, Jr.
and
C. E. Burgess
520 Sheridan Road
Glencoe, Illinois

based on data available from the Forest Reserve gauging station on the North Tongue River which has a comparable flow at this time and lies at approximately the same elevation as the Little Bighorn River.

15. Power is unavailable at the property and a fuel oil or coal power source would have to be provided.

16. Labor is not employed at the present time.

17. There are no buildings or equipment on the property to date.

18. Adverse winter conditions might limit profitable operation to six months per year. However, if through the cooperation of the State of Wyoming Highway Department, the roads can be kept open during the winter months, the possibility for operation during this period is greatly improved.

Gerald M. B. Baker, Jr.
and
Charles H. Burgess
520 Sheridan Road
Glencoe, Illinois

ASSAYS

	Sample No.	#Monazite/ton	Description
ate in place	675	6.9	Grab sample from old open cut
	677	7.1 (also 10¢ in gold)	Grab sample from old open cut
	685	8.3	Grab sample from old open cut
Disintegrated conglomerate in place (with some overlying sandstone)	612	7.3	Grab sample from one foot below surface
	615	1.5	Sand at surface
	620	1.6	" " "
	653	2.8	" " "
	656	2.8	" " "
	671	3.4	" " "
	674	3.2	" " "
	683	7.0	Represents 3½' of conglomerate, below sandstone of Sample #612
Quaternary loose gravel	617	1.0	Represents upper 2 feet in stream bank
	672	5.3	Gravel from stream bed (not on bedrock)

Note

Because of poor exposures, it was not possible to obtain samples representing the full section of conglomerate and of the Quaternary gravel. In both cases, there is the possibility that there is a concentration of monazite and the other heavy minerals on bedrock which we have not to date been able to sample and assay. In the case of the loose Quaternary gravel, there is the likelihood that the monazite eroded from the Beardmore conglomerate has been re-concentrated on bedrock; if so, the gravel on bedrock should be much richer than the overlying gravels. At no place has this gravel been exposed and sampled just above bedrock; to do this work is one of the important objectives of the project.

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.
OCT 17 3 40 PM '51

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMA-2173

Date received 10-17-51

Harold W.B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Name and address of applicant

Date October 10, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(*a*) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Baker-Burgess partnership
(Name of company)

By Harold W. Baker Jr., Partner
Charles H. Burgess, Partner
(Signature of authorized official)

October 10, 1951
(Date)

(Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

General Technical Data to Accompany Form MF-189

1. Materials Produced:
   (a) Monazite.
   (b) Gold; probably Ilmenite and Zircon also.

2. Name of mine: "Chance" ------ Type: Placer, undeveloped.
   (a) No shafts.
   (b) No drifts or crosscuts.
   (c) No tunnels or adits.
   (d) Various old opencuts totalling approximately 50 feet.
   (e) Potential capacity estimated at greater than 1000 tons per day of gravel.

3. (a) Nearest town is Lovell, Wyoming, 35 miles West of mine property. Nearest rail point is Lovell, Wyoming, approximately 30 miles West of mine property on Highway 14 of the State of Wyoming.
   (b) Mining District unorganized (old Bald Mountain area).
   (c) T 56 North, Range 91 West of the Sixth P.M., Sections 13, 14, 15, 16, 22, and 23.
   (d) Sheridan County, Wyoming.

4. (a) Property not now in operation.
   (b) Owners will operate.

5. Estimated date of commencement of production: Summer 1953.

6. Mining and general business experience of C. H. Burgess:
   (a) Mine geologist in employ of Anaconda Copper Mining Company, Butte, Montana, 1936-38.
   (b) Mine lessee and consultant, Butte, Montana, 1938-1941.
   (c) Worked for Administration of Export Control, Office of Price Administration, and War Production Board, Washington, D. C., 1941-1944.
   (d) Mining consultant for Hoover, Curtice & Buby of New York, 1944-1946, carrying out assignments in Africa, South and Central America.
   (e) Geologist with M. A. Hanna Company, Minnesota, 1947.
   (f) Deputy Director and Director, Strategic Materials Division of Economic Cooperation Administration, Washington, D. C., 1948-1950.
   (g) At present employed as Treasurer, The United Electric Coal Companies, Chicago, Illinois.

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

General Technical Data to Accompany Form NF-100, Cont'd.

Mining and general business experience of Harold W. B. Baker, Jr.:

(a) Graduate of University of California, June 1939, BS in Metallurgical Eng.
(b) Experience in open pit mining, Weiser, Idaho under L. K. Roque with the Idaho Almaden Mines Co.; two years.
(c) Experience in exploration work as Chief Exploration Engineer for Cia. Minera de Guatemala under L. K. Roque; two years.
(d) Various experience in underground mining, gold milling, small placer operations and prospect examination in the United States and Central America.
(e) Four-and-one-half years in U. S. Air Force as pilot and Staff Officer A-5, PSEN X162.

7. History

(a) Property has been prospected and operated sporadically on a small scale as a gold placer for some fifty years. No records are available, but operations were suspended probably because of depletion of profitable ore.
(b) Adjoining properties which lie in sections 17, 20, 21, 28, 28 and 29 have had a similar history; on them, in addition, attempts were made to mine the basal conglomerate of the Deadwood formation for gold and to treat it in a stamp mill. At present the Bighorn Coal Mining Company of Sheridan, Wyoming, is conducting exploration on these sections.
(c) Reference is made to the geological report of N. H. Darton; U.S.G.S. Folio No. 14, 1906.

8. Names and addresses of Partners:

Harold W. B. Baker, Jr.
589 Sheridan Road
Glencoe, Illinois

Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

9. Capital Stock Issues.

None

10. No production to date.

11. No production to date.

Harold W. B. Baker, Jr.
and
C. H. Burgess
520 Sheridan Road
Glencoe, Illinois

MW-100

12. Ore Reserves

(a) The monazite, gold, and other heavy minerals occur in the basal conglomerate of the Deadwood formation of Cambrian age. This conglomerate averages about five feet thick, with mean pebble diameter of ten inches. It was deposited on a smooth eroded surface on the Pre-Cambrian granite. The lower members of the Deadwood lie on the granite as a thin, flat mantle except where they have been eroded by streams which have cut down into the granite. In the east and west the dip of the Deadwood steepends, and the formation passes beneath younger rocks.

Three types of deposits containing monazite are distinguished:

1. The basal conglomerate in place, which has been stripped by erosion but not much loosened by disintegration. Blasting and crushing would be required in the mining and concentration of this ore, although grinding might not be necessary.
2. Deposits in which the basal conglomerate has been thoroughly disintegrated, but remains in place. Blasting and crushing would not be required.
3. Placer gravel deposits of Quaternary age which contain the weathered and transported basal conglomerate of the Deadwood, along with rock eroded from other formations.

(b) Deposit is a placer.

Harold W. B. Baker, Jr.
and
C. H. Burgess
580 Sheridan Road
Glencoe, Illinois

12(e) (1) Estimated yardages (see map, assay sheet and note 12e (2))

	Estimated Cubic Yards	Monazite/Yard
Conglomerate in place (12a 1, above)	(1,000,000 1,000,000	7-10 3- 5
Disintegrated conglomerate in place (12a 2, above)	500,000	5- 7
Loose gravel of Quaternary age (12a 3, above)	500,000	2- 3

(2) See accompanying map and assay sheet.

(3) Description of gravel;
(See 12a 1, above)

The basal conglomerate contains quartz pebbles averaging not more than two inches in diameter, embedded in an arkosic sand matrix. It is free of boulders, but some stumps would have to be removed with a bulldozer. It is tight to cemented; a firm rock, but crumbly rather than hard. Crushing would be required before washing, and possible grinding. Drilling and blasting would be required in some areas, but might not be in others.

(See 12a 2, above)
The disintegrated conglomerate in place is a fine gravel, uncemented and free of boulders, except for occasional granite blocks which were deposited on top of the conglomerate by glacial ice. It is covered with timber which is readily removed with a bulldozer.

(See 12a 3, above)
The Quaternary gravel is coarse, with the largest stones averaging about 8 inches in diameter, except for occasional granite boulders up to 3 feet in diameter which are not numerous enough to interfere with operations. Gravel is loose, and free of stumps and timber.

Harold W. B. Baker, Jr.
and
C. H. Burgess
[illegible] Sheridan Road
Glenview, Illinois

12(c) (4) Bedrock is granite, smooth to uneven and hard.

12(c) (5) Overburden on the conglomerate in place (Lin 1 above) varies from nothing to several feet of overlying sandstone, and a foot or less of soil. On the disintegrated conglomerate in place (Lin 2) and the Quaternary gravels (Lin 3) there is a foot or less of soil. Except on the Quaternary gravels, there is a growth of shallow-rooted pine timber which is easily uprooted and cleared by a bulldozer.

(6) Ore Reserves (see map, assay sheet and note 12c (2))

	Est. Tons	Est. Grade Ounces/Ton	Gross Value Per Ton	Recoverable Value Per Ton	Estimated Cost of Production Per Ton
Measured	-	-	-	-	-
Indicated	4,000,000	5	Unknown	Unknown	Unknown

15. Access Roads: The rail point at Lane, Wyoming lies approximately 80 miles to the West of the property on Highway 14 of the State of Wyoming. This highway is paved or being paved and passes within three miles of the property. From the property to Highway 14 is a dirt road with gentle grade which can be improved with a minimum of work and made passable for all seasons with the aid of a snowplow. This unimproved road passes through the middle of the claims owned by the applicants. Residence points for the mine will be at the scene of operations.

14. Water Supply: Detailed information is lacking on the flow in the Little Bighorn River which passes through the middle of the claims owned by the applicants. However, it was estimated in July, 1961 that some 20 to 30 second feet were flowing in the river. It was further estimated that the minimum flow probably occurs during the month of November or December and is from 10 to 15 second feet at that time. This minimum estimate is

Harold W. B. Baker, Jr.
and
G. H. Burgess
500 Sheridan Road
Glencoe, Illinois

based on data available from the Forest Reserve gauging station on the North Tongue River which has a comparable flow at this time and lies at approximately the same elevation as the Little Bighorn River.

15. Power is unavailable at the property and a fuel oil or coal power source would have to be provided.

16. Labor is not employed at the present time.

17. There are no buildings or equipment on the property to date.

18. Adverse winter conditions might limit profitable operation to six months per year. However, if through the cooperation of the State of Wyoming Highway Department, the roads can be kept open during the winter months, the possibility for operation during this period is greatly improved.

Harold W. H. Baker, Jr.
and
Charles H. Burgess
[illegible] Sheridan Road
Glenview, Illinois

A S S A Y S

	Sample No.	#Monazite/ton	Description
Basal conglomerate in place	675	5.9	Grab sample from old open cut
	677	7.1 (also 10¢ in gold)	Grab sample from old open cut
	685	8.3	Grab sample from old open cut
Disintegrated conglomerate in place (with some overlying sandstone)	612	7.3	Grab sample from one foot below surface
	613	1.3	Sand at surface
	620	1.6	" " "
	652	2.8	" " "
	656	2.2	" " "
	671	3.4	" " "
	674	3.8	" " "
	683	7.0	Represents 3½' of conglomerate, below sandstone of Sample #612
Quaternary loose gravel	617	1.0	Represents upper 2 feet in stream bank
	672	5.3	Gravel from stream bed (not on bedrock)

Note

Because of poor exposures, it was not possible to obtain samples representing the full section of conglomerate and of the Quaternary gravel. In both cases, there is the possibility that there is a concentration of monazite and the other heavy minerals on bedrock which we have not to date been able to sample and assay. In the case of the loose Quaternary gravel, there is the likelihood that the monazite eroded from the Dunkard conglomerate has been re-concentrated on bedrock; if so, the gravel on bedrock should be much richer than the overlying gravels. At no place has this gravel been exposed and sampled just above bedrock; to do this work is one of the important objectives of the project.

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.

Form approved.
Budget Bureau No. 42-R

GENERAL TECHNICAL DATA

OCT 17 3 40 PM '51

FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMA-2173

Date received 10-17-51

Harold W.B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

Name and address of applicant

Date October 10, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949* Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geolog ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Harvey B Baker Jr Partner.

Baker-Burgess partnership
(Name of company)

By Charles H. Burgess, Partner
(Signature of authorized official)

October 10, 1951
(Date)

(Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

General Technical Data to Accompany Form MF-100

1. Materials Produced:
   (a) Monazite.
   (b) Gold; probably Illmenite and Zircon also.

2. Name of mine: "Chance" ------ Type: Placer, undeveloped.
   (a) No shafts.
   (b) No drifts or crosscuts.
   (c) No tunnels or adits.
   (d) Various old opencuts totalling approximately 50 feet.
   (e) Potential capacity estimated at greater than 1000 tons per day of gravel.

3. (a) Nearest town is Lovell, Wyoming, 55 miles West of mine property. Nearest rail point is Lovell, Wyoming, approximately 50 miles West of mine property on Highway 14 of the State of Wyoming.
   (b) Mining District unorganized (old Bald Mountain area).
   (c) T 56 North, Range 91 West of the Sixth P.M., Sections 13, 14, 15, 16, 22, and 23.
   (d) Sheridan County, Wyoming.

4. (a) Property not now in operation.
   (b) Owners will operate.

5. Estimated date of commencement of production: Summer 1953.

6. Mining and general business experience of C. H. Burgess:
   (a) Mine geologist in employ of Anaconda Copper Mining Company, Butte, Montana, 1936-38.
   (b) Mine lessee and consultant, Butte, Montana, 1938-1941.
   (c) Worked for Administration of Export Control, Office of Price Administration, and War Production Board, Washington, D. C., 1941-1944.
   (d) Mining consultant for Hoover, Curtice & Ruby of New York, 1944-1946, carrying out assignments in Africa, South and Central America.
   (e) Geologist with M. A. Hanna Company, Minnesota, 1947.
   (f) Deputy Director and Director, Strategic Materials Division of Economic Cooperation Administration, Washington, D. C., 1948-1950.
   (g) At present employed as Treasurer, The United Electric Coal Companies, Chicago, Illinois.

Harold W. R. Baker, Jr.
and
C. H. Burgess
520 Sheridan Road
Glencoe, Illinois

General Technical Data to Accompany Form MF-100, Cont'd.

Mining and general business experience of Harold W. R. Baker, Jr.:

(a) Graduate of University of California, June 1950, BS in Metallurgical Eng.
(b) Experience in open pit mining, Wallace, Idaho under L. K. Roque with the Idaho Alunden Mines Co.; two years.
(c) Experience in exploration work as Chief Exploration Engineer for Cia. Minera de Guatemala under L. K. Roque; two years.
(d) Varied experience in underground mining, gold milling, small placer operations and prospect examination in the United States and Central America.
(e) Four-and-one-half years in U. S. Air Force as pilot and Staff Officer A-3, FEAF 2182.

7. History

(a) Property has been prospected and operated sporadically on a small scale as a gold placer for some fifty years. No records are available, but operations were suspended probably because of depletion of profitable ore.
(b) Adjoining properties which lie in sections 17, 20, 21, 28, 29 and 30 have had a similar history; on them, in addition, attempts were made to mine the basal conglomerate of the Deadwood Formation for gold and to treat it in a stamp mill. At present the Higbee's Coal Mining Company of Sheridan, Wyoming, is conducting exploration on these sections.
(c) Reference is made to the geological report of N. H. Darton; U.S.G.S. Folio No. 14, 1896.

8. Names and addresses of Partners:

Harold W. R. Baker, Jr.
520 Sheridan Road
Glencoe, Illinois

Charles H. Burgess
520 Sheridan Road
Glencoe, Illinois

9. Capital Stock Issues.

None

10. No production to date.

11. No production to date.

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

MT-100

12. Ore Reserves

(a) The monazite, gold, and other heavy minerals occur in the basal conglomerate of the Deadwood formation of Cambrian age. This conglomerate averages about five feet thick, with mean pebble diameter of two inches. It was deposited on a smooth eroded surface on the Pre-Cambrian granite. The lower members of the Deadwood lie on the granite as a thin, flat mantle except where they have been eroded by streams which have cut down into the granite. To the east and west the dip of the Deadwood steepends, and the formation passes beneath younger rocks.

Three types of deposits containing monazite are distinguished:

1. The basal conglomerate in place, which has been stripped by erosion but not much loosened by disintegration. Blasting and crushing would be required in the mining and concentration of this ore, although grinding might not be necessary.
2. Deposits in which the basal conglomerate has been thoroughly disintegrated, but remains in place. Blasting and crushing would not be required.
3. Placer gravel deposits of Quaternary age which contain the weathered and transported basal conglomerate of the Deadwood, along with rock eroded from other formations.

(b) Deposit is a placer.

Ragald W. B. Baker, Jr.
and
C. E. Burgess
589 Sheridan Road
Glencoe, Illinois

12(c) (1) Estimated yardages (see map, assay sheet and note 12c (2))

	Estimated Cubic Yards	Chalcocite/Yard
Conglomerate in place (12a 1, above)	(1,000,000 1,000,000	7-10 3- 5
Disintegrated conglomerate in place (12a 2, above)	500,000	5- 7
Loose gravel of Quaternary age (12a 3, above)	500,000	2- 5

(2) See accompanying map and assay sheet.

(3) Description of gravel;
(See 12a 1, above)

The basal conglomerate contains quartz pebbles averaging not more than two inches in diameter, embedded in an arkosic sand matrix. It is free of boulders, but some stumps would have to be removed with a bulldozer. It is tight to cemented; a firm rock, but crumbly rather than hard. Crushing would be required before washing, and possible grinding. Drilling and blasting would be required in some areas, but might not be in others.

(See 12a 2, above)
The disintegrated conglomerate in place is a fine gravel, uncemented and free of boulders, except for occasional granite blocks which were deposited on top of the conglomerate by glacial ice. It is covered with timber which is readily removed with a bulldozer.

(See 12a 3, above)
The Quaternary gravel is coarse, with the largest stones averaging about 8 inches in diameter, except for occasional granite boulders up to 5 feet in diameter which are not numerous enough to interfere with operations. Gravel is loose, and free of stumps and timber.

Harold W. B. Baker, Jr.
and
C. H. Burgess
589 Sheridan Road
Glencoe, Illinois

12(c) (4) Bedrock is granite, smooth to uneven and hard.

12(c) (5) Overburden on the conglomerate in place (12a 1 above) varies from nothing to several feet of overlying sandstone, and a foot or less of soil. On the disintegrated conglomerate in place (12a 2) and the Quaternary gravels (12a 3) there is a foot or less of soil. Except on the Quaternary gravels, there is a growth of shallow-rooted pine timber which is easily uprooted and cleared by a bulldozer.

(6) Ore Reserves (see map, assay sheet and note 12c (2))

	Est. Tons	Est. Grade #Monazite/ton	Gross Value Per Ton	Recoverable Value Per Ton	Estimated Cost of Production Per Ton
Measured	-	-	-	-	-
Indicated	4,000,000	5	Unknown	Unknown	Unknown

13. Access Roads: The rail point at Kane, Wyoming lies approximately 50 miles to the West of the property on Highway 14 of the State of Wyoming. This highway is paved or being paved and passes within three miles of the property. From the property to Highway 14 is a dirt road with gentle grade which can be improved with a minimum of work and made passable for all seasons with the aid of a snowplow. This unimproved road passes through the middle of the claims owned by the applicants. Residence points for the mine will be at the scene of operations.

14. Water Supply: Detailed information is lacking on the flow in the Little Bighorn River which passes through the middle of the claims owned by the applicants. However, it was estimated in July, 1951 that some 20 to 30 second feet were flowing in the river. It was further estimated that the minimum flow probably occurs during the month of November or December and is from 10 to 15 second feet at that time. This minimum estimate is

Harold W. B. Baker, Jr.
and
G. M. Burgess
500 Sheridan Road
Glencoe, Illinois

based on data available from the Forest Reserve gauging station on the North Tongue River which has a comparable flow at this time and lies at approximately the same elevation as the Little Bighorn River.

15. Power is unavailable at the property and a fuel oil or coal power source would have to be provided.

16. Labor is not employed at the present time.

17. There are no buildings or equipment on the property to date.

18. Adverse winter conditions might limit profitable operation to six months per year. However, if through the cooperation of the State of Wyoming Highway Department, the roads can be kept open during the winter months, the possibility for operation during this period is greatly improved.

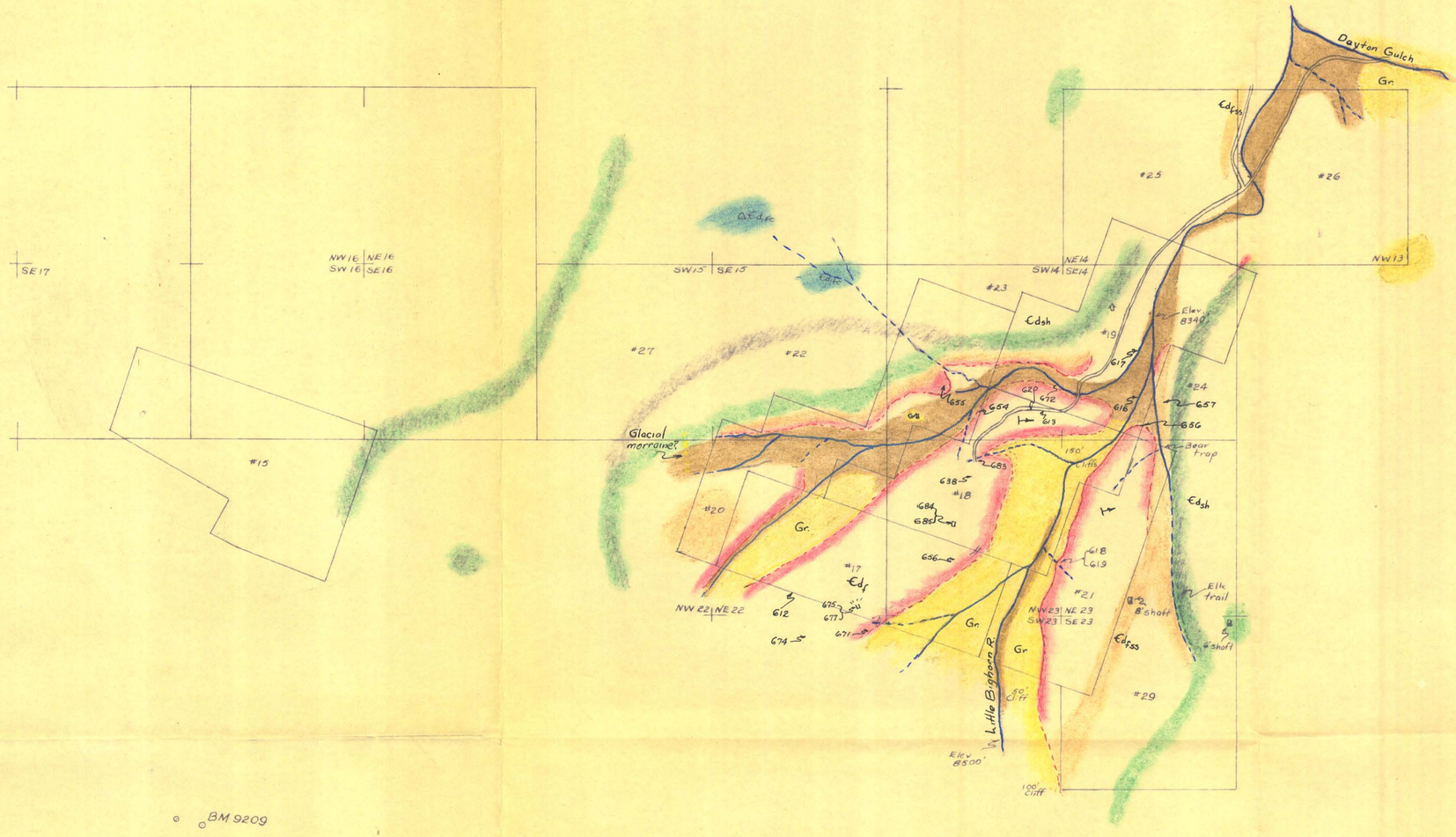
Harold W. B. Baker, Jr.
and
Charles H. Burgess
589 Sheridan Road
Glencoe, Illinois

A S S A Y S

	Sample No.	#Monazite/ton	Description
Basal conglomerate in place	675	6.9	Grab sample from old open cut
	677	7.1 (also 10¢ in gold)	Grab sample from old open cut
	685	8.3	Grab sample from old open cut
Disintegrated conglomerate in place (with some overlying sandstone)	612	7.3	Grab sample from one foot below surface
	613	1.3	Sand at surface
	620	1.6	" " "
	638	2.8	" " "
	656	2.8	" " "
	671	3.4	" " "
	674	3.8	" " "
	683	7.0	Represents 5½' of conglomerate, below sandstone of Sample #612
Quaternary loose gravel	617	1.0	Represents upper 2 feet in stream bank
	672	5.3	Gravel from stream bed (not on bedrock)

Note

Because of poor exposures, it was not possible to obtain samples representing the full section of conglomerate and of the Quaternary gravel. In both cases, there is the possibility that there is a concentration of monazite and the other heavy minerals on bedrock which we have not to date been able to sample and assay. In the case of the loose Quaternary gravel, there is the likelihood that the monazite eroded from the Deadwood conglomerate has been re-concentrated on bedrock; if so, the gravel on bedrock should be much richer than the overlying gravels. At no place has this gravel been exposed and sampled just above bedrock; to do this work is one of the important objectives of the project.



Legend

Bighorn Limestone	Ob
Cambrian Deadwood Intraformational Congl.	Ꞓdin.
Cambrian shale	Ꞓdsh.
Cambrian light colored sandstone	Ꞓdfss
Cambrian Flathead congl.	Ꞓdf
Granite	Gr.
Quarternary alluvium	Qal.

Wyoming Minerals Corporation
Claims
T56N, R91 West of the 6th P.M.
Scale 1" = ¼ mile
6 July 1951 Geology by H. Baker
Drawn by H. Baker