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FILE COPY
SURNAME:

Gordon
Bourret

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

OCT 23 1951

A.E.C.

Memorandum

To: Administrative Management Division

Through: Director, Supply Division

From: Minor and Rare Metals Branch

Subject: DMA docket 1462x
Rare Earths, Crook County, Wyoming

Under date of May 31, 1951, DMA docket 1462x, Mr. Francis J. Chesley, 2423 Ash, Billings, Montana, submitted the subject application, for an loan in the amount of $10,000.

Attached hereto find letter of even date addressed to applicant advising that the application must be denied, basing this action on the field team's recommendation, the reviewers for U.S.G.S., A.E.C. and D.M.A. concurring in same.

Complete docket is attached comprised of the following:

(a) One copy of field team report.
(b) One copy of MF-103.
(c) Two copies of MF-103 attached to field referral
(d) One copy of memorandum from Mr. Van Alstine.

Weston Bourret
Weston Bourret, Chief
Minor and Rare Metals

N.S
R+R

Enclosure

Approved: SIGNED
Director, Supply Division

E Gordon/mh 10-12-51
cc: Adm. Read File
Lyon
Minor and Rare Metals
Field Team IV
Klein, Bur. of Mines
Norton, USGS
DMA docket file

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

OCT 23 1951

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To: Administrative Management Division

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Weston Bourret
Weston Bourret, Chief
Minor and Rare Metals

Enclosure

Approved:

Acting
Director, Supply Division

330

FILE COPY
SURNAME:

Gordon Bowers

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

OCT 23 1951

Mr. Francis Chesley
2423 Ash
Billings, Montana

Re: DMA-1462x
Rare Earths

Dear Mr. Chesley:

Your application dated May 31, 1951, DMA docket 1462x for an exploration project in the sum of $10,000.00, has been carefully reviewed by the Supply Division, this review including a field examination on August 9 & 10, 1951.

Because of the present lack of evidence to indicate the probability of making a significant discovery and your failure to answer correspondence directed to you regarding consideration of a fluorspar project, we regret to advise that it has been decided to deny your application at this time.

Should future work on your property bring to light evidence of a more encouraging nature we would be glad to receive your advices.

Yours very truly,

SIGNED

Tom Lyon, Director
Supply Division

cc 10/23

EGordon/mh 10-19-51
cc: Adm. Read. File
Lyon
Minor and Rare Metals
Mr. Barr
Klein, Bur. of Mines
Norton, USGS
DMA docket file

IN REPLY REFER TO:

G-MD-REV

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

October 17, 1951

Memorandum

To: Weston Bourret, Chief, Minor and Rare Metals, Defense Minerals Administration

From: Ralph E. Van Alstine, Geological Survey

Subject; DMA-1462X, request for Government assistance with exploration for fluorspar and rare earths, Lucky Day claims, Crook County, Wyoming.

With reference to the proposed letter to the applicant denying the subject request:

I suggest also referring to the fact that a field team examination of his property was made on August 9 and 10, 1951. The applicant was notified by mail of the date designated for the investigation, but failed to meet the team, the team reports. The applicant made no definite proposal for a fluorspar project, and correspondence about matching funds, plans for operation, and project costs was unanswered, according to the field team.

Eight copies of the field team report were prepared. Would it be possible for the Geological Survey to be provided with a copy for the fluorspar files here in Washington?

Ralph E. Van Alstine

Ralph E. Van Alstine

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

224 New Customhouse
Denver 2, Colorado

October 3, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 1462X, Francis J. Chesley, Fluorspar and Rare Earths, Crook County, Wyoming

Enclosed herewith are original and two copies of the report on DMA Docket 1462X as listed above.

We concur with the findings of the examining team and recommend that application for a loan be denied.

The brochure is returned herewith.

J. H. East, Jr.

for A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 8 1951

Enclosures

Mining Division
Region IV

October 2, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: DMA Docket 1463K, Francis J. Chanley, Fluorspar and Rare Earths, Crook County, Wyoming

Exploration cannot be recommended on either the fluorspar or rare earth deposits as proposed by the applicant. Exploration on the fluorspar and on rare earth deposits adjacent to the claims of the applicant by the Bureau of Mines has been adequate to evaluate the grade and extent.

It is recommended that the loan request be denied.

Paul T Allsman

P. T. Allsman

PTAcld

cc: DMA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

September 28, 1951

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1462X, Fluorite and Rare Earth Deposits, Sundance, Crook County, Wyoming

Attached are 8 copies of the geological report covering DMA Docket 1462X (Fluorite and Rare Earths). Fluorite occurs as replacement lenses in Mississippian limestone, and is exposed in several cuts and shafts. Extensive exploration work by shafts and bulldozer cuts has been done on the subject property without finding deposits of commercial grade. Because of the small size and spotty nature of these deposits, as well as unfavorable economic factors, Mr. Meek recommends that the application for a fluorite exploration loan be denied.

The applicant has also applied for a loan to explore for rare earth deposits on this same property. No rare earth minerals have been recognized, and analyses show that the grade in the most favorable material is well below an estimated economic limit of 5%. Mr. Meek, therefore, recommends that the application for an exploration loan for rare earth deposits also be denied.

I concur with the recommendation of Mr. Meek.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Attachments (8)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 1, 1951

Mining Division
Denver Area

OCT 1 1951

BUREAU OF MINES
Denver, Colorado

Memorandum

To: Chief, Mining Division, Region IV

From: W. M. Traver, Jr.

Subject: Docket DMA-1462X, Francis J. Chesley, Fluorspar and Rare Earths, Crook County, ~~Colorado~~ Wyo.

Please find enclosed the original and seven copies of the "Summary, Conclusions, and Recommendations", by Everett and Meek, and the same number of copies of Everett's engineering report on the subject Defense Minerals Administration docket.

The Peterson claims included in this loan request were at first considered as having possibilities for a small participating fluorspar exploration loan. However, correspondence with the applicant, Francis J. Chesley, requesting, first, that he accompany the examiners to the property and, second, that, failing in this first request, he submit an outline of his proposed program, especially with regard to fluorspar, and indicate his ability to participate on a 50 percent basis, was unanswered. The obvious conclusion drawn from his ignoring our correspondence, naturally, was that he was not further interested in a Defense Minerals Administration loan on any basis. Inasmuch as the project was considered marginal, a report recommending denial was prepared.

I am in agreement with the recommendation of the examining team.

The brochure and a review furnished by your office are returned herewith.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

Summary, Conclusions, and Recommendations

By F. D. Everett
Mining Engineer
Bureau of Mines

and

W. B. Meek
Geologist
U. S. Geological Survey

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By F. D. Everett and W. B. Meek

Francis J. Chesley applied for a $10,000.00 ninety percent government participating loan for exploration of rare earths and fluorspar on the Peterson claims in the Bear Lodge Mountains, Crook County, Wyo. Proposed work included surface trenching and rehabilitating an old shaft on the rare earth claims and sinking a 60-foot shaft to 100 feet on the fluorspar claims.

The investigation by the Defense Minerals Administration examining team revealed:

(1) Fluorite occurs in spotty, irregular lenses as replacement deposits and in short discontinuous veins in limestone, probably associated with syenite intrusions.

(2) Although some fairly high-grade fluorite was observed, most of the material was low-grade.

(3) The absence of milling facilities, the long truck haul to the railroad, and high freight charges to an eastern market would make fluorite production unprofitable from the Peterson claims.

(4) The applicant made no definite proposal for fluorite exploration, and correspondence in regard to matching funds on a fifty percent participating basis was unanswered.

(5) Rare earth oxides have been found in syenite porphyry and related rocks on the Lucky Day and other claims in the Bear Lodge Mountains. No visible evidence was observed, structurally or otherwise, to account for the mineralization. The presence of rare earth can be

determined either by radioactivity or chemical analyses.

(6) Attempts to identify or isolate the rare earth minerals microscopically have been unsuccessful; beneficiation attempts by other companies, actively developing deposits in the area have so far been unsuccessful.

(7) No analyses of rare earth material are known that would necessarily classify Bear Lodge material as ore. It seems advisable to await exploitation success of other companies in the area before attempting to develop the Lucky Day claims.

This loan for exploration of rare earths or fluorspar is not recommended.

FLUORITE AND RARE EARTH DEPOSITS

SUNDANCE, CROOK COUNTY, WYOMING

DMA DOCKET 1462X

Geology

By Ward B. Meek, Geologist
U. S. Geological Survey

Geology

FLUORITE AND RARE EARTH DEPOSITS
SUNDANCE, CROOK COUNTY, WYOMING

INTRODUCTION

Francis J. Chesley and his partners, Frank and C. W. Peterson, have applied for a $10,000.00 exploration grant on fluorite and rare earth deposits located some eight miles north of Sundance, Wyoming. Some $10,000.00 worth of exploration work by shafts and bulldozer cuts has been accomplished. Various other operators have done even more extensive work on properties in the area, but no minerals of present commercial value have been located. The Bureau of Mines drilled some of the fluorite prospects. Their findings are given in Report of Investigations #3877 published in April 1946.

FLUORITE

Fluorite on the Peterson claims is exposed in several cuts and in two shafts which are still open. It occurs as replacement lenses in limestone tentatively identified as the Pahasapa limestone of Mississippian age. Syenite of Tertiary age was found near some of the fluorite deposits; it is a possible source of the mineralizing solutions.

At all observed exposures the lenses of fluorite lie parallel to bedding. Several were observed to pinch out along the strike with a total length of about 50 feet or less. The degree of replacement and the concentration of fluorite vary from slight to extensive. One promising occurrence of fluorite was noted; it is shown at shaft No. 2, Area

No. 1, on Figure No. 3 of Bureau of Mines R. I. #3877. Sampling from this shaft, report in R. I. #3877, shows an average of about 56% CaF_2 for two jack hammer holes of unknown length in the lower 12 feet of the shaft. Muck pile samples were reported to average about 24% CaF_2.

Other prospects in the area, not on the Peterson claims, are perhaps more extensive and promising. It is possible that the future may see some substantial production of fluorite from this general vicinity. At present, however, the small size and spotty nature of these deposits, the distance of required trucking over dirt roads, and the lack of an established market in the district are discouraging.

It is recommended that the application for a fluorite exploration loan be denied.

RARE EARTHS

The rare earth minerals of this district are found in syenite and syenite porphyry of Tertiary age. They occur with no recognized pattern or known or estimated dimensions. No rare earth minerals have been recognized even in microscopic studies. Some values seem to occur with manganese or iron oxides of supergene origin, some with leached white rock. It has been fairly well established that rare earth values are highest in this district wherever radioactivity is high.

Samples previously assayed from this area by the Bureau of Mines and by the Trace Elements Section of the Geological Survey showed rare earths contents well below an estimated economic limit of about 5%. A sample taken in the course of this examination where radioactivity is high on Luckyday claim was analyzed by the Bureau of Mines as follows:

U_3O_8	ThO_2	Ce	Rare earth oxides
0.029%	-0.01%	0.75%	2.2%

These values do not indicate ore.

RECOMMENDATIONS

Fluorite: It is recommended that the application for a loan to explore fluorite be denied because of the small size and spotty nature of these deposits and because of their remoteness from any known market.

Rare earths: It is recommended that the application for a loan to explore rare earths be denied because grade of material reported by reliable agencies is too low to be economic.

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-1462X, Francis J. Chesley

Fluorspar and Rare Earths

Crook County, Wyo.

F. D. Everett, Mining Engineer
Bureau of Mines

W. B. Meek, Geologist
U. S. Geological Survey

September 27, 1951

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

Engineering Report

By F. D. Everett
Mining Engineer
Bureau of Mines

Engineering

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

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FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

ENGINEERING REPORT

By

F. D. Everett

INTRODUCTION

Fluorspar and rare earth claims commonly called "Peterson's claims" are in the Bear Lodge Mountains, Crook County, Wyo. The rare earth claims are adjacent to the Climax claims which were leased to the Telmor Engineering Company, of Chicago, Ill. The Climax claims together with claims owned by the newly formed Bear Lodge Mining Company were investigated by the Bureau of Mines in the summer of 1950. Peterson's fluorspar claims were investigated by the Bureau of Mines in 1944 and the results are described in Report of Investigations 3877.

The examining team, composed of U. S. Geological Survey men, J. C. Olson, of the Trace Elements Branch, and W. B. Meek, of Minerals Branch, and the Bureau of Mines engineer, investigated the properties on August 9 and 10, 1951. F. J. Chesley, the applicant, was notified by mail of the date designated for the investigation but failed to meet the members of the examining team. The location of the properties was known to the Bureau engineer from previous work in the area, and the investigation was made as planned.

ACKNOWLEDGMENT

Charles Baker, of Sundance, Wyo., gave information regarding the history and production from the properties and this information is gratefully acknowledged.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The fluorspar and rare earths claims are in the Bear Lodge Mountains of the Black Hills Region between 8 and 10 miles by dirt road north of Sundance, Crook County, Wyo. The rare earth deposits are in sec. 17, T. 52 N., R. 63 W., 6 P. M., and are from 2 to 3 air line miles west from the fluorspar claims which are in secs. 15, 22, and 23, T. 52 N., R. 63 W., 6 P. M. The area is in the Black Hills National Forest (fig. 1).

The Black Hills consist of a dome-shaped group of mountains in northeastern Wyoming and western South Dakota.rising several hundred feet above the plains. The area is roughly 100 miles long and 50 miles wide.

Precipitation is abundant and the gentle slopes are heavily wooded. Numerous small streams flow during the spring months. Ranching, wheat farming, and lumbering are the main industries.

Sundance is the county seat of Crook County. The nearest railroad shipping facilities are at Upton, on the Chicago, Burlington and Quincy Railroad, 28 miles south of Sundance.

The nearest source for electric power is Sundance which is 5 to 7 air line miles to the south.

HISTORY AND PRODUCTION

Fluorite has been known to occur in the Bear Lodge area since 1914, but was not discovered on the Peterson claims until 1943. The Bureau of Mines investigated and explored the fluorspar occurrences in 1944 by a series of trenches, test pits, and shallow shafts.

No production is reported from the property except for one car load, which, according to Charles Baker, of Sundance, was shipped by Chesley in

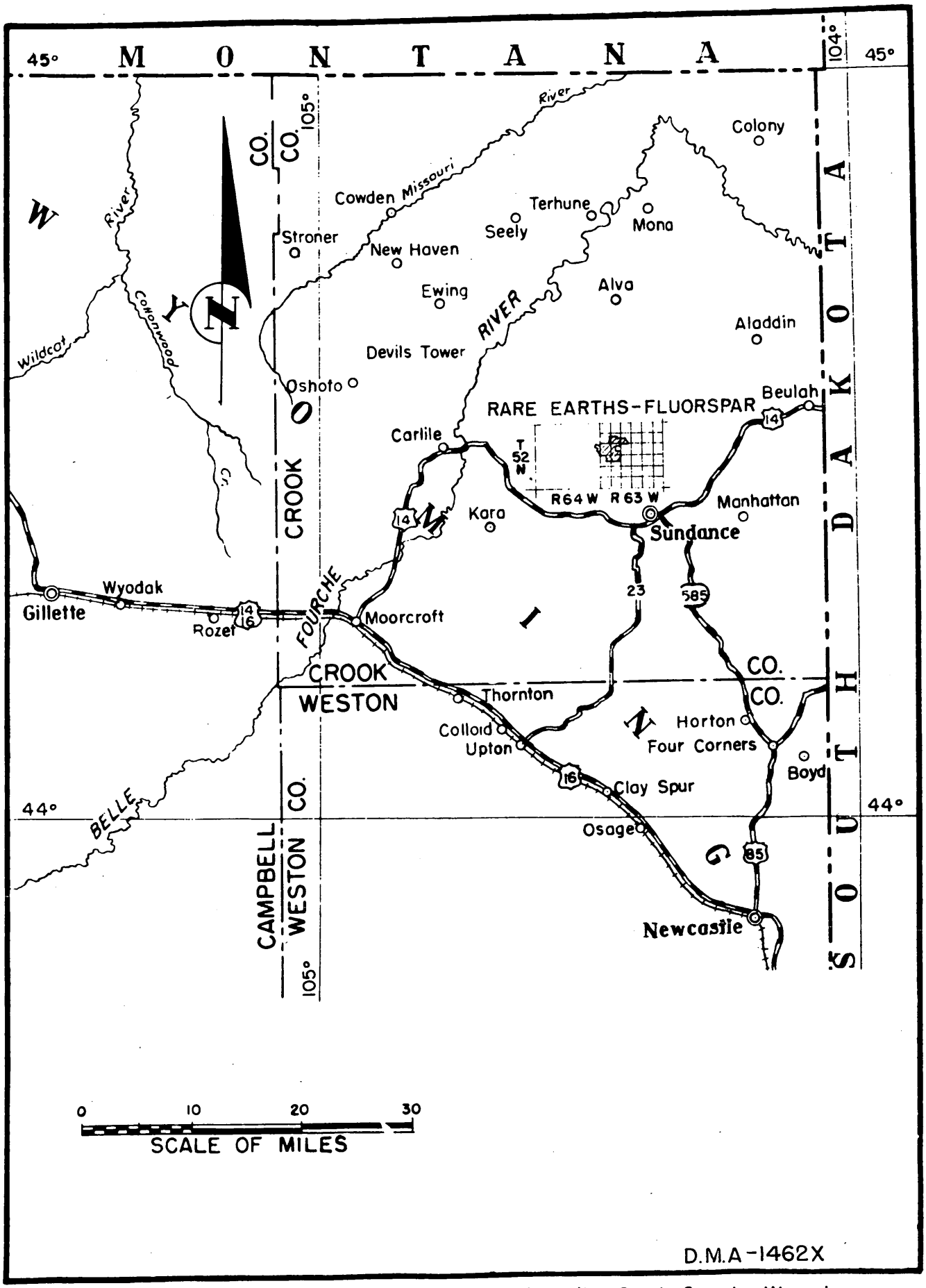

Figure 1.- Location map, Bear Lodge rare earth deposits, Crook County, Wyoming.

1948 or 1949. Details concerning the grade, destination, and tonnage of the shipment are lacking.

Very little work has been done since the investigation by the Bureau of Mines.

The rare earth claims are in an area originally investigated for the showings of copper carbonate minerals by early day prospectors. F. W. Peterson later located the claims. Radioactivity and subsequently rare earths were discovered in the area in 1949 on property which now adjoins Peterson's Lucky Day claims. The Telmor Engineering Corporation, of Chicago, Ill., leased the adjoining Climax group of claims and bulldozed long trenches over areas showing radioactivity. The Bureau of Mines diamond core drilled ten holes varying between 23 and 220 feet in length, analysed samples, and made microscopic tests. More recently the Bear Lodge Mining Company was organized and has done considerable surface trenching work. Both companies and the Bureau of Mines have conducted unsuccessful tests on beneficiation and ultimate utilization of the contained rare earths.

OWNERSHIP AND EXTENT

The Bear Lodge property consists of 22 unpatented lode-mining claims owned by E. W. Peterson and F. W. Peterson, of Moorcroft, Wyo., and Francis J. Chesley, of Billings, Mont. The Lucky Day claims, which were probably located for copper or fluorspar, are in the area containing evidence of rare earth minerals.

DESCRIPTION OF THE DEPOSITS

The Bear Lodge uplift was caused by a granitic intrusion probably during the Tertiary period. A series of gradual to steeply dipping sedimentary rocks ranging from Cambrian to Quarternary outcrop away from the edge of the igneous intrusion.

The rare earth claims are in an area of the principal laccolithic uplift which is composed chiefly of syenite porphyry.

The fluorite deposits occur generally in limestone, probably of the Pahasapa formation of Mississippian age.

Fluorite

The fluorite occurs as irregular replacement deposits along favorable beds in limestone, and as discontinuous veins following fissures. The occurrences, although widespread, are spotty.

Three areas, as outlined in the Report of Investigations 3877 by the Bureau of Mines, were examined. Fluorite in areas 2 and 3 was found in several trenches and test pits but in no place appeared concentrated in appreciable quantity. Shaft No. 2 in area 1 contained fluorite in a fissure paralleling the bedding for approximately 60 feet down dip for a width varying from 2 to 5 feet. The average grade of muck pile samples that were taken averaged about 24 percent CaF_2. The exposure for the bottom 20 feet in this shaft is estimated to average at least 40 percent CaF_2. The cuttings from two jackhammer drill holes for the bottom 12 feet of the shaft at the time of the Bureau of Mines' work averaged 56 percent CaF_2 and 27.5 percent SiO_2. This shaft is vertical for 20 feet, then flattens to about 40° at the bottom.

Rare Earths

The rare earths occur in altered syenite porphyry associated with soft earthy material and with black manganese oxide. The rocks are somewhat brecciated.

As determined by diamond drilling and sampling on adjoining claims, the rare earth values are probably greatest near the surface

and are associated with joint and fracture fillings. In some places rare earth occurs with black manganese oxide and reddish iron oxide in irregular cavities in the syenite rock.

The presence of rare earths is indicated by radioactivity as determined by the Geiger counter.

A sample of radioactive material from the Lucky Day claims assayed 0.029 percent uranium oxide, less than 0.01 percent thorium oxide, and 2.2 percent rare earth oxides.

MINABLE ORE RESERVES

Fluorite

The only minable fluorite reserves appeared to be in the No. 2 shaft of area 1. A zone 20 feet on each side of the 50-foot shaft for a 4-foot width would yield about 600 tons of indicated ore averaging about 40 percent CaF_2.

Rare Earths

The rare earth deposits are on Lucky Day claims 1, 2, 4, 8, and 14. Areas on these claims show various degrees of radioactivity and probably contain rare earth values comparable to those on the adjoining Climax claims. Assays of core drill samples on the Climax claims varied up to 10 percent rare earth oxides.

Microscopic tests on samples from the Climax claims failed to isolate any rare earth mineral. These tests indicated the rare earths are contained as salts in clays and as mixtures with iron and other impurities.

The inability to separate or identify any rare earth mineral indicates that beneficiation will be difficult, and may not be possible.

The Bear Lodge Mining Company and the Telmor Engineering Company are investigating methods to beneficiate the Bear Lodge ores but so far have been unsuccessful. These companies are actively exploring their deposits by bulldozer trenching. Until the rare earth ore can be beneficiated to a marketable form, ore reserve calculations are meaningless.

Whereas there is some radioactivity in areas on the Lucky Day claims, there are no calculable ore reserves.

PRESENT STATUS

Exploration and Development

The principal development on the fluorite claims was performed by the Bureau of Mines during World War II. Interesting showings of fluorite occur and a few thousand tons of 40 to 50 percent CaF_2 material could probably be developed.

Equipment and Facilities

The only mining equipment observed on the property was an old car engine rigged up to operate as a hoist. The operators may have other equipment not on the property. Correspondence in regard to equipment, proposed work, and financing was unanswered.

There are no existing milling facilities within several hundred miles.

Metallurgical tests by the Bureau of Mines, as stated in Report of Investigations 3877, indicated the ore will require fine grinding for complete liberation of the fluorite from the gangue. Some of the fluorite grains range to 280-mesh.

Table concentration of the sample gave a low recovery with a concentrate assaying in excess of 80 percent CaF_2. By grinding to

minus 100-mesh and treating by flotation, a recovery of 75 to 90 percent was made in a product assaying plus 85 percent CaF_2. Additional flotation tests indicate that, with slightly lower recovery, a concentrate assaying in excess of 90 percent CaF_2 can be made.

PROJECT PROPOSALS, WITH COSTS

The loan application requested funds for rehabilitating old shafts, diamond drilling, and bulldozer trenching on the Lucky Day rare earth claims and for trenching, shaft sinking, and drifting on the Fluoride claims. No definite proposals were made. The application stated $1,200.00 were available on a matching fund basis, but no cost estimates for work at either the rare earth or fluorite claims were submitted.

Equipment

The applicant, so far as is known, has no serviceable mining equipment.

Transportation

Good access roads exist to both types of deposits.

Ore or concentrates would have to be trucked 36 to 38 miles to Upton for loading on railroad cars for shipment.

The operator probably does not have any adequate hauling equipment; local hauling services are available at Sundance on a contract basis.

Manpower

Skilled labor is scarce in the area. A limited number of unskilled surface laborers can be obtained at Sundance.

Power

The nearest source for power is Sundance. Four to six miles of transmission lines would have to be constructed to make power available at the mining claims and utilization of deisel power would probably be advisable in the event operations are undertaken.

Water

Adequate water can be collected from small surface flows or from springs for mining. Water for milling facilities would have to be developed.

Others

Hardware and incidental supplies can be obtained at Sundance. Mining supplies can be obtained from Deadwood, S. Dak., about 46 miles east of Sundance.

CONCLUSIONS

The following conclusions are presented:

(1) There are some interesting occurrences of fluorite on the Peterson claims. A possibility exists that these deposits with production from others nearby may in the future, if developed on a regional basis, contribute sufficient fluorite to warrant a district treatment plant.

(2) The fluorite on the Peterson claims is erratic in occurrence and low-grade.

(3) The absence of milling facilities, long truck haul to the railroad, and high freight charges to eastern markets affect adversely development of fluorite in the area at present.

(4) The applicant made no definite proposal for a fluorite project and correspondence in regard to matching funds and plans for operation with project costs was unanswered.

(5) Evidence of rare earths was indicated by the Geiger counter and in a sample as occurring in altered syenite porphyry on the Lucky Day claims.

(6) It is not considered necessary in testing for rare earth minerals to rehabilitate old inaccessible mine workings as waste dump material appears similar and reacts the same as the minerals found in surface exposures.

(7) The rare earth ores are low-grade, and, because of the inability to microscopically isolate any of them, beneficiation, if possible, will be difficult and costly. It seems advisable to await results attained by companies in the area actively engaged in investigating beneficiation methods for the ultimate utilization of the Bear Lodge rare earths before suggesting an exploration program.

RECOMMENDATIONS

The request for a loan of $10,000.00 for exploration of either fluorite or rare earth deposits on the "Peterson claims" is not recommended.

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

224 New Customhouse
Denver 2, Colorado

October 3, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 1462X, Francis J. Chesley, Fluorspar and Rare Earths, Crook County, Wyoming

Enclosed herewith are original and two copies of the report on DMA Docket 1462X as listed above.

We concur with the findings of the examining team and recommend that application for a loan be denied.

The brochure is returned herewith.

J. H. East, Jr.

for A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 8 1951

Enclosures

ld

cc: DMA

Mining Division
Region IV

October 2, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: DMA Docket 1462X, Francis J. Chesley, Fluorspar and Rare Earths, Crook County, Wyoming

Exploration cannot be recommended on either the fluorspar or rare earth deposits as proposed by the applicant. Exploration on the fluorspar and on rare earth deposits adjacent to the claims of the applicant by the Bureau of Mines has been adequate to evaluate the grade and extent.

It is recommended that the loan request be denied.

P. T. Allaman

PTA:LA

cc: DMA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

September 25, 1951

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1462X, Fluorite and Rare Earth Deposits, Sundance, Crook County, Wyoming

Attached are 8 copies of the geological report covering DMA Docket 1462X (fluorite and Rare Earths). Fluorite occurs as replacement lenses in Mississippian limestone, and is exposed in several cuts and shafts. Extensive exploration work by shafts and bulldozer cuts has been done on the subject property without finding deposits of commercial grade. Because of the small size and spotty nature of these deposits, as well as unfavorable economic factors, Mr. Meek recommends that the application for a fluorite exploration loan be denied.

The applicant has also applied for a loan to explore for rare earth deposits on this same property. No rare earth minerals have been recognized, and analyses show that the grade in the most favorable material is well below an estimated economic limit of 5%. Mr. Meek, therefore, recommends that the application for an exploration loan for rare earth deposits also be denied.

I concur with the recommendation of Mr. Meek.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Attachments (8)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 1, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: W. M. Traver, Jr.

Subject: Docket DMA-1462X, Francis J. Chesley, Fluorspar and Rare Earths, Creek County, ~~Colorado~~ Wyo.

Please find enclosed the original and seven copies of the "Summary, Conclusions, and Recommendations", by Everett and Meek, and the same number of copies of Everett's engineering report on the subject Defense Minerals Administration docket.

The Peterson claims included in this loan request were at first considered as having possibilities for a small participating fluorspar exploration loan. However, correspondence with the applicant, Francis J. Chesley, requesting, first, that he accompany the examiners to the property and, second, that, failing in this first request, he submit an outline of his proposed program, especially with regard to fluorspar, and indicate his ability to participate on a 50 percent basis, was unanswered. The obvious conclusion drawn from his ignoring our correspondence, naturally, was that he was notfurther interested in a Defense Minerals Administration loan on any basis. Inasmuch as the project was considered marginal, a report recommending denial was prepared.

I am in agreement with the recommendation of the examining team.

The brochure and a review furnished by your office are returned herewith.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

Summary, Conclusions, and Recommendations

By F. D. Everett
Mining Engineer
Bureau of Mines

and

W. B. Meek
Geologist
U. S. Geological Survey

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By F. D. Everett and W. B. Meek

Francis J. Chesley applied for a $10,000.00 ninety percent government participating loan for exploration of rare earths and fluorspar on the Peterson claims in the Bear Lodge Mountains, Crook County, Wyo. Proposed work included surface trenching and rehabilitating an old shaft on the rare earth claims and sinking a 60-foot shaft to 100 feet on the fluorspar claims.

The investigation by the Defense Minerals Administration examining team revealed:

(1) Fluorite occurs in spotty, irregular lenses as replacement deposits and in short discontinuous veins in limestone, probably associated with syenite intrusions.

(2) Although some fairly high-grade fluorite was observed, most of the material was low-grade.

(3) The absence of milling facilities, the long truck haul to the railroad, and high freight charges to an eastern market would make fluorite production unprofitable from the Peterson claims.

(4) The applicant made no definite proposal for fluorite exploration, and correspondence in regard to matching funds on a fifty percent participating basis was unanswered.

(5) Rare earth oxides have been found in syenite porphyry and related rocks on the Lucky Day and other claims in the Bear Lodge Mountains. No visible evidence was observed, structurally or otherwise, to account for the mineralization. The presence of rare earth can be

determined either by radioactivity or chemical analyses.

(6) Attempts to identify or isolate the rare earth minerals microscopically have been unsuccessful; beneficiation attempts by other companies, actively developing deposits in the area have so far been unsuccessful.

(7) No analyses of rare earth material are known that would necessarily classify Bear Lodge material as ore. It seems advisable to await exploitation success of other companies in the area before attempting to develop the Lucky Day claims.

This lean for exploration of rare earths or fluorspar is not recommended.

FLUORITE AND RARE EARTH DEPOSITS

SUNDANCE, CROOK COUNTY, WYOMING

Geology

DMA DOCKET 1462X

Geology

By Ward B. Meek, Geologist
U. S. Geological Survey

FLUORITE AND RARE EARTH DEPOSITS
SUNDANCE, CROOK COUNTY, WYOMING

INTRODUCTION

Francis J. Chesley and his partners, Frank and C. W. Peterson, have applied for a $10,000.00 exploration grant on fluorite and rare earth deposits located some eight miles north of Sundance, Wyoming. Some $10,000.00 worth of exploration work by shafts and bulldozer cuts has been accomplished. Various other operators have done even more extensive work on properties in the area, but no minerals of present commercial value have been located. The Bureau of Mines drilled some of the fluorite prospects. Their findings are given in Report of Investigations #3877 published in April 1946.

FLUORITE

Fluorite on the Peterson claims is exposed in several cuts and in two shafts which are still open. It occurs as replacement lenses in limestone tentatively identified as the Pahasapa limestone of Mississippian age. Syenite of Tertiary age was found near some of the fluorite deposits; it is a possible source of the mineralizing solutions.

At all observed exposures the lenses of fluorite lie parallel to bedding. Several were observed to pinch out along the strike with a total length of about 50 feet or less. The degree of replacement and the concentration of fluorite vary from slight to extensive. One promising occurrence of fluorite was noted; it is shown at shaft No. 2, Area

No. 1, on Figure No. 3 of Bureau of Mines R. I. #3877. Sampling from this shaft, report in R. I. #3877, shows an average of about 56% CaF_2 for two jack hammer holes of unknown length in the lower 12 feet of the shaft. Muck pile samples were reported to average about 24% CaF_2.

Other prospects in the area, not on the Peterson claims, are perhaps more extensive and promising. It is possible that the future may see some substantial production of fluorite from this general vicinity. At present, however, the small size and spotty nature of these deposits, the distance of required trucking over dirt roads, and the lack of an established market in the district are discouraging.

It is recommended that the application for a fluorite exploration loan be denied.

RARE EARTHS

The rare earth minerals of this district are found in syenite and syenite porphyry of Tertiary age. They occur with no recognized pattern or known or estimated dimensions. No rare earth minerals have been recognized even in microscopic studies. Some values seem to occur with manganese or iron oxides of supergene origin, some with leached white rock. It has been fairly well established that rare earth values are highest in this district wherever radioactivity is high.

Samples previously assayed from this area by the Bureau of Mines and by the Trace Elements Section of the Geological Survey showed rare earths contents well below an estimated economic limit of about 5%. A sample taken in the course of this examination where radioactivity is high on Luckyday claim was analyzed by the Bureau of Mines as follows:

U_3O_8	ThO_2	Ce	Rare earth oxides
0.029%	-0.01%	0.75%	2.2%

These values do not indicate ore.

RECOMMENDATIONS

Fluorite: It is recommended that the application for a loan to explore fluorite be denied because of the small size and spotty nature of these deposits and because of their remoteness from any known market.

Rare earths: It is recommended that the application for a loan to explore rare earths be denied because grade of material reported by reliable agencies is too low to be economic.

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-1462X, Francis J. Chesley

Fluorspar and Rare Earths

Crook County, Wyo.

F. D. Everett, Mining Engineer
Bureau of Mines

W. B. Meek, Geologist
U. S. Geological Survey

September 27, 1951

Engineering

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

Engineering Report

By F. D. Everett
Mining Engineer
Bureau of Mines

FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

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FRANCIS J. CHESLEY
FLUORSPAR AND RARE EARTHS
CROOK COUNTY, WYO.

ENGINEERING REPORT

By

F. D. Everett

INTRODUCTION

Fluorspar and rare earth claims commonly called "Peterson's claims" are in the Bear Lodge Mountains, Crook County, Wyo. The rare earth claims are adjacent to the Climax claims which were leased to the Tolmor Engineering Company, of Chicago, Ill. The Climax claims together with claims owned by the newly formed Bear Lodge Mining Company were investigated by the Bureau of Mines in the summer of 1950. Peterson's fluorspar claims were investigated by the Bureau of Mines in 1944 and the results are described in Report of Investigations 3877.

The examining team, composed of U. S. Geological Survey men, J. C. Olson, of the Trace Elements Branch, and W. B. Meek, of Minerals Branch, and the Bureau of Mines engineer, investigated the properties on August 9 and 10, 1951. F. J. Chesley, the applicant, was notified by mail of the date designated for the investigation but failed to meet the members of the examining team. The location of the properties was known to the Bureau engineer from previous work in the area, and the investigation was made as planned.

ACKNOWLEDGMENT

Charles Baker, of Sundance, Wyo., gave information regarding the history and production from the properties and this information is gratefully acknowledged.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The fluorspar and rare earths claims are in the Bear Lodge Mountains of the Black Hills Region between 8 and 10 miles by dirt road north of Sundance, Crook County, Wyo. The rare earth deposits are in sec. 17, T. 52 N., R. 63 W., 6 P. M., and are from 2 to 3 air line miles west from the fluorspar claims which are in secs. 15, 22, and 23, T. 52 N., R. 63 W., 6 P. M. The area is in the Black Hills National Forest (fig. 1).

The Black Hills consist of a dome-shaped group of mountains in northeastern Wyoming and western South Dakota, rising several hundred feet above the plains. The area is roughly 100 miles long and 50 miles wide.

Precipitation is abundant and the gentle slopes are heavily wooded. Numerous small streams flow during the spring months. Ranching, wheat farming, and lumbering are the main industries.

Sundance is the county seat of Crook County. The nearest railroad shipping facilities are at Upton, on the Chicago, Burlington and Quincy Railroad, 28 miles south of Sundance.

The nearest source for electric power is Sundance which is 5 to 7 air line miles to the south.

HISTORY AND PRODUCTION

Fluorite has been known to occur in the Bear Lodge area since 1914, but was not discovered on the Peterson claims until 1943. The Bureau of Mines investigated and explored the fluorspar occurrences in 1944 by a series of trenches, test pits, and shallow shafts.

No production is reported from the property except for one car load, which, according to Charles Baker, of Sundance, was shipped by Chesley in

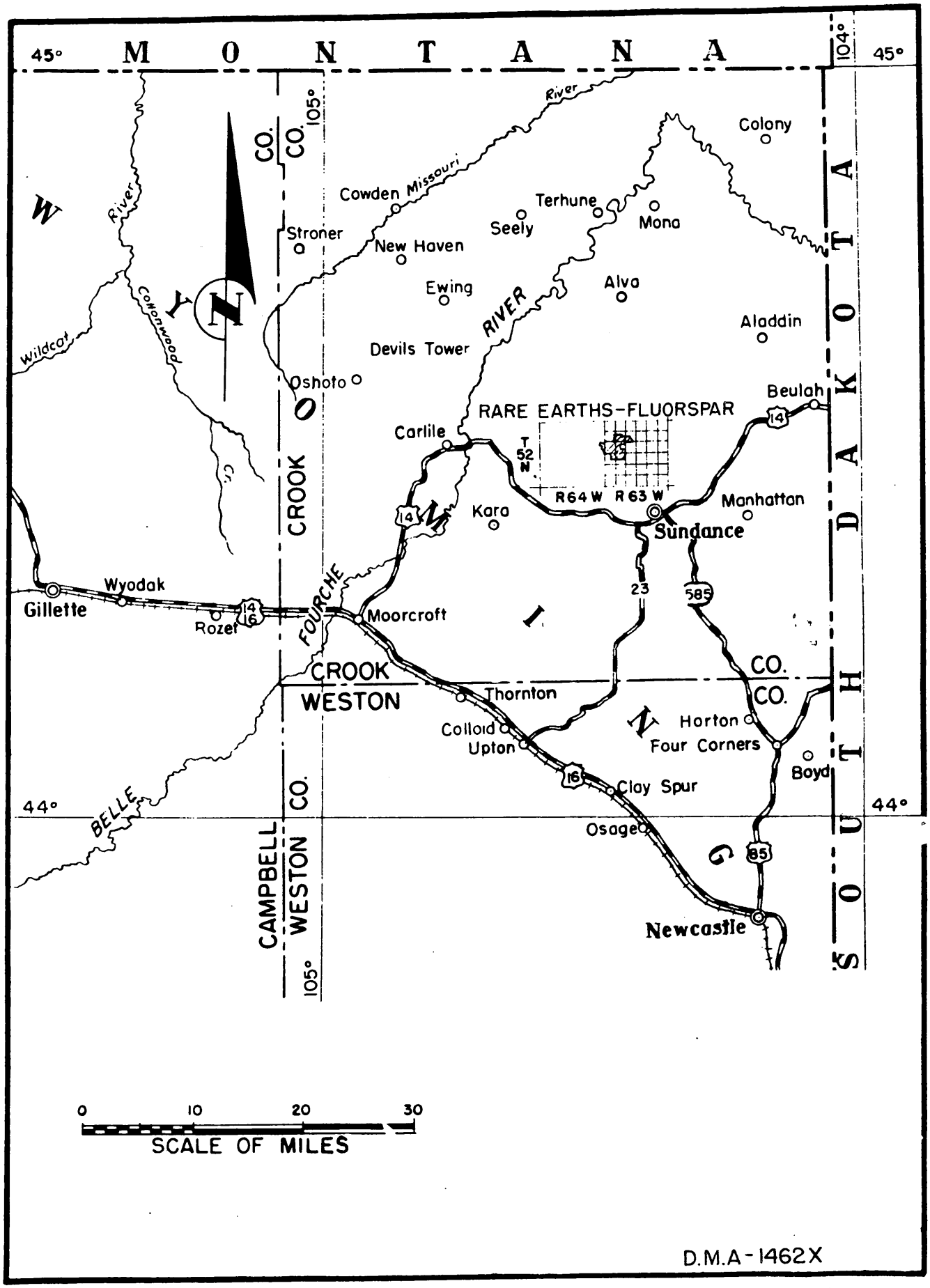

Figure 1.- Location map, Bear Lodge rare earth deposits, Crook County, Wyoming.

1948 or 1949. Details concerning the grade, destination, and tonnage of the shipment are lacking.

Very little work has been done since the investigation by the Bureau of Mines.

The rare earth claims are in an area originally investigated for the showings of copper carbonate minerals by early day prospectors. F. W. Peterson later located the claims. Radioactivity and subsequently rare earths were discovered in the area in 1949 on property which now adjoins Peterson's Lucky Day claims. The Telmor Engineering Corporation, of Chicago, Ill., leased the adjoining Climax group of claims and bulldozed long trenches over areas showing radioactivity. The Bureau of Mines diamond core drilled ten holes varying between 23 and 220 feet in length, analyzed samples, and made microscopic tests. More recently the Bear Lodge Mining Company was organized and has done considerable surface trenching work. Both companies and the Bureau of Mines have conducted unsuccessful tests on beneficiation and ultimate utilization of the contained rare earths.

OWNERSHIP AND EXTENT

The Bear Lodge property consists of 22 unpatented lode-mining claims owned by E. W. Peterson and F. W. Peterson, of Moorcroft, Wyo., and Francis J. Chesley, of Billings, Mont. The Lucky Day claims, which were probably located for copper or fluorspar, are in the area containing evidence of rare earth minerals.

DESCRIPTION OF THE DEPOSITS

The Bear Lodge uplift was caused by a granitic intrusion probably during the Tertiary period. A series of gradual to steeply dipping sedimentary rocks ranging from Cambrian to Quarternary outcrop away from the edge of the igneous intrusion.

The rare earth claims are in an area of the principal laccolithic uplift which is composed chiefly of syenite porphyry.

The fluorite deposits occur generally in limestone, probably of the Pahasapa formation of Mississippian age.

Fluorite

The fluorite occurs as irregular replacement deposits along favorable beds in limestone, and as discontinuous veins following fissures. The occurrences, although widespread, are spotty.

Three areas, as outlined in the Report of Investigations 3877 by the Bureau of Mines, were examined. Fluorite in areas 2 and 3 was found in several trenches and test pits but in no place appeared concentrated in appreciable quantity. Shaft No. 2 in area 1 contained fluorite in a fissure paralleling the bedding for approximately 60 feet down dip for a width varying from 2 to 5 feet. The average grade of muck pile samples that were taken averaged about 24 percent CaF_2. The exposure for the bottom 20 feet in this shaft is estimated to average at least 40 percent CaF_2. The cuttings from two jackhammer drill holes for the bottom 12 feet of the shaft at the time of the Bureau of Mines' work averaged 56 percent CaF_2 and 27.5 percent SiO_2. This shaft is vertical for 20 feet, then flattens to about 40° at the bottom.

Rare Earths

The rare earths occur in altered syenite porphyry associated with soft earthy material and with black manganese oxide. The rocks are somewhat brecciated.

As determined by diamond drilling and sampling on adjoining claims, the rare earth values are probably greatest near the surface

and are associated with joint and fracture fillings. In some places rare earth occurs with black manganese oxide and reddish iron oxide in irregular cavities in the syenite rock.

The presence of rare earths is indicated by radioactivity as determined by the Geiger counter.

A sample of radioactive material from the Lucky Day claims assayed 0.049 percent uranium oxide, less than 0.01 percent thorium oxide, and 2.2 percent rare earth oxides.

MINABLE ORE RESERVES

Fluorite

The only minable fluorite reserves appeared to be in the No. 2 shaft of area 1. A zone 20 feet on each side of the 50-foot shaft for a 4-foot width would yield about 600 tons of indicated ore averaging about 40 percent CaF_2.

Rare Earths

The rare earth deposits are on Lucky Day claims 1, 2, 4, 8, and 14. Areas on these claims show various degrees of radioactivity and probably contain rare earth values comparable to those on the adjoining Climax claims. Assays of core drill samples on the Climax claims varied up to 10 percent rare earth oxides.

Microscopic tests on samples from the Climax claims failed to isolate any rare earth mineral. These tests indicated the rare earths are contained as salts in clays and as mixtures with iron and other impurities.

The inability to separate or identify any rare earth mineral indicates that beneficiation will be difficult, and may not be possible.

The Bear Lodge Mining Company and the Telmer Engineering Company are investigating methods to beneficiate the Bear Lodge ores but so far have been unsuccessful. These companies are actively exploring their deposits by bulldozer trenching. Until the rare earth ore can be beneficiated to a marketable form, ore reserve calculations are meaningless.

Whereas there is some radioactivity in areas on the Lucky Day claims, there are no calculable ore reserves.

PRESENT STATUS

Exploration and Development

The principal development on the fluorite claims was performed by the Bureau of Mines during World War II. Interesting showings of fluorite occur and a few thousand tons of 40 to 50 percent CaF_2 material could probably be developed.

Equipment and Facilities

The only mining equipment observed on the property was an old car engine rigged up to operate as a hoist. The operators may have other equipment not on the property. Correspondence in regard to equipment, proposed work, and financing was unanswered.

There are no existing milling facilities within several hundred miles.

Metallurgical tests by the Bureau of Mines, as stated in Report of Investigations 3877, indicated the ore will require fine grinding for complete liberation of the fluorite from the gangue. Some of the fluorite grains range to 280-mesh.

Table concentration of the sample gave a low recovery with a concentrate assaying in excess of 80 percent CaF_2. By grinding to

minus 100-mesh and treating by flotation, a recovery of 75 to 90 percent was made in a product assaying plus 85 percent CaF_2. Additional flotation tests indicate that, with slightly lower recovery, a concentrate assaying in excess of 90 percent CaF_2 can be made.

PROJECT PROPOSALS, WITH COSTS

The loan application requested funds for rehabilitating old shafts, diamond drilling, and bulldozer trenching on the Lucky Day rare earth claims and for trenching, shaft sinking, and drifting on the Fluoride claims. No definite proposals were made. The application stated $1,200.00 were available on a matching fund basis, but no cost estimates for work at either the rare earth or fluorite claims were submitted.

Equipment

The applicant, so far as is known, has no serviceable mining equipment.

Transportation

Good access roads exist to both types of deposits.

Ore or concentrates would have to be trucked 36 to 38 miles to Upton for loading on railroad cars for shipment.

The operator probably does not have any adequate hauling equipment; local hauling services are available at Sundance on a contract basis.

Manpower

Skilled labor is scarce in the area. A limited number of unskilled surface laborers can be obtained at Sundance.

Power

The nearest source for power is Sundance. Four to six miles of transmission lines would have to be constructed to make power available at the mining claims and utilization of diesel power would probably be advisable in the event operations are undertaken.

Water

Adequate water can be collected from small surface flows or from springs for mining. Water for milling facilities would have to be developed.

Others

Hardware and incidental supplies can be obtained at Sundance. Mining supplies can be obtained from Deadwood, S. Dak., about 46 miles east of Sundance.

CONCLUSIONS

The following conclusions are presented:

(1) There are some interesting occurrences of fluorite on the Peterson claims. A possibility exists that these deposits with production from others nearby may in the future, if developed on a regional basis, contribute sufficient fluorite to warrant a district treatment plant.

(2) The fluorite on the Peterson claims is erratic in occurrence and low-grade.

(3) The absence of milling facilities, long truck haul to the railroad, and high freight charges to eastern markets affect adversely development of fluorite in the area at present.

(4) The applicant made no definite proposal for a fluorite project and correspondence in regard to matching funds and plans for operation with project costs was unanswered.

(5) Evidence of rare earths was indicated by the Geiger counter and in a sample as occurring in altered syenite porphyry on the Lucky Day claims.

(6) It is not considered necessary in testing for rare earth minerals to rehabilitate old inaccessible mine workings as waste dump material appears similar and reacts the same as the minerals found in surface exposures.

(7) The rare earth ores are low-grade, and, because of the inability to microscopically isolate any of them, beneficiation, if possible, will be difficult and costly. It seems advisable to await results attained by companies in the area actively engaged in investigating beneficiation methods for the ultimate utilization of the Bear Lodge rare earths before suggesting an exploration program.

RECOMMENDATIONS

The request for a loan of $10,000.00 for exploration of either fluorite or rare earth deposits on the "Peterson claims" is not recommended.

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

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Docket No. DMA docket - 1462x

Commodity Rare Earths, Fluorspar, Lead

Applicant Francis J. Chesley

Please expedite the consideration of this application with particular reference to the points raised in the attached "Review."

Very truly yours,

Tom Lyon, Chairman
Coordinating Committee

For Bureau of Mines

For Geological Survey

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA-1462x

Commodity Rare Earths, Fluorspar, lead

Total Amount $10,000.00

Govt. Participation 90% rare earths 50% others

1. Name and Address of Applicant Francis J. Chesley
2433 Ash, Billings, Montana

2. Location of Property Crook County, Wyo., Bear Lodge Mountains,
8 Miles north of Sundance, Wyo.

3. Mineral or metal Rare earths, fluorspar lead Is it listed in Section 9 of MO-5? yes

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good

b) Poor For fluorspar and lead

c) None

d) Don't know—needs field examination For rare earths - refer to region IV for results of Bureau Mines Core drilling here last year.

e) Is there an alternative and favorable project? (If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? (question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary?_____

a) MF-201?_____

b) MF-202_____

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower_____

b) Equipment and supplies_____
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)*_____

d) Water (question 13)*_____

e) Power (question 13)*_____

Is a field check needed on any of these points?_____

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)*_____

Is a field check needed on this point?_____

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? No

If not, are there sufficient data given so that you can describe the project? No If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? No map or sketch

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? yes

If not, what part of it is?_____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed?_____

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data?_____ If so, attach a draft.

e) Are the cost estimates reasonable?_____

f) Should more information be requested from applicant? See comment on #17

g) Is a field examination necessary to complete Exhibit A?_____

11. Exhibit B (question 23-d)*

a) Is it applicable?_____

b) If so, are sufficient data furnished?_____ If so, attach a draft.

c) Is a field check needed?_____

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable?_____

b) Sufficient data?_____ If so, attach a draft.

c) Are rents and charges reasonable?_____

d) Is a field check needed?_____ _____

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data?_____

b) Is the schedule adequate for the work proposed?_____

c) Is the schedule excessive for the work proposed?_____

d) Are the proposed wages and salaries reasonable?_____

e) Is a field check needed?_____

14. Exhibit E (question 23-c)*

a) Is it applicable?_____

b) Sufficient data?_____

c) Reasonable?_____

d) Field check needed?_____

15. In your judgment, can the proposed work be done in the proposed time?_____

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? Bureau of Mines core drilled on this property, last year for rare earths. Application should be referred to Region IV and Bureau office for recommendation as to whether additional data from applicant should be requested and whether additional filed examination is needed.

Reviewed by: R.E. Van Alstine USGS

Date 6-12-51

97692

FILE COPY
SURNAME:

Bourret
Moon
McKnight for Rare

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

Mailed
JUN 21 1951

Mr. Francis J. Chesley
2423 Ash
Billings, Montana

Dear Mr. Chesley:

Your application docket DMA-1462x for exploration project in the amount of $10,000.00 has been received by the Minor and Rare Metals Branch of the Supply Division.

Before a decision can be reached on your request we find it is necessary to obtain additional information on your property. Your application therefore is being referred to the office of the Executive Officer of DMA field team II, ~~Mr. R. E. Weissenborn, South 157 Howard Street, Spokane, Washington~~ Reno, Nev., with the request that the needed information be supplied to us.

Yours very truly,

Tom Lyon, Director
Supply Division

WBourret/mh
cc: Adm. Reading File
Strobel
Lyon
Field Team, II
Bourret
Files

FILE COPY
SURNAME:

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

June 11, 1951

Mr. Francis J. Chesley
2423 Ash
Billings, Montana

Subject: DMA-1462X
Re: Exploration Loan -
Fluoride lode, Ace lode,
and Lucky Day Claims

My dear Mr. Chesley:

Receipt is acknowledged of your application and attachments of May 31, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1462X and referred to Mr. Weston Bourret, Chief, Minor and Rare Metals Branch on June 5, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1462X.

Sincerely Yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:hb

Copy to: Mr. Strobel
Mr. Lyon
Mr. Bourret
Files

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

REGIONAL DIRECTOR'S
OFFICE
REGION IV
JUN 25 1951
BUREAU OF MINES
DENVER, COLORADO

JUN 21 1951

Mr. J. H. East, Jr.
Executive Officer Field Team, Region IV
Denver 2, Colorado

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Docket No. DMA docket - 1462x

Commodity Rare Earths, Fluorspar, Lead

Applicant Francis J. Chesley

Please expedite the consideration of this application with particular reference to the points raised in the attached "Review."

Very truly yours,

Tom Lyon

Tom Lyon, Chairman
Coordinating Committee

Lowell B. Moon
For Bureau of Mines

Edwin T. McKnight
For Geological Survey

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA- 1462 X

Commodity Rare earths, fluorspar, lead

Total Amount $10,000.00

Govt. Participation 90% rare earths
50% others

1. Name and Address of Applicant Francis J. Chesley
2423 Ash, Billings, Montana

2. Location of Property Crook County, Wyo, Bear Lodge Mountains, 8 miles north of Sundance, Wyo.

3. Mineral or metal Rare earths, fluorspar, lead Is it listed in Section 9 of MO-5? yes

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good

✓ b) Poor For fluorspar and lead

c) None

✓ d) Don't know—needs field examination For rare earths — refer to Region IV for results of Bureau mines core drilling here last year

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated?
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary? _____

a) MF-201? _____

b) MF-202 _____

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower _____

b) Equipment and supplies _____
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* _____

d) Water (question 13)* _____

e) Power (question 13)* _____

Is a field check needed on any of these points? _____

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* _____

_____

Is a field check needed on this point? _____

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? No

If not, are there sufficient data given so that you can describe the project? NO If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? No map or sketch

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes

If not, what part of it is? _____

_____

_____

_____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed?_____

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data?_____ If so, attach a draft.

e) Are the cost estimates reasonable?_____

f) Should more information be requested from applicant?_____ See comment on #17

g) Is a field examination necessary to complete Exhibit A?_____

11. Exhibit B (question 23-d)*

a) Is it applicable?_____

b) If so, are sufficient data furnished?_____ If so, attach a draft.

c) Is a field check needed?_____

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable?_____

b) Sufficient data?_____ If so, attach a draft.

c) Are rents and charges reasonable?_____

d) Is a field check needed?_____

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data?_____

b) Is the schedule adequate for the work proposed?_____

c) Is the schedule excessive for the work proposed?_____

d) Are the proposed wages and salaries reasonable?_____

e) Is a field check needed?_____

14. Exhibit E (question 23-c)*

a) Is it applicable? _____

b) Sufficient data? _____

c) Reasonable? _____

d) Field check needed? _____

15. In your judgment, can the proposed work be done in the proposed time? _____

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question?

Bureau of Mines core drilled on or near this property last year for rare earths. Application should be referred to Region IV and Bureau office for recommendations as to whether additional data from applicant should be requested and whether additional field examination is needed.

Reviewed by: R.E. Van Alstine USGS

Date 6/12/51

97692

Defense Minerals Administration
Reference Slip

Date 6/5

To: 1. Bennett

2.

3.

4.

DMA 1462X

For Action ✓
Reply
Information
Remarks:

Sender LANDON F. STROBEL
OH

3
Mr. Strobel DMA 1462X

Forwarded to

Branch

Date

Sender

2
Mr. Strobel DMA 1462 X

Forwarded to

Branch

Date

Sender

1
Mr. Strobel DMA 1462X

Forwarded to

Branch

Date

Sender

92758

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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-1462X

Date received 6/4/51

Participation

FRANCIS T. CHESLEY
2423 ASH
BILLINGS, MONT.

Name and address of applicant

Date May 31st, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951 Estimated cost 10,000

Mineral or metal Rare Earths, fluorspar lead Percentage of Government participation 90% + 50%

Location of mine Crook County, Wyo
and Cooke City, Mont.

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? partnership

*2. If a partnership, state names and addresses of partners. C. W. & Frank Peterson, Moorcroft, Wyo.

*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. has worked on property every summer since 1946

*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. None

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. about 10,000 work done on property

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)? $1,200 yes

*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. Cracket springs
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. from Belle Fourche S. Dak. or Lupton, Ariz.

*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.) Bureau of Mines did diamond core drilling in this area last year.

(*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? rare earths & fluorspar

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. ~ 6 mos.

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.

(Name of company)

By Fosmair J. Chesley
(Signature of authorized official)

May 31, 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.

*Same as footnote on page 1.

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

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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-1462X

Date received 6/4/51

Participation

FRANCIS J. CHESLEY
2423 ASH
BILLINGS, MONT.

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951 Estimated cost $10,000

Mineral or metal Rare Earths, fluorspar & lead Percentage of Government participation 90% & 80%

Location of mine Crook County, Wyo.
& Cooke City, Mont.

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? partnership
*2. If a partnership, state names and addresses of partners. E. W. & FRANK PETERSEN, moorcroft, wyo.
*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. has worked on this property every summer since 1946
*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. none
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.

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16—64067-1

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State amount of power to be used, rate per hour or other cost, and source.

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15. State in detail how the ore could be shipped and how and where milled. from Belle Fourche, S. Dak or Upton, Wyo.

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(*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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(2) Milling				
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(*a*) Describe the ore or mineral deposits briefly. Bureau of Mines did Diamond core drilling in the area last yr.

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(*c*) Give estimated tonnage and grade of each class of ore reserves.

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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.

(Name of company)

By Francis J. Chesley
(Signature of authorized official)

May 31st, 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.

*Same as footnote on page 1.

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

The mining property consists of the following lode mining claims all situated in Crook County, Wyo. and recorded with the Registar of Deeds for said county: Fluoride lode, Fluoride No. 3, Fluoride No. 4, Fluoride No. 5, Fluoride No. 10, Fluoride no. 11, Fluoride No. 12, Fluoride No. 13, Fluoride No. 14, Fluoride No. 17, Ace lode, Ace no. 1, Ace no. 2, Ace no. 3, Ace No. 4, Ace No. 5, Ace n. 6, Ace No. 7, Ace No. 8, Ace No. 9, Ace No. 10, Ace No. 11, Ace No. 12, Lucky Day No. 1, Lucky Day No. 14, and Lucky Day No. 4.

The Bureau of Mines published a report on the Fluorspar Property in April 1946. Report of Investigation 3877, Exploration of the Bear Lodge Fluorite Property, Crook, County, Wyo. Since then considerable work has been done. One shaft e in the No. 1 area has been sunk to a depth of almost 60 feet on fluorspar and the vein carries ore from 4 to 6 feet in width..

These claims are situated about 8 miles north of Sundance, Wyo. Sundance is about 20 miles northwest of Upton, Wyo. on the ~~Chicago~~ C.B.&Q. & ~~Northwest~~ Railroad and 43 miles south west of Belle Fouche, S. Dak. on the Chicago & Northwest RR. There is ample water and timber..

On the Lucky day No. 4 claim samples were taken from a shaft about 25 feet deep and from a bull dozer cut about 150 feet long above this shaft and from another cut about 1000 feet below this shaft and were sent to the Lindsay Light and Chemical CO. They estimated that these samples 10% Rare Earths and to be slightly higher in rare earth content than assays from the Telmore- Climax area. The ~~61~~ Telmore- Climax area borders the Lucky Day claims and this is the property that the Bureau of Mines did diamond core drilling on last year.

It is proposed that the 60' shaft be sunk to at least 100 feet on the Fluorspar area and that further work be done on the Lucky Day claims for Rare Earths. Surface trenching should be done and an old shaft should be pumped dry, retimbered and tested. Samples from the dump give good count on the Gieger Counter and give strong tests in copper.

Francis J. Chesley

The mining property consists of the following lode mining claims all situated in Crook County, Wyo. and recorded with the Register of Deeds for said county: Fluoride lode, Fluoride No. 3, Fluoride No. 4, Fluoride No. 5, Fluoride No. 10, Fluoride no. 11, Fluoride No. 12, Fluoride No. 13, Fluoride No. 14, Fluoride No. 17, Ace lode, Ace no. 1, Ace no. 2, Ace no. 3, Ace No. 4, Ace No. 5, Ace n. 6, Ace No. 7, Ace No. 8, Ace No. 9, Ace No. 10, Ace No. 11, Ace No. 12, Lucky Day No. 1, Lucky Day No. 14, and Lucky Day No. 4.

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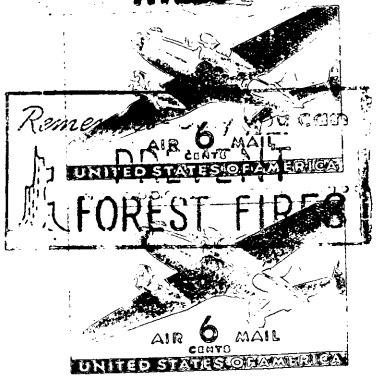
Francis J. Chesley

The MUTUAL COMPANION COMPANIES UNITED

FRANCIS J. CHESLEY, DIST. MGR.
~~2015½ 1ST AVENUE NORTH~~
BILLINGS, MONTANA

2423 Ash.

BILLINGS
MAY 31
10 PM
1951
MONT.



Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

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

224 New Customhouse
Denver, Colorado

June 28, 1951

Memorandum

To: P. T. Alleman (with brochure)

A. H. Koschmann

From: DMA Field Team, Region IV

Subject: DMA Docket 1462X, Francis J. Chesley (Rare earths, Fluorspar, Lead), Crook County, Wyoming

Attached is the brochure on the above docket and the "Review" made in the Washington office covering this application. The Bureau of Mines core drilled adjacent property and available information may be adequate to make the necessary report and recommendation. If not, please make the necessary field investigation and report.

P. T. Alleman, Alternate

A. H. Koschmann
A. H. Koschmann

Attachments

4626

a.e.

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

JUN 21 1951

June 18, 1951

Mr. Francis J. Chesley
2423 Ash
Billings, Montana

Dear Mr. Chesley:

Your application Docket DMA-1462x for exploration project in the amount of $10,000.00 has been received by the Minor and Rare Metals Branch of the Supply Division.

Before a decision can be reached on your request we find it is necessary to obtain additional information on your property. Your application therefore is being referred to the office of the Executive Officer of DMA Field Team IV, Mr. J. H. East, Jr. 224 New Customhouse Building, Denver 2, Colorado, with the request that the needed information be supplied to us.

Yours very truly,

Tom Lyon, Director
Supply Division

W.Bourret

cc: Adm. Reading File
Strobel
Lyon
Field Team IV
Bourret
Files

June 11, 1951

Mr. Francis J. Chesley
2423 Ash
Billings, Montana

Subject: DMA-1462X
Re: Exploration Loan -
Fluoride Lode, Ace Lode,
and Lucky Day Claims

My dear Mr. Chesley:

Receipt is acknowledged of your application and attachments of May 31, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1462X and referred to Mr. Norton Bourret, Chief, Minor and Rare Metals Branch on June 5, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1462X.

Sincerely Yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:hb

Copy to: Mr. Strobel
Mr. Lyon
Mr. Bourret
Files

Form
April

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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-1462X

Date received 6/4/51

Participation

FRANCIS J. CHESLEY
2423 ASH
BILLINGS, MONT.

Name and address of applicant

Date May 31st, 1951

FILL IN THIS BLOCK

Date of application May 31st, 1951

Estimated cost $10,000

Mineral or metal Rare earths, fluorspar, lead

Percentage of Government participation 90% + 50%

Location of mine CROOK COUNTY, WYO and Cooke City, Mont.

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? partnership

*2. If a partnership, state names and addresses of partners. E. W. & Frank Petersen, Moorcroft, Wyo.

*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. has worked on this property every summer since 1946 —

*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. — none

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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)? ~~about~~ $1200 — yes

*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

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(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly. Bureau of Mines did diamond core drilling in this area last year.

(*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? rare earths + fluorspar

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. 6 mos.

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.

(Name of company)

By Francis J. Chesley
(Signature of authorized official)

May 31, 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.

*Same as footnote on page 1.

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

The mining property consists of the following lode mining claims all situated in Crook County, Wyo. and recorded with the Register of Deeds for said county: Fluoride lode, Fluoride No. 3, Fluoride No. 4, Fluoride No. 5, Fluoride No. 10, luoride no. 11, Fluoride No. 12, Fluoride No. 13, Fluoride No. 14, Fluoride No. 17, ce lode, ce no. 1, ce no. 2, ce no. 3, ce no. 4, Ace No. 5, ce n. 6, ce No. 7, ce No. 8, ce No. 9, ce No. 10, ce No. 11, ce o. 12, Lucky Day o. 1, Lucky ay No. 14, and Lucky Day No. 4.

The Bureau of Mines published a report on the Fluorspar Property in pril 1946. Report of Investi ation 3877, xploration of the Bear Lodge Fluorite Property, Crook, County, Wyo. Since then considerable work has been done. One shaft e in the No. 1 area has been sunk to a depth of almost 60 feet on fluorspar and the vein carries ore from 4 to 6 feet in width..

These cl ims are situated about 6 miles north of Sundance, yo. Sundance is about 20 miles northwest of pton, Wyo. on the ~~Chicago~~ C B & Q ~~Northwest~~ Railroad and 43 miles south west of elle ouche, S. Dak. on the Chicago Northwest RR. There is ample water and timber..

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Francis J. Chesley

MF-103
(1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R10
Approval expires 6-30-51.

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-1462X

Date received 6/4/51

Participation

FRANCIS J. CHESLEY
2423 ASH
BILLINGS, MONT.

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951 Estimated cost 10,000

Mineral or metal Rare Earths, fluorspar & lead Percentage of Government participation 90% + 80%

Location of mine Crook County, Wyo and
Cooke City, Mont.

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? Partnership

*2. If a partnership, state names and addresses of partners. E. W. & Frank Petersen, Moorcroft, Wyo.

*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. has worked on property every summer since 1946

*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. none

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. about 10,000 workdone on Property

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)? $1200 - yes

*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. creek & springs 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. from Belle Fourche S. Dak. + Cejlon, Wyo.

*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				

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