Sent
Allsman

August 29, 1951

Through: Lowell B. Moon, Chief
Minerals Division

Memorandum

To: W. F. Dietrich, Chief, Rare and Precious Metals Branch

From: Regional Director, Region IV

Subject: Rare-earth deposit, Sundance, Wyoming - Drill cores
(Your memo dated 8-21-51)

The drill cores obtained by our diamond drilling at the subject deposit have been split and the half retained is in our core storage space at 1600 East First South Street, Salt Lake City, Utah.

E. H. Denny
For J. H. East, Jr.

WHKing:fbm

Per L.

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

DIRECTOR'S OFFICE
REGION IV
AUG 23 1951
BUREAU OF MINES
DENVER, COLO.

August 21, 1951

Memorandum

To: John H. East, Jr., Regional Director, Region IV, Denver, Colorado

From: W. F. Dietrich, Chief, Rare and Precious Metals Branch (Through Lowell B. Moon, Chief, Minerals Division)

Subject: Rare-earth deposit, Sundance, Wyoming - Drill cores.

Enclosed is a copy of a memorandum received from Mr. Weston Bourret, Defense Minerals Administration, requesting that we locate the diamond drill cores from the Sundance, Wyoming rare-earth deposit which was drilled sometime during 1949 or 1950.

I trust that you have the information desired by Mr. Bourret and will advise this office accordingly.

W. F. Dietrich

W. F. DIETRICH, Chief
Rare and Precious Metals Branch

Enclosure 1

complete sections
Salt. City
Feb.

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

August 21, 1951

Memorandum

To: John H. East, Jr., Regional Director, Region IV, Denver, Colorado

From: W. F. Dietrich, Chief, Rare and Precious Metals Branch (Through Lowell E. Moon, Chief, Minerals Division)

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I trust that you have the information desired by Mr. Bourret and will advise this office accordingly.

W. F. DIETRICH, Chief
Rare and Precious Metals Branch

Enclosure 1

WFDietrich:db

Copy to: Rare & Precious Metals Br.
L. E. Moon
W. Bourret - DMA
Files

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

COPY

Memorandum

To: Mr. Dietrich, Chief, Rare and Precious Metals Branch

From: Minor and Rare Metals Branch

Subject: Monazite deposit, Sundance, Wyoming, DMA-1296

The U. S. Bureau of Mines, with Missouri Basin funds, sometime in 1949 or 1950 drilled this deposit. Can you assist me in locating these diamond drill cores in order that we can check on the occurrence of columbite, beryllium, tantalite, etc., as reported in the Denver Equipment Company spectrographic analysis.

/s/ Weston Bourret, Chief
Minor and Rare Metals

Approved:

Tom Lyon
Director, Supply Div.

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

DMA

July 23, 1951

PROCUREMENT OFFICE
REGION IV
JUL 27 1951
BUREAU OF MINES
DENVER, COLORADO

Mr. [illegible] Mitchell, President
Kelor [illegible] Mining Corporation
1912 [illegible] Street
Chicago, Illinois

re: [illegible]
[illegible], Wyoming
[illegible] 1950

Dear Mr. Mitchell:

Your application of May 25, 1951, for a government loan in the amount of $[illegible] has been reviewed by the Mine and Ore Details Branch, [illegible] Division.

As stated in your request this loan [illegible] research on a beneficiation process for the recovery of [illegible] from the [illegible] deposit. The [illegible] research [illegible] designated in your proposal to permit the overall investigation.

The [illegible] has carefully reviewed your proposal in an attempt to justify such research on the basis of the long-range supply situation and the [illegible] of the metal to be recovered. Unfortunately, the Board cannot be convinced [illegible] to be of [illegible] to the [illegible] and consequently, we can [illegible] for [illegible] assistance [illegible] direction. Moreover, the [illegible] alternative possible [illegible] such research [illegible] not [illegible] our [illegible] considered as a research project which if successful, would probably [illegible] in production [illegible] a year or [illegible] from now. For the above reasons [illegible] to advise [illegible] there is no alternative but to deny your request for [illegible] assistance.

Sincerely yours,
Tom Lyon

Tom Lyon, Director
Supply Division

Mbourrot/nh
cc: [illegible] Head, File
Reports and Records
Lyon
Kline, Bluemont, Va.
Rosted, U.S.S.
Bolbrick
Field Team, IV
Bourrot
Files

J.F.S.
10/24

Received

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

[illegible] 1951

REGIONAL DIRECTOR
OFFICE
REGION IV
JUL 27 1951
BUREAU OF MINES
DENVER, COLORADO

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Weston Bouvet
M. H.
[illegible]

[illegible]
[illegible] Lyon
[illegible]

[illegible]
[illegible] Lyon
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

J.F.L.
WOM

Routed

Mr. Jack East, Denver, Colo.

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

DMA 1296

July 11, 1951 OMB/rp

Airmail

REGIONAL DIRECTOR'S OFFICE
REGION IV
JUL 12 1951
BUREAU OF MINES
DENVER, COLORADO

Mr. S. R. Zimmerley,
Bureau of Mines,
1600 East First South Street,
Salt Lake City 1, Utah.

Dear Stewart:

You undoubtedly are aware of the Sundance, Wyoming deposit of decomposed monzonite containing perhaps as much as 200,000,000 tons of 1% thorium-rare earth mixture, investigated in part through the Missouri Basin activities. Zinner tells me that about 8 drill holes to 200-ft. depth averaged nearer 2% TRE. DMA has a docket showing the disappointing results of Denver Equipment Company and of Carpenter of Humphries Gold Mining Company, Jacksonville, Florida, to get a mechanical separation by gravity, flotation, magnetic separation and electrostatic separation. The material is about half slime and there is practically no concentration of the granular material. This indicates lack of liberation and the necessity of a profound metallurgical attack.

Denver Equipment Company were sent a sample from an enrichment containing over 6% TRE and made a spectrographic analysis that showed in addition 0.2% Cb, 0.2% Be, 0.2% Mo, 0.05% Ta, 0.05% Os, 0.01% Co, 0.01% Ni, 1% Pb, 1% Zn. This sounds unbelievable and certainly requires check by your excellent analytical laboratory. If you get into an investigation of the project you will have to borrow DMA Docket 1296 to get more details.

I now learn from DMA that the thorium content is of enough interest to AEC that they are considering funding a research project on the metallurgy of this deposit. Will you be good enough to estimate the funds and time necessary to undertake such study at Salt Lake?

One line of attack to consider would be chlorination of a mixture of the ore with carbon. Some of the metals will chlorinate at a low temperature and part of them will distill out at chlorination temperature. It is to be hoped that the alumina and silica content of the ore would be the last to chlorinate. There is a high iron and manganese content that would probably chlorinate first.

A second line of attack might be a caustic leach or a caustic fusion followed by leaching.

A less promising line of attack is to smelt iron and manganese into a spiegel carrying part of the desired metals into the spiegel, volatilizing others at the same time and collecting their fumes but leaving others in the slag. Selective oxidation of the spiegel would carry off Mn, Cb, Ta, Mo into an oxide slag. Where would Be go? If inconvenient, Co and Ni could be disregarded.

Metallurgy for the enriched zones only should be considered. Suitable treatment for the main mass can be left to the future.

Too little is known of the analysis of the main mass and not all the enriched zones are likely to have the same analysis as that indicated by Denver Equipment Company. More sampling and analysis are indicated as needed.

May I hear from you promptly?

O. C. RALSTON

O. C. Ralston

cc - Mr. Weston Bourret, Chief, Minor & Rare Metals, DMA
cc - Mr. Jack East, Bur. of Mines, Denver

REGIONAL DIRECTOR'S
OFFICE
REGION IV
JUL 12 1951
BUREAU OF MINES
DENVER, COLORADO

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

July 11, 1951 OCR/rp

Memorandum:

To: Weston Bourret, Chief, Minor and Rare Metals, DMA

Through: Tom Lyon, Supply Division, DMA

From: O. C. Ralston, Chief Metallurgist, Bureau of Mines

Subject: Monazite Deposit, Sundance, Wyoming
DMA Docket - 1276

Your memorandum of July 9 mentions the active interest of AEC in a research project on the rare-earth deposit containing interesting amounts of beryllium, columbium and other scarce materials.

If AEC is willing to fund such a project at the Salt Lake Experiment Station of the Bureau of Mines, under the leadership of S. R. Zimmerley, I shall be glad to recommend to the Director of the Bureau of Mines that the project be set up. The Salt Lake Station is already deeply into other work for AEC and has done well, so I anticipate the concurrence of AEC.

I am writing to Salt Lake as per attached carbon to get an estimate from Mr. Zimmerley on the probable funds that would be required.

O. C. RALSTON

Oliver C. Ralston

cc - C. W. Merrill, W. C.
S. R. Zimmerley, Salt Lake
✓Jack Fast, Denver

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

REGIONAL DIRECTOR'S
OFFICE
REGION IV
JUL 13 1951
BUREAU OF MINES
DENVER, COLORADO

[illegible], 1951

[illegible]

To: [illegible], Bureau of Mines

Through: [illegible]

From: [illegible]

Subject: [illegible]
[illegible]

[illegible] your memo of [illegible], 1951 (attached) in which you suggest that the [illegible] probably not amenable to physical beneficiation methods [illegible] more [illegible] chemical metallurgy be investigated.

[illegible] of this mineral [illegible] believes [illegible] Bureau of Mines might be interested in taking on this [illegible] research project.

[illegible] if the [illegible] willing to set this project up on a [illegible] basis, [illegible] of course, [illegible] obtain a specific [illegible] from the [illegible]

[illegible], Chief
[illegible]

Attachment

Approved

Tom Lyon

Director, [illegible]

[illegible]
[illegible] File
[illegible]
[illegible]
[illegible] ✓
[illegible]
[illegible]
[illegible]
Files

JTE WOM

Field Team
Region IV

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

REGION IV OFFICE
REGION IV
JUN 11 1951
BUREAU OF MINES
DENVER, COLORADO

June 5, 1951

AIR MAIL

Mr. Morris Mantell, President
Telmor Engineering Corporation
1912 West Lake Street
Chicago 12, Illinois

Re: Rare Earths Research
Sundance, Wyoming
DMA Docket No. 1296

Dear Mr. Mantell:

Your application of May 26, 1951, DMA-1296, for a research project in the amount of $63,560 has been received by the Minor and Rare Metals Branch of the Supply Division. Before a final decision can be reached on your request it will be necessary to obtain additional information.

I am attaching hereto contract form (MF-200) which I suggest that you review carefully at this time. In the event your project is given preliminary clearance the next step is to execute a contract; unless the exhibits referred to (Exhibits A to E inclusive) are complete in all respects, including maps, unnecessary delay may result. In the instance of your research program I would suggest you change the word exploration to read research and prepare your exhibits accordingly. I appreciate that certain of the questions will not apply in your case. However, I would suggest that you prepare the material immediately and forward to this office in sextuplicate. Please contact Mr. J. E. East, Jr., DMA Executive Officer, 204 New Customhouse, Denver, Colorado, if you are in doubt regarding any of the points covered in the contract.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

Enclosure

WBourret/GMcC
cc: Files
Adm. Reading File, Mr. Strobel, Mr. Lyon, Mr. Mittendorf
Mr. Bourret (2), Field Team - Region IV (2),
Messrs. Kaiser-Hosted
Mr. M. H. Kline, USBM, Mt. Weather, Bluemont, Virginia