Building 20 - Federal Center
Denver 25, Colorado

August 21, 1961

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, GME
Washington 25, D.C.

From: Hugh M. Commers, Acting Field Officer, GME, Region III

Subject: Docket GME 6135 (Beryllium and Columbium)
Zontelli Brothers
(St. Peters Dome Project)
El Paso County, Colorado

Attached are the original and two copies of my report of examination on the subject property.

I found no evidence that further exploration of this property would lead to a significant discovery. I therefore recommend that the application be denied.

Original signed by

Hugh M. Commers

Attachments

HMC/lm
cc 6135
Chron

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

AUG 24 1961

OME
DEPARTMENT OF THE INTERIOR

Mr. John J. Simmons
Manager
Zontelli Brothers
Ironton, Minnesota

Re: OME-6135 (Beryllium-Columbium)
Zontelli Brothers
St. Peters Dome Area
El Paso County, Colorado

Dear Mr. Simmons:

Your application for financial assistance in exploring your property in El Paso County, Colorado, and other information available to us have been reviewed.

Careful study of all this information indicates that the probability of disclosing significant ore reserves on your property is not sufficiently promising to justify Government participation in the proposed exploration. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

Sincerely yours,

George Fumich, Jr.

Director

WRGriswold/FEJohnson/gla
8-24-61
cc to: Director's Reading File
Region III (2)
Review Committee
Code 500
Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
STEWART L. UDALL, SECRETARY

OFFICE OF MINERALS EXPLORATION

REPORT OF EXAMINATION BY FIELD OFFICER
REGION XIX

OME 6135

Zontelli Brothers

St. Peters Dome Project

El Paso County, Colorado

Beryllium and Columbium

Engineering and Geologic Report

by

Hugh M. Connors, Mining Engineer

August 18, 1961

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CME 6135

ZONTELLI BROTHERS
ST. PETERS DOME PROJECT
EL PASO COUNTY, COLORADO

INTRODUCTION AND SUMMARY

On June 1, 1961 Zontelli Brothers, general contractors, Trenton, Minnesota, applied for CME aid on the St. Peter's Dome property. The Applicants proposed a four-stage exploratory project for beryllium and columbium, costing an estimated total of $94,264.80. They expected the Government to reimburse them 75 percent of that amount.

The property was examined on August 9, 1961 by Hugh M. Conners, Acting Field Officer, CME, accompanied by David Zontelli, who represented Zontelli Brothers, the Applicants. The deposits examined are pegmatite dikes located on the north and northeast slopes of St. Peters Dome, overlooking the city of Colorado Springs. The claims are located in the Pike National Forest and would be valuable as mountain cabin sites if they could be patented as mineral locations.

Geologists and mine promoters have been interested in the St. Peter's Dome area since 1880. The only known mineral production has been fluorspar, which occurred in veins.

The pegmatite dikes in the area contain minor amounts of many minerals in small localized pods. They are exposed in many places in the area but no significant discovery of minerals has ever been made in these pegmatites. There is no evidence that further exploration of the property is warranted.

I recommend that the application be denied.

LOCATION, ACCESSIBILITY, AND PHYSICAL FEATURES

St. Peters Dome is about sixteen miles by road southwest of Colorado Springs in El Paso County, Colo. The area is reached by State Highway 336, which leads to Cripple Creek, Colo., and which follows over some of the distance, the abandoned right-of-way of the former Colorado Springs and Cripple Creek District Railway. The deposits examined are on the north and northeast slopes of St. Peters Dome, a prominent peak whose altitude is about 9,600 feet.

State Highway 336 is unsurfaced but is passable throughout the year by all types of vehicles. Access roads within the property boundaries are passable only by vehicles with four wheel drive.

The pegmatite dikes examined, are on the steep slopes of St. Peters Dome at altitudes of 8,000 to 9,200 feet. All of the mining claims lie within the Pike National Forest. The terrain is rugged with some forestation. South Cheyenne Creek, with a year around water flow, passes through the property. The property would be ideal for mountain cabin sites overlooking Colorado Springs.

HISTORY AND PRODUCTION

The St. Peters Dome area has been a mineralogist and prospectors paradise since the 1880's. According to Aurand[1/], the veins were

1/ Aurand, H. A., Fluorspar deposits of Colorado; Geol. Survey Bull. 18, pp. 55-57, 1920.

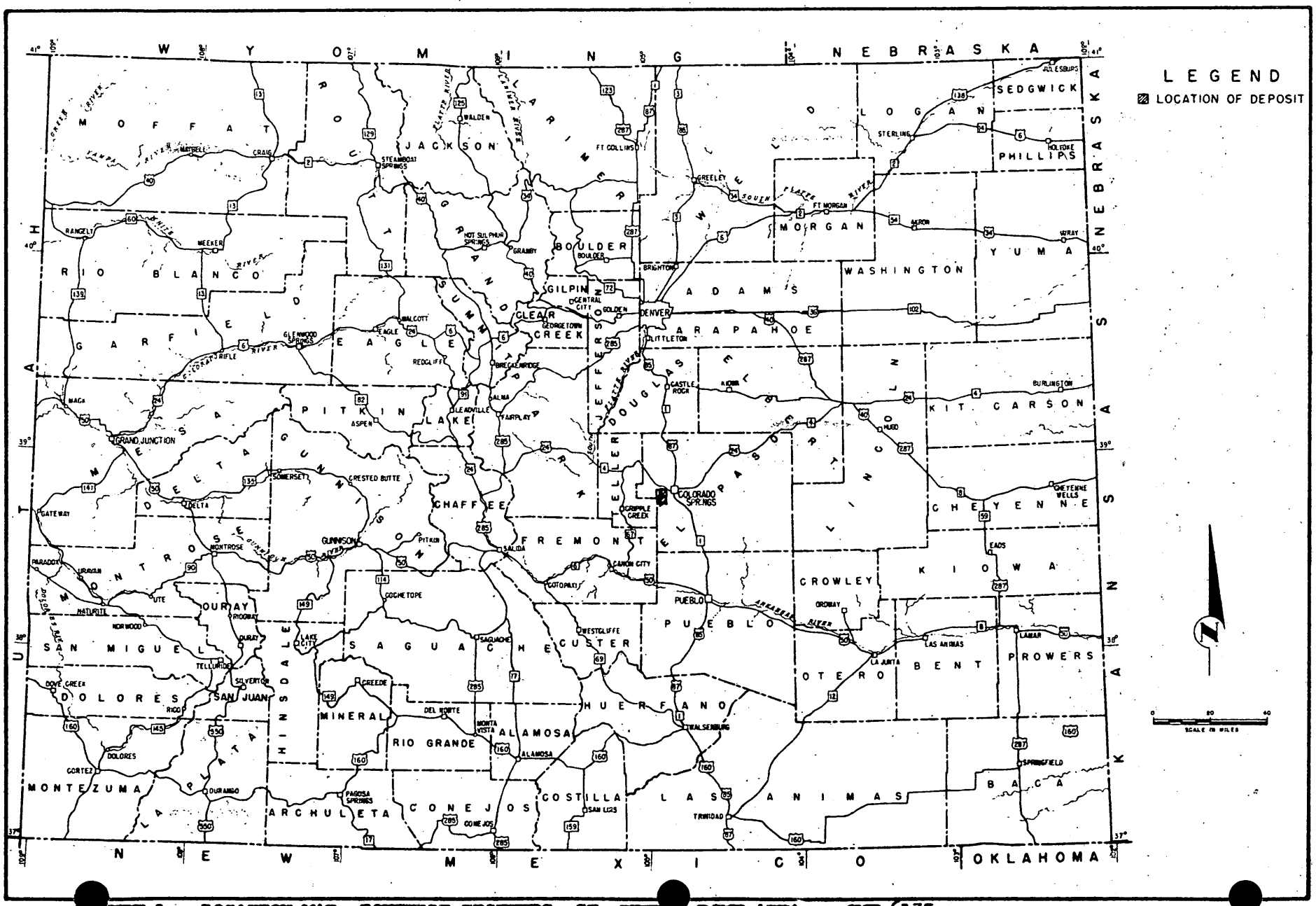

FIGURE 1 - LOCATION MAP, ZONTELLI BROTHERS, ST. PETERS DOME AREA -- OME 6135

prospected originally for gold and silver and later were worked for fluorspar. Whitman Cross and W. F. Hillebrand[2] in 1885 described the occurrence, physical and chemical characteristics of cryolite, yachaelite, geerkrutite and prosopite in the St. Peter's Dome area. They also, in 1885, described the cryolite-bearing pegmatite, found in numerous dikes in the northern part of the area. In 1891, L. G. Eakins[3] wrote the description and analysis of astrophylite and tacharfkinite from St. Peter's Dome. G. H. Margucci[4] described the reibeckite rocks of St. Peter's Dome in 1905. In 1916, Finlay[5] noted that the St. Peter's Dome district has been thoroughly prospected for gold.

The U. S. Geological Survey[6] began studies of the fluorspar deposits of the district in 1943 as part of the Strategic Minerals Investigations. The fluorite occurs in veins and has no relation to the pegmatites now being considered.

The first fluorspar production from the district was in 1910, but production figures are lacking. In 1944-1945 mining was resumed, and about 16,100 tons of mine-run fluorspar was produced from the Timberline, Duffields, and Mattie B. deposits. This is all of the

2/ Cross, Whitman, and Hillebrand, W. F., Contributions to the Mineralogy of the Rocky Mountains; U. S. Geol. Survey Bull. 20 pp. 40-74

3/ Eakins, L. G., Astrophyllite and tacharfkinite; Am. Jour. Sci., 3rd ser., Vol. 42, pp. 34-38; 1891

4/ Margucci, G. H., Genesis of riebeckite and riebeckite rocks. Am. Jour. Sci., 4th ser., vol. 20, pp. 133-145, 1905

5/ Finlay, G. I., U. S. Geol. Survey Geol. Atlas, Colorado Springs folio (No. 203) p. 15, 1916

6/ Steven, Thomas A., Geology and Fluorspar Deposits of the St. Peter's Dome District, Colorado, Colorado Scientific Society Proceedings, Vol. 15, No. 6

known production of any minerals from the property. The fluorspar deposits are discontinuous vertically as well as horizontally. Other fluorspar bodies may exist that do not crop out.

In 1952 an option on the property was held by M. B. Michelle who unsuccessfully tried to promote the property. At that time the property was examined by A. A. McKinney and F. D. Everett[1/] who found nothing more than typical pegmatite concentration, of certain minerals in small localized pods. McKinney and Everett took five samples at four locations, previously determined by the owners to be the best showings. The samples and their descriptions are listed in Table 1.

Table 1

Sample	Description
B-18	9-foot vertical cut across pegmatite dike on *Mayo No. 6 claim owned by St. Peter's Dome Company. Pegmatite is about 10 feet wide but the structure is obscure. Radioactive portion of pegmatite is about 5 feet wide. Sample taken through the center of this 5-foot portion.
B-19	65-inch cut across pegmatite dike on Antonita claim owned by George Harris. Sample taken from south side of 10-foot circular cut in a radioactive pocket. Pegmatite structure is obscure.
B-20	3.7-foot cut across pegmatite dike on Valjean claim owned by George Harris. Pegmatite dike appears to dip about 15° to the east and is 9 feet thick, lateral extent unknown. Sample represents top or more radioactive portion of dike at this place. Sample from grass roots to internal aplite dike.
B-21	4.0- foot cut same place as B-20, but below aplite to floor of pit.
B-22	Character sample from *Mayo No. 13 claim owned by St. Peter's Dome Company. Sample is a 3-foot cut in a zone superficially high in zirconium and columbium. Pit is 3 x 3 feet in area in an obscure structure.

1/ McKinney, A. A. and Everett, F. D., Mining Engineers, Bureau of Mines, Denver, Colo. Unpublished report Sept. 24, 1952

* Mayo claims are thought to be the Commanche claims, obtained by the Applicants after their application was submitted.

ANALYSES

The chemical analyses as shown in Table 2 were reported for the above mentioned samples.

Table 2

Sample No.	U_3O_8	Cb_2O_5	Ta_2O_5	BeO	ZrO_2	HfO_2	ThO_2	CeO_2	Total Rare Earth Oxides
	Percent								
E-18	0.013	< 0.01	< 0.01	< 0.01	0.38	< 0.01	< 0.05	< 0.05	< 0.05
E-19	0.005	0.01	< 0.01	0.60	0.70	0.03	1.2	< 0.05	2.8
E-20	0.023	0.7	< 0.10	0.12	6.1	0.32	1.3	< 0.05	0.6
E-21	0.022	0.02	< 0.01	< 0.01	2.6	0.11	< 0.05	< 0.05	0.1
E-22	0.006	0.01	< 0.01	< 0.01	0.70	0.03	< 0.05	< 0.05	< 0.05

In 1954, according to Ernest Jones [8/], the Climax Molybdenum Company was persuaded to examine the property by the promoter at that time who was W. S. Kettering, President of the St. Peter's Dome Company. The Climax findings indicated spotty mineralization of no economic value.

OWNERSHIP AND EXTENT

The claims assigned or leased to the Applicants, according to the application, are 92 in number and are unpatented. There are also 7 unpatented and 14 patented claims which the Applicants hold under an option. The claims are located in T. 13 S., R. 67 E. and include parts of Secs. 4, 5, 6, 7, 8, 9, 16, 17, and 18 in the Pike National Forest. The field examiner did not check the recording of the claims in the El Paso County Courthouse. The Applicants have staked many more claims since the application was submitted and now hold claims covering the entire north and northeast slopes of St. Peter's Dome.

8/ Jones, Earnest, Development Manager of Climax Molybdenum - personal communication

The claims showing the best exposures of the pegmatites which have created so much interest by mineralogists in the past, and undoubtedly will in the future, are optioned to the Applicants and are as follows:

Mining Claim	Type	County	Page No.	Page No.	Owned by
Antonita	Unpatented	El Paso	1310	505	G. M. Morris, Jr., & Thomas Reaney
Raleigh	"	"	1315	440	G. M. Morris, Jr., & Thomas Reaney
Deirdre	"	"	1329	29	G. M. Morris, Jr., & Thomas Reaney
Solvency	"	"	1315	441	G. M. Morris, Jr., & Thomas Reaney
Teaspoon	"	"	1315	47	G. M. Morris, Jr., & Thomas Reaney
Valjean	"	"	1314	148	G. M. Morris, Jr., & Thomas Reaney
Ben Claire	"	"	1378	224	G. M. Morris, Jr., & Thomas Reaney
Winnie Group 1, 2, 3	Patented	El Paso	Pat. No. 17460		G. M. Morris, Jr.,
John A. Lode	"	"	Pat. No. 14687		G. M. Morris, Jr.
Albion Lode	"	"	Pat. No. 15763		G. M. Morris, Jr.
Denver	"	"	Pat. No. 7249		G. M. Morris, Jr.
Manitou	"	"	Pat. No. 7249		G. M. Morris, Jr.
Fair View	"	"	Pat. No. 7249		G. M. Morris, Jr.
Jennie Lind	"	"	Pat. No. 7249		G. M. Morris, Jr.
Maybelle	"	"	Pat. No. 7249		G. M. Morris, Jr.
Alkayo	"	"	Pat. No. 13355		G. M. Morris, Jr.

Mining Claim	Type	County		Owned by
Tunnel	Patented	El Paso	Pat. No. 13355	G. M. Morris, Jr.
Lode	"	"	Pat. No. 13355	G. M. Morris, Jr.
Doublode	"	"	Pat. No. 5931	G. M. Morris, Jr.

GEOLOGY

The rocks in the district are principally pre-Cambrian Pikes Peak granite which has been cut by pre-Cambrian dikes of pegmatite, aplite and lamprophyre. According to Steven[9/], the dikes follow joint systems in the granite. The chief constituents of the pegmatite dikes are pink microcline, feldspar with quartz, and minor pegmatite minerals.

The pegmatite dikes were found to vary from an apparently vertical structure on one claim to a long dike dipping about 15 degrees on another. The thickness of the dikes observed was very often obscure, but apparently varied between 5 and 20 feet.

The columbium and beryllium are associated with thorite and occur as small reddish "beds" or small masses having a conchoidal fracture and generally displaying lines radiating from their centers.

PROPOSED EXPLORATION

The Applicants proposed a four-stage exploration program at a total estimated cost of $94,864.80. The application indicates that the Applicant expected the Government to contribute 75 percent of that amount. The Applicant's representative was informed that the

9/ See footnote No. 6.

Government's participation is limited to 50 percent on the entire list of minerals which are the subject of OME assistance. Stage I of the application included a geophysical survey to provide information on beryllium, radioactive and magnetic anomalies. Geologic mapping, sampling and assaying were also a part of Stage I. Stage II provided for 6000 feet of diamond drilling, sampling and assaying. Stages III and IV included the assembling of drill data, preparation of maps and preparation of the final report.

The field examiner did not discuss any alternate exploration proposals or costs with the Applicant's representative.

CONCLUSIONS AND RECOMMENDATIONS

The pegmatite dikes in the St. Peter's Dome district contain small amounts of columbium, beryllium and many other minerals in localized spots. The dikes are exposed in many places by cuts, pits and dogholes. The Dupac tunnel was driven 100 feet into one pegmatite.

In all of these openings no discovery of more than academic interest has ever been made of beryllium, columbium, thorium, uranium, tantalum, or hafnium. There is no evidence that further exploration work would lead to the discovery of a deposit of any economic value.

I recommend that the application be denied.