224 New Customhouse
Denver 2, Colorado

June 17, 1959

Memorandum

To: Chairman, Operating Committee, OME

From: OME Field Team, Region III

Subject: Docket OME 6043 (Mica-Beryl) Rocky Mountain Mill and Chemical Company and Dakota Strategic Minerals, Inc. (Jumbo mine) Custer County, South Dakota

Enclosed are the original and two copies of a Geologic Report dated June 11, 1959, by F. D. Moore, Geologist, Geological Survey, relative to examination of the subject property. The Bureau of Mines did not participate in the field examination.

The applicant proposed an exploration program consisting of driving of an adit and an incline shaft, at a total estimated cost of $17,734.66, to explore for mica, beryl, and feldspar on the Jumbo claims.

The field examiner concludes that it is doubtful if the Jumbo pegmatite contains sufficient quantities of beryl or strategic mica to warrant Government participation in the proposed exploration program; therefore, recommends that the application be denied, in which we concur.

Original signed by
J. W. TOWNSEND

J. W. Townsend

Original signed by
E. N. HARSHMAN

E. N. Harshman

Enclosures
JWT:jy
cc: Harshman
OME/DFC
OMR/DFC
Docket OME 6043
Chron.

} w/copy of Geologic Report dated 6/11/59

Harshman

MINERAL DEPOSITS
O M E
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JUN 22 1959

U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

MINERAL DEPOSITS
AUG 24 1959
GEOLOGICAL SURVEY
DENVER, COLORADO
6043

224 New Customhouse
Denver 2, Colorado

April 23, 1959

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Application for Financial Assistance under OME Program (Mica-Beryl) Rocky Mountain Mill and Chemical Company (Jumbo lode claim) Custer County, South Dakota

Enclosed are the original and two copies of the subject application and five copies of NME Form 52, Lien and Subordination Agreements, executed by the owner of the property.

The property was the subject of prior Docket DMEA-1556X (Beryl-Mica) Walter S. Clifford, under which Contract Idm-8141 was executed but subsequently terminated without the performance of any of the authorized work.

The applicant proposes an exploration program consisting of drifting, shaft sinking and extension of a surface cut, at a total estimated cost of $17,734.86.

One copy of the application has been retained in Region III files.

Original signed by
J. W. TOWNSEND

J. W. Townsend

Enclosures

JWT:jy

cc: Harshman
Docket
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR

OME
DEPARTMENT OF THE INTERIOR
JUN 16 1959
REGION III
DENVER, COLORADO

OFFICE OF MINERALS EXPLORATION

REPORT BY EXAMINING TEAM
REGION III

OME (6b)

Rocky Mountain Mill and Chemical Company and
Dakota Uranium Minerals, Inc.

Jumbo Mine

Custer County, South Dakota

Mica-Beryl

Geologic Report

by

F. B. Moore, Geologist
Geological Survey

June 11, 1959

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2. Sketch map of Pegmatite Exploration Area, Jumbo Pegmatite, Custer County, South Dakota	2

OME 6043

ROCKY MOUNTAIN MILL AND CHEMICAL COMPANY AND
DAKOTA GEMSTONE MINERALS, INC.
JUNGO MINE
CUSTER COUNTY, SOUTH DAKOTA

INTRODUCTION

The Jungo pegmatite is in sec. 34, T. 2 S., R. 6 E., Custer County, South Dakota (fig. 1). The applicants, Rocky Mountain Mill and Chemical Co. and Dakota Minerals, Inc.--a joint venture--applied April 20, 1959, for OME aid to explore for mica, beryl, and feldspar on the Jungo Lode Mining claim. The property is held under lease from Walter S. Clifford, former applicant under DMEA 1956X, whose contract Idm-X 142 was terminated without performance of any authorized work.

The property was examined June 5, 1959, by F. E. Moore, Geological Survey, in company with J. H. Jungo, President of Dakota Minerals, Inc. Since the time of the previous examination under DMEA 1956X, little if any exploration has been done.

The operator proposes to explore the dike by a 150-foot adit between and 80 feet lower than the two present adits. He believes that the present adits are just above the top of an ore body. Why he wishes to raise to the top of the ridge is not clear. The possibility of drilling the dike was mentioned during the examination but was termed an unsatisfactory method of exploration by Jungo.

Subsequent to the examination, the potential of the property was discussed with James J. Norton, Geological Survey, who has been mapping in the Black Hills pegmatite areas for many years. It is the opinion of

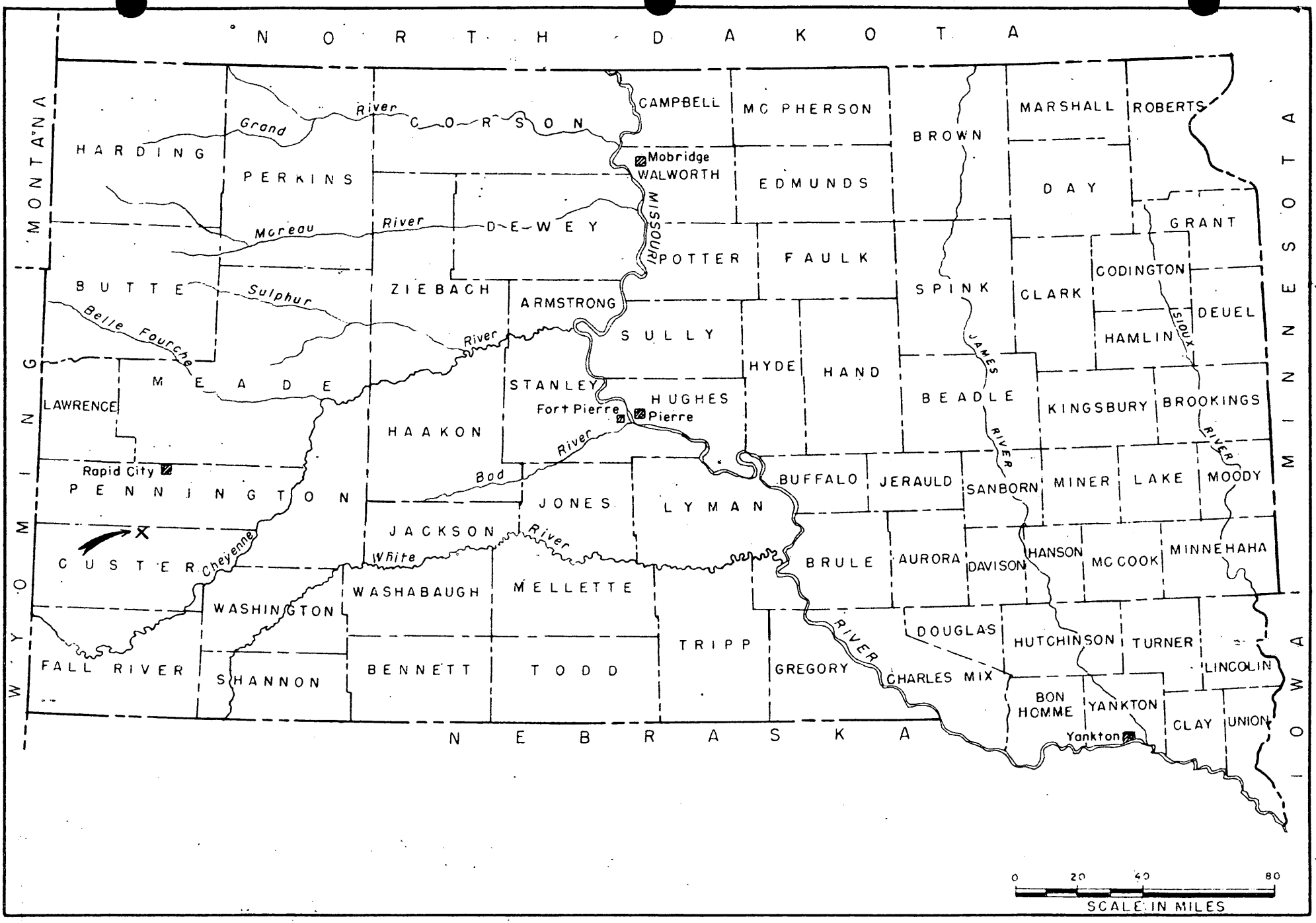

FIGURE 1. LOCATION MAP, JUMBO PEGMATITE, CUSTER COUNTY, SOUTH DAKOTA

both Harben and the field examiner that neither the applicant's program nor any feasible exploration program would discover significant quantities of mica or beryl on the property. Feldspar, of course, is not on the BOM minerals list.

GEOLOGY

The Jacobs area is underlain by rocks of or related to the Bonny Peak Precambrian granite stock. The Jacobs claim covers a northwest-trending ridge of 100 to 150 feet relief. Contrary to the applicant's belief which was shared by the previous examiners, the writer believes that most of the rock which outcrops along the ridge is coarse-grained granite and not pegmatite. A northeasterly trending pegmatite, 100 to 130 feet wide, cuts across the ridge and can be followed for a strike length of about 300 feet (fig. 2). Two short adits have been driven in the pegmatite from near the bottom of the ridge and several prospect pits have been dug on or near the top.

The pegmatite is rather coarse-grained and consists chiefly of quartz, perthite, plagioclase, and muscovite with beryl and tourmaline as the principal accessory minerals. The feldspar occurs in masses with a large dimension as much as 6 feet in places. Muscovite occurs in bunches composed of several books with random orientation. The bunches of muscovite are 12 to 18 inches in diameter and individual books may be as large as 5 x 7 inches. Because of the mode of formation, much of the mica is wedge and crippling is fairly common. The mica occurs throughout the pegmatite and makes up an estimated 5 percent of the rock. Beryl

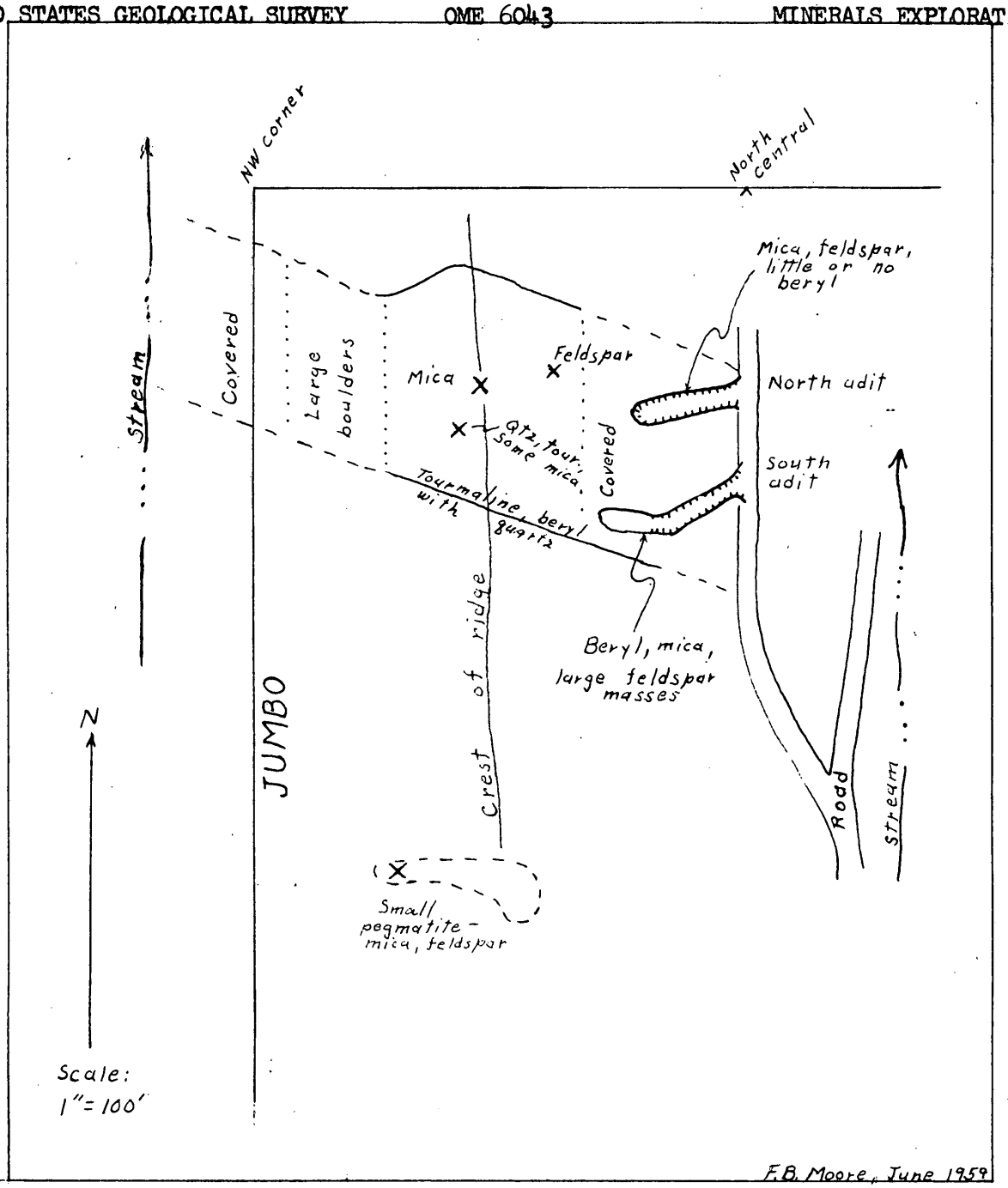

FIGURE 2. SKETCH MAP OF PROPOSED EXPLORATION AREA, JUMBO PEGMATITE, CUSTER COUNTY, SOUTH DAKOTA

occurs in small crystals generally 3 inches or less in diameter. It appears to be limited to the hanging wall side of the pegmatite. Several small crystals were seen in the south adit and on top of the ridge near the south (hanging wall) contact. The operator reports that all the beryl seen in exploration came from the south adit. No tantalum minerals were observed nor did the operator mention any.

The pegmatite appears to be unzoned. Tourmaline, like the beryl, favors the hanging wall where it occurs in a zone 5 to 10 feet wide near the contact. Otherwise the dike is homogeneous.

CONCLUSIONS AND RECOMMENDATIONS

No evidence was seen by the examiner or presented by the operator to indicate that the Jacke pegmatite is zoned. Therefore, there is no reason to believe that any part of the dike will be any better than that already exposed. Most of the mica is air stained and soft and is of scrap quality. The beryl content is low and generally the crystals are too small to make mining practical. Because it is doubtful if the Jacke pegmatite contains significant quantities of beryl or strategic mica, denial of the application is recommended.

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