SEP - 2 1955

600

Mr. Frank W. Phillips
Moulton Mining Company
Route 3
Newland, North Carolina

Re: Docket No. DMEA-3909 - Mica
Moulton Mining Company
Moulton Mine
Avery County, North Carolina

Dear Mr. Phillips:

Your application for aid for an exploration project and other reports available to us in Washington relating to the subject property have been reviewed.

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

Careful study of all our information indicates to us that the probability of disclosing significant reserves of mica by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

WCAnderson:pk 8/31/55
Copy to: Admr. R. File
Docket
Operating Committee
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Anderson

August 31, 1955

Memorandum

To: The Administrator

From: Nonmetallic Minerals Division

Subject: A denial of exploration assistance and summary report

By: James Hopkins

1. Docket No. DMEA-3909 - Mica
   Property: Moulton Mine - Moulton Property 3 acres
   Avery County, North Carolina
   Lease dated May 20, 1955

   Applicant: Moulton Mining Company (Frank W. Phillips)
   Route 3, Newland, North Carolina

   Application: MF-103 dated July 18, 1955

   Work proposed:

300 feet D. D. @ $6.00	$ 1,800.00
100 feet Shaft @ $70.00	7,000.00
100 feet Crosscutting @ $35.00	3,500.00
Total	$12,300.00

   No contract: Application denied

2. Comments:

   The Field Team's reason for recommending denial are not based on geological conditions but on the heavy condition of the ground and an excess of water. Considerable reserves of strategic mica could possibly be revealed but mining costs would be prohibitive.

   The Moulton Mine was first worked by several shallow shafts and drifts between 1880 and 1900. Past production is not known but has been appreciable. During 1943 and 1944 it was worked by open cut methods and dragline. Production valued at $20,000.00 is reported from these operations. Water conditions have greatly interferred with operations.

   Present workings consist of a circular open cut about 130 feet in diameter and approximately 50 feet deep.

   The country rock apparently was a feldspar-rich gneiss.

Two mica-bearing pegmatites connected by a dike of barren pegmatite 1½ feet thick are exposed in the opencut. The two bodies have parallel strikes but have opposite dips away from each other.

The mica obtained is green in color and is soft. Many books are badly haircracked or ruled and are somewhat clay stained. The sheet recovery from the block mica is estimated at 3% to 5%.

The underground workings actually are very shallow openings in the floor and wall of the opencut.

The source of the water is not known with certainty. The marsh and the spring southwest of the mine indicates that the ground water probably saturates the ground at a relatively shallow depth.

Drilling as proposed by the applicant might prove extent of the pegmatites and of mica downdip but it could probably not be recovered economically because of heavy ground and water conditions.

The Nonmetallic Minerals Division, DMEA concurs in the recommendation that the application be denied on the basis of unfavorable ground and water conditions.

The Commodity Divisions of the Bureau of Mines and Geological Survey also concur in the recommendation.

JHopkins:pk 8/31/55
Copy to: Admr. R. File
Mr. Houk
Docket

IN REPLY REFER TO:

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

August 26, 1955

Re: DMEA 3909
Moulton Mining Co.
Moulton Mine
Avery Co., N. C.
$12,300 - Mica

Memorandum

To: L. G. Kouk, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

A complicated structure, with irregular, twisting and crosscutting pegmatites, so often favorable for mica deposition, is here beset with mining problems well evaluated by the examiners.

The conclusions of the Field Team are apt. I concur with the denial recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/26/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
W. F. Dietrich, 3061

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

RECEIVED
AUG 31 1955

August 29, 1955

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-3909 (mica)

Applicant: Moulton Mining Co. (F. Phillips)

Name and Location of Property: Moulton Mine, Mitchell County, N. C.

Date of Field Team Report: 8/18/55

Date Rec'd. by Br. of Ceramic & Fertilizer Materials: 8/25/55

Field Team Recommendation: Recommend denial of application.

Comments:

1. Due to extremely unfavorable ground conditions this mine probably could never be a profitable producer.

Recommendation: I concur with the field team's recommendation of denial.

SIGNED

W. F. Dietrich

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 425 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

August 18, 1955

RECEIVED
AUG 24 1955

Memorandum

To: Operating Committee - DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: Field Examination Report - DMEA-3909 (mica) Moulton Mining Company, c/o Frank Phillips, Newland, N. C.

Transmitted are four copies of the subject examination report with copies of map attached.

The reasons for recommending denial are not based on geological conditions but on the heavy condition of the ground and an excess of water. Considerable reserves of strategic mica could possibly be revealed but mining costs would probably exceed the value of the mica.

V. J. Lynch, Acting
EXECUTIVE OFFICER
DMEA REGION V

D. H. Amos, Geologist
U. S. Geological Survey

z

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM, REGION V

ON

DMEA-3909, MOULTON MINE (mica)
Avery County, N. C.

BY

K. H. Teague and D. H. Amos, Geologists
U. S. Geological Survey

and

L. R. Shirley, Mining Engineer
U. S. Bureau of Mines

August 18, 1955

FIELD EXAMINATION REPORT ON

DMEA-3909, MOULTON MINE
(mica)

Applicant: Moulton Mining Company, c/o Frank Phillips, R#3, Newland, N.C.

Considerable mica has been recovered from shallow workings at this mine but operations have always been hampered by heavy ground and water problems. It is doubtful if a shaft could be sunk below the level of the old working at a reasonable cost; thus it is recommended that the application be denied.

This deposit was examined July 25, 1955. Mr. Frank Phillips accompanied the examiners on the inspection which required two hours.

The Moulton Mine is located near Pyatte and 2½ miles southeast of Plumtree, Avery County, North Carolina.

The mine was first worked by several shallow shafts and drifts between 1880 and 1900. During 1943 and 1944, Frank Phillips operated the mine by open cut methods with a dragline. Past production is not known but has been appreciable. The operation during World War II is reported to have been at a profit. During the last few months, Mr. Phillips has resumed dragline operations and has recovered a small amount of mica. Almost continuous pumping is necessary to keep the pit free of water.

The present workings consist of a circular open cut about 130-feet in diameter and approximately 50 feet deep. Remains of old timbered workings are exposed in the bottom of the cut.

Much of the following is taken from an unpublished report of the U. S. G. S. by W. R. Griffitts:

"The country rock apparently was a feldspar-rich gneiss. Quartz, manganese bearing garnet, and both biotite and muscovite probably were the other constituents. It has weathered into a soft porous mass of mica, clay, and fine grained quartz. In the southern wall of the largest cut the foliation is much contorted."

"Two mica-bearing pegmatite bodies are exposed in the open cut. One relatively regular dike, which strikes north and dips 70° - 80° east, crosses the cut 95 feet from its east end. It may continue for about 100 feet along the row of old pits extending north from the main open cut. In the northeast wall of the cut this dike crosses the foliation planes of the country rock at a large angle. The second mica-bearing pegmatite body was first exposed in the drift. It is connected to the other mica-bearing pegmatite body by a dike of barren pegmatite 1½ feet thick. This mica-

bearing body strikes N. 50° W; its dip is probably 30° or 40° SW. In the northwest end of the drift the strike bends to about north and the dip changes to about 45° W. This body must either flatten or pinch out up dip, because it was not exposed in the wall of the open cut above the drift. The strike bends in the eastern part of the drift, but no details are known of the structure there."

"An irregular concordant body of barren pegmatite is exposed over much of the southwest wall of the open cut. In its westernmost exposure, it bends east or toward the cut. The positions of several exposures of pegmatite in the floor of the cut suggest that this barren pegmatite body may connect with the east end of the second- mica-bearing body discussed above."

"Mica occurs through most or all of the vertical or steeply dipping eastern pegmatite body, and commonly is associated with small streaks of quartz. In the less steeply dipping northwest pegmatite body, most of the mica occured near the hanging wall. The mica content of the northwest pegmatite body appears to be appreciably higher than that of the east body."

"The mica obtained is green in color and is soft. Many books are rather badly haircracked or ruled and are somewhat clay stained, resulting in a rather small average size of sheet obtainable from them. The sheet recovery from the block mica is estimated to be between 3% and 5%."

"The underground workings actually are very shallow openings in the floor and wall of the open cut. The ground had previously been disturbed both by the dragline and by the old shafts and tunnels. The disturbed condition no doubt accounts for part of the weakness of the walls. The old workings may extend over an area considerably larger than that of the open cut and serve as collecting basins and conduits for ground water. The water, running through the material in the bottom of the cut would cause it to slump into any available opening."

"The source of the water is not known with certainty. Surface water coming down the hillside probably is not a significant part of the total flow except during and shortly after rains."

"The valley bottom about 80 feet east of the mine is quite marshy. Flow or seepage directly from the marsh to the mine may occur. The marsh and the spring southwest of the mine indicate that ground water probably saturates the ground at a relatively shallow depth. The old workings and to some extent the mine itself would collect the water, causing a local depression of the water table. The ground water in that case would flow into the area from all directions."

Drilling as proposed by the applicant might prove extent of the pegmatites and of mica downdip but it could probably not be recovered economically, because of heavy ground and water problems. The two bodies have parallel strikes but have opposite dips away from each other; thus, both bodies could not be intersected in the same hole unless it were a rather deep one. Because of this a minimum of four holes would be necessary to establish the two bodies at depth.

It is recommended that the application be denied on the basis of unfavorable ground and water conditions.

August 18, 1955

K. H. Teague and D. H. Amos, Geologists
U. S. Geological Survey

L. E. Shirley, Mining Engineer
U. S. Bureau of Mines

AUG 1 1955

603

Mr. Robert A. Laurence
Executive Officer, DMEA
Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Subject: Docket No. DMEA-3909 - Mica
Moulton Mining Company
Moulton Mine
Avery County, North Carolina

Dear Mr. Laurence:

Please review the subject application and arrange for a field examination if you deem it necessary.

You will note that the property consists of approximately three acres which may be inadequate for the proposed exploration project estimated to cost $12,300.00. Therefore, we may find it necessary to request the Applicant to obtain additional land.

If your office recommends an exploration program approved by the Applicant, please furnish the necessary information to draft a contract. In this connection, nine copies of a map showing the pegmatite exposures and proposed work in relation to the property lines will be required.

Since the Applicant proposes to furnish operating equipment for his share of the cost of the project, it should be advised that only 1/60 per month of the current value of such equipment required for the project will be allowed.

Copies of memoranda from N. E. Nelson of the Geological Survey, dated August 1, 1955, and from W. F. Dietrich of the Bureau of Mines, dated August 1, 1955, are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

Approved:

O. M. Bishop
Member, Bureau of Mines

/s/ W. P. Williams
Member, Geological Survey

Enclosures 4

WCAnderson:gad 8/3/55
Copy to: Admr. R. File
Docket
Operating Committee
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Anderson

600

Mr. Frank W. Phillips
Moulton Mining Company
Route 3
Newland, North Carolina

Re: Docket No. DMEA-3909 - Mica
Moulton Mining Company
Moulton Mine
Avery County, North Carolina

Dear Mr. Phillips:

Your application for assistance in exploring the subject property has been reviewed by the Nonmetallic Minerals Division of the Defense Minerals Exploration Administration and has been referred to Mr. Robert A. Laurence, Executive Officer, DMEA Field Team, Region V, Room 13, Post Office Building, Knoxville 2, Tennessee, for further consideration and possibly a field examination.

The Regional Office will contact you at an early date if an examination is to be made. Any assistance you may give the members of the Field Team during the examination will be appreciated.

Sincerely yours,

E. W. Mittendorf

Administrator

WCAnderson:pk 8/5/55
Copy to: Admr. R. File
Docket
Operating Committee
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Anderson

IN REPLY REFER TO:

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

RECEIVED
AUG - 1

August 1, 1955

Re: DMEA 3909
Moulton Mining Co.
Moulton Mine
Mitchell Co., N. C.
$12,300 - Mica

Memorandum

To: L. G. Monk, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Application.

The program is somewhat ambitious for a property with a $20,000 production record and a water-mud problem.

The core drilling, if set up as a stage, is probably justified. If the results are commensurate with the cost of the underground work proposed, the 100 feet of shaft sinking and the 100 feet of drifting could follow.

A referral to the Field Team is recommended. Mining will be called for, hence the competence of the applicant should be investigated.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/1/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
W. F. Dietrich, 3061

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

RECEIVED
AUG - 1 1955

August 1, 1955

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA - 3909 (mica)

Applicant: Moulton Mining Co. (F. W. Phillips)

Name and Location of Property: Moulton Mine, North Carolina

Date Application Rec'd by Br. of Ceram. & Fert. Materials: July 26, 1955

Comments:

1. This deposit appears to have possibilities for the development of strategic mica.

2. Apparently the large quantity of water is a major problem and this should be investigated. If the water cannot be controlled, it is questionable whether the project should be started.

Recommendation:

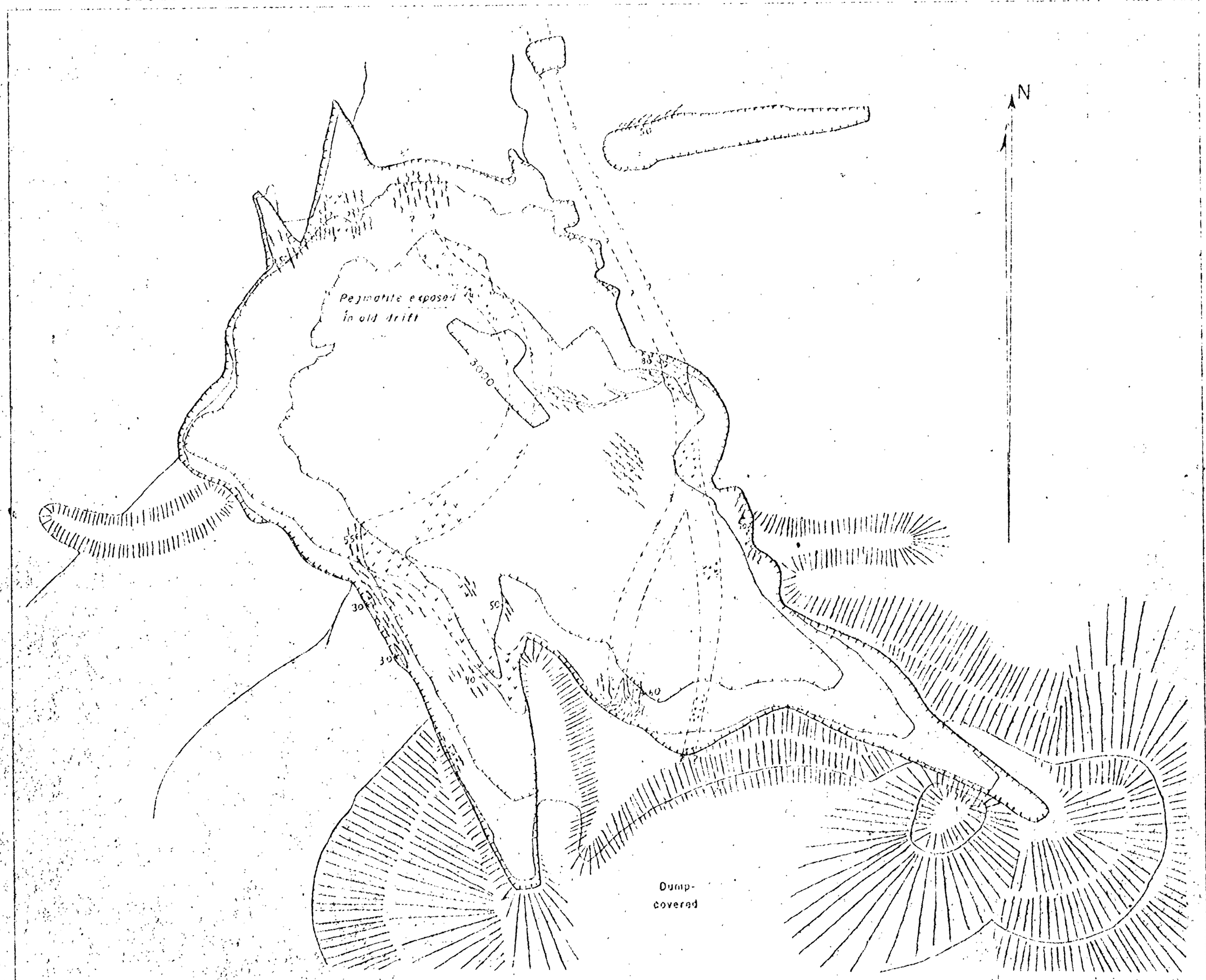
It is recommended that the field team visit this mine when in that vicinity to ascertain if an exploration project is justified. If so, the field team and applicant should agree on a definite plan of exploration on a unit-cost basis.

SIGNED

W. F. Dietrich

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAP



EXPLANATION

- Feldspathic pegmatite
- Mica
- Mica gneiss
- Contact, location accurate, showing dip
- Contact, location approximate
- Strike and dip of foliation
- Rim of open cut
- Dump

Scale in feet

0 20 40 60 80

Contour interval 10 feet Datum assumed

Prepared in cooperation with the North Carolina Department of Conservation and Development

Mapped March 24-25, 1944 by
W. R. Griffitts, J. M. Parker, III, and J. R. Wolfe, Jr.

Remapped October 24, 1944 by
W. R. Griffitts and J. O. Olson

U. S. GEOL. SURVEY
U. S. GOVERNMENT

MOULTON MICA MINE, AVERY COUNTY, NORTH CAROLINA

DMEA-3909 (mica)