DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4885

Application
- [x] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

7590

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Comoleted analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

Form MF–103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42–R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed)

Sam L. Phillips
Spruce Pine, N.C.

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA-4885

Date Received: 11/25/57

Government Participation %:

Region: V

Division Code: 600

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [ ]
- Partnership [x]
- Other (Specify) [ ]

State in which firm is organized: N.C.

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
Dayton Ingram	Newland, N.C.	Partner
Sam L. Phillips	Spruce Pine, N.C.	"
Robert Guy	Newland, N.C.	"

Mineral(s) for which you wish to explore: Mica

Estimated Cost of Project: $ 5,000.00

LOCATION OF PROPERTY

Name	County	State
Elk Mine	Avery	N.C.

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order–I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

11-21-57
Dated

Sam L. Phillips
BY *(Signature)*

Partner
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work*. Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries* or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. *(Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

Note – No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. *(a)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

MF-103 (Continuation Sheet)

1. (a) Description on Lease, lease and Consents to Lien on file with D.M.E.A. from previous application and loan that has been paid back. #2466

(b) Mine is known as the Elk Mine.

(c) Lessee

(d) No lien.

2 (a) This mine has been worked for some time.

(b) Mine has been in contenious operations for the last few years, by the partners that are filing for this loan.

(c) The mine has produced in excess of One Hundred Thousand Dollars worth of mica.

(d) There is a significant amount of strategic grade mica in vein material showing.

(e) Pegmatite vein.

(f) The mine appears to be lost at this time, but there is a good possibility of the mine comming in on the south end, because no work has been done there since 1944, the reason for this is that this part of the mine is very unhandy to get to.

3. (a) There is a road into the mine, and Dayton Ingram will meet the D.M.E.A. representatives at Sam L. Phillips Office in Spruce Pine, and go with them to the mine, which is located on Plumbtree Creek in Avery County.

(b) Road access, supplies, manpower, and equipment are available.

4. (a) We propose to drive a drift for a distance of 125' on the South end of the mine.

(b) No read to build.

(c) Work can begin immediately after loan papers are received, and drift can be completed within four months.

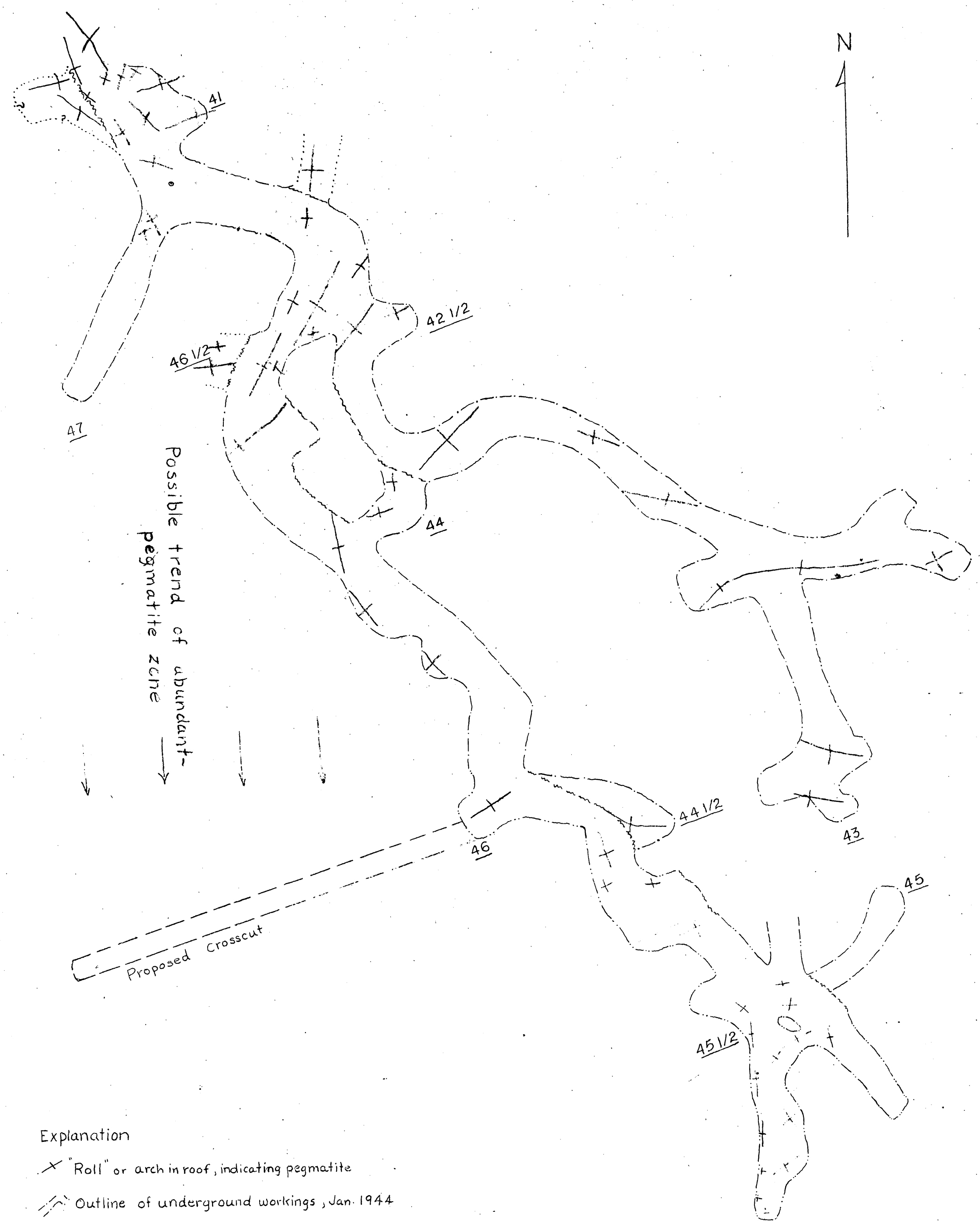
5. Now on file with D.M.E.A.

6. Estimate of costs:

125' Drift @ $40.00 per foot	$5,000.00
Total estimated cost of project:	$5,000.00

7. (a) Will share cost of proposed project.

(b) Money & equipment.



Explanation

- "Roll" or arch in roof, indicating pegmatite
- Outline of underground workings, Jan. 1944
- Outline of underground workings, Feb. 1958
- 46 Number of heading
- Outline of muck-filled areas

South End
of
Elk Mine
Avery County, N.C.

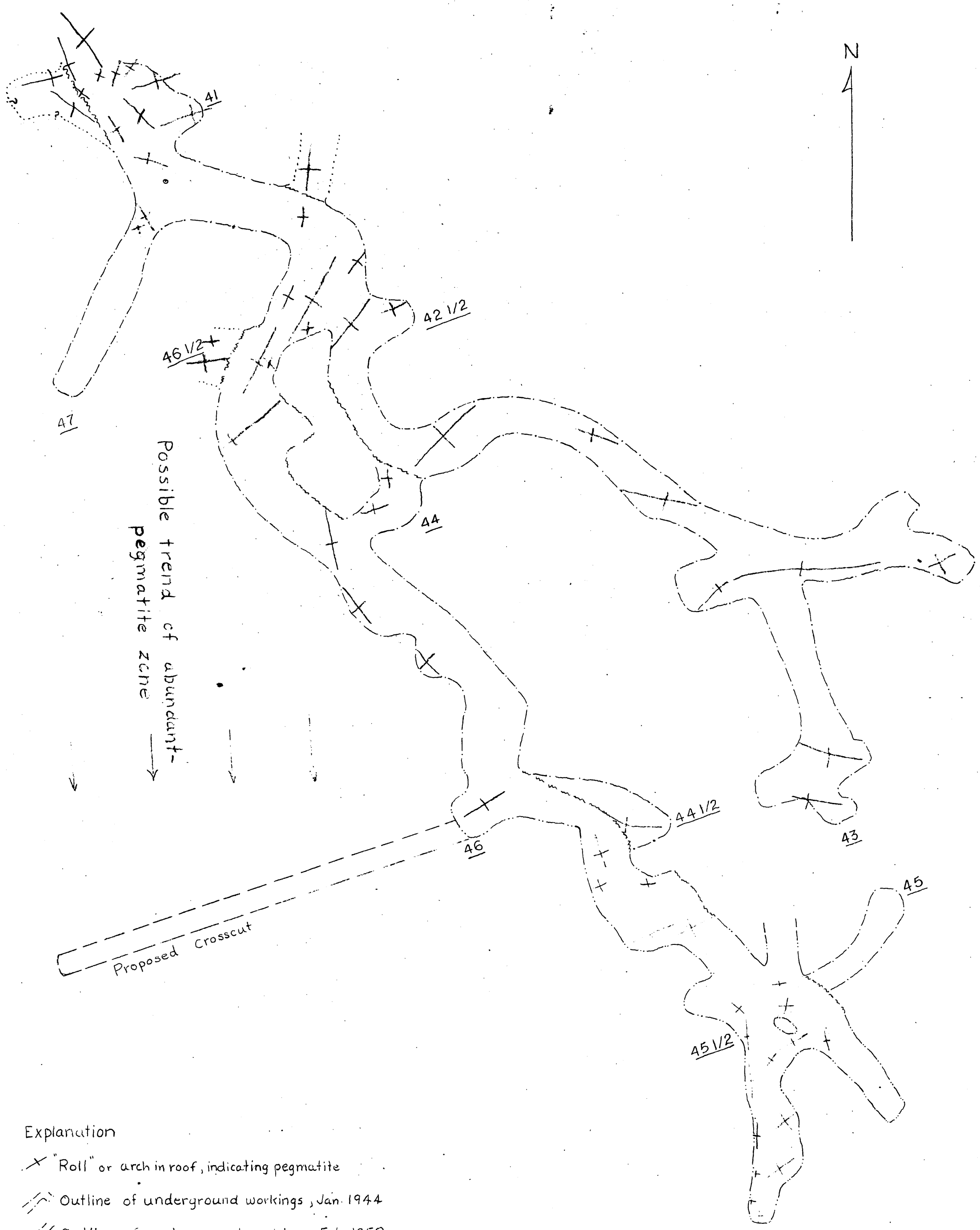
DMEA-4885 (mica)

Modified after J.C. Olson & W.R. Griffitts, Jan. 1944

Scale
0 10 20 Feet

FGL-2/58

FGL-2/58



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DMEA- 4885 (mica)

Modified after J.C. Olson & R. Griffitts, Jan. 1944

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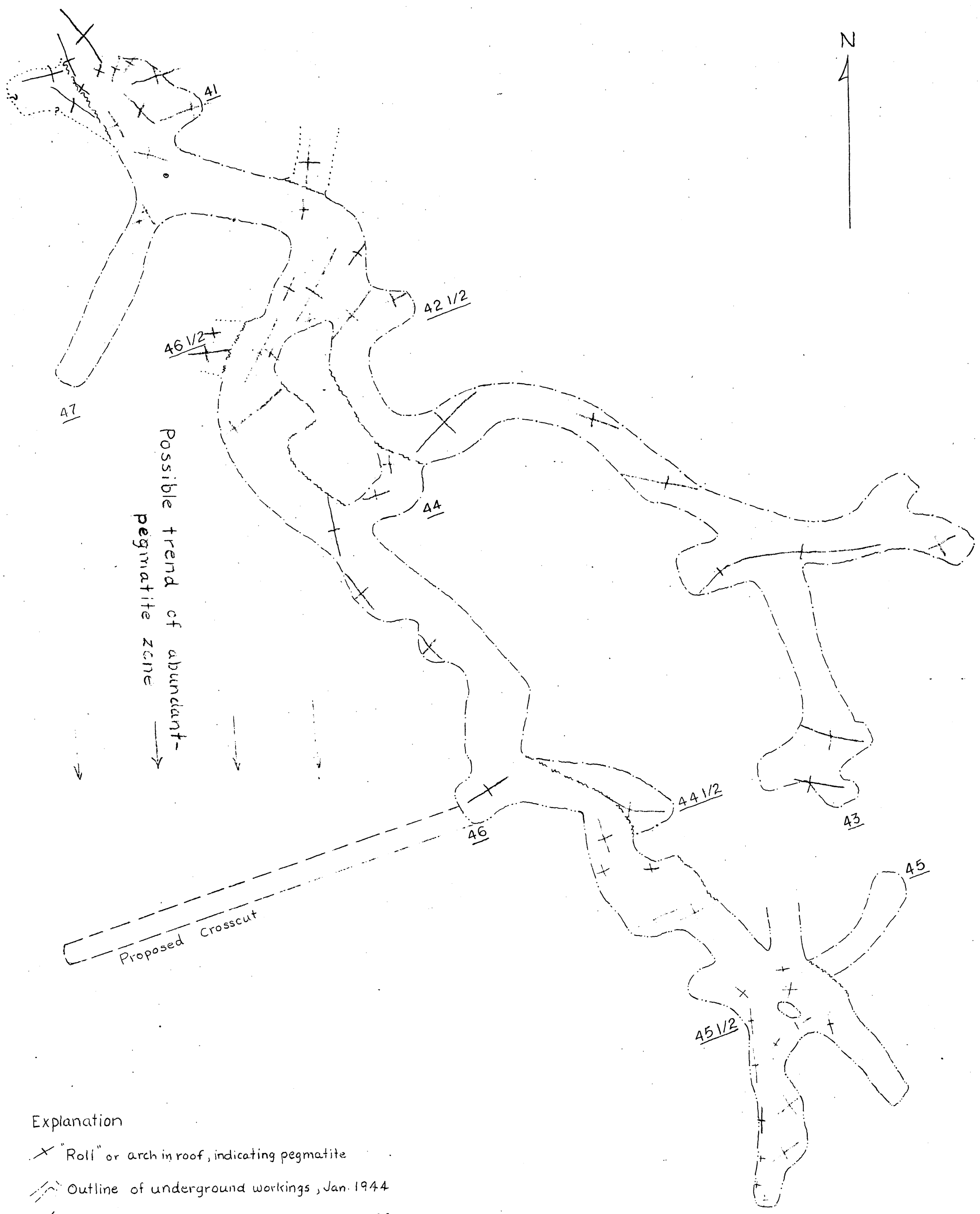
FGL-2/58



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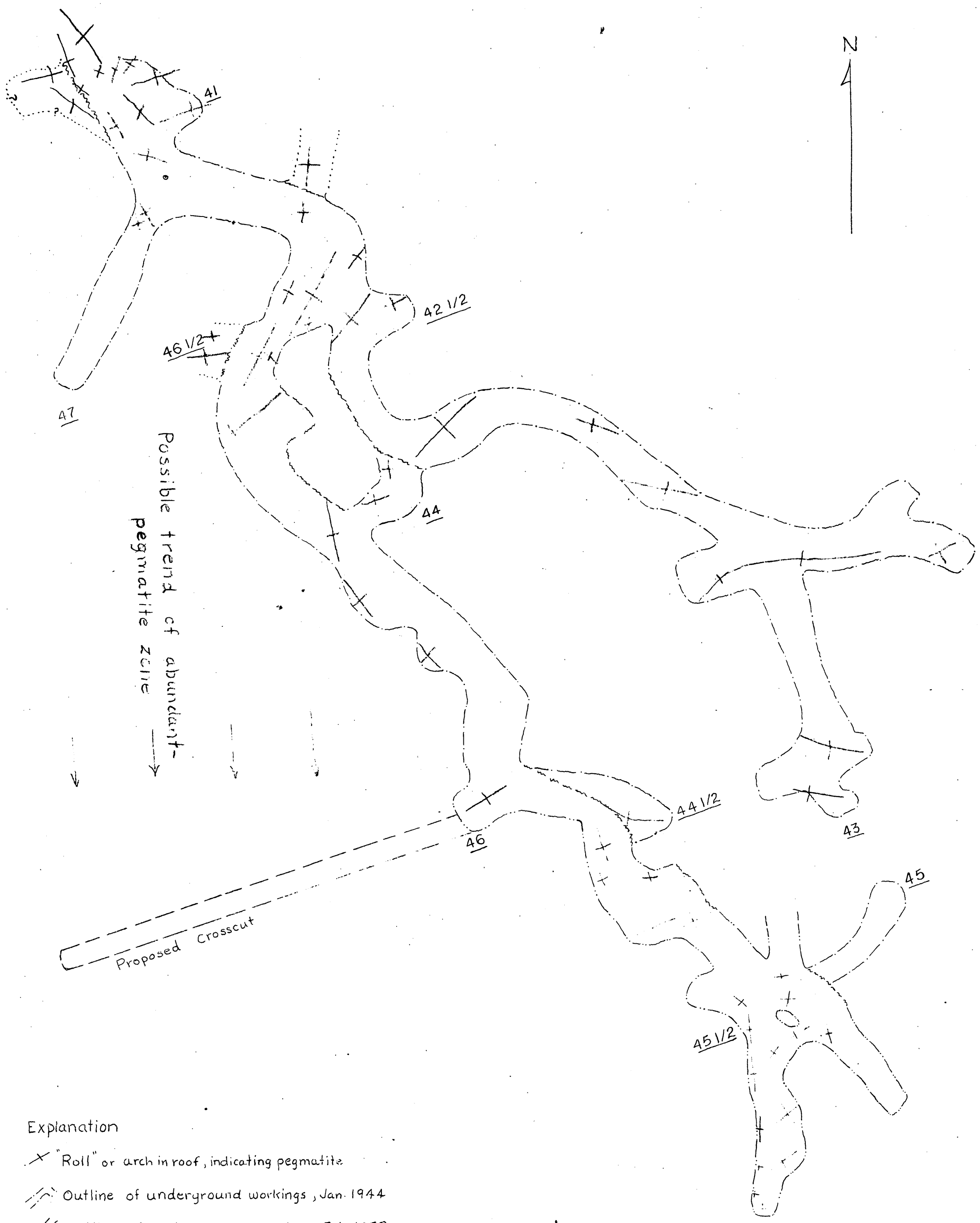

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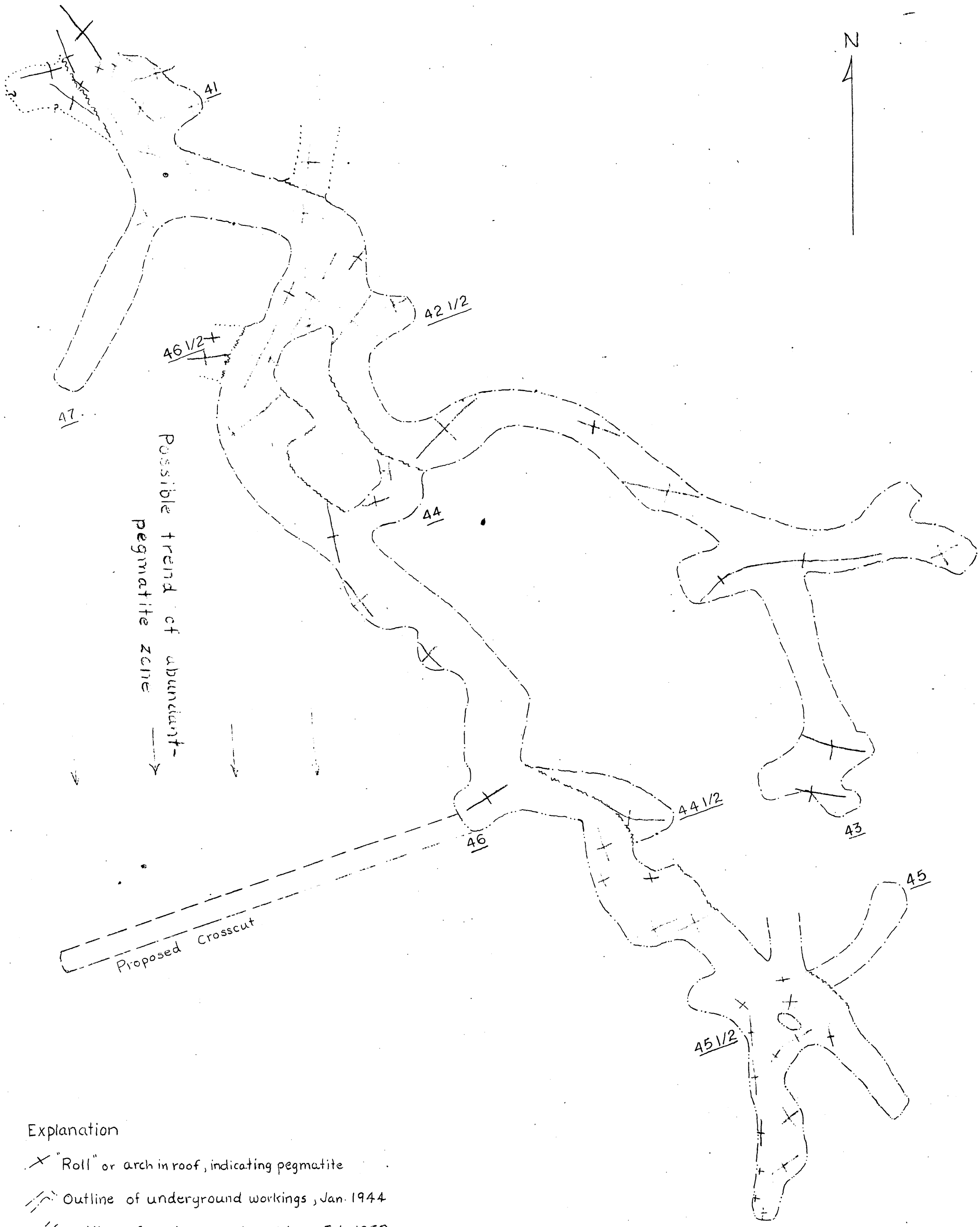

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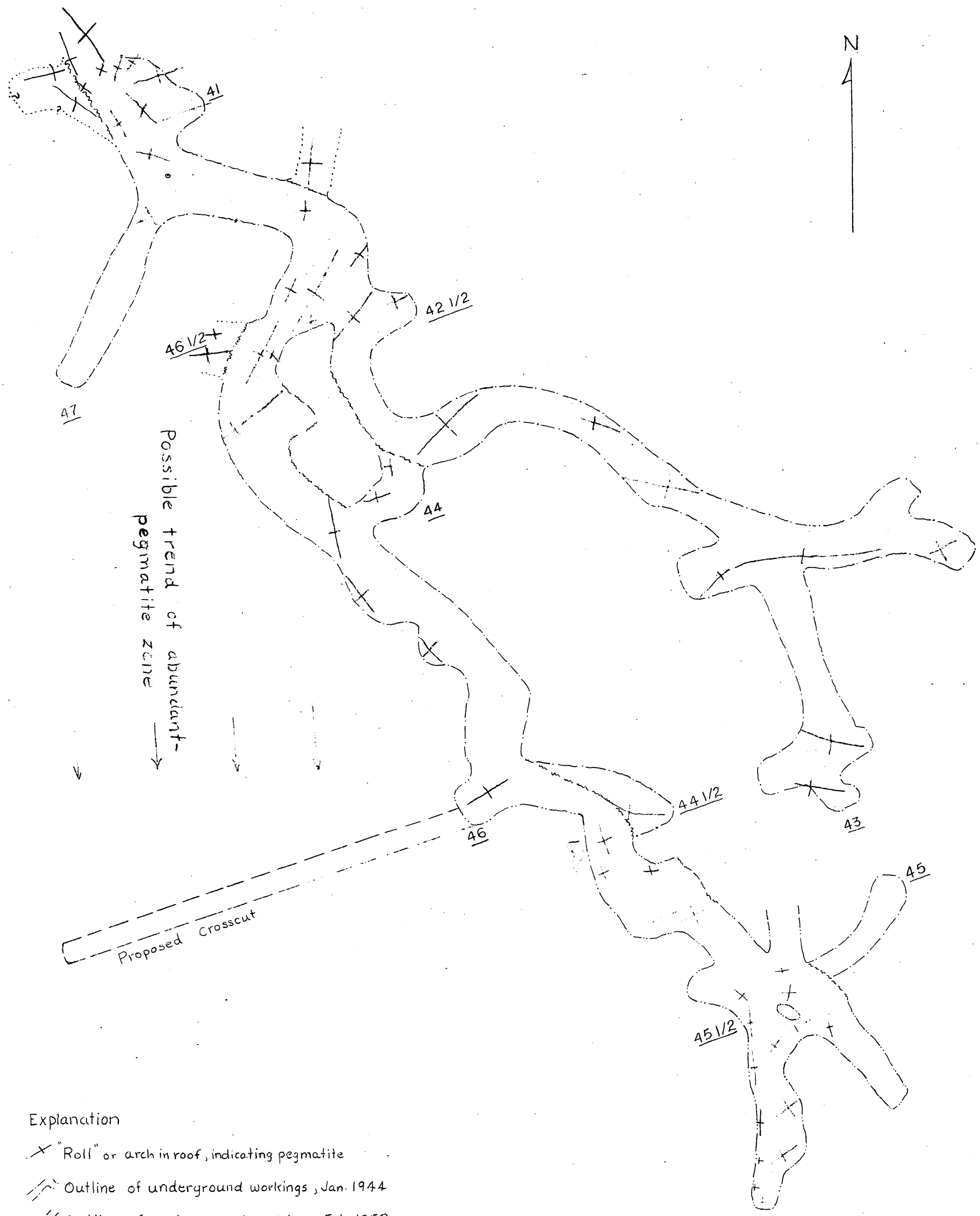

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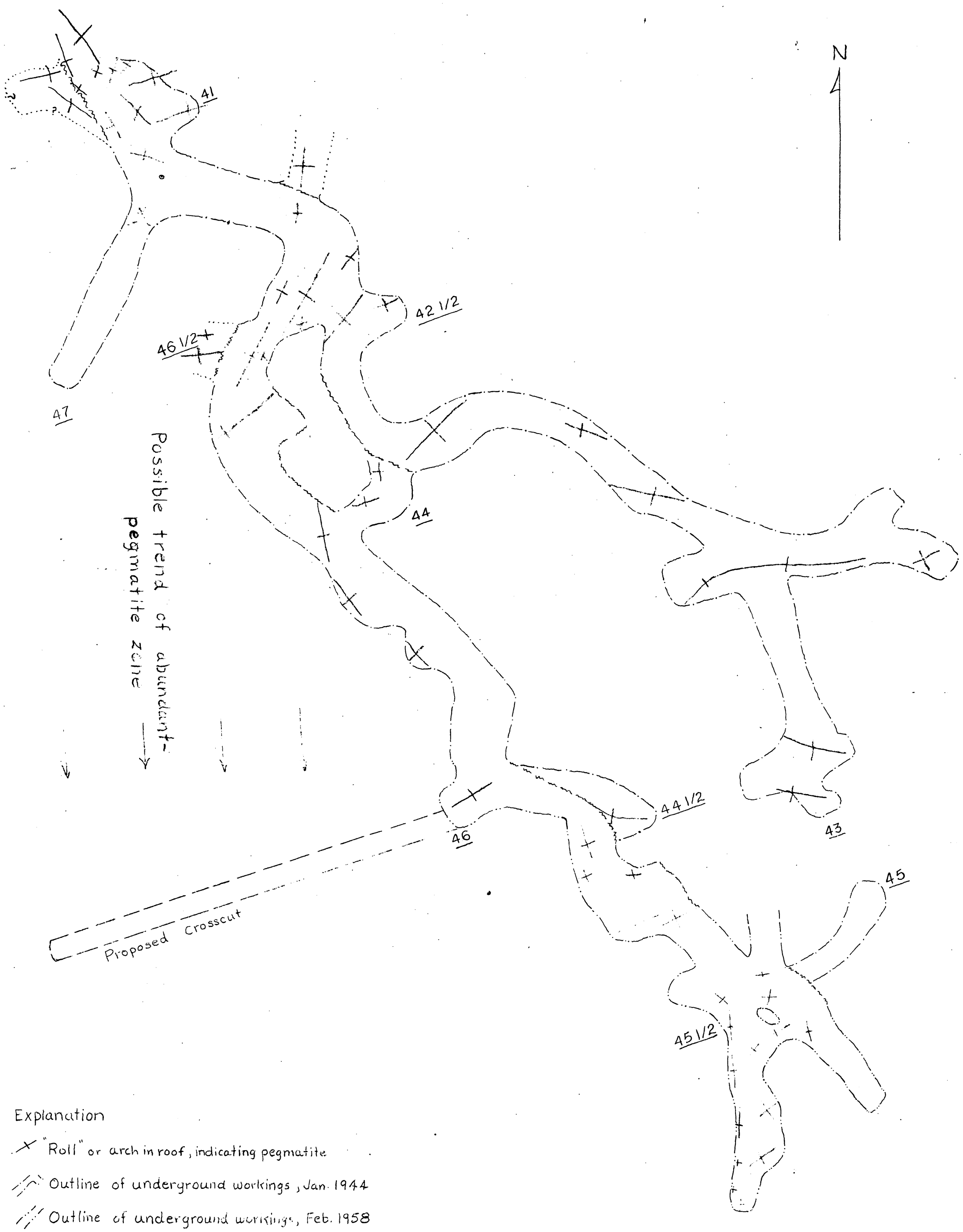
FGL-2/58



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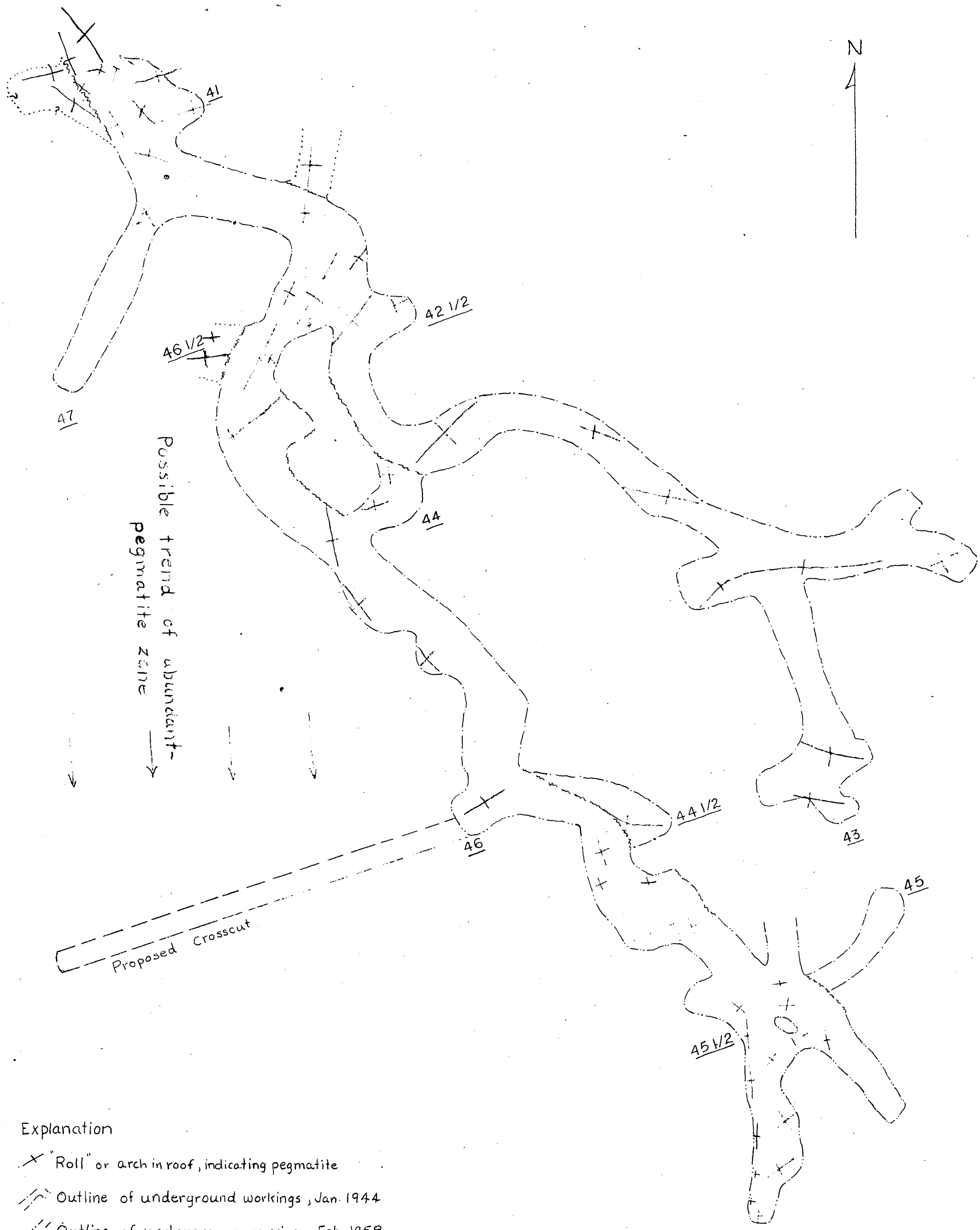

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Scale
0 10 20 Feet

FGL-2/58

DMEA Form 7
(12-56)

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OFFICIAL FILE COPY

Date	Surname	Code
3/2	Houk	600
3/19	Selfridge	130
3/19	McMahon	130
3/19	Nelson	130
"	Johnson	110
		~~100~~
		220

600

MAR 19 1958

Mr. Sam L. Phillips, et al.

Spruce Pine, North Carolina

Re: Docket No. DMEA-4885-Mica
Sam L. Phillips, et al.
Elk 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,

Peter B. Dixon (for)

Director Administrator

LGHouk:gad 3/3/58
Copy to: Admr. R. File
Operating Committee
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/3	Fullerson	600
3/2	Houk	600
3/3		

600

March 3, 1958

Memorandum

To: Mr. C. O. Mittendorf, Administrator

From: Lawrence G. Houk, Director
Division of Nonmetallic Minerals LGH

Subject: Evaluation of application and field examination report.
Docket No. DMEA-4885-Mica
Sam L. Phillips, et al.
Elk Mine
Avery County, North Carolina

Denial of application is recommended.

Mica: Strategic quality.

Pegmatite: Occurs as many small lenses and pods that lie conformable to the foliation of the country rock within one favorable undulating, nearly horizontal zone. These pods range from 12 to 14 feet long, 3 feet or more wide, and 1½ to 2 feet thick.

Workings: The workings are entirely underground and previous to the work of DMEA-2466 (Contract Idm-E410), consisted of a series of interconnected rooms having a total length of 1000 feet and a width of as much as 200 feet. The underground workings consist of 55 headings which are marked on the attached map. Work of DMEA-2466 (certified), consisted of 34 feet of a drift west from heading 49½ and a drift 118 feet eastward from heading 27. Only 300 pounds of mica was produced in the westerly drift where the pegmatite pinched out. About $150,000 worth of mica has been produced from the area penetrated by the easterly drift.

Method of Exploration:

Applicant's Proposal - 125 feet of drift on the south end of mine for which he requested $5,000.00

Field Team's Proposal - 100 feet of drift slightly southwest from heading 46. Costs:

	ft.
Install track and air and water pipes for 600/ft. @ $1.00/	600.00
Drive 100 feet of drift @ $36.02/ft.	3,602.00
Estimated total cost	$4,202.00
Government participation @ 75%	$3,151.50

Comments: The Division of Nonmetallic Minerals believes that the following observations tend to disprove the theory of the field engineers that driving 100 feet of drift in a westerly

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direction from heading 46 is a justifiable exploration project. The basis for the Field Team recommendation is contradictory to this statement in its report "The exploration work under DMEA-2466 in heading 49½ was to the west but may have been west of or on the western edge of the zone of abundant pegmatite lenses." Heading 46 from which the proposed drift will start is 300 feet south from heading 49½ and west of the main zone of abundant pegmatite lenses which trends slightly southeast from the area which produced the mica under DMEA-2466. Heading 46 is on the projection of a north-south line that contains several other headings which indicated the zone of pegmatite lenses to pinch out. The Field Team recommendation is based on a plan of exploration suggested by Olson in 1944 (recommendation 4, p 7). This recommendation reads "For the same reason as recommendation 1, work ... south of heading 47 ... might well be directed westward from heading 46." However, the work of DMEA-2466 (subsequent to Olson Report) proved the non-existence of lenses, (predicted by Olson) west of heading 49½, therefore we feel that drifting westward from heading 46 would be equally discouraging. Other factors which we believe support denial:

1. Unpredictable occurrence and sizes of lenses or pods. The western section of the mine shows little stoping west of main haulage.

2. The cost of exploring for small lenses is out of proportion to the production potential.

3. In previous project there were no reserves developed when project ended and none can be expected this time.

4. Before denial we wrote Laurence pointing out that Olson's thesis was tested by our previous work without encouraging results and Laurence on March 12, 1957, replied that only by crosscutting is the inference provable that the zone of abundant lenses extends to the south, in the area of heading 46.

Recommendation: Guided by the foregoing analysis, the Division of Non-Metallic Minerals does not agree with the Field Team that an exploration project is justified and therefore recommends denial. The Geological Survey concurs in the Field recommendation for a contract, while the Bureau of Mines concurs with reservations. It is noted that both the Bureau of Mines and Geological Survey in their comments for referral to the field, implied that this is development rather than exploration.

Walter C. Anderson

Walter C. Anderson
Division of Nonmetallic Minerals

WCAnderson:rsi 3/3/58
Copy to: Admr. R. File
Mr. Houk

March 3, 1958

Mr. Houk:

Insufficient support for denial in memo. Paragraphs 3 and 4 too general and apply to any case. Suggest writing to the Field Team informing them we are inclined to deny based upon previous projects, and lack of information that a trend of pegmatites to the south exists.

Production from area SE of crossouts
46 1/2 & 47.?

DEFENSE MINERALS ADMINISTRATION

97021

PRODUCTION EXPANSION DIVISION

LOAN APPLICATIONS

Name of Company and Address _____

Name of Mine and Location _____

Docket No. DMA - _____ Date received by P.E.D. _____

Metals or Minerals involved _____

Amount of loan and interest rate _____

Type of Loan (R.F.C. or Guaranteed Bank Loan) _____

Term of Loan _____

Purpose of Loan -- Mine Equipment _____

Mill or Reduction Plant _____

Operating Funds _____

Other _____

Repayment and Rate _____

Comments on Contract: _____

_____

_____

_____

_____

Date sent to Legal Division: _____

Date of Recommendation to D.P.A. for Certification _____

Date Certification sent to R.F.C. by D.P.A. _____

Date Signed into Contract by R.F.C. _____

Additional Remarks: _____

_____

_____

_____

_____

Interior—Duplicating Section, Washington, D. C.

Signed _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 17 1958
DATE | INITIAL | CODE
3/17 | C | 220
3/17 | Hoch | 600

March 12, 1958

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Region V - Knoxville, Tenn.

Subject: DMEA-4885(mica) Sam L. Phillips, et al. Spruce Pine, N.C.
Elk Mine, Avery County, North Carolina

Reference is made to your letter of March 6, 1958.

We have no data on production from the area southeast of Crosscuts 46 1/2 and 47. This work was done early in World War II, or before the war.

On the basis of a restudy of the maps and examination of the work done since completion of DMEA-2466, the Examiners believe that the work done in headings 47 1/2 and 49 1/2 may have been to the west of the zone of abundant pegmatite lenses, as they indicated on the map which accompanied the examination report. However, this inference is provable only by doing the proposed crosscutting; no evidence is available now which will prove it, but on the other hand, no existing evidence proves that the zone of abundant lenses does not extend to the south.

The gneiss in Crosscut 47 is not crumpled or folded, to the extent that more lenses would be expected there. However, the gneiss in Crosscut 46 is folded and, by comparison with productive areas in the mine, looks favorable for the presence of more pegmatite lenses.

Robert A. Laurence

Robert A. Laurence

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/4	Houk	600
3/5	GCS	130
"	Johnson	110
"	Hutchinson	100
3/6	C	220
		600

600

MAR 6 1958

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

Re: Docket No. DMEA-4885-Mica
Sam L. Phillips, et al.
Elk Mine
Avery County, North Carolina

Dear Mr. Laurence:

Reference is made to the Field Team's recommendation for a second contract at the Elk Mine.

In our opinion the DMEA work westward from Opening 49½ tested the Olson recommendation #1 with negative results, thus weakening justification for work westward from Opening 46 (Recommendation 4). We are inclined to deny primarily on the results achieved in the western portion of the mine in the previous project.

We would be pleased to receive any pertinent information that you may have to strengthen your recommendation for a contract, particularly that the trend of the lenses to the south exists despite information to the contrary. We would also like to receive any information on the production from the area southeast of Crosscuts 46½ and 47.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Approved:

O. M. Bishop
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

LGHouk:gad 3/4/58
Copy to: Admr. R. File
Operating Committee
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

P.S. What is the structure of the gneiss in crosscuts Nos. 46 and 47?

8623

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

February 28, 1958

~~Memorandum~~

To: Nonmetallic Minerals Division
~~Defense Minerals~~ Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA - 4885 (mica)

Applicant: Sam L. Phillips, et al

Name and Location of Property: Elk Mine
Avery County, North Carolina

Date of Field Team Report: February 18, 1958

Date Rec'd. by Br. of Ceramic & Fertilizer Materials: February 24, 1958

Field Team Recommendation: Recommend that exploration assistance be granted.

Comments:

1. This mine has a long production history with recorded sales of strategic mica of almost $150,000.

2. In one place in the application it is stated that failure to find good ore was possibly due to exploring too far to the west, and in another place the same reason was given for the east. This would indicate a very narrow target.

Recommendation:

I concur with the recommendation of the field team for exploration assistance provided a re-examination of the mapping still indicates that the proposed drifting is to be in the most favorable location.

W. F. Dietrich

W. F. Dietrich

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IN REPLY REFER TO:

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

February 24, 1958

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4885 (mica)
S. L. Phillips, Elk mine, Avery County, North Carolina

The examining team recommend approval of a DMEA contract that would provide for 100 feet of crosscutting at a total estimated cost of $4,202. The work would be started from existing mine openings and is designed to penetrate geologically favorable ground southwest of the Elk mine. The proposed work was suggested by U. S. Geological Survey personnel (J. L. Olson) as long ago as 1944.

I am in agreement with the recommendations of the Field Team for the reason that the proposed project seems likely to result in the discovery of new reserves of strategic mica.

W. P. Williams

W. P. Williams

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

WASHINGTON 25, D.C.

February 18, 1958

DMEA
RECEIVED FEB 20 1958

DATE	INITIALS	CODE
2/20	C	221
2/24	JB	130
2/24	C	220
2/26	Hoch	600

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

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

Subject: Examination Report - Docket No. DMEA-4885 (Mica)
Sam L. Phillips, et al., Spruce Pine, North Carolina
Elk Mine, Avery County, North Carolina

Enclosed are the original and two copies of the subject examination report. There are also enclosed eight extra copies of the map.

The Field Team is in agreement with the recommendation of the field examiners that exploration assistance be granted to cross cut the possible southward extension of the north-south zone.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
2-24-58
(OKO)

on-site Exam Rpt

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UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FIELD EXAMINATION REPORT
REGION V

DMEA-4885(mica) ELK MINE
Avery County, N. C.

F. G. Lesure, Geologist
Geological Survey

S. A. Feitler, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
2-24-58
(date)

February 14, 1958

DEFENSE MINERALS EXPLORATION ADMIN.

REGION V
FIELD EXAMINATION REPORT

On

DMEA-4885(mica) ELK MINE
Avery County, N. C.

Applicants: Sam L. Phillips, et al. Spruce Pine, North Carolina

SUMMARY

The Elk Mine has a long production history from a great number of small pegmatite lenses in one restricted horizon. Mapping and mining experience suggest that a zone trending north-south has a higher percentage of pegmatite lenses than other parts of the mine. Much of the early production of the mine was from this zone. It is recommended that exploration assistance be granted to cross-cut the possible southward extension of the north-south zone.

INTRODUCTION

Location: The Elk mine is on the steep western slope of Middle Elk Ridge, 1.5 miles northeast of Plumtree, Avery County, N. C. The mine can be reached by 4-wheel drive vehicle on a rough mine road leading from the dirt road up Robson Branch.

Examination: The examination of the Elk mine was made February 4, 1958 and lasted about 3 hours. Messrs. S. L. Phillips and Dayton Ingram accompanied the Examiners. The southwestern part of the old workings from heading 49½ to 45½ and much of the recent past-DMEA-2466 work through heading 27 were examined (see preliminary map, Elk Mica Mine, Olson & Griffitts, 1944, US Geol. Survey Strategic Minerals Investigation). Mapping in the area south and west of heading 46 was brought up-to-date but no attempt was made to map the extensive workings east of heading 27.

Past Operations: The early history of the mine is covered by Olson, 1944 (The Elk Mine, Avery County, N.C., unpublished U.S. Geol. Survey Manuscript) and the exploration work done under DMEA-2466,

Idm-E410(mica) Elk Mine is described by Teague and Shirley, 1953. Since 1953 Dayton Ingram, mine foreman, has extended the workings from heading 27 more than 200 feet to the east adding almost a third more to the total area of mined and explored ground. Frequency of pegmatite lenses in this area was good but not as high as in the old area of the mine between headings 28,29, 35, 51 and 52 mentioned in Olson's report (page 1). Data on production from the recent work has been reported through Oct. 25, 1957 by W. A. Beck, U.S.B.M. (Semi-annual report of certified project DMEA-2466, Idm-E410(mica) Elk Mine, Avery County, N.C.). Although at the time of that report work had ceased at the mine, mining was resumed shortly after and is being carried on today in the eastern part of the mine.

All necessary equipment and buildings are at the mine. These include toolhouse, hoist, compressor, track, mine car, drilling equipment, water supply and electric power.

GEOLOGY

The geology of the Elk Mine has been described by Olson (1944) and Teague and Shirley (1953). As they point out there are many small pegmatite lenses and pods that lie conformable to the foliation of the country rock within one favorable undulating, nearly horizontal zone. These lenses are not necessarily connected but do seem to occur in lines similar to peas in a pod. According to Dayton Ingram lines of such lenses may be 40 to 50

feet long and contain several pods 12 to 14 feet long, 3 feet or more wide and 1½ to 2 feet thick. A picture of one of these lenses is given by Jahns (Study of Pegmatites, 50th Ann. Vol. Econ. Geology, 1955, p.1039).

Much of the mining at this mine has been done as a form of exploration because of the disoontinuous nature of the pegmatite lenses. Dayton Ingram reported to the Examiners that he continues drifting as long as the gneiss in the pegmatite zone is folded or contorted but generally stops when the foliation is nearly even. He also reported that the ideal situation is to begin mining at one end of a line of pods and follow their trend. From his long experience in the mine he has come to the conclusion that there was a main zone of abundant pegmatite lenses in the area mined out near headings 50, 51, 52, 53, 28, 29, 30, and 36 and that this zone trends north-south or a little NW-SE. This hypothesis is supported by the war-time mapping (Olson & Griffitts, 1944) which shows a greater number of lenses in that area as compared with the eastern part of the southern workings. If this zone trends NS, or slightly NW-SE, the southern workings may be too far east as Mr. Ingram suggests. The post-1944 work at the south end of the mine in heading 45½ exposes 10 or more small lenses which seem to indicate an increase in the abundance of lenses toward the west. The exploration work under DMEA-2466 in heading 49½ was to the west but may have been west of or on the western edge of the zone of abundant pegmatite lenses. The most

favorable area for exploration as indicated by mapping and the mining experience of Mr. Ingram seems to be west of the southern part of the mine.

RECOMMEDATIONS

The Field Examiners recommend that exploration assistance be granted. A crosscut 100 feet long driven west or slightly southwest of heading 46 should intersect the trend of the zone of abundant lenses if that zone continues toward the south. This plan of exploration was suggested by Olson in 1944 (Recommendation 4 p.7).

Because the pegmatite lenses in this mine are discrete bodies and not connected, the proposed work is considered exploration and not mining. At the present time there is no area of proved reserves in the mine, but the western part is an area of favorable ground which warrants exploration.

ESTIMATED COSTS.

Install 600 ft of track, air and water line from the end of the Air Tunnel to the exploration heading.

Install track and pipes for air and water- 600 ft @ $1.00/ft. $600.00

Drift 100 ft. 5 x 7 ft in cross section (50 shifts).

Labor:

1 - Foreman-Miner	$14/shift	
1 - Hoistman	12/ "	
1 - Laborer	8/ "	
Per 8 hr. shift.....	$34 "	
Total labor - 50 shifts.....		$1,700.00

Equipment(rental)

1 - Compressor @ $150/Mo.	$375.00	
1 - Hoist @ $50/Mo.	125.00	
1 - Rock drill w/hose @ $40/Mo.	100.00	
1 - Jackleg @ $25/Mo.	63.00	
Total equipment rental.....		$ 663.00

Supplies, etc.

Gasoline & Oil	225.00	
Explosives	400.00	
Drill steel	180.00	
Small tools and Misc.	200.00	
Sales tax	30.00	
Social Sec. & Ins.	204.00	
Total supplies, etc.....		1239.00
Total estimated cost of drift		$3602.00

Est. cost/ft drift $36.02

Summary of Estimates

Install tract and pipe	$600.00
Drift 100 feet	$3,602.00
Total est. cost of project...	$4,202.00

F. G. Lesure, Geologist
Geological Survey

S. A. Feitler, Mining Engineer
Bureau of Mines

February 14, 1958

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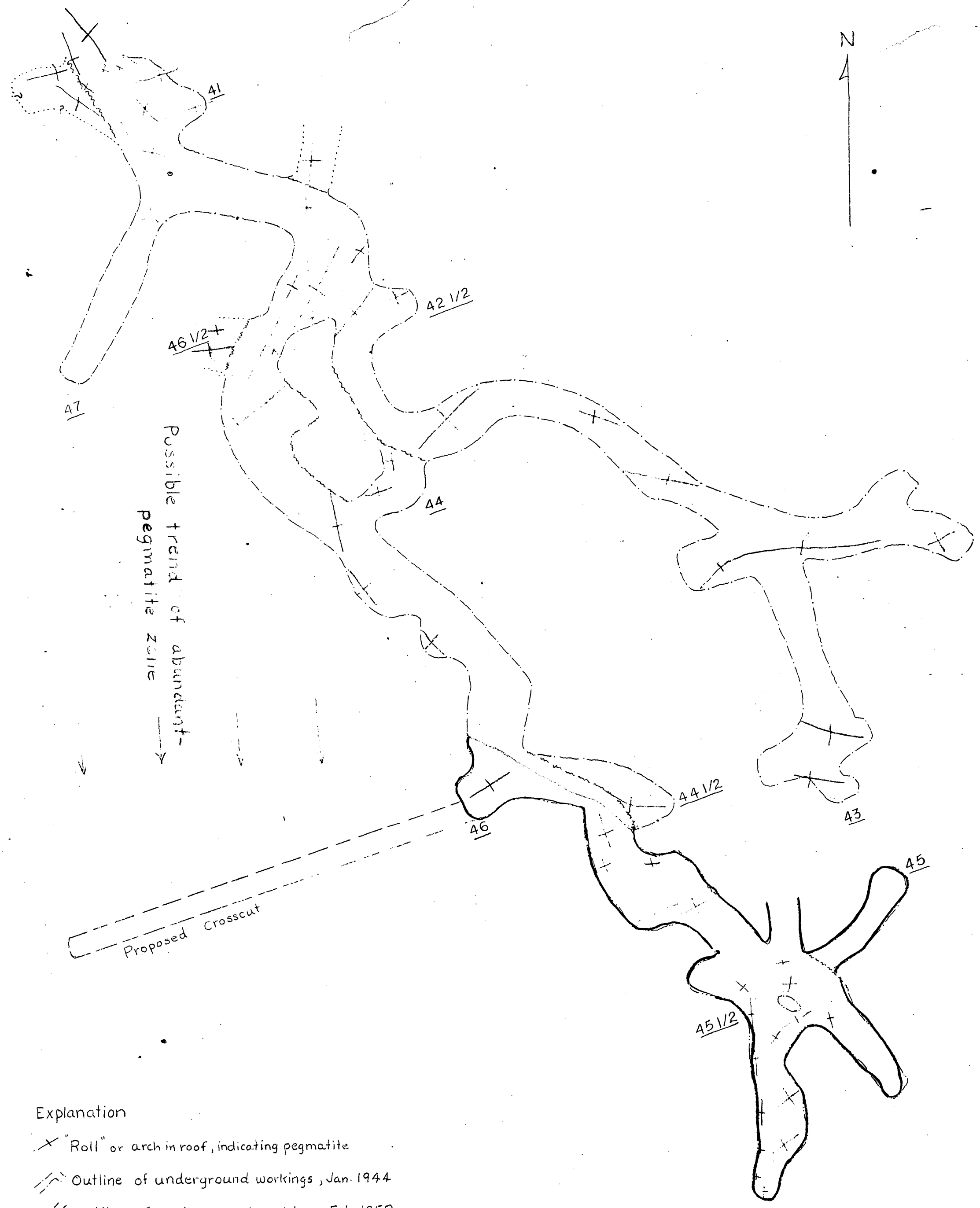

Explanation

- "Roll" or arch in roof, indicating pegmatite
- Outline of underground workings, Jan. 1944
- Outline of underground workings, Feb. 1958
- 46 Number of heading
- Outline of muck-filled areas

South End
of
Elk Mine
Avery County, N.C.

DMEA- 4885 (mica)

Modified after J.C. Olson & W.R. Griffitts, Jan. 1944

Scale
0 10 20 Feet

FGL-9/58

COPY
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RECEIVED FEB 20 1958

DATE	INITIALS	CODE

DMEA Form 7
(12-56)

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Date	Surname	Code
12/10	Anderson	600
12/10	Houk	600
12/11	[illegible]	130
"	Johnson	110
"	Butterworth	100
12/12	[illegible]	220
		600

DEC 11 1957

600

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

Subject: Docket No. DMEA-4385-Mica
Sam L. Phillips, et al.
Elk Mine
Avery County, North Carolina

Dear Mr. Laurence:

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

Copies of memoranda dated November 29, and December 4, 1957, by Mr. N. E. Nelson, USGS, and Mr. W. F. Dietrich, USBM, respectively, relating to the project are enclosed. There is also enclosed a copy of the application for the use of the Field Team.

Please note the comments of the Commodity Members of the Geological Survey and the Bureau of Mines. Since they imply that the proposal is more development than exploration, the Examining Engineers should give this feature of the proposal especial attention in their report, citing justification for or against approval. The Examining Engineers should comment on the frequency of lenses encountered since the start of work on Contract No. Idm-7410, DMEA-2466, and probability of the recurrences of similar lenses in the area to be explored.

If a contract is recommended, it will be necessary for the Applicants to furnish a Consent to Lien and Subordination Agreement.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GHB)

Approved:

Frank D. Lamb (GHB)
Member, Bureau of Mines

N. E. Nelson (GHB)
Member, Geological Survey

Enclosures 5

WCAnderson:gad 12/9/57
Copy to: Admr. R. File
Operating Committee
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

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DMEA Form 7
(12-56)

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Date	Surname	Code
12/9	Anderson	600
12/9	Hoch	600
12/11	Selbridge	130
12/11	Lardt	130
12/11	Nelson	130
"	Johnson	110
"	Mittendorf	100
12/12	gb	220
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DEC 11 1957

Mr. Sam L. Phillips, et al.

Spruce Pine, North Carolina

Re: Docket No. DMEA-4885-Mica
Sam L. Phillips, et al.
Elk Mine
Avery County, North Carolina

Dear Mr. Phillips:

Your application for assistance in exploring the subject property has been reviewed by the Division of Nonmetallic Minerals 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,

C. O. Mittendorf (for)

Administrator

WCAnderson:gad 12/9/57
Copy to: Admr. R. File
Operating Committee
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

8623

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

12/5 C 220 1600

December 4, 1957

~~Memorandum~~

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-4885 (mica)

Applicant: Dayton Ingram, et al.

Name and Location of Property: Elk Mine, Avery County, N. C.

Date Application Rec'd. by Br. of Ceramic & Fertilizer Mtls. 11/26/57

Comments:

1. Applicants wish exploration assistance to drive a 125 foot drift in the southernly part of a pegmatite from the northernly part of which $100,000 worth of mica has been produced in the past few years.

2. This proposal is more development than exploration.

Recommendation:

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

W. F. Dietrich

W. F. Dietrich

IN REPLY REFER TO:

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

November 29, 1957

Re: DMEA 4885
Dayton Ingram et al
Elk Mine
Avery County, N. C.
$5,000 - Mica

Memorandum

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

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

Subject: Review of application

The applicants request assistance in driving a 125-foot drift to open the southerly part of a pegmatite from the northerly part of which $100,000 worth of mica has been produced in the last few years. Development rather than exploratory work is implied.

Referral of the application to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

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

November 25, 1957

Mr. Sam L. Phillips
Spruce Pine, North Carolina

Dear Mr. Phillips:

Subject: DMEA-4885

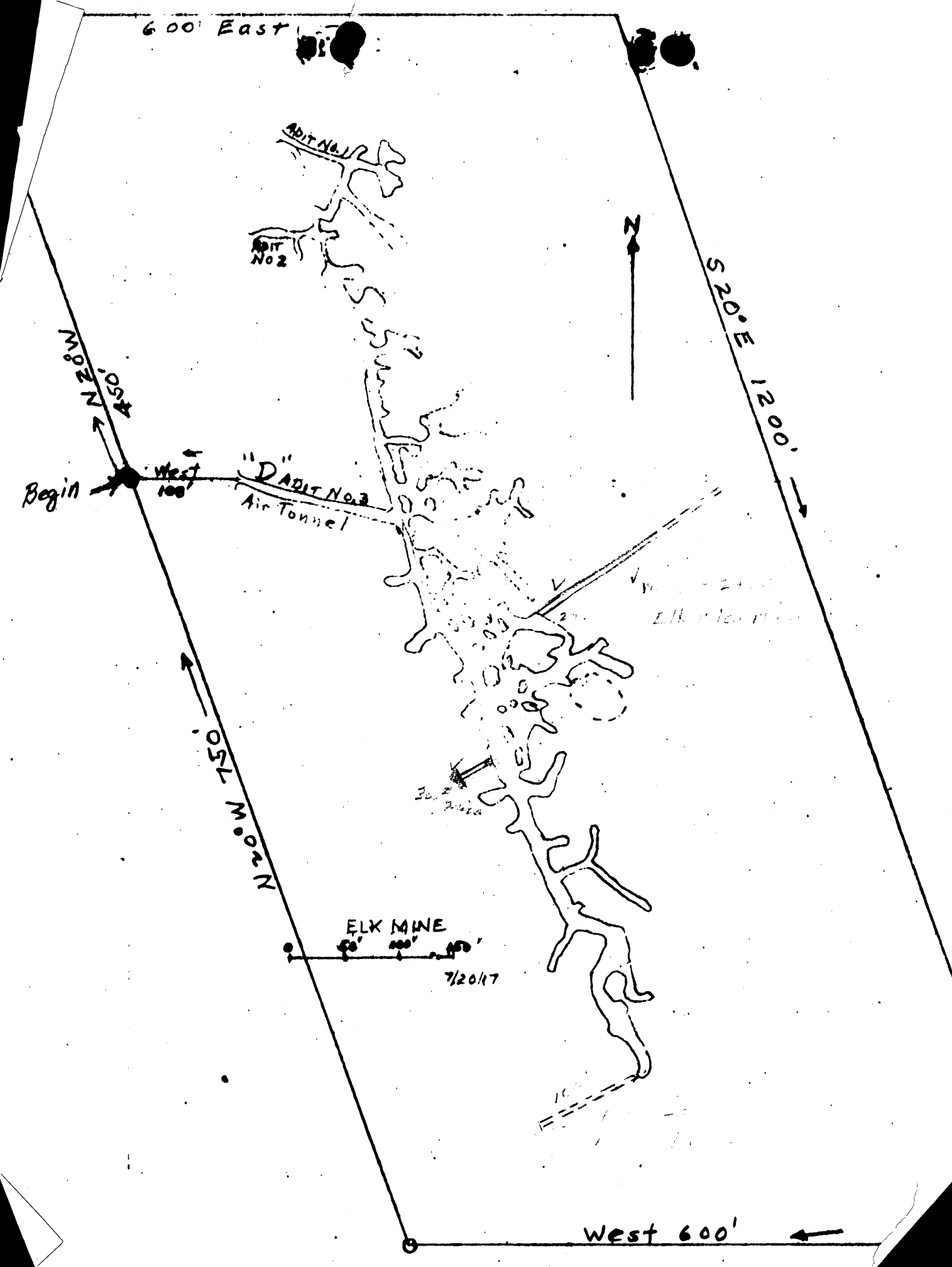
Your application for exploration assistance, dated November 21, 1957 submitted to our office at Washington, D. C. has been assigned Docket Number DMEA-4885 and referred to the Nonmetallic Minerals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:

Region V

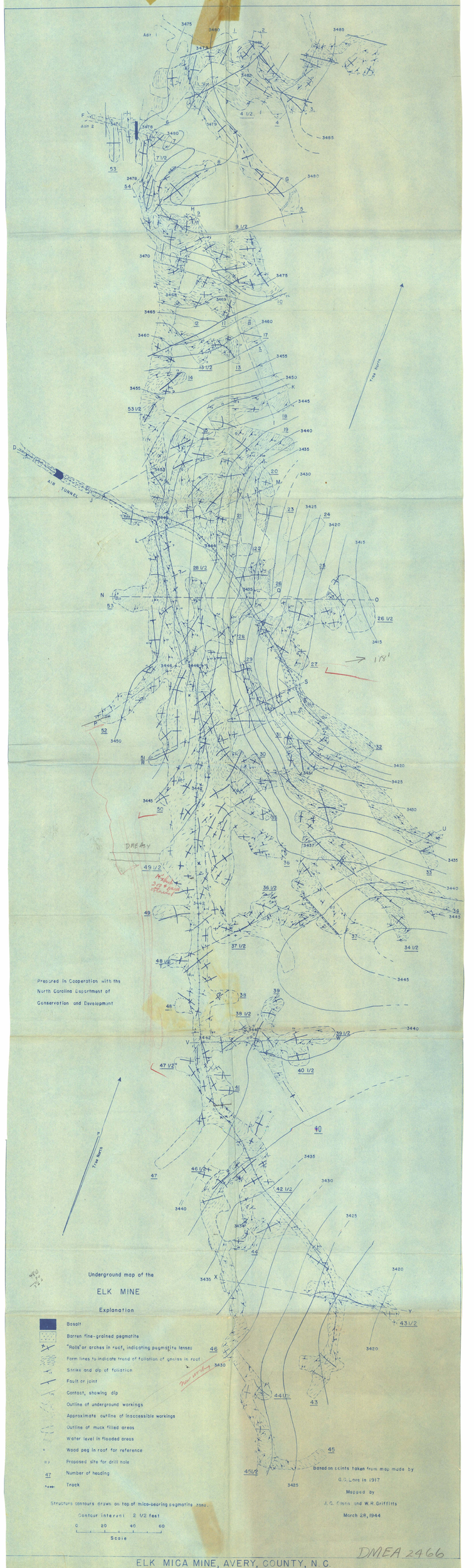

600' East
ADIT No. 1
ADIT No 2
N
S 20° E 1200'
N 20° W 450'
Begin
West 100'
"D" ADIT No. 3
Air Tonnel
N 20° W 750'
ELK MINE
7/20/17
West 600'

U. S. Department of the Interior

Geological Survey

Strategic Minerals Investigations

Preliminary Map



DMEA 2466

ELK MICA MINE, AVERY, COUNTY, N. C.