EA Form 1

DEFENSE MINERALS EXPLORATION ADMINISTRATION
Control Slip

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DMEA Docket No. 4506

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Routing Slip

To:	600	Date	10/24/56
To:	Mr. Hopkins	Date	10-24-56
To:	OperCom	Date	11-15-56
To:	F.E. Johnson	Date	11-16-56
To:	CSM	Date	11-16-56
To:	120	Date	1-28-57
To:	110	Date	1-28-57
To:	100	Date	1-28-57
To:		Date	
To:		Date	
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DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4506

Application (Denied
(~~Withdrawn~~
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments (latest on top)
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
Leases and assignments of leases
✓Application and attachments
(3) Envelope for maps

Right Side

Project summary
Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
✓On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order)
Interim Summary Reports by W. O. Engineers

Right Side

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

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

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

RECEIVED
OCT 15 1956

224 New Customhouse
Denver 2, Colorado

October 11, 1956

Memorandum

To: Secretary to the Operating Committee

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Aid (Mica-Beryl-Columbium-Tantalum) John Edd Therrell (B.A.T. Mining Claims) Santa Fe County, New Mexico

Enclosed are three copies of the subject application in the amount of $205,142.40. One copy of the application is being retained in our file.

E. N. Harshman

E. N. Harshman

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

RECEIVED
OCT 15 1956

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

DMEA

Not to be filled in by applicant

Docket No. 4506
Metal or Mineral Mica
Date Received 10-15-56
Estimated Cost $205,142.40
Participation (Government %)

DEPARTMENT OF THE INTERIOR
OCT 10 1956
REGION III
DENVER, COLORADO

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: John Edd Thorrell
6353 Northport Place
Dallas, Texas

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized. Individual

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration and including any land included in and which is not to be included in the exploration project contract Exploration work conducted on 14 B.A.T. mining claims, as shown on map with enclosure #4. Located essentially in the East. ½, Sec. 1, T.20N., R10E., Santa Fe Co., N.M.

(*b*) State any mine name by which the property is known. B.A.T. Mining Claims

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Located unpatented mining claims filed on by applicant

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. Filed on claims.

(*e*) If you own the land, describe any liens or encumbrances on it None, to my knowledge.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. See enclosure #2.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. None

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See enclosure #3.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See enclosure #3 and #4.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

See enclosure #3 and #4.

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Strategic mica, beryl, columbium, tantalum

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. See enclosure #4.

(*c*) The work will start within 30 days and be completed within 6-18 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Enclosure #2.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project: Enc. #4

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). Enclosure #4.

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See enclosure #4.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. None

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. Enc. #4

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. Enc. #4.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

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*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? Yes

(*b*) How do you propose to furnish your share of the costs?

[x] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper. Can, if necessary

See enclosure #4.

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.

Dated 10-9, 1956

John Edd Thessell
(Applicant)

By

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

S. H. Glassmire
Geologist - Engineer

RECEIVED
OCT 15 1956

Application for Aid on an Exploration Project, Pursuant to DMEA Order #1, Under the Defense Production Act of 1950, as amended.

Enclosure
#1 Filled out Application Form EP103
#2 Answer to 3 (a), 5(d)
#3 Answer to 4(c) of application
Geologic Report on Area and Assay Report
#4 Answer to 4(d), 4(e), 5(b) Exploration Plan,
6 Estimation of Cost of Application

COPY

DMEA
DEPARTMENT OF THE INTERIOR
OCT 10 1956
REGION III
DENVER, COLORADO

Ph. Forest 8-8408

JOHN EDD THERRELL
OIL AND MINING OPERATOR
6353 Northport Drive
DALLAS, TEXAS

RECEIVED
OCT 15 1956

Enclosure #2

Answer to 5(d)

Brief resume on John Edd Therrell:

The past seven years have been spent on the oil business, having actively supervised the drilling of 39 oil wells.

The past two years have been spent in mineral research in the state of New Mexico which includes supervising the preliminary exploration work on Mica deposits.

References: Mr. Henry Clay, Vice-President, Texas National Bank, Houston, Texas; Mr. H. V. Harmon, Vice-President, Citizens National Bank, Waco, Texas; Mr. Frank Carter, Vice-President, First National Bank, Dallas, Texas.

Answer to 3(f)

Claims

B.A.T. #1	Book 104	Page 228	
207752 #2	104	228	
207753 #3	104	230	
207754 #4	104	232	
207755 #5	104	234	
207756 #6	105	299	Santa Fe Co.
208264 #6	24	126	Rio Arriba Co.
208265 #7	105	301	
208266 #8	105	302	
208267 #9	105	303	
210017 #10	109	232	
210018 #11	109	233	
215794 #12	119	194	
215795 #13	119	196	
215796 #14	119	198	

Proof of labor 1955

B.A.T.	BOOk 105	Page	
208325 #1	105	362	
208326 #2	105	362	
208335 #3	105	369	
208336 #4	105	369	
208337 #5	105	371	
208338 #6	Santa Fe Co. 105	371	
8231 #6	Rio Arriba Co. 23	388	
208339 #7	105	373	
208340 #8	105	373	
208341 #9	105	375	
210019 #10	109	234	
210020 #11	109	234	

Enclosure #2 Cont.

Proof of labor 1956

B.A.T. #1		Book 120	Page 7
#2		120	7
#3		120	8
#4		120	8
#5		120	9
#6	Santa Fe Co.	120	9
#6	Rio Arriba Co.	26	280
#7		120	10
#8		120	10
#9		120	11
#10		120	11
#11		120	12
#12		120	12
#13		120	13
#14		120	13

215955 thru 215968

COPY

G. T. HARLEY
GEOLOGICAL ENGINEER
ENGINEER OF MINES
CARLSBAD, NEW MEXICO

September 20th, 1956.

Mr. John Edd Therrell,

6353 Northport Drive,

Dallas, Texas.

Dear Mr. Therrell:-

Please refer to my letter to you dated June 30th, 1956, in which I described certain mining claims about four miles south of the village of Cordova, New Mexico. On the first page of this letter, fourth line, I located certain of the Bat group of claims as being in Sec.I, T20N, R30E. This was an error on my part and the correction should be made to read Sec.I, T20N, R10E.

I am sorry if this error has caused you any inconvenience.

Very truly yours,

G. T. Harley

G. T. HARLEY
GEOLOGICAL ENGINEER
ENGINEER OF MINES
CARLSBAD, NEW MEXICO

June 30th, 1956.

Mr. John Edd Therrell,
6353 Northport Drive,
Dallas, Texas.

Dear Mr. Therrell:-

On June 11th and 12th I spent full time in your company and part time with Fred Cordova and other gentlemen, examining the surface area and various open cuts on claims Bat #1, 2, 3, 4, 7, 8, and 9, all of which are in Sec.1, T20N, R30E, about four miles south of the mountain village of Cordova, New Mexico, on the west slope of the Sangre de Cristo range. We did mot examine Bat #5 and 6, the S. H. Cordova millsite, or a "small holding claim" southwest of the Bat #2 but separated by several hundred feet from it.

In examining the survey map of these claims, it was noted that there were several areas of open ground within this group of claims, and in the interest of concentrating exploration at one spot to cover the major mineralized exposures, it was recommended that some additional claims be located. You and Fred Cordova had already realized the necessity of locating Bat #10, 11, and 12, and as a result of our survey two additional locations, Bat #13 and 14 are recommended. With this done, all assessment work can be done at the most favorable single spot, excepting the work required to protect Bat #5, 6, the S. H. Cordova millsite and the "small holding claim" on each of which $100 worth of work will have to be done. The map which was mailed to you shows the location of these claims, as near as I could reconstruct the descriptions given by Fred Cordova. This map should be considered a part of this preliminary description until such time as a final survey is made and a revised map prepared upon which more detailed geology can be added.

Marked in red on the map, I have indicated the approximate position, strike and width of the numerous dikes that cross this property. The dike on Bat #7 striking N70W and exposed for a width of approximately 400 feet (perhaps several parallel dikes here) appears to be the center of the mineralized area, as it will be noted that dikes in Bat #8 and 9 appear to converge into its supposed extension, and that a major dike in Bat #3 is converging to meet it somewhere near the southeast corner of Bat #7. Minor dikes in Bat #4 appear to converge into Bat #3 dike toward the west. Other dikes in Bat #I and 2 appear to be of a separate system, with no convergance among themselves or toward the major dikes. However, this statement may be greatly modified with further opening of the various dikes which are historically very irregular in strike and dip. Many minor dikes were seen converging into the various dikes indicated on the map thruout the area examined.

In general the regional rock is the typical pre-Cambrian complex of the Sangre de Cristo range, consisting of metamorphosed sediments, biotite schist, and gabbro with irregular sills and dikes of granitic material. The dikes described above are pegmatitic, consisting of coarse crystals of quartz, feldspar and clear muscovite mica. Large crystals of beryl have been found on surface, and at very shallow depths in the few cuts so far opened, some very good book mica has been found. It is very possible that with increasing depth a greater percentage of beryl and book mica will be found as constituents of these dikes.

Only an estimate can be made of the mica content of these dikes in such an extensive outcrop of dike material, but from what was seen in the surface cuts and on exposed outcrops, the mica content could well be 20%. No estimate whatever can be made of book mica and beryl content, but these may well increase with increasing depth.

As to tonnage of dike material in place, this is also very speculative. The dike on Bat #7 is 400 feet wide and is indicated for I200 feet along the strike. The central part of this exposure is fairly flat at an elevation 200 feet above its ends. It is recommended that three trenches I0-I2 feet wide be cut across the width of this dike,

one at each end of the exposure and one at its greatest elevation. If these cuts should uncover 400 feet width of dike with 20% mica content, this one dike alone would indicate well over I,000,000 tons of recoverable scrap mica. The dike on Bat #3 while only I50 feet in width may be richer in mica content than the dike on Bat #7. This dike should also be exposed more fully with exploration trenches. Not so much is known about the dikes on Bat #8 and 9. To the south on Bat #I, 2, and 4, the various dikes range in width from 50 feet down to I0-I2 feet and appear to be higher in mica content than any of those exposed elsewhere on the property. Any estimate of total mica content in this property would be wild speculation at this stage in its development, but it must certainly be considered to be many times the quantity that is indicated to be present in the Bat #7 dike.

It is anticipated that a very large portion of the dike rock on this property is amenable to some simple type of open pit mining at a cost of between $.80 and $I.00 per ton depending on the amount of drilling and blasting that may be required to supplement the work of rippers and heavy excavating machinery. This cost will include the cost of hauling from the pits to a local mill. If a mica content of 20% is accepted, it will require 5 tons of crude ore to produce one ton of scrap mica containing I0% impurities. A milling cost of $.90 is assumed at a local dry milling plant. Total direct costs threfore are estimated as follows:-

5 tons of crude ore to mill at $I.00 per ton	$5.00
Milling 5 tons of crude ore at $.90 per ton	4.50
Cost to produce I ton of scrap mica at minesite	9.50
Cost per ton to haul scrap mica to Santa Fe	2.40
Cost per ton of scrap mica at railroad in Santa Fe	$II.90
With scrap mica selling at $30.00 per ton FOB Santa Fe the value of the 90% product	$I8.I0
To improve the quality of scrap mica at Santa Fe, one ton of scrap will be converted to 0.9 ton of 95-96% grade at a cost per ton for the pure product of about	9.00

The price of the improved product will be raised to $60-90 per ton. Using the lower price of $60 per ton the value of the product willbe $30.88

The above costs do not include an allowance for capital expenditures, taxes or overhead charges, and no credit is taken for recovery of high premium beryl or book mica .

In conclusion it must be said that this property holds a very high speculative interest. The outcrops of dike rock are exceptionally large and consistent, and the estimated direct cost of production will yield a very satisfactory profit. Little can be said with certainty about the grade of material that will come from open pits, but even if the grade of ore should be no higher than I5% mica (requiring 6 tons of crude ore to make I ton of scrap mica) the profit should still be attractive. Work should be done to open up these dikes to gain a clearer picture of grade of ore, width and mining characteristics of the bodies and continuity of the bodies both horizontally and in depth. It is recommended that work on Bat #7 and #3 will give the greatest information in what appears to be the center of the mineralized zone. Three cuts across each of these dikes should be made, after which some sampling and tonnage estimations should be made. The cost of plant construction and equipment has not been dealt with at this time, but it should be quite moderate, and on the basis of I,000,000-I,500,000 of mica to be produced from Bat #7 and #3, it is considered conservative to estimate capital depreciation, taxes and overhead at about $3.00 per ton of product.

This survey is respectfully submitted for your consideration,

Very truly yours

G. T. Harley

Tel. 2-6244

S.H.Glassmire
Geologist - Engineer
3224-B Villa, Los Alamos, N.M.

RECEIVED
OCT 2 1956

COPY

PRELIMINARY EXPLORATION PLAN
Prepared for
Mr. John Edd Therrell
on
14 B.A.T. Mining Claims
Santa Fe County, New Mexico

September 25, 1956

S.H.Glassmire
Geologist - Engineer

PURPOSE AND SCOPE OF THIS WORK

This report is to set forth and outline an exploration plan with cost on 14 B.A.T. mining claims located essentially in the East.½ of Sec.1, T.20N., R.10E., Santa Fe County, New Mexico.

This writer acknowledges receipt of a Geological Report on the area made by G.T.Harley, Geological Engineer, Engineer of Mines, Carlsbad, N.M., dated June 30, 1956. This is, in essence, what may be considered a preliminary reconnaissance report. His report was accepted on face value by this writer and geology was not considered further. Therefore, no concurrence, verification, agreement, or disagreement of the report was made or attempted by this writer. In fact, the owner's instructions to this writer was, in effect, to outline an exploration plan based upon and, in part, to substantiate the geology report.

AUTHORIZATION FOR THIS WORK

This writer was authorized to prepare an exploration plan, as outlined above, by verbal agreement and instruction from Mr. John Edd Therrell on September 12, 1956.

LOCATION OF PROPERTY

The 14 claims, under investigation, are located essentially in the East.½ of Sec.1, T.20N., R.10E., Santa Fe County, New Mexico, as shown on the map attatched to and made part of this report. This map was also presented to this writer to use for this work. No verification of its correctness or incorrectness is to be represented by this writer, since no verification of any form was attempted.

OWNERSHIP OF PROPERTY STUDIED

The owner of the 14 claims under investigation filed the claims in his name on the following dates:

Claims #1 - 5	filed	June 15, 1955
Claims #6 - 9	filed	July 8, 1955
Claims #10 & 11	filed	October 13, 1955
Claims #12 - 14	filed	June 21, 1956

Proof of Labor was filed on June 28, 1956.

Mr. John Edd Therrell presented the above records to this writer for inspection.

All the claims appear to be properly staked, and show bonified discovery and assessment work.

To the author's knowledge, none of the claims are under suit, litigation, or title dispute.

METHOD OF INVESTIGATION

The Harley report, as mentioned above, was studied and the best method of exploring the ore bodies (pegmatites) was considered.

This author then spent approximately 3 days in the field forming a specific plan of exploration. The owner visualized a complete exploration program of about $200,000.00 adequate to prove the property. As per instructions, this monetary figure was used as a basis of planning. Exact location of exploration was not staked in the field, and a certain amount of additional study is necessary in a few instances. Therefore, the Exploration Plan must be classified as a preliminary proposal to be followed by more detailed work as is necessary.

GENERAL REMARKS

The property covered in this report is served by dirt forest service and mine access road, 3 miles east of the village of Cordova. Cordova is reached by paved State Highway 76 from Espanola. (Espanola is 24 miles north of Santa Fe.) Freight must be trucked to the railroad in Santa Fe.

The weather in the area, for the most part, is mild and all mining activities can be continued almost year around.

Experienced and semi-experienced mine labor is available locally at the nominal wages, ranging between $1.00 and $1.75 per hour.

AUTHOR'S COMMENTS

The ore bodies contained in the area are large coarse grained igneous pegmatites which have been intruded into a Pre-cambrian granitic complex.

The pegmatites are relatively mica rich and generally show good mineralization zones.

The ore bodies, being considered here, are obviously a source of scrap mica on the basis of what is showing now. Strategic grade sheet mica is sorted out from scrap mica and quantity of such is spoken of as a percentage of the total mica. On the basis of the mica now exposed, there appears a possibility of finding a percentage acceptable, in grade and quality, for the strategic stock pile requirements. Beryl and columbite-tantalite often occurs in pegmatites in this area and are indicated as a possibility here. Other possible mineral include primary uranium and rare earth ores.

Therefore, scrap mica reserves being already apparent, this exploration plan has been specifically aimed at strategic grade sheet mica, beryl, and columbite-tantalite.

These three minerals may occur in any of the zones all thru the pegmatite ore body. Therefore, the exploration plan must explore all zones of the pegmatite, and must also be aimed at verifying the true size and trend of the ore body itself. Sheet mica, occurring within the surface oxidation zone, is generally surfaced (clay) stained, and therefore, exploration for this mineral must be conducted below the weathered zone. Also, all zones of the pegmatite must be penetrated to determine possible occurrence of all three of the above mentioned minerals.

With these facts in mind, three different types of exploration are proposed:

1. Exploration drilling (both rotary and core) are proposed to ascertain the true size and perhaps depth of the many pegmatite dikes on the property, and to a certain extent the minerals contained.

2. Exploration trenching (bulldozer cross-cuts on the surface at right angles to the dike) will be employed to ascertain zoning as connected with mineral concentration.

3. Exploration shafts and adits will be driven to search for minerals at depth.*

* Core drilling breaks and cracks sheet mica and therefore, strategic quality mica cannot be ascertained from core. Trenching is on the surface and, within the weathered zone, will also ruin mica for strategic grade. Shafts and adits are therefore, the best means of exploration for strategic mica.

S.H.Classmire
Geologist - Engineer

Exploration means the search for indicated and undeveloped sources of the above named minerals and to determine if commercial concentration of these minerals exist. Exploration must be differentiated from development which can be simply defined as the preparation for mining. This plan is a 100% exploration proposal and no development was considered.

In the author's opinion, the following specific plan will best explore the area.

On the basis of what is exposed now and indicated, the author could also state that in his opinion such a plan, on this particular property is warranted.

This latter professional opinion is based upon the following encouraging factors:

1. The pegmatites appear to be large and well mineralized, as well as relatively mica rich.
2. The geologic report on the area, as previously mentioned, was very favorable.
3. The nation's leading beryl producer, the Harding Mine, is located in the adjoining Picuris Range.*
4. 1200 lbs. of beryl was reported as recently being found and produced from a pit 7'x15'x6' on a claim less than a mile away from the B.A.T. properties. (The author confirmed 500 lbs. of this amount as being sold to the Government Buying Depot at Custer, South Dakota, and assaying 12.46% BeO.)
5. Acceptable strategic grade mica has been found in this general pegmatite belt. (A 10 lb. sample of mine run mica from a prospect, approximately 6 miles away, (Sec.6, T.19N., R10E.) yielded over 10%, by weight, processed block and film strategic mica. This author confirmed this report from the Government Mica Buying Depot.)
6. Some clear mica and beryl possibilities are already showing.

On the other hand, it must be pointed out that:**

1. Some of the mica, on the property, is densely stained and black spotted. "A" reeves and warping is also apparent in many books which thus reduces their sheet value.
2. The immediate area has only a limited mining history.

COPY

* This statement is not made to indicate that the Harding pegmatite mineralization can be compared to this area, but is stated to show that the Pre-cambrian pegmatites, of this section of the country, may be highly mineralized with beryl.

** Professional reporting demands that both sides be given to ethically present the picture.

S.H.Glassmire
Geologist - Engineer

THE EXPLORATION PLANS (See location of work on map)

a. To be contracted (Contractor to furnish all material and labor.) (Numbers are same as those on Cost Estimation Sheet.)

1. Approximately 30 exploration trenchs (3' deep x 12' wide) should be bulldozed at right angles to the pegmatite dikes, as indicated on the geologic report. This will determine the true width of the dikes, as well as the zoning and minerals present.

2. Approximately 10 deep exploration trenchs (12' deep x 12' wide) should be bulldozed at right angles to some of the dikes. This will penetrate the weathered zone and will show strategic quality of mica, other minerals, and give further indication of zoning.

3. The bulldozed trenches in item #1 and #2 above should be further cleaned by hand and perhaps supplemented by additional blasting and ripping to expose clean wall and floor of the trench.

4. & 5. Approximately 38 holes (A size rod) will be drilled to ascertain the true length and depth of the pegmatite ore bodies. These holes will be both core and rotary. The granitic country rock will be drilled and when pegmatite is encountered, core will be taken at least 50% of the time.

6. About 500' (total) of double compartment exploration shafts will be sunk to penetrate the pegmatite and explore for strategic grade mica and other minerals.

7. About 500' (total) of exploratory adits will be driven for the same reason.

COPY

S.H. Glassmire
Geologist - Engineer

ESTIMATION OF COST

a. Separate Contracts & Jobs

1. Shallow (3'deep) exploratory trenching (Bulldozing cuts across dikes) 12,000 yds. at $2.00/cu. yd.* $ 24,000.00

2. Deep(12') exploratory trenching 16,000 yds. at $2.00/cu. yd.* 32,000.00

3. Allowance for additional blasting, ripping, and hand work to support items 1 & 2, 28,000 at .25/yd. 7,000.00

4. 1800' of exploratory core drilling in pegmatite at $7.80/ft. 14,040.00

5. 2000' of exploratory non-core drilling 8,000.00

6. 500' of exploratory adit & drifting at $40/ft. 20,000.00

7. 500' of exploratory shafting at $98.00/ft. 49,000.00

8. Allowance for cribbing, timbering, hoist construction, etc., as required to support items 7 & 8 6,000.00

Total $160,040.00

b.

1. Labor is included in above 00,000.00

2. Supervision** 10,000.00

3. All engineering, Geologic consulting, and technical supervision to effect above and including preparation of final report. (6% of $160,040.00)*** 9,602.40

c. Operating materials and supplies are included under a. & b. above 0,000.00

Hand tools for items 6 - 8 under a. 1,000.00

d. Operating Equipment

Contractor to furnish all equipment for items 1 - 5 under a. above 0,000.00

To perform item 7 & 8 under a. above use allowance (Depreciation) on operators equipment if not contracted

3 Compressors (complete with motors)
10 Jack hammers
Hoisting rigs, track, timbers, etc.

e. Rehabilitation & repairs of equipment & property 0,000.00

f. New building (20'x40') tools, storage & shops 5,000.00

g. Miscellaneous Assay & analysis 2,500.00
Accounting 5,000.00
Workman's Compensation 6,000.00
Employee liability, Property Damage 4,000.00
Payroll taxes 2,000.00

h. Contingencies 6,000.00

TOTAL COST OF PROJECT

$205,142.40

* Figured at $18.50/hr. contract for D8 dozer.
** To be supervised by operator.
*** This writer, if given sufficient notice, will probably be available to furnish all engineering, geology, etc., as required to effect this plan. In the event he could not be available, he hereby guanantees to supply a qualified person.

COPY

Certified to be a true, fair, and reasonable representation of the facts, based upon evidence indicated by present exposures and reconnaissance observations, and subject to unforseeable changing economic conditions or technical facts not apparent now, to the best of my professional opinion.

S.H. Glassmire
Geologist - Engineer
Reg. Prof. Engineer
State of New Mexico #2109

COPY

About the Author of this Report
S.H. Glassmire, Jr.

1. A Registered Professional Engineer, State of New Mexico, #2109.
2. A graduate, University of Kansas, Geological Engineering.
3. A Geologist-Engineer Consultant to the New Mexico Economic Development Commission.
4. Faculty (teacher of Geology and Mineralogy) St. Michael's College, Santa Fe, New Mexico.
5. Employed as an Engineer with the University of California at the Los Alamos Scientific Laboratory since 1946.
6. Has personally examined and studied most of the pegmatite ore deposits in North Central New Mexico. Reported same in publication dated May, 1956, New Mexico Economic Development Commission.

OFFICIAL FILE COPY DMEA RECEIVED FEB 13 1957		
DATE	INITIALS	CODE
2/13	C	220
2/14	Wza	600
		220
Memorandum		

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

Date February 11, 1957

DMEA Docket No. 4506 (Mica, beryl, columbium and tantalum)
DMEA Contract No.
Commodity Beryl
Name of applicant John Edd Therrell
Name of property B.A.T. Mining Claims
Location of property Santa Fe County, N. Mexico
Estimated cost of project

To: Lawrence G. Houk, Chief, Non-Metallic Minerals Division, DMEA

From: Donald E. Eilertsen, Commodity Specialist (Beryllium) Branch of Rare and Precious Metals

Subject: Review of Review of Field Team Examination Report
(Application, Field Team Report, etc.)

1. Date of subject document: 12/19/56 2. Date received by reviewer: 2/11/57.

3. Prior reports on this property known to reviewer: Yes [X] No [ ]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [X]

5. Information available on past production: Yes [ ] No [X]

6. Other pertinent factors known to reviewer: Yes [ ] No [X]

7. Explain items marked yes above:

Item 3. Suggested that DMEA field team examine property for beryl (Nov. 9, 1956)

8. Factors needing special consideration:
   a. Location [ ]
   b. Ownership [ ]
   c. Evidence of mineralization [ ]
   d. Geology [ ]
   e. Proposed exploration method [ ]
   f. Alternate exploration method [ ]
   g. Costs [ ]
   h. [ ]

9. Action advised:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [ ]
   c. Denial [X]
   d. Agree with Field Team [X]
      i. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]

10. Remarks: (Use back of page if necessary)

I agree with the DMEA field team that DMEA assistance (Docket 4506) be denied.

D E Eilertsen

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/28	Houk	600
1/28	Selfridge	130
"	Johnson	110
"	Mittenhof	100
1-29	cw	220
		225

600

28 JAN 1957

Mr. John Edd Therrell
6353 Northport Place
Dallas, Texas

Re: Docket No. DMEA-4506-Mica,
Beryl, Columbium-Tantalum
John Edd Therrell
B.A.T Mining Claims
Santa Fe County, New Mexico

Kelson Lamb

Dear Mr. Therrell:

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, beryl, columbium or tantalum 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. Mittenhof

Administrator

LGHouk:gad 1/25/57
Copy to: Admr. R. File
Operating Committee
Field Team, Region III
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

January 25, 1957

Memorandum

To: Administrator

From: L. G. Houk, Chief, Nonmetallic Minerals Division

Subject: A denial of application and Summary Report

By: James Hopkins

1. Docket No. DMEA-4506-Mica, Beryl, Columbium, Tantalum
Property: B.A.T. Mining Claims, E.½, Sec. 1, T.20 N., R.10 E.
Santa Fe County, New Mexico
Applicant: John Edd Therrell
6353 Northport Place
Dallas, Texas
Applicant's property rights: Owner of 14 unpatented mining claims.
Application: Dated October 9, 1956.
Work Proposed:

Shallow exploratory trenching 12,000 cu.yds.	$24,000.00
Deep exploratory trenching 16,000 cu.yds.	32,000.00
Exploratory non-core drilling 2,000 ft.	8,000.00
Exploratory core drilling 1,800 ft.	14,040.00
Additional blasting & handwork	7,000.00
Timbering, etc.	6,000.00
Drifting 500 ft.	20,000.00
Shaft sinking 500 ft.	49,000.00
	$160,040.00
Supervision, Labor, Operating Equipment, Buildings, Assaying, Contingencies and Workmens Compensation and Insurance	45,102.40
Estimated Total Cost	$205,142.40

No contract - application denied.

Comments:

The pegmatites which occur in the B.A.T. Mining Claims are part of a large pegmatite swarm in the Cordova district of north-central New Mexico. The district has not been studied in detail or geology mapped.

The country rock is primarily a quartz schist and Pre-Cambrian in age.

The applicant reports that 15 pegmatites occur on the claims - nine were examined by the Field Team. They vary in size from small lenses - 5 feet wide and a few tens of feet long - to large masses that may occupy an entire mining claim.

They are essentially a simple-type pegmatite consisting of quartz, microcline perthite, plagioclase and muscovite. Accessory minerals observed during the examination were black tourmaline, garnet, ilmenite and a vermiculite-like mica intergrown with muscovite. No beryl or columbite-tantalite, either in place or as float was observed; however, the applicant claims that some 120 pounds of beryl was removed from claims B.A.T. 2 and 5.

The coarse-grained pegmatite in B.A.T.-2 claim appears to be the only pegmatite containing sheet mica. It is approximately 160 feet long, averages 10 feet wide, and is composed of two distinct units. Muscovite is practically confined to the outer zone, and occurs as clusters of books up to one foot in diameter with individual books not exceeding five or six inches in diameter. All is marked by "A" structure and usually stained. A small percentage of strategic-grade mica (not exceeding ASTM grade 5) may possibly be cut from the open end of the "A" structure if the inclusions do not persist through the entire book.

A rough approximation of the mica potential of this pegmatite, assuming a 50-foot vertical depth and a mica content of five to ten percent is 300 to 600 tons. One to two of this total mica content may be of strategic grade.

The Field Team concludes that the B.A.T. pegmatites contain appreciable quantities of scrap mica, but only a very limited and probably insignificant amounts of strategic mica, beryl, and columbite-tantalite. They, therefore, recommend that the application be denied.

The Nonmetallic Minerals Division and the Commodity Divisions of the Geological Survey and the Bureau of Mines concur in the recommendation.

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

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DMEA
RECEIVED JAN 25 1957

DATE	INITIALS	CODE
1-25	C	220
		600

January 24, 1957

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: W. F. Dietrich, Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-4506 (mica)

Applicant: John Edd Therrell

Name and Location of Property: B.A.T. Mining Claims, Santa Fe County, New Mexico

Date of Field Team Report: 1/8/57

Date Rec'd. by Br. of Ceramic & Fertilizer Materials: 1/15/57

Field Team Recommendation: Recommend that application for exploration assistance be denied.

Comments:

1. Applicant claims that about 120 pounds of beryl has been recovered from two of the claims; but there has been no recorded mineral production.

2. There are many pegmatites on the claims, only a few of which are sufficiently exposed for adequate field examination.

3. The field examiners observed one-foot clusters of stained muscovite books on B.A.T. No. 2 Claim, and state that a small percentage of strategic-grade mica may possibly be cut from these books.

4. The bulk of the mica observed was scrap.

5. The field examiners have been led to believe that Mr. Therrell is not in favor of a staged exploration program as he is only interested in a large scale operation.

Recommendation:

In view of Mr. Therrell's objection to a multi-stage project, I concur with the recommendation for denial of the application as proposed. However, I would be in favor of a recommendation for a

staged program, the first stage being a series of channel cuts across some of the most promising dikes, exposing the pegmatites for a more thorough examination.

W. F. Dietrich

W. F. Dietrich

IN REPLY REFER TO:

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

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 17 1957

DATE	INITIALS	CODE
1-17	CW	220
		600

January 15, 1957

Re: DMEA 4506
John Edd Therrell
B. A. T. Group
Santa Fe County, N. Mex.
$205,142.40 Mica-beryl-columbium

Memorandum

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

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

Subject: Review of Field Team Report

The applicant requested assistance in exploring a system of low dipping large pegmatites for mica, beryl, tantalum, and columbium.

The examiners inspected 9 of the 15 pegmatites, reported as occurring in the claims. In general the pegmatites are discordant, from 5 to, possibly, hundreds of feet wide. The dikes contain the usual pegmatite minerals, quartz, feldspars, mica, tourmaline, and garnet, and ilmenite, but no beryl or columbite-tantalite was seen. Only one dike, B.A.T. 2 contains sheet mica and most of that is not of strategic grade.

Because, in the opinion of the examiners. the pegmatites contain only insignificant amounts of strategic mica, beryl, and columbite-tantalite, the examiners and the Field Team recommend that the application be denied.

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

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

130
1-16 cw 220
1-17 600

224 New Customhouse
Denver 2, Colorado

January 8, 1957

Memorandum

To: Secretary to the Operating Committee

From: DMEA Field Team, Region III

Subject: Joint Report of Examination DMEA 4506 (mica-Beryl-Columbium-Tantalum) John Edd Therrell (B.A.T. Mining Claims) Santa Fe County, New Mexico.

Enclosed are the original and three copies of a joint engineering and geologic report of examination on the subject property.

The examiners conclude, and we concur, that the proposed exploration will not result in the discovery of significant amounts of beryl, strategic-grade mica, columbium, or tantalum. They recommend that the application for exploration assistance be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-16-57
(date)

ON-SITE EXAM

IN REPLY REFER TO:
DMEA
DEPARTMENT OF THE INTERIOR
JAN 7 1957
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

TRANSMITTED
JAN 8 1957

January 4, 1957

Memorandum

130248

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. N. Harshman

Subject: DMEA Docket 4506 (Mica, beryl, columbium, tantalum), John Edd Therrell (B.A.T. mining claims), Santa Fe County, New Mexico

Enclosed are the original and eight copies of a joint report by D. H. Richter, U. S. Geological Survey, and D. E. Redmon, U. S. Bureau of Mines, covering their examination of the B.A.T. mining claims, Santa Fe County, New Mexico.

A number of pegmatite dikes, emplaced in Precambrian schist and gneiss, are exposed on the claims. No beryl or columbite-tantalite was observed in the pegmatites although 120 pounds of beryl are reported to have been produced from pegmatites on the B.A.T. 2 and 5 claims. Considerable mica, possibly containing very minor amounts of strategic-grade material (not better than ASTM grade No. 5), was noted in a pegmatite on the B.A.T. No. 2 claim.

The examiners conclude, and we concur, that the proposed exploration will not result in the discovery of significant amounts

Reviewed by
DMEA OPERATING COMMITTEE
1-16-57
(Date)

of beryl, strategic-grade mica, columbium or tantalum; they recommend denial of this application for exploration assistance.

The B.A.T. claims are adjacent to and southwest of the Rockin Chair group of claims. Exploration assistance on the Rockin Chair group (DMEA Docket 3895) was denied.

John F. Shaw
Supervising Mining Engineer

E. N. Harshman
Member, Field Team

Enclosures (9)

ENHarshman:mp

FOR UNITED STATES GOVERNMENT USE ONLY

TRANSMITTED

JAN 8 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

130 26

DMEA 4506

John Edd Therrell

B.A.T. Mining Claims

Santa Fe County, New Mexico

Strategic Mica, Beryl,
Columbium, and Tantalum

Joint Engineering and Geological Report

by

D. H. Richter, Geologist
Geological Survey

D. E. Redmon, Mining Engineer
Bureau of Mines

January 2, 1957

Reviewed by
DMEA CLASSIFICATION COMMITTEE
1-16-57
(Date)

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	Page
Introduction and summary	1
Acknowledgments	3
Property, location, physical features	3
Ownership, history, production	4
Equipment and facilities	5
Geology and mineralogy	5
Applicant's proposal and cost estimate	8
Conclusions and recommendations	8

ILLUSTRATIONS

Figure		Follows page
1.	General area map, B.A.T. mining claims, John Edd Therrell, Santa Fe County, New Mexico. DMEA 4506	3
2.	Area map, B.A.T. mining claims, John Edd Therrell, Santa Fe County, New Mexico. DMEA 4506	3
3.	Location and general geologic map of the B.A.T. et al. mining claims, Santa Fe and Rio Arriba Counties, New Mexico. DMEA 4506	8

DMEA 4506

JOHN EDD THERRELL
B.A.T. MINING CLAIMS
SANTA FE COUNTY, NEW MEXICO

INTRODUCTION AND SUMMARY

John Edd Therrell of Dallas, Texas, applied for DMEA assistance to explore for strategic mica, beryl, and columbium-tantalum on the 14 unpatented B.A.T. mining claims in Santa Fe and Rio Arriba Counties, New Mexico. The application was received at the Denver Experiment Station on November 21, 1956.

The applicant wishes to carry on a single-stage exploration program consisting of trenching, core, and non-core drilling, drifting, crosscutting, and shaft sinking, that would cost an estimated $205,142.40. Government participation at 75 percent would be $153,856.80.

An examination of the applicant's claims was made on December 13, 1956, by a DMEA Region III examining team composed of D. H. Richter, U. S. Geological Survey, and D. E. Redmon, U. S. Bureau of Mines, accompanied by S. H. Glassmire, consultant geologist, and G. A. Clayton, an associate of Mr. Therrell. Mr. Clayton informed the examiners that the applicant was not interested in a small operation.

The rocks in the area of the B.A.T. claims are Precambrian schists that have been intruded by granite and pegmatite. A number of pegmatites are exposed on the claims, and many of the exposures, notably B.A.T. 2, 5, and 7, have been prospected with pits and trenches. Some beryl (120 pounds) is reported to have been found in the pegmatites in B.A.T. 2 and 5. Sheet mica, which contained "A" reeves and primary inclusions, was observed in the B.A.T. 2 pegmatite, and some strategic-grade mica might be realized by extremely careful hand-cobbing. No beryl or columbite-tantalite was observed.

The depth of the pegmatites could not be determined, but some of the exposures are more than 100 feet in width, and may be extensive in depth.

It was concluded that there is only a slight probability of discovering significant quantities of strategic mica, beryl, tantalum and columbium on the B.A.T. mining claims, and as the applicant is not particularly interested in a small operation, it is recommended that the application for DMEA assistance be denied.

ACKNOWLEDGMENTS

Mr. S. H. Glassmire, Jr., was most cooperative and presented the examining team with a publication on mica and associated minerals prepared for the New Mexico Economic Development Commission.

PROPERTY, LOCATION, PHYSICAL FEATURES

The property consists of 14 unpatented mining claims located essentially in sec. 1, T. 20 N., R. 10 E., N.M.P.M. The B.A.T. No. 5 and No. 6 claims lie 1-1/2 miles west of the larger group of claims (fig. 3).

The property can be reached from Espanola, New Mexico, (which is 24 miles north of Santa Fe), by proceeding east on Highway 76, about 12 miles, to the town of Cordova; then pass the town on the south side and ford a small stream; then continue on the dirt road for 3.0 miles. One will then be on the claims in section 1 (figs. 1 & 2).

The climate is moderate, but occasional heavy snowstorms occur during the winter months. Mining activities could be carried on almost continuously throughout the year. Considerable pine and spruce for mine use is available on the claims.

The terrain is mountainous, with altitudes ranging from 7,200 to 8,000 feet. The slopes are relatively steep, but access roads could be built at moderate cost.

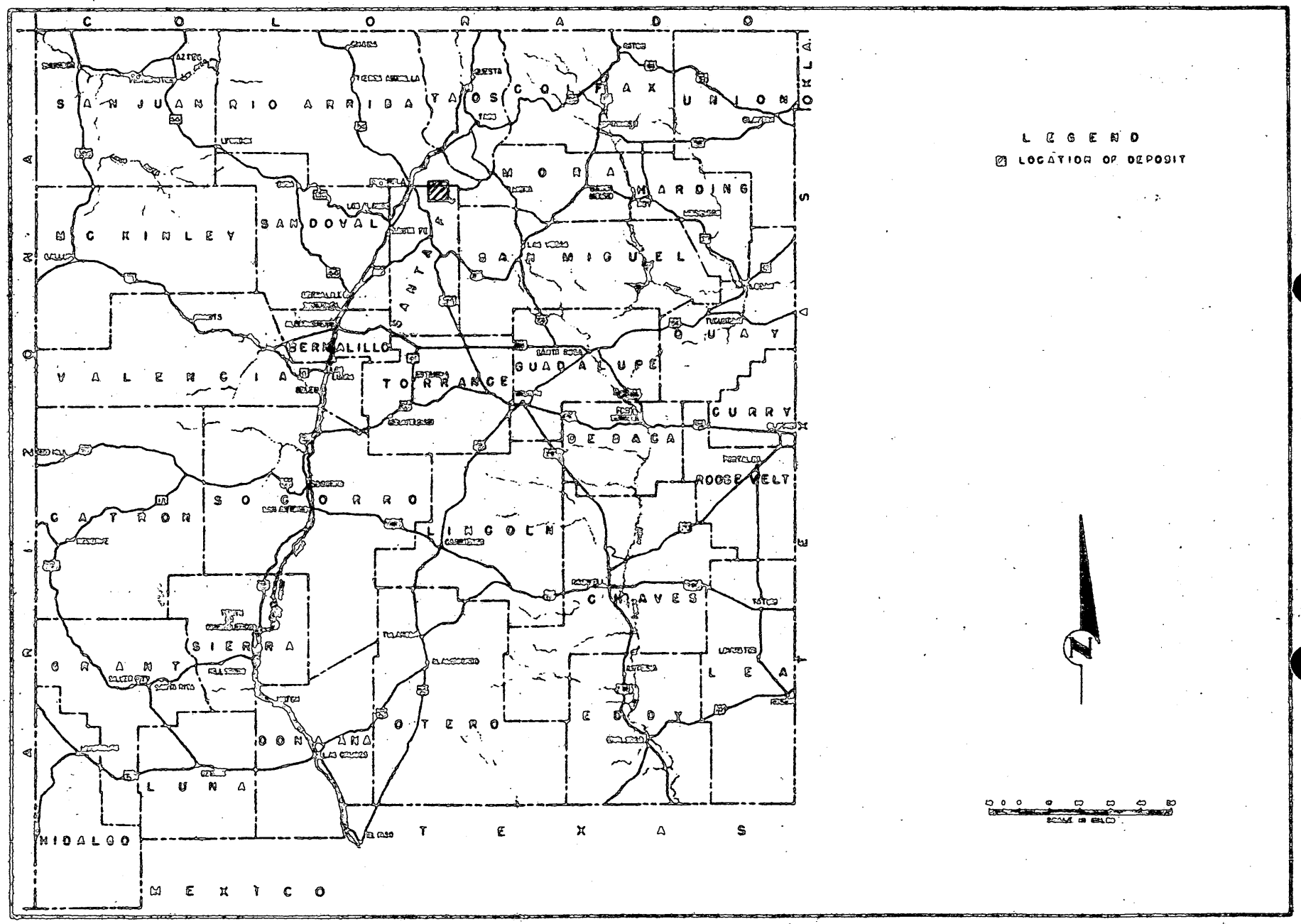


FIGURE 1 - GENERAL AREA MAP, B.A.T. MINING CLAIMS, JOHN EDD THERRELL, SANTA FE COUNTY, NEW MEXICO.

DMEA 4506

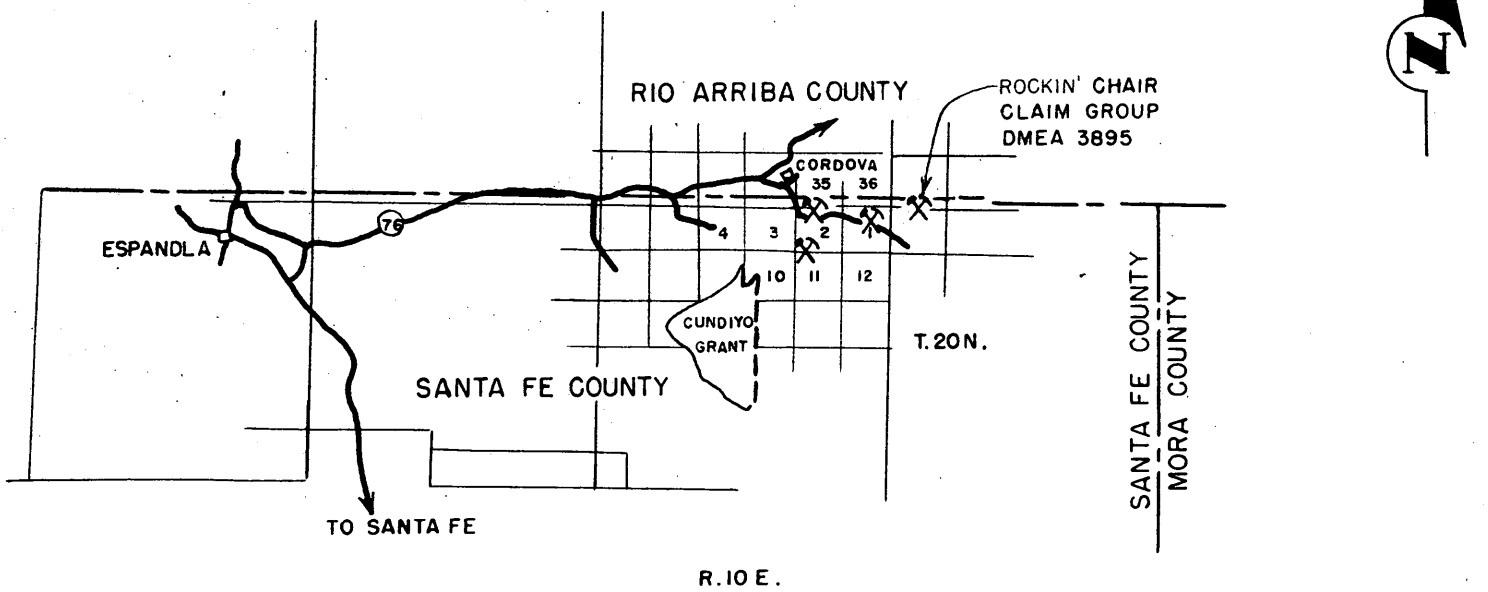


FIGURE 2 - AREA MAP, B.A.T. MINING CLAIMS, JOHN EDD THERRELL, SANTA FE COUNTY, NEW MEXICO
DMEA 4506

Santa Fe, New Mexico, is the nearest major supply center and rail point. It is about 37 miles from the claims and can be reached mostly over paved roads (fig. 1).

Labor and living accommodations are available in nearby communities.

OWNERSHIP, HISTORY, PRODUCTION

The 14 B.A.T. mining claims were located and are owned by John Edd Therrell. The location notices are recorded as follows:*

B.A.T. No.	1	6/15/55	104	228	Santa Fe
" "	2	"	104	228	" "
" "	3	"	104	230	" "
" "	4	"	104	232	" "
" "	5	"	104	234	" "
B.A.T. No.	6	7/8/55	105	299	Santa Fe
" "	6	"	24	126	Rio Arriba
" "	7	"	105	301	Santa Fe
" "	8	"	105	302	" "
" "	9	"	105	303	" "
B.A.T. No.	10	10/13/55	109	232	Santa Fe
" "	11	"	109	233	" "
" "	12	6/21/56	119	194	" "
" "	13	"	119	196	" "
" "	14	"	119	198	" "

*The recordings were not verified by the examiners. S. H. Glassmire reported that he had inspected records furnished by J. E. Therrell.

The pegmatites are extensive in the area and have been known for several years, but exploration has been limited. During the recent uranium search, the pegmatites have received considerable attention, and many claims were filed. In 1955, an application for Government assistance in exploring for mica and beryl on the Rockin Chair claims (1-mile east of the B.A.T. claims), was submitted. The application, after a field examination, was denied without prejudice.

There has been no recorded production from the B.A.T. property.

EQUIPMENT AND FACILITIES

There was no equipment on the property, and no facilities had been constructed.

GEOLOGY AND MINERALOGY

The pegmatites, which occur in the B.A.T. mining claims, are part of a large pegmatite swarm in the Cordova district of north central New Mexico. The district has not been studied in detail or the geology mapped; consequently only the information gained during the present, and an earlier DMEA examination (DMEA 3895) was available for this report.

The country rock in the pegmatite area is primarily a quartz-biotite schist. Near pegmatites, the schist usually contains abundant

feldspar, and in some areas light-colored, low-iron micas are present. Granite, although only observed in B.A.T. 3 where it is in part gneissic, is probably fairly common throughout the area and in B.A.T. 5 and 7 thin sheets of concordant pegmatite material are common in the schistose rocks. Moreover, the large pegmatite in B.A.T. 3 is probably, in part, a complex sheeted zone containing alternate layers of pegmatite, granite, and possibly schist. The rocks, which have a strong NE foliation and a SE dip of 20° to 50°, are all Precambrian in age.

The applicant reports that 15 pegmatites occur on the claims; 9 of these, the so-called "better" and "best exposed" were examined by the DMEA team (fig. 3). The pegmatites vary in size from small lenses, 5 feet wide and a few tens of feet long, to large masses that may occupy almost an entire claim. The majority of the pegmatites, which trend approximately N. 60° E. and dip vertically or within a few degrees of vertical, are, in general, discordant to the foliation of the country rock. Three pegmatites are shown to have a NW trend, but due to lack of exploration and poor exposures little is known of their actual shapes. The dikes are essentially a simple-type pegmatite consisting of quartz, microcline-perthite, plagioclase, and muscovite. Accessory minerals observed during the examination were black tourmaline, garnet (spessartite), ilmenite, and a vermiculite-like mica intergrown with muscovite. No beryl or columbite-tantalite, either

in place or as float, was observed; however, the applicant claims that some 120 pounds of beryl has been recovered from the pegmatites in B.A.T. 2 and 5. The grain size in the majority of the pegmatites is relatively small (maximum diameter 2 to 3 inches), and with the exception of the pegmatite in B.A.T. 2, no distinct compositional or textural zoning was noted. In fact, the B.A.T. 2 pegmatite dike, which is also coarsely crystalline and appears to be the only pegmatite containing sheet mica, is probably unique for the group and naturally has attracted the most attention from the applicant.

This coarse-grained pegmatite in B.A.T. 2 is approximately 160 feet long, averages 10 feet wide, and has a slight arcuate shape in plan (fig. 3). A study of the dike indicates the presence of two distinct units: (1) a thick outer zone consisting of a quartz - plagioclase - microcline perthite - muscovite pegmatite; and (2) a small inner zone consisting of a blocky quartz - plagioclase - microcline perthite pegmatite. This latter zone may also contain some minor amounts of muscovite. The muscovite in the thick outer zone occurs as clusters of books up to 1 foot in diameter, with the individual books not exceeding 5 or 6 inches in diameter. However, all the muscovite observed is marked by "A" structure and is usually stained with dark primary inclusions. A small percentage of strategic-grade mica (not exceeding ASTM grade No. 5) may possibly be cut from the open end of the "A" structure mica if the inclusions do not persist through the entire book.

A rough approximation of the mica potential of this pegmatite, assuming a 50-foot vertical depth and a mica content of 5 to 10 percent (based on surface exposures), is 300 to 600 tons. One to two percent of this total mica content may be of strategic grade.

In summary then, the geologic evidence indicates that the B.A.T. pegmatites contain appreciable quantities of scrap mica, but probably only a very limited amount of strategic mica, beryl, and columbite - tantalite, and therefore, exploration for the three latter commodities does not appear to be warranted.

APPLICANT'S PROPOSAL AND COST ESTIMATE

The applicant proposes a single-stage program consisting of trenching, drilling, drifting and crosscutting, and shaft-sinking - to cost an estimated $205,142.40.

Aside from two unsupported additional allowances - amounting to $13,000 - and excessive ($9,602.40) engineering fees, the cost estimate was considered reasonable.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the B.A.T. pegmatites contain appreciable quantities of scrap mica, but only very limited and probably unsignificant amounts of strategic mica, beryl, and columbite-tantalite. It is recommended that the application for DMEA assistance be denied.

Region III

Building 20
Denver Federal Center
Denver 2, Colorado

November 21, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4506 (Mica, Beryl, Columbium, Tantalum), John Edd Therrell (B.A.T. Mining Claims), Santa Fe County, New Mexico

The application for John Edd Therrell, Docket DMEA 4506, in the amount of $205,142.40 was received in this office on November 21, 1956.

A field examination will be made and suitable report prepared by an engineer from the Denver office.

W. H. KING

W. H. King

cc: W. M. Traver (2)
E. N. Harshman
J. F. Shaw

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

224 New Customhouse
Denver 2, Colorado

November 20, 1956

Memorandum

To: W. H. King (2) (w/brochure)
E. N. Marshman

From: DMEA Field Team, Region III

Subject: Docket DMEA No. 4506 (Mica, Beryl, Columbium, Tantalum) John Edd Therrell (B. A. T. Mining Claims) Santa Fe County, New Mexico

Enclosed is the subject application in the amount of $205,142.40. Copies of the transmittal letter by the Chairman of the Operating Committee, and memoranda of review by N. E. Nelson U.S.G.S., and D. R. Irving and D. E. Kilertsen, U.S.B.M. are also enclosed. A field examination and covering Report of Examination are requested.

Your attention is called to the fact that at least two of the Reviewers consider the Applicant's proposed project as out of line and suggest that an alternate plan to explore only the more favorable pegmatites at a considerably lower cost might be acceptable to the Applicant. This, of course, is on the assumption that exploration of any kind can be justified.

Please return the brochure with the Report of Examination.

DMEA Field Team, Region III

Original signed by
W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosures

WMT:ytl
cc
Sec. Op. Comm. (2)
Docket 4506
Chron.

Docket Copy
Surname:
Hopkins
Selfridge
Johnson
McKeever

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

NOV 16 1956

Mr. W. M. Traver
Executive Officer, DMEA
Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-4506-Mica,
Beryl, Columbium-Tantalum
John Edd Therrell
B. A. T. Mining Claims
Santa Fe County, New Mexico

Dear Mr. Traver:

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

Copies of memoranda dated October 31, November 9 and 14, 1956, by Mr. N. E. Nelson, USGS, and Mr. Donald R. Irving and Mr. Donald E. Kilertsen, USBM, respectively, relating to the project are enclosed.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Approved:

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

W. P. Williams (GCS)
Member, Geological Survey

Enclosures 8

JHopkins:gad 11/14/56
Copy to: Admr. R. File
Docket
Operating Committee
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

Docket Copy
Surname:
Hopkins
Houk
Kamb
Williams
Selfridge
Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

NOV 16 1956

Mr. John Edd Therrell
6353 Northport Place
Dallas, Texas

Re: Docket No. DMEA-4506-Mica,
Beryl, Columbium-Tantalum
John Edd Therrell
B. A. T. Mining Claims
Santa Fe County, New Mexico

Dear Mr. Therrell:

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. W. M. Traver, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado, 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

JHopkins:gad 11/14/56
Copy to: Admr. R. File
Docket
Operating Committee
Field Team, Region III
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk

9

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

RECEIVED NOV 1956

Date November 14, 1956

DMEA Docket No. 4506
DMEA Contract No.
Commodity Mica, beryl-columbium-tantalum
Name of applicant John Edd Therrell
Name of property B.A.T. Mining Claims
Location of property Santa Fe County, New Mexico
Estimated cost of project $205,142.40

Memorandum

To: ~~Ernest W. Ellis~~ L. G. Hook, DMEA Commodity Group Member

From: Donald E. Eilertsen, Acting in absence for K. B. Higbie, USBM Commodity Group Member (Columbium and tantalum) - AEC.

Subject: Review of Application for DMEA aid
(Application, Field Team Report, etc)

1. Date of subject document: 10/10/56. 2. Date received by reviewer: 11/9/56.

3. Prior reports on this property known to reviewer: Yes [ ] No [x]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [x]

5. Information available on past production: Yes [ ] No [x]

6. Other pertinent factors known to reviewer: Yes [ ] No [x]

7. Explain items marked yes above:

8. Factors needing special consideration:
   a. Location [ ]
   b. Ownership [ ]
   c. Evidence of mineralization [ ]
   d. Geology [ ]
   e. Proposed exploration method [x]
   f. Alternate exploration method [x]
   g. Costs [x]
   h. _____ [ ]

9. Action advised:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [x]
   c. Denial [ ]
   d. Agree with Field Team [ ]
      i. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]

10. Remarks: (Use back of page if necessary)

It is recommended that the field team visit the property to see if such a large amount of costly exploration work is justified. Perhaps the applicant should have an alternate plan or plans to explore only the most favorable pegmatites and thereby reduce the cost considerably.

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

RECEIVED NOV 14 1956 D.M.E.A.

Date November 14, 1956

DMEA Docket No. 4506
DMEA Contract No.
Commodity Mica, beryl-columbium-tantalum
Name of applicant John Edd Therrell
Name of property B. A. T. Mining Claims
Location of property Santa Fe County, New Mexico
Estimated cost of project $205,142.40

Memorandum

To: Lawrence G. Houk, Chief, Non-Metallic Mineral Division, DMEA

From: Donald E. Eilertsen, Physical Scientist (Beryllium), Branch of Rare and Precious Metals KEE.

Subject: Review of Application for DMEA aid
(Application, Field Team Report, etc.)

1. Date of subject document: 10/10/56 2. Date received by reviewer: 11/9/56.

3. Prior reports on this property known to reviewer: Yes [ ] No [x]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [x]

5. Information available on past production: Yes [ ] No [x]

6. Other pertinent factors known to reviewer: Yes [ ] No [x]

7. Explain items marked yes above:

8. Factors needing special consideration:
   a. Location [ ]
   b. Ownership [ ]
   c. Evidence of mineralization [ ]
   d. Geology [ ]
   e. Proposed exploration method [x]
   f. Alternate exploration method [x]
   g. Costs [x]
   h. _____ [ ]

9. Action advised:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [x]
   c. Denial [ ]
   d. Agree with Field Team [ ]
      i. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]

10. Remarks: (Use back of page if necessary)
It is recommended that the field team visit the property to see if such a large amount of costly exploration work is justified. Perhaps the applicant should have an alternate plan or plans to explore only the most favorable pegmatites and thereby reduce the cost considerably.

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

H

November 9, 1956

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Donald R. Irving, Acting Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-4506 (mica, beryl, columbium, tantalum)

Applicant: John Edd Therrell

Name and Location of Property: B.A.T. Mining Claims, Santa Fe County, New Mexico

Date Application Rec'd. by Br. of Ceramic & Fertilizer Materials: 10/24/56

Comments:

1. Acceptable strategic grade mica has been found within the general pegmatite belt in this region.

2. Recent information in this office, obtained from a visit to the area by Mr. Dietrich, indicates that DMEA exploration in this area might well be warranted.

3. Calculations as to monetary return on nonstrategic mica from the B.A.T. claims should be downgraded as such theoretical production could lower sale value by flooding the market.

4. Extent of project is out of line cost wise with other DMEA mica projects. Individual cost items are almost double those of other DMEA projects.

5. If a project is initiated it should be a multistage one; starting on one or two of the most likely looking dikes, and be on a unit-cost basis.

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.

Donald R. Irving

Donald R. Irving

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

IN REPLY REFER TO:

RECEIVED
NOV 2 1956
D.M.E.A.

October 31, 1956

Re: DMEA 4506
John Edd Therrell
B.A.T. Group
Sante Fe County, N. Mex.
$205,142.40
Mica, beryl, columbium

Memorandum

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

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

Subject: Review of application

The applicant requests assistance in exploring a series of large low-dipping pegmatites by trenching, drilling, shaft sinking, and drifting-crosscutting.

The major product is expected to be scrap mica. Book mica, beryl, columbite-tantalum, uranium and rare earth minerals are considered possible important coproducts. By visual analysis the pegmatites are estimated to carry 20% muscovite mica.

Referral of the application to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

4506

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

October 24, 1956

Mr. John Edd Thorrell
6353 Northport Place
Dallas, Texas

Subject: DMEA-4506
Re: Exploration Assistance
B. A. T. Mining Claims

Gentlemen

Your application for exploration assistance, dated October 9, 1956 submitted to our office at Denver, has been assigned Docket Number DMEA-4506 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, Chief
Operations Control and
Statistics Division

Copy to:

Region III, Denver 2, Colorado

Code 600

3571

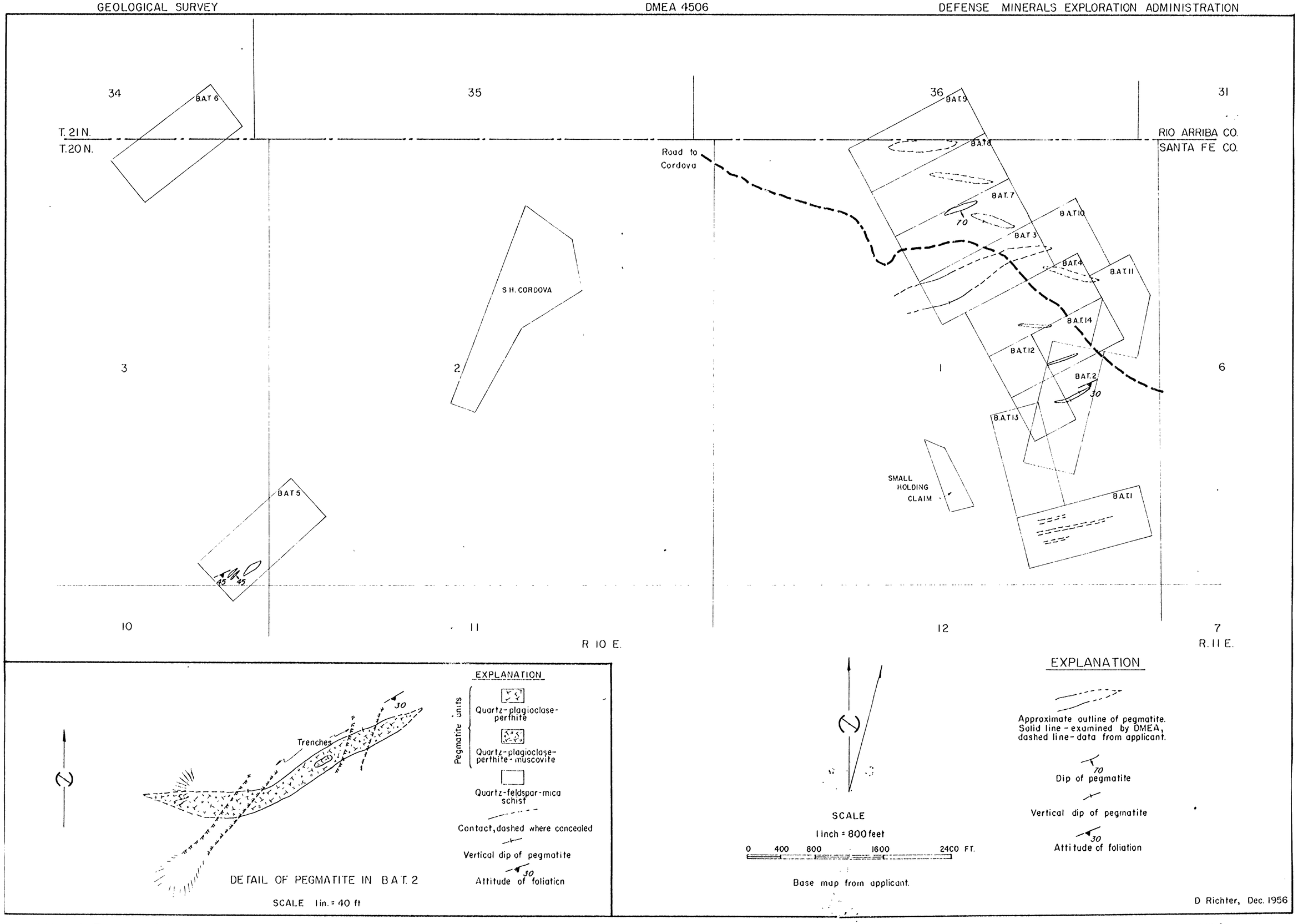
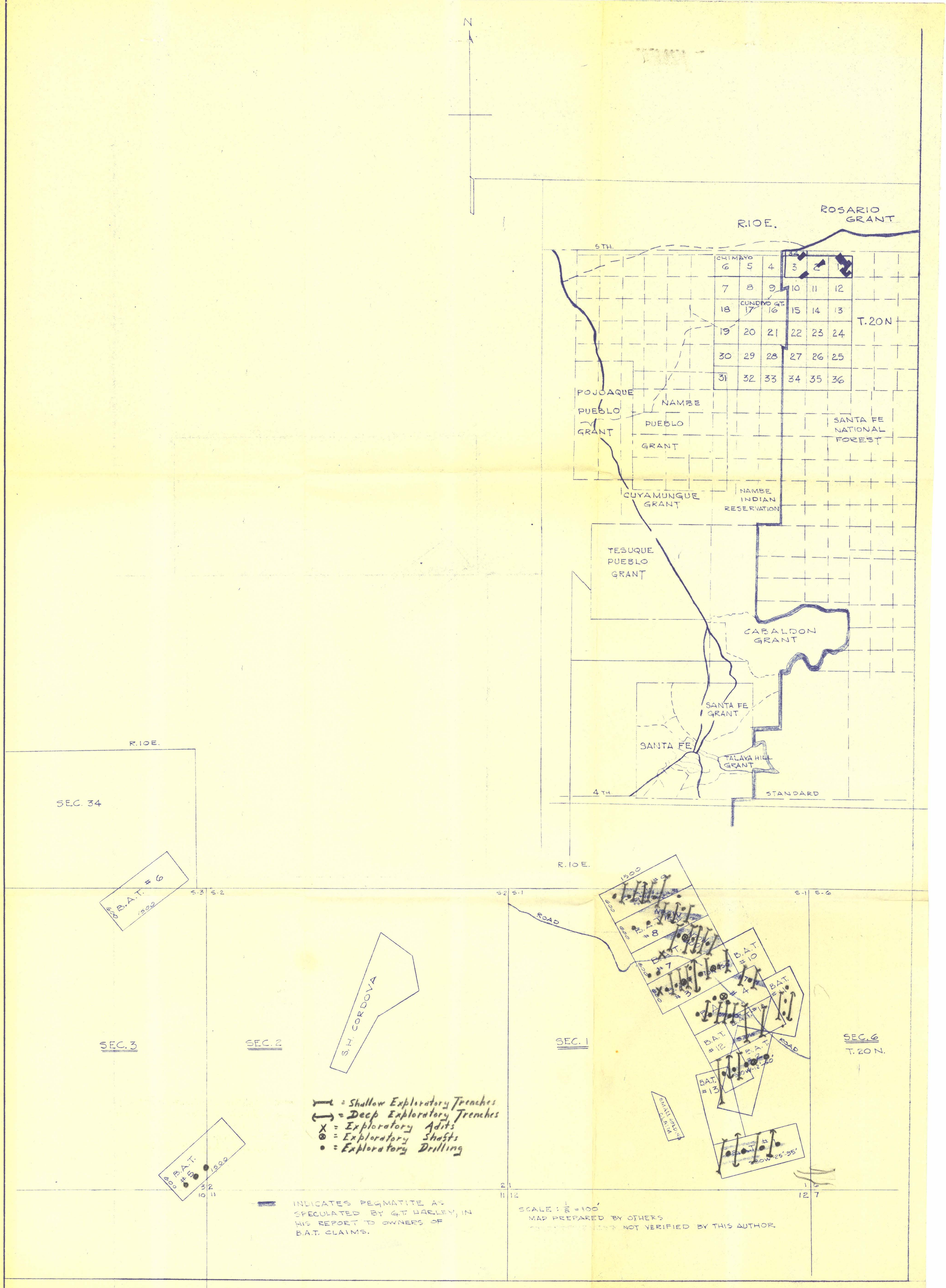


FIGURE 3 . LOCATION AND GENERAL GEOLOGIC MAP OF THE B.A.T. ET. AL. MINING CLAIMS, SANTA FE AND RIO ARRIBA COUNTIES, NEW MEXICO.


N
R.10E.
ROSARIO GRANT
5TH.
CHIMAYO
CUNDIYO GT.
T.20N
POJOAQUE PUEBLO GRANT
NAMBE PUEBLO GRANT
SANTA FE NATIONAL FOREST
CUYAMUNGUE GRANT
NAMBE INDIAN RESERVATION
TESUQUE PUEBLO GRANT
CABALDON GRANT
SANTA FE GRANT
SANTA FE
TALAYA HILL GRANT
4TH
STANDARD
R.10E.
SEC. 34
B.A.T. #6
R.10E.
S-3
S-2
S-1
S-6
ROAD
B.A.T. #8
B.A.T. #7
B.A.T. #10
B.A.T. #4
B.A.T. #11
B.A.T. #12
B.A.T. #2
B.A.T. #13
SMALL GOLD CLAIM
SEC. 3
SEC. 2
S.I. CORDOVA
SEC. 1
SEC. 6
T. 20 N.
= Shallow Exploratory Trenches
= Deep Exploratory Trenches
X = Exploratory Adits
= Exploratory Shafts
• = Exploratory Drilling
B.A.T. #5
INDICATES PEGMATITE AS SPECULATED BY G.T. HARLEY, IN HIS REPORT TO OWNERS OF B.A.T. CLAIMS.
SCALE : 1/8 = 100'
MAP PREPARED BY OTHERS
NOT VERIFIED BY THIS AUTHOR