DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

## CONTROLLED DOCUMENT

DMA Docket No. 3472

## DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

Exploration Assistance

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Cys to USBM & USGS & Reg.

Routing Slip

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## DO NOT DETACH

## CONTROLLED DOCUMENT

Docket File
Surname:
Houk
Kiilsgaard
Hedges
Selfridge
Johnson

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

APR 19 1955

Mr. Charles R. Rudolph
President, Nuclear Magnetic Mining, Inc.
5300 Wriley Road
Washington 16, D. C.

Re: Docket No. DMEA-3472 - Rutile
Nuclear Magnetic Mining, Inc.
St. Johns County, Florida

Dear Mr. Rudolph:

Reference is made to your letter of April 11, 1955, requesting an additional 120 days from May 10, 1955, to submit the factual data requested by our letters of September 14 and October 8, 1954.

It is noted that you are working on the various ore bodies on your holdings in the State of Florida, but that progress has been limited. It is also noted that you will be unable to supply the factual data requested by us by May 10, 1955.

In view of the long delay and length of time already given you, we feel at this time that there is no point in further extending the time required to furnish us the needed information. We are, therefore, considering your present application for exploration assistance as withdrawn and it will be placed in our inactive file. However, you may reopen the case by re-applying when you have all the factual data that we have requested. In your re-application you should make reference to the original application No. DMEA-3472.

Sincerely yours,

Frank E. Johnson

ACTING Administrator

LGHouk:gad 4/15/55
Copy to: Admr. R. File
Docket
Field Team, Region V
Operating Committee
Mr. Kiilsgaard, 5222
Mr. Cservenyak, 3411
Mr. Houk

R.C.J.

CHARLES R. RUDOLPH
5300 WRILEY ROAD
WASHINGTON 16, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 13 1955

April 11, 1955

MR. C.A. MITTENDORF
Administrator
Defense Minerals Exploration Adm.
Department of the Interior
Washington 25, D.C.

Re: Docket No. DMEA - 3472 - Rutile
Nuclear Magnetic Mining, Inc.
St. Johns County, Florida

Dear Mr. Mittendorf:

Receipt is acknowledged of your letter of April 6, 1955 concerning the above-captioned matter. Note is made of the deadline of May 10th in which to submit the factual materials which are needed to properly evaluate the property in issue.

The Company has been working exceedingly hard to deliniate the various ore bodies in its holdings in the State of Florida, and, it has been successful in the majority of instances. However, due to limited funds it has not been able to progress with the speed that might be expected. However, the work we are doing has been done with a great deal of care and exactness.

We have every hope that we will have the proper factual data which your program requires, but the time in which we have to work in the deadline set by your letter is, we are afraid not sufficient in which to provide this material.

Therefore, it is respectfully requested that Nuclear Magnetic Mining, Inc. have an additional 120 days from May 10th in which to complete the factual data which is required.

Yours sincerely,

NUCLEAR MAGNETIC MINING, INC.

By Charles R. Rudolph
Charles R. Rudolph
President

Docket Copy
Surname:
Houk

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

600

APR - 6 1955

Mr. Charles R. Rudolph, President
Nuclear Magnetic Mining, Inc.
5300 Wriley Road
Washington 16, D. C.

Re: Docket No. DMEA-3472 - Rutile
Nuclear Magnetic Mining, Inc.
St. Johns County, Florida

Dear Mr. Rudolph:

Reference is made to our letter of October 8, 1954, in which we requested factual data in the form of an assay map showing the amount of overburden, depth of mineral strata, percentage of heavy mineral in the sand, and such other information as you may develop.

Nothing further has been received from you and we assume that you no longer desire to proceed with the application. We wish to cooperate with you in the matter of allowing ample time, but if the needed data have not been received by May 10, 1955, we will then consider the docket closed.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

LGHouk:gad 4/5/55
Copy to: Admr. R. File
Docket
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Cservenyak, 3411
Mr. Houk

R.C.G.

Docket Copy
Surname:
Houk
Mutterdoy

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

OCT 8 1954

Mr. Charles R. Rudolph, President
Nuclear Magnetic Mining, Inc.
5300 Wriley Road
Washington 16, D. C.

Re: Docket No. DMEA-3472 - Rutile
Nuclear Magnetic Mining, Inc.
St. Johns County, Florida

Dear Mr. Rudolph:

Reference is made to your application for exploring 30,000 acres in St. Johns County, Florida, for rutile and associated minerals, and our recent conversations with Mr. J. Owens, representing your company.

Receipt is acknowledged of the assay map showing results of sampling along the beach area. Please supply some tangible evidence of favorable prospecting results on the 30,000 acre lease. Such factual data may be in the form of an assay map showing amount of overburden, depth of mineral strata, percentage of heavy mineral in the sand, and such other information as you may develop.

Please note Section 6, Criteria, (b) "The geologic probability of making a significant discovery", in the enclosed copy of DMEA Order-1, Amended. Your presentation of the information in the application fails to meet this criteria. Please supply this information at your earliest convenience at which time processing of your application will be resumed.

Sincerely yours,

Lawrence G. Houk, Chief
Nonmetallic Minerals Division

Enclosure

LGHouk:gad 10/7/54
Copy to: Admr. R. File
Docket
Field Team, Region VII
Mr. Kiilsgaard, 5227
Mr. Cservenyak, 3411
Mr. Houk

R.C.

Docket Copy
Surname:

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

9/14/54

Mr. Charles R. Rudolph, President
Nuclear Magnetic Mining, Inc.
5300 Wriley Road
Washington 16, D. C.

Re: Docket No. DMEA-3472 - Rutile
Nuclear Magnetic Mining, Inc.
St. Johns County, Florida

Dear Mr. Rudolph:

Reference is made to your application for exploration assistance for rutile and associated minerals in St. Johns County, Florida.

The copy of the Prospecting Permit and Lease Agreement was not received with the application. Please supply this office with a copy of this permit.

Please note Sec. 6 (b) Criteria of the enclosed DMEA Order-1, Amended, "The geologic probability of making a significant discovery". You have submitted no factual data on the results of the prospecting. How large an area is "the exposed material that assayed approximately 50% heavy or black sands"? Please supply a map of the area showing where assays were taken.

What is the name of the deposit of rich mineral-bearing sands that lies about ½ mile to the East?

Sincerely yours,

SIGNED

Lawrence G. Houk, Chief
Nonmetallic Minerals Division

Enclosure

LGHouk:gad 9/13/54

Copy to: Admr. R. File
Docket
Field Team, Region VII
Mr. Kiilsgaard, 5227
Mr. Cservenyak, 3411
Mr. Houk

R.C.S.

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

September 7, 1954

Memorandum

To: Mr. L. G. Houk, Chief, Nonmetallic Minerals Division
Defense Minerals Exploration Administration, Room 4637

From: Chief, Light Metals Branch, Bureau of Mines

Subject: Docket No. DMEA 3472 "Nuclear Magnetic Mining, Inc., St. Augustine, Florida"

The subject docket has been reviewed by this office. Comments regarding the application are as follows:

1. Does the indicated sampling and examination meet the criteria for DMEA loans? It appears from the application that only a few samples were taken from a concentrated area which showed about 50 percent heavy minerals.

2. On page 2, item 4 (c), sentence 1, the economical rate of recovery given as 1 1/2 percent heavy sands is rather low. Present large scale mining operations are conducted on sands averaging about 4 percent heavy minerals.

F. J. Cservenyak
F. J. Cservenyak

Attachment

IN REPLY REFER TO:

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

September 3, 1954

Re: DMEA-3472
Nuclear Magnetic Mining Co.
St. Johns County, Florida
$67,858 - Rutile

Memorandum

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

From: E. L. Newcomb, U. S. Geological Survey

Subject: Review of application

The applicant proposes to jet drill 1156 holes on a 1,000 foot grid pattern to an average depth of 40 feet to test for rutile and associated heavy minerals. This work will be done near the coast in St. Johns County, Florida.

Apparently very little work has been done on the property as no prospecting results have been submitted with the application. However, the applicant has stated that a rich deposit of mineral bearing sands 3-4 feet deep occurs one-half mile east of the proposed exploration work.

The present application data are not sufficient to warrant a field investigation at this time. Although the property may be favorably located for possible exploration, some tangible evidence of favorable prospecting results should be supplied by the applicant.

The following information was excerpted from Engineering and Mining Journal, v. 154, No. 5, p. 135.

1. American Mining and Development Co. (Nuclear Magnetic Mining Co.) will build a $100,000 pilot mill near St. Augustine, Florida.

2. The Company was granted an extension of time on a mineral lease along 100 miles of coastline.

I believe we are justified in requesting more data from the applicant before a field examination is undertaken.

E. L. Newcomb

E. L. Newcomb

September 2, 1954

Nuclear Magnetic Mining, Inc.
Box 518
St. Augustine, Florida

Subject: DMEA-3472
Re: Exploration Assistance

Gentlemen:

The receipt of your application dated August 30, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3472 and referred to the Non-Metallic Minerals Division.

Kindly refer to in any future correspondence relating to your application.

Sincerely yours,

MF-103
(Revised April 1952)

# UNITED STATES DEPARTMENT OF THE INTERIOR
## DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED AUG 31 1954

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

*Not to be filled in by applicant*

Docket No. 3472
Metal or Mineral Rutile
Date Received
Estimated Cost $67,858
Participation (Government %)

## 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: Nuclear Magnetic Mining., Inc. Box 518, St. Augustine, Florida.
President: CharlesR. Rudolph, 5300 Wriley Road, Washington 16, D. C.
V. President: Richard D. Rudolph, Atlantic, Iowa
Secretary: George S. Hamore, Washington, D. C.

(*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.

(*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 excluding any land or interest in land which is not to be included in the exploration project contract

See attached supplements

(*b*) State any mine name by which the property is known. - None

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise
Lessee

(*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.

(*e*) If you own the land, describe any liens or encumbrances on it

(*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 attached supplements

(*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 attached supplements

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

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

See attached supplements

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore The titaniferous minerals: Rutile and Ilmenite and associated minerals Zircon and Monazite.

(*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 attached supplements

(*c*) The work will start within 30 days and be completed within 12 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. see attached supplements

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:

(*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.).

(*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.

(*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.

(*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.

(*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.

(*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. See attached 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)?

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

## 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 August 30, 1954

Nuclear Magnetic Mining Inc.
(Applicant)

By Charles R. Rudolph,
President

5300 Wiley Road, Washington 16, D.C.

**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

NUCLEAR MAGNETIC MINING, INCORPORATED
(A FLORIDA CORPORATION)

MAIL ADDRESS
P. O. BOX 518

ST. AUGUSTINE
FLORIDA

TELEPHONE
2189-M
OR
1572-J

SUPPLEMENTARY SHEETS TO ACCOMPANY FORM MF-103, APPLICATION FOR AID IN AN EXPLORATION PROJECT, SUBMITTED BY THE NUCLEAR MAGNETIC MINING, INCORPORATED? ST. AUGUSTINE, FLORIDA.

not rec'd. 9-3-54 gmc

FORM MF-103

Item 3(a):

The legal description of the land to be explored is given in detail in the copy of the Prospecting Permit and Lease Agreement accompanying this application and is further delineated in the accompanying map of St. Johns County, Florida.

Item 4(a):

There are no existing mine workings or production facilities on this property.

The property is easily accessible by several county ( dirt ) roads leading off the hard surfaced highways which border the property on the east and west. The under brush and trees are sparse enough for heavily tired or tractored vehicles to maneuver. Some swamp or marsh land exists which may require rafts or pontoon rigs but these areas are small in extent compared to solid ground areas.

Item 4(c):

The area to be prospected shows promise of having deposits of black sands which contain the minerals sought. It lies about ½ mile west of a deposit of rich mineral bearing sands, 3 to 4 feet in depth and extending north and south on the east coast shore line for the full length of the eastern boundary of the area to be explored. The exposed material, sampled vertically across the face assayed approximately 50% heavy or black sands. In a drag-line mining operation this ore would be diluted 50% or more so that an estimated 25% black sand recovery is considered possible in this enriched beach area. There is evidence of ancient shore lines, inlets and lagoons which would be natural catch basins on the property to be explored where similar enriched deposits should be found. The area to be explored is about 30 feet higher in elevation than the beaches. It lies wholly within the ancient coast of the Pamlico sea described by F. Stearns MacNeil, in his report in the Geological Survey Professional Paper 221-F, 1949, titled: Pleistocene Shore Lines in Florida and Georgia. MacNeil states:
\# "The coast of the Pamlico sea in particular is known to carry large amounts of heavy minerals in Florida". It is expected that if mineral exists on this property it will be encountered at a depth of 20 or 30 feet. Because of the overburden the percent heavy minerals in this property is not expected to run more than 5 or 6% in a mining operation.

\# SEE ATTACHED SKETCH.

NUCLEAR MAGNETIC MINING, INCORPORATED
(A FLORIDA CORPORATION)

MAIL ADDRESS
P. O. BOX 518

ST. AUGUSTINE
FLORIDA

TELEPHONE
2189-M
OR
1572-J



On a large scale mining operation the break even point is generally considered to be 1½% heavy sands so that a 5% deposit would be considered profitable. Mining can be done either by dredge or drag-line operation.

The black sands in the exposed area mentioned above contain approximately 5% rutile, 60% ilmenite, 15% zircon, 0.5 monazite (which is radioactive) the balance being staurolite, kyanite, garnet, tourmaline, sillimanite, etc.

According to the Bureau of Mines, the heavy sands originated in igneous and metamorphic rocks and were stream borne by rivers and ocean currents into Florida from the Piedmont Region of Georgia and the Carolinas. (See BuMines R. I. 4515) The black sands are concentrated along the present shore line and occur in ancient or fossil shore lines and sand dunes in the west or upland area.

Item 4(d):

The area is easily accessible by roads as shown on the accompanying map.

The hard surfaced highways, A-1-A and Rte No. 1, provide excellent shipping means by truck to the St. Augustine railway station of the Florida East Coast Railway. Also, if the operation became large enough the railway is close enough to provide loading spurs. Barge transportation is also possible from either Jacksonville or St. Augustine.

Residential areas exist in St. Augustine, Jacksonville and along the shore line between the two cities which are only 38 miles apart.

Item 4(e)

Skilled and unskilled labor is plentiful in Florida at standard rates of pay.

St. Augustine and Jacksonville particularly have modern factories and repair shops and necessary equipment and supplies are available for quick repair jobs.

Ample water for mine and mill operations is available from small fresh water lakes and from artesian wells which tap the water at a depth of about 80 feet of sufficient volume and pressure for mine and mill needs.

Power is available from the Florida Power and Light Company lines which are located within easily reached places.

NUCLEAR MAGNETIC MINING, INCORPORATED
(A FLORIDA CORPORATION)

MAIL ADDRESS
P. O. BOX 518

ST. AUGUSTINE
FLORIDA

TELEPHONE
2189-M
OR
1572-J



Item 5(b):

The St. Johns County map accompanying this application shows the leased area outlined. The detailed description of the property is given in the accompanying lease agreement.

It is proposed to explore the area by drilling with the jet type drill used in other areas in Florida. This equipment can be built or rented. It is a rotary core drill having an oil hydraulic feed action. The drill jet action produces only the material cored by the bit to show the character of the ore from the surface to the bottom of the hole.

The area to be prospected will be surveyed in grid fashion and systematically drilled at equal intervals. Preliminary planning is to drill at 1000 foot distances and to shorten the intervals wherever mineralization occurs in order to estimate ore reserves. It is estimated that from 160 to 200 vertical feet of drilling can be done per eight hour shift using a three-man drill crew. The average depth of the holes will be about 40 feet and the maximum should not exceed 60 feet.

Full records will be kept for the drilling and results of assays and other pertinent data. Individual and composite samples will be analyzed both by running them on a small laboratory Deister table and by the sink-float test in a heavy medium to determine the percentages of heavy minerals present. Chemical analyses and micrscopic studies will be made as required and also separation by high tension and magnetic separators will be made from time to time to determine the percentages of the individual mineral components.

Item 5(d)

The Nuclear Magnetic Mining, Incorporated is an independent division of the American Mining and Development Company, Incorporated in the State of Delaware.

The exploration work will be under the direct supervision of a registered professional mining and metallurgical engineer having over 25 years experience in mining and metallurgical operations.

NUCLEAR MAGNETIC MINING, INCORPORATED
(A FLORIDA CORPORATION)

MAIL ADDRESS
P. O. BOX 518

ST. AUGUSTINE
FLORIDA

TELEPHONE
2189-M
OR
1572-J



Item 6: Estimate of Costs (It is estimated the work will take 12 months)

| | | 300 days |
|---|---|---|
| (a) | Independent Contracts: | |
| | Surveying: One month at $50 per day - total | $ 1,500 |
| (b) | Labor, supervision, consultants: | |
| | Labor: 1 man @ $2.75/hr or $22/day | 6,600 |
| | 2 men @ $1.82.hr or $14.56/day | 8,736 |
| | Laboratory technician-tabling & separation | 4,200 |
| | Supervision | 5,000 |
| | Consultants-approx. 10 days @ $50/day | 500 |
| | Total | 25,036 |
| (c&d) | Operating Equipment: | |
| | Drilling equipment rental @ $50/day | 15,000 |
| | Used truck for supply and transportation | 1,000 |
| | Auxilliary equipment-shovels, tools, drill, etc | 1,000 |
| | Tractor-scraper rental for clearing brush, etc. | 2,000 |
| | Total | 19,000 |
| (e) | Rehabilitation and Repairs | Nil |
| (f) | Testing laboratory building-rental | 600 |
| | Deister table and supplies for laboratory | 1,000 |
| | Total | 1,600 |
| (g) | Miscellaneous: | |
| | Repairs & maintenance of equipment | 3,000 |
| | Analytical work-chemical analysis and dry separation: estimated number of samples, about 100 at $45/sample | 4,500 |
| | Workman's Compensation-2% of payroll | 471 |
| | Employers Liability ditto | 471 |
| | Payroll taxes ditto | 471 |
| | Total | $ 8,913 |

NUCLEAR MAGNETIC MINING, INCORPORATED
(A FLORIDA CORPORATION)

MAIL ADDRESS
P. O. BOX 518

ST. AUGUSTINE
FLORIDA

TELEPHONE
2189-M
OR
1572-J



Item 6, Continued:

Recapitulation of Estimated Costs.

| | | |
|---|---|---|
| Item (a) | | $ 1,500 |
| " (b) | | 25,036 |
| " (c&d) | | 19,000 |
| " (e) | | - |
| " (f) | | 1,600 |
| " (g) | | 8,913 |
| | Total | 56,049 |
| Item (h) | Contingencies | 11,809 |
| | Grand Total | $67,858 |

Remarks:

1. Calculation of Drilling Costs Based on Cost per Foot.

   At 1,000 foot intervals there are approximately 1156 holes 40 feet deep in 530 acres. The cost of the drilling per foot is $1.25 according to local experience with this type of drilling. Therefore,

   1156 holes would cost 1156 X 40 X 1.25 or $ 57,800

   It must be remembered that, since it will be necessary to drill at closer intervals than 1,000 feet wherever profitable mineralization is indicated, this figure could be considerably higher.

2. Auger drilling is not practical because of the fact that water is encountered at about 30 foot depth and further in some places a hard loamy clay is encountered which would make auger drilling impossible.

3. With respect to Item 6(a)-Surveying, it will be necessary from time to time to survey sections of land adjacent to private property so as not to encroach thereon. In some instances missing markers or monuments will have to be reestablished. Provision has, therefore, been made for the engaging of local land surveyors for this purpose.

# MAP OF SAINT JOHNS COUNTY FLORIDA

—1951—

COMPILED FROM U.S. [redacted] LAND OFFICE SURVEYS, U.S. DEPARTMENT OF AGRICULTURE AERIAL PHOTOGRAPHS, SERIES 'CZA' – 1942-43, AND OTHER PUBLIC RECORDS.

GRAPHIC SCALE


COMPILED AND PREPARED BY
ROBERT R. SNEAD AND DOHREN W. WIGGERT
MAPPING SERVICE
223 BROOKLINE AVENUE
DAYTONA BEACH, FLORIDA


1. Shaded area as delineated above shows lease from private ownership of 30,000 acres tract of upland property.

2. Lease from the State of Florida entails that area along the East Coast between high and low water marks, excluding the hard surface beaches used for bathing and driving, and touching Townships 4,5,6,7,8 and 9, Range 29 East, Townships 4, 5, 6, 7, 8, 9, 10, 11, 12, Range 30 East, Townships 9, 10, 11, 12, 13, 14, 15, 16, Range 31 East, Townships 13, 14, 15, 16, 17, 18, 19 Range 32 East, Townships 16, 17, 18, 19, 20, 21, Range 33 East, Townships 18, 19, 20, 21, 22, Range 34 East, Townships 20, 21, 22, 23, Range 35 East, and Townships 22 and 23, Range 36 East, all in Duval, St. Johns, Flagler and Volusia Counties, State of Florida

## GENERAL LEGEND

- FIRST CLASS PAVED ROADS — LIGHT DUTY OR NARROW
- SECOND CLASS PAVED ROADS — LIGHT DUTY OR NARROW
- FIRST CLASS IMPROVED ROADS — GRADED SHELL, ROCK, CLAY
- SECOND CLASS IMPROVED ROADS — GRADED SAND
- UNIMPROVED ROADS
- UNIMPROVED TRAILS
- U.S. HIGHWAYS — STATE HIGHWAYS — COUNTY ROADS
- RAILROADS — MAINTAINED
- RAILROADS — ABANDONED
- SWAMPS AND MARSHES
- BOUNDARIES OF HAMMOCKS AND OBSCURE CREEKS
- DRAINAGE CANALS AND DITCHES
- COUNTY BOUNDARY LINE
- COMMISSIONERS DISTRICTS BOUNDARY LINES
- CORPORATE CITY LIMITS
- TOWNSHIP AND RANGE LINES
- SECTION AND LAND GRANT LINES
- AIRPORTS AND LANDING FIELDS
- AIRWAY BEACONS — LIGHTHOUSE
- HISTORICAL FORTS AND NATIONAL MONUMENTS

R. 26 E. R. 27 E. R. 28 E. R. 29 E. R. 30 E. R. 31 E.

T. 3 S. T. 4 S. T. 5 S. T. 6 S. T. 7 S. T. 8 S. T. 9 S. T. 10 S.

DUVAL COUNTY — JACKSONVILLE BEACH — PONTE VEDRA BEACH — PONTE VEDRA — DUVAL COUNTY — ATLANTIC OCEAN — DURBIN — SOUTH DURBIN — SWITZERLAND — SAMPSON CHURCH — FRUIT COVE — ORANGEDALE — SAINT CLAY COUNTY — SAINT JOHNS RIVER — PICOLATA — SAKERSVILLE — ANTONIO HUERTAS — VILANO BEACH — SAINT AUGUSTINE — ST. AUGUSTINE BEACH — COLLEGE PARK — CLAY COUNTY — PUTNAM COUNTY — TOCOI — RIVERDALE — ELKTON — ARMSTRONG — SPUDS — HASTINGS — MOULTRIE — CRESENT BEACH — SUMMER HAVEN — MARINELAND — FLAGLER COUNTY — FLAGLER COUNTY — PUTNAM COUNTY

LEGEND - LAND LEASED FOR PROSPECTING

LANDS HELD IN FEE

LESSOR HOLDS MINERAL RIGHTS TO WHICH PROSPECTING AGREEMENT APPLIES

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

OFFICIAL BUSINESS

P. O. Box 560
Juneau, Alaska

VIA AIR MAIL

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINTON 25, D. C.