UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

~~Terminated~~ Withdrawn (or ~~cancelled~~) without certification. DMEA No. 1262

This is the official contract file containing all official records of the project. Duplicate material has been removed. The records contained in the files are checked and are arranged in this manner:

Left Side

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.

Schedule of Collections.

Operator's monthly reports and all attachments (latest on top).

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.

Interim Reports.

On-site Exam Report(s). (Tab)

Settlement Sheets.

If additional folders are required because of volume of records, show folder numbers and contents below:

Maps in folder number_____

Operator's Monthly Reports in folder number _____

JB
Reviewer's Initials

7973

AMENDMENT

Docket DMA-1262x, Contract Idm-E156, dated September 20, 1951, between the United States of America and E. H. Johnston Co., is hereby amended a second time, as follows:

1. Under Item 3, exploration project, the operator's time of starting work is extended 4 months beyond the 30-day extension provided in an amendment dated October 15, 1951, to make the starting date on or before March 20, 1952.

2. Completion date is extended to three (3) months beyond the second amended starting date, which should make completion of project on ore before June 20, 1952.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government must pay, or the percentage of the costs which the Government may pay, under provisions of Article 13 of the contract form.

Dated November 19, 1951

United States of America

By A. B. Needham

A. B. Needham
Executive Officer
DMEA Field Team, Region V

Dated NOV 19 1951

E. H. Johnston Company

By E. H. Johnston

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 28 1952

RECEIVED
DEC 17
DEP. OF INTER.
CENTRAL CENTER
DENVER

DOCKET D.M.A. 1262x - E. H. Johnston Co.

Contract Idm-156

Contract Idm-156, dated September 20, 1951, between the United States of America and E. H. Johnston Co. is hereby amended as follows:

1. Under Item 3, exploration project, the operator's time of starting work is hereby extended 30 days, making the starting date on or before November 20, 1951.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government must pay, or the percentage of the costs which the Government may pay, under provisions of Article 13 of the contract form.

Dated October 15, 1951

UNITED STATES OF AMERICA

By A. B. Needham

A. B. Needham
Executive Officer, Region V, D.M.A.

E. H. JOHNSTON CO.

By E. H. Johnston

Cont. Serv Sec.
Change Order
Noted.....
Reviewed.....
G. M. HAVERSTOCK
NOV 5 1951

RECEIVED
OCT 24 1951
DEPT. OF INTERIOR
BUREAU OF MINES
MINNEAPOLIS, MINN.
REGION V

MF-200
(June 1951)

Docket No. DMA 1262X
Commodity Beryl, Mica
Columbo-Tantalite
Idm-E 156

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Cancelled Mar 25, 1952 by Needham — funds withdrawn Mar 31, 1952

EXPLORATION PROJECT CONTRACT [1]

It is agreed this 20th day of September, 1951, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and [2] E.H.Johnston, an individual, doing business under the trade name of E.H. Johnston Company, Canyon Lake Drive, Rapid City, South Dakota

hereinafter called the "Operator," as follows:

1. *Authority for contract.* This agreement is entered into under the authority of the Defense Production Act of 1950, pursuant to Mineral Order 5, entitled "Regulations Governing Government Aid in Defense Exploration Projects."

2. *Operator's property rights.* The exploration project shall be conducted on that certain property situated in the State of South Dakota, County of Pennington described as follows: [3]

See description in Appendix A

with respect to which the Operator represents and undertakes: [4]

(*a*) ~~That he is the sole owner, in possession and entitled to possession, and the property is subject only to the following liens, leases, or encumbrances as to each of which the subordination agreement of the holder is attached~~:

(*b*) That he is a lessee, in possession and entitled to possession, and the subordination agreement of the lessor is attached.

3. *Exploration project.* The Operator, within Thirty (30) days from the date of this contract shall commence work on a project of exploration for [5] Beryl, Mica, Columbo-Tantalite shall prosecute the work efficiently, expertly, in a workmanlike manner, in accordance with good mining standards, with suitable and adequate equipment, materials, and labor, all properly designed to bring the project to completion within a period of [6] Three (3) months from the date of this contract. The exploration project and the work to be performed are more fully described on Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, is made a part of this contract.

4. *Performance of the work.* The work shall be performed by the Operator, under his sole direction and control: *Provided,* That with the consent of the Government and its written approval of the contract or contracts, all or any part of the work may be performed by the Operator through contract or contracts with independent contractors. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

5. *Fixtures and improvements.* The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof. Any additional facilities, buildings, and fixtures, to be purchased, installed, or erected by the Operator, with the estimated cost of each, to which the Government will contribute currently its agreed pro rata share, are listed in Exhibit "A" attached hereto. The difference between the cost of such additional facilities, buildings, or fixtures, and the salvage value thereof at the conclusion of the work, shall be charged as a cost of the project to which the Government has contributed its pro rata share.

6. *Operating equipment.* Any operating equipment to be rented, purchased, or furnished by the Operator, with the allowable rental, purchase price, or depreciation, as the case may be, is listed under appropriate headings in Exhibit "A" attached hereto. As to equipment purchased for the project, the Government will contribute its agreed pro rata share of the cost thereof, and the difference between the cost and the salvage value at the conclusion of the work shall be charged as a cost of the project to which the Government has contributed its pro rata share.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property.
[4] Strike out the provision not applicable.
[5] Name of mineral.
[6] Not in excess of 2 years.

7. *Title to and disposition of property.* All facilities, buildings, fixtures, equipment, or other items costing more than $50 each, paid-for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

8. *Labor and supervision.* An itemized schedule of labor, by numbers and classes (miners, muckers, millmen, etc.), and of supervisors, by numbers and positions, with the maximum wages or salaries that may be paid to each as an allowable cost of the project is set forth in Exhibit "A" attached hereto.

9. *Rehabilitation and repairs.* A statement of the cost of any necessary rehabilitation or repairs to put existing facilities, buildings, installations, and fixtures into useful and operable condition and which are to be allowed as costs of the project is included in Exhibit "A."

10. *Allowable costs of the project.* The costs of the project in which the Government will participate are limited to the necessary, reasonable, direct costs of performing the exploration work, including the costs of materials, supplies, engineering, power, water, analytical work, accounting, and utilities, including items of equipment costing less than $50 each; and the costs referred to in Articles 5, 6, 8, and 9, and the exhibits annexed to and referred to in this contract. Although the Government may pay part of the cost of new or additional facilities, structures, buildings, and equipment, only the depreciation on such items, computed as indicated in Articles 5 and 6, will be charged as a cost of the project. No items of general overhead, corporate management, interest, taxes, or any other indirect costs not expressly allowed by these provisions, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

11. *Accounts and audits.* The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract.

12. *Progress reports.* The Operator shall provide the Government with monthly reports of work performed under the contract upon forms to be provided by the Government. Each monthly progress report shall bear the certification of the Operator and shall constitute the Operator's invoice of costs incurred on the project during the period covered by the report.

13. *Payment to the Operator.* The monthly progress report (invoice), to the extent approved by the Government, shall be processed for payment by the Government. Payment shall be made in the amount of 90 percent of the approved costs incurred; *Provided,* That the aggregate total of all sums paid by the Government under this agreement shall not exceed $3,618.00, which is 90 percent of the agreed estimated total cost of this project, $4,020.00.

14. *Final reports by Operator.* Upon completion of the project or termination of this contract, the Operator shall provide the Government with a comprehensive geologic and engineering report, including an estimate of ore reserves, to the best of his ability. Four copies of all reports shall be furnished to the Government.

15. *Repayment by Operator.* If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter, shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

Of net smelter returns or other net proceeds not in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent.

Of net smelter returns or other net proceeds in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent for each additional full fifty cents ($0.50) in excess of eight dollars ($8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the mineral deposit which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development.

16. *No assignment of contract.* Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder.

17. *Termination and completion.* The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; shall dispose of any unused materials, supplies, and equipment for the joint account of the Operator and the Government in the proportion of their respective interests; and shall pay to the Government its pro-rata share of any money remaining.

Executed in sextuplicate the day and year first above written.

E. H. Johnston Company
(Operator)

By E. H. Johnston - Owner

THE UNITED STATES OF AMERICA

By C. O. Mutkendorf
Director, Production Expansion Division
Defense Minerals Administration

U. S. GOVERNMENT PRINTING OFFICE 16—64066-2

APPENDIX "A"

Description of Property:

Certain lode mining claims, being situated in Section 14 and Section 23, Township 2 South, Range 6 East, Black Hills Meridian, known as follows:

Glandale Lode

Glendale No. 1 Lode

Glendale No. 2 Lode

Glendale No. 3 Lode

President Loade

Reciprocity Lode

Iron Creek Lode

Hermosa Lode

Hermosa No. 2 Lode

Flume Lode

Harrison Fraction Lode

Docket No. DMA 1262
E.H. JohnstonCompany
Exploration Contract Idm-E156

EXHIBIT "A"

Performance of Work

Work will consist of:

Four diamond drill holes (BX size or larger) are to be drilled, ranging from 140 feet to 200 feet deep. The total length of these four drill holes is not to exceed 670 feet. The location, extent and direction of all diamond drill holes is to have the prior approval of Government Field Engineers.

Drilling is to be done by contract; core handling and sampling is to be done by the Operator with advice and supervisory assistance of the Government Field Team.

Cost of the Project (Estimated)

670 feet of diamond drilling @ $5.75 per foot	$3,852.50
Core boxes, handling, testing, etc., 670 feet @ $0.25 per foot	167.50
Total Cost	$4,020.00

Fixtures and Improvements

Does not apply to this contract.

Operating Equipment

All equipment will be supplied by the contractor. Minor supplies, core boxes, etc., will be included in the item:

Core boxes, handling, testing, etc., 670 feet @ $0.25 per foot	$ 167.50

Labor and Supervision

Labor and supervision will be supplied by the diamond-drill contractor.

Rehabilitation and Repair

Does not apply to this contract.

MF-202

Dma-1362X

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of Pennington, State of South Dakota, described in a certain Exploration Project Contract dated September 20, 1951, 195__, between E. H. Johnston, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated January 1, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 12th day of June, 1951

Lloyd Lessing

U. S. GOVERNMENT PRINTING OFFICE 940768

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 28 1952

Dma - 1262X

6-5 Det. asbestos mica info

E. H. JOHNSTON COMPANY

General Contractor

Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3267-W~~ 2846-W

Dr 1262X

Defense Minerals Administration
2908 Colfax South
Minneapolis, Minnesota

Gentlemen:

Find enclosed four copies complete of Form MF-103 together with maps and lease attached covering an exploratory application for the GLENDALE GROUP of claims, located near Keystone, So. Dak.

Mr. Mullen and Mr. Walker inspected this property recently with us and I believe were quite favorably impressed with the possibilities of this property for beryl and mica discoveries.

Sincerely yours,

E. H. Johnston

E. H. Johnston

Bureau of Mines
DEPARTMENT OF THE INTERIOR
RECEIVED
MAY 18 1951
Minneapolis
Mining

RECEIVED
MAY 17 1951
DEPT. OF INTERIOR
BUREAU OF MINES
MINNEAPOLIS, MINN.
REGION V

Form MF-103
(April 1951)

S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1262X

Date received 5/25/51

Participation

E. H. Johnston Company
Canyon Lake Drive
Rapid City, South Dakota

Name and address of applicant

Date May 12, 1951

FILL IN THIS BLOCK

Date of application May, 12, 1951

Estimated cost 26,100.00

Mineral or metal

Percentage of Government participation Ninety

Location of mine Sec. 14 & 23 - T.25 - R 6 E.

See attached plat for details

Date of filing MF-100

DMA Docket Number, if available DMA-1262X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation? Individual

*2. If a partnership, state names and addresses of partners.

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. See attached sheet

*5. Are you the owner or the lessee of the property? No

6. If owner, state what claims, liens, or encumbrances, if any, are against the property.

7. If lessee, attach a copy of the lease and state if it is in good standing. Attached

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. Attached

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)? Seeattached sheet

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property. See attached plat and sheet

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted. See plat

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any. Glendale

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads. See attached sheet

*13. State source and quantity of water available for operations and its sufficiency at all seasons. Water will be hauled
State amount of power to be used, rate per hour or other cost, and source. All equipment gasoline powered.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. None

15. State in detail how the ore could be shipped and how and where milled. See attached sheet

*16. History: See attached sheet

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information: See attahced sheet

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly. See attached sheet

(*b*) Submit available maps and assay data. " " "

(*c*) Give estimated tonnage and grade of each class of ore reserves. See attached sheet

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See attached sheet " " "

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. Plat and sheet attached.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each. See sheet attached

(*b*) Supervisors, by numbers and positions, with salaries of each. " " "

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings. " " "

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings. " "

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each. See sheet attached.

(*f*) Cost of rental for equipment which the operator proposes to rent. Sheet attached.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work. Sheet attached

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each. " "

(*i*) Cost of power, water, utilities, and any other items not provided for above. " "

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. See sheet attached.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

E. H. Johnston
(Name of company)

By E. H. Johnston
(Signature of authorized official)

5-12-51
(Date)

Owner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

E. H. JOHNSTON COMPANY
General Contractor
Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3267-W~~ 2846-W

DETAILED EXPLANATION AS SHOWN BY ITEM NUMBERS FROM FORM MF-103

Item 4. My experience for the past twenty years has been in the engineering profession and general contracting field. The past five years I have been in the general contracting business for myself. This property which I am making this application for the purpose of exploration is owned by Mr. Cessna of Rapid City, South Dakota. Mr. Cessna has had fifty years of experience in the field of exploration and mining for beryl and mica. This exploratory project if approved will be done under my direct supervision under the advice of Mr. Cessna.

Item 9. On this particular property and with ninety percent Government participation on this project, I will expend ~~$2000.00~~. 3000.00

Item 10. Detailed plat is attached. This property is not being operated at the present time.

Item 11. This property is composed of eleven claims as shown on the plat attached. An area of approx. 80 acres. This entire property goes under the name of the GLENDALE MINE.

Item 12. This property is approximately 2½ miles from the town of Keystone, So. Dak. which is a railhead on the Burlington Railroad. There is an improved road from the property to Keystone which can be used in allweather.

Item 13. Water not available on the property. Water will have to be hauled about 1 mile for drilling purposes.

Item 15. Ore would be hauled to Keystone, South Dakota by truck and would proceed to the mills by either rail or truck.

Item 16. HISTORY OF THIS PROPERTY

A. Looking at the attached plat you will note thelocation of a tunnel on the Glendale claim. This tunnel was dug by the Harney Tin Company in ~~1900~~ 1889. They were exploring the property for tin at that time. You will also note the location of a shaft on the plat, which is located at the end of the tunnel. The shaft is 72' deep and was sunk at a later date for the production of mica. No records are available as to the amount of mica taken from this shaft but it was a good grade. It is known that this shaft and other exploratory diggings on this property have produced approximately four ton of a good grade beryl. In the original exploration of this property, tin was discovered. The production of mica was suspended on this property because of the limited financial status of the operators and also a dip in the mica market. If theis exploratory project would prove the ore body that we believe this property contains, it would involve a large mining operation due to the size of the body and the incline of the strata surrounding the body. The mining operation would be large but I believe very profitable in the production of beryl and mica. The tunnel and shaft show a deposit of good grade feldspar approximately 35' wide and how deep we do not know but it

(Continued on next page)

E. H. JOHNSTON COMPANY
General Contractor
Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3267-W~~ 2846-W

shows to the depth of the tunnel.

B. This property is within a thousand feet of a mine which is producing beryl at the present time and has produced well over one hundred ton of beryl in the past five years. It is within a mile of the Edison Mine which is being operated at the present time for beryl and lithium, it is operated by the American Lithium Corporation. This property is well within the richest beryl producing area in the United States, which comprises of about six square miles here in the Black Hills. This property is within two miles of the Ingersol Mine, which produced the largest beryl log that has been discovered in the United States. In the year 1948, the consulting mining engineer, Mr. L. B. Wright, from San Francisco, inspected this property and remarked that the showings were very good for a large deposit of Feldspar and other pegmatites.

Item 17. Mine is not in production at present time.

Item 18. As the attached plat indicates by the notations of known tunnels, shafts cuts and pegmatite outcrops this property could have an ore body of over 1200' in length, 35' to 150' in width and the depthof course is the purpose of this exploration project but it could be unlimited. Under these conditions it is hard to estimate a tonnage on this property, extensive drilling on the property would give us the answer to that. The Feldspar showings on this property is of a high grade. Records show that some good mica and beryl have been taken from this property in past operations.

~~Item 19.~~

Item 20. Primarily for Beryl and Strategic Mica.

Item 21. This exploratory project would be a matter of extensive drilling in the first stages to find and record the size and depth of the anticipated ore bodies. This drilling would take from ~~six to nine~~ months. This project would involve building a few trails on the property to make it accessible for the drilling crews and equipment. It would necessitate the use of a diamond core drill with a depth capacity of 800' to 1000'. Due to the unavailability of water on the project, it will have to be hauled by truck a distance of two miles, pump loaded, and the drilling equipment will have to have a recirculatory system.

Item 23 to 24 Incl. See attached sheet for time schedule and cost breakdown of this project.

E. H. JOHNSTON COMPANY
General Contractor
Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3267-W~~ 2846-W

Stage No. 1. COST BREAKDOWN OF THE DRILLING SCHEDULED OVER A PERIOD OF 6 MONTHS OPERATION

One	Project Supervisor	6 Months @ 300.00	1800.00
One	1950 Model 2 Ton Truck. Complete with operator, water tank and pump for loading water. This truck will also be kept busy hauling supplies, moving the drilling equipment and miscellaneous ahuling and work on the project.	6 Months @ 600.00	3600.00
One	Diamond Drilling Rig complete with operators, attachments as needed, bits, drill stem capable of drilling to 800' and any miscellaneous as needed for the efficient operations of this unit.	6 Months @ 1300.00	7800.00
One	Crawler type tractor with bulldozer and operator for the construction of roads and trails.	200 Hours @ 12.00	2400.00
Miscellaneous expense on drilling project such as tool sheds, facilities for workmen, etc.		6 Months @ 100.00	600.00
	Estimated cost of Stage 1 on project (DRILLING)		16200.00

Stage No. 2 COST BREAKDOWN OF THE TUNNELING SCHEDULED OVER A PERIOD OF 6 MONTHS OPERATION

One	Tunnel supervisor	3 Months @ 400.00	1200.00
Two	Portable Air compressor units complete with hose, liners, cross-bars, pneumatic drills, drill steel and bits. (These compressors produce 125 C.F.M. @ 100 lbs.)	3 Months @ 400.00 Ea.	2400.00
	Rental on ore cars and rails and misc. for two tunnel crews.	3 Months @ 100.00	300.00
Six	Tunnel workers 300.00 ea. per Mo.	3 Months @ 1800.00	5400.00
	Dynamite, caps, blaster and other misc. materials.	3 Months @ 200.00	600.00
	Estimated cost of stage 2 on project (TUNNELING)		9900.00

NOTE: This applicant either owns the above mentioned equipment or has it available to him for the prosecution of this project. The rental rates as above listed on this equipment would include all costs of operation such as fuel, oil, repairs, insurance and any other maintainance costs to keep the equipment in operating condition

E. H. JOHNSTON COMPANY
General Contractor
Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3267W~~ 3846-W

COST BREAKDOWN CONTINUED

Stage No. 1. DRILLING: Under this stage of this exploratory project, this applicant would estimate that there will be approximately 4050 linear feet of core drilling with a 7/8" core. Some of this will be easy drilling through solid rock and some will be hard drilling due to the nature of varied formations and ores which will have to be drilled.

Stage No. 2. TUNNELING: Under this stage of this exploratory project, this applicant would estimate that there will be approximately 300 linear feet of 5'x 7' tunnel through a variety of formations.

This estimate is worked up on the basis that this operator will own the equipment as mentioned and will rent it to the Government at approximately the rates shown in the Cost Breakdown.

E. H. JOHNSTON COMPANY

General Contractor

Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3287W~~ 3846-W

FINANCIAL STATEMENT OF E. H. JOHNSTON COMPANY

ASSETS		LIABILITIES	
Cash on hand & in Banks	4630.00	Accounts Payable (Not due)	2340.00
Current accounts receivable	2620.00		
Real Estate. Includes residence and residential properties	20000.00	Mortgages on real estate	7400.00
Contracting Equipment - Book value	12580.00	Mortgages on equipment	4090.00
Cash value of Life Insurance	1500.00		
Total Assets	41330.00	Total Liabilities	11830.00

NOTE: For financial condition and credit rating check with Dunn & Bradstreet Reference and local banks or credit bureaus.

WORKING LEASE AND OPTION TO PURCHASE

For and in consideration of the sum of One Hundred Dollars (100.00) to me in hand paid by E. H. Johnston of Rapid City, South Dakota, party of the first part, the receipt whereof is hereby acknowledged, I, Clyde Cessna of Rapid City, South Dakota, hereinafter referred to as the party of the second part, do hereby agree to lease unto the said party of the first part the following described premises, to-wit:

> Those certain Lode Mining claims known as "GLENDALE LODE", "GLENDALE NO. 1 LODE", "GLENDALE NO. 2 LODE," "GLENDALE NO. 3 LODE", "PRESIDENT LOADE", "RECIPROCITY LODE", "IRON CREEK LODE", "HERMOSA LODE", HERMOSA NO. 2 LODE", "PLUME LODE", and "HARRISON FRACTION LODE", and all being situated approximately two miles south of Keystone in Pennington County, South Dakota,

for the full period of Two (2) years commencing January 1, 1951. The party of the second part does hereby agree to place said premises as a above described in full and sole possession and control of the party of the first part with authority to work and prospect the same as he sees fit for the term of two years from the date hereof.

That as a further consideration for this lease and option the party of the first part agrees that he will spend no less than five (5) days a month, each month during the period of this lease and option, personally in the developement and prospecting of the above described mining claims. The party of the first part agrees by way of further consideration for this lease and option that he will within ninety (90) days from the signing and execution of this lease and option furnish the party of the second part a schedule setting out in detail his program of proposed mining operations for this property, as described.

The arty of the first part further agrees by way of consideration for this lease and option to pay to the party of the second part, royalties on all ore mined and shipped from said above described property, when proceeds from such ore are received by the party of the first part, as follows, to-wit:

> Forty cents (0.40) per ton for all Feldspar removed from the described property.
>
> 25% Royalty on all other ores and minerals removed from the described property. Computation of royalty to be figured on gross receipts realized by the party of the first part from these ores and minerals.

It is further understood and agreed that the party of the second part for and in consideration of all the covenants herein contained, grants to the party of the first part an option that said party of the first part shall have the right to purchase the above decribed premises at any time during the life of this lease for the sum of Twenty Five Thousand Dollars ($25,000.00) and upon tender of such payments the party of the second part will make, execute, acknowledge and deliver a good and sufficient warranty deed to be delivered to the party of the first part or to such person or company as he shall nominate, conveying the said premises clear of incumbrances.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals this first (1st) day of January, A. D. 1951.

E. H. Johnston
PARTY OF THE FIRST PART

Clyde Cessna
PARTY OF THE SECOND PART

WITNESSES:

Bella Cessna

Bernadette Oster

FILE COPY
SURNAME:

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

600

Mr. A. B. Needham
Executive Officer
DMEA Field Team, Region V
2908 Colfax Avenue, South
Minneapolis 8, Minnesota

Subject: Docket No. DMEA-1262 - Beryl-Mica
E. H. Johnston Company
Pennington County, South Dakota
Contract Idm-E156

Dear Mr. Needham:

Receipt is acknowledged of your memorandum of March 26, 1952 returning the unsigned original and four copies of the subject contract, and a copy of your letter of March 25 to the applicant notifying him that the contract has been cancelled.

The Washington office concurs with you that this contract should be cancelled because of the negotiations for the sale of the property and the failure of the applicant to sign the contract.

Sincerely yours,

(signed) FRANK E. JOHNSON

Chairman, Operating Committee
Defense Minerals Exploration Administration

Approved:

E. H. Hedges

Member, Bureau of Mines

T. P. Thayer

Member, Geological Survey

LGHouk:gad 4/2/52

Copy to: Admin. Reading File
Operating Committee
Docket File
Mr. Norton, G-232, GSA Bldg.
Mr. Dietrich, 3526
Mr. Houk
Mr. Chambers
Edith Jerry

Taken from Memo. 4/3/52 from Executive Officer, Region V to Operating Committee; Status of projects in re. to discoveries.

As you have already been notified, Docket DMA-1556x, Contract Idm-E141, W. S. Clifford, and Docket DMA-1262x, Contract Idm-E156, E.H. Johnston and Co., have both been cancelled.

The foregoing is the status of all projects to April 1, 1952.

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
Region V
2908 Colfax Avenue South
Minneapolis 8, Minnesota

March 26, 1952

Memorandum

To: Operating Committee, Defense Minerals Exploration Administration, Interior Building, Washington 25, D. C.

From: Executive Officer, Field Team, Region V

Subject: Docket DMA-1262x, Contract Idm-E156
E. H. Johnston Company

Returned here are the original and four copies of the subject contract, unsigned by the operator, with the request that the contract be cancelled.

Pertinent correspondence about the case is attached.

One copy of the unexecuted copy has been retained by this office.

A. B. Needham
Executive Officer
Field Team, Region V

Attachments

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 28 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Region V
2908 Colfax Avenue South
Minneapolis 6, Minnesota

March 25, 1952

Mr. E. H. Johnston
Canyon Lake Drive
Rapid City, South Dakota

Dear Mr. Johnston:

Reference is made to your Defense Minerals Exploration application and resulting contract Idm-E156 to explore for beryl, mica, and columbium-tantalum on certain lode mining claims in secs. 14 and 23, T. 2 S., R. 6 E., B.H.M., the initiation of which was extended to March 20, 1952, by an amendment dated November 19, 1951, to permit you to make a decision on affixing your signature to said contract.

You are hereby notified that effective March 25, 1952, said contract is cancelled, because of your failure to sign the contract or advise your intention to sign.

Sincerely yours,

A. B. Needham
Executive Officer
Field Team, Region V

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 28 1952

Needham:dt

cc Sutton
Mullen
Redden
DMA (Wash) 2
Region V
files
df

FILE COPY
SURNAME:

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

MAR 24 1952

Mr. A. B. Needham
Executive Officer
DMEA Field Team, Region V
2908 Colfax Avenue, South
Minneapolis 8, Minnesota

Subject: Docket No. DMEA-1262 - Beryl-Mica
E. H. Johnston Co.
Pennington County, South Dakota
Contract Idm-R156

Dear Mr. Needham:

Pursuant to our telephone conversation of March 20th, relative to the subject contract.

Since the owners are negotiating for sale of pegmatite, and do not wish the applicant to sign the contract, we will await his decision.

Sincerely yours,

SIGNED 3/21

Lawrence G. Houk, Chief
Non-Metallic Minerals Division
Defense Minerals Exploration
Administration

LGHouk:gad 3/21/52

Copy to: Admin. Reading File
Docket File
Mr. Norton, G-232, GSA Bldg.
Mr. Dietrich, 3526
Mr. Houk

600 code

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
Region V
2908 Colfax Avenue South
Minneapolis 8, Minnesota

March 19, 1952

Order 1262

Mr. W. H. Johnson
Cayon Lake Drive
Rapid City, South Dakota

Dear Mr. Johnson:

Reference is made to your Defense Minerals exploration application and resulting Contract Idm-1156, which was signed by the Government and submitted to you for signature, but which you declined to sign because of certain circumstances.

As you know, a provision was made to extend the starting date of the contract to March 20, 1952, and you indicated you would render us a decision of acceptance by that time.

Please advise this office your intent with regard to execution of the contract.

Sincerely yours,

A. B. Needham
Executive Officer
Field Team, Region V

Wiesenhundt

cc Hutton
Needham
Mullen
[illegible] (Cash) 2
Region V
files
df

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 21 1952

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Rapid City Field Office
School of Mines Campus
Rapid City, South Dakota

December 15, 1951

Memorandum

To: A. B. Needham, Executive Officer, DMEA Field Team, Region V

From: Supervising Engineer, Rapid City, Field Office.

Subject: DMA Docket No. 1262x, Contract Idm E-156, Glendale Lode, E. H. Johnston, Co.

Enclosed are six signed copies of the subject amendment.

Johnston advised me that within the time limit he will have acquired the property or relinquished his lease.

/s/ D. H. Mullen

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Region V
2908 Colfax Avenue South
Minneapolis 8, Minnesota

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 3 1951
Defense Minerals Administration,
Production Expansion Division.

November 29, 1951

NONMETALLICS

Memorandum

To: C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration, Interior Building, Washington, D. C.

From: Executive Officer, DMEA Field Team, Region V

Subject: Docket DMA-1262x, Contract Idm-E156
E. H. Johnston Company
Rapid City, South Dakota

The subject contract has been returned to this office unsigned. The reason for the action is because negotiations are in progress toward sale of the property.

The owner, a Mr. Clyde Sessna, has been reluctant to have Mr. Johnston, the lessee, sign the contract because of a possible hitch in negotiations due to an implied lien on the property.

Mr. Johnston has requested, however, that the contract be held here for about 90 days pending completion of the above negotiations. In order to continue the contract in effect, even though it has not been signed, we have written up and sent to Mr. Johnston for signature an amendment extending the starting and completion dates to March 20 and June 20, 1952, respectively. We will hold the six copies of the contract in this office until such a time as a final decision is made regarding initiation of the work.

A. B. Needham
Executive Officer
DMEA Field Team, Region V

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.
DEC 3 8 35 AM '51

DEC 3 8 36 AM '51
DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.

C O P Y

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

November 29, 1951

2908 Colfax Avenue South
Minneapolis 8, Minnesota

To: Mittendorf

From: Executive Officer, DMEA Field Team, Region V

Subject: Docket DMA-1262X Contract Idm-E 156

The subject contract has been returned to this office unsigned. The reason for the action is because negotiations are in progress toward sale of the property.

The owner, a Mr. Clyde Sessna, has been reluctant to have Mr. Johnston, the lessee, sign the contract because of a possible hitch in negotiations due to an implied lien on the property.

Mr. Johnston has requested, however, that the contract be held here for about 90 days pending completion of the above negotiations. In order to continue the contract in effect, even though it has not been signed, we have written up and sent to Mr. Johnston for signature an amendment extending the starting and completion dates to March 20 and June 20, 1952, respectively. We will hold the six copies of the contract in this office until such a tie as a final decision is made regarding initiation of the work.

A. B. Needham
Executive Officer
DMEA-Field Team, Region IV

6A.

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Rapid City Field Office
School of Mines Campus
Rapid City, South Dakota

November 27, 1951

Memorandum

To: A. B. Needham, Executive Officer, DMEA Field Team, Region V

From: Supervising Engineer, Rapid City Field Office

Subject: DMA Docket No. 1262X, Contract Idm E-156, Glendale pegmatite, E. H. Johnston Co.

Attached are six (6) copies of the subject contract, returned by the applicant unsigned.

The contract, its advantages and obligations, have been thoroughly explained to the owner and applicant several times. At present, negotiations are in progress towards sale of the property. Cessna has been reluctant to see the contract signed because of a possible hitch in negotiations due to an implied lien on the property. Johnston, being a long time friend, feels he must accede.

Johnston did, however, request that signing the contract be deferred for about 90 days pending completion of present negotiations. He points out that because of the lack of drilling contractors and equipment the work could not be started before that time in any event.

If possible, it would be appreciated if the contract could be held until about March 1.

/s/ D. H. Mullen

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 28 1952

400
FILE COPY
SURNAME:

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

OCT 31 1951

Contract Service Section
General Accounting Office
Washington 25, D. C.

Re: Docket DMA No. 1262X
E. H. Johnston Co.
Exploration Project Contract
Idm-E-156
Amended: October 15, 1951

Gentlemen:

Enclosed for recording in your office is the original of an amendment to the Exploration Project Contract between the Operator named in the above reference and the Government of the United States.

Sincerely yours,

10/31

(signed) FRANK E. JOHNSON

Acting Director
Production Expansion Division

Enclosure-1

PBBlakemore/hmj
Typed 10-29-51
cc to: Reports and Records
Adm. Reading Files
PED
Mr. Blakemore
Docket

FILE COPY
SURNAME:

FBBlakemore
FE Johnson

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

October 30, 1951

Memorandum

To: Chief, Finance Section

From: Acting Director

Subject: Amendment to Exploration Contract
Docket No. 1262X Contract Idm-E-156
E. H. Johnston Co.

Please forward to Finance Officer, Region V, attached copy of an amendment to subject contract.

(signed) FRANK E. JOHNSON (for)

Attachment - 1

FBBlakemore/hmj
cc to: Reports and Reports
PED
Mr. Blakemore
Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Region V
2908 Colfax Avenue South
Minneapolis 8, Minnesota

DEPARTMENT OF THE INTERIOR
RECEIVED
OCT 2 6 1951
Defense Minerals Administration,
Production Expansion Division.

October 24, 1951

Memorandum

To: Tom Lyon, Chairman, Coordinating Committee, Defense Minerals Administration, Washington 25, D. C.

From: Executive Officer, DMA Field Team, Region V

Subject: Docket DMA 1262x, Contract Idm E-156, E. H. Johnston Co.

Here are the original and three copies of an amendment to the subject contract which extends the starting date.

These are to be attached to your copies of the contract. A copy has been retained by the operator and one by this office.

A. B. Needham
Executive Officer
DMA Field Team, Region V

Attachments 4

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 6 1951

OFFICIAL FILE COPY

To	Initial	Date
210		

FILE COPY
SURNAME 410

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

SEP 20 1951

A.E.C

Mr. A. E. Needham
Executive Officer
Region V
2908 Colfax Avenue, South
Minneapolis 8, Minnesota

Re: Docket DMA 1262X
E. H. Johnston Company
Exploration Project Contract Idm-E156

Dear Mr. Needham:

There are enclosed an original and five copies of the captioned Exploration Project Contract, signed by me, together with the attached Exhibit "A", Appendix A, and "Landlord's Subordination Agreement".

If the terms and conditions of this contract meet with the approval of the Operator, all six copies should be signed by a duly authorized official of the company, one copy should be given to the Operator, one copy retained by your office and the original and three copies returned to this office.

If any part of this contract does not meet with the approval of the Operator, the original and all copies of the contract are to be returned to this office together with the proposed changes for consideration.

Sincerely yours,

C. O. Mittendorf

C. O. Mittendorf, Director
Production Expansion Division

Enclosures

APPROVED:

Chairman, Coordinating Committee

Member, Geological Survey

Member, Bureau of Mines

JPhebus/meb
9/20/51
cc to: Admr's Reading Files
Reports and Records
Messrs. Mittendorf/Olund
Bourret
Barr
Arundale
Norton
Phebus Docket

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

September 17, 1951

Memorandum

To: Director, Production Expansion Division

From: General Counsel

Subject: E. H. Johnson exploration contract -- Docket No. DMA-1262X

The contract in the subject case is approved as to form and legality subject to execution by the parties.

The contract should be dated when it is delivered to the operator.

Your file is returned herewith.

J. L. Hofflund
General Counsel

Attachment

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

370

AUG 17 1951

Memorandum

To: Chief, Industrial Minerals Branch, DMA

From: Chief, Programming and Planning, DMA

Subject: DMA-1262X, E. H. Johnston Company
Glendale Mine, Rapid City, S. D.
Commodities: Beryl, Columbo-tantalite, Mica
Amount of loan approved: $4,020.00

The prospective available supply of Beryl, Columbo-tantalite and Mica is far short of meeting defense requirements. Consequently, it is highly desirable that exploration for new domestic deposits be stimulated by any reasonable Government assistance to private interests. Any exploration project that holds promise of finding significant new reserves, merits consideration by Defense Minerals Administration.

A. B. Parsons

RECOMMENDATIONS

1. That an Exploration Aid Contract be granted in the amount of $4,020, Government participation 90%, in accordance with Exhibit "A", attached.

2. That applicant be given 30 days from contract date to begin work on the project.

Exhibit "A"

Description of Project

The exploration will consist of coreing a maximum of 670' of diamond drill hole, BX size or larger. The maximum number of holes to be drilled will be four and individual holes will vary from 140' to 200'. Approximate location and direction of holes is shown on attached map and cross-section.

Drilling will be done by contract, core handling, sampling, etc., by operator with advice and supervisory assistance of Field Team. Total allowable cost $4,020, time limit - 3 months.

The work may be terminated by the Field Team upon the completion of any of the four drill holes, if, in their opinion, data obtained as a result of the hole or holes completed domonstrates the geologic inadvisability of additional drilling.

Recapitulation of Work

670' Diamond drilling	@ $5.75 per foot	$ 3,852.50
Core handling, sampling, core boxes, etc.		167.50
	Total cost	$ 4,020.00

Fixtures and Improvements

Not applicable.

Operating Equipment

All equipment will be supplied by contractor.
Minor supplies, core boxes, etc. will be included in the item:
1 - Core boxes, sampling, core handling, testing $ 167.50

Labor and Supervision

All labor and drilling supervision will be supplied by contractor and is included in the drilling contract.

CONTRACTS

A contract for drilling will be negotiated within the limits of the following:

670' diamond drilling (BX or larger) @ $5.75 per ft.	$3,852.50

DEFENSE MINERALS ADMINISTRATION

97022

PRODUCTION EXPANSION DIVISION

EXPLORATION LOANS

Name of Company and Address: E. H. Johnston

Name of Mine and Location Pennington, South Dakota

Docket No. D.M.A. 1262 X Date received by P.E.D. 8-17-51

Metals or Minerals involved Beryl, Mica, Columbite-Tantalite

Amount of Total Project: $4,020.00

Government participation, percent and amount 90% $3,618.00

Number of subprojects in total application one

Type of Exploration	Feet	Cost per foot	Total cost
Preparatory & Rehabilitation			
Equipment			
Shaft sinking & winzes			
Drifts and crosscuts			
Raises			
Diamond or ~~churn drilling~~	670	$6.00	$4,020
Other			

Comments on Contract

Date sent to Applicant for signature

Date returned to P.E.D.

Date sent to Legal 9-13-51

Date signed by Administrator 9-20-51

Additional remarks:

Signed J. E. Hedo

Interior—Duplicating Section, Washington, D. C.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
2908 Colfax Avenue South
Minneapolis 8, Minnesota
Region V

August 9, 1951

Memorandum

To: Tom Lyon, Chairman, Coordinating Committee, Defense Minerals Administration, Interior Building, Washington 25, D. C.

From: Executive Officer - DMA Field Team, Region V

Subject: DMA Docket 1262-X - "Glendale Mine" - E. H. Johnston Co. Rapid City, So. Dak.
DMA Docket 1556-X - "Jumbo Lode" - W. S. Clifford Keystone, South Dakota

Pursuant to my telegram of August 1, 1951 to Robert Waskey to withhold processing the subject dockets until the Field Team was in agreement about the recommendations, enclosed are four copies of a report on DMA Docket 1262-X for exploration of two dikes at the Glendale Mine, Keystone, South Dakota. Proposed work on the other four dikes at the property is not warranted. Field Team report is in accord.

Also enclosed are four copies of a supplementary statement by the Field Team on the Jumbo Lode, DMA Docket 1556-X, also in South Dakota. On the basis of the explanation, limited work is justified.

A. B. Needham

Enclosures:

A. B. Needham

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA-1262 X

Commodity Beryl-Mica

Total Amount $26,100 =

Govt. Participation 90%

1. Name and Address of Applicant E. H. Johnston Company
Canyon Lake Drive, Rapid City, S. Dak.

2. Location of Property 2½ miles SE Keystone S. Dak.
Pennington County

3. Mineral or metal Beryl-Mica Is it listed in Section 9 of MO-5? Yes

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good Have no file information. From
b) Poor applicant's description this might be a
c) None fair pegmatite. Too much money for exploration
d) Don't know—needs field examination Yes - to field
e) Is there an alternative and favorable project? JMC 6/21/51
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? Yes
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached? Yes.

Does the lease have sufficient time to run to cover a future productive period? No - 2 yr. with option to purchase - Royalty to lessor is high.

*question numbers are those of MF-103

7. Are subordination agreements necessary? Yes

a) MF-201? Not ~~attached~~ needed.

b) MF-202 Not attached

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower Yes

b) Equipment and supplies Yes
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes - must be hauled.

e) Power (question 13)* No mention - would probably use gasoline or diesel engines

Is a field check needed on any of these points? Yes - check possibility of contracting the drilling -

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes

Is a field check needed on this point? Yes

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? No - Too general -

If not, are there sufficient data given so that you can describe the project? Diamond drilling followed by tunneling If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? No

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes - At least the part under the diamond drilling

If not, what part of it is? Last section on tunneling may not be.

Is this part a worthwhile exploration project? Yes

d) Are the cost estimates detailed? No – all rentals

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? No If so, attach a draft.

e) Are the cost estimates reasonable? Rentals should be checked

f) Should more information be requested from applicant? Yes – by field team

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? None contemplated

b) If so, are sufficient data furnished? No If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? No If so, attach a draft. see draft

c) Are rents and charges reasonable? Apparently Yes – should check

d) Is a field check needed? Yes possibility of contracting drilling –

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? No – too generalized.

b) Is the schedule adequate for the work proposed? Yes

c) Is the schedule excessive for the work proposed? No –

d) Are the proposed wages and salaries reasonable? Yes –

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? No mention of structures or facilities

b) Sufficient data? No

c) Reasonable? —

d) Field check needed? Yes

15. In your judgment, can the proposed work be done in the proposed time? Diamond drilling Yes. – Tunneling, if exploration, questionable

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? If the field examination is favorable, I'm sure that the exploration costs and methods can be much more efficient. Proposed Diamond drilling should use larger core. Tunneling may not be needed. Check contracting of diamond drilling & whether the underground work would be exploratory. RMB

Reviewed by: J. B. Redden 6/21/51, USGS

Rosell M. Beasley

B/M

Date 6/22/51

97692

6/27/51.

Docket No. D.MA-1262X

Section 10. Exhibit A.-

The map submitted with this application shows the claims & surface cuts. No indications is given of where the diamond drill holes requested are to be located. no where the underground work is to be done.

The diamond drill work is definitely exploration but the ~~amount~~ work should be watched so that unnecessary footage is not drilled after the favorable ground is drilled. This work can probably be contracted & a marked saving in cost & better efficiency secured than if the applicant tried to do it himself.

The underground work will need discussion to ascertain whether it will qualify as exploration. If properly placed it may well be in this category, unless conditions are such that it is definitely preparatory to production.

The field team should investigate the possibilities of the area & pick the best places for the work to be done. The Bureau of Mines office in Rapid City & the Geological Survey office in Custer can probably be of considerable assistance in the problem.

If possible a more definite estimate of the costs should be drawn up as the amount requested appears high for a mere exploration project.

Section 11 - Exhibit B

The necessity for new structures is not mentioned in the application & if the drilling is contracted only a small shed should be all that will be required. If underground work is initiated something more will be needed but they will

6/21/51.

DMA. 1262 X

Section 11. Exhibit B (cont)

of minor importance or cost.

Section 12. Exhibit C.

From the schedule of equipment given in the application the applicant appears to have sufficient equipment readily available. Just what will be needed can be determined by the field team in discussion with the application.

The rental rates appear reasonable, especially as they are said to include operators, repairs + supplies. Here again the contracting of the drilling will eliminate ~~some~~ ~~of~~ the need for some of the equipment listed

Section 13. Exhibit D

The need of labor in the drilling program is eliminated by contracting the work. One or two men will be required to handle core + supplies.

The schedule lists "6 tunnel workers" — this can probably be reduced to 3 or 4 of various types. The field team should discuss this point with the applicant.

Section 14. Exhibit E

No mention is made of any structures or facilities on the property so no repair or rehabilitation work will be required.

6/22/51

D.M.A. 1262 X

Section 16. Recommendations.

This application should be referred to the field team for investigation + report. The project as proposed has definite merit, the diamond drilling exploration, + at least some of the underground work should fall into this classification. The total sum asked for is undoubtedly to ~~big~~ large for only the exploration phases of the program.

The study of the field team should determine the best spots at which drilling should be done + the limits to which it should be carried. Also the exploration value of the underground work + the objectives to be attained. The question of whether or not the contracting of the drillwork would be preferable, from ~~a~~ speed + cost angles, should also be investigated.

The equipment + labor necessary for the exploration part of the program should be discussed with the applicant so that the application may be amended in these particulars.

A brief report on the findings should be submitted as soon as possible so that the application may receive final action without undue delay.

JMB

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION V

DMA-12627

Glendale Mine, Keystone District

Pennington County, South Dakota

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

E. G. Bhuyan, Mining Engineer
U. S. Bureau of Mines

R. B. Hendifer and J. A. Redden, Geologists
U. S. Geological Survey

August 6, 1951

DEFENSE MINERALS ADMINISTRATION
Report of Field Examination

by

K. O. Bizyon, Mining Engineer
U. S. Bureau of Mines

R. B. Ronzifer and J. A. Reiden, Geologists
U. S. Geological Survey

Docket No.: DMA-[illegible]
Property: Glendale
Applicant: E. H. Johnston Co.
Commodity: Beryl, mica

Conclusions and Recommendations

Exploration of the Glendale mine as outlined in the application is not warranted. However, a limited amount of exploratory work, consisting of core drilling on two of the deposits, Numbers 1 and 2 on the sketch, is recommended.

Pegmatite Number 3 is a small pod-like body with a very limited showing of beryl in either of the two zones. It is considered too small and poor in grade to explore. Pegmatites Numbers 4, 5, and 6 are narrow, tabular, single-zoned deposits. These deposits, owing to their size, the small amount of beryl and strategic mica present, as well as a lack of minable grade feldspar or scrap mica, have no economic value at present and exploration is not recommended.

The structure of pegmatite No. 1 is well defined and it is thought to continue downward as a pipe-like body, with little chance for an increase in size. It is possible, however, that a richer mica zone might be encountered at greater depth. In pegmatite No. 2 the structure is sufficiently in doubt to warrant a small amount of exploratory work. It is possible

that a concealed inner zone may be encountered and that the dimensions may increase with depth. Therefore, a limited amount of core drilling to determine the lateral and vertical extent, as well as structure and grade at depth, is recommended.

In recommending exploration of deposits Nos. 1 and 2, both the geology and the presence of minable ore have been considered. It is recognized that the geologic data indicate that a significant discovery of beryl or strategic mica is not too likely; also that some ore can be mined at present. However, the recommendation is based on the assumption that beryl can be produced if the property is brought into production and that the applicant will start mining operations in the immediate future if the exploratory work proves the lateral and vertical extension of the deposits. In the outcrops and the open cuts on both deposits beryl and scrap mica are found in the wall zones. Coarse-grained feldspar and scrap mica, with a very small amount of strategic mica, occur in the inner zones or core. Approximately four tons of beryl, presumably from the cores of pegmatites Nos. 1 and 2, have been produced from the small amount of previous work. It is assumed that a greater tonnage of beryl will be disclosed by exploration. The grain size of the cores indicates that the beryl would occur as fairly large crystals and a good recovery by hand sorting could be made.

The work recommended consists of four core drill holes, two on each deposit, with a total depth of 670 feet. Estimated cost of the core drilling is $6.00 per foot, or a total of $4,020.00.

Exhibit A

The exploratory work recommended is to consist of four core drill holes, confined to deposits Nos. 1 and 2, and located and directed as

shown on the sketch. Depths of the holes will be from 140 to 300 feet and a total of 670 feet is to be drilled. Hole size should be Nx and Bx, with the greater part Nx size. A minimum Ax size hole may be drilled.

Drilling will be contracted and is to be supervised by the applicant and engineers of the Bureau of Mines. Work should be started immediately following approval of the application and letting of the drilling contract. Approximately 45 days, nine 5-day weeks, or 2½ months will be required to complete the work. The monthly drilling rate should be about 300 feet or 900 feet quarterly. Monthly expense will be $1,800 to $1,900.

The work may be stopped at any time that the Bureau of Mines decides that further exploration is not feasible. Accordingly, the applicant and drilling contractor should reach an agreement on terms of settlement should the contract be terminated before the total footage is drilled.

Estimated total cost of the project is:

Core drilling 670 feet @ $6.00 per foot = $ 4,020.00.

As all exploratory work is by core drilling under contract, the total cost of the project is included in the cost of drilling.

DMR Geologic Investigation of the Glendale Pegmatite Claims
Pennington County, South Dakota

by

R. E. Zendifer and J. A. Redden, Geologists

The Glendale pegmatite claims are located in the S½ sec. 14, T. 2 S., R. 6 E., Black Hills Meridian, or approximately 5½ miles southeast of Keystone, South Dakota. Several differently named claims are included in the area, but for the purpose of this report they are all referred to as the Glendale pegmatites.

Six different pegmatites are exposed on the claims, as shown on the accompanying map. A few quartz veins are exposed in prospects but have no relationship to the pegmatites. The applicant appears to have believed that the quartz veins were related to the pegmatites.

Pegmatite No. 1

The northernmost pegmatite is a pipe-like body, having a length of 62 feet and a width of 32 feet. The plunge is apparently about 60° to the southeast. A small open cut, a tunnel 60 feet long, and a 45-foot shaft that connects the tunnel and the open cut, have exposed the zoning in the pegmatite.

Two distinct zones have been mapped, a wall zone from 3 inches to 3 feet in thickness, and a central core. At the elevation of the tunnel an intermediate zone could probably be distinguished by careful and large scale mapping.

The average grain size of the wall zone is 2 inches and the average thickness of the zone is approximately 1 foot. The composition of the zone is estimated at 60 percent plagioclase, 40 percent quartz, 4 percent

muscovite, and accessory tourmaline, apatite, and beryl. Beryl is concentrated in the outer one foot of the zone. The average grade of the beryl-bearing portion of the zone is from 3 to 4 percent. All the beryl crystals are relatively small - less than 4 inches in diameter.

The core has a maximum thickness of about 30 feet and an average thickness of approximately 22 feet. It is composed of 44 percent quartz, 44 percent perthite, 7 percent plagioclase, 2 percent muscovite, 1 percent lithiophilite, and accessory tourmaline, apatite, and columbite-tantalite. The average grain size of the zone is 2 feet. Individual crystals of perthite have maximum dimensions of 6 feet. The plagioclase forms fine-grained sugary masses and also radiating masses of cleavelandite. Very thin blades of columbite-tantalite are associated with part of the cleavelandite. Beryl was not found in the core, but it is possible that large crystals have been removed from the faces during the course of the mining.

Reserves and recommendations for Pegmatite No. 1

The wall zone of the pegmatite is estimated to contain from 500 to 800 pounds of beryl per foot of depth. Probably only about 25 percent of the total could be hand-cobbed. It is possible that large crystals occur in the core, but none were found and hence reserves were not computed.

The muscovite contains such a high percentage of scrap that no reserves were computed. The grade and quality of the mica may improve with depth. Columbite-tantalite occurs in such small plates and limited areas that no substantial reserves are inferred.

It is recommended that a limited exploration loan be granted for this pegmatite. This is based in part on the belief that the exploration will encourage mining of the deposit. Previous work has disclosed sufficient

quantities of feldspar, beryl, and scrap mica above the tunnel level that this pegmatite could be mined at present. The structure of the exposed pegmatite indicates that profitable mining could probably be carried out for a depth of 50 feet below the present workings.

Pegmatite No. 2

This pegmatite has a length of approximately 55 feet and a width of 30 feet. All contacts are poorly exposed and very irregular. The structure and plunge are doubtful, but it is believed that the pegmatite is roughly oval in shape and plunges steeply to the southeast.

The zoning is not as well developed as in Pegmatite No. 1. A fine-grained wall zone ranges in thickness from a few inches to 5 feet. It consists mainly of plagioclase, quartz, mica, and accessory tourmaline, apatite, and beryl.

The central portion or core is composed of 45 percent quartz, 45 percent perthite, 4 percent plagioclase, 2 percent muscovite, and accessory tourmaline, lithiophilite, beryl, and lollingite. The perthite is coarse-grained and the quartz is massive and medium-grained. Muscovite occurs in 1-inch books, mostly of scrap quality. Beryl is probably considerably less than 0.5 percent of the total core and occurs as small crystals. The largest crystal observed was 3 inches in diameter.

Reserves and recommendations for Pegmatite No. 2

The reserves of beryl are probably from 300 to 600 pounds per foot of depth. The small size of the observed beryl indicates that the recovery would be about 50 percent, but coarse-grained beryl may be present. The mica is mainly of scrap quality and no reserves of strategic mica are anticipated.

It is recommended that a limited exploration lease be granted on the grounds that it will encourage mining of the deposit. Sufficient quantity of feldspar, scrap mica, and beryl are exposed so that mining could be undertaken without further exploration, but it is believed that the exploration will encourage mining of the ore as well as possibly discover larger tonnage or a more significant deposit at depth.

Further mining at depth would be more expensive and might be unremunerated after the above mentioned mining was completed.

Pegmatite No. 8

This pegmatite is a lenticular-shaped pod, approximately 50 feet long by 20 feet thick. A 15-foot deep open cut has exposed the center of the pegmatite. The side contacts are steeply dipping and the apparent plunge is steep to the southeast.

A wall zone, averaging 2 feet thick, is composed of medium-grained plagioclase-quartz-muscovite pegmatite. Two or three small beryl crystals, less than 1 inch in diameter, are exposed in the outer edge of the zone.

The core averages about 7 feet in thickness and consists of equal amounts of coarse-grained perthite and massive quartz.

Reserves and recommendations for Pegmatite No. 8

The grade of the beryl in the wall zone is very low - less than 0.1 percent. The beryl recovery would be extremely small. The mica is of scrap quality and of a limited quantity.

It is recommended that the exploration lease be denied for this pegmatite. The low grade of the beryl and the poor quality of the mica, plus the lack of any indication that the pegmatite increases in size with depth, indicates that the pegmatite is a poor risk for further exploration.

Pegmatites 4, 5, and 6

These pegmatites are narrow sill-like bodies that are poorly zoned or unzoned. They are very similar to the many homogeneous pegmatites that occur in the area. An inspection of the outcrops indicates that it would be unwise to explore them further. The possible inferred reserves of beryl and mica are too small to warrant exploration. It is recommended that the exploration loan be denied.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
2908 Colfax Avenue South
Minneapolis 8, Minnesota
Region V

July 25, 1951

Memorandum

To: Tom Lyon, Chairman, Coordinating Committee, Defense Minerals Administration, Interior Building, Washington 25, D. C.

From: Executive Officer - DMA Field Team, Region V

Subject: DMA Docket-1262-X - E. H. Johnston Company (Glendale Mine)
DMA Docket-1556-X - Walter S. Clifford (Jumbo Lode)

Enclosed are the two subject dockets and the original and three copies each of the Field Team's report on these projects.

DMA Docket 1556-X (Jumbo Lode) has been recommended in part. The cost of the recommended project is estimated at $14,700.00.

DMA Docket 1262-X (Glendale Mine) also makes a partial recommendation consisting of 705 feet of core drilling at a total estimated cost of $4,230.00.

E. J. Martin

E. J. Martin
for A. B. Needham

Enclosures:

ON-SITE RPT.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION V

DMA-1262X

Glendale Mine, Keystone District

Pennington County, South Dakota

E. O. Binyon, Mining Engineer
U. S. Bureau of Mines

R. E. Roadifer and J. A. Redden, Geologists
U. S. Geological Survey

July 19, 1951

DEFENSE MINERALS ADMINISTRATION

Report of Field Examination

by

E. O. Binyon, Mining Engineer
U. S. Bureau of Mines

R. E. Roadifer and J. A. Redden, Geologists
U. S. Geological Survey

Docket No.: DMA-1262X
Property: Glendale
Applicant: E. H. Johnston Co.
Commodity: Beryl, mica

Conclusions and Recommendations

Exploration of the Glendale mine as outlined in the application is not warranted. However, a limited amount of exploratory work on three of the six deposits on the property is recommended.

Deposits numbered 4, 5, and 6, as shown on the sketch, are narrow, tabular, single-zoned pegmatites. Owing to their size, the small amount of beryl and strategic mica and a lack of minable grade feldspar or scrap mica, the deposits at present have no economic value and exploration is not recommended.

The deposits numbered 1, 2, and 3 should be explored by core drilling to determine their vertical extent, and the structure and grade at depth.

In the outcrops and open cuts some beryl and scrap mica are found in the wall zones. Coarse-grained feldspar and scrap mica, with a small amount of strategic mica, occur in the inner zone or core. The grain size of the core indicates that the beryl would occur as fairly large crystals and a good recovery by hand sorting could be made. Approximately four tons of beryl has been produced from the small amount of work done in the past. It is assumed that an equal, and probably a greater, tonnage will be disclosed by exploration.

The work recommended is to consist of 705 feet of core drilling at an estimated cost of $6.00 per foot, or a total of $4,230.00.

Exhibit A

The exploratory work recommended is to consist of four core drill holes, confined to deposits Nos. 1, 2, and 3, and located and directed as shown on the sketch. Depths of the holes will be from 100 to 250 feet and a total of 705 feet is to be drilled. Hole size should be NX and BX, with the greater part BX size. A minimum AX size hole may be drilled.

Drilling will be contracted and is to be supervised by the applicant and engineers of the Bureau of Mines. Work should be started immediately following approval of the application and letting of the drilling contract. Approximately 47 days, ten 5-day weeks, or 2½ months will be required to complete the work. The monthly drilling rate should be about 300 feet or 900 feet quarterly. Monthly expense will be $1,800 to $1,900.

The work may be stopped at any time that the Bureau of Mines decides that further exploration is not feasible. Accordingly, the applicant and drilling contractor should reach an agreement on terms of settlement should the contract be terminated before the total footage is drilled.

Estimated total cost of the project is:

Core drilling 705 feet @ $6.00 per foot - $ 4,230.00

As all exploratory work is by core drilling under contract, the total cost of the project is included in the cost of drilling.

DMA Geologic Investigation of the Glendale Pegmatite Claims
Pennington County, South Dakota

by

R. E. Roadifer and J. A. Redden, Geologists

The Glendale pegmatite claims are located in the S½ sec. 14, T. 2 S., R. 6 E., Black Hills Meridian, or approximately 3½ miles southeast of Keystone, South Dakota. Several differently named claims are included in the area, but for the purpose of this report they are all referred to as the Glendale pegmatites.

Six different pegmatites are exposed on the claims, as shown on the accompanying map. A few quartz veins are exposed in prospects but have no relationship to the pegmatites. The applicant appears to have believed that the quartz veins were related to the pegmatites.

Pegmatite No. 1

The northernmost pegmatite is a pipe-like body, having a length of 62 feet and a width of 32 feet. The plunge is apparently about 80° to the southeast. A small open cut, a tunnel 60 feet long, and a 45-foot shaft that connects the tunnel and the open cut, have exposed the zoning in the pegmatite.

Two distinct zones have been mapped, a wall zone from 3 inches to 3 feet in thickness, and a central core. At the elevation of the tunnel an intermediate zone could probably be distinguished by careful and large scale mapping.

The average grain size of the wall zone is 2 inches and the average thickness of the zone is approximately 1 foot. The composition of the zone is estimated at 50 percent plagioclase, 40 percent quartz, 4 percent

muscovite, and accessory tourmaline, apatite, and beryl. Beryl is concentrated in the outer one foot of the zone. The average grade of the beryl-bearing portion of the zone is from 3 to 4 percent. All the beryl crystals are relatively small - less than 4 inches in diameter.

The core has a maximum thickness of about 30 feet and an average thickness of approximately 28 feet. It is composed of 44 percent quartz, 44 percent perthite, 7 percent plagioclase, 2 percent muscovite, 1 percent lithiophilite, and accessory tourmaline, apatite, and columbite-tantalite. The average grain size of the zone is 2 feet. Individual crystals of perthite have maximum dimensions of 6 feet. The plagioclase forms fine-grained sugary masses and also radiating masses of cleavelandite. Very thin blades of columbite-tantalite are associated with part of the cleavelandite. Beryl was not found in the core, but it is possible that large crystals have been removed from the faces during the course of the mining.

Reserves and recommendations for Pegmatite No. 1

The wall zone of the pegmatite is estimated to contain from 500 to 800 pounds of beryl per foot of depth. Probably only about 25 percent of the total could be hand-cobbed. It is possible that large crystals occur in the core, but none were found and hence reserves were not computed.

The muscovite contains such a high percentage of scrap that no reserves were computed. The grade and quality of the mica may improve with depth. Columbite-tantalite occurs in such small plates and limited areas that no substantial reserves are inferred.

It is recommended that the exploration loan be denied for this pegmatite. Previous work has disclosed sufficient quantities of feldspar, beryl, and scrap mica above the tunnel level that this pegmatite could be mined at

present. The structure of the exposed pegmatite indicates that profitable mining could be carried out for a depth of 50 feet below the present workings.

Pegmatite No. 2

This pegmatite has a length of approximately 65 feet and a width of 30 feet. All contacts are poorly exposed and very irregular. The structure and plunge are doubtful, but it is believed that the pegmatite is roughly oval in shape and plunges steeply to the southeast.

The zoning is not as well developed as in Pegmatite No. 1. A fine-grained wall zone ranges in thickness from a few inches to 5 feet. It consists mainly of plagioclase, quartz, mica, and accessory tourmaline, apatite, and beryl.

The central portion or core is composed of 45 percent quartz, 42 percent perthite, 4 percent plagioclase, 2 percent muscovite, and accessory tourmaline, lithiophilite, beryl, and lollingite. The perthite is coarse-grained and the quartz is massive and medium-grained. Muscovite occurs in 1-inch books, mostly of scrap quality. Beryl is probably considerably less than 0.5 percent of the total core and occurs as small crystals. The largest crystal observed was 3 inches in diameter.

Reserves and recommendations for Pegmatite No. 2

The reserves of beryl are probably from 200 to 600 pounds per foot of depth. The small size of the observed beryl indicates that the recovery would be about 25 percent. The mica is mainly of scrap quality and no reserves of strategic mica are anticipated.

It is recommended that the application for exploration be denied on the grounds that sufficient quantity of feldspar, scrap mica, and beryl are exposed so that mining could be undertaken without further exploration.

It is believed that another bench could be mined across the pegmatite with expectation of a profit.

Further mining at depth would be more expensive and might be unwarranted after the above mentioned mining was completed.

Pegmatite No. 3

This pegmatite is a lenticular-shaped pod, approximately 50 feet long by 20 feet thick. A 15-foot deep open cut has exposed the center of the pegmatite. The side contacts are steeply dipping and the apparent plunge is steep to the southeast.

A wall zone, averaging 2 feet thick, is composed of medium-grained plagioclase-quartz-muscovite pegmatite. Two or three small beryl crystals, less than 1 inch in diameter, are exposed in the outer edge of the zone.

The core averages about 7 feet in thickness and consists of equal amounts of coarse-grained perthite and massive quartz.

Reserves and recommendations for Pegmatite No. 3

The grade of the beryl in the wall zone is very low - less than 0.1 percent. The beryl recovery would be extremely small. The mica is of scrap quality and of a limited quantity.

It is recommended that the exploration loan be denied for this pegmatite. The low grade of the beryl and the poor quality of the mica, plus the lack of any indication that the pegmatite increases in size with depth, indicates that the pegmatite is a poor risk for further exploration.

Pegmatites 4, 5, and 6

These pegmatites are narrow sill-like bodies that are poorly zoned or unzoned. They are very similar to the many homogeneous pegmatites that occur in the area. An inspection of the outcrops indicates that it would

be unwise to explore them further. The possible inferred reserves of beryl and mica are too small to warrant exploration. It is recommended that the exploration loan be denied.

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

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Rm. 3538

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=Int'l Letter Telegram

VLT=Int'l Victory Ltr.

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

MA415

M.MWA943 PD=MINNEAPOLIS MINN 1 300P= 1951 AUG 1 PM 4 46

ROBERT WASKEY, DEFENSE MINERAL ADMN=

ROOM 3538 INTERIOR BLDG WASHDC=

HOLD UP ON DOCKETS 1262X AND 1556X. NEW REPORTS ON WHICH ENGINEER AND GEOLOGIST AGREE ARE TO BE SUBMITTED FROM FIELD IN FEW DAYS. AVERAGE CONTRACT DRILLING PRICE FOR NX SIZE IS $5.50 TO $6.00 AND FOR BX ABOUT $5.00. THIS COST IS TO CONTRACTOR FOR DRILLING ONLY DOES NOT INCLUDE ANY EXTRA AND IS EXCLUSIVE OF OTHER COSTS SUCH AS BOXES SUPERVISISION ETC TO GOVERNMENT=

A B NEEDHAM FIELD TEAM REGION 5=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

AUG 2 7 52 AM '51

MAIL ROOM
WASHINGTON, D. C.

AUG 1 PM 5 05

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
~~JUL 30 1951~~
LAMOON E. SINOBEL
Executive Secretary

FILE COPY
SURNAME:

Barr
McKnight for
Moon Rowe

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

Docket mailed JUN 27 1951

E. H. Johnston Company
Canyon Lake Drive
Rapid City, South Dakota

Subject: DMA-1262I - Beryl-Mica

Gentlemen:

Your application is being referred to Mr. A. B. Needham, 426 Plymouth Building, Minneapolis, Minnesota, Executive Officer of the Field Team, Region V, for further information.

Sincerely yours,

Tom Lyon, Director
Supply Division

RW:dak

cc: Mr. Strobel
Mr. Barr
Administrator's Reading File
Field Team
DMA Files

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

JUN 27 1951

Mr. A. B. Needham
426 Plymouth Building
Minneapolis, Minnesota

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Docket No. 1262X

Commodity Beryl-Mica

Applicant E. H. Johnston Company, Canyon Lake Drive, Rapid City, South Dakota

Please expedite the consideration of this application with particular reference to the points noted in the attached "Review."

Very truly yours,

Tom Lyon

Tom Lyon, Chairman
Coordinating Committee

Lowell B. Moon
For Bureau of Mines

Edwin T. McKnight
For Geological Survey

Dma - 1262X
Barr

E. H. JOHNSTON COMPANY

General Contractor

Rapid City, S. Dak.

CANYON LAKE DRIVE

PHONE ~~3287-W~~ 2846-W

Air Mail

June 12, 1951

Defense Minerals Administration

Washington 25, D. C.

Att: Mr. James A. Barr
Industrial Minerals Branch

Dear Mr. Barr:

Find attached LANDLORD'S SUBORDINATION AGREEMENT signed by Mr. Clyde Cessna, the owner of the property described my application DMA-1262X.

Sincerely yours,

E. H. Johnston

FILE COPY
SURNAME:

Barr

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

June 5, 1951

Mr. E. H. Johnston
Canyon Lake Drive
Rapid City, South Dakota

Dear Mr. Johnston:

Subject: Docket DMA-1262X

Regarding your application for aid for an Exploration Project on the Glendale Mine dated May 17, 1951, and docketed as DMA-1262X, it is necessary that you have executed and furnish three copies of Landlords Subordination Agreement, form DM-202, in order to enable us to process subject application.

Sincerely yours,

James Barr

JAB

James A. Barr, Sr., Chief
Industrial Minerals Branch

Enclosure

RWASHBY:mp

cc: Mr. Strobel
Mr. Barr
DMA Files

FILE COPY
SURNAME:

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

May 31, 1951

Mr. E. H. Johnston,
Owner
E. H. Johnston Company
Canyon Lake Drive
Rapid City, South Dakota

Subject: DMA-1262X
Re: Exploration Loan
Glendale Mine

My dear Mr. Johnston:

Receipt is acknowledged of your application and attachments of May 12, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1262X and was referred to Mr. James A. Barr, Chief, Industrial Minerals Branch on May 28, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1262X.

Sincerely yours,

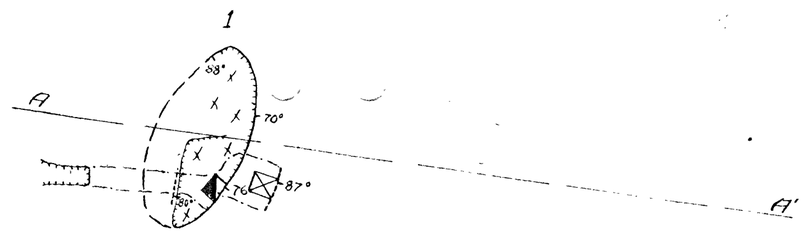
LANDON F. STROBEL jhs

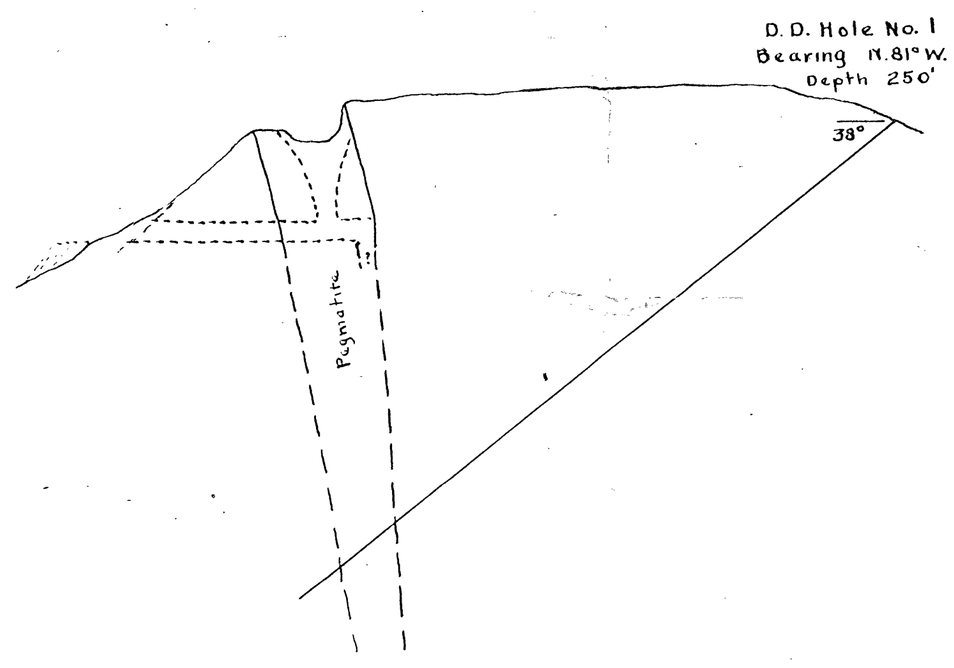
Landon F. Strobel
Executive Secretary

LFSTROBEL:jhs
cc: Strobel-2
Files
Barr
Lyon

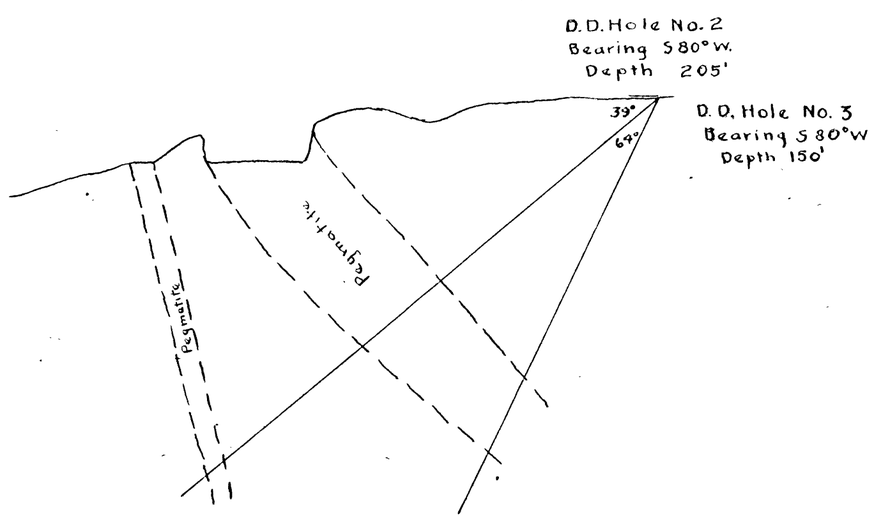
DMA 1262 X

856

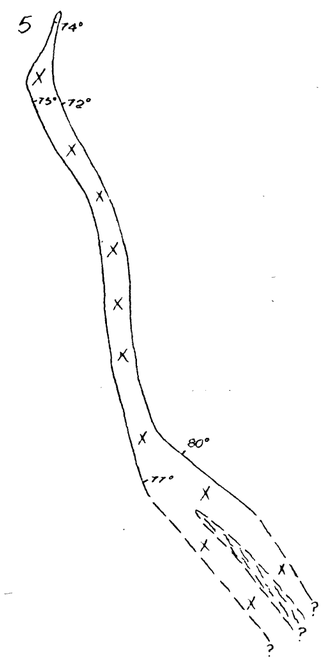


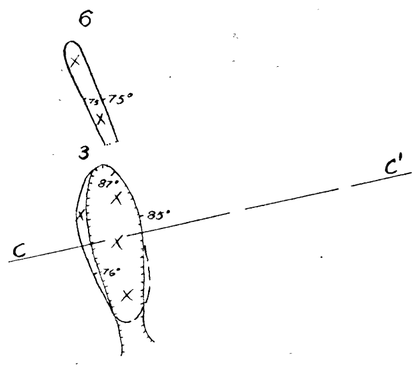


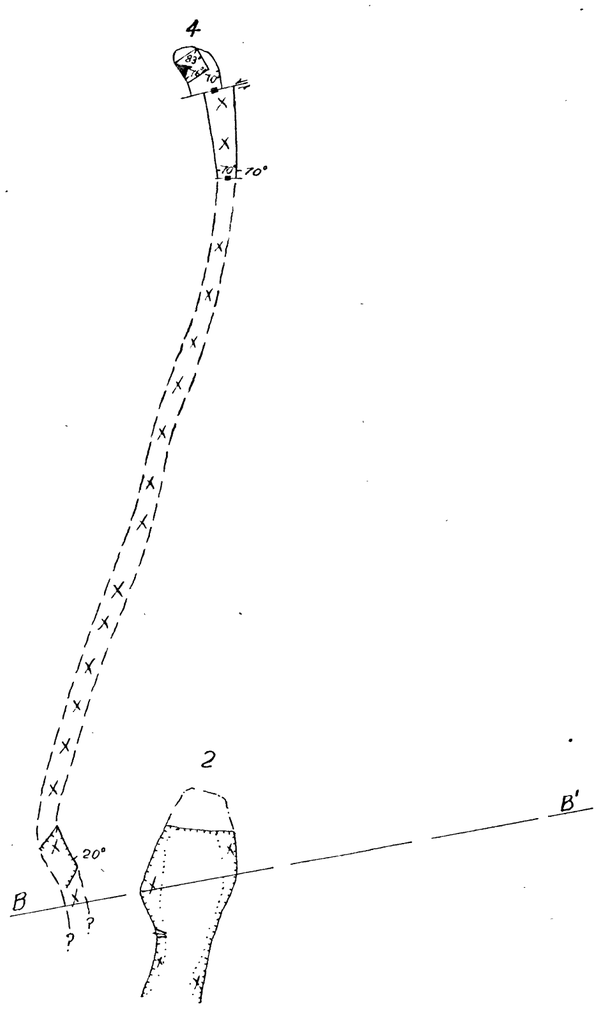
Section A-A' (mine workings projected to section)



Section B-B'







EXPLANATION

Pegmatite

75° Pegmatite Contact, Showing Dip

Concealed Pegmatite Contact

Approximate Pegmatite Contact

? Inferred Pegmatite Contact

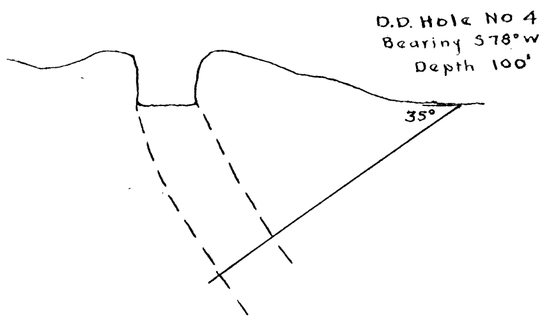
Underground Workings

Vertical Shaft

Foot of Winze

Rim of Excavation

Strike of Vertical Joint

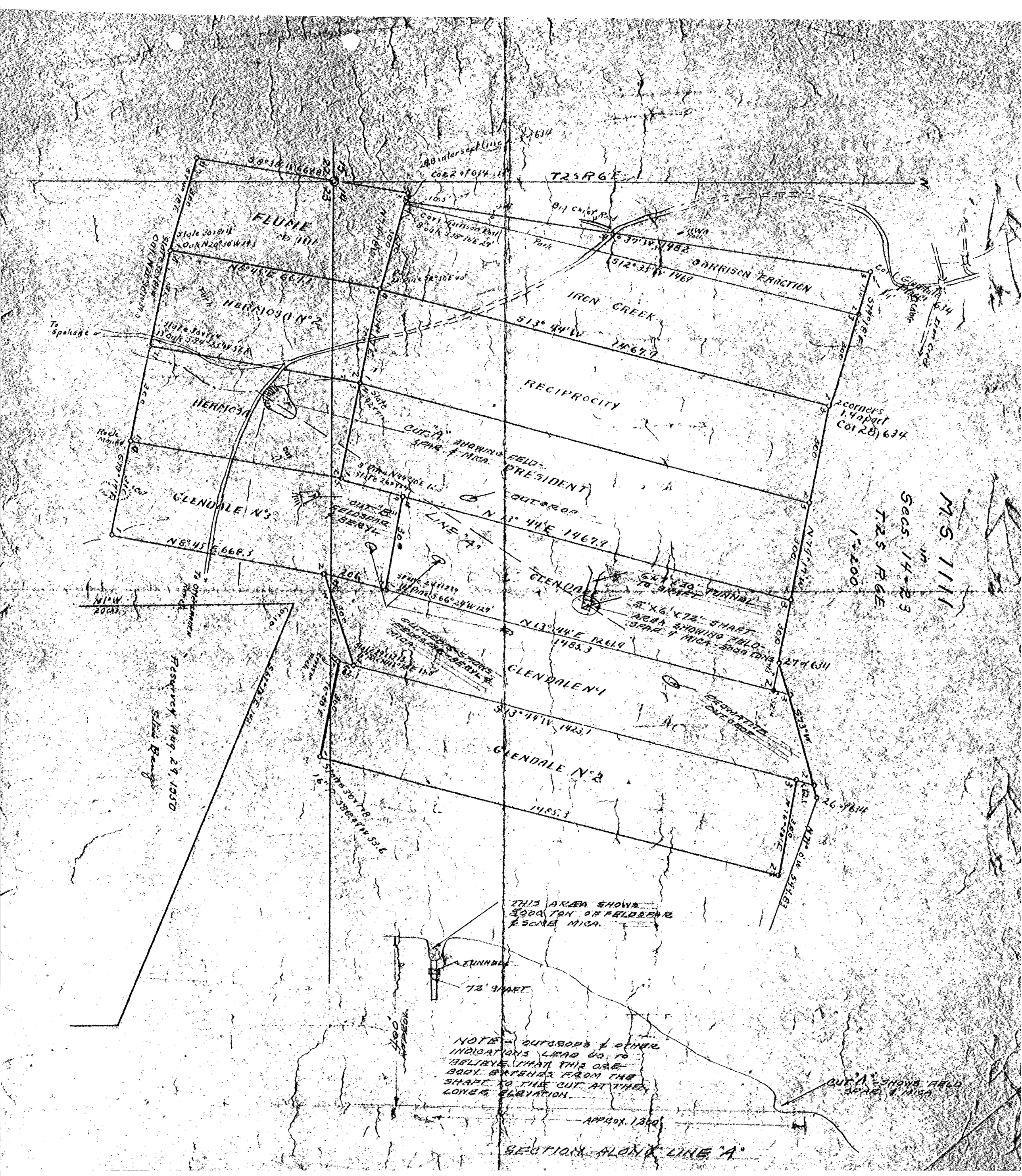


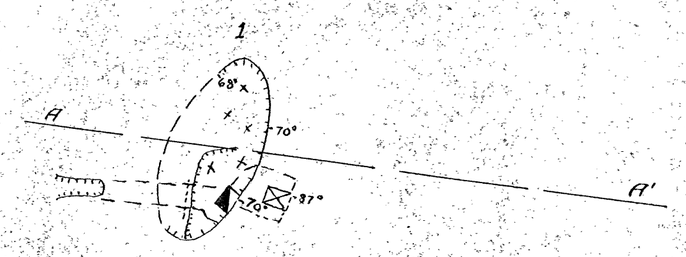
Section C-C'

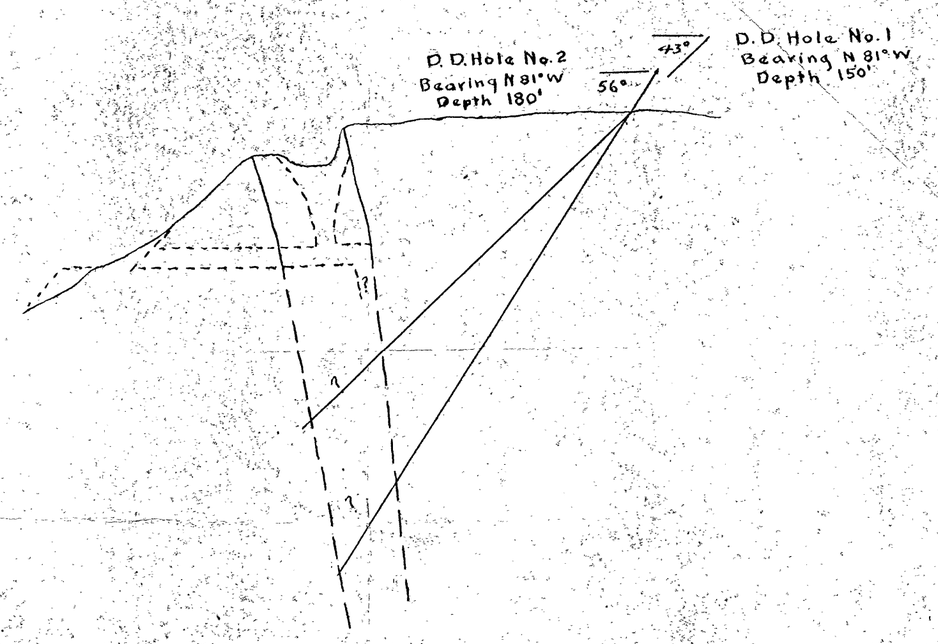
Scale

40 20 0 40 80 120 feet

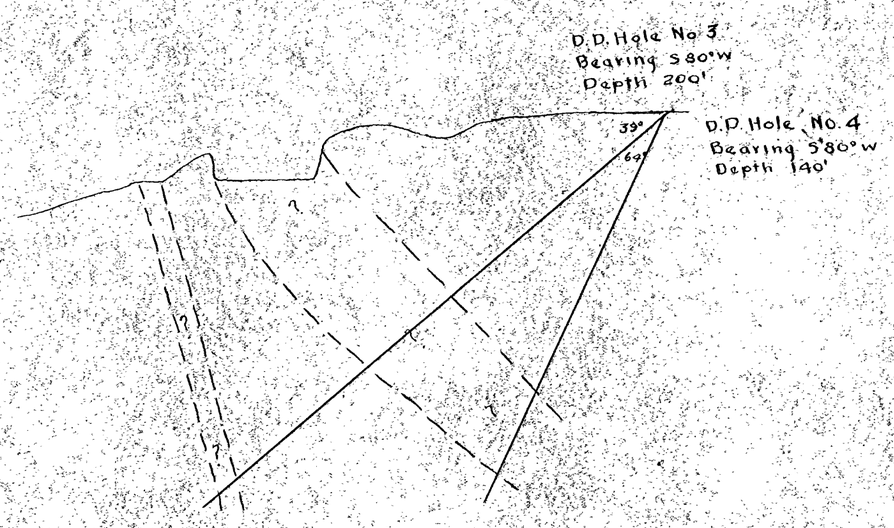
GLENDALE PEGMATITES, PENNINGTON COUNTY, SOUTH DAKOTA


T25R6E
FLUME No 1111
HERRICSA No 2
HERRICSA
GLENDALE No 3
GLENDALE No 1
GLENDALE No 2
IRON CREEK
RECIPROCITY
PRESIDENT
GARRISON FRACTION
Big Chief Road
To Spokane
Cut "A" SHOWING FELDSPAR & MICA
Cut "B" FELDSPAR & BERYL
LINE "A"
6'x6'x30' TUNNEL TO SHAFT
5'x6'x72' SHAFT AREA SHOWING FELDSPAR & MICA 5000 TONS
PEGMATITE OUTCROP
N 13° 44' E 1467.9
S 13° 44' W 1467.9
N 13° 44' E 1261.9
S 13° 44' W 1423.1
N 8° 45' E 668.3
S 8° 45' W 1468
S 12° 35' W 1482
Reservoir Hill 29 1950
Silas Berry
THIS AREA SHOWS 5000 TON OF FELDSPAR & SOME MICA.
TUNNEL
72' SHAFT
400' APPROX.
NOTE - OUTCROPS & OTHER INDICATIONS LEAD US TO BELIEVE THAT THIS ORE-BODY EXTENDS FROM THE SHAFT TO THE CUT AT THE LOWER ELEVATION.
CUT "A" - SHOWS FELDSPAR & MICA
APPROX. 1300
SECTION ALONG LINE "A"
Secs. 14-23
T.25 R.6E
1" = 200'
M.S. 1111

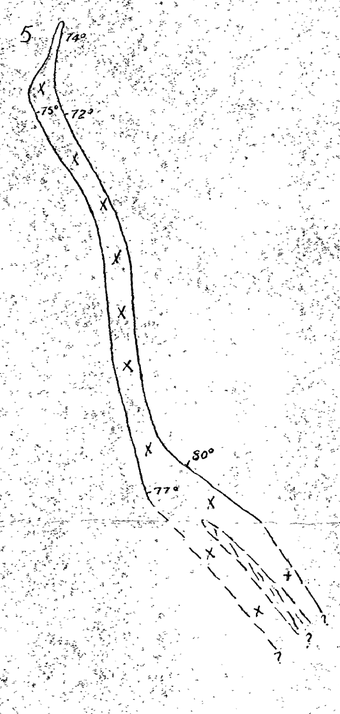


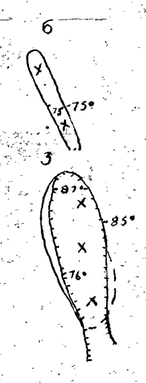


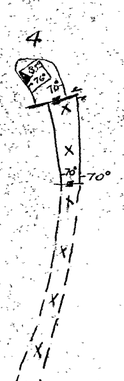
Section A-A' (mine workings projected to section)

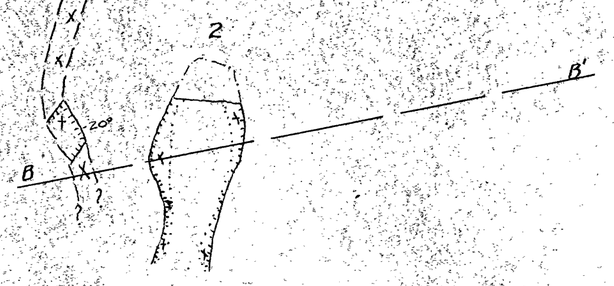


Section B-B'









EXPLANATION

Pegmatite

73° Pegmatite Contact showing Dip

Concealed Pegmatite Contact

Approximate Pegmatite Contact

? Inferred Pegmatite Contact

Underground Workings

Vertical Shaft

Foot of winze

Rim of Excavation

Strike of Vertical Joint

Scale

40 20 0 40 80 120 feet

GLENDALE PEGMATITES, PENNINGTON COUNTY, SOUTH DAKOTA