UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

~~Terminated~~ ~~(or cancelled)~~ without certification. DMEA No. 1556

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 _____

Reviewer's Initials

7973

IF-200
(June 1951)

Docket No. DMA 1556X
Commodity Beryl Mica
Idm-Ell1

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]

RECEIVED OCT 15 1951 G.A.O.

It is agreed this 13th 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] Walter S. Clifford
Custer, 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] Jumbo Lode claim, N½ Sec. 34, T.2S., R.6E.

MAY 5 1951

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

(*a*) That he is the sole owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached: None

(*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; 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] nine (9) 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 $12,149.10, which is 90 percent of the agreed estimated total cost of this project, $13,499.00.

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.

Walter S. Clifford
(Operator)

By _____

THE UNITED STATES OF AMERICA

By C D Mattendorf
Director, Production Expansion Div.
Defense Minerals Administration

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

The Walter S. Clifford Prope[illegible].
Exploration Project Contract.
The Jumbo Lode Pegmatite.

Exhibit "A"

Exploration Project.

Time Schedule Month.		Stage A*.
1st thru 4th	1.	To drill a maximum of four (4) holes, BX core, ranging from 180 to 320 feet but not aggregating over 1,000 feet. The drilling is to be contracted and the holes are to be drilled where designated by the Government. The drilling may be terminated by the Government at the completion of any one of the four holes.

Stage B*.

5th thru 9th	1.	To drive 300 feet of crosscut to explore the deposit. This work to be undertaken only after completion of Stage "A" to the satisfaction of the Government. The exact location of the crosscut will be determined by the Operator upon the basis of the results of the drilling, subject to approval by the Government.

* As indicated in Section 4 of the contract, all sub-contracts are subject to Government approval.

The proposed work and the estimated cost thereof is as follows:

Stage A.

1.	1,000 feet of drilling @ $5.75 per foot	$5,750.00
		$5,750.00

Stage B.

1.	300 feet of crosscutting @ $12.18 per foot for labor and supervision and preparation. Crosscut to be 5 x 7 feet in cross section	$3,654.00

Fixtures and Improvements.

1.	Rail (± 600'), pipe (300')	$512.00
2.	Construct 1 tool house and shelter	300.00
	Sub-total	$812.00

Operating Equipment and Supplies.

Stage A.

1.	Core boxes, etc., to be purchased.	$250.00

Stage B.

To be rented.

1.	Portable gasoline powered, 110 cfm compressor complete @ $120.00 per month	$600.00
2.	Mine car, hand tools, etc., @ $20.00 per month	100.00
	Sub-total	$700.00

To be purchased.

1.	One drill and mounting	$600.00
2.	Ventilating fan with motor	400.00
3.	Ventube	45.00
4.	Steel and bits	325.00
5.	Carbide, drill parts, etc.	163.00
6.	Gasoline, oil and grease	800.00
	Sub-total	$2333.00

Summary of Expenditures.

Stage A.

Diamond drilling	$5,750.00
Supplies	250.00
Sub-total	$6,000.00

Stage B.

Crosscutting 300 feet, labor & supervision	$3,654.00
Fixtures and Improvements	812.00
Operating equipment and supplies, rented	700.00
Operating equipment and supplies, purchased	2,333.00
Sub-total	$7,499.00
Grand total	$13,499.00

Government participation is 90 per cent or $12,149.10

Labor and Supervision.

1. The following labor will be employed at the rates shown:

1-Working foreman	@ $1.50 per hour
1-Miner	@ $1.50 per hour
1-Mucker	@ $1.25 per hour

Rehabilitation and Repairs.

Repairs are included in the above costs.

DMA-1556X

Exhibit "A"

Stage "A"

Diamond drilling to a maximum total of 1000', BX core, or larger, will be undertaken at approximate locations shown on attached map and cross-sections. Individual holes may vary from 180' to 320' each.

The purpose of the drilling is to establish whether or not tunnel work is justified and will be continued only to the extent necessary for Field Team to render a decision. The drilling may be terminated by Field Team at the completion of any one of the four holes, in other words, at the discretion of the Field Team, Stage "A" may consist of 1, 2, 3, or 4 drill holes and may total any amount of drilling from 180' to 1000'.

Drilling will be by contract; Operator will handle cores and core testing with the advice and supervisory assistance of Field Team. Total allowable cost - $6,000, time limit - 4 months.

Recapitulation of Costs

1000' Diamond drilling	@ 5.75 per ft	$ 5,750.00
Core handling, testing, core boxes, etc.	@ .25 per ft	250.00
Total		$ 6,000.00

Stage "B"

Subject to satisfactory completion of Stage "A" and approval by Field Team, an approximately 5' x 7' crosscut tunnel will be driven a maximum length of 300' to explore the deposit. The exact location of the crosscut will be determined by results of Stage "A" drilling and will be mutually satisfactory to Operator and Field Team. Total allowable cost $8.700, time limit - 5 months.

Labor - 300'	@ $11.33 per ft	$ 3,400.00
Supervision 300'	@ 4.00 per ft	1,200.00
Equipment 300'	@ 5.82	1,745.00
Supplies 300'	@ 6.00	1,800.00
Preparatory & Misc. 300'	@ 1.85	555.00
Total cost 300'	@ 29.00	$ 8,700.00

Note: The above labor and supervision charges will include payroll taxes and insurance.

Contracts

Stage "A"

Drilling will be done by contract at a maximum rate of $5.75 per foot.

Stage "B"

If the Operator so chooses, and with approval of Field Team, the driving of the cross-cut tunnel may be contracted at a rate not to exceed $29.00 per foot total cost.

Fixtures & Improvements

Stage "A" - Not applicable.

Stage "B" - 1 Tool house & shelter, frame construction, about 8' x 10' inside dimensions $300.00

Equipment and supplies

Stage "A"
Minor supplies, such as core boxes, included in item:
Core boxes, handling, testing, etc. $250.00

Stage "B"
Rental: 1 - Portable, gasoline powered 110 CFM compressor, complete, @ $120 per month 600.00
1 - Mine car, hand tools, etc. @ $20.00 per month 100.00
$700.00

Purchase:

1 - Drill and Mounting ✓	$600.00	
1 - Ventilating fan complete with motor ✓	400.00	
Ventube ✓	45.00	
Pipe	112.00	
Track	400.00	
Steel & bits ✓	325.00	
Carbide, drill parts, etc.	163.00	
Gasoline, Oil, Grease	800.00	
	$2,845.00	$2,845.00**

Labor and Supervision

Stage "A" - Not applicable as all necessary expenses included in contract.

Stage "B"
1 - Working Foreman @ $1.50 per hour
2 - Miners @ 1.50 per hour
1 - Mucker @ 1.25 per hour

Note: The above rates do not include overtime, payroll taxes and insurance.

Form MF-103
(April 1951)

U. 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-1556 X

Date received 6/4/51

Participation

Walter S. Clifford
Custer
South Dakota

Name and address of applicant

Date May 28,1951

FILL IN THIS BLOCK

Date of application May 28, 1951

Estimated cost $ 17,374.00

Mineral or metal Beryl, Columbium-Tantalum, Mica, and possibly Tin.

Percentage of Government participation 90%

Location of mine Seven miles southeast of Keystone, S. Dak.

Date of filing MF-100 None filed

DMA Docket Number, if available None available

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?
*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.
*5. Are you the owner or the lessee of the property?
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.

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.
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)?

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

    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.

*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.

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

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

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

*16. History:
    (*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:

	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.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

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?

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.

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.
    (*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.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*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.

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.

Individual
(Name of company)

By Walter S. Clifford
Walter S. Clifford (Signature of authorized official)

May 28, 1951
(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

SUPPLEMENTAL TO FORM MF-103

Walter S. Clifford
Application

THE APPLICANT

1. Individual.

2. Not a partnership.

3. Unincorporated.

4. Twenty years experience as miner and operator in pegmatite mining.

5. Owner.

6. None.

7. Not a lease.

8. Assessment work is only work done on the property to date, no minerals have been sold by owner.

9. Applicant prepared to invest 10% of cost.

THE PROPERTY

10. (a) Pegmatite dike running 900' along lode line, and approximately 400' wide. Open cut about 35' long and 14' wide with a 35' face. This work was accomplished in doing assessment work.

(b) The Jumbo Lode is situated about 7 miles south east of Keystone and about one mile south west of the Spokane Mine. Said Jumbo Lode was located on the 1st day of July 1946 and is recorded with the Custer County Register of Deeds on page 302 in Book 17 of Locations.

11. Present name is the Jumbo Lode, no former name.

12. Seven miles over a graveled highway to Keystone, a spur on the C. B. & Q. Railroad, or about fourteen miles to the same point over an oiled highway U. S. No. 16. A railroad can also be reached in seventeem miles at Custer over four miles of a graveled highway and thirteen miles of oil. All road open the year around.

13. The only water necessary will be for cooling motors and air compressor, and for drilling. Spokane runs the year around and is about one fourth mile from the property.

14. Ore bin built last year with the expectation of producing some feldspar but operation was never started.

SUPPLEMENTAL TO FORM MF-103

Walter S. Clifford
Application

THE PROPERTY Cont'd

15. Ore could be shipped over the C. B. & Q. Railroad either from Keystone or Custer, South Dakota. No milling facillities are presently available.

16. (a) Property was formerly in the Game Sanctuary and not open to location until recently. The only work accomplished to date is the assessment work. No production and consequently no work has been suspended.
(b) Two properties within one fourth mile of the property have been operated for feldspar.
(c) Due to recent location and the fact that only assessment work has been done to date, no maps or metalurgical investigations have been made. The assessment work has revealed showings of beryl, columbium-tantalum, mica, and feldspar.

17. No production.

18. No figures are available in this category.

19. There are no conditions or circumstances that have not been revealed by former questions.

THE EXPLORATION

20. Beryl, columbium-tantalum, mica, and possibly tin (casserite).

21. 400' tunnel, 600' of cross-cuts, 100' incline raise for air. Time required will be approximately forty six five day weeks.

22. The geological basis for the proposed exploration is the fact that pegmatite dikes generally carry such minerals as named in question No. 20, and also that the assessment work has disclosed these minerals in this dike. The tunnel will cut the width of the dike to endeavor to locate the ore zones. The cross-cuts will follow these zones to determine the extent of the enrichments. The enclosed sketch has been made without aid of compass and will be without correct directions, and without being able to locate cross-cuts in relation to ore zone. All measurements are approximate.

No assay maps or sample list have ever been made or taken. Pertinent data generally referring to the Southern Black Hills pegmatites is the fact that the Black Hills has been a leading domestic producer of the above named minerals.

SUPPLEMENTAL TO FORM MF-103

Walter S. Clifford
Application

THE REQUIREMENTS AND COSTS

23.	(a)	Two miners @ $24.00 per day	$ 5,520.00
	(b)	Owner supervising and mining @ $12.00	2,760.00
	(c)	None.	0.00
	(d)	None	0.00
	(e)	Jack Leg Water Head Drill	850.00
	(f)	None	0.00
	(g)	Air Compressor, Mine Cars, Small Tools @ $7.00 per day	1,610.00
	(h)	Powder, Caps, Carbide, Bits, Rails, Pipe	4,754.00
	(i)	Gasoline and oil	1,880.00
		Total Cost	$17,374.00

24. The time requirement is based upon driving the work at the rate of 24' per week. This would require 46 five day weeks or 11½ four week months.

Note: The labor costs are computed at present rates but as these rates are much higher in surrounding territory, a protracted delay in getting this work started will see many men going to these higher pay areas.

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.

FILE COPY
SURNAME:

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

MAR 21 1952

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

Subject: Docket No. DMEA-1556 - Beryl
Walter S. Clifford
Pennington County, South Dakota
Contract Idm-E141

Dear Mr. Needham:

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

This contract has been formally terminated by the applicant because he has been unable to obtain a drilling contractor, and has started to mine on the pegmatite.

Sincerely yours,

SIGNED cc 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. Needleman, 3526
Mr. Norton, G-232, GSA Bldg.
Mr. Houk

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 14, 1952

Memorandum

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

From: Executive Officer, Field Team, Region V

Subject: Docket DMEA-1556x, Contract Idm-E141, Walter S. Clifford Custer, South Dakota

Mr. Walter S. Clifford, signatory of the subject contract, has decided to cancel his contract.

One difficulty Mr. Clifford has had since the contract was consummated has been that of obtaining a drill contractor. The M. F. Fillmore Drilling Co., which is a one-man company, is the only drill contractor in the Black Hills and all of the drill work in connection with the various exploration contracts is dependent on his doing it. Fillmore is booked up pretty solid right now, and Clifford will probably go right ahead and mine the deposit for what he can get out of it.

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

MAR 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

Files

February 25, 1952

Memorandum

To: Lawrence G. Hauk, Chief, Non-Metallics Mineral Division
Through: Operating Committee, DMEA, Interior Bldg., Washington, D.C.

From: Executive Officer, Field Team, Region V

Subject: Docket DMEA-1556x, Contract Idm-E141
Walter S. Clifford

Reference is made to your memorandum of February 21, 1952.

Preliminary excavation necessary for drill site was begun the latter part of October 1951 by the operator while waiting to negotiate a drilling contract with the only drill organization in the Black Hills, or while waiting to acquire a drill rig, and nothing has been done since then.

Information received this morning Feb. 25, 1952 from our Rapid City office advises, "No information has been received regarding drilling contract. The operator has started to mine the deposit."

Completion date was set at June 13, 1952, so operator is within the completion dateof contract thus far.

Further advise will be relayed as we receive it.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 28 1952

FILE COPY
SURNAME:

Chapman

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

600

FEB 21

Mr. A. B. Needham
Executive Officer, Region V
Bureau of Mines
2908 Colfax Avenue, South
Minneapolis 8, Minn.

Subject: Docket No. DMRA-1556
Beryl
Walter S. Clifford
Pennington Co., So. Dak.

Dear Mr. Needham:

Our files show that a contract Idm-M141, dated September 13, 1951, was granted to Walter S. Clifford, Custer, South Dakota. We have not received any further data on this project and if possible we would like to know the status of same, so that we may bring our files up to date.

Sincerely yours,

2/21

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

TLChapman:mp
2/20/52
cc: Adm. Reading File
Docket File
Mr. Houk
Mr. Chapman
Mr. Needleman, B/M
Mr. Norton, USGS

400

FILE COPY
SURNAME:

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

Selfridge
Mittendorf

a.e.c

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

Re: Docket DMA 1556X
Exploration Project Contract
Idm-E 141
Walter S. Clifford
Custer, South Dakota

Gentlemen:

Enclosed for recording in your office is the original, signed copy of an Exploration Project Contract executed between the operator named in the above reference and the Government of the United States.

Sincerely yours,

C. O. Mittendorf (ZH) 10/12

C. O. Mittendorf, Director
Production Expansion Division

Enclosure-1
GCSelfridge/hmj
cc to: Adm Reading File
Reports and Records
Mr. Mittendorf, Mr. Olund
Docket
Mr. Selfridge
Chron.

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

October 1, 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 1813-X - Michaud and Stratton
Exploration Contract No. - Idm-E-140

DMA Docket 1556-X - W. S. Clifford
Exploration Contract No. - Idm-E-141

Returned herewith are the original and three copies of the subject contracts, all duly signed by the operators.

One copy of each was retained by the operator and one copy by this Regional office. A copy of each was also made by our Rapid City office for their field reference and use.

Enclosures:

A. B. Needham

FILE COPY
SURNAME:

Mittendorf

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

SEP 20 1951

Air Mail

a.e.c.

Mr. A. B. Needham
Executive Officer, Region V
2900 Calfax Avenue
South Minneapolis 8, Minnesota

Re: Docket No. DMA-1556X, Beryl Mica
Walter S. Clifford property
Exploration Project Contract
Idm-1141

Dear Mr. Needham:

Enclosed herewith are the original and five (5) copies of the subject Exploration Contract which I have signed for the Government. These are to be presented to the operator for his signature. One copy of the contract is to be retained by the operator and one copy is for your files. Please return the original and the three (3) remaining copies to this office for distribution.

Sincerely yours,

C. O. Mittendorf (GCS)

C. O. Mittendorf, Director
Production Expansion Division

GCSelfridge/jem
9/12/51

cc to: Adm. Reading File
Reports & Records
Messrs. Mittendorf, Olund
Mr. Barr
Mr. Arundale
Mr. Norton
Mr. Moon
Mr. Selfridge
Field Team, Reg. V
Docket

Enclosures

APPROVED:

Tom Lyon
Chairman, Coordinating Committee

Member, Bureau of Mines

Member, Geological Survey

FILE COPY
SURNAME:

Guthrie

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

September 10, 1951

Memorandum

To: Director, Production Expansion Division

From: General Counsel

Subject: Walter S. Clifford, exploration contract DMA-1556x

The contract in the captioned case is approved as to legal form and sufficiency subject to:

1. The indication in paragraph 2(a) of whether or not there are liens against the property and if there are, the attachment of appropriate subordination agreements.

2. The substitution throughout Exhibit "A" of the word "Government" for the words "field team" wherever they occur.

3. Rewriting of the description of "Stage B" under the heading "Time Schedule" to read:

"To drive 300 feet of crosscut to explore the deposit. This work to be undertaken only after completion of Stage "A" to the satisfaction of the Government. The exact location of the crosscut will be determined by the Operator upon the basis of the results of the drilling, subject to approval by the Government."

4. Under the headings "Operating Equipment and Supplies", "Stage A", the addition after the word "etc." of the words "to be purchased."

5. Approval by the Government of all subcontracts under which any of the work is to be performed.

6. Proper signature by the applicant.

7. Proper dating before delivery.

Your file is returned herewith.

J. L. Hofflund

J. L. Hofflund
General Counsel

Attachment

RRGuthrie/em

Copy to: Reports & Records
R. R. Guthrie
J. L. Hofflund

not stripped in R+R

MEMORANDUM:

TO: Director, Production Expansion Division
Defense Minerals Administration

FROM: Director, Supply Division
Defense Minerals Administration

SUBJECT: Recommendation for Contract Approval

Name of Applicant: Walter S. Clifford
Custer, South Dakota

DMA No. 1556X

Commodity: Beryl, columbo-tantalite, mica

Amount Requested: $17,374

Amount Approved: $14,700

Government Participation: 90 % $13,230

Tom Lyon

RECOMMENDATIONS

1. That an exploration aid contract be granted in the amount of $14,700, Government participation 90%, in accordance with Exhibit "A" attached.

2. That the project be authorized in two stages, "A" and "B", Stage "A" to consist of a maximum of 1000' of diamond drilling and Stage "B" a maximum of 300' of 5' x 7' crosscut tunnel. Stage "B" will be undertaken only on satisfactory completion of Stage "A", and approval of Field Team.

3. That operator be allowed thirty days from contract date to begin work.

DMA-1556X

Exhibit "A"

Stage "A"

Diamond drilling to a maximum total of 1000', BX core, or larger, will be undertaken at approximate locations shown on attached map and cross-sections. Individual holes may vary from 180' to 320' each.

The purpose of the drilling is to establish whether or not tunnel work is justified and will be continued only to the extent necessary for Field Team to render a decision. The drilling may be terminated by Field Team at the completion of any one of the four holes, in other words, at the discretion of the Field Team. Stage "A" may consist of 1, 2, 3, or 4 drill holes and may total any amount of drilling from 180' to 1000'.

Drilling will be by contract; Operator will handle cores and core testing with the advice and supervisory assistance of Field Team. Total allowable cost - $6,000, time limit - 4 months.

Recapitulation of Costs

1000' Diamond drilling	@ 5.75 per ft	$ 5,750.00
Core handling, testing, core boxes, etc.	@ .25 per ft	250.00
Total		$ 6,000.00

Stage "B"

Subject to satisfactory completion of Stage "A" and approval by Field Team, an approximately 5' x 7' crosscut tunnel will be driven a maximum length of 300' to explore the deposit. The exact location of the crosscut will be determined by results of Stage "A" drilling and will be mutually satisfactory to Operator and Field Team. Total allowable cost $8.700, time limit - 5 months.

Labor - 300'	@ $11.33 per ft	$ 3,400.00
Supervision 300'	@ 4.00 per ft	1,200.00
Equipment 300'	@ 5.82	1,745.00
Supplies 300'	@ 6.00	1,800.00
Preparatory & Misc. 300'	@ 1.85	555.00
Total cost 300'	@ 29.00	$ 8,700.00

Note: The above labor and supervision charges will include payroll taxes and insurance.

Fixtures & Improvements

Stage "A" - Not applicable.

Stage "B" - 1 Tool house & shelter, frame construction, about 8' x 10' inside dimensions $300.00

Equipment and supplies

Stage "A"
Minor supplies, such as core boxes, included in item:
Core boxes, handling, testing, etc. $250.00

Stage "B"
Rental: 1 - Portable, gasoline powered 110 CFM compressor, complete, @ $120 per month 600.00
1 - Mine car, hand tools, etc. @ $20.00 per month 100.00
$700.00

Purchase:

1 - Drill and Mounting	$600.00	
1 - Ventilating fan complete with motor	400.00	
Ventube	45.00	
Pipe	112.00	
Track	400.00	
Steel & bits	325.00	
Carbide, drill parts, etc.	163.00	
Gasoline, Oil, Grease	800.00	
	$2,845.00	$2,845.00**

Labor and Supervision

Stage "A" - Not applicable as all necessary expenses included in contract.

Stage "B"
1 - Working Foreman @ $1.50 per hour
2 - Miners @ 1.50 per hour
1 - Mucker @ 1.25 per hour

Note: The above rates do not include overtime, payroll taxes and insurance.

Contracts

Stage "A"

Drilling will be done by contract at a maximum rate of $5.75 per foot.

Stage "B"

If the Operator so chooses, and with approval of Field Team, the driving of the cross-cut tunnel may be contracted at a rate not to exceed $29.00 per foot total cost.

FILE COPY
SURNAME:

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

370

Barr
A B Parsons

Memorandum

To: Chief, Industrial Minerals Branch, DMA

From: Chief, Programming and Planning, DMA

Subject: DMA-1556X, Walter S. Clifford, Jumbo Lode
Custer, South Dakota
Commodities: Beryl, Columbo-tantalite, Mica
Amount of loan: $14,700 - approved

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

A. B. Parsons

RWASKEY:mp 8/15/51
cc: 210
Mr. Barr
Mr. Parsons
Mr. Norton
Mr. Mittendorf
DMA Files

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

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.

Enclosures:

A. B. Needham

STANDARD FORM No. 14
APPROVED BY THE PRESIDENT
MARCH 10, 1926

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

370

FROM Department of the Interior

BUREAU of Mines

CHG. APPROPRIATION

10—1723 U. S. GOVERNMENT PRINTING OFFICE

2:55 p.m.
August 1, 1951

Mr. Robert Waskey
Defense Minerals Administration
Room 3538 - Interior Building
Washington 25, D. C.

Hold up on Dockets 1262-X and 1556-X. New reports in which engineer and geologist agree are to be submitted from field in few days.

Average contract drilling price for NX size is $5.50 - $6.00 and for BX about $5.00. This cost is to contractor for drilling only. Does not include any extras and is exclusive of other costs such as boxes, supervision, etc. to Government.

A. B. Needham
Field Team, Region V

2908 Colfax Avenue South
Minneapolis 8, Minnesota

Confirmation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 7 1951

LANDON F. STROBEL
Executive Secretary

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
for A. D. Needham

Enclosures:

RECEIVED
JUL 23 1951

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION V

DMA-1556X

Jumbo Lode, Keystone District

Custer 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 18, 1951

ON-SITE RPT.

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-1556X
Property: Jumbo Lode
Applicant: W. S. Clifford
Commodity: Beryl, mica

Conclusions and Recommendations

Exploration of the deposit, on a limited scale, is justified on the basis of the size of the pegmatite and the necessity for determining its inner structure as well as the extent and grade of the beryl-bearing zones exposed in the outcrop. The project, as outlined, is too extensive and a modified program is proposed. It is recommended that exploration consist of 1,000 feet of core drilling and 300 feet of underground openings. Initiation of underground exploration will depend on the data obtained by drilling. The cost of the project is estimated at $14,700.00 and can be completed in 8 to 9 months.

Exhibit A

The core drilling program is to include four holes, located and directed as shown on the accompanying sketch. Depth of the holes will vary from 180 to 320 feet and will total 1,000 feet of Bx size hole with a minimum of Ax size stipulated.

Drilling will be done under contract and is to be jointly supervised by the applicant and engineers of the Bureau of Mines. The work will be

started as soon as possible after notification of acceptance of the application and, if only one shift per day is worked, will require fourteen 5-day weeks or $3\frac{1}{2}$ months for completion. Drilling rate should be approximately 900 feet quarterly, or 300 feet per month with a monthly expense of $1,800 to $1,900. An estimated cost of drilling, including sampling and supervision, is $6.00 per foot, or a total of $6,000 for this phase of the exploration.

It should be understood and agreed upon before letting of the drilling contract that if, in the opinion of the Bureau of Mines, the deposit has been adequately explored at the completion of one or any number of the holes less than the four proposed, the drilling may be stopped and the contract terminated.

The second phase of exploration, or the adit, is recommended only if drilling results indicate a favorable zonal structure and an increase of the beryl content in one or more of the zones that may be mined economically for feldspar or mica.

As driving of the adit is entirely dependent on geologic data obtained from the drill holes, the distance to be driven must be arbitrarily assumed. The following estimates for time of completion and costs are based on an assumed length of 300 feet. The approximate location is indicated on the sketch.

Time of starting also depends on the first or core drilling phase of the program. If geologic information from any of the holes warrants further exploration of the deposit, the adit can be started when considered advisable. Estimated time for completion, based on one shift per day and

a 5-day work week, is 20 weeks or 5 months. The maximum time required to complete both phases of the program will be 8½ to 9 months. However, the time for completion depends on the amount of drilling and the starting date for the adit, and it is possible that the work can be completed in 7 or 8 months.

Estimated cost of the project is as follows:

Core drilling, 1,000 feet @ $6.00 per foot		$ 6,000.00
300 feet of 5' x 7' adit		
Labor	$3,400.00 = 11.33 per ft.	
Supplies	1,800.00 = 6.00	
Equipment	1,745.00 = 5.82	
Supervision	1,200.00 = 4.00	
Preparatory and miscellaneous	555.00 = 1.85	$ 8,700.00
	$ 29.00	
Total Cost		$14,700.00

Exhibit B

No buildings are on the property and a small frame shed, 8 feet by 10 feet (inside dimensions) to be used as a change room and for housing small equipment will be needed. Estimated cost $ 300.00

Exhibit C

The following items of equipment will have to be purchased:

Light weight, 45-lb. sinker and air leg with fittings	$ 600.00	
Ventilating fan	400.00	
Ventube, 150 ft., 8-inch diameter	45.00	$1,045.00
Rental on compressor and tools at $120.00 per month for the compressor and $20.00 per month for tools and small equipment (mine cars, etc.)		$ 700.00
350 feet, 1½-inch black pipe	$ 112.00	
400 feet track, 18" gauge, 16-lb. rail	400.00	
5 sets drill steel - 60 feet (2-foot, 4-foot, and 6-foot lengths)	75.00	
Detachable bits	250.00	
Carbide	16.00	
Drill parts, water needles, etc.	50.00	
Miscellaneous (10 percent approximately)	97.00	$1,000.00
Gasoline, oils, and greases, 1,000-hour operation		$ 800.00

Exhibit D

Labor and supervision:

2 miners @ $1.50 per hour	$ 2,400.00	
1 mucker @ $1.25 per hour	1,000.00	
1 foreman @ $1.50 per hour	1,200.00	
Miscellaneous	255.00	
		$ 4,855.00

Exhibit E

Rehabilitation and repairs - none necessary.

DMA Geologic Investigation of the Jumbo Pegmatite
by
R. E. Roadifer and J. A. Redden

The Jumbo Lode pegmatite is located approximately 4 miles southeast of Keystone, S. Dak., in the N½ sec. 34, T. 2 S., R. 6 E.

The pegmatite forms a topographic ridge having a maximum relief of 100 feet from the lower limit of the pegmatite outcrop to the crest. The pegmatite has the shape of a long, lenticular sill that is modified by rolls and other contact irregularities. It has an exposed length of 2,100 feet. The average width is approximately 200 feet and the maximum width is 330 feet. The average thickness is estimated at 200 feet. Most of the exposed contacts dip from 65° to 70° to the east. The pegmatite plunges steeply to the northeast.

A narrow stringer of pegmatite branches to the west from the main body, but due to the small size it was not included on the map.

The bulk of the pegmatite is composed of material that is normally classed as homogeneous pegmatite. It consists of fine-grained plagioclase-quartz-muscovite pegmatite containing coarser-grained crystals of perthite. Several small "segregations" of coarse-grained perthite-quartz-muscovite pegmatite occur at random positions in the homogeneous pegmatite. Compositional and textural banding parallel to the pegmatite contacts occurs in much of the homogeneous pegmatite.

Coarse-grained, apparent fracture filling units trend N. 42° W. across the general strike of the pegmatite. Apparently all of the fracture fillings dip 40° to 60° to the southwest. The largest of these exposed units has a maximum thickness of 30 feet and a length of 300 feet. Most of the units are smaller in size.

The fracture filling units contain poorly developed zones consisting of a wall zone and a coarser-grained core. The wall zones are variable in thickness and are characterized by medium-grained quartz-perthite-plagioclase-muscovite pegmatite. Muscovite and tourmaline are more abundant in the wall zones than in the core.

The cores of the fracture filling units consist essentially of perthite and quartz. They are estimated to contain 50 percent quartz, 45 percent perthite, 3 percent muscovite, and accessory beryl, plagioclase, and tourmaline. Most of the observed muscovite is of scrap quality. The beryl occurs as small crystals and the maximum observed size was 3 inches in diameter. An estimated 90 percent of the perthite is recoverable by present mining methods. All of the perthite is of marketable quality.

Reserves and Recommendations

The grade of the beryl in the outcrops is low - probably less than 0.1 percent. It is concentrated in the apparent fracture filling units and in small quartz stringers in the homogeneous type pegmatite. The small size of the observed crystals would indicate approximately 20 percent recovery by present mining methods. It is almost impossible to compute even approximate reserves of beryl. The grade of the beryl appears to be higher in the fracture filling units than in the homogeneous pegmatite and it is doubtful how much of the bulk of the pegmatite is fracture filling units. It is believed that the total reserves are small, even though the pegmatite is extremely large.

Most of the mica is of scrap quality and the small portion of sheet and punch is air stained.

It is recommended that the exploration be limited to testing the validity of whether or not the coarse-grained units are actually fracture filling bodies. If our interpretation is erroneous, the coarse-grained unit may represent an intermediate zone and minable zones may exist in the interior. If the exploration proves that the coarse-grained bodies are fracture fillings, there should be no further development unless the applicant believes that he can make a profit on feldspar mining of the fracture filling bodies. The coarse-grained bodies appear to be of limited lateral extent and are not overly promising for much beryl production.

DEFENSE MINERALS ADMINISTRATION
Supplement to Report of Field Examination
July 18, 1951

by

E. O. Binyon, Mining Engineer
U. S. Bureau of Mines
August 7, 1951

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

Docket No.: DMA-1556X
Property: Jumbo Lode
Applicant: W. S. Clifford
Commodity: Beryl, mica

Obviously, the amount of work recommended is excessive if, by one or two holes, the deposit can be proven to warrant no further exploration. However, on the basis of the size of the deposit and the fact that some doubt exists as to its geologic structure, it seems that a minimum of two holes, one at least, at each exposed fracture filling would be required to determine not only the extent and grade of the fractures but of the main pegmatite as well. In addition, the fact that the government can stop the work at any time it decides that further exploration is not advisable was a factor in recommending the work as outlined.

It is possible that the main body of the pegmatite is a zoned deposit and contains some beryl within one or more zones. Also, as the fractures appear to be extensive, it is not unlikely that beryl may occur within the fracture, as well as along the contact between fracture and the main body. In this event the core drilling phase of the program would be barely adequate for preliminary exploration.

Accordingly, the recommendation was made for sufficient funds to complete the work, if necessary, without making application for additional funds.

If the results from one hole are considered conclusive as to the unfavorable structure and grade of the deposit, then the work can be stopped.

In making the recommendation some consideration was also given to the difficulties that may be experienced in contracting for drilling of only a few hundred feet of hole, particularly when the work is subject to stoppage at any time. No doubt a guarantee of a minimum footage would be required and it is probable that the bid price per foot would be higher than usual.

FILE COPY
SURNAME:

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

June 20, 1951

Mr. Walter S. Clifford
Custer, South Dakota

Subject: DMA-1556X
Re: Exploration Loan
Jumbo Lode

My dear Mr. Clifford:

Receipt is acknowledged of your application and attachments of May 28, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1556X and was referred to Mr. James A. Barr, Chief, Industrial Minerals Branch on June 7, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1556X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel-2
>Files
Barr
Lyon

FILE COPY
SURNAME:

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

Barr
McKnight for Rowe
Wood

Docket mailed 6/26/51

June 19, 1951

Walter S. Clifford
Custer, South Dakota

Subject: DMA-1556X ; Beryl, Mica etc.

Dear Mr. Clifford:

Your application is being referred to Mr. A.B. Needham, 2908 Colfax Avenue South, Minneapolis 8, Minnesota, Executive Officer of the Field Team, Region V, for further information.

Sincerely yours,

Tom Lyon, Director
Supply Division

RW:mas

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

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA 1556 X

Commodity Beryl, Mica

Total Amount $19,374 ea

Govt. Participation 90%

1. Name and Address of Applicant Walter S. Clifford
Custer, South Dakota

2. Location of Property 7 miles southeast of
Keystone, Pennington County, So. Dak

3. Mineral or metal Beryl, Mica, possibly Tin. 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 We have no information on deposit.

b) Poor Field team should use standard procedures

c) None 1 ad to ore and quality—quantity.

d) Don't know—needs field examination Yes - Field examination

e) Is there an alternative and favorable project? JAR 6/25/51
(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? the owner

Does the lease have sufficient time to run to cover a future

productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? —

b) MF-202 —

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

e) Power (question 13)* No electric power available - Will require gasoline or diesel operated.

Is a field check needed on any of these points? No

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes - 20 yr. experience as miner - supervisory capacity unknown.

Is a field check needed on this point? Yes

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

a) Is the project adequately described? No

If not, are there sufficient data given so that you can describe the project? No 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 - but inadequately described - ventilation

If not, what part of it is? - raise not exploration

Is this part a worthwhile exploration project? —

d) Are the cost estimates detailed? No

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? none given

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? Yes - although none contemplated

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

c) Is a field check needed? No

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

a) Is it applicable? Yes

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

c) Are rents and charges reasonable? Appear high.

d) Is a field check needed? Yes -

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

a) Are there sufficient data? No

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 – no structures or facilities on property

b) Sufficient data? —

c) Reasonable? —

d) Field check needed? No

15. In your judgment, can the proposed work be done in the proposed time? Program too extensive – a modified program can be completed

(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? Field team should check conditions & see if property is worth exploring.

Reviewed by: [illegible]

B.A.T.

Date 6/13/81

97692

6/13/51

Docket No. D.M.A. 1556 X

Section 10 Exhibit - "A"

The project is too extensive for needs. A much smaller amount of work will determine whether or not the property has possibilities of production. No description of the definite geologic conditions & location of the proposed work is given. Work on these pegmatites is a combination of exploration & production, probably a total of 300 ft. of work would be sufficient.

The field team should decide if this property is promising enough to justify exploration & specify the best point of attack. The limit of the work can be determined after it has been under weigh for some time.

Section 11 Exhibit "B"

Some protective structures will be needed for equipment but of temporary nature only.

Section 12. Exhibit "C"

The equipment required will be simple but the price quoted for a drill appears high & the rental of the equipment of the applicant also appears high. The field team should check the condition & applicability of this equipment.

Section 13 Exhibit D.

The labor listed should be simple & the wages quoted appear reasonable. Apparently the miners will also act as workmen & the owner will care for the compressor & work on the job

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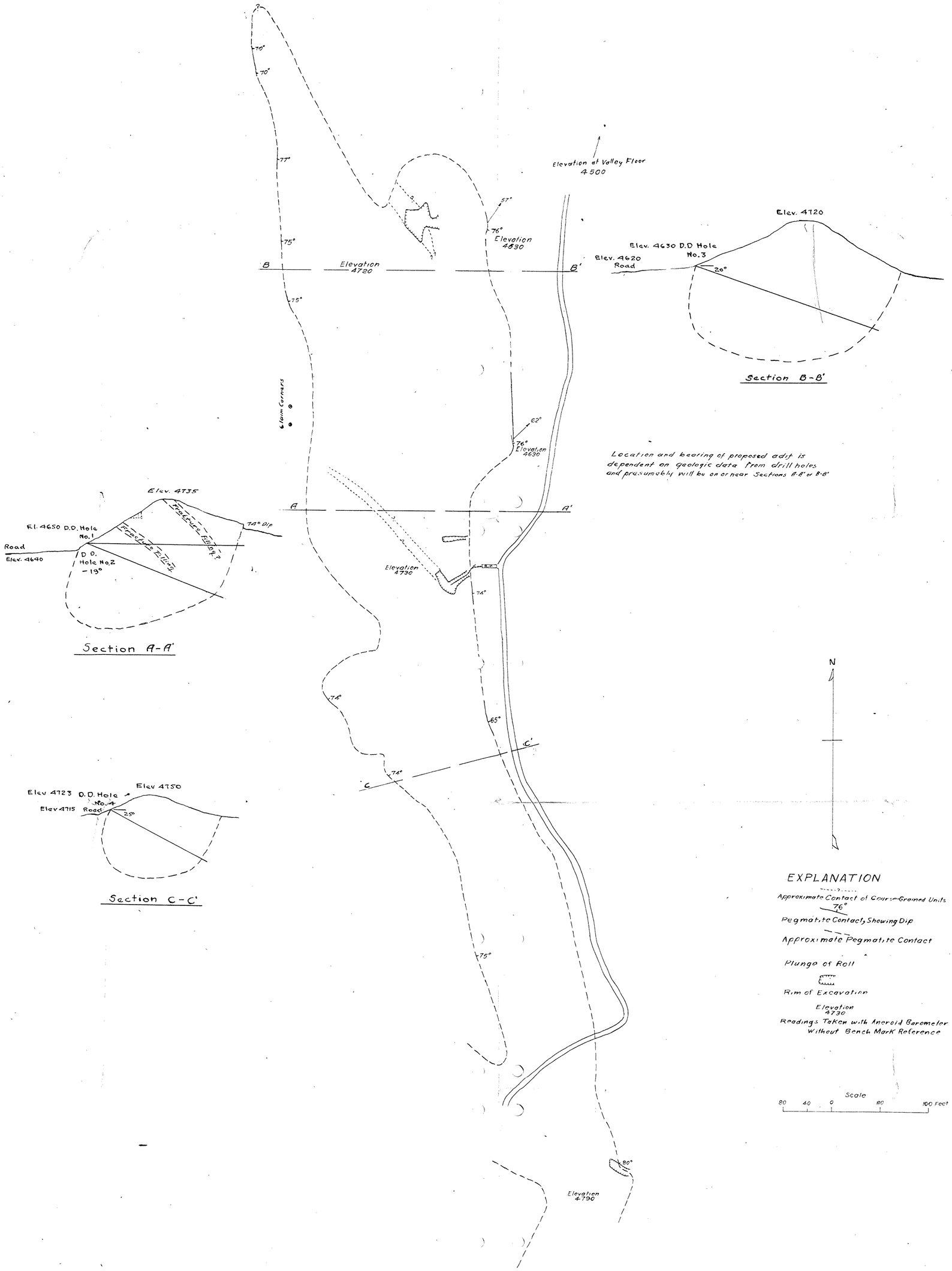
Sect 14 Exhibit "E"

No rehabilitation or repair work will be required as only an ore bin has been built on the property + that should not be needed for the exploration work

Section 16 Recommendations.

The field team should inspect this property + see if it warrants the expenditure of money for exploration. They should also request the applicant to modify his application so as to lessen the amount of work to be done



JUMBO PEGMATITE, PENNINGTON COUNTY, SOUTH DAKOTA