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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION V

[redacted]

High Climb Pegmatite, Custer District

Custer County, South Dakota

L. E. Shaffer, Mineralogist
U. S. Bureau of Mines

July 2, 1952

DEFENSE MINERALS ADMINISTRATION
Report of Field Examination

by

L. E. Shaffer, Minerals Technologist
U. S. Bureau of Mines

Docket No.: [illegible]
Property: High Climb
Applicants: Gladys Wells
Commodity: Beryl

Conclusions and Recommendations

As outlined the project is a development project. The information that might be gained does not justify the cost. It is proposed instead to explore the deposit with about 500 feet of diamond drill holes. These holes would show the continuity and the composition of the deposit at least 300 feet down-dip from the outcrop at a cost of approximately $4,000. Drilling would be at locations selected by engineers of the Bureau of Mines, who also would supervise the entire project.

Exhibit A

The High Climb pegmatite has been mapped in detail by Douglas M. Sheridan of the Geological Survey and his report is available as an unpublished thesis at the University of Minnesota. Most of the following is abstracted from that report.

The deposit is a zoned, dipper-shaped mass about 360 feet long. The main body of the pegmatite covers half of this distance; the "handle" constitutes the remainder. Dips of the main mass of pegmatite range from 30° to 70° to the west. A dip slope of about 35° overlies the pegmatite and provides a site for inclined drill holes through the deposit, which ranges from 30 to 50 feet in thickness. These holes would cut the pegmatite at least 300 feet down-dip from the outcrop.

Zones mapped in the High Climb pegmatite include a wall zone, three intermediate zones, and a central core. The wall zone is plagioclase and quartz; the core is quartz and altered sediments. Beryl is found only in the first intermediate zone, which in most places is adjacent to the wall zone. This first intermediate zone is composed of albite-quartz-muscovite pegmatite. Beryl, in grains from 1/4 inch to 12 inches in diameter, makes up 1 percent of the zone.

Production through 1940 included 100 to 150 tons of amblygonite, 100 tons of scrap mica, 150 to 180 tons of feldspar, 500 pounds of columbite, and 60 tons of beryl.

The Bureau of Mines proposes that the High Climb pegmatite be explored by drilling about 600 feet of BX (or larger) diamond drill holes. These holes would be started in the vicinity of the large dump on the west slope below the outcrop. The holes will range in depth from 150 to 300 feet, and should be inclined at 65° to 75° to cross the deposit normal to the dip.

Hole locations would be determined by an engineer of the Bureau of Mines, and the project would be under his direction.

A drilling project as outlined above should be completed in 2½ to 3 months from the time the drilling equipment arrives at the property. Drilling could start soon after the project was approved.

A monthly progress and cost breakdown follows:

Progress	Cost
First month:	
Clear road, set-up and drill 1st hole	$1,600
Second month:	
Move to site of 2nd hole, set-up, drill 2nd hole	$1,200
Third month	
Move to site of 3rd hole, set-up, drill 3rd hole	$1,200
Total Cost	$4,000

If the pegmatite lies closer to the surface than anticipated, or if thinner than indicated, shorter holes would serve. In event of either of the foregoing, additional holes could be drilled during the time allotted, to a maximum of 800 feet of hole.

Exhibit B

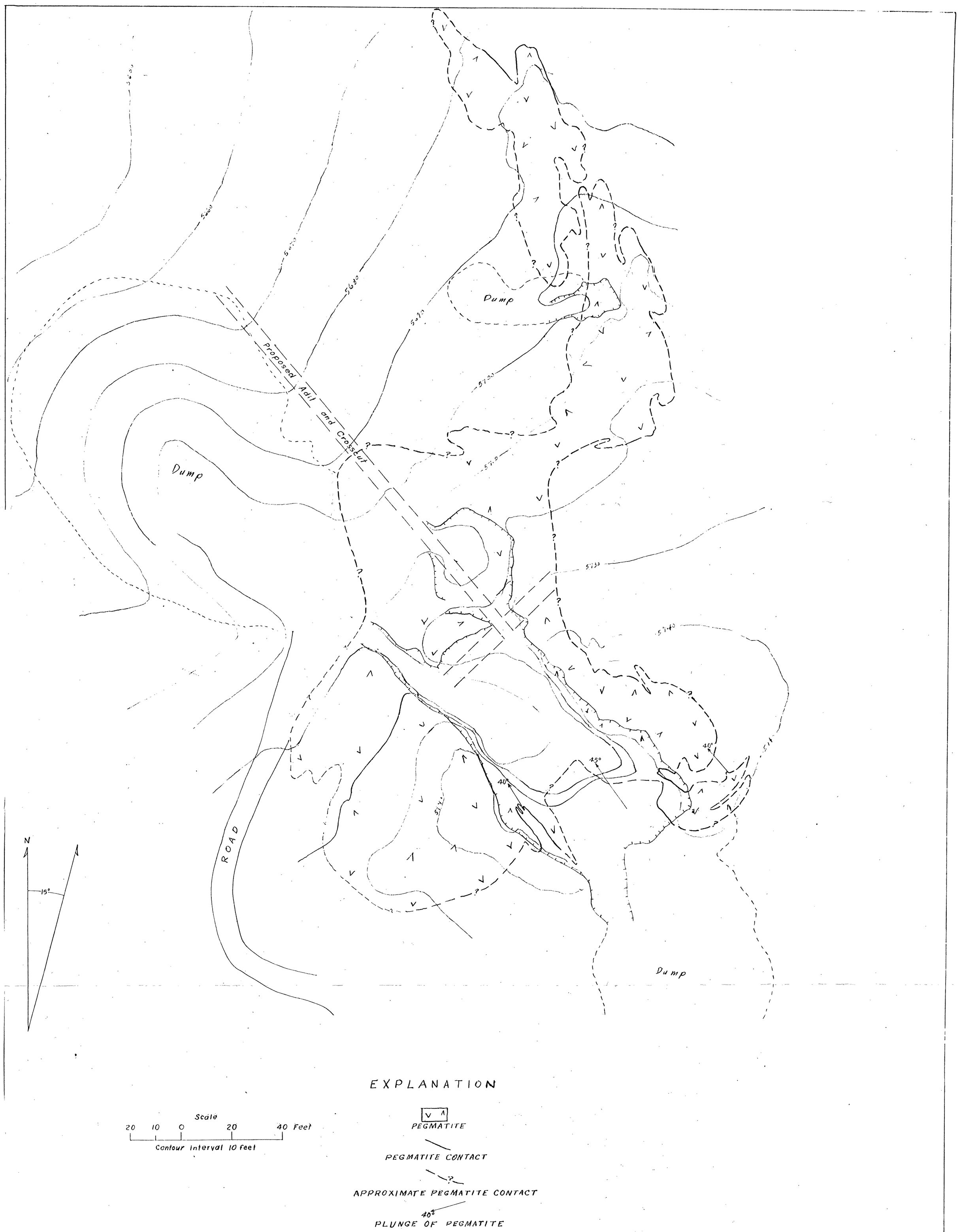
No structures or buildings will be needed for the project as outlined above.

Exhibit C

Inasmuch as the drilling would be contracted, no equipment need be purchased or rented.

Exhibit D

Labor, other than the drill crew furnished by the drill contractor, would be supervisory and engineering work. The engineer of the Bureau of Mines would include this work with his normal direction of the project.



SKETCH MAP, HIGH CLIMB PEGMATITE, CUSTER COUNTY, SOUTH DAKOTA