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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 4351

R.A.H. Exploration and Mining Company

R.A.H. Polly Ball Mine

Gilpin County, Colorado

Uranium

Joint Engineering and Geological Report

By

Frank B. Moore, Geologist
Geological Survey

Stephen Utter, Mining Engineer
Bureau of Mines

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DMEA 4355

K & H Exploration & Mining Company
K & H Jelly Roll Mine
Gilpin County, Colorado

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DMEA A355

E & H EXPLORATION AND MINING COMPANY
E & H JELLY ROLL MINE
GILPIN COUNTY, COLORADO

SUMMARY AND INTRODUCTION

The E & H Exploration and Mining Company (a joint venture) of Colorado, has applied for Defense Minerals Exploration Administration assistance in the amount of $58,800 to explore the E & H Jelly Roll Mine for uranium on three contiguous mining claims in the SW 1/4 sec. 17, T. 3 S., R. 72 W., 6th principal meridian, Gilpin County, Colorado.

The property was examined by F. S. Moore, Geologist, and Stephen Otter, Mining Engineer on August 2, 1956.

The exploration program proposed by the applicant consists of diamond drilling 2,400 feet at an estimated cost of $7 per foot, 320 feet of crosscutting and 200 feet of drifting at $50 per foot, rehabilitation of 440 feet of old tunnel at $4,000, road construction at $600, constructing a building at $1,500, for utilities at $400, and supervision and engineering services at $5,500.

Uranium occurs at the surface in a silicified zone in the Blackhawk fault. The largest occurrence exposed is about 10 feet long and less than 2 inches thick. Structures similar to the Blackhawk fault in other areas are favorable for uranium where favorable rock types of hornblende gneiss or garnetiferous lime silicate gneiss are intersected. The wall rock at the E & H Jelly Roll mine, however, is pegmatite - a rock type not especially

favorable for significant uranium deposits. It is concluded that the chance of making a significant discovery of uranium is poor in the pegmatite host rocks, but the chance would be improved should further prospecting by the applicant disclose favorable host rocks in the vicinity of the mineralized fault. It is, therefore, recommended that the application for DMEA assistance to explore for uranium be denied without prejudice.

ACKNOWLEDGMENTS

Mr. E. E. Waggoner, consulting geologist for the E & H Exploration and Mining Company conducted the examiners to the property and gave all information at his disposal.

The examining team conferred with Mr. Robert E. King, who had made an examination of the property on April 22, 1955, in connection with the Trace Elements Investigations Program of the Geological Survey.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The E & H Jolly Roll mine is in the northwest half of sec. 17, T. 3 S., R. 72 W., 6th P. M., Enterprise mining district, Gilpin County, Colorado (figs. 1 and 2). The property is in a rugged area of the Front Range at altitudes from 7,800 to 8,400 feet. It is about 1-1/2 miles southeast of Blackhawk, 19-1/2 miles west of Golden, and 35 miles west of Denver. Paved State Highway 119 crosses the southeast part of the property. A rough

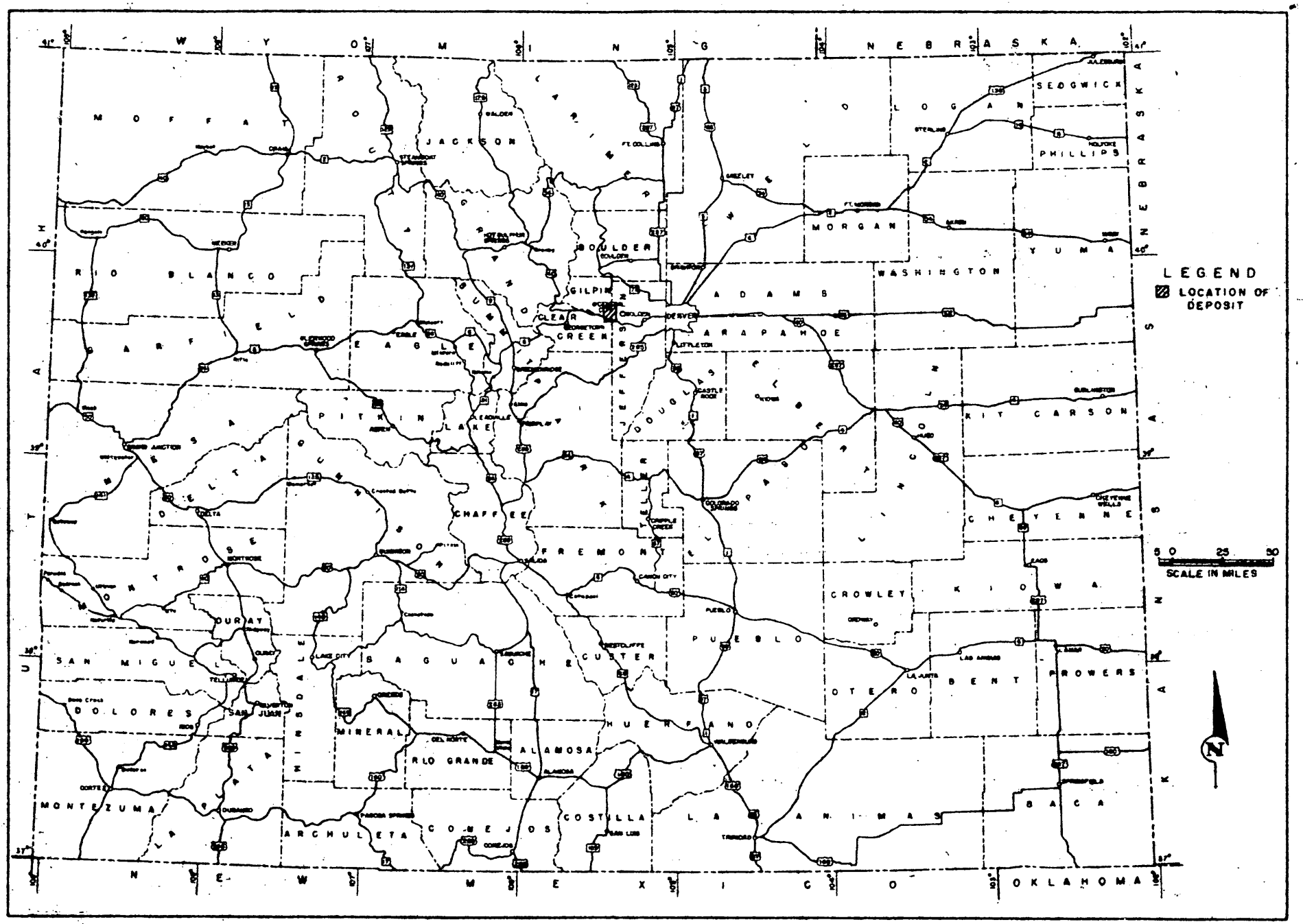

FIGURE 1 - LOCATION MAP, E. AND H. EXPLORATION AND MINING COMPANY, E. AND H. JELLY ROLL MINE, GILPIN COUNTY, COLO. DMEA 4355

road, passable to jeeps or trucks, has been bulldozed from the highway for about 1/2-mile to the discovery pit. Water is available from North Clear Creek which parallels the highway. Electric power is available from the nearby power line to Blackhawk. The nearest railroad is at Golden.

Labor, equipment, materials and supplies can be obtained in nearby towns.

HISTORY AND PRODUCTION

Mine workings consist of two abandoned tunnels and several prospect pits. Mr. Waggoner stated that these were the workings of a silver mine operated prior to 1900 but that no production records are available.

In 1955, radioactive float was discovered which was traced to what appears to be the Blackhawk fault, a prominent structural feature in the district.

A prospect trench was excavated along the strike of the fault for 150 feet, and radioactive material was found in place in the fault zone.

No uranium ore has been produced from this property.

OWNERSHIP AND EXTENT

The K & H - Jolly Roll mine is owned by the K & H Exploration and Mining Company (a joint venture) of Colorado. The Company consists of the following members:

Carl K. Baker - 1517 Washington Street, Golden, Colorado,

Leona L. Haines - 6100 W. 29th Avenue, Denver 15, Colorado, and

Leslie E. Evans - South Star Route, Granada, Colorado.

The property consists of three adjoining and overlapping lode claims, the Dorothy, Priscilla, and Sunshine, which are recorded in the Gilpin County Courthouse, book 229, pages 491, 492, and 493. The claims contain about 53 acres. A 100-foot right-of-way for State Highway 119 crosses the Dorothy claim. Patented mining claim Milton No. 13027 overlaps about one acre of the Sunshine claim.

GEOLOGY

The Dorothy, Priscilla, and Sunshine claims are in an area of Precambrian schists and gneisses of the Idaho Springs formation. Small masses of Precambrian pegmatite and narrow porphyry dikes of Tertiary age are present in the claim area.

The E & H - Jelly Roll mine consists of a prospect trench 150 feet long covering parts of all three claims. The trench is on a strong northeast trending fault, probably the Hinsdhawk fault. This fault is 6 to 8 feet wide and nearly vertical. Where exposed in the trench, it consists of two gouge and breccia zones 1/2 to 2 feet wide with crushed rock between. At the southeast end of the trench, a 1- to 2-foot rib of massive quartz separates the gouge zones. The southeast wall of the trench is formed by a nearly straight, highly silicified zone 2 feet wide which in places

consists of massive quartz. The northeast wall of the trench is irregular; the irregularity being caused by a series of eastward trending fractures branching from the fault. A small (2- to 6-inch) porphyry dike is in contact with the silicified wall zone for 6 to 8 feet.

No uranium minerals can be seen in the fault. Aside from quartz, iron oxide and radioactivity, there is no evidence of mineralization. The uranium occurs along the surface of the silicified zone mostly in an area 8 to 10 feet long; its width is not apparent. Random radiometric assays on samples taken by the applicant showed 0.10, 0.17, 0.40, 0.07, 0.13, 0.14, and 0.44 equivalent U_3O_8. A chemical assay on the last sample showed 0.50 percent U_3O_8. Channel samples cut by the applicant along the radioactive surface parallel to the fault gave radiometric assays of 0.115, 0.215, 0.33, 0.56, 0.13, 0.85, 0.21, and 0.23 percent eU_3O_8. These samples represent a width of 1 to 2 inches across the fault. A sample submitted to the A. E. C. assayed 0.283 percent U_3O_8 both radiometrically and chemically. Samples cut across the fault by the Bureau of Mines gave the following results:

Sample Number	Width	U_3O_8 %
1	0.8 ft.	0.003
2	5.2 ft.	0.043
3	1.0 ft.	0.018
4	0.1 ft.	0.016

The locations of these samples are shown on figure 3.

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GEOLOGICAL SURVEY

EXAMINATION REPORT
DMEA 4355

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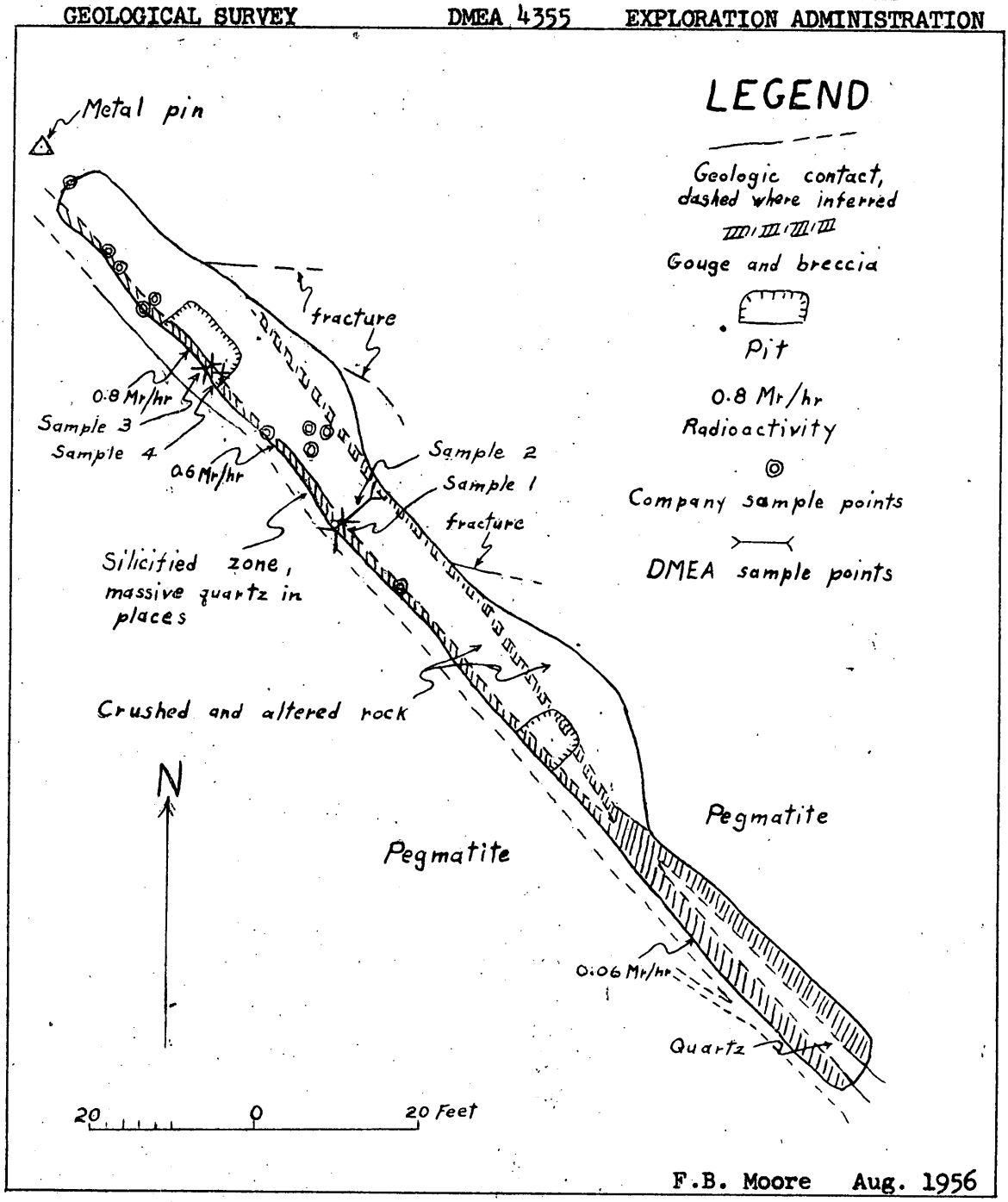

FIGURE 3 - GEOLOGIC MAP OF THE PROSPECT TRENCH, E AND H - JELLY ROLL MINE, GILPIN COUNTY, COLORADO.

ORE RESERVES

No estimate is made of ore reserves because of insufficient information.

PRESENT STATUS

Exploration and Development

The applicant has excavated a prospect trench 4 to 6 feet wide, 8 to 12 feet deep, for 150 feet along the strike of the fault.

The portal of the upper adit of an abandoned silver mine is 730 feet southwest of the trench and is 330 feet lower in elevation. This adit, as surveyed by the applicant, is about 465 feet long. It is narrow and irregular. About 25 percent of the adit has been stoped to a maximum height of approximately 60 feet. These sections are stulled, lagged, and partly gobbed. The timber is in poor condition. The bottom has been stoped in a few places, apparently from the lower adit.

The lower adit was caved near the portal.

Mining and Milling Equipment and other Facilities

There are no mining, milling or other facilities on the property. Equipment would either have to be purchased or rented if the work were not contracted.

PROJECT PROPOSALS AND COSTS

The applicant proposes a two-stage project. Stage I consists of diamond drilling and surface trenching. At least eight holes would be drilled along the southwest side of the fault zone to

intersect the fault at depths of 100 and 200 feet. The drilling which totals 2,400 feet, is estimated to cost $7 per foot. The prospect trench would be extended for 100 feet at each end and deepened for an additional 2 feet. No cost estimate for this work was submitted.

Stage II consists of 320 feet of crosscut drifting to intersect the fault at depth and 200 feet of drifting along the fault. The cost of 520 feet of crosscutting and drifting is estimated at $50 per foot. Two locations for this work are proposed. The upper adit of the old silver mine could be rehabilitated at a total estimated cost of $4,000. This adit would then be advanced 320 feet to intersect the fault about 330 feet below the surface. As an alternate to rehabilitation of the old adit, the applicant proposes to drive a new adit 320 feet to intersect the fault about 150 feet below the surface.

The applicant's estimated costs of the project follow:

Exploration	
Diamond drilling 2,400 ft. at $7/ft.	$16,800.00
Drifting and crosscutting 320 ft. at $50/ft.	26,000.00*
Rehabilitation 440 ft.	4,000.00
Supervision	
1 man at $500/mo. for 6 mos.	$3,000.00
Engineering & geologic consultants	
1 man at $100/day for 25 days	2,500.00

Operating Materials, supplies, utilities	
at $50/mo. for 6 months	$300.00
New buildings, improvements & installations	
Change house & tool room combined	$1,500.00
Power & water lines	400.00
Roads	600.00
Miscellaneous	
Accounting	$300.00
Insurance	600.00
Contingencies	**$2,800.00**
Total Cost	$58,800.00

"A discrepancy is apparent in the applicant's cost estimate for drifting and crosscutting. This cost should total $16,000 which would decrease the total of the application to $46,800.00.

CONCLUSIONS AND RECOMMENDATIONS

Northwest-trending faults along the east edge of the Colorado Front Range contain significant uranium deposits in places where favorable host rocks, such as hornblende gneiss or garnetiferous lime silicate gneiss, are intersected by uranium-bearing veins. The wall rocks exposed in the workings of the E & H - Jolly Ball mine are pegmatite, a rock type considered unfavorable for the occurrence of uranium ore deposits.

Although several of the samples submitted by the applicant contained ore-grade uranium, none represents a significant width on the mineralized fault. Analyses of samples cut across the

fault by the examining team were well below ore grade.

There is no evidence to indicate the probable occurrence of significant quantities of uranium on the property from present exposures, but significant deposits might be found should further prospecting by the applicant indicate that the uranium-bearing fault is likely to intersect favorable host rocks.

Therefore, it is recommended that the application for DMEA assistance to explore for uranium at the K & H - Sally Ball mine be denied without prejudice.