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

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December 8, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 3946 (Uranium, Lead, Zinc, Copper), Harry J. Johnson and Neil R. Jackson, Gunnison County, Colorado

Enclosed are the original and three copies of the report pertaining to the above application.

The field examiners recommend that the application be denied without prejudice. We concur in this recommendation.

E. N. Harshman

E. N. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
12-14-55
(date)

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Building 20
Denver Federal Center
Denver 2, Colorado
December 6, 1955

REGION III

TRANSMITTED
DEC 8 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: Docket No. DMEA 3946, Harry J. Johnson and Neil R. Jackson, (Uranium, lead, zinc and copper) Gunnison County, Colorado

Enclosed are the original and 9 copies of the Joint Engineering and Geologic Report by Robert V. King, Geologist, and W. D. McMillan, Mining Engineer, covering Docket No. DMEA 3946.

Harry J. Johnson and Neil R. Jackson applied for exploration assistance in the amount of $70,000.00 to explore the Jenny, Jinny, Bunde and Anna claims for uranium, lead, zinc and copper by 1700 feet of core drilling and 2000 feet of crosscuts and drifts.

An examination was made on October 13, 1955 by W. D. McMillan and Robert V. King. The potential of the property could not be evaluated because of limited exposures available.

It is recommended that the application be denied. However, if the applicants should perform additional work on the property and expose the geologic formations, it is recommended that a revised application be considered.

E. N. Harshman

E. N. Harshman
Member Field Team

John F. Shaw

John F. Shaw
Supervising Mining Engineer

JFS/mr
cc 9
E. N. Harshman
DMEA 3946
Chron.

Approved by
[illegible] COMMITTEE
12-14-55
(Date)

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

TRANSMITTED
DEC 8 1955

DMEA No46

HANEY J. JOHNSON AND NEIL R. JACKSON

Jenny, Jinny, Mamie, and Anna Claims

Emerald Lake Mining District

Gunnison County, Colorado

Uranium, Lead, Zinc, and Copper

Joint Engineering and Geologic Report

By

Robert U. King, Geologist
Geological Survey

W. D. McMillan, Mining Engineer
Bureau of Mines

December 2, 1955

Reviewed by
DMEA OPERATING COMMITTEE
12-14-55
(date)

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DMEA 3946

HARRY J. JOHNSON AND NEIL K. JACKSON
JENNY, JIMMY, MAMIE, AND ANNA CLAIMS
GUNNISON COUNTY, COLORADO

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1. Location map, Harry J. Johnson and Neil K. Jackson, Jenny claim group, Gunnison County, Colorado. DMEA 3946 3

2. Geologic map showing applicants' claims and adjacent claims. Emerald Lake District, Gunnison County, Colorado 4

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DMEA 3946

HARRY J. JOHNSON AND NEIL R. JACKSON
JENNY, JIMMY, MAMIE, AND ANNA CLAIMS
EMERALD LAKE MINING DISTRICT
GUNNISON COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By W. D. McMillan and Robert U. King

Harry J. Johnson and Neil R. Jackson applied to the Defense Minerals Exploration Administration for Government assistance to explore for uranium, lead, zinc, and copper on their Jenny, Jimmy, Mamie, and Anna claims. The applicants proposed to explore three fissure veins by 1,700 feet of diamond core drilling and 2,000 feet of crosscuts and drifts at an estimated total cost of $70,000 in one stage. Government participation for uranium would be $52,500, and for lead, zinc, and copper $35,000.

An examination by a DMEA Region III examining team was made on October 13, 1955, accompanied by the applicants.

No radioactivity anomalies were found on the subject claims.

Two adits of unknown length that are now caved have been driven on the Jenny claims. Shallow pits at the portals of these adits, 200 feet apart in a line trending N. 35° W., expose mineralized quartzite. Lead, zinc, and copper sulfides are sparsely disseminated in a matrix of fine-grained granular quartz; the average combined metal content of two samples collected from the pits is 3.0 percent.

Because of the limited exposures that were made available by the applicants, the size, attitude, and character of the sulfide deposits cannot be determined, and the potential of the property cannot be evaluated at this time. The locality is on the margin of a small metal mining district and for

lack of geologic evidence to the contrary, it must be inferred that the ore potential of this property is less than economic.

The examining team recommends that the application for assistance to explore for uranium, copper, lead, and zinc on the Jenny, etc., claims be denied but without prejudice to the property.

INTRODUCTION

Harry J. Johnson and Neil R. Jackson applied to the Defense Minerals Exploration Administration for Government assistance to explore for uranium-lead-zinc-copper ore on 16 claims located by them in June and August 1955. The applicants propose 1,700 feet of diamond core drilling and 2,000 feet of crosscuts and drifts at a total estimated cost of $70,000, Government participation at 50 percent for base metals would be $35,000.

An examination was made on October 13, 1955, by an examining team consisting of W. D. McMillan of the Bureau of Mines and Robert U. King of the Geological Survey, accompanied by Harry J. Johnson and Neil R. Jackson, the applicants.

The examination included a field check of a number of claim corners, brunton surveys, radioactivity traverses across parts of the claims, and of the base metal deposits, and sampling of these deposits.

No radioactivity anomalies were found on the subject claims. The U. S. Atomic Energy Commission reported that their field parties had recently investigated this locality for trace elements and had obtained essentially negative results.

Small lead-copper-zinc deposits occur on the Jenny claims and on the High and Mighty claims adjoining the Jenny claims to the west.

ACKNOWLEDGEMENTS

The Grand Junction Operations office of the U. S. AEC made available to the examining team the results of their investigation for trace elements in the Emerald Lake area.

The regional geology of the area was obtained from the U. S. Geological Survey Report on the Snowmass Mountain area, by J. W. Vanderwilt, Bull. 884, 1937, and the geology shown on figure 2 of this report is taken directly from Plate I of the bulletin.

LOCATION AND PHYSICAL FEATURES

The Jenny, Jimmy, Mamie, and Anna claims are in the northern part of the Emerald Lake mining district, 41 miles north of Gunnison, Colorado. Colorado State Highway 135 is paved to Crested Butte, 28 miles, with a county graded road to Emerald Lake, 13 miles, the last 4 having steep grades (See fig.1).

The applicants' claims are in unsurveyed lands, with an approximate location in sections 7 and 18, T. 12 S., R. 86 W., and section 12, T. 12 S., R. 87 W., 6th principal meridian. Altitudes on the claims range from 10,475 feet to 11,000 feet, with altitudes of over 12,000 feet east and west of the claims.

Because of the high altitude, the winter season is long and severe. Heavy snowfall and sub-zero temperatures, accompanied by avalanches, would restrict surface operations chiefly to the summer and fall months. An adequate supply of water for mining and drilling operation is available from East River and from Emerald Lake. Native timber would be available from the local sources within 10 miles of the claims. The nearest public utility power supply is at Gothic, 4 miles southeast of the property. Housing could be provided at Crested Butte, which is also the nearest source of supplies 13 miles from the claims.

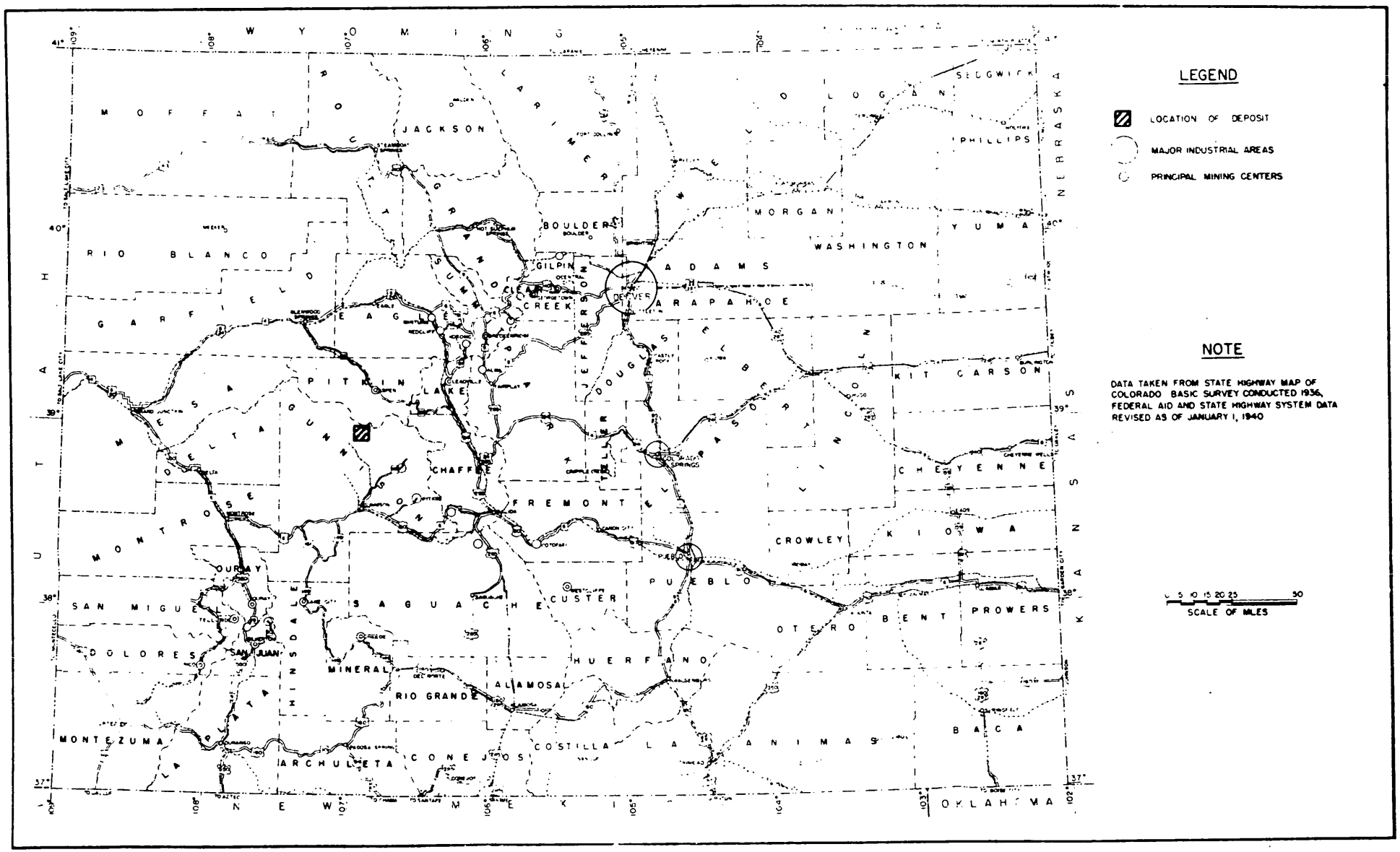

FIGURE 1 - LOCATION MAP, HARRY J. JOHNSON AND NEIL K. JACKSON, JENNY CLAIM GROUP, GUNNISON COUNTY, COLO. DMEA 3946

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HISTORY, PRODUCTION, AND OWNERSHIP

Prospecting for base metals began near Gothic around 1890, but no important discoveries were made. No mining has been done on the applicants' claims.

The applicants hold by location 16 claims. These are the Jenny Nos. 1 to 4, the Jimmy Nos. 1 to 4, the Mamie Nos. 1 to 4, and the Anna Nos. 1 to 4. Inspection of the records at the Gunnison recorder's office provided the following information:

Claim	Book No.	Page No.	Location date	Recorded Date	Recorded Cert. No.
Jenny No. 1	305	322	6/2/55	6/4/55	223,088
Jenny No. 2	305	322	6/2/55	6/4/55	223,089
Jenny No. 3	305	331	6/2/55	6/6/55	223,039
Jenny No. 4	305	331	6/2/55	6/6/55	223,040
Jimmy 1-4	(Not recorded	10/24/55)	8/2/55		225,561 to 225,564
Mamie 1-4	"	"	8/2/55		225,565 to 225,568
Anna 1-4	"	"	8/10/55		226,611 to 226,614

Posts have been set on the claim corners and the centers of end lines. The direction of the center lines of the Jenny Nos. 1 and 2 claims differs from the direction of the west side lines of these claims, as shown on figure 2. The claims have not been surveyed, nor has a map been filed in accordance with the Colorado Mining Laws, but the applicants stated that they plan to have this done before the end of October 1955.

The field check and examination of the records in the Gunnison Courthouse indicate that the locations are valid and cover the area of the proposed exploration.

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DMEA 3946

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EXPLORATION ADMINISTRATION

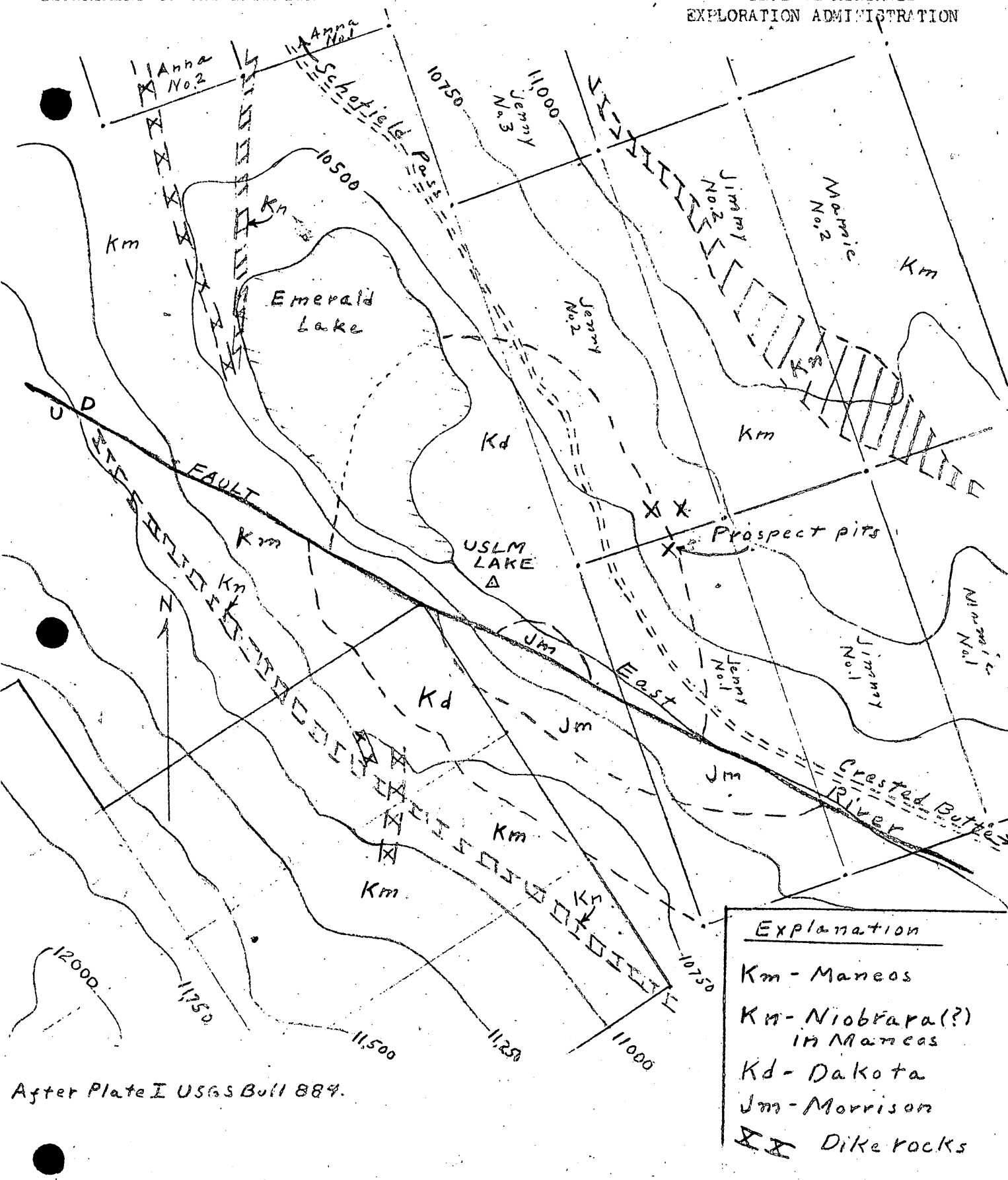

FIGURE 2. - GEOLOGIC MAP SHOWING APPLICANTS' CLAIMS AND ADJACENT CLAIMS, EMERALD LAKE DISTRICT, GUNNISON COUNTY, COLORADO.

0 500 1000 Ft.

R. U. King, Nov. 1955

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PRESENT STATUS

Exploration and Development

Shallow pits and two short adits, now filled with slide rock, have been dug by unknown parties during the early part of the century on three mineral occurrences, as shown on figure 2. No work has been done by the applicants.

Mining Equipment and other facilities

None.

MINABLE RESERVES

The applicant submitted a sample from the principal deposit on the Jenny Nos. 1 and 2 claims to the American Smelting and Refining Company's laboratory at Leadville, Colorado, and the examining team took two samples. The results of analyses of this sample and two samples collected by the examining team are given below:

Sample No.	Location	Au oz/Ton	Ag oz/Ton	Cu percent	Pb percent	Zn percent
A-1	Pits on Jenny Nos. 1 to 2	0.03	13.00	1.5	4.0	3.9
J-1-1	4-foot pick sample near north center post of Jenny No. 1	---	2.7	0.5	0.2	1.9
J-2-1	4-foot pick sample 150 feet north of south center line of Jenny No. 2	---	4.2	1.0	0.3	2.1

The character and attitude of the deposits are indistinct, and so there are not any ore reserves inferred.

GEOLOGY AND DESCRIPTION OF THE DEPOSITS

The Emerald Lake mining district is in the southeastern part of the Snowmass Mountain area. The geology and ore deposits of the area are described

by Vanderwilt (U. S. G. S. Bull. 884, 1937). The ore deposits surround the Treasure Mountain structural dome on three sides and are concentrated along the northeast flank of the dome in a faulted and fissured zone 1 to 3 miles wide and 8 miles long. The country rock of the zone comprises sedimentary rocks that range in age from Pennsylvanian to Cretaceous. A large mass of Tertiary granite forms the dome, the central part of which is about 4 miles west-northwest of Emerald Lake.

The sedimentary rocks of the Emerald Lake district consist of Dakota quartzite and Mancos shale of Cretaceous age (fig. 2).

The Dakota quartzite is a white dense finely-granular indurated sandstone. It is more than 200 feet thick. Overlying the Dakota quartzite is the Mancos shale, a uniformly dark gray to black shale that readily weathers to clay. It is more than 2,000 feet thick. About 500 feet above the base of the Mancos shale is a gray fossiliferous limestone bed 20 to 40 feet thick. This limestone (Niobrara ?) is of some economic importance in the Snowmass area and is locally known as the "Lead King line"; it marks the ore zone in the Lead King mine some distance north of Emerald Lake.

All of the sedimentary rocks in the immediate area of the Treasure Mountain dome have been metamorphosed as a result of the intrusion of the granite. In the vicinity of Emerald Lake the Mancos shale is changed to a black flinty hornfelsic rock that disintegrates by weathering into blocky fragments.

The lower parts of the westward-facing slopes east of Emerald Lake are almost completely covered with slide rock from the Mancos shale which effectively masks the contact with the underlying quartzite. On the Jenny No. 1 and No. 2 claims quartzite crops out for short distances and forms a single discontinuous bench about 200 feet above the Schofield Pass road.

The applicants' claims along the east side of Emerald Lake are in Dakota quartzite and Mancos shale. In the vicinity of the claim group the sedimentary rocks are cut by dikes and sills of quartz monzonite and felsite porphyry. The sedimentary rocks strike principally north and dip gently to the west or southwest. A fault of minor displacement trends west-northwest across the area just south of the claims.

Lead-zinc-copper ore in the quartzite has been found on the claims. Two shallow pits, about 200 feet apart, have been dug by the applicants in the quartzite bench in a northwest-trending line. In both pits mineralized quartzite is exposed. Lead, zinc, and copper sulfides and pyrite are disseminated in a matrix of fine-grained clear granular quartz.

On the Jenny No. 1 claim the quartzite in the pit is mineralized over an area of about 100 square feet. The floor of the pit, not more than 2 feet deep, is in mineralized quartzite. The attitude of the mineralized zone is not apparent nor is the dip of the quartzite known. The mineralized zone may represent a steeply dipping east-trending vein deposit that had been followed by an adit as one or two sticks of timber are still visible protruding through the slide rocks that cover most of the exposure. However, the poorly defined limits of the mineralized area suggest that the occurrence is a replacement-type deposit in the quartzite.

The character of a similar zone of mineralized quartzite exposed in a pit on the Jenny No. 2 claim, is also undetermined. The applicants report that there may have been old workings at this exposure, and the existence of some mine openings are suggested by the remains of mining equipment lying about in the valley floor at the foot of the slide rock below the exposure.

According to Vanderwilt (U.S.G.S. Bull. 884), most of the ore production has come from replacement-type deposits in limestone or quartzite and vein deposits

have not proved to be economically important in the district. Most of the ore from this area has come from four mines, all of which are blanket deposits of the replacement type.

Should the ore occurrences that have been prospected by the applicants be of the replacement type in quartzite, they may have economic potential, and should the occurrences be east-trending veins, it is possible that sizable ore bodies may occur as replacements in the overlying Niobrara (?) limestone.

Insufficient prospecting has been done on the applicants' property to permit a determination of the character and attitudes of the ore occurrences by the examining team.

CONCLUSIONS

Deposits of lead-zinc-copper ore in quartzite have been exposed by the applicants, but because so little prospecting work has been done, the size, attitude, and character of the deposits cannot be determined at this time, and the potential for production is unknown but presumed to be small.

No significant uranium deposits have been discovered on the claim group nor in the immediate vicinity.

RECOMMENDATIONS

The examining team recommends that the application for assistance to explore for uranium-lead-zinc-copper deposits on the subject claims be denied but without prejudice to the property.