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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
P. O. Box 360  
Grand Junction, Colorado

October 21, 1953



Mr. E. R. Gordon, Director  
Exploration Division  
Grand Junction Operations Office  
U. S. Atomic Energy Commission  
Grand Junction, Colorado

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Dear Ernie:

Attached is one copy of Trace Elements Memorandum Report 682, "Development drilling on the Long Ridge group of claims, Gypsum Valley district, San Miguel County, Colorado," by H. B. Dutro and N. W. Bivens, October 1953.

Sincerely yours,

*N. K. Mobley*

N. K. Mobley, for  
R. P. Fischer  
Acting District Supervisor  
Colorado Plateau District

Attachment 1

cc: E. R. Gordon

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Geology - Mineralogy

This document consists of  
6 pages plus 1 figure.  
Series A

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

DEVELOPMENT DRILLING ON THE LONG RIDGE GROUP OF CLAIMS,  
GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO\*

by

H. B. Dutro and N. W. Bivens

October 1953

Trace Elements Memorandum Report 682

This preliminary report is distributed without editorial and technical review for conformity with official standards and nomenclature. It is not for public inspection or quotation.

\*This report concerns work done on behalf of the Division of Raw Materials of the U. S. Atomic Energy Commission.

## USGS-TM Report 682

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Colorado Plateau Exploration

Trace Elements Memorandum Report 682  
October 1953

DEVELOPMENT DRILLING ON THE LONG RIDGE GROUP OF CLAIMS,  
GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

by H. B. Dutro and N. W. Bivens

Claims drilled: Long Ridge, Pond (fig. 1).

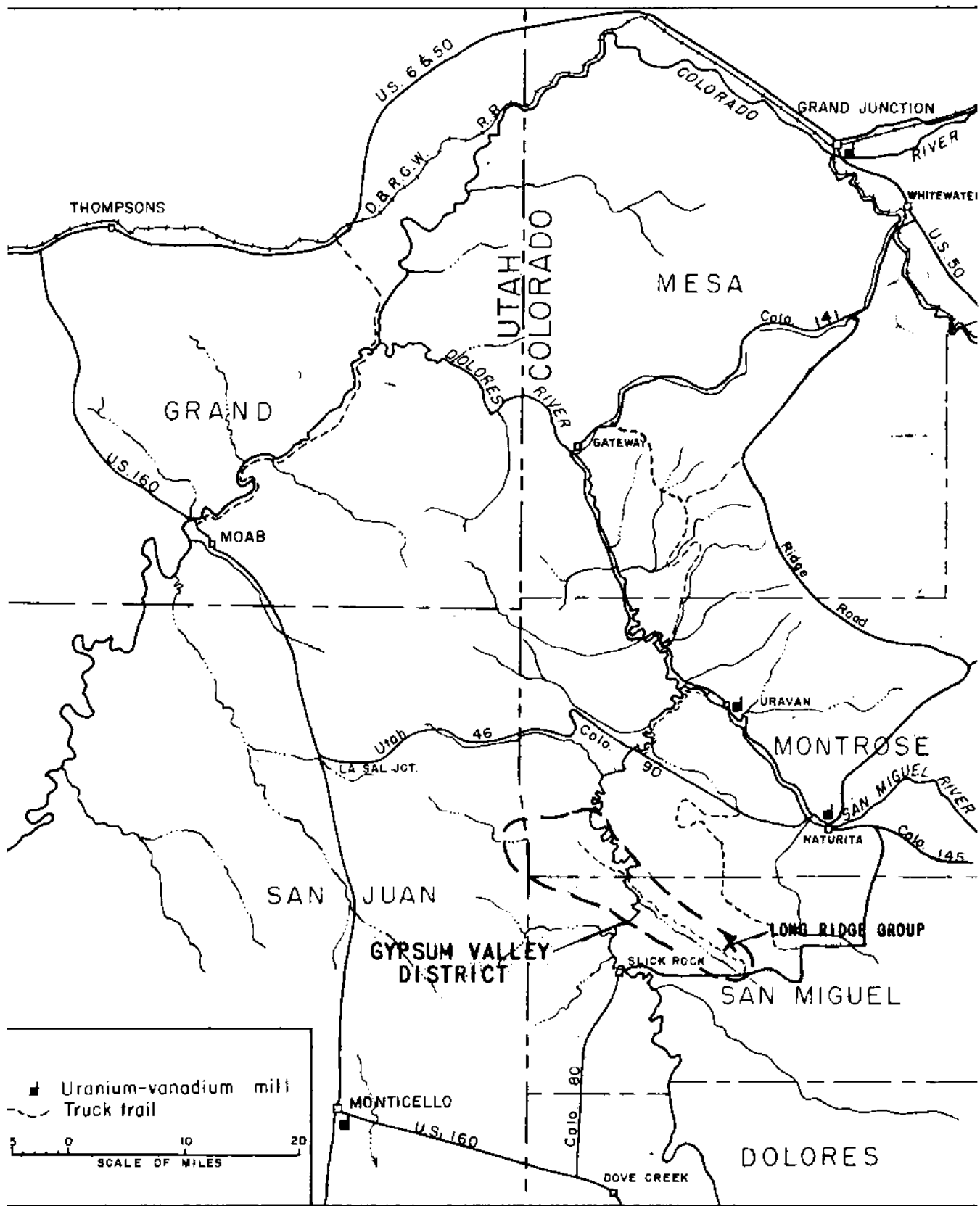
Location: Sec. 23 (unsurveyed), T. 14 N., R. 17 W., New Mexico principal meridian (fig. 2).

Ownership: U. S. Vanadium Co., Uravan, Colo.

Access and nearest mill: 32 miles to the Vanadium Corp. of America mill at Naturita, Colo., via graded roads in Gypsum Valley and Colo. Hwys. 80 and 141. 45 miles to the U. S. Vanadium Co., mill at Uravan, Colo., via the same route.

Production: The Long Ridge mine has produced about 5,500 short tons of ore, averaging about 0.33 percent  $U_3O_8$  and 1.9 percent  $V_2O_5$ . The Pond mine has produced about 400 short tons of ore averaging about 0.22 percent  $U_3O_8$  and 1.6 percent  $V_2O_5$ .

Geology: The rocks exposed on the Long Ridge group of claims are those of the lowest sandstone bed of the Salt Wash member of the Jurassic Morrison formation, which ranges in thickness from about 60 ft to about 110 ft, and is composed of light-brown and light-gray sandstone with numerous blue-green and blue-gray mudstone lenses. The Salt Wash member rests unconformably on gypsum and shale beds of the Paradox member of the Pennsylvanian Hermosa formation which ~~outcrops~~ *cropps out* in the area immediately southwest of the Long Ridge claim. Deposits of Quaternary alluvium form flats and gentle slopes in low areas within the group.



**Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING THE LOCATION OF THE LONG RIDGE GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO**



The principal structural feature of the Long Ridge area is a faulted NW-trending, NW-plunging anticline. The crest and SW limb of the anticline are broken by at least two normal faults, which parallel the structure and dip SW at high angles.

The ore deposits of the Long Ridge group occur in the top sandstone of the Salt Wash member, on the flanks of the anticline. The ore deposits are predominantly NW-trending tabular masses, and are closely associated with zones of scour in the sandstone. The deposits range from 100 to 200 ft in length, 75 to 100 ft in width, and from 1 ft to about  $\frac{1}{4}$  ft in thickness.

Previous  
drilling:

Prior to 1951,  $3\frac{1}{4}$  diamond-drill holes were drilled on the Long Ridge group of claims by U. S. Vanadium Co. Of these holes 5 are in material classified as ore by U. S. Vanadium Co., and 11 are in material classified as mineralized by U. S. Vanadium Co.

USGS  
exploration:

Between June 19, 1953, and July 31, 1953, 10 diamond-drill holes were drilled by the USGS on the Long Ridge group of claims. Two are in material 1 ft or more thick, containing 0.10 percent or more  $U_3O_8$  or 1.0 percent or more  $V_2O_5$  (table 1).

Reserves:

Indicated and inferred reserves discovered by the USGS fall into two classes: Class I reserves include material 1 ft or more thick, containing 0.10 percent or more  $U_3O_8$  or 1.0 percent or more  $V_2O_5$ . Class II reserves include material 1 ft or more thick, containing 0.05 percent or more  $U_3O_8$  or 0.50 percent or more  $V_2O_5$ .

Block 1 (fig. 2) on the Long Ridge claim contains an estimated 300 tons of indicated Class I reserves averaging about 0.10 percent  $U_3O_8$  and 1.4 percent  $V_2O_5$ . No inferred reserves were calculated for this body.

Block 2 (fig. 2) on the Pond claim contains an estimated 100 tons of inferred Class I reserves averaging about 0.10 percent  $U_3O_8$  and 1.15 percent  $V_2O_5$  and about 500 tons of inferred Class II reserves, averaging about 0.034 percent  $U_3O_8$  and 0.78 percent  $V_2O_5$ .

Plans and  
recommendations:

No further development drilling by the USGS is planned on the Long Ridge group of claims. A few moderate-to wide-spaced holes are planned to search for extensions of favorable ground found by the development drilling. It is recommended that the claim owner do some additional drilling in the vicinity of hole 394 to try to extend the body found by this hole.

Table 1. Assay data, Long Ridge group of claims, San Miguel County, Colorado

Geological Survey exploration, 1953. Assays by the Geological Survey.

Rock units containing less than 0.020% U<sub>3</sub>O<sub>8</sub>, less than 0.020% equivalent U<sub>3</sub>O<sub>8</sub>, and less than 0.10% V<sub>2</sub>O<sub>5</sub>, as determined by assay of drill core, are considered to be barren. Barren holes and rock units are omitted from this table.

Gamma-ray data obtained by probing drill holes with radiometric logging unit. Radioactivity expressed as percent equivalent U<sub>3</sub>O<sub>8</sub>. Values less than 0.020% eU<sub>3</sub>O<sub>8</sub> are omitted from this table. Data of doubtful reliability.

Assay data listed under blocks 1 and 2 are within the block of calculated reserves discussed in this report.

All collar elevations and hole locations obtained by plane-table survey methods.

Undet Undetermined

e Equivalent

< Less than

Hole No. and collar elev. (feet)	Assay data						Gamma-ray data			
	Depth in feet		Thickness (feet)	Percent			Percent eU <sub>3</sub> O <sub>8</sub>	Depth in feet		Thickness (feet)
	From	To		U <sub>3</sub> O <sub>8</sub>	V <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>		From	To	
Block 1, Long Ridge claim										
404 (6042)	79.1	79.4	0.3	< 0.020e	2.35	0.2	0.24	88.7	89.9	1.2
	89.0	89.9	0.9	< 0.020e	1.35	0.3				
	89.9	90.2	0.3	0.038	1.15	0.2				
	90.2	90.5	0.3	0.14	1.00	2.1				
	90.5	91.5	1.0	0.071	1.38	3.6				
	91.5	91.8	0.3	0.14	2.21	0.2				
	91.8	92.0	0.2	0.18	1.47	0.6				
Block 2, Pond claim										
394 (6030)	56.9	57.3	0.4	< 0.020e	0.53	14.6	0.51	56.6	57.9	1.3
	57.3	57.7	0.4	0.085	1.12	1.2				
	57.7	58.2	0.5	0.025e	1.18	0.6				
	58.2	58.9	0.7	0.031e	0.50	1.9				
	58.9	59.1	0.2	0.026e	0.59	1.8				
	59.1	59.9	0.8	< 0.020e	0.15	Undet				





Figure 2. GEOLOGIC MAP AND SECTIONS OF THE LONG RIDGE GROUP, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO



