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UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

RESULTS OF DRILLING  
ON THE RADIUM GROUP AND ASSOCIATED CLAIMS  
NEAR EGNAR, SAN MIGUEL COUNTY, COLORADO

Preliminary Report No. 3

by

Robert D. Trace

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Summary

From September 1948 to February 1949, the U. S. Geological Survey drilled 374 holes totalling 31,389.74 feet on the Radium group of claims, near Egnar, Colorado. On the basis of preliminary estimates, from 1,500 to 2,000 tons of ore containing at least 1.5 percent  $V_2O_5$  and 0.3 percent  $U_3O_8$  are inferred from this drilling. No further drilling by the Geological Survey is recommended until detailed study is made of the available data.

Introduction

This preliminary report summarizes briefly the results of the exploratory drilling done by the U. S. Geological Survey on the Radium group of Claims. This work is part of a broad investigation of uranium and vanadium resources in the Colorado Plateau for the Atomic Energy Commission.

The Radium group of claims is in the Egnar-Slick Rock district, San Miguel County, Colorado (see index map, figure 1), where they occupy a broad bench at an altitude of about 7,000 feet. The area is accessible by unimproved roads from Slick Rock and from the Dove Creek-Monticello highway to the south.

*maps on file at back.*

Drilling started on September 28, 1948, and proceeded almost without interruption until the project was recessed on February 10, 1949. Six rigs operated most of the time. When the project was recessed, 374 holes (see Figures 1, 3, 4, 5, and 6), totalling 31,389.74 feet had been drilled.

F. A. Sitton and C. A. Snyder, who own nearly all of the known claims in the area, have cooperated fully with the Geological Survey, giving information on, and access to, their properties.

#### Production

Total known production for the Radium area is 8,648 tons of ore that averaged 2.4 percent  $V_2O_5$  and 0.4 percent  $U_3O_8$ , as shown in the following table:

Production of vanadium-uranium ore on the Radium group

Claims	Short tons				Approximate average content (%)		
	<u>1/</u> Prior to 1943	<u>2/</u> 1943	<u>3/</u> 1948	<u>4/</u> 1949	$V_2O_5$	$U_3O_8$	$CaCO_3$
Buckhorn-Cone	400	1,297	0	0	2.2	<u>5/</u>	<u>5/</u>
Radium 1	0	0	11	0	0.6	0.06	7.8
Radium 2	200	3,150	135	0	2.6	0.3	3.8
Radium 3	0	0	40	0	2.3	0.5	5.9
Radium 4	0	325	0	0	4.8	<u>5/</u>	<u>5/</u>
Radium 5	0	0	153	0	2.7	0.6	1.7
Radium 6	100	1,811	331	0	2.1	0.4	2.9
Radium 7 (?)	0	0	558	107	2.2	0.4	2.5
Totals	700	6,583	1,258	107	2.4	0.4	2.7

1/ Tonnage estimated; no assay data available

2/ Sold to Metals Reserve Co.

3/ Small quantities of ore sold to V. C. A. are not included

4/ January 1949, only

5/ No data available

thickness, averaging about 2 to 3 feet thick. The dominant trend of the rolls is northeastward but ranges from north to east.

The largest ore body that is more or less continuous (Radium 7 (?) workings) has a minimum diameter of 200 feet. Most of the mined bodies are smaller, averaging about 50 feet of continuous commercial ore. Thin lenses of ore minerals may extend between and beyond ore bodies and from a mineralized area larger than individual ore bodies.

Most of the productive ore bodies are in the uppermost massive sandstone of the Salt Wash member. Two small ore bodies have been mined from the conglomerate in the overlying Brushy Basin member. Nearly all of the drilling was used to test these two horizons. Deposits are also reported in massive sandstones of the Salt Wash member below the main ore-bearing sandstone, but these are too small to warrant exploration with diamond drilling.

#### Reserves

From visual appraisal of the drill core, it is conservatively estimated that between 1,500 and 2,000 tons of inferred ore containing at least 1.5 percent  $V_2O_5$  and 0.3 percent  $U_3O_8$  was found as a result of this drilling project. / In making this calculation, a cut-off of 1 foot

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/ No reserves estimated from mine exposures or other drilling.

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thickness and of 1 percent  $V_2O_5$  and/or 0.1 percent  $U_3O_8$  was used; it was assumed that the ore occurs in horizontal lenticular bodies. As no attempt was made to block out ore bodies by drilling, these figures do not necessarily represent an estimate of the total ore in the ground in these deposits. For example, RG 19 (see figure 1, southern part) cut

3 to 4 feet of commercial ore, but no close-spaced holes were drilled around this hole, as it was believed that indications were encouraging enough to interest the owner in further development. This belief was justified later when the claim owner drilled 11 close-spaced holes in the vicinity of RG 19, and reported that six of the 11 holes cut ore, with at least a 2 foot thickness in each. The reserves listed above do not include the reserves developed by the later private drilling. Ore found in other holes drilled by the Geological Survey might also be extended by close-spaced drilling.

There are probably some small to moderate sized shallow ore bodies in the area from RG 19 (see Fig. 1, Radium claim no. 8?) eastward to the rim. Holes in the mineralized area around RG 19 and a V.C.A. hole (no. 66) 1,000 feet east of RG 19 cut ore at depths of from 15 to 25 feet. The known indications and shallow depth of the ore suggest that further exploration by the claim owner is justified.

The Geological Survey drilling indicated at least four other places that contain minable ore; no attempt, however, was made to outline completely these ore bodies. No further drilling by the Government is recommended around these deposits, but the following comments are made regarding ground thought to be favorable for ore-finding.

Three ore holes were drilled on unclaimed land about 500 feet south of the Buckhorn mine (see figure 3). Further drilling, particularly northeast of RG 61, 89,, and 105, would probably cut some small ore bodies.

Three areas, which consist of land patented for agricultural purposes and adjacent unpatented mining claims, contain a large number of holes that are mineralized, but relatively few holes in ore, and the areas probably contain several small ore bodies. These three areas are:

- (1) The area around RG 271, 206, and 296 (see figure 6 northwest part). Drill data from this area suggest a northeasterly trend of mineralized ground, which is the same as the dominant trend of the rolls in the Radium Group (see pages 3 and 4). Further drilling northeast of RG 296 and southwest of RG 271 is suggested to test this trend.
- (2) The area 1,000 feet east of the Kuykendall house (see Figure 6). Here two holes cut ore and four others were mineralized at a depth of about 125 feet. The two ore-bearing holes and two other holes that contained mineralization almost of ore grade and width, are adjacent to and about 50 feet from each other. Further exploration of this area is suggested in order to test the continuity of the ore between the present drill holes and the outward extent of the deposit.
- (3) The area around RG 290 on Radium claim no. 12 (see figure 6). RG 290 cut ore, and several holes west and southeast of RG 290 contain traces of carnotite. This suggests that further exploration would probably cut some small ore bodies.