ABANDONED OR INACTIVE URANIUM MINES IN NEW MEXICO

A report of investigation carried out between August 1979 and May 1980 under contract with the New Mexico Energy and Minerals Department.

by

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INTRODUCTION

During the course of this investigation approximately 200 uranium mine sites were visited. Although these sites are distributed throughout 20 counties the majority are in McKinley, San Juan, and Valencia Counties, along the western and southern margin of the San Juan Basin. Other counties with an appreciable number of sites are Grant, Rio Arriba, Sandoval, Sierra, and Socorro.

Field work commenced in August, 1979 and extended although not continuously, into May, 1980. Information obtained during the on-site visits included location, type and size of mine, condition of mine, host formation, dimensions of remaining structures, proximity to residences or villages, water quality data, and radiation levels, although a gamma ray scintillometer was not obtained for the project until October 20, 1979. An effort was made to contact landowners whenever and wherever possible, however, no systematic attempt was made to determine land and mineral ownership during this phase of the investigation.

Mine operation data has been included where available. This consists of information on ore grades, production history mineralogy, and mine operator. Old publications of the U.S. AEC and the State Mine Inspectors office were helpful in this area.

The mine reports are arranged alphabetically by county with each county having its own index. A NM- or AZ-mine identification number is given with each mine name in the index. It is an AML numbering system devised by Don Baker, Jr. The first part of this

identification number is based on a U.S. Soil Conservation Service numbering system of 15' quadrangles beginning with 1 in the northwest corner of the state to 24 in the northeast corner, then returning to the western border to start a new tier. The second part refers to a 7½' quad within the 15' quad; these are numbered counterclockwise from 1 in the NE quadrant to 4 in the SE. The last part of the number refers to a particular mine within the 7½' quad. An AZ- prefix indicates the 15' quadrangle is an Arizona quad that overlaps the New Mexico state boundary.

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The help and cooperation of the Navajo Tribe Office in Window Rock, Arizona permitted a statewide investigation to be completed; a note of thanks goes to Mr. R. Zaman and Mr. William Armstrong of that office.

GRANT COUNTY

Quad: Burro Peak 7½'

Quad: White Signal 7½'

Date visited 8/29/79

Mine name(s) Floyd Collins County Grant

Section 21 & 22 Line Twnsh. 20 S R. 15 W

Quadrangle sheet Burro Peak 7½'

Mining district White Signal

Elevation 6,160'

Nearest city and/or dwellings White Signal, 1.8 miles east

The Floyd Collins is located on the sec. 21-22 line about ¼ mile north of highway no. 180. Head frame is visible from the highway and a dirt road leaves the highway 1½ miles west of White Signal and leads directly to the site.

Workings consist of a wooden head frame and caved shaft, see photos (a) and (b). Caved hole is 10' x 12' and about 15' deep, with no evidence of very recent caving. Mine dump extends to west of the shaft (photo c) and is about 80' long with toe extending down toward a small drainage line with a dirt tank just downstream (see photo d). Water analysis showed 1850 ppm total dissolved solids, 117 ppm $SO_4^=$, and a conductivity value of 17,500 μmhos/cm^3.

The mine was opened in 1920 or 1921 for radium and unlike other radioactive deposits in the district neither gold nor copper minerals are present. Autunite and torbernite were mined in the 1920's and processed into radium salts. In 1944 the deposit was mapped and studied by Union Mines Development Co., (code name for the U.S. AEC). In 1954 the property was leased to the Atrimas Mining Co., and subsequently two carloads of ore assaying between 0.1 and 0.2% U_3O_8 were shipped to the Anaconda Mill at Bluewater, New Mexico. Operations ceased in 1955, but in 1959 it was reopened by the owner, (Gillerman, 1964). It has been inactive since 1961.

The mine was developed by two inclined shafts, (Gillerman, 1961) but only one was identified during the present investigation. The major mineralized zone is confined to altered diabase dike rock along a cross cutting east trending fault. Country rock is granite. Autunite and torbernite are the ore minerals.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., N. Mex.; New Mexico Bur. of Mines and Mineral Resources, Bull. 83.
(2) Hilpert, L., 1965, Mineral and Water Resources of New Mexico; New Mexico Bur. of Mines and Mineral Resources, Bull. 87, p. 222.
(3) Field notes, 8/29/79.

Photo (a) Caved shaft at Floyd Collins Mine.

Photo (b) Head frame at Floyd Collins Mine, looking south-southeast.

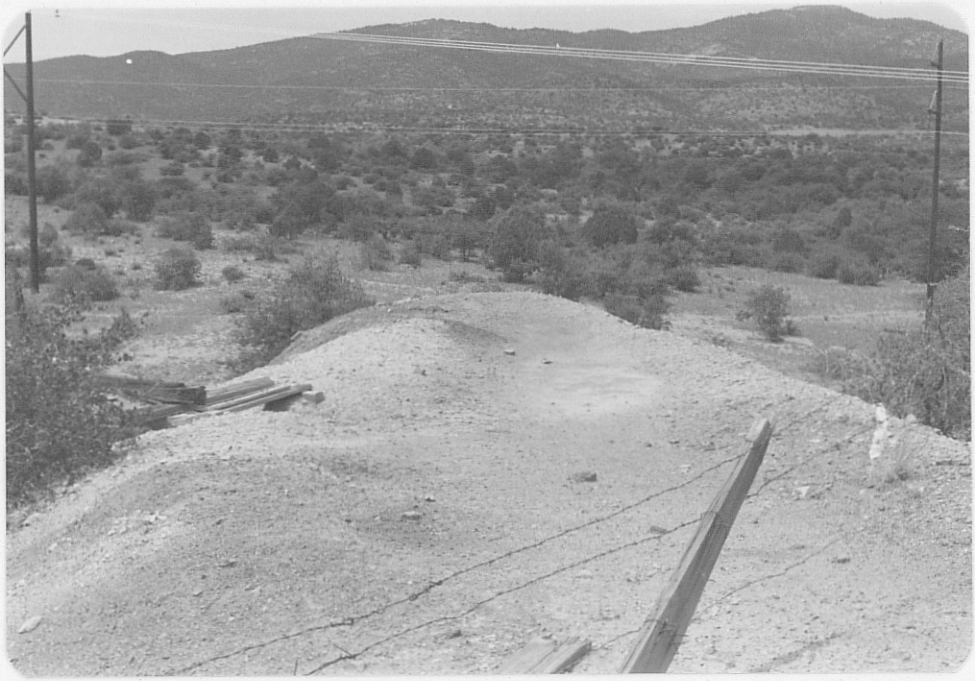

Photo (c) Tailings dump extending west from Floyd Collins Mine shaft. Dump is 10' high, 80' long.

Photo (d) Looking southeast at head frame and tailings dump (through trees) that extends down to small drainage line.