# 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.

McKINLEY COUNTY

Quad: Ambrosia Lake 7½'



Quad: Bluewater 7½'

Date visited 1/31/80

Mine name(s) United Western (J. and M.) County McKinley

Section NE¼ 36 Twnsh. 14 N R. 10 W

Quadrangle sheet Ambrosia Lake, 7½'

Mining district Ambrosia Lake

Elevation 6,980'

Nearest city and/or dwellings Kerr McGee Nuclear Fuels Processing Mill, ½ mi.

The United Western Mine shaft is located in the NE¼ NE¼ sec. 36 about ½ mi. northwest of the Kerr McGee uranium mill. It may be reached by proceeding southwestward on the mill road which leaves highway 509 approximately 5.2 mi. north of the junction with highway no. 53. As the mill entrance is approached the mine will be .2 mi. to the right (west).

The mine consists of a 5' x 9', two compartment , vertical shaft sunk 407' into the Westwater Canyon member of the Morrison fm. The shaft was completed in 1957 and the initial operator was Vanadium Corporation of America; sometime later Jordan and Marshall took over the operation and the mine was registered in 1959 with the State Mine Inspector's Office as the J and M. Production through 1958 had totaled more than 3,200 tons of low vanadium, low lime ore averaging .51% $U_3O_8$; total production is not known. Mine has been inactive since 1959.

The mine shaft has apparently been backfilled, the buildings removed, and most equipment salvaged; the most prominent features remaining are the mine dump and powder magazine (see photo a). The mound of waste at the shaft site is cratered at top showing some evidence of a recent collapse and the earth is very soft, (see photo b). The remains of a small timber headframe lie 50' to the southeast of the shaft site, (see photo c). The powder magazine is a 5' high dugout in a gentle slope 400' southeast of the mine; entrance is timbered, (see photo d).

The mine dump lies across the access road directly west of the mine shaft. Maximum dimension is 250' in a generally E-W direction, and height varies between 3' to 6'. It consists of a cluster of conical piles in a fairly compact area on a gentle slope; scintillometer readings ranged up to 900 cps, but were generally less than 700 cps (see again photo a).

The mine is on a section owned by the State of New Mexico; it was probably the first uranium mine to produce from state land.

References: (1) U.S. AEC-PED-1, 1959, Mine Operation Data Report, GJO/AEC; p. 64; (microfische only).
(2) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603.
(3) New Mexico State Mine Inspector's Office, inactive uranium mine file.
(4) Field notes 1/31/80.

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Photo (a) Looking eastward at mine site; dump area in foreground, shaft site indicated by arrow, powder magazine (circled), and Kerr McGee uranium mill at far right. Note range pole between dump and road for scale. The mound extending northward from the powder magazine to the double utility pole is a natural topographic feature formed on a thin sandstone unit in the lower Mancos Shale.

Photo (b) Looking southeast at mine shaft site which shows collapse features; note range pole for scale.

Photo (c) Looking southeastward at remains of headframe which lie 50' southeast of the mine shaft; note range pole for scale. Kerr McGee uranium mill is in background.

Photo (d) Looking northeast at powder magazine which is located 400' southeast of the mine shaft; note range pole for scale.