

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.

Quad: Regina 7½'

1. NM-81-2-1

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Whiteflow (Corral #3)

2. NM-81-2-2 \*found under Sandoval County; Quad: Regina

Sla-Tex Open Pit (Corral #3 Claim)

Quad: Youngsville 7½'

1. NM-82-1-1

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Box Canyon (Box Canyon Claims) (Wasson)

Date visited 10/19/79

Mine name(s) Box Canyon (Box Canyon Claims) (Wasson) County Rio Arriba

Section NE $\frac{1}{4}$  28 Twnsh. 23 N R. 4 E

Quadrangle sheet Youngsville 7 $\frac{1}{2}$ '

Mining district Chama Basin

Elevation 7,080'

Nearest city and/or dwellings Youngsville, 3 air miles SW

The Box Canyon Mine is located on a Todilto limestone capped spur in the E $\frac{1}{2}$ , NE $\frac{1}{4}$ , Sec. 28. It is accessible by dirt road leaving N.M. highway no. 96, 4 mi. east of Youngsville. Proceed south on dirt road for approximately 2 mi. then turn right and follow jeep trail that begins climbing the mesa. The claim is on Santa Fe National Forest land.

The mine itself is a rectangular open pit or trench 260' long, up to 50' wide, and up to 30' deep, oriented N 60° W. It is a notch in the sense that it goes completely across the spur (see photo a), with an abrupt drop off into adjacent canyons at either end of the cut. The east end of the cut is the widest.

The face of the cut exposes a lower Morrison fm. sequence of sandstone, mudstone, and claystone (see photo b), with the host rock Todilto limestone presently exposed only along the base of the south wall in a low amplitude fold (see photo c). Scintillometer readings at this limestone outcrop ranged up to 1,700 cps. The only other significant readings registered in the mine area were found at the waste piles shown in the foreground in photo (a)-up to 1,200 cps. The major portion of the waste was bulldozed into the canyons on either side of the cut.

Grab samples of Todilto limestone taken by the U.S. AEC in 1956, 1 year before the mine was developed, were assayed and showed U<sub>2</sub>O<sub>8</sub> contents in the 0.03-0.05% range with chemical assays being slightly lower than radiometric grades. A small but unknown tonnage of low grade ore with a 1:1 U:V ratio was mined in 1957 (Hilpert; 1969).

A portion of the mine access road and the local topography are shown in photo (d).

- References:
- (1) Chenoweth, W. L., 1956, Preliminary Reconnaissance Report, Box Canyon Claims; U.S. AEC PRR-file no. ED:R-633.
  - (2) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S. Prof. Paper 603.
  - (3) Field notes, 10/19/79.



Photo (a) Looking northwest into Box Canyon Mine; cut is generally 35' wide (wider at east end), and 260' long. Small waste piles in foreground produced scintillometer readings up to 1,200 cps.



Photo (b) Looking E-SE from inside cut at Morrison fm. exposed on north face; note hammer (circled) for scale. Access road (arrow) is visible across canyon at east side of cut.



Photo (c) Looking south at south face of cut; showing fold and small fault near top; note hammer (circled) for scale.



Photo (d) View northwestward just east of mine site, showing mine road (center and upper left) and the La Joya del Pedregal plain 400' below in the distance.