

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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New Mexico Bureau of Mines and  
Mineral Resources  
Open-File Report 148

## 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.

Acknowledgments - The writer wishes to thank the following people for their valuable assistance in the field: Lars (Skip) Skotte, Richard Chamberlin, JoAnne Osburn, Mary Ann Anderson, and Cheryl Kyllonen.

A special thanks is extended to Mr. William Chenoweth of the U.S. Department of Energy, both for his time in the field as well as the claim maps and A.E.C. mine production records he provided. Mr. John Blagbrough provided helpful information about the Chuska district. The editorial assistance of Wyatt Brewster and Lars (Skip) Skotte is gratefully acknowledged.

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: Grants 7½'

1. NM-173-1-1 Page 58  
Anaconda F-33 (F-33)
2. NM-173-1-2 Page 66  
Tom 13 (Tom)
3. NM-173-1-3 Page 68  
Lone Pine 3 (Lone Pine)
4. NM-173-1-4 Page 74  
Cedar 1 (Yucca) (Falcon?)

Quad: Mesa Gigante 7½'

1. NM-176-3-1 Page 78  
Chavez (Canoncito)

Quad: Moquino 7½'

1. NM-175-1-1 Page 80  
Woodrow (Woodrow Breccia Pipe)

Quad: San Mateo 7½'

1. NM-150-3-1 Found under McKinley Co; Quad: San Mateo  
Rialto (Chill Wills)
2. NM-150-3-2 Page 83  
San Mateo

Quad: South Butte 7½'

1. NM-199-2-1 Page 92  
Crackpot Mine

Mine name(s) San Mateo County ValenciaSection NE $\frac{1}{4}$  Sec. 30 Twنش. 13 N R. 8 WQuadrangle sheet San Mateo 7 $\frac{1}{2}$ 'Mining district Mt. TaylorElevation 7,020'Nearest city and/or dwellings San Mateo, 4 $\frac{1}{2}$  mi. east

The San Mateo Mine is located in the NE $\frac{1}{4}$  of sec. 30 on the north flank of La Jara Mesa just inside the Cibola National Forest boundary. It is accessible via State Highway No. 53. From the junction of no. 53 and no. 509 (Ambrosia Lake junction) proceed eastward on no. 53 for 2 mi. to the Marcus Ranch. At this point take dirt road southward through gate (gate is kept locked by Mr. Sonny Marquez of San Mateo) and proceed southward and eastward 2 mi. to mine site.

The mine consists of a vertical shaft that penetrates alluvium, several hundred feet of Mancos Shale, The Dakota Sandstone, and the Brushy Basin member of the Morrison fm. The mine is developed at about the 1400' level in the Poison Canyon Sandstone Tongue in the lower Brushy Basin member. It marks the southeastern end of the Poison Canyon trend in which the deposits are generally elongate southeastward. United Nuclear Corporation sunk the shaft in the early 1960's and the mine produced through 1971. Total production is unknown.

A view of the mine site is shown in photo (a). A close-up of the shaft site, photo (b), shows a re-inforced concrete slab covering the shaft, caving around the slab, a danger sign, and a toppled over ore bin. Photos (c) & (d) are close-ups showing the extent of the caving around the west side of the concrete slab that has exposed a portion of the upper shaft. Dimensions of the shaft are not known; some timbering exposed at about 20' down. Scintillometer readings at the shaft edge ranged up to 700 cps.

Approximately 250' east of the shaft is a 30" diam. ventilation shaft covered with  $\frac{1}{4}$ " plate metal. A concrete pad for the blower motor remains; site is enclosed by a wire mesh fence that has been partially broken down (see photo e). Immediately north of the mine shaft is the concrete slab and foundation for the hoist and drum and a machine shop. The slab measures 38' x 115' (see photo f). 175' west of the shaft is another concrete slab, 40' x 110' with a considerable amount of general debris strewn about (see photo g).

The mine waste dump area extends northward from the mine shaft at a level 15'-20' lower than that at the mine. It measures approximately 450' long (E-W) and up to 300' in width. Photo (h) is a view southward from near the NE corner of the dump toward the mine shaft. Height of the dump at the toe ranges up to 30'. Maximum scintillometer reading on a traverse of the dump area was 3000 cps. Erosion and gulying on the east edge of the dump is illustrated in photo (i). Deep gulying to this extent is not, however, characteristic of the entire margin of the waste dump. The abrupt slope that separates the bench at mine level from the broad, flat surface of the

dump area is shown in photo (j). Part of the dump area shown may have been used to stockpile ore as local "hotspots" were found.

A view northward from the toe of the dump toward San Mateo Creek (photo k) shows the rectangular shaped earthen embankment where the company carried on some heap leaching experiments. The embankment measures about 100' x 200'; the 20' high cylindrical metal tank remaining near the site was perhaps used to store chemicals. Distance from the toe of the dump to San Mateo Creek is perhaps 1500', however, a tributary passes much closer than this at the eastern edge.

Recommendations: (1) The shaft site should be fenced to keep man and beast away from the area of active caving. Present fence is in poor condition and is ineffective.  
(2) United Nuclear Corporation officials should be contacted for details on how the upper shaft area was sealed before the surface slab was poured. A description of how the heap leaching site was sealed is also needed.

References: (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603.  
(2) Hilpert, L., 1965, Uranium section, in, Mineral and Water Resources of New Mexico: New Mexico Bur. of Mines and Mineral Resources Bull. 87.  
(3) New Mexico State Mine Inspector's Office, inactive uranium mine file.  
(4) Field notes, 1/30/80.



Photo (a) View northwestward of San Mateo Mine site.



Photo (b) Looking northeast at shaft site showing caving which has begun around perimeter of concrete slab, and toppled ore bin; note range pole for scale.

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Photo (c) Close-up of shaft site showing extent of caving; concrete slab is 8" thick at far left.



Photo (d) Close up of concrete slab over mine shaft showing void beneath; note range pole in foreground and again the ore bin.



Photo (e) Looking eastward at 30" diam. ventillation shaft and foundation for blower motor. Wire mesh fence surrounding site has been partially destroyed.



Photo (f) Looking northeastward at concrete slab and hoist and drum foundation. Slab measures 38' x 115'; note range pole for scale.



Photo (g) Looking westward at concrete slab and general debris west of shaft site: Slab measures 40' x 110' and was probably used as office space; note range pole just right of center.



Photo (h) Looking southward from near northeast corner of mine dump area toward the mine shaft on bench at higher level.



Photo (i) View northward at east edge of dump showing gullying; note range pole for scale and tributary in background visible through the gully notch.



Photo (j) View northwestward from eastern edge of dump showing mine level at far left, upper surface of dump area at center foreground and right, and level of San Mateo Creek at right in the middle distance.

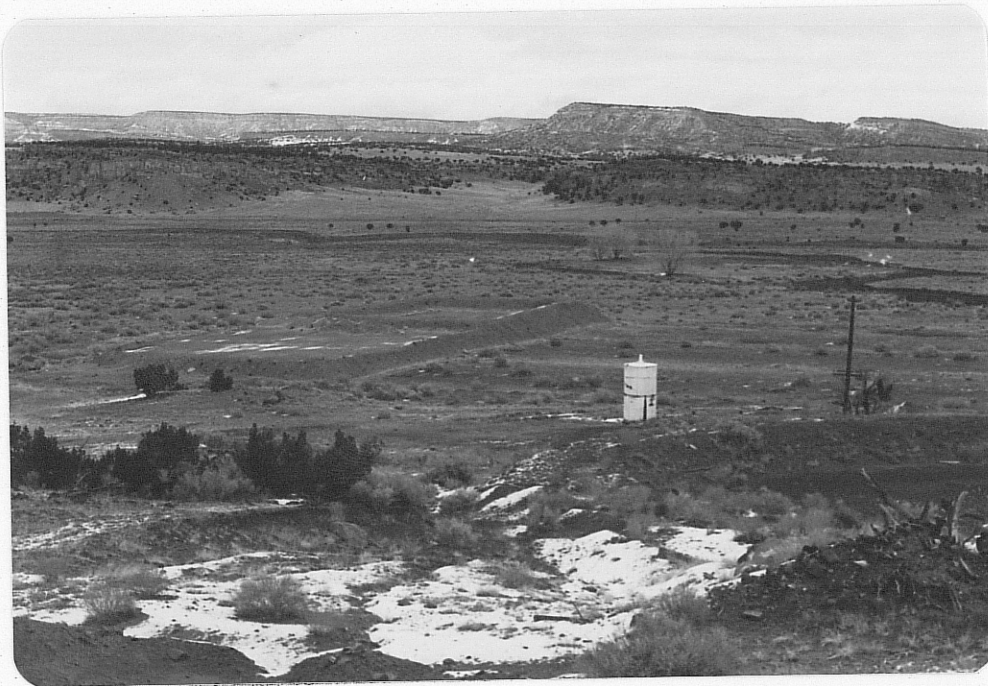


Photo (k) View northward from toe of dump showing rectangular earthen embankment used for heap leaching experiments; note metal tank perhaps used for chemical storage. San Mateo Creek in middle distance flows from right to left. A tributary entering from south (arrow) passes within several hundred feet of eastern edge of dump.