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

Orin J. Anderson

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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.

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Bernalillo County	6 pages	$1.20
Catron County	9 pages	$1.80
Dona Ana County	6 pages	$1.20
Eddy County	5 pages	$1.00
Grant County	22 pages	$4.40
Harding County	3 pages	$ .60
Hidalgo County	10 pages	$2.00
McKinley County	275 pages	$55.00
Mora County	6 pages	$1.20
Quay County	7 pages	$1.40
Rio Arriba County	30 pages	$6.00
Sandoval County	24 pages	$4.80
San Juan County	192 pages	$38.40
San Miguel County	15 pages	$3.00
Santa Fe County	11 pages	$2.20
Sierra County	19 pages	$3.80
Socorro County	25 pages	$5.00
Taos County	10 pages	$2.00
Torrance County	5 pages	$1.00
Valencia County	98 pages	$19.60
		$ 153.60

SANTA FE COUNTY

Date visited 9/13/79

Mine name(s) Marion County Santa Fe

Section N½ 7 Twnsh. 20 N R. 10 E

Quadrangle sheet Cundiyo 7½'

Mining district N.A.

Elevation 6610'

Nearest city and/or dwellings 1000' NW of cabin on Northern edge of Santa Cruz Reservoir. 1 mi. SE of Sanctuario Retreat.

The Marion Prospect is located on the southeast edge of a spur overlooking Santa Cruz Reservoir. The prospect is approximately 1200 ft. N of the dam, and 1500' west of The Santa Cruz River.

The Marion consists of two bulldozer cuts and an ore chute/access road (photos a & b). The bulldozer cuts are less than 2' deep. One trends west, is 40' long and 15' wide. The second trends NW, is 30' long 10-15' wide. The combination ore chute access road is 10' wide and 40' long in the bulldozed area. Total disturbed area is 60' x 60'.

Host rocks are granite gneiss and biotite-microcline granite members of the Embudo Granite (Miller, et. al., 1963). No visible uranium minerals.

References: (1) Miller, J. P., Montgomery, A., and Sutherland, P. K., 1963, Geology of Part of the Southern Sangre de Cristo Mtns., New Mex., N. M. Bur. Mines and Mineral Resources, mem. 11.
(2) New Mexico State Mine Inspectors Office, inactive uranium mine file.
(3) U.S. AEC RME-160.

Photo (a) Bulldozer cut, Marion Prospect.

Photo (b) Access Road - ore chute, Marion Prospect.

Date Visited 9/14/80

Mine name(s) Rodgers Claims (Becky) (San Jose) County Santa Fe

Section 17, 20, (29-San Jose) Twnsh. 20 N R. 9

Quadrangle Sheet Espanola 7½'

Mining district N.A.

Elevation 5800'

Nearest City and/or dwelling Sombrillo & Rancho Valle (Unincorporated) 2 mi. N; additional scattered dwellings along US 64 & 84.

The Rodgers claims run north-south along two tributaries of Arroyo Seco. U.S. interstate 64, 84,285 running north south is approximately ½ mile due west of the claims.

Workings on the claims consist of several small bulldozer pits, which now serve as catch basins for water promoting vegetation growth (see photos a & b). The pits are supposedly spread out over three sections, however, this search revealed workings only in the S½ of Sec. 17 and the N½ of Sec. 20. Dimensions of a typical pit are 15' x 15' x 2' deep. No scintillometer readings are available. Anomalous areas were apparently detected using airborne radiometrics (Hilpert, 1969) and claims staked accordingly.

The dozer cuts are in the Santa Fe group, consisting of slightly consolidated sandstones, siltstones, and mudstones. No uranium minerals were visible during the field visit, but according to Hilpert (1969), carnotite, schroeckingerite, and meta-autonite coal fractures in a small pit in the NW¼ of Sec. 29, and a grab sample yielded 0.27% U_3O_8. Another grab sample in the SW¼ of 17 yielded U_3O_8 values of 0.03%

Photo (c) shows an additional prospecting pit on the north bank of a small drainage line. In the background may be seen some of the dwellings that characterize scattered development along U.S. route 64 & 84.

References: (1) Chenoweth, William, 1979, Uranium in The Santa Fe Area in New Mexico Geol. Soc. 30th Field Conference Guide book, Santa Fe County, p.263.
(2) Collins, G. E., and Freeland, R. G., 1956, Airborne and Ground Reconnaissance in the Espanola area, Santa Fe County, New Mexico, U.S. AEC RME-1075.
(3) Hilpert, L., 1969, Uranium Resources of NW New Mex; USGS Prof. Paper 603.
(4) N. Mex. State Mine Inspector.

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Photo (a) Small bulldozer cut-Rodgers claims.

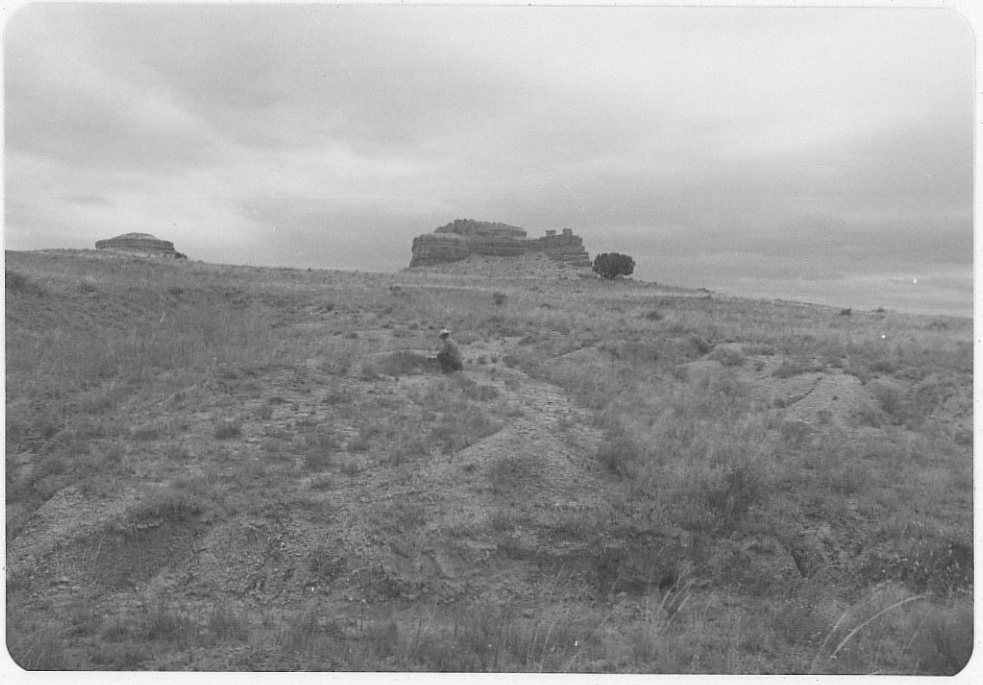

Photo (b) Rodgers claims, Santa Fe Fm., looking north.

Photo (c) Rodgers Claims, looking NW; note claim marker in immediate foreground. Locale is near Sec. 17/20 line.

Date Visited 9/21/79

Mine name(s) La Bajada (Lone Star) County Santa Fe

Section NW¼ 9 W. Twnsh. 15 N R. 7 E

Quadrangle Sheet Tetilla Peak

Mining district La Bajada

Elevation 5580'

Nearest City and/or dwelling 4 miles west of La Cienega

The La Bajada is located on the floodplain of the Santa Fe River, the river having been diverted slightly to the south which enabled mining operations to proceed.

Workings consist of an open pit and shaft. The open pit (photo a) is 125' (N-S) x 425' (E-W), and filled with water. The cut on the north side of the pit is 50' high (photo b). The shaft is underwater and is located at the NW side of the pit. The shaft is vertical and was worked for copper in the early 1920's (Hilpert, 1969).

The shaft is reportedly 170' deep, with drifts and crosscuts at 140 and 170'. The mine was developed by La Bajada Mining Co. in the 1920's and produced 8 tons of ore containing 24 oz. silver and 2423 pounds of copper. Much later Lone Star Mining and Development Corp. acquired the property and a small shipment of uranium ore was made in 1957. According to the State Mine Inspectors Minerals Yearbook, $16,942 worth or ore was shipped in 1963, and 9,708 was shipped in 1964. Development work was reported in 1965.

In addition to the above workings, there is a series of drill and exploration roads across the river to the south of the pit (photo c). These represent no hazard. A series of ore dumps and waste piles sit to the west of the pit and encompass an area of 150' E-W x 100' N-S. No scintillometer readings were available at the time of the field check.

The host rock at La Bajada is the Oligocene Espinaso Formation, which is a tuff-breccia. Mineralization is confined mainly to a fault which cuts the Espinaso; (see sketch on page 8). The rocks have been hydrothermally altered and injected with sulfides of copper and iron. An interpretation of the genesis of the deposit is given in Vassilou & Kerr, 1972. No uranium minerals have been identified in what is called urano-organic matter.

A water sample from the pit was obtained for chemical analysis. Tests showed 23 ppm SO_4 and .25 ppm total Fe: A complete analysis was not carried out, however, because local surface water quality would be so overwhelmed by Santa Fe River water which carries the sewage effluent from the city of Santa Fe primary treatment plant.

(turn)

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References: (1) Chenoweth, William, 1979, Uranium in the Santa Fe Area, in New Mexico Geol. Soc. 30th Field Conference Guidebook, Santa Fe Country; p. 261.
(2) Elston, W. E., 1967, Summary of the Mineral Res. of Bernalillo, Sandoval, and Santa Fe Countries, New Mex., N. M. Bur. Mines Bull. 81., pp. 36-37.
(3) Haji-Vassilou, A., and Kerr, Paul F., 1972, Uranium-organic matter association at La Bajada, New Mex., Econ. Geol. Vol. 67, pp. 41-54.
(4) Hilpert, Lowell S., 1969, Uranium Res. of NW New Mex., USGS Prof. Paper 603, 66 p.
(5) Lustog, L. K., 1957, The Mineralogy and paragenesis of the Lone Star Deposit, Santa Fe County, New Mexico, unpub. masters thesis, Univ. N. Mex., 55p., 13 figs.
(6) State Mine Inspector.

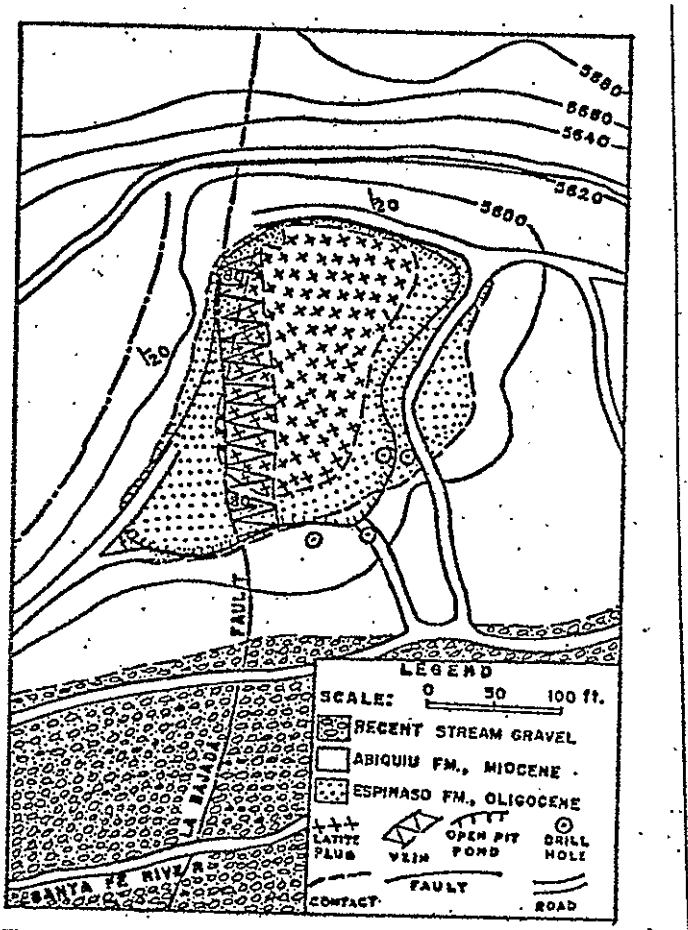

FIG. 3. General geology of La Bajada mine and vicinity.

From Vassilou and Kerr, 1972. Econ Geol. V67, Pr411-54.

Photo (a) La Bajada Open Pit.

Photo (b) Cut at north end of La Bajada Pit.

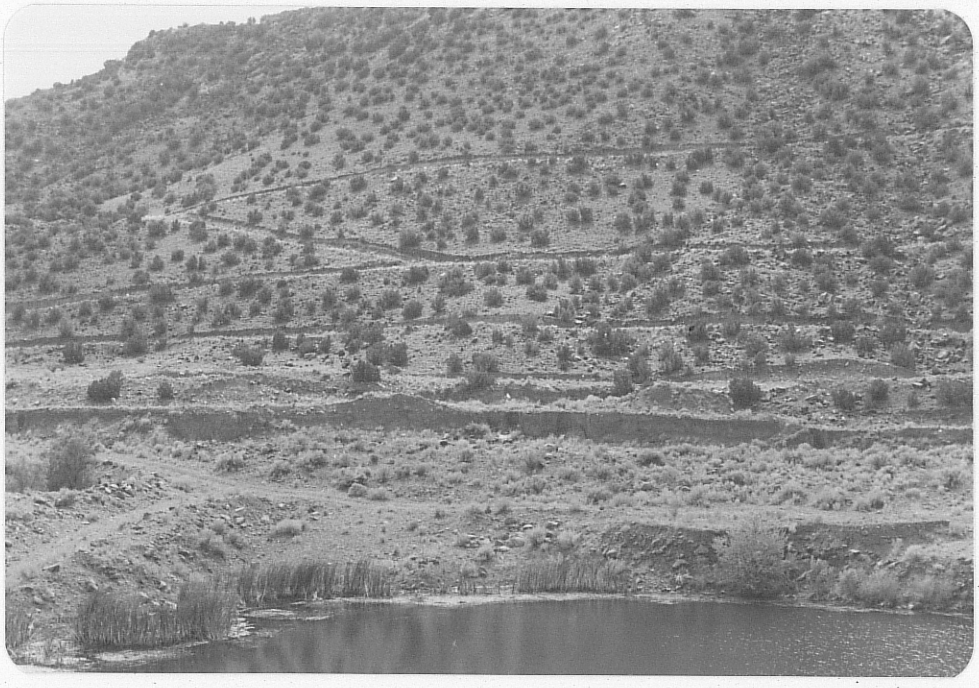

Photo (c) Drill roads on south side of Santa Fe Canyon.