# 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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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: Bread Springs 7½'



Quad: Church Rock 7½'



Quad: Dos Lomas 7½'

*Dos Lomas Quad reports #26 - #35 found under Valencia County

Quad: Gallup East 7½'



Quad: Goat Mountain 7½'

Date visited 1/10/80

Mine name(s) Sec. 25 Strip Complex County McKinley

Section 25 Twnsh. 13 N R. 10 W

Quadrangle sheet Dos Lomas 7½'

Mining district Poison Canyon Trend

Elevation 6,900'-7,000'

Nearest city and/or dwellings Single family dwellings in sec. 26, 1 mile W NW.

The Sec. 25 Mine is one of the most extensive strip complexes on the Todilto bench. It extends from the break in the workings that exists at the southeast edge of the sec. 25 decline in the NW¼ (see sec. 25 decline report) all the way to the east section line, a distance of at least 5/8 of a mile.

The workings consist of open pits, trenches, box cuts, and one decline. They range from shallow pits less than 5' deep to box cuts with shear walls of 40'-50'. A silty overburden approaches 50' thick in places.

The workings are shown and described photographically on the following pages, beginning in the southwest ¼ of the section, then the center, the southeast, and then the area along the road just north of center.

The various workings exploited many small, medium, and large deposits generally in the lower part of the Todilto limestone; the cluster of deposits trends southeastward from the central part of the section into the SW¼ of adjoining section 30 (Hilpert, 1969). The area was mined during the 1952-64 period, however, the State Mine Inspector's Office has a registration on the section as recently as March, 1973 with Bailey and Fife as the operator. Production through 1958 totaled 75,739 tons of ore averaging 0.195% $U_3O_8$ (AEC PED-1, 1959). The section belongs to the Santa Fe Pacific Railroad Co.

Details on the ore bodies in sec. 25 are discussed in McLaughlin (1963); it was stated that the ore bodies number 50 or more but the great majority of them have been mined out.

The productivity of this section in terms of biomass production and carrying capacity has definitely been impaired as a result of the strip mining activity. The rather large spoil piles of unconsolidated overburden that occur throughout the mine complex might allow some regrading at a lower cost than otherwise might be.

The Frontispiece of New Mexico Bureau of Mines and Mineral Resources Memoir 15 is a distant aerial view of the sec. 25 area.

References: (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603, p. 37.
(2) McLaughlin, E. D. Jr., 1963, Uranium Deposits in the Todilto Limestone of the Grants District, in Geology and Technology of

the Grants Uranium Region: New Mexico Bur. of Mines and Mineral Resources, Mem. 15, p. 146.
(3) State Mine Inspector's Office, inactive uranium mine file.
(4) U.S. AEC PED-1, 1959, Mine Operation Data Report, GJO/AEC, p. 57 (microfiche only).
(5) Field notes, 1/10/80.

Photo (a) Looking westward at a 20' deep pit in the SW¼ 25; pit is about 175' long with gamma levels up to 2,200 cps; note person at center for scale.

Photo (b) Looking southward immediate adjacent to (a); pit is 25' deep several hundred feet long, with gamma readings to 2,000 cps. Trees in background are near edge of mesa in the SW¼ 25.

Photo (c) Looking west northwest into a 600' long extensively stripped area lying just several hundred feet to southwest of center of section; gamma levels on traverse range up to 3,000 cps. Note person at center for scale.

Photo (d) Side workings off the area shown in (c); extensively worked pit with gamma levels ranging up to 2,800 cps. Note person for scale.

Photo (e) View of 12' high coarse waste pile composed of Todilto limestone fragments, gamma reading about 900 cps. Note person at center for scale.

Photo (f) Spoils pile near center of section, several hundred feet north of area shown on preceeding pages. Pile is 18' high, 250' long. Note person left of center for scale.

Photo (g) Looking westward into 25' deep 200' diameter pit near center of section 25. Highwall is in unconsolidated overburden; no bedrock exposed in pit at present. Note person (circled) for scale.

Photo (h) Looking southward from near center of section into area shown in photos (a) through (f). Disturbed area extends more than 1,000' into background.

Photo (i) Looking east in southeast ¼ 25 at 20' high, 300' long spoils pile along south side of pit; pit is shown below.

Photo (j) Looking east into 500' long open pit on north edge of spoils pile shown in (i). Pit averages 100' wide, gamma levels= 500-600 cps. Note person left of center for scale.

Photo (k) Looking southeast into an area about 500' northwest of center of sec. 25 just south of road showing extensive spoil piles and mine dumps. Note person at center for scale.

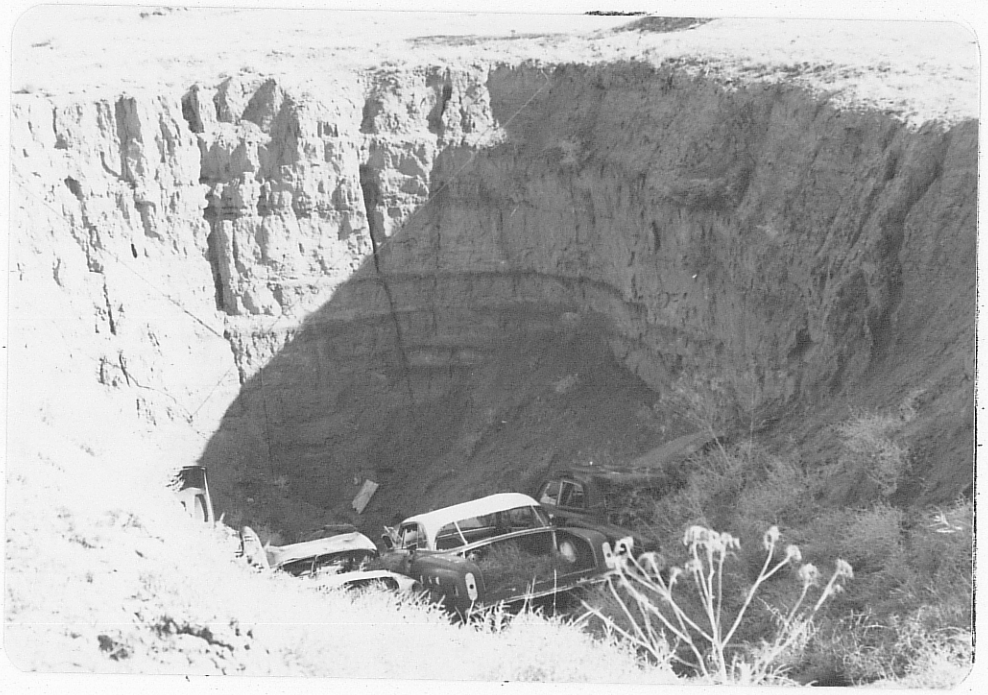

Photo (L) Additional workings near center of sec. 25; this pit is 25' deep and may have had decline diven at bottom. Highwall is in unconsolidated overburden. Site is just 75' south of main road, tumbleweed and blowsand have already buried several layers of auto bodies.

Photo (m) Decline driven northward at site about 400' south of road near center of section 25. Portal is about 8' wide, timbered, but silting in. Workings go back at least 170' at $6^{o}$-$8^{o}$ decline. Gamma levels=700 to 4,000 cps.

Photo (n) Open pit in overburden, 250' east of decline shown in (m); pit measures 150' x 350' and is 40' deep. Blow sand and wash have concealed bedrock on the floor.

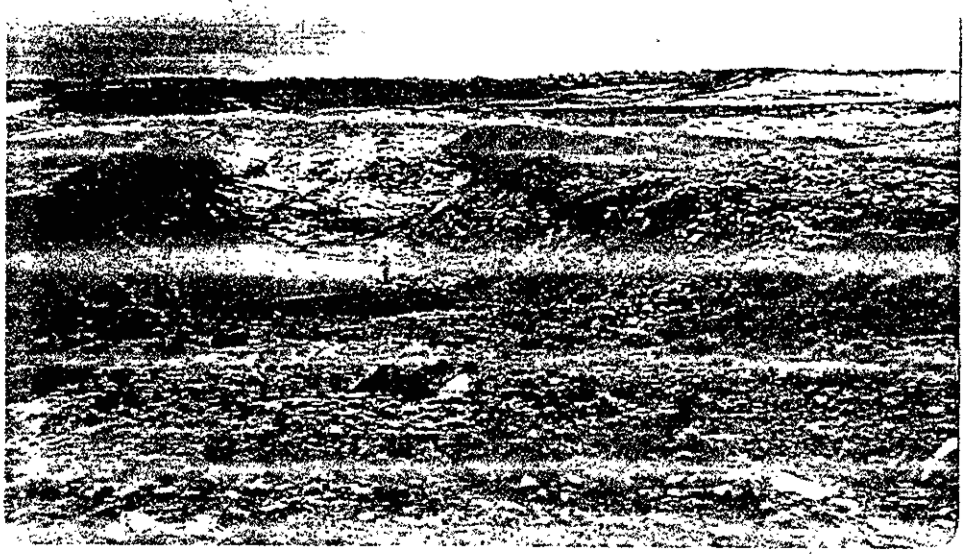

Photo (o) Looking south into small pit exposing Todilto limestone on face at right. This pit is 60' wide, 200' long and is readily visible to passerby on road 150' to north; gamma levels up to 1,800 cps recorded on face.