

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

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.

ABANDONED OR INACTIVE URANIUM
MINES IN NEW MEXICO

Orin J. Anderson

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
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Taos County	10 pages	\$2.00
Torrance County	5 pages	\$1.00
Valencia County	98 pages	<u>\$19.60</u>
		\$ 153.60

VALENCIA COUNTY

Quad: Dos Lomas 7½'

- | | | |
|-----|---|---------|
| 26. | NM-149-4-26 | Page 1 |
| | Double Jerry (Vallejo) | |
| 27. | NM-149-4-27 | Page 4 |
| | Christmas Day | |
| 28. | NM-149-4-28 | Page 8 |
| | Red Bluff Claims 1,2,3,4,5,9 | |
| 29. | NM-149-4-29 | Page 15 |
| | Black Hawk, Bunney, Gay Eagle, Red Bluff, and UDC | |
| 30. | NM-149-4-30 | Page 28 |
| | Last Chance | |
| 31. | NM-149-4-31 | Page 31 |
| | Section Nine | |
| 32. | NM-149-4-32 | Page 39 |
| | Taffy (Bonanza) | |
| 33. | NM-149-4-33 | Page 41 |
| | La Jara | |
| 34. | NM-149-4-34 | Page 45 |
| | Zia | |
| 35. | NM-149-4-35 | Page 52 |
| | Linear Prospecting Trenches | |

Quad: Dough Mountain 7½'

- | | | |
|----|----------------------------|---------|
| 1. | NM-199-1-1 | Page 54 |
| | Sandy (South Laguna Mines) | |

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

Paisano Prospect

Date visited 2/1/80

Mine name(s) Double Jerry (Vallejo) County Valencia (McKinley)

Section NW $\frac{1}{4}$ 3 Twنش. 12 N R. 9 W

Quadrangle sheet Dos Lomas

Mining district Grants

Elevation 6,980'

Nearest city and/or dwellings _____

The Double Jerry is located in sec. 3 of T. 12 N., R. 9 W., in Valencia Co., however, the portal is in the SW $\frac{1}{4}$ sec. 34 of T. 13 N.; R. 9 W., in McKinley Co. Most references have listed the mine as being in Valencia Co.

The mine is accessible via the Roundy Ranch road which leaves state highway no. 53 7.3 mi. north of the no. 53 and no. 66 junction at Milan. Travel northeastward on the ranch road, staying left at all road forks until ascending the mesa in section 4. In the middle of sec. 4 turn left again and follow trail northward across drainage line to sec. 4/sec. 33 fence line, then right to U.S. Forest Service gate. Pass through gate and follow road approximately 1/2 mi. to mine which is very near the southern line of sec. 34.

The workings consist of a 600' long, 20^o incline (inclined adit) driven into Todilto limestone. The 12' x 12' timber head frame and load out and the 12' x 16' wooden shack that housed the hoist remain at the site (see photos a & b). The portal is about 6' high x 8' wide and timbered; incline was tracked and timbered. Caving has exposed the first 25' of the incline and 100' back from the portal a 20' diameter hole has caved through to the incline (see photo c). Also shown in the photo is a small drainage line that passes immediately behind the caved area and across the top of the incline. All mine timbering is in poor condition and the site could be considered slightly hazardous. Scintillometer readings in the area of the portal and loadout facility range from 350-600 cps, or up to 9 x background. A small powder magazine is visible on the slope about 300' southwest of the mine.

The mine was opened in 1957 and operated by Vallejo Uranium Mines Inc., until it closed in 1962. By late 1958 it had produced about 1,600 tons of high lime, low vanadium ore that averaged .21% U₃O₈. Total production is not known.

- 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, p. 215.
 - (3) U.S. A.E.C., 1959, Mine Operation Data Report, AEC-PED-1.
 - (4) Field notes, 2/1/80.



Photo (a) View northeastward of Double Jerry Mine.



Photo (b) View northward of timbered incline and the headframe and loadout, from drainage line; range pole is on narrow divide between drainage line and caved area over the incline.



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Photo (c) View southward showing the mine dump on the left, the portal and caved area behind, and the small drainage line on the right.

Date visited 2/1/80

Mine name(s) Christmas Day County Valencia

Section NE $\frac{1}{4}$ Sec. 4 Twنش. 12 N R. 9 W

Quadrangle sheet Dos Lomas 7 $\frac{1}{2}$ '

Mining district Mt. Taylor

Elevation 7,000'

Nearest city and/or dwellings Milan, 9 miles south

The Christmas Day Mine is located in the SE $\frac{1}{4}$, NE $\frac{1}{4}$ of sec. 4 immediately west of the Red Bluff #9 claim, see Fig. 1. To reach the mine area travel north on highway no. 53 for 7.3 miles from the no. 53 and U.S. no. 66 intersection. Then take the Roundy Ranch road northeastward for about 3 miles to the top of the mesa in sec. 4.

The mine consists of a more or less C-shaped trench, open to the north, with a 60' radius, (see photo a). The trench is up to 20' deep, but only the bottom 5' to 6' is in Todilto limestone, the remainder is aeolian overburden. The western arc or limb is the longest and widest and provided the access to the pit (see photo b). The tailings dump area is located 300' directly out from the access ramp and is shown in photo (c). Dump is 120' in maximum dimension, and up to 6' high; some secondary mineralization noted on the dump rock, scintillometer readings up to 700 cps.

The workings exploited a cluster of small to medium deposits in the lower Todilto, that trend northeasterly through the area, ranging from a few feet to 200' wide (Hilpert, 1969). Mineralization is associated with fractures and low amplitude intraformational folds. Scintillometer readings were in the 500-700 cps range; a trace of yellow secondary uranium mineralization was noted in places. Trenches are filling with tumbleweed and blow sand (see again photo a) and floors have developed vegetation cover.

Mine was operated from 1954 to 1956 (Hilpert, 1969); but last registration at State Mine Inspector's Office was in August, 1954.; by the Colamer Corporation.

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603, p. 58.
 - (2) State Mine Inspector's Office, inactive uranium mine file.
 - (3) McLaughlin, E. D., Jr., 1963, Uranium Deposits in the Todilto Limestone of the Grants District, in Geology and Technology of the Grants Mineral Region: New Mexico Bureau of Mines and Mineral Resources, Memoir 15, p. 147.
 - (4) Field notes, 2/1/80.

V-4

R. 9 W.

33 34

T. 13 N.

T. 12 N.

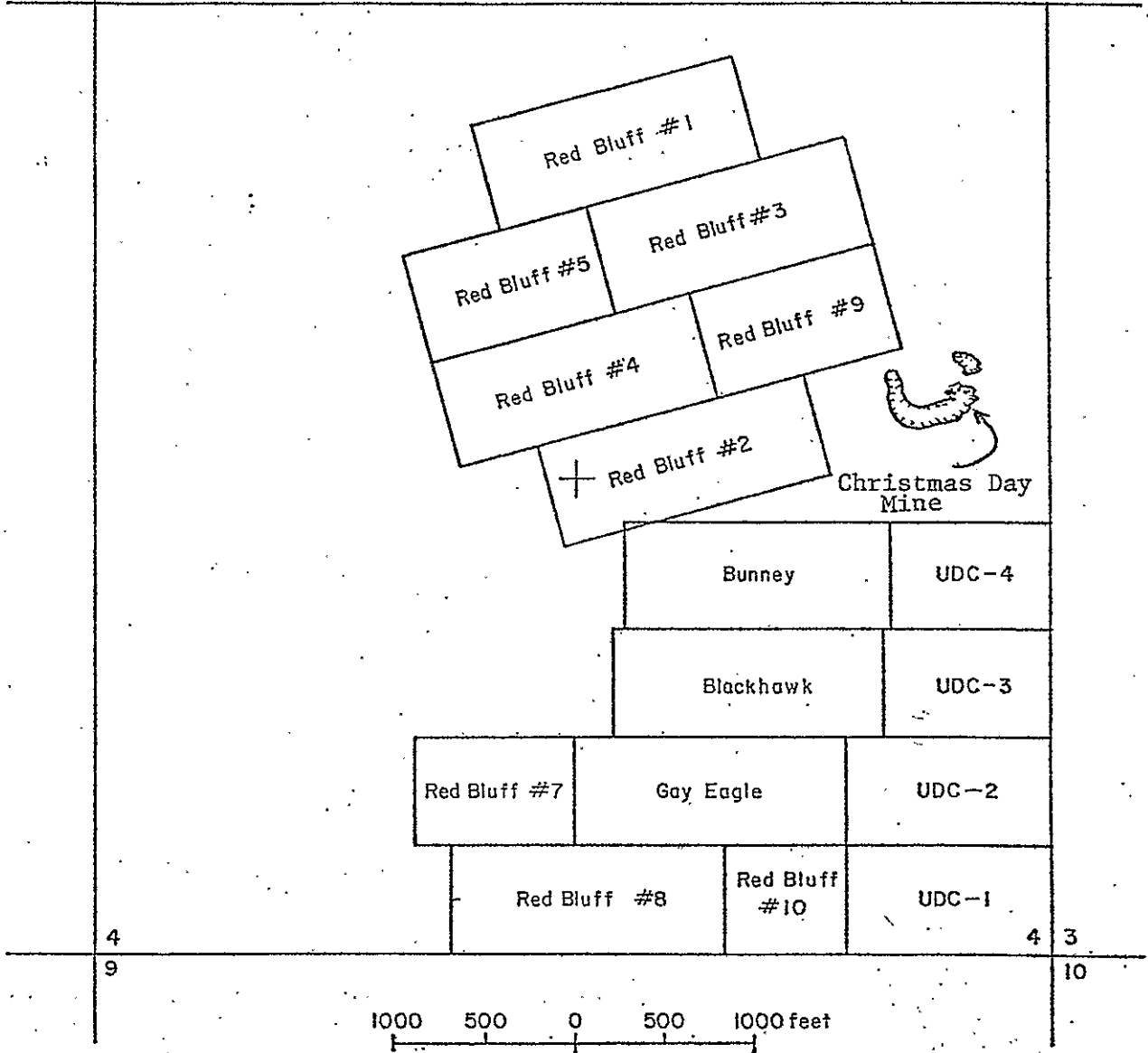


Fig. 1 Sec. 4 mining claims filed in late 1950 and early 1951 (source: mining claim records, Valencia Co., Courthouse). Note the Christmas Day Mine in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, just east of Red Bluff #9.

V-5



Photo (a) Looking westward into the east and south edges of the Christmas Day workings; blanket of aeolian sediment is here quite thick, often over 15'.



Photo (b) Looking northwestward into the western limb of the Christmas Day workings.



Photo (c) Looking northwestward at Christmas Day tailings dump area.
—Note person in photo for scale.

Date visited 2/1/80

Mine name(s) Red Bluff Claims 1, 2, 3, 4, 5, 9 County Valencia

Section N $\frac{1}{2}$ Sec. 4 Twnsh. 12 N R. 9 W

Quadrangle sheet Dos Lomas 7 $\frac{1}{2}$ '

Mining district Mt. Taylor

Elevation 6,975'

Nearest city and/or dwellings Milan, about 9 miles south. Roundy Ranch is 1 $\frac{1}{2}$ miles southwest, but is not inhabited continuously

The Red Bluff Claims #1-5, and #9 are located in the N $\frac{1}{2}$ of sec. 4 (claim #2 extends into the south $\frac{1}{2}$) as shown in Fig. 1. The claims may be reached by traveling north on highway no. 53 for 7.3 miles from the intersection no. 53 and U.S. no. 66. Then take the Roundy Ranch road northeastward for approximately 3 miles to the top of the mesa in sec. 4.

The workings consist of small open cuts and trenches in Todilto limestone. There is an overlying blanket of aeolian sand that generally varies from less than 1' to 10' thick. The deposits are associated with fractures and intraformational folds, however, the folding is more apparent in the workings in the southern half of the section. Claims #1, 2, and 4 have the largest workings and the only ones with trenches longer than 100'; in addition claim #2 has perhaps the only underground workings of the group in the form of a 20' long adit. Photographs (a) through (f) illustrate the more significant disturbed areas on these claims.

Primary unoxidized minerals that have been identified are uraninite, coffinite, paramontrosite, haggite, and fluorite (Hilpert, 1969). Most of the uraniferous deposits in the Todilto fm. are at or near the surface and so have been oxidized. This oxidation produces the common, conspicuous, yellow to yellow green encrustation of the secondary minerals tyuyamunite, metatyuyamunite, uranophane, and less commonly carnotite. If the secondary minerals are present scintillometer readings will generally be 1,000 cps or more. Claims #1 and #4 both had areas that gave scintillometer responses of 1,000 cps.

A sample of water taken from the pond shown on photo (c), (Red Bluff #4) was analyzed and the results are shown in Table 1.

Table 1

Sample	Conductivity mmho/cm ³	pH	Total dissolved, in ppm			
			Fe	U ₃ O ₈	Se	SO ₄
Red Bluff #4 Pond Water	250	8.	>.1	.012	>.005	27

The claims were filed in 1950 and 1951 and were worked between 1952 and 1956, however, some were registered with the State Mine Inspector's Office as late as 1964 and 1965. In September, 1976 one James Achen staked the ACRI claims no. 6 thru 8 in the NE $\frac{1}{4}$ of sec. 4. The claims were the standard 600' x 1,500' dimension, and extended from the east section line 1,500' westward. As such they would overlap the Red Bluff group, which were never patented.

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. paper 603.
 - (2) Lovering, T. G., 1956, Radioactive Deposits in New Mexico; U.S.G.S., Bull. 1009-L, p. 376.
 - (3) Mining Claim Records, Valencia County Courthouse.
 - (4) Field notes, 2/1/80.

R. 9 W.

33 34

T. 13 N.

T. 12 N.

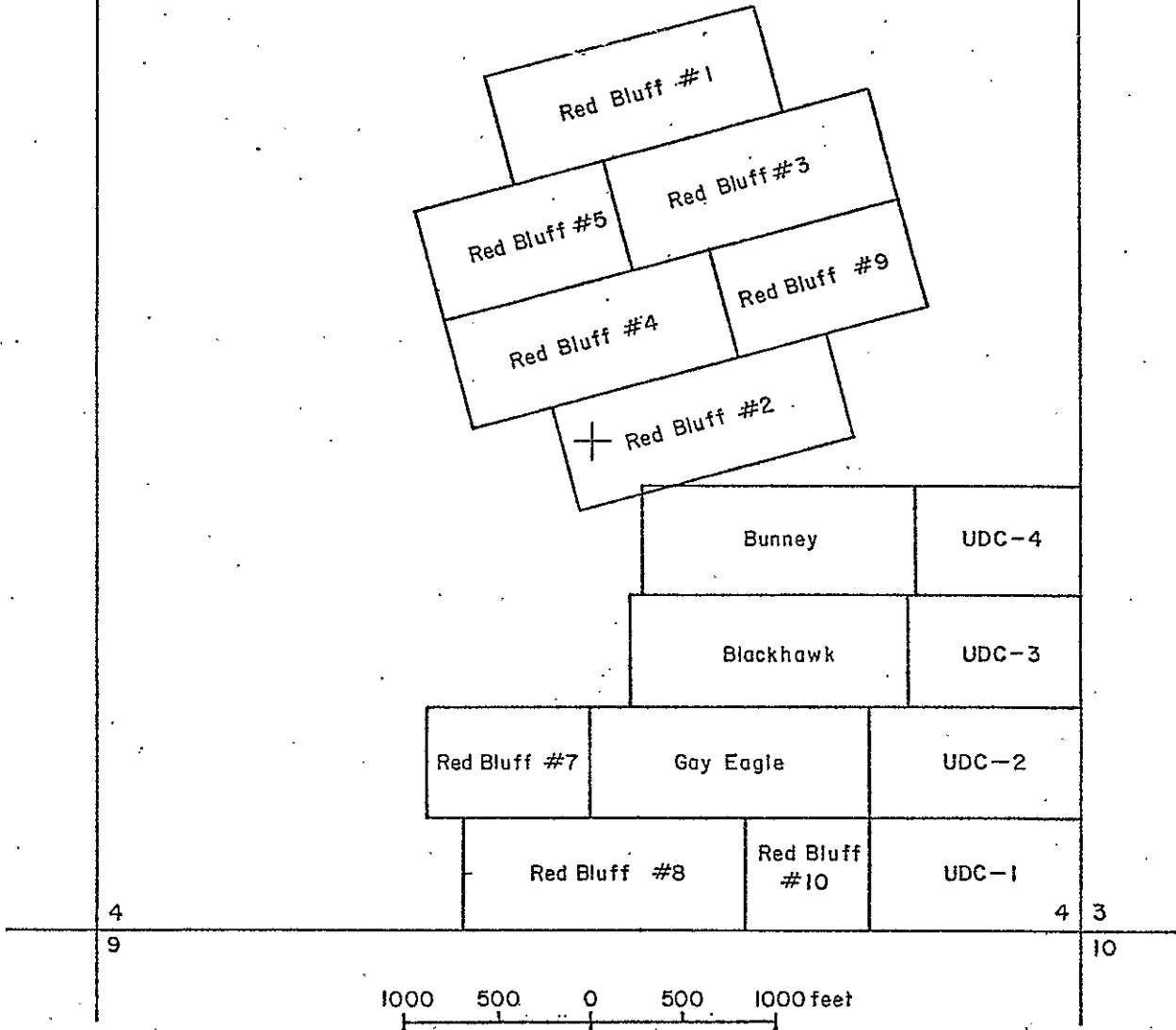


Fig. 1 Sec. 4 mining claims filed in late 1950 and early 1951 (source: mining claim records, Valencia Co., Courthouse).



Photo (a) View northwestward on Red Bluff #1 Claim; Haystack Mtn., at left in background. A close-up of one of the main cuts is shown in next photo.

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Photo (b) Looking northward into a 140' long open cut on Red Bluff #1; note range pole at center photo for scale.



Photo (c) Looking west into workings near Red Bluff #4 and #5 boundary; this pit is probably on the Red Bluff #4 side. Pond is 10' wide, 25' long, and $2\frac{1}{2}$ ' deep at maximum.



Photo (d) Looking north-northeast near the Red Bluff #3 and #9 boundary, at a series of very small open pits and trenches in Todilto limestone.

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Photo (e) Looking westward into small trench near the southwest end of Red Bluff #2 Claim; small adit at other end of trench behind viewer is shown in photo (f). Note range pole left of center for scale.



Photo (f) Looking southeastward into small adit 4' high, 6' wide, 20' long near the southwest end of the Red Bluff #2 Claim.

Date visited 3/19-21/80

Mine name(s) Black Hawk, Bunney, Gay Eagle, Red Bluff, County Valencia
and UDC

Section S $\frac{1}{2}$ Sec. 4 Twنش. 12 N R. 9 W

Quadrangle sheet Dos Lomas 7 $\frac{1}{2}$ '

Mining district Mt. Taylor

Elevation 7,040'

Nearest city and/or dwellings Milan, about 9 miles south. Roundy Ranch is 1 $\frac{1}{2}$ miles southwest, but is not inhabited continuously.

The Black Hawk, Bunney, UDC 1-4, The Gay Eagle, and the Red Bluff Nos. 7, 8, and 10, all in the south $\frac{1}{2}$ of sec. 4, are described herein, (see Fig. 1). These claims may be reached by traveling north on highway no. 53 for 7.3 miles from the intersection of no. 53 and U.S. no. 66 (2 mi. east of Milan). Then take the Roundy Ranch road northeastward for approximately 3 miles to the top of the mesa in sec. 4.

All of the workings are in the Todilto limestone; most consist of open cuts, pits, or trenches, but at least five adits were driven on the Black Hawk and Bunney Claims. These were often driven along the axis of intraformational folds and are shown in photos 1 through 4 and 6. The full lengths of the adits are not known, but are at least 40'. They appear to be stable even though the limestone is highly fractured along the folds; timbering is generally limited to the portal area. The folds locally have a northwest trend. The southern adits, photos (4) and (6) probably interconnect and one drift extends southward to connect with the open pit shown in photo (7), which is on the Black Hawk Claim. This pit exposes a thin purple fluorite vein on the bench at left foreground in photo (7). The secondary uranium minerals, tyuyamunite, metatyuyamunite, and less commonly, carnotite, were noted on many faces and muck piles, but are not everywhere present. Waste rock piles are numerous along the margins of the cuts, but a particularly large dump exists at the head of a small canyon several hundred feet west of the Black Hawk/Bunney workings (see photo 5). The Black Hawk and Bunney were mined together and no attempt is made to differentiate the two here.

Photos (8) through (12) show overburden, mine dumps, and open cuts here assigned to the Gay Eagle Claim. Photo (8) looks northward at overburden piles up to 20' high with a trench at center. Photos (11) and (12) show the depth and extent of a cut near the southern margin of the claim.

The Red Bluff 7, 8, and 10 workings are shown in photos (13) through (17). Some of the larger and longer cuts occur on the Red Bluff (8) and 10 claims; a discussion of reef structures exposed in one of these cuts is given in Perry (1963). No. 8 and 10 are southward continuations of the Gay Eagle and these three properties were mined together. Initial production date was 1952 and production through July 1, 1958 had totaled 39,284 tons of ore averaging .20% U₃O₈.

The operator in 1958 was listed as Floyd Sutton, Jr. The Gay Eagle was last registered with the State Mine Inspector's Office in 1959, but the Red Bluff #10 was registered as late as 1964.

Little if any disturbance was noted on the UDC 1 through 4 Claims. There may have been some minor prospecting on 1 and 2 (see again Fig. 1). The location of the UDC 5 described by Hilpert (1969) is not known.

In 1976 the Black Hawk Claim was restaked by William Coffey who renamed it the Tycoon 2; the Gay Eagle was restaked as the Tycoon 1. More recently the Tycoon 2 has been restaked by Jerome Mason of Albuquerque; he renamed it the New Black Hawk and the claim was filed on January 26, 1980.

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. paper 603.
 - (2) Perry, Bobbie L., 1963, Limestone Reefs as an Ore Control in the Todilto Limestone of the Grants District, in Geology and Technology of the Grants Mineral Region: New Mexico Bur. of Mines and Mineral Resources, Mem. 15, p. 150.
 - (3) U.S. AEC PED-1, 1959, Mine Operation Data Report, GJO/AEC, p. 49. (microfiche only).
 - (4) State Mine Inspector's Office, inactive uranium mine file.
 - (5) Field notes, 3/19/80.

R. 9 W.

33 34

T. 13 N.

T. 12 N.

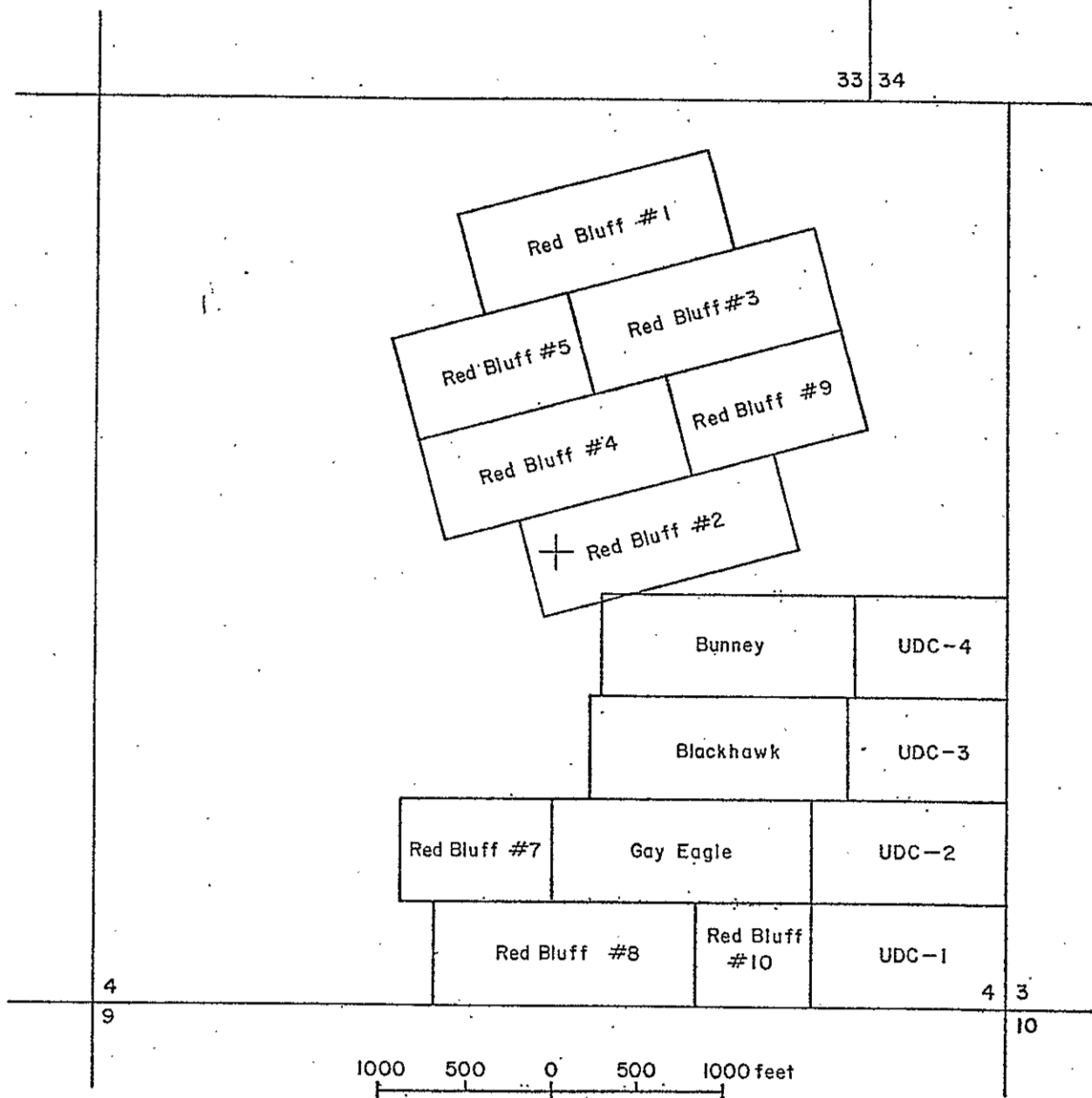


Fig. 1 Sec. 4 mining claims filed in late 1950 and early 1951
(source: mining claim records, Valencia Co., Courthouse).

Photo (1) Looking northwestward on the Black Hawk and Bunney Claims; a 10'-12' thick aeolian deposit covers the Todilto limestone. The adits are shown in more detail in the following photos.

Photo (2) Close-up of adit shown at left in (1). Adit is 6' high at crest of chevron type fold, and 8' wide. Stub adit at right is hidden from view in (1).

Photo (3) Close-up of adit shown at far right in (1); portal is 5' high, 6' wide. Access road descends at left.

Photo (4) Looking southeastward into adit driven into end of trench shown in lower left corner of (1); portal is 5' high, 10' wide.

Photo (5) Looking northward at one of main dumps from Black Hawk and Bunney workings; waste has been bulldozed into head of small canyon which forms re-entrant in mesa top. Frontal slope is at angle of repose. Scintillometer readings on the mine dumps normally varies between 400-900 cps, occasionally higher. Note person at right for scale.

Photo (6) View from inside adit on Black Hawk Claim; portal is 6' high, 10' wide at base. A drift connects to trench at south shown below in (7).

Photo (7) Looking southward into 12' deep cut in Todilto ls., on Black Hawk Claim. Purple fluorite vein occurs on bench at left.



Photo (8) Looking northward on Gay Eagle Claim; overburden pile at right is 20' high (note range pole at toe of the pile); pile at left is 13' high. One of the trenches is visible at center.



Photo (9) Looking westward at 10' deep trench on Gay Eagle Claim. Trench has filled in considerably with tumbleweed and blow sand and has developed vegetative cover.



Photo (10) Looking northward at overburden pile on Gay Eagle Claim.

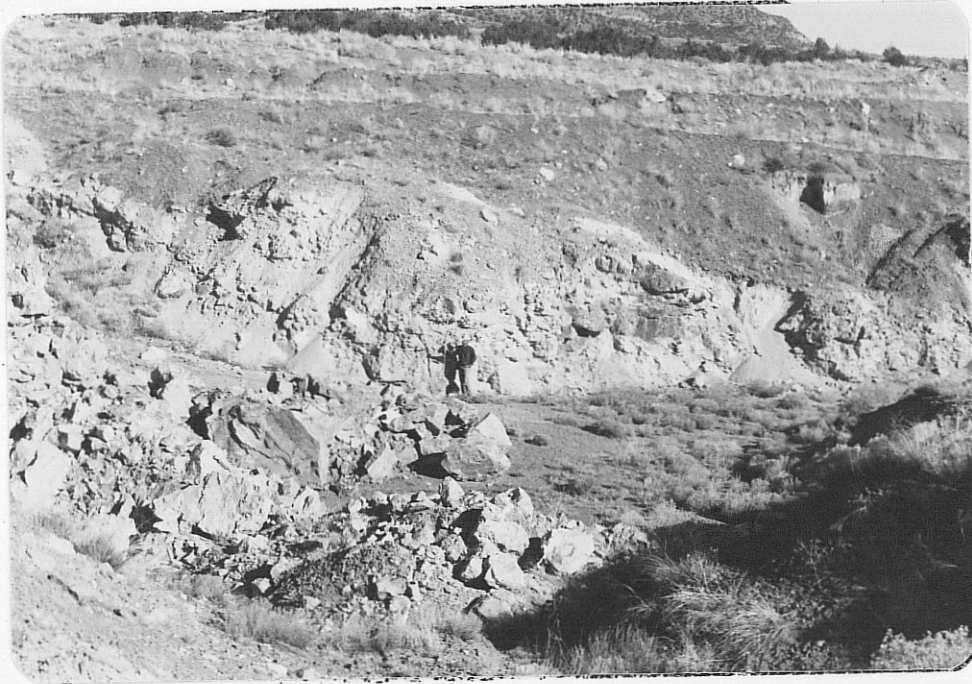


Photo (11) Looking eastward at 15' deep limestone cut on Gay Eagle Claim. Overburden is 15' thick given total depth of nearly 30'.



Photo (12) Southern extension of cut shown in (11) above. Road surface descends to right on bench in background. Note person in center photo for scale.

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Photo (13) Looking westward into trench near west end of Red Bluff No. 7 Clain. Some back filling is evident in this area.



Photo (14) Looking southward into open cut near rim of mesa on Red Bluff No. 7 Clain; note minor fold in Todilto limestone just below person in photo. Dump from a section 9 pit is visible in background.



Photo (15) Looking southeastward on Red Bluff No. 8 toward the sec. 4/9 line (fence line); mine dumps in foreground, overburden pile at left. Person at right of center is standing at entrance to cut shown below in (16).



Photo (16) Looking southeast near the Red Bluff No. 8 and No. 10 boundary. Cut extends nearly 1000' east-northeast and is shown in photo (17). Fence marks the section 4/9 line. A light snow was falling at the time the photo was taken.



Photo (17) Looking eastward into Red Bluff #8 and 10 trench; trench extends east-northeast for 900' across the Red Bluff #10 Claim and is one of the major workings on this group of claims in the south $\frac{1}{2}$ of sec. 4. Overburden has been placed largely to the north (left). This deposit is a continuation of the Gay Eagle. Note person at bottom of cut for scale.

Date visited 3/20/80

Mine name(s) Last Chance County Valencia

Section NE $\frac{1}{4}$, NE $\frac{1}{4}$, 8 Twنش. 12 N R. 9 W

Quadrangle sheet Dos Lomas 7 $\frac{1}{2}$ '

Mining district Mt. Taylor

Elevation 7,050'

Nearest city and/or dwellings Roundy Ranch, 3/4 miles southwest but not continuously inhabited.

The Last Chance in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of sec. 8 is essentially a continuation of the workings in the adjoining sec. 9 Mine. It may be reached by taking the Roundy Ranch road which leads eastward off of highway no. 53 7.3 miles north of Milan (at U.S. no. 66 junction). Follow the ranch road northeastward for about 2 miles to base of cliff in sec. 8. Jeep trail up cliff or mesa face is no longer navigable and last $\frac{1}{2}$ mile must be made on foot. Alternatively, continue driving north to sec. 4 and then ascend the mesa and drive back south into sec. 9, where a road to west leads to the Last Chance Mine.

The workings consist of open pits and trenches spread over an area of about 300' x 400' (see photos a through c). One south trending trench breaks through the mesa edge (photo a); the others are less well defined with much lower high walls, (photo b & c). The highest waste dump on the site is about 12' (photo d), and consists largely of unconsolidated overburden. Revegetation has been slow.

The deposit is an irregular mineralized zone in Todilto limestone (Hilpert, 1969). Maximum scintillometer readings were in 2000-2500 cps range. Secondary uranium mineralization is apparent in muck piles, waste piles, and on rock faces. Some ore was produced in the 1952-1956 period (Hilpert, 1969).

The State Mine Inspector's Office last registered the mine in June, 1956; the operator was listed as "Broaddus."

- References: (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603, p. 59.
(2) N.M. State Mine Inspector's Office, inactive uranium mine file.
(3) Field notes, 3/20/80.

Addendum: Claim marker with cannister at the site shows claims were staked here October, 1977 by B. J. Bottoms.



Photo (a) Looking southward at Last Chance Mine, showing 10'-12' deep trench that breaks through mesa edge.



Photo (b) Looking north at cluster of small cuts several hundred feet in from the mesa edge shown in photo (a). This cut produced the highest scintillometer readings at the site-2500 cps.



Photo (c) Looking northwestward at extensively bulldozed area at western edge of mine site.



Photo (d) Looking eastward at waste dump on east edge of mine site; waste pile is about 12' at highest point.

Date visited 3/19-20/80

Mine name(s) Section Nine County Valencia

Section 9 Twنش. 12 N R. 9 W

Quadrangle sheet Dos Lomas 7½'

Mining district Mt. Taylor

Elevation 7,020'

Nearest city and/or dwellings Milan, about 8 air miles south

The Section Nine Mine workings are in the north ½ of the section; several small prospect pits were noted in the SW¼. The mine may be reached by taking the Roundy Ranch road which leaves highway no. 53 at a point 7.3 miles north of the no. 53 and U.S. no. 66 junction 2 miles east of Milan. Proceed northeastward about 3 mi. on the Roundy Ranch road to the top of the mesa in sec. 4 and then take right fork and proceed southward to fence on sec. 9 line. Mine workings will be obvious at this point.

All the workings explored Todilto limestone ore bodies; they may be broken down into 3 separate areas (see sketch, Fig. 1). Going from north to south they are as follows: (1) An east-west trending cut that extends across the north ¼ corner as a continuation of the Red Bluff 8 and 10 workings. The cut is 800' long, 20' to 60' wide, and generally no more than 12' deep, (see photo a). It is interrupted by the access road shown in photo (a), but the workings continue near the section line on the west side of the road in the form of a rectangular shaped 275' x 500' stripped area with an 18' deep area quarried out in the center of it (see photo b). The waste from this center area forms a conspicuous tailings dump that extends down into the head of a small drainage in the SW¼ of sec. 4. Area (2) 600' to the south is composed of a linear cut, 750' long, 30'-50' wide, and up to 30' deep (photo c), that exposes the intraformational fold shown in photo (d). To the southeast of this cut is the "eyeball pit," a circular cut about 400' in diameter and 30' deep with a Todilto limestone knob in the center (see photo e). Fluorite was noted on the south side of the limestone knob. Perry (1963) has discussed the "eyeball pit" in relation to the reef structures in the area. West of the eyeball 600' is a "C" shaped cut, 250' in diameter, open to the west; it is up to 25' deep and up to 50' wide (see photo f and g). Waste piles are of two types; unconsolidated sandy overburden material which are smooth and rounded and largely revegetated, and limestone tailings which are not revegetated.

Area (3) is nearly 1000' west of area 2 (see Fig. 1), but there are minor prospecting pits and trenches in between. This area probably produced the highest grade ore based on the scintillometer response. The major workings consist of a northwest trending linear cut, photo (h), 500' long, 50' wide with a road on one side, and a west trending linear cut immediately to southwest with an adit at the west end, photos (i) and (j). The cut leading to the adit is 325' long, 50' wide at maximum, and 10' deep. The portal is 6' high, 7' wide and timbered (photo j); 85' into the adit it forks into two drifts, total length is not known. Adit is not ventilated and radiation levels are very high; scintillometer readings at 20' inside adit went off scale in excess of 10,000 cps. A radon gas build up may have occurred since workings were abandoned.

A portion of the Section Nine Mine went into production in late 1950. By mid 1958 it had produced a total of 57,085 tons of ore averaging .14% (AEC PED-1, 1959). It was operated by the Anaconda Corporation until 1962 (Hilpert, 1969), however, last registration with the State Mine Inspector's Office was in September, 1960.

Several areas on this mine complex might constitute a hazard.

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603.
 - (2) Perry, Bobbie L., 1963, Limestone Reefs as an Ore Control 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, Memoir 15, p. 150.
 - (3) State Mine Inspector's Office, inactive uranium mine file.
 - (4) U.S. AEC-PED-1, 1959, Mine Operation Data Report; GJO/AEC, p. 50 (microfiche only).
 - (5) Field notes, 3/20/80.

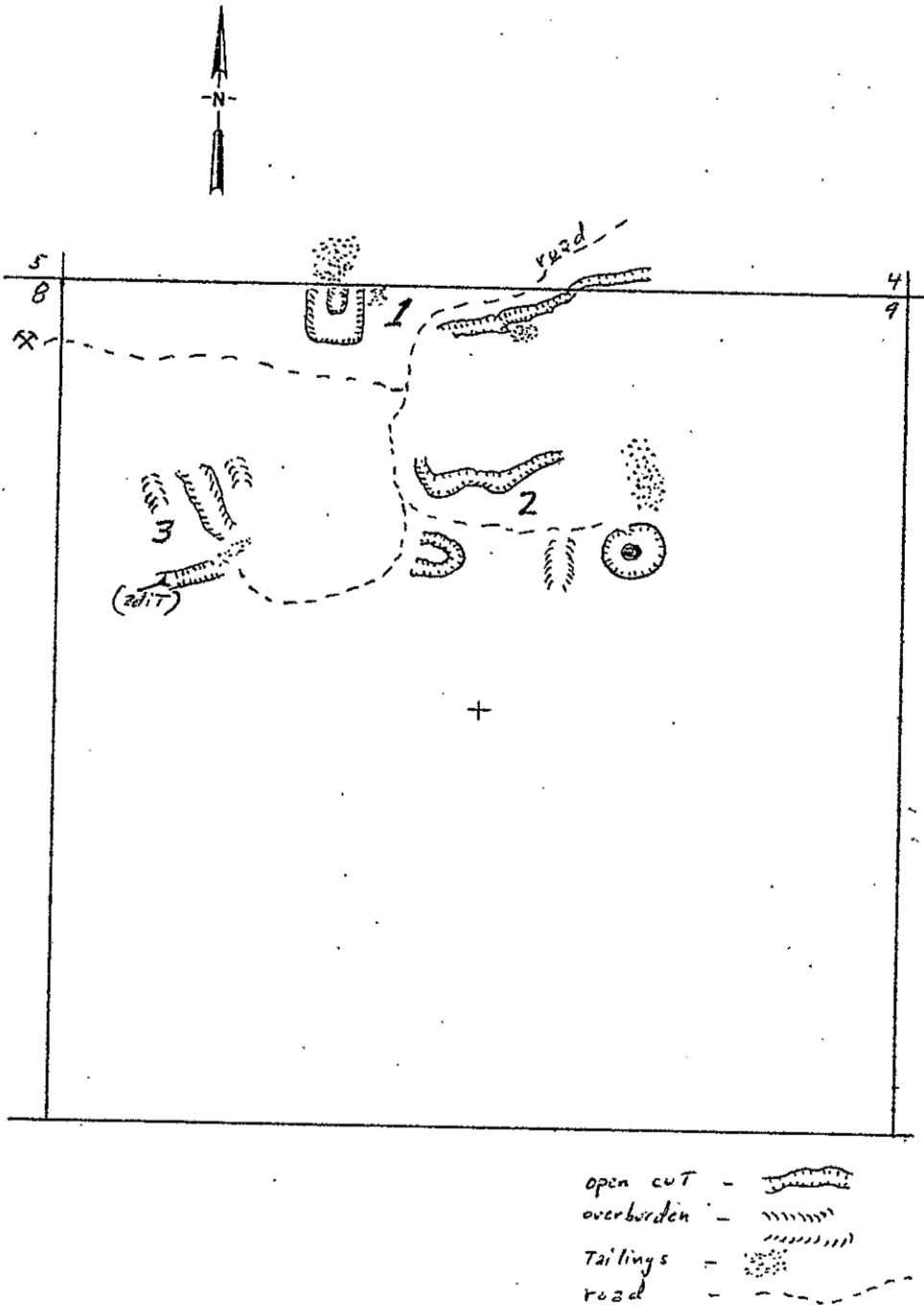


Fig. 1 Diagrammatic sketch of Section Nine Mine workings. Numbers refer to areas as they are discussed in text. The overburden piles are composed of unconsolidated material; the tailings piles are limestone fragments.



Photo (a) Looking eastward along the north section 9 line at east-west trending cut in area 1. Note person at left of center for scale, and access road at far left.



Photo (b) Looking south into 75' x 100' open pit several hundred feet west of linear cut in photo (a).



Photo (c) Looking northwest at linear cut in area 2.



Photo (d) Intraformational fold exposed in cut shown in photo (c).



Photo (e) Looking eastward into the "eyeball pit" at the east edge of area 2 in Fig. 1. The unconsolidated overburden is here 25' thick.



Photo (f) Looking eastward into north limb of "C" shaped open cut in area 2.

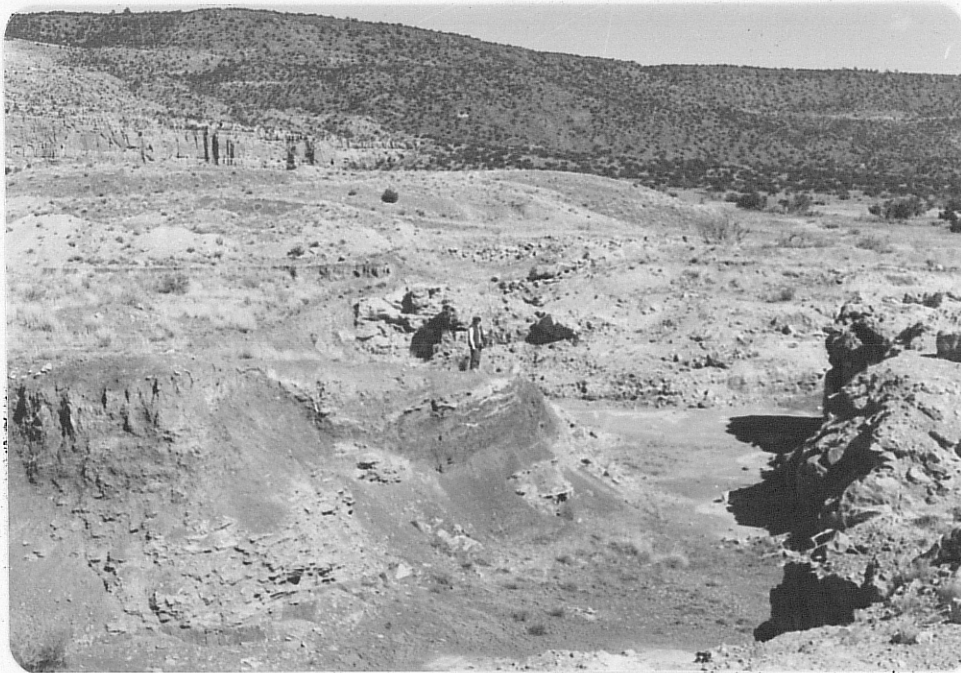


Photo (g) Looking eastward into south limb of "C" shaped open cut in area 2.



Photo (h) Looking northwest at 500' long cut in northern portion of area 3. The tailings in this area gave strong scintillometer response-up to 3000 cps.



Photo (i) Looking westward inot west trending cut with adit at west end; cut is 325' long, up to 50' wide. Scintillometer response is strong, 1000 cps.



Photo (j) Close up of adit shown in (i); portal is 6' high, 7' wide, and timbered in about 20'.

Mine name(s) Taffy (Bonanza) County Valencia
 Section SW/4, SW/4, 11 Twنش. 12N R. 9W
 Quadrangle sheet Dos Lomas
 Mining district Mt. Taylor
 Elevation 7,700'
 Nearest city and/or dwellings Ambrosia Lake junction, 5 mi N.; Roundy Ranch,
2 1/2 mi W.

The Taffy mine is located in the southwest corner of sec. 11 on the south slopes of La Jara Mesa. It is accessible by the U.S. Forest Service access road that leaves State Highway No. 53 at a point .75 mi north of the UN-HP uranium mill. Travel eastward on the access road about 3.6 mi. to the Cibola National Forest boundary and turn left (north) for 2 mi. At this point road will swing abruptly westward (La Jara mine on immediate left) and a lesser road forks off to the north toward La Jara Mesa. Take this north fork and the Taffy mine access road on the mesa slope will come into view. Road from base of mesa up to mine is in poor condition, and last 1/2 mi. of trip must be made on foot.

The mine consists of a 300' long bench cut in the Poison Canyon sandstone tongue of the lower Brushy Basin member, (see photo a). Bench is up to 45' wide at maximum and the face is 20' high and stable. The highest scintillometer readings were obtained along a mudstone lens about 5' above the base of the cut; the lens contains bluish to greenish gray clay galls and some carbonized plant debris. Readings of up to 4,500 cps were recorded near the southeast end of the cut at the location shown in photo (b). The dump extends for 70' downslope below the cut; scintillometer readings in dump average about 200 cps (or 3x background).

The mine was operated briefly in 1961 by the Trustco Corporation. It ceased operations in December, 1961; total production is unknown.

References:

1. Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S. Prof. paper 603
2. Field notes, 3/18/80
3. Granger, H.C., 1963, Mineralogy, in, Geology & Technology of the Grants Uranium Region: New Mexico Bureau of Mines and Mineral Resources Memoir 15; p. 29.



Photo (a) Looking NW at Taffy mine bench cut; note range pole at right for scale.



Photo (b) Close up at ore bearing mudstone lens indicated in photo (a) by the range pole.

Date visited Jan. 30, 1980

Mine name(s) La Jara County Valencia

Section NW-1/4 SE-1/4 15 Twnsh. 12N R. 9W

Quadrangle sheet Dos Lomas 7½'

Mining district Mt. Taylor

Elevation 7,060'

Nearest city and/or dwellings Ambrosia Lake Junction, 5½ mi. N.; the Roundy Ranch, 2½ mi. NW

The La Jara mine is located on a Todilto limestone capped mesa near the center of Sec. 4. Access is via the U.S. Forest Service Road that leaves State Highway No. 53 about .75 mi. north of the UN-HP uranium mill. Follow the access road eastward for approximately 3.6 mi. to the Cibola National Forest boundary then turn left (north) for another 2.0 mi. Mine is just to left as road swings abruptly westward.

The workings on the La Jara consist of (1) an open pit nearly 250' across, up to 10' deep, with prominent waste piles on 3 sides (see photo a), and (2) a 120' long bench cut immediately to the northwest of the pit (see photo b). Scintillometer readings in the open pit did not exceed 200 cps and were generally about 150; only a trace of yellow uranium mineralization noted on limestone fragments in waste piles. A 3' wide linear prospecting trench runs eastward from the open pit; no elevated counts recorded in the trench.

The bench cut, shown again in photo (c), is up to 10' deep near the middle at the prominent intraformational fold. A dark greenish mineralization forms a crust on the face in the vicinity of the fold; maximum scintillometer readings along the face are in the 140-160 cps range. A close-up of the fold showing inter-laminations of darkly colored carbonaceous zones is shown in photo (d). The mine dump extends westward from the base of the cut for over 70'; the toe of the dump (see photo e) is over 9' high in places. Scintillometer readings on the dump were not significantly above background, which is 70 cps. A drainage line continues westward from the dump; no elevated counts were recorded in the drainage line below dump.

The mine has been inactive since May, 1957. (New Mex. State Mine Inspector's Office). However, Hilpert 1969, stated that the deposit was mined from 1952-1960.

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 Mines Inspectors Office, inactive uranium mine file.
4. Field notes, 1/30/80.



Photo (a) Looking NW at 250' long open pit at La Jara workings; note range pole at left center for scale. Waste piles at left up to 10' high.

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750 V-42



Photo (b) Looking SE at 120' long bench cut; waste piles from open pit shown in background. Note range pole at right center for scale.



Photo (c) Looking NE at same bench cut; note fold at center behind range pole. Also note exploration roads climbing south slope at La Jara Mesa in background.

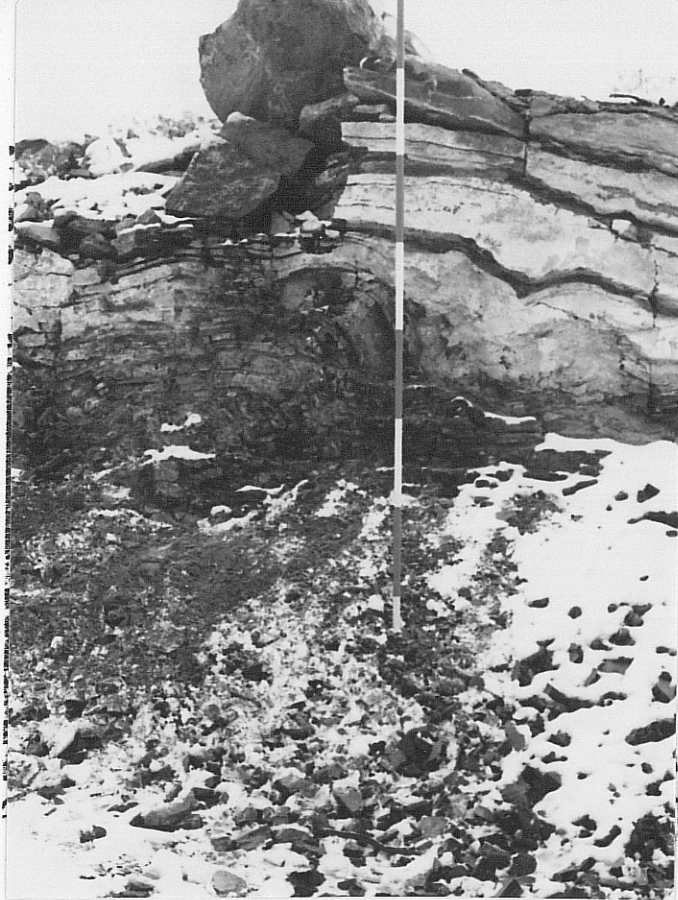


Photo (d) Close-up of intraformational fold shown in photo (c).



Photo (e) Looking S at toe of dump at bench cut; note range pole at right center for scale.

Mine name(s) Zia County Valencia
 Section SW/4, 15 Twنش. 12N R. 9W
 Quadrangle sheet Dos Lomas
 Mining district Mt. Taylor
 Elevation 7,080'
 Nearest city and/or dwellings Ambrosia Lake junction 5 1/2 mi. N.; Roundy Ranch, 2 mi. NW.

The Zia mine is located on a low Todilto limestone capped mesa in the SW/4 Sec. 15 just 1/4 mi. inside the Cibola National Forest boundary. It is accessible via the U.S. Forest Service access road that leaves state Highway No. 53 at a point .75 mi. north of the UN-HP uranium mill. Travel eastward on the access road for 3.6 mi. to the Forest boundary and turn left (north) for 2 mi. At this point the Zia mine will be approximately 1/2 mi. to west and the tailings dump will be visible.

The mine consists of a box cut into the Todilto limestone that is 200' long (E-W), 120' wide, and 30' deep. Ramps descend to floor of cut from the SE corner and the NW corner. The Entrada-Todilto contact is exposed along the north wall of the cut and mineralization reportedly extends downward into the upper Entrada. A panoramic view to the east showing the mine site is given in photo (a). Views of the pit from the east end are shown in photos (b) and (c). Photo (b) shows the ramp at the northwest corner and photo (c) shows the two stub adits at the bottom, one in the west face and one in the south face. The portal of the western adit is 7' wide and presently only 3' high because recent caving and slumping has partially blocked the entrance. The adit is about 6' deep and crudely timbered in several places see photo (d). Scintillometer readings at the portal were up to 600 cps; or about 8x background.

The portal of the southern adit is also about 7' wide; some coarse waste rock partially blocks the entrance which is presently about 3 1/2' high on the right side (see photo e). The adit is approximately 18' deep with little evidence of oxidized uranium mineralization on the face, although the entire length was not explored in detail because of hazardous conditions. Some crude timbering remains in place; scintillometer readings ranged up to 1,700 cps just inside the adit.

Just to the west of the box cut, immediately behind the viewer in photo (a), is an east-west trending 120' long by 15' wide prospecting trench (see photo f). The trench descends gradually from the east end, reaches a maximum depth of 11' near the center and breaks through the edge of the mesa top on the west end forming a notch. The waste material at the west end (see photo g) extends down-slope for 60' or more with low scintillometer readings - 150 cps maximum. The material stockpiled at the east end of the trench produced much higher scintillometer readings, up to 600 cps; however, part of this material might have been derived from the larger box cut. A sketch of the entire mine site, Fig. 1, illustrates most of the features described above.

The deposit was mined during the 1952-60 period (Hilpert, 1969). The State Mine Inspector's Office records, however, show that the Zia Mining Company, which operated both the La Jara and Zia mines, last registered this mine in August, 1957. Total productions is not known.

A claim marker on the tailings dump south of the box cut contains an ammended claim location certificate dated 12/20/78. It ammends the original claim named the Hunch #14, dated 7/1/64, and staked by D.L. Varnum of Monahans, Texas 79756. The ammendment was signed by Warren Parker.

References:

1. Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S. Prof. paper 603
2. New Mexico State Mine Inspector's Office, inactive uranium mine file
3. Field notes 1/30/80

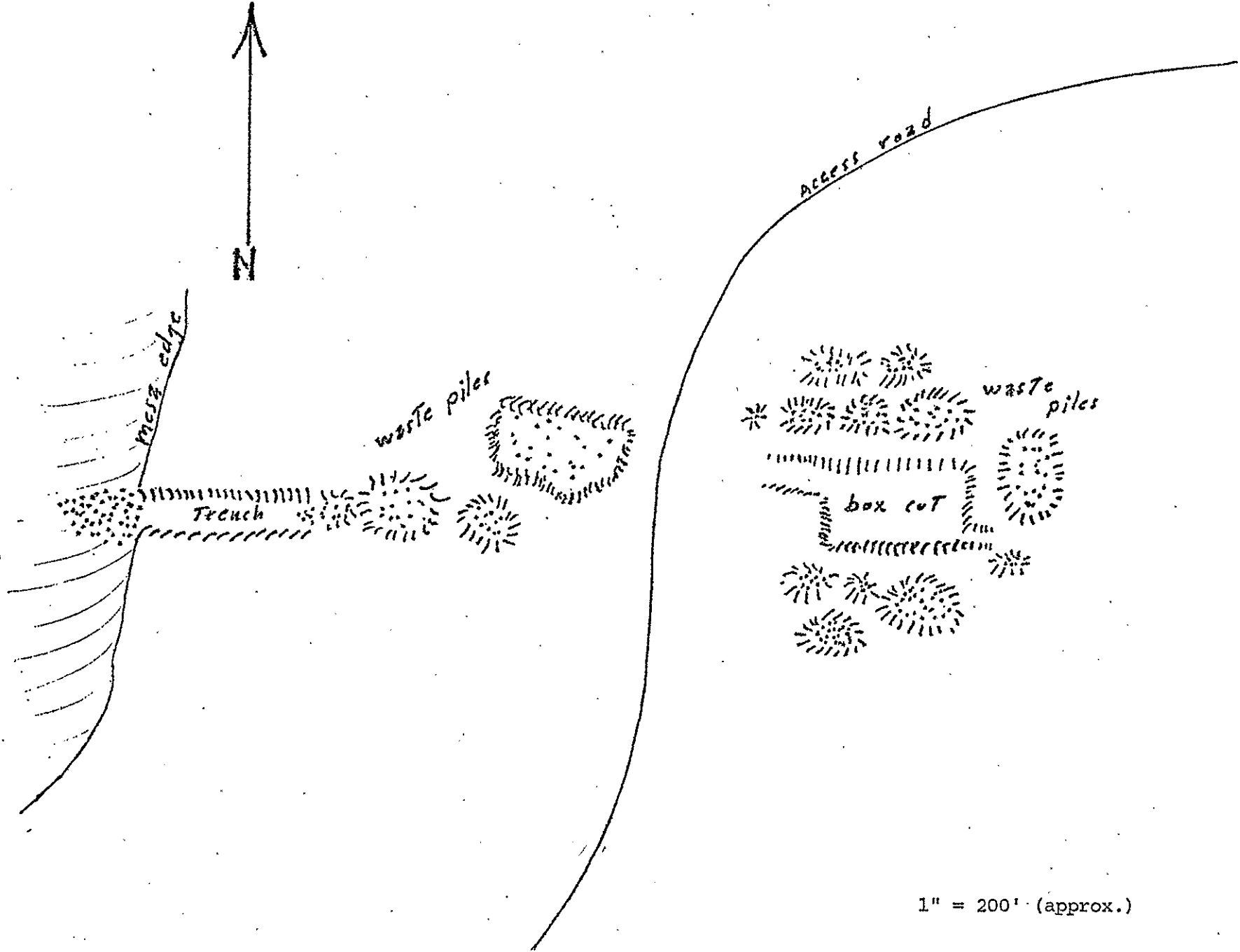


Fig. 1 Diagrammatic sketch of Zia mine site



Photo (a) Looking eastward at Zia Mine; open pit at center is 30' deep. La Jara Mesa in background at left. Photo taken after a light snow had fallen.



Photo (b) Looking westward at box cut; note ramp at upper right.



Photo (c) Looking westward from nearly same point as in photo (b), but both adits at bottom of cut are shown here.



Photo (d) Looking westward; close-up of adit driven in western face at cut.



Photo (e) Looking southward; close-up of adit driven in southern face of cut.



Photo (f) Looking westward into 120' long prospecting trench west of box cut.



Photo (g) Portion of dump at west end of trench; Haystack Mountain in center distant background

Date visited Jan. 30, 1980

Mine name(s) Linear Prospecting Trenches County Valencia

Section S $\frac{1}{2}$ 15; N $\frac{1}{2}$ 22 Twنش. 12N R. 9W

Quadrangle sheet Dos Lomas 7 $\frac{1}{2}$ '

Mining district Mt. Taylor

Elevation 7,000'

Nearest city and/or dwellings Roundy Ranch, 2 mi. NW

East-west trending linear prospecting trenches in the Todilto limestone that caps the low mesas in sections 15 and 22 are very numerous. They are typically 2 $\frac{1}{2}$ '-3' wide, 2 $\frac{1}{2}$ ' deep, and some can be traced for over $\frac{1}{2}$ mi. They are quite straight and parallel, and spaced about every 400'-500' between the center of Sec. 22 northward through the center of Sec. 15. Most of the material excavated lies on one side of the trench. Photos (a) and (b) offer views of the trenches in the south $\frac{1}{2}$ of Sec. 15. The trenching is restricted to Cibola National Forest land.

The area is accessible via the U.S. Forest Service road that leaves State Highway 53 at a point 0.75 mi. north of the UN-HP uranium mill. Travel eastward on this road to the Forest Service boundary and then turn left (north) for 1 mi.

References:

1. Field notes, 1/30/80.



Photo (a) Looking westward in Sec. 15 at typical linear prospecting trench in Todilto limestone; note range pole for scale.



Photo (b) Looking west along trench in Sec. 15 with Zia Mine dump at left in the background. Trench is typical of those found southward into Sec. 22.

Date visited 5/6/80

Mine name(s) Sandy (South Laguna Mines) County Valencia

Section SE $\frac{1}{4}$ 22, NE $\frac{1}{4}$ 27 Twنش. 9 N R. 5 W

Quadrangle sheet Dough Mountain 7 $\frac{1}{2}$ '

Mining district Laguna

Elevation 5,920'

Nearest city and/or dwellings Mesita, 3 miles northeast

The Sandy and/or South Laguna Mines are located near the sec. 22-27 line about 3/4 miles south of the south boundary of the Laguna Pueblo grant. The site may be reached by taking the Mesita exit off I-40 and proceeding south on a dirt road for about 1 $\frac{1}{2}$ miles to the second pipeline crossing. Then go west for about 1 $\frac{1}{4}$ miles to sec. 22. Prospecting pits and a mine dump are visible.

The mine consists of (1) a 50' diameter pit in the extreme north of sec. 27 (see photo a); (2) two small dumps or low grade ore piles, each about 10' wide, 40' long, and 4' high (see photo b); and (3) a rectangular pit, 20' x 30', 4' deep that is 450' east of the first pit (see photo c). Mineralization is in the uppermost beds of the Entrada sandstone and in the base of the overlying Todilto limestone. A diabase sill, locally up to 20' thick, has intruded the lower Todilto limestone. The intrusion has displaced the upper part of the deposit (Hilpert, 1969). The uranium occurs as finely disseminated coffinite and uranite (Hilpert, 1969). Scintillometer readings along the north wall of the first pit were up to 6,000 cps, in the rectangular pit up to 1,200 cps, and on the dumps shown in photo (b) up to 300 cps. Some dark greenish, black mineralization was noted, but little if any secondary oxidized uranium minerals were noted in the open pits. Some interesting mineralization has been produced by the metamorphism of uranium deposits near contacts with the diabase sill, (Moench, 1963).

The mine was operated in 1955 by the Anaconda Company. It is not certain if one of the two described pits was assigned the name Sandy and the other the South Laguna, but both were Anaconda operations. Hilpert (1969) listed the workings as the Sandy with additional deposits in sec. 27. The State Mine Inspector listed the workings as the South Laguna Mines located in both sections 22 and 27. Date of last registration of the mine is not known.

Recent drilling is evident in sec. 22 under the name of some "Laguna Project."

- References: (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603.
(2) Moench, R. H., 1963, Geologic Limitations on the Age of Uranium Deposits in the Laguna District, in Geology and Technology of the Grants Uranium Region: New Mexico Bureau of Mines and Mineral Resources, Mem. 15, p. 161.

- (3) State Mine Inspector's Office, inactive uranium mine file.
- (4) Field notes, 5/6/80.



Photo (a) Looking westward into 50' diameter semi-circular pit in the extreme north of sec. 27.
Note person at right of center holding range pole for scale.



Photo (b) Looking northeastward at mine dump or low grade ore piles; left one is composed of Entrada sandstone, right one Todilto limestone; each is about 4' high.

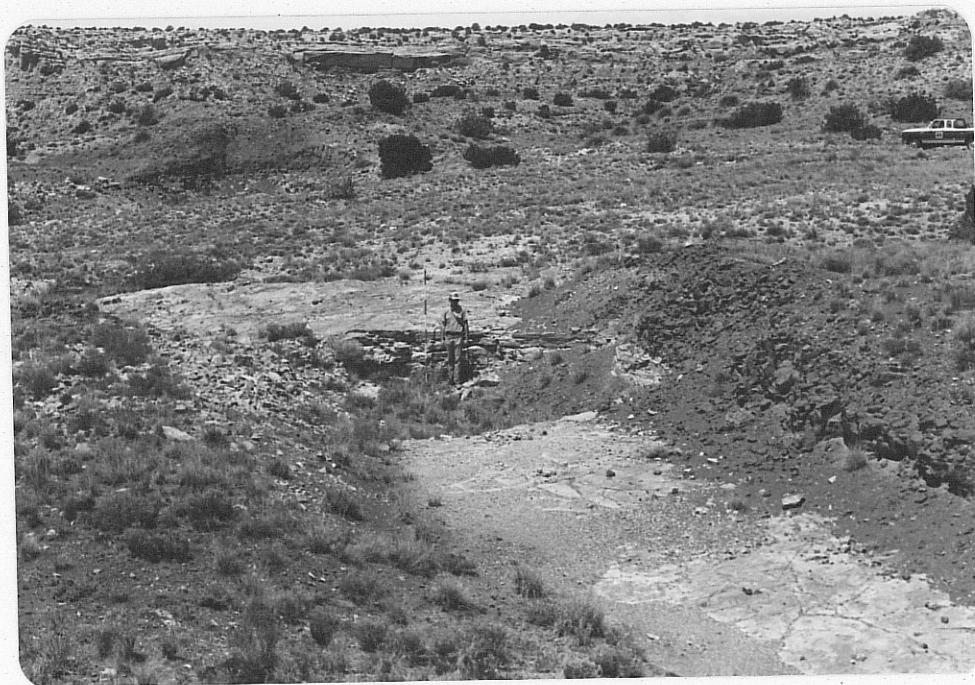


Photo (c) Looking westward into small pit 450' east of main pit shown in photo (a).

745 V-57

Date visited 1/29/80

Mine name(s) Anaconda F-33 (F-33) County Valencia

Section SE $\frac{1}{4}$ 33 and SW $\frac{1}{4}$ 34 Twنش. 12 N R. 9 W

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

Mining district Mt. Taylor

Elevation 7,000'

Nearest city and/or dwellings Grants, 4 $\frac{1}{2}$ air miles southwest

The F-33 Mine is located on the west slope of East Grants Ridge. It is accessible via the U.S. Forest Service access road that leaves state highway no. 53 at a point .75 mi. north of the UN-HP uranium mill. Travel east on the access road for about 3.6 mi. To the forest boundary, then turn right (south) and follow dirt road to the mine site. The main adit portal is nearly on the Forest Service boundary line.

The mine consists of two adits driven in Todilto limestone, the main one mentioned above, and another approximately $\frac{1}{2}$ mi. NE in sec. 34. As there are no references to a separate working in sec. 34 it is assumed both these are part of the F-33 Mine, and both workings are described herein. The main adit, shown in photo (a), is driven eastward in a zone of recrystallized limestone. The dimensions of portal are not available as it is secured by a steel plate door shown in the close-up in photo (b). Scintillometer reading at a small opening in the door was 2,500 cps. A drilling mud pit at the left of the portal contained some standing water (see water analysis data, table 1). Just east of the mud pit is a claim marker with document showing that a Fred B. Quimby of Grants, N.M. staked a claim called the Power #1 on Nov. 14, 1979. Telephone number given as contact has been taken out of service. Scintillometer readings along face cut just to right of portal were up to 4,000 cps. One building, a 12' x 18' wooden frame shack, remains at the site about 200' to right of portal (see photo c). The mine dump strewn with lumber and other debris is directly west of and in front of the adit. It measures approximately 400' by 100', and extends downslope 50' (see photo d). Yellow uranium mineralization is very apparent on limestone fragments in dump; scintillometer readings range up to 3,500 cps.

The sec. 34 adit is driven generally eastward; portal is sealed by a plate metal door, (see photos e and f). Scintillometer counts around door opening ranged up to 5,000 cps. Dimensions of adit unknown. A 28' x 75' concrete slab remains at the site just to the right of the trench leading to the adit (see photo g). An electric utility line extends in from the west. The mine dump contains mineralized limestone fragments some of which produced maximum deflection on the scintillometer (+10,000 cps); dump measures about 300' (E-W) by 100', and up to 12' high at west end (see photos h and i).

Mine was operated during 1954-59 and again briefly in the early 1970's. It has been inactive since January 1976. Total production is not known.

- 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) Kerr, Paul F., and Wilcox, J. T., 1963, Structure and Volcanism, Grants Ridge Area, in, Geology and Technology of the Grants Uranium Region: New Mexico Bur. of Mines and Mineral Resources, Mem. 15.
 - (4) Field notes, 1/29/80.



Photo (a) View east-northeast toward face cut and portal of F-33 Mine; at right is plate metal door sealing entrance to adit. Note recent claim marker at left center.

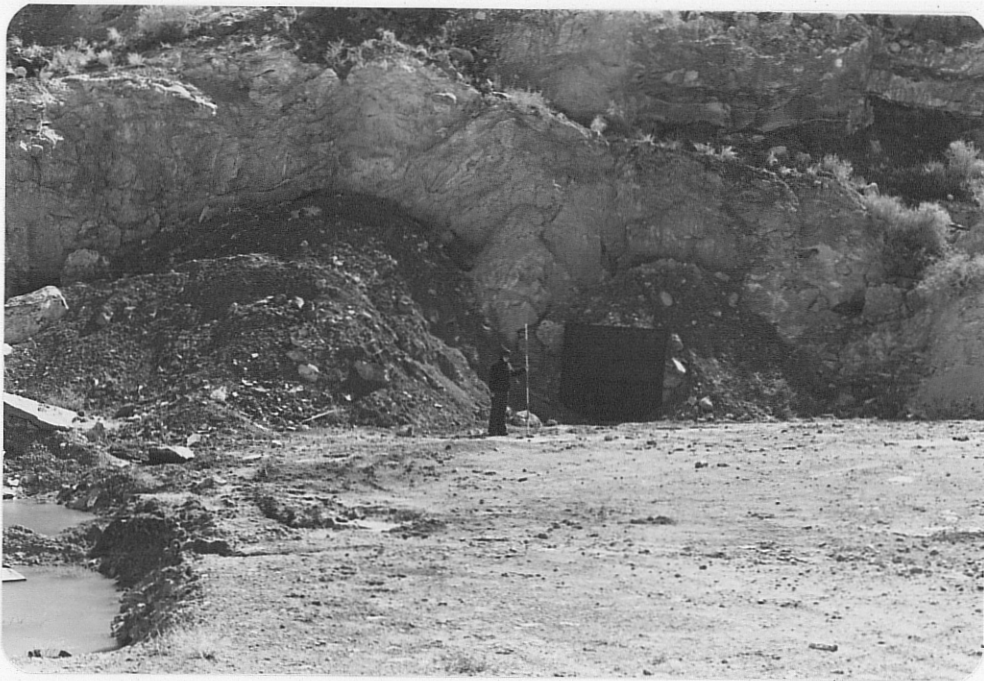


Photo (b) Close up of sealed portal at main adit.



Photo (c) Wooden shack at right of portal of main adit.



Photo (d) Mine dump of main adit; note wooden shack at left and access road cut at upper right.



Photo (e) Looking eastward in trench leading to sec. 34 adit sealed with plate metal door.



Photo (f) Close-up of sec. 34 portal; note range pole in front of metal door for scale.

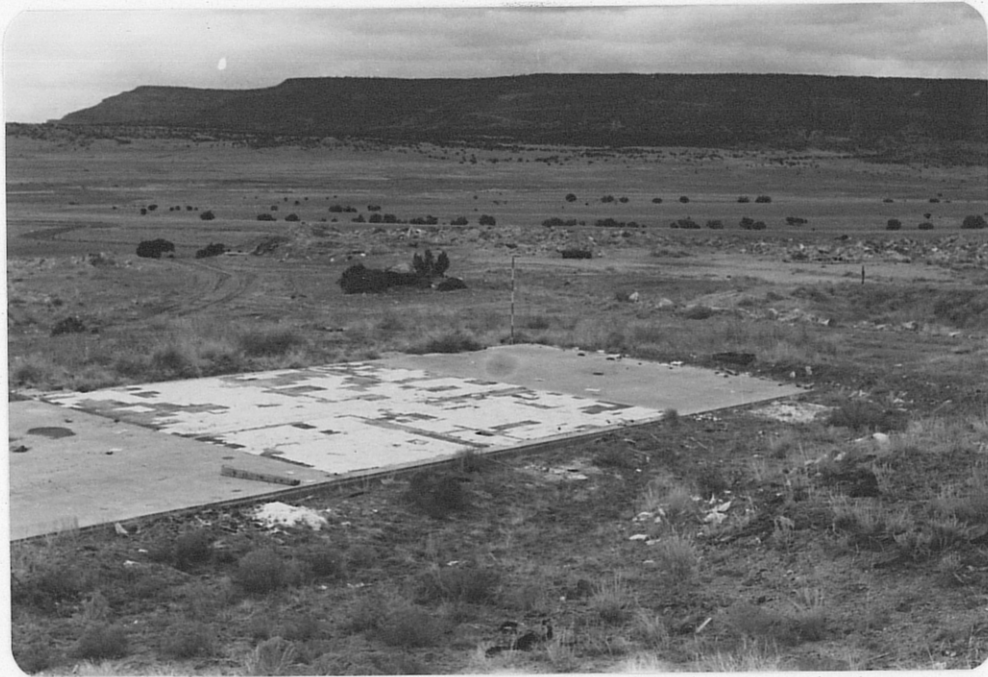


Photo (g) Looking NW at concrete slab near portal of sec. 34 adit.



Photo (h) Looking NW from top of east edge of sec. 34 mine dump; adit is behind viewer. Note range pole at left center for scale.



Photo (i) Looking westward at sec. 34 mine dump; height of dump at far right is about 12'.

4

Date visited 1/29/80

Mine name(s) Tom 13. (Tom) County Valencia

Section NW $\frac{1}{4}$ SW $\frac{1}{4}$ 4 Twنش. 11 N R. 9 W

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

Mining district Mt. Taylor

Elevation 7,050'

Nearest city and/or dwellings Grants, 3 $\frac{1}{2}$ mi. SW

The Tom 13 is located near the center of Sec. 4 on the west edge of East Grants Ridge. It is accessible by taking the U.S. Forest Service access road that leaves state highway no. 53 at a point .75 mi. north of the UN-HP uranium mill. Travel eastward on the access road for about 3.6 mi. to the Cibola National Forest boundary then turn right (south) and follow dirt trail toward the F-33 Mine. The Tom is approximately 1 mi. beyond the turnoff to the F-33.

The workings consist of several areas of rim stripping and/or bench cuts in the Todilto limestone. A semi-circular rim stripped area 110' in length is shown in photo (a). Scintillometer readings of 100 cps were only slightly higher than background which is about 70 cps in this area. No uranium mineralization is apparent. Several hundred feet to the northwest is a 100' long E-W trending bench cut that exposed a dark colored band 4"-5" thick in the Todilto limestone which produced a scintillometer response of 900 cps, (see photo b). The bench is about 35' in width and some material may have been taken out of this working, however, no uranium mineralization was apparent on the face or in the waste pile below the bench or road. Hilpert, 1969, stated that some ore was produced from a 2' to 3' thick deposit during 1954-55.

- 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 Bureau of Mines and Mineral Resources, Bull. 87.
 - (3) Field notes, 1/29/80.



Photo (a) Looking southward at a semi-circular rim stripped area of Todilto limestone; range pole is indicated at left (arrow) for sale.



Photo (b) Looking northwest at bench cut; high scintillometer reading of 900 cps was obtained at face immediately behind range pole.

755 V-67

Date visited 1/29/80

Mine name(s) Lone Pine 3 (Lone Pine) County Valencia

Section NE 1/4 8 Twنش. 11 N R. 9 W

Quadrangle sheet Grants 7 1/2

Mining district Mt. Taylor

Elevation 7,250'

Nearest city and/or dwellings Grants, 3 mi. SW

The Lone Pine is located on the north side of Grants Ridge just 3 mi. northeast of the city of Grants. It is accessible by road from either the north or south. From the north take the U.S. Forest Service access road leading eastward from State Highway No. 53 at a point 5.3 mi. north of Milan (or .75 north of the UN-HP mill). Travel eastward for approximately 3.6 mi. to the Forest Service boundary and turn right (south) and follow dirt trails leading past the F-33 mine to Grants Ridge and the mine site. From the south take Lobo Canyon road leading northeastward from Grants for 2 mi., then turn left onto dirt road which climbs the east end of Grants Ridge and then turns westward along north side of the Ridge and leads to mine site. Mine is on Cibola National Forest land.

The mine consists of a timbered load out facility (photo a), two south trending adits, and a powder magazine. A road leads to both the lower, (load-out) level, and the upper (mine) level, although the upper one is no longer passable. The western adit portal is 7' high, 8' wide, with timbering in good condition; one of the doors at the entrance remains in place (see photo b). Inside the adit is clean but a considerable amount of slumping has partially obscured the entrance. The adit goes in 30' and splits into a right and left fork (see photo c). Each fork continues for at least another 25'-30', but entire length was not explored. Scintillometer readings inside ranged up to 400 cps near the face. The host rock, Todilto limestone does not show as much intraformational folding here as it does in other deposits. No uranium mineralization is apparent. Camp fires and graffiti indicate periodic visitors.

The second adit is located about 60' to the east. It is likewise well timbered, but caving and slumping at the entrance have nearly sealed it off (see photo d). A glimpse of the interior may be had by peering down through the overhead timbering; tracks indicated someone had recently entered this adit. Length is unknown, but there is no evidence that it connects with the western adit. Scintillometer readings at entrance were 150 cps at the entrance, or about 2 x background.

Approximately 40' east of this adit is a small powder magazine shown in photo (e). The entrance is caved to the extent that only a 2' hole remains and entry would be very difficult. It is perhaps 10'-12' long.

The extent of the mine dump is difficult to determine as it merely veils the material excavated during construction of the lower road. Scintillometer

readings on the dump area were also about 150 cps. A small amount of ore was reportedly mined during 1954-55.

An account of the landslide masses that form an arcuate pattern around Grants Ridge is given in Kerr and Wilcox, 1963.

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S. Prof. Paper 603.
 - (2) Kerr, Paul F., and Wilcox, J. T., 1963, Structure and Volcanism, Grants Ridge Area, in Geology and Technology of the Grants Uranium Region: New Mexico Bureau of Mines and Mineral Resources, Mem. 15.
 - (3) Field notes, 1/29/80.



Photo (a) Looking westward at Lone Pine 3 load out facility; note Entrada-Todilto contact at left. Adits are at level of uppermost timbering.

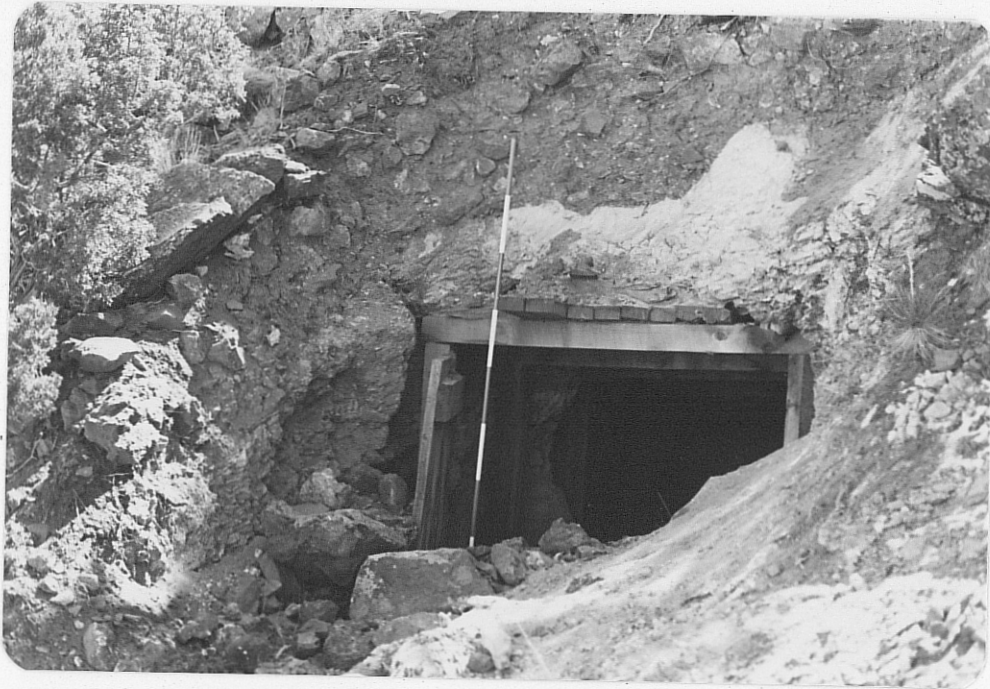


Photo (b) Portal of western adit.



Photo (c) View inside western adit; note timbering, grafitti, campfires, and split into left and right forks at rear.

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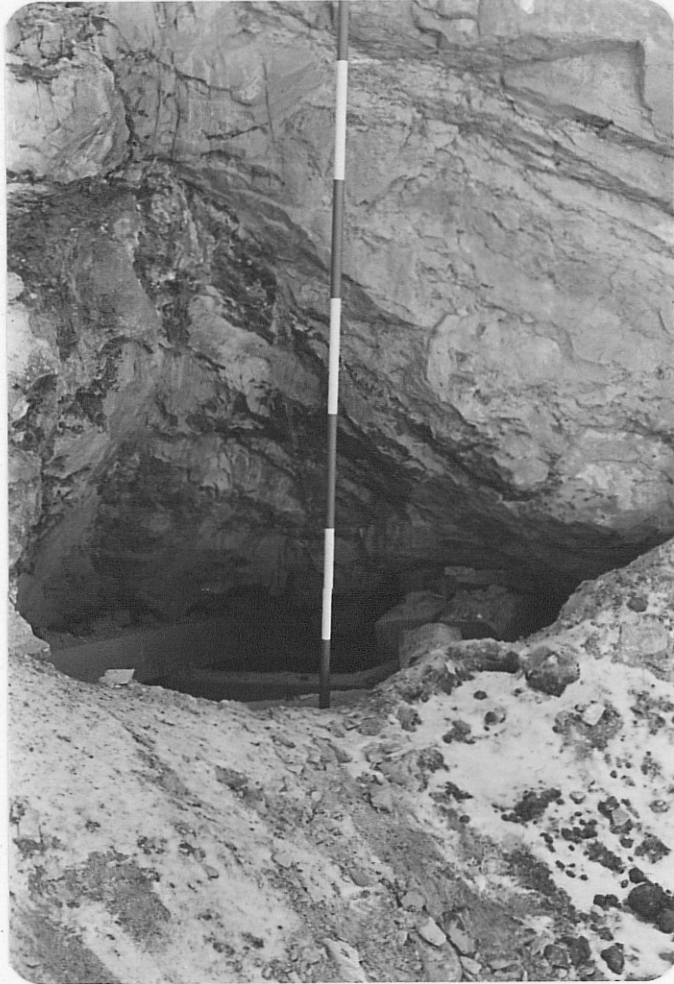


Photo (d) Caved entrance to eastern adit; view is at level of overhead timbering.



Photo (e) Caved entrance to Powder Magazine.

Date visited 3/21/80

Mine name(s) Cedar 1 (Yucca) (Falcon?) County Valencia

Section SE $\frac{1}{4}$ 20 Twنش. 11 N R. 9 W

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

Mining district Grants

Elevation 6,580'

Nearest city and/or dwellings Grants is 1 $\frac{1}{2}$ mi. to the southwest

The Cedar 1 deposit is located in the SE $\frac{1}{4}$ of sec. 20, approximately 1 mile northeast of the trailer park at the east edge of Grants. The deposit was mined from an open pit which is located several hundred feet north, north east of an abandoned Todilto limestone aggregate pit which is presently being closed and regraded by Benny Griegos Trucking, of Grants.

The open pit measures 300' N-S, by 200' E-W, and is 25' deep at maximum (see photo a); pit entrances are located at the northwest and south ends. The deposit is associated with a series of east trending intraformational folds in Todilto limestone (see photos b & c). Scintillometer response in the areas of the exposed folds was 700 cps, or 10 x background. Yellow uranium vanadates are present, but sparingly.

The main waste pile lies immediately west of the main pit (photo a), however, mine waste piles lie to the north and east as well; some ore may have been stockpiled in the north and east areas as scintillometer responses were stronger there.

Linear prospecting trenches extend eastward toward the sec. 21 line (see photos d & e), but no prospecting or mine workings were recognized in sec. 21; an AEC mine listing noted the Falcon 1 and 2 claims in sec. 21. The name "Falcon" was mentioned as an alternate to the Cedar at the top of this page because the State Mine Inspector's Office has used "Falcon" for this mine on the Cedar claims; they however, also listed the location as being 4 miles southeast of Grants.

The name Yucca is an alternative to Cedar (Hilpert, 1969) and the State Mine Inspector's Office records noted that what they called the "Falcon" adjoined the Yucca Mine. They may have started out as two separate pits and coalesced later. At present the pit appears as one working.

The mine was worked from 1952-1957 by Falcon Uranium and Oil Corporation; last registration was February, 1957.

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603.
 - (2) State Mine Inspector's Office, inactive uranium mine file.
 - (3) U.S. AEC, uranium mine records, GJO/AEC.
 - (4) Field notes 3/21/80.

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Photo (a) Looking generally southwest at open pit mine on Cedar 1 Claims; overburden pile at center behind the pit, Grants at right in background. At upper left is the remnants of an abandoned aggregate pit operation.

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Photo (b) Looking westward into intraformational fold exposed in north end of open pit.



Photo (c) Looking westward into intraformational fold parallel to and 50' south of the fold in Photo (b). Scintillometer response was moderate, but visible mineralization scant.

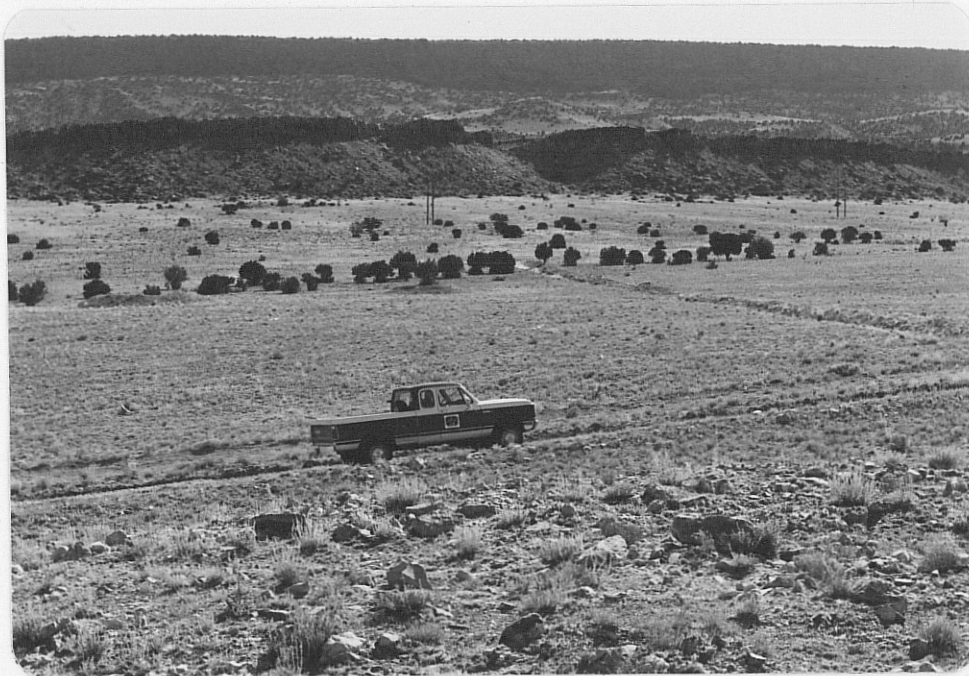


Photo (d) Linear prospecting trench extending eastward (upper right) from Cedar 1 open pit.



Photo (e) Looking westward at linear prospecting trench near southeast corner of sec. 20.

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Date visited 5/7/80

Mine name(s) Chavez (Canoncito) County Valencia

Section SE $\frac{1}{4}$ 22 Twنش. 10 N R. 3 W

Quadrangle sheet Mesa Gigante 7 $\frac{1}{2}$ '

Mining district -

Elevation 6,080'

Nearest city and/or dwellings Canoncito Navajo School NE 3 mi.

The Chavez (Canoncito) is in the SE $\frac{1}{4}$ sec. 22 near Canoncito School. To reach the site take the Canoncito exit ^{off} east of the Rio Puerco on I-40 and proceed about 6 $\frac{1}{2}$ miles north; then turn to left for 1 $\frac{1}{2}$ miles to sec. 22. Last $\frac{1}{2}$ mile must be made on foot as the access road no longer exists. Local passerby, Mr. Sam Pablo, assisted in locating the site during the present investigation.

Workings consist of an adit driven northeastward into the Recapture member sandstone of the Morrison Fm., and a small bench cut immediately west of the adit along a road descending to the site. Slumping has nearly obliterated the original bench cut and it appears as no more than a road cut at present. Scintillometer response at the cut was weak, about 2 x background. The mine is indicated on U.S.G.S., Map, GQ-212 by an adit symbol.

The adit, shown in photos (a) and (b) is about 6' high, 8' wide and forks into two drifts about 12' inside. Each drift continues for about another 25'. Some roof falls have occurred, and the entire length was not examined. Scintillometer readings at the portal ranged up to 1,200 cps; the ground out in front gave readings between 200-300 cps.

Hilpert (1960) stated that ore was mined from shallow open cut and adit in 1955. The State Mine Inspector's Office registered the mine in April, 1955 as the Canoncito. The registration indicated a uranium-vanadium deposit, being developed by Calumet-Hecla, Incorporated.

No production data available.

- References: (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603; p. 57.
(2) State Mine Inspector's Office, inactive uranium mine file.
(3) Moench, R. H., and Puffett, W. P., 1963, U.S.G.S., Map, GQ-212.
(4) Field notes, 5/7/80.



Photo (a) Looking eastward at 6' x 8' portal of adit at Chavez Mine. Maximum scintillometer readings were obtained at left side of portal where person is standing.



Photo (b) Looking eastward at same. Very little debris in way of timber, cable, or garbage remains at the site.

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Date visited 5/7/80

Mine name(s) Woodrow (Woodrow Breccia Pipe) County Valencia
Section 36 and 1 Twنش. 10 N and 11 N R. 5 W
Quadrangle sheet Moquino, 7½'
Mining district Laguna
Elevation 6,000'
Nearest city and/or dwellings Jackpile Mine headquarters, 1½ miles west

The Woodrow Mine is located on the township 10 N/11 N line in sections 36 and 1. To reach the site go to the Anaconda Jackpile Mine headquarters and speak to Mr. Ernest Wylie, as the mine is on Anaconda property.

The deposit was discovered in 1951 and was mined in two stages by Anaconda during 1954 and 1956. During the first phase of the operation the interval down to 100' was mined through the main north shaft (see fig. 1); ore grade averaged 1.53% U_3O_8 and 0.05% V_2O_5 . During the second phase, in 1956, the interval from 100' to 200'⁸ was mined with an average ore grade of 0.32% U_3O_8 . The small shaft on south (fig. 1) caved in 1956 with the loss of 1 life and the mine was shut down. The other shaft was just backfilled in early 1980 (Ernest Wylie oral communication 5/7/80).

At present the site is level and clean except for a 16' x 18' metal shed (photos a & b). Scintillometer readings on the north side of this shed, which is the site of the north shaft ranged up to 800 cps at a natural outcrop.

The deposit is in a breccia pipe, 24' to 34' in diameter, with a fairly steep dip of 67°-83° (Wylie, 1963). Among the minerals positively identified were autunite, torbernite, meta-autunite, coffinite, uraninite, becquerelite, and zippeite, plus pyrite, chalcopyrite, and marcasite, (Wylie, 1963).

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603; p. 58.
 - (2) Hilpert, L., and Moench, R. H., 1960, Uranium Deposits of the Southern San Juan Basin, New Mexico, Econ. Geol., v. 55, p. 429.
 - (3) Wylie, Ernest T., 1963, Geology of the Woodrow Breccia Pipe, in Geology and Technology of the Grants Uranium Region: New Mexico Bur. of Mines and Mineral Resources, Mem. 15; p. 177.
 - (4) N.M. State Mine Inspector's Office, inactive uranium mine file.
 - (5) Field notes, 5/7/80.



Photo (a) Looking westward at site of backfilled main shaft (northern shaft) at the Woodrow Mine.



Photo (b) Looking southwestward at the site of backfilled shaft about 80' south of site shown in photo (a).

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.

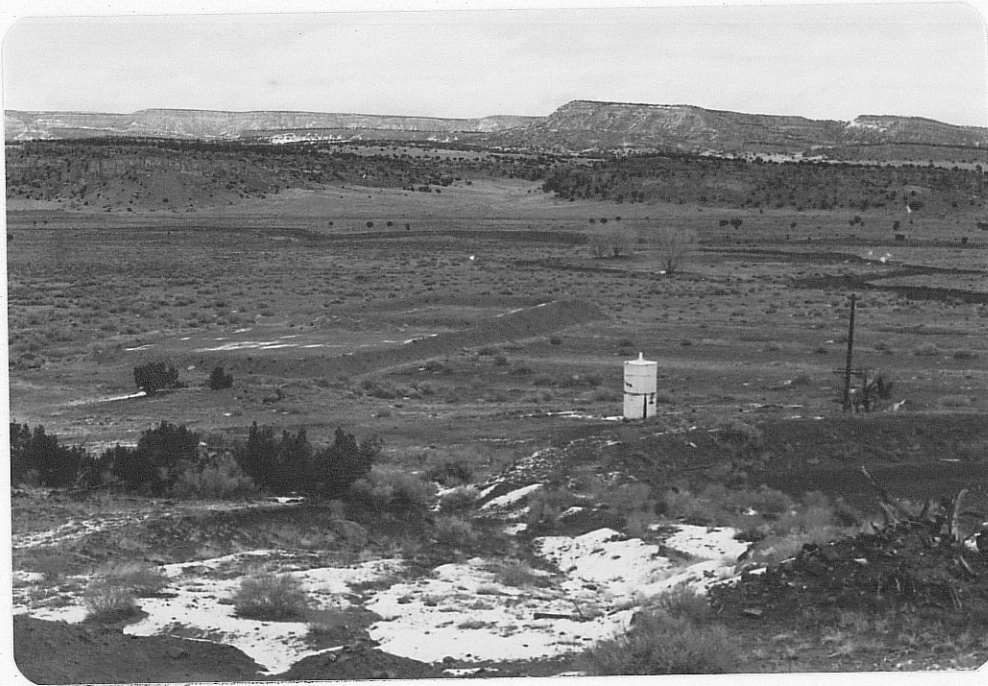


Photo (k) View northward from toe of dump showing rectangular earthen embankment used for heap leaching experiments; note metal tank perhaps used for chemical storage. San Mateo Creek in middle distance flows from right to left. A tributary entering from south (arrow) passes within several hundred feet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

Date visited 5/6/80

Mine name(s) Crackpot Mine County Valencia

Section NW $\frac{1}{4}$, NW $\frac{1}{4}$ 8 Twnsh. 8.N R. 5 W

Quadrangle sheet South Butte 7 $\frac{1}{2}$ '

Mining district South Laguna

Elevation 6,300'

Nearest city and/or dwellings Mesita, 8 miles northeast

The Crackpot is located in the NW $\frac{1}{4}$ sec. 8 on Sharp Point. To reach the workings proceed southward and southwestward on dirt road about 8 miles from the Mesita exit on I-40.

The mine consists of a 120' long open cut, elongate NW-SE, 30' wide at the northwest at entrance ramp, 80' wide at SE where several short adits or gopher holes are driven, and 22' deep (see photo a). The longest of the adits is the 40' one driven in along the crest of an anticline (photo b). Water stands seasonally in this adit. The other underground workings go in no more than 6'-8'. The waste dump lies 250' to the south and is 40' x 90', about 4' high (see photo c).

The deposit is in a NW trending domelike fold in Todilto limestone; closure is about 3'-5' with lesser folds radiating out from dome (Hilpert, 1969). Mineralization is in lower 15' in platy and crinkley zones, and is concentrated near center of dome. Some secondary uranium mineralization is visible on muck piles and faces; much calcite in fracture zones especially on north side of pit. Scintillometer readings in pit ranged up to 2,500 cps; on mine dump up to 1,000 cps.

Hilpert, (1969) stated that ore was mined in 1955. The workings represent one of the Anaconda Companies earliest uranium mining ventures in the area. The geology of the ore deposit plus some information on ore grade is given in Moench (1963, p. 163).

- References:
- (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603, p. 56.
 - (2) Moench, R. H., 1963, Geologic Limitations on the Age of Uranium Deposits in the Laguna District, in Geology and Technology of the Grants Uranium Region: New Mexico Bur. of Mines and Mineral Resources, Mem. 15; p. 163.
 - (3) Field notes, 5/6/80.

Addendum: Water quality data on sample taken from pond standing in long adit of photo (b).

Conductivity	<u>272 μ mho</u>
pH	<u>8</u>
SO ₄	<u><25 ppm</u>
U ₃ O ₈	<u>0.76 ppm</u>



Photo (a) Panorama looking southeastward into 22' deep open pit at Crackpot Mine; several small gopher holes or stub adits are driven into highwall, the one at right shown in greater detail in photo (b).

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Photo (b) Looking southeastward from floor of open pit into 7' high, 10'-12', adit shown at right in photo (a).



Photo (c) Waste dump, 250' south of open pit, looking south. Note range pole at left for scale.

Date visited 5/6/80

Mine name(s) Paisano Prospect County Valencia

Section SE $\frac{1}{4}$, NW $\frac{1}{4}$ 16 Twنش. 8 N R. 6 W

Quadrangle sheet South Butte 7 $\frac{1}{2}$ '

Mining district South Laguna

Elevation 6,160'

Nearest city and/or dwellings Marmon Ranch, 6 miles S-SE; Mesita, 14 miles NE.

The prospect is located just north of Alamo Spring in the NW $\frac{1}{4}$ sec. 16. The site may be reached by leaving I-40 at the Mesita exit and proceeding southward and westward for about 14 miles toward Alamo Spring.

No recognizable workings exist at the site. One 4" x 4" claim post was found about 600' northeast of Alamo Spring. One small area on a Todilto limestone outcrop nearby produced a scintillometer reading of 90 cps, or about 2 x background. No uranium minerals visible.

The small open pit referred to by Hilpert (1969) was not identified.

- References: (1) Hilpert, L., 1969, Uranium Resources of NW New Mexico, U.S.G.S., Prof. Paper 603, p. 56.
(2) Field notes, 5/6/80.