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
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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
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Taos County	10 pages	$2.00
Torrance County	5 pages	$1.00
Valencia County	98 pages	$19.60
		$ 153.60

GRANT COUNTY

Quad: Burro Peak 7½'

1. NM-411-3-1 Page 1

Alhambra - Bluebelle No.2

2. NM-411-3-2 Page 3

Floyd Collins

3. NM-411-3-3 Page 6

Merry Widow

Quad: White Signal 7½'

1. NM-411-4-1 Page 9

Inez (Inez uranium deposit)

2. NM-411-4-2 Page 11

Shamrock

3. NM-411-4-3 Page 14

Calamity Mine

4. NM-411-4-4 Page 18

Blue Jay (Blue Jay Claim)

5. NM-411-4-5 Page 20

Eugenie

Date visited 8/29/79

Mine name(s) Alhambra-Bluebelle No. 2 County Grant

Section NE¼ 21 Twnsh. 20 S R. 15 W

Quadrangle sheet Burro Peak 7½'

Mining district White Signal

Elevation 6,260'

Nearest city and/or dwellings White Signal, 3/4 miles south, and 1½ miles east

The Alhambra-Bluebelle is located approximately 400' north of the road in the NE¼ sec. 21. It is accessible by dirt road leaving highway no. 180 at the Floyd Collins Mine 1½ miles west of White Signal.

During the present investigation one small vertical shaft with a collar dimension about 4' x 6' was found. At a depth of 10' water was standing, so total depth unknown (see photos a & b). A deteriorating wooden bailing or hoisting platform remains over the shaft.

Mineralization is in a much shattered diabase dike. Torbernite is reported as abundant on the fracture surfaces and in the adjacent granite, (Gillerman, 1964). Two shallow shafts explore the deposit (Gillerman, 1964), but only one was located. Another sec. 21 shaft is indicated on the Burro Peak quadrangle (1950), but nothing was found at that site.

Production history at the Alhambra-Bluebelle is not known.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., New Mexico; New Mexico Bur. of Mines and Mineral Resources, Bull. 83; p. 95.
(2) Field notes, 8/29/79.

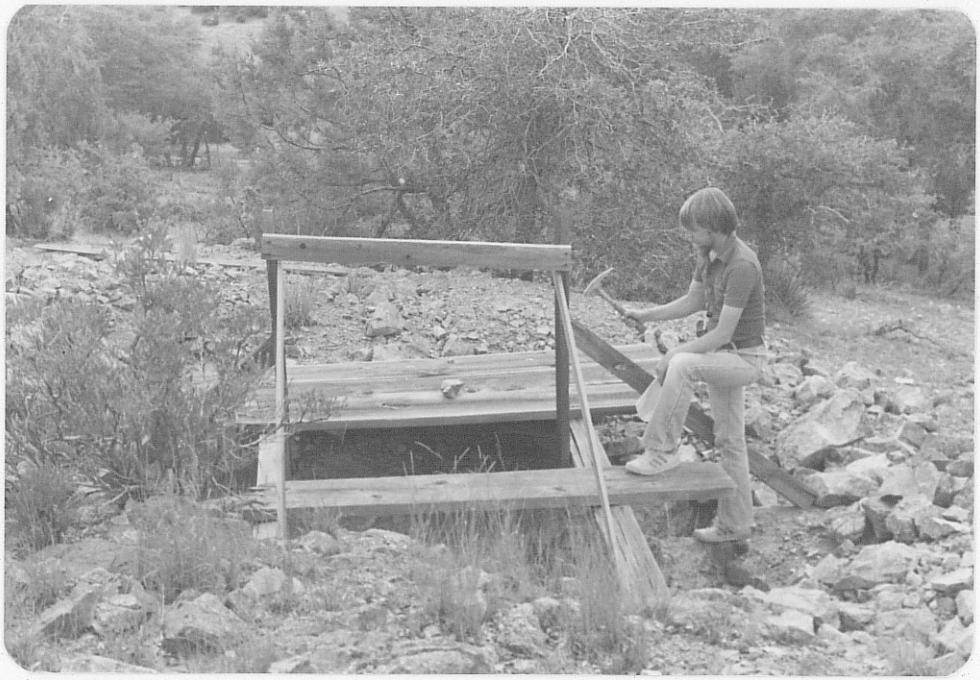

Photo (a) Looking south showing small hoisting platform, underlying shaft, and small tailings pile, at Alhambra-Bluebelle No. 2.

Photo (b) Close up of Alhambra-Bluebelle No. 2 shaft. Depth to water was 10 feet.

Date visited 8/29/79

Mine name(s) Floyd Collins County Grant

Section 21 & 22 Line Twnsh. 20 S R. 15 W

Quadrangle sheet Burro Peak 7½'

Mining district White Signal

Elevation 6,160'

Nearest city and/or dwellings White Signal, 1.8 miles east

The Floyd Collins is located on the sec. 21-22 line about ¼ mile north of highway no. 180. Head frame is visible from the highway and a dirt road leaves the highway 1½ miles west of White Signal and leads directly to the site.

Workings consist of a wooden head frame and caved shaft, see photos (a) and (b). Caved hole is 10' x 12' and about 15' deep, with no evidence of very recent caving. Mine dump extends to west of the shaft (photo c) and is about 80' long with toe extending down toward a small drainage line with a dirt tank just downstream (see photo d). Water analysis showed 1850 ppm total dissolved solids, 117 ppm $SO_4^=$, and a conductivity value of 17,500 μmhos/cm^3.

The mine was opened in 1920 or 1921 for radium and unlike other radioactive deposits in the district neither gold nor copper minerals are present. Autunite and torbernite were mined in the 1920's and processed into radium salts. In 1944 the deposit was mapped and studied by Union Mines Development Co., (code name for the U.S. AEC). In 1954 the property was leased to the Atrimas Mining Co., and subsequently two carloads of ore assaying between 0.1 and 0.2% U_3O_8 were shipped to the Anaconda Mill at Bluewater, New Mexico. Operations ceased in 1955, but in 1959 it was reopened by the owner, (Gillerman, 1964). It has been inactive since 1961.

The mine was developed by two inclined shafts, (Gillerman, 1961) but only one was identified during the present investigation. The major mineralized zone is confined to altered diabase dike rock along a cross cutting east trending fault. Country rock is granite. Autunite and torbernite are the ore minerals.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., N. Mex.; New Mexico Bur. of Mines and Mineral Resources, Bull. 83.
(2) Hilpert, L., 1965, Mineral and Water Resources of New Mexico; New Mexico Bur. of Mines and Mineral Resources, Bull. 87, p. 222.
(3) Field notes, 8/29/79.

Photo (a) Caved shaft at Floyd Collins Mine.

Photo (b) Head frame at Floyd Collins Mine, looking south-southeast.

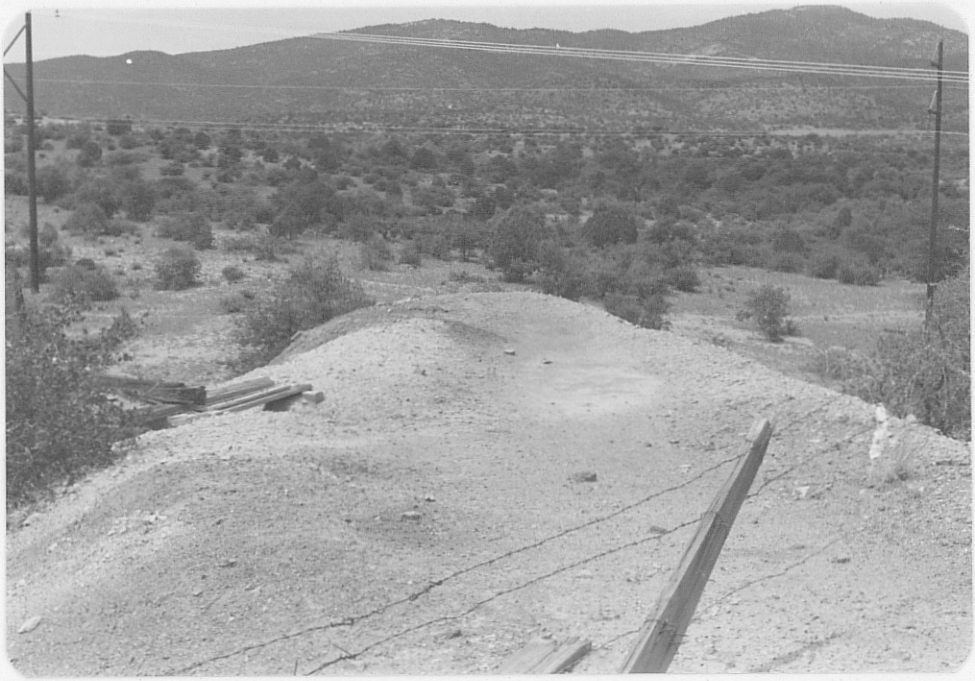

Photo (c) Tailings dump extending west from Floyd Collins Mine shaft. Dump is 10' high, 80' long.

Photo (d) Looking southeast at head frame and tailings dump (through trees) that extends down to small drainage line.

Date visited 8/29/79

Mine name(s) Merry Widow County Grant

Section S½ 22 Twnsh. 20 S R. 15 W

Quadrangle sheet Burro Peak 7½'

Mining district White Signal

Elevation 6,140'

Nearest city and/or dwellings White Signal, 1.2 miles east

The Merry Widow shaft is located on the south side of the east-west drainage line in the S½ sec. 22. To reach the site travel westward from White Signal on highway 180 for about ½ mile, then turn right on dirt road and follow it westward to mine; mine is ¼ mile north of highway.

The workings consist of a 6' x 6' vertical shaft open down to about the 40' level. It was originally a 150' deep shaft, one of the deepest in the district (Gillerman, 1964), with levels at 40', 60', 90', and 130' which explored the ore body. Host or country rock is a granite; mineralization has occurred where an east trending fault has cut and displaced two diabase dikes. Ore minerals consist of chalcopyrite, pyrite, hematite, autunite, and torbernite (Gillerman, 1964). Mine was opened in 1910 for gold. Uranium minerals were discovered in the tailings dump in 1919 and subsequently the mine produced most of the radium in the district during the "radium boom" of the 1920's.

The fenced shaft is shown in photo (a). The mine dump and ore chute are shown in photo (b). Some of the trenching done to the south and west of the shaft along the fault zone is shown in photo (c). Mine has not been worked since 1950, although some diamond drilling was done that year (Lovering, 1956). The property has been picked up by UV Industries, a subsidiary of Sharon Steel Corp. (Telephone: 534-2225).

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant County, New Mexico, New Mexico Bureau of Mines and Mineral Resources, Bull. 83; p. 94.
(2) Hilpert, L., 1965, Uranium, in Mineral and Water Resources of New Mexico: New Mexico Bureau of Mines and Mineral Resources, Bull. 87, p. 222.
(3) Lovering, G. T., 1956, Radioactive Deposits in New Mexico, U.S.G.S., Bull. 1009-L, p. 329.
(4) Field notes, 8/29/79.

Photo (a) Merry Widow Mine shaft; 6' x 6' shaft is open down to about 40'. Fence is deteriorating but still effective. Sign is no longer legible.

Photo (b) Tailings dump and ore chute just west of shaft, looking west.

Photo (c) Trenching just southwest of Merry Widow shaft exploring mineralization along east trending fault where it cuts and displaces a diabase dike.

Date visited 8/30/79

Mine name(s) Inez (Inez uranium deposit) County Grant

Section S½ 24 Twnsh. 20 S R. 15 W

Quadrangle sheet White Signal 7½'

Mining district White Signal

Elevation Approximately 5,900'

Nearest city and/or dwellings White Signal, 1 mile NW

The Inez Deposit is located in the SE¼ sec. 24 on the north side of Walnut Creek. The area is accessible by dirt road leaving highway no. 280 ½ mile north of White Signal. This road leads eastward, but dirt trails to the south at ½ mile and at 1½ mile down this road lead into the inactive mines in the S½ of sec. 24.

Mines and prospecting pits are very numerous in the SE¼ of sec. 24. Open pits, cuts, vertical shafts, adits were all found, but without a scintillometer it is impossible to tell which may have been uraniferous. Photo (a) shows a typical small open cut. Photo (b) is a vertical shaft, which may not be in the SE¼, but is somewhat of a hazard. Depth to water at this unfenced shaft site is 15'. Patented claims exist in the SE¼ of sec. 24 and attempts to find the owners locally were met with failure. Without the express permission from the landowners, a thorough search was not carried out during the August 30, 1979 investigation.

Gillerman, (1964) reported that two carloads of ore averaging 0.2% U_3O_8 were shipped from the mine during or shortly after 1954. Mineralization is in the form of torbernite filling veinlets and minute fractures in a diabase dike rock.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., New Mexico; New Mexico Bur. of Mines and Mineral Resources, Bull. 83; p. 93.
(2) Hilpert, L., 1965, Uranium, in Mineral and Water Resources of New Mexico: New Mexico Bur. of Mines and Mineral Resources, Bull. 87; p. 222.
(3) State Mine Inspector's Office, 43rd Annual Report, 1955, p. 44.
(4) Field notes, 8/30/79.

Photo (a) Small open cut in dike rock in SE¼ sec. 24; note hammer for scale.

Photo (b) Open vertical shaft in S½ sec. 24; depth to water is 15'.

Date visited 8/30/79

Mine name(s) Shamrock County Grant

Section SW¼ Sec. 23 Twnsh. 20 S R. 15 W

Quadrangle sheet White Signal 7½'

Mining district White Signal

Elevation 6,020'

Nearest city and/or dwellings White Signal, 0.6 miles NE.

The Shamrock is located in the SW¼ Sec. 26 about ¼ mile south of highway no. 180. Access is by the Separ road leading southward from White Signal. No clear evidence of a road leading westward off the Separ road to the mine site, and the last ¼ mile must now be made on foot.

The mine workings consist of a single 4' x 6' vertical shaft open presently to about the 30' level (see photos a & b); no water in shaft. Wood planks partially cover the shaft, but it is essentially open. Secondary copper minerals are very noticeable on the tailings pile. Uranium mineralization occurs along the intersection of a diabase dike and a quartz-pyrite vein, and weak radioactivity has been recorded at quartz-pyrite veins north of the shaft (Gillerman, 1964).

There is no record of any uranium (radium) production at this mine.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., New Mex.; New Mex. Bur. of Mines and Mineral Resources, Bull. 83, p. 95.
(2) Field notes, 8/30/79.

Photo (a) Looking west at Shamrock shaft; collar dimension is 4' x 6'.

Photo (b) Shamrock shaft, looking south with portion of tailings dump showing in background.

Date visited 8/30/79

Mine name(s) Calamity Mine County Grant

Section SE¼ Sec. 23 Twnsh. 20 S R. 15 W

Quadrangle sheet White Signal 7½'

Mining district White Signal

Elevation 5,980'

Nearest city and/or dwellings White Signal, 0.6 miles northwest

The Calamity is located in the SE¼ sec. 23 just northeast of the Blue Jay Claims. Access is by dirt road (Separ Road) leading south from White Signal. At 3/4 mile down this road take a hard left and follow dirt trail for ¼ mile to mine site.

The mine consists of two vertical shafts, about 25' apart, (see photo a). The easternmost has a rotted collar indicated by a 4' x 6' size (see photo b); a drift can be seen at the 12' level and water stands about 60' down. The western shaft is about the same size and stands full of water (see photo c), although it may be the shallower of the two. Gillerman (1964) reported a vertical shaft 100' deep on the property, and it is probably one of the two described above. Extensive prospecting in the form of bulldozing, both very old and some very recent, is evident in the area.

The mine produced copper and gold ore between 1900 and 1908. It was reactivated in 1977. Radioactivity was recorded in the shaft, but no production of uranium (or radium) ore has ever been recorded.

The area around and including the Calamity is under active claim by Southwestern Exploration Associates, of Tucson, Arizona. It was staked March 1, 1979, and annual assessment work has been done.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., New Mexico; New Mexico Bur. of Mines and Mineral Resources, Bull 83; p. 96.
(2) Field notes, 8/30/79.

Photo (a) Looking westward at two shafts, 25' apart, on the Calamity Claim. Shaft in background is just barely visible behind hammer placed for scale.

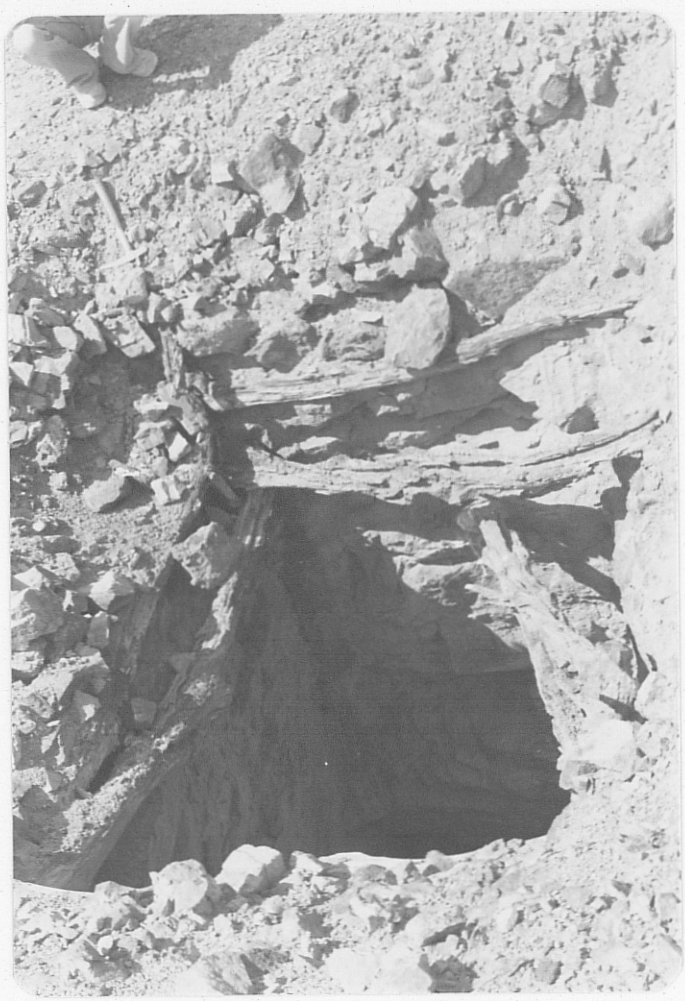

Photo (b) Easternmost shaft, 4' x 6', with water standing at the 60' level.

Photo (c) Westernmost shaft (in background in photo (a)), standing full of water, note hammer at upper center for scale.

Date visited 8/30/79

Mine name(s) Blue Jay (Blue Jay Claim) County Grant

Section N½ Sec. 26 Twnsh. 20 S R. 15 W

Quadrangle sheet White Signal 7½'

Mining district White Signal

Elevation 5,980'

Nearest city and/or dwellings White Signal, 3/4 mile north.

The Blue Jay Claim is located in the N½ sec. 26 about 3/4 mile by dirt road south of White Signal.

Prospecting has taken place about 400' to 500' west of road as reported by Lovering (1956) and Gillerman (1964). A small exploration shaft, however, was found several hundred feet on the other side of the road (east) and this was photographed because it was far more significant in terms of disturbance. Although the shaft appeared to be, from visual observation in the field, in sec. 26 it is very near the line and could be in sec. 23. If so it may be a part of the Calamity workings rather than the Blue Jay.

The shaft is 4' x 6', depth unknown because of wooden frame covering (see photos a & b). It is probably an inclined shaft of very moderate depth. The tailings dump extends to the south and west of the shaft opening.

Mineralization is reportedly in the form of autunite and torbernite coatings on fractures in an altered diabase dike that intrudes the precambrian granitic country rock (Gillerman, 1964). Pitchblende has also been identified from this locality, representing the only known occurrence of an unoxidized uranium mineral in the district.

Production statistics are not known.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grant Co., New Mexico; New Mexico Bur. of Mines and Mineral Resources, Bull. 83; p. 88.
(2) Lovering, T. G., 1956, Radioactive Deposits in New Mexico; U.S.G.S., Bull. 1009-L; p. 344.
(3) Field notes, 8/30/79.

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Photo (a) Looking north into covered inclined shaft thought to be on Blue Jay Claims.

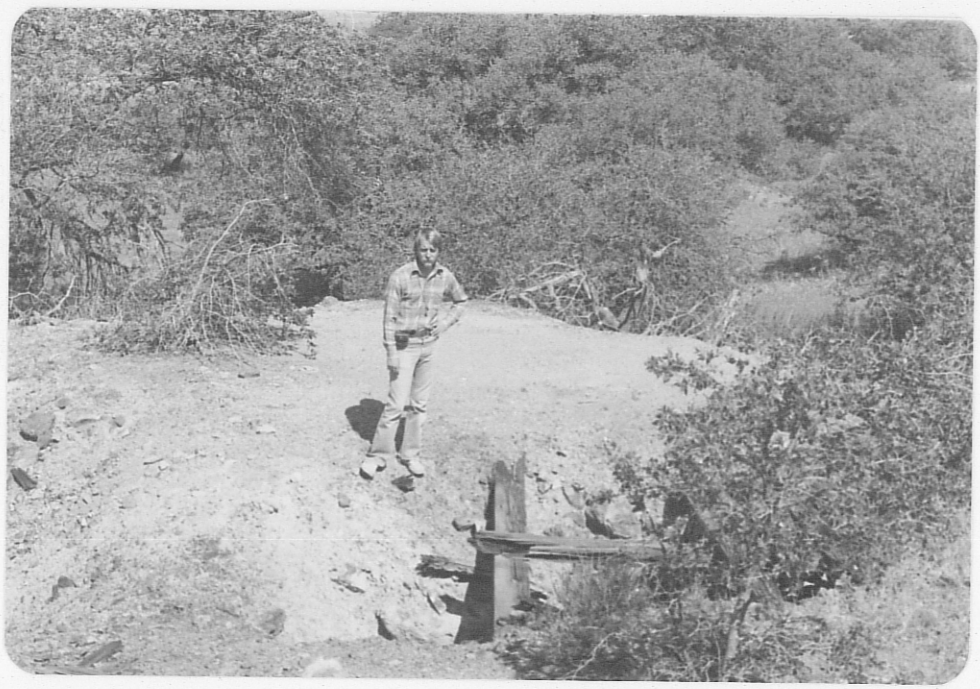

Photo (b) View to the west showing portion of timbering over shaft and tailings dump extending to south and west.

Date visited 8/30/79

Mine name(s) Eugenie County Grant

Section NE¼ 26 Twnsh. 20 S R. 15 W

Quadrangle sheet White Signal 7½'

Mining district White Signal

Elevation 5,940'

Nearest city and/or dwellings White Signal, 1 mile north

The Eugenie Mine is located in the NE¼ sec. 26 on the north side of the small drainage line. It is accessible by traveling southward from White Signal on Separ Road for about 1 mile. Mine will then be several hundred feet off to the east of the road.

The mine consists of a single vertical shaft sunk along a quartz-pyrite vein that strikes N 55° E. The 4' x 8' shaft is reported as being 80' deep (Gillerman, 1964), but it was filled with water at time of visit (see photo a). The tailings dump lies immediately to the south (see photo b). Analysis of the shaft water showed 460 ppm total dissolved solids, 165 ppm $SO_4^{=}$, and a conductivity of 6,600 μmhos/cm^3.

It was opened in 1913 as a gold and copper mine; the ore ranged up to 29.6% copper. In the 1920's 500 lbs. of torbernite were shipped to San Francisco (Gillerman, 1964). Apparently the U.S. AEC took no interest in this deposit during the uranium boom of the middle and late 1940's.

References: (1) Gillerman, Elliot, 1964, Mineral Deposits of Western Grants Co., New Mex.; New Mexico Bur. of Mines and Mineral Resources Bull. 83; p. 95.
(2) Field notes, 8/30/79.

Photo (a) Looking westward at water filled Eugenie shaft; collar dimensions about 4' x 8'.

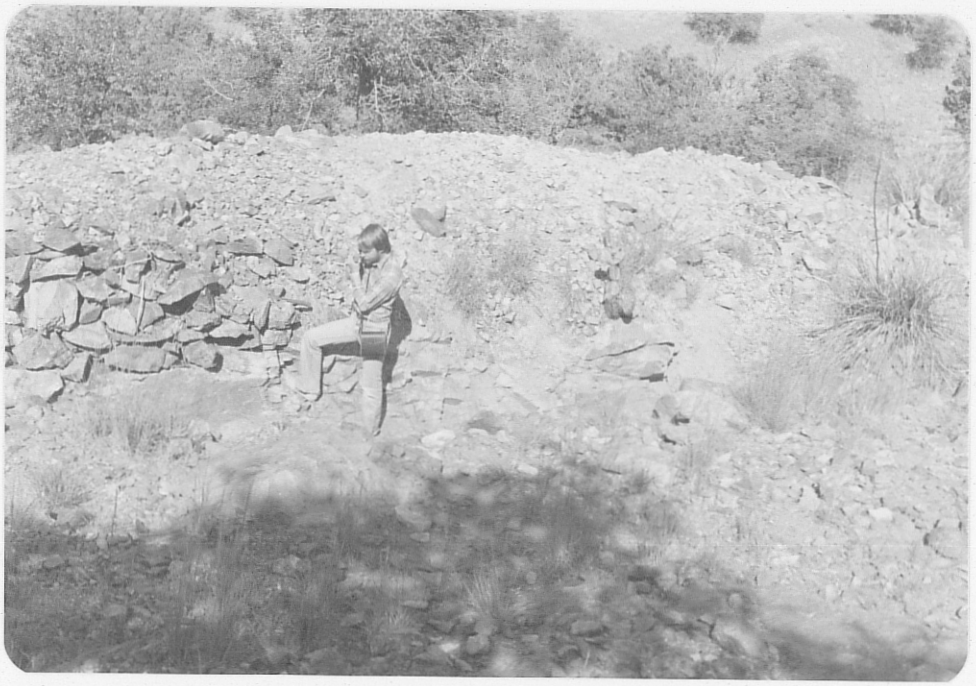

Photo (b) Looking southward at shaft site (immediately in front of persons in photo) and tailings pile in back.