

State of New Mexico  
Environmental Improvement Agency

P. O. BOX 2348  
SANTA FE, NEW MEXICO 87501

APPLICATION FOR  
RADIOACTIVE MATERIAL LICENSE

INSTRUCTIONS - Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail two copies to: Radiation Protection Section, Box 2348, Santa Fe, New Mexico 87501. Upon approval of this application, the applicant will receive a Radioactive Material License. A Radioactive Material License is issued in accordance with the general requirements contained in the New Mexico Radiation Protection Regulations, Part 3, Licensing and the License is subject to Part 4, Standards for Protection Against Radiation.

1. (a) NAME AND STREET ADDRESS OF APPLICANT  
(Institution, firm, hospital, person, etc.)

United Nuclear Corporation  
Mining and Milling Division  
3737 Princeton Drive N.E.  
Albuquerque, New Mexico 87107  
(PO Box 3951  
Albuquerque, New Mexico 87110)  
Phone 505-345-5661

1. (b) STREET ADDRESS(ES) AT WHICH A  
RADIOACTIVE MATERIAL WILL BE USED (If  
different from 1 (a).)

United Nuclear Corporation  
Church Rock Mine  
16 miles N.E. Gallup  
Gallup, New Mexico 87301  
(PO Box 1464  
Gallup, New Mexico 87301)  
Phone 505-863-3272

2. DEPARTMENT TO USE RADIOACTIVE MATERIAL

Mining and Milling Division

3. PREVIOUS LICENSE NUMBER(S). (If this is an  
application for renewal of a license, please indicate and  
give number.)

None

4. INDIVIDUAL USER(S). (Name and title of individual(s)  
who will use or directly supervise use of radioactive  
material. Give training and experience in Items 8 and 9.)

See Sections 5.1 and 5.2 of  
Supplemental Sheets.

5. RADIATION PROTECTION OFFICER (Name of person  
designated as radiation protection officer if other than  
individual user. Attach resume of his training and  
experiences as in Items 8 and 9.)

See Sections 5.1 and 5.2 of  
Supplemental Sheets.

Phone 505-863-3272

UNC-RML-1  
1975

*Report #1*

APPLICATION  
FOR  
RADIOACTIVE MATERIAL LICENSE  
FOR THE  
CHURCH ROCK, NEW MEXICO  
URANIUM MILL

United Nuclear Corporation  
Mining and Milling Division

LICENSE APPLICATION

SUPPLEMENTAL SHEETS

JULY 1975

## 2.1 Geography and Demography

### 2.1.1 Geography

The Applicant's proposed mill will be located in Land Section 2, Township 16N, Range 16W of McKinley County, and approximately 0.7 mile from an existing underground mine owned and operated by the Applicant. All facilities, including the tailings pond, will lie on Applicant's property. See Environmental Report, Section 2.1, for further description of the site location and layout.

### 2.1.2 Demography

Present and projected demographic trends indicate that the proposed site and surrounding area will continue to be sparsely populated. In addition, population distributions, employment, personal incomes, characteristics of local communities, transportation, and land use are described in the Environmental Report, Section 2.2.

## 2.2 Meteorology

Meteorological conditions of Applicant's site are typical of an arid to semiarid continental climate modified by the cool temperatures of the 7000 ft elevation. The annual precipitation is 10.7 inches of rain. No severe storms of tornado intensity have been reported in this area. See Environmental Report, Section 2.7.

## 2.3 Hydrology

### 2.3.1 Ground Water

Deep wells provide access to ground water which is not likely to become contaminated by proposed activities. See Environmental Report, Section 2.6.

### 2.3.2 Surface Water

Minimal amounts of surface water currently exist on Applicant's site except during periods of flooding or as water pumped from uranium mines into an unnamed arroyo. See Environmental Report, Section 2.6.

APPLICANT'S

# ENVIRONMENTAL REPORT

ON THE

CHURCH ROCK, NEW MEXICO  
URANIUM MILL AND MINE

VOLUME I

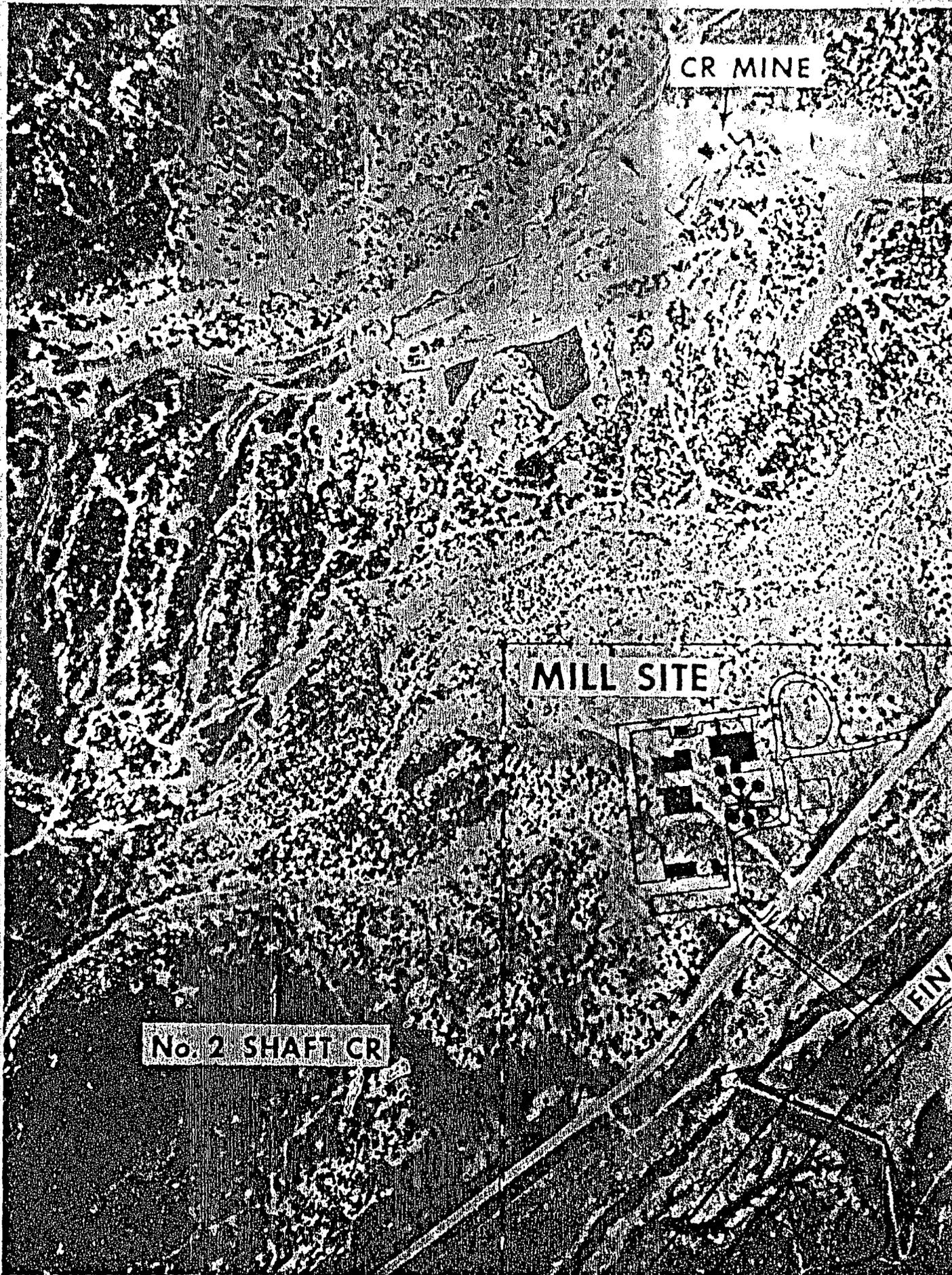
UNITED NUCLEAR  
CORPORATION

CR MINE

MILL SITE

No. 2 SHAFT CR

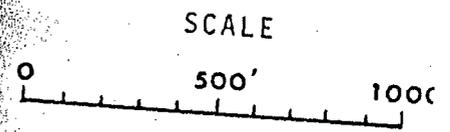
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APERTURE  
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Also Available On  
Aperture Card

FIGURE 2.1-2  
PLANT PERIMETER  
AND EXCLUSION  
AREA BOUNDARIES



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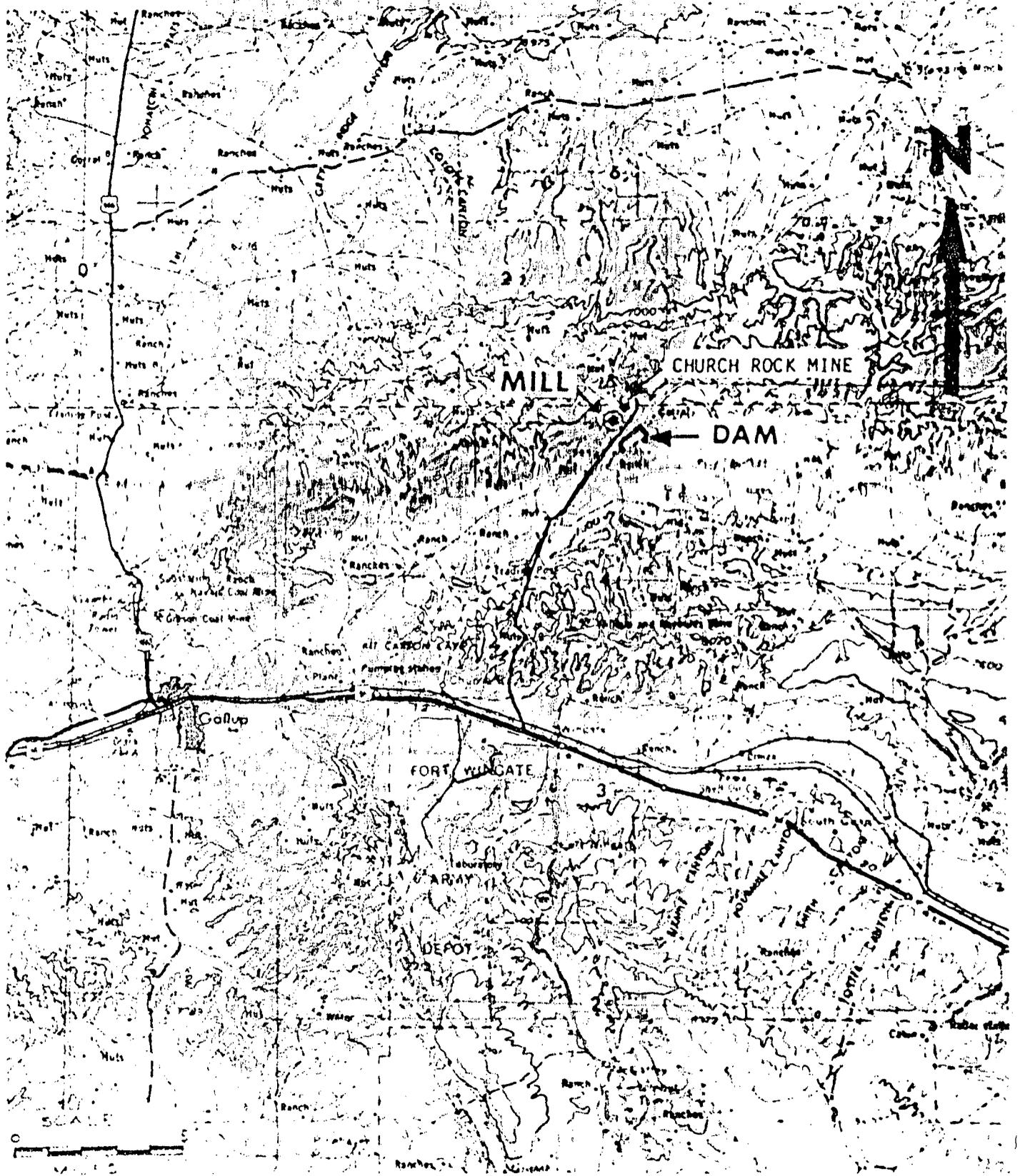


FIGURE 2.1-1 SITE LOCATION WITH RESPECT TO SETTLEMENTS, FARMS, RAILROADS, AND HIGHWAYS

## 2.0 THE SITE

The proposed mill will be located in a sparsely populated, semi-arid area approximately 16 miles northeast of Gallup, New Mexico. The site is approximately 0.7 mile from the existing Church Rock Uranium Mine operated by Applicant. The mill and tailings pond will lie entirely on Applicant's property.

### 2.1 SITE LOCATION AND LAYOUT

The proposed mill and tailings pond will be located in Section 2, Township 16N, Range 16W, of McKinley County, New Mexico. The location of the proposed site with respect to state, county, and other political subdivisions, such as farms, railroads, and highways, is presented in Figure 2.1-1. The location of the plant perimeter and the exclusion area boundaries is presented in Figure 2.1-2. The elevation contours in the general vicinity of the property are presented in Figure 2.1-3.

The Applicant owns a total of 602 acres of land and 360 acres of mineral rights in the Church Rock area. In addition, Applicant leases 33,484 acres, of which 31,030 acres lie on the Navajo Indian Reservation. The mine surface activity presently occupies approximately 60 acres. The mill complex will occupy approximately 20 acres which will be leveled and graded. The tailings pond system will occupy approximately 160 acres upon completion of the project after an estimated 15 years of operation. As soon as the proposed mill ceases operation, the tailings pond area will be covered and restored as close as possible to its natural state.

The perimeter of land Section 2, as described above, has been fenced with barbed wire to exclude livestock. The mill will be enclosed by a chain link fence 6 ft high topped with barbed wire. Both fences will be posted with "No Trespassing" signs. There are no other proposed uses or modifications for the property.

The Kerr-McGee Navajo Uranium Mine is located about 1 mile north of the proposed mill site. Mine water from both the Kerr-McGee Mine and Applicant's Mine is discharged into Pipeline Canyon which transverses Applicant's property.

State Highway 566 transects Applicant's property between the proposed mill and tailings pond locations and ends at the mine. Mill tailings will be pumped through piping beneath the Highway. The nearest railroad is approximately 10 miles south of the site.

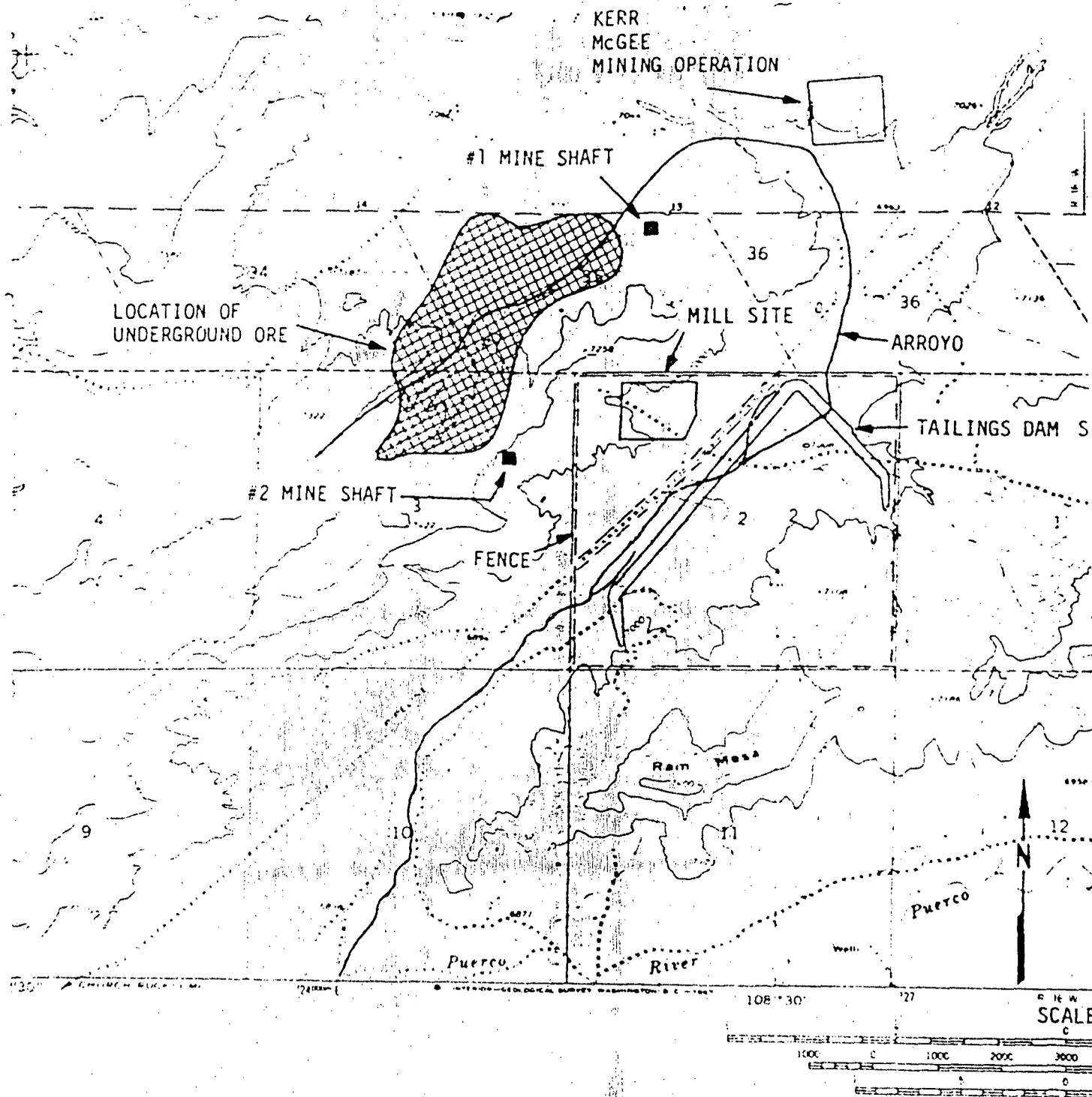


FIGURE 2.1-3. ELEVATION CONTOURS