

ORIGINAL

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W. E. BONDURANT, JR. (1913-1973)
ROY C. SNODGRASS, JR. (1915-1987)

*NOT LICENSED IN NEW MEXICO

August 18, 1988

Case 9477

Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

ATTENTION: Mr. David R. Catanach

Re: Murphy Operating Corporation Proposed
Haley Chaveroo San Andres Unit

Dear David:

Please find enclosed our Application for unit approval and authority to institute a waterflood project relative to the following lands:

Township 7 South, Range 33 East, N.M.P.M.

Section 33: All
Section 34: All

Township 8 South, Range 33 East, N.M.P.M.

Section 3: N $\frac{1}{2}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$

Please set this matter for hearing on September 14, 1988. One hundred percent of the proposed unit working interest owners have agreed to voluntary unitization. The unit is comprised entirely of leases from the State of New Mexico, and preliminary approval from the State Land Office is currently pending. All required notices to offset operators and surface owners are being sent via certified mail, return receipt requested, this date.

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AUG 20 1988
AUG 23 1988
OIL CONSERVATION DIVISION
OIL CONSERVATION DIVISION

Oil Conservation Commission
August 18, 1988
Page Two

Upon your review of the Application, if you find it deficient in any way or have any questions or comments, please do not hesitate to contact the undersigned.

Respectfully submitted,

HINKLE, COX, EATON, COFFIELD & HENSLEY

A handwritten signature in cursive script, appearing to read "Calder Ezzell".

T. Calder Ezzell, Jr.

TCE/tw
Enclosure



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

ORIGINAL

TELEPHONE
505 623-7210

August 19, 1988

VIA FEDERAL EXPRESS

RECEIVED

Case 9-77

Mr. David R. Catanach, Examiner
Oil Conservation Division
Energy and Minerals Department
State of New Mexico
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

AUG 23 1988

OIL CONSERVATION DIVISION

Re: SUBMITTAL OF DOCUMENTATION IN
CONNECTION WITH "APPLICATION OF
MURPHY OPERATING CORPORATION FOR UNIT
APPROVAL AND FOR AUTHORITY TO INSTITUTE
A WATERFLOOD PROJECT" and "SUPPLEMENTAL
DATA REQUIRED BY FORM C-108".
Proposed Haley Chaveroo San Andres Unit
Chaves and Roosevelt Counties, New Mexico.

Dear Mr. Catanach:

Murphy Operating Corporation ("MOC"), as designated Unit Operator for the proposed Haley Chaveroo San Andres Unit and on behalf of working interest owners within the proposed Unit Area, respectfully submits the information listed below relating to the subject Unit in connection with the requested hearing date of Wednesday, September 14, 1988 for approval of the "Application of Murphy Operating Corporation for Unit Approval and for Authority to Institute a Waterflood Project" and "Supplemental Data Required by Form C-108".

Pursuant to the rules and regulations of the Oil Conservation Division, MOC encloses herewith three (3) originals sets of the following information:

FILE 1. APPLICATION FOR UNIT APPROVAL.

- Exhibit A. - Map of Unit Area.
- Exhibit B. - Schedule of Ownership and Leases.
- Exhibit C. - Unit Agreement.
- Exhibit D. - Unit Operating Agreement.
- Exhibit E. - Area of Review Map.

FILE 2. SUPPLEMENTAL DATA REQUIRED BY OCD FORM C-108 (Engineering and Geological Data).

Exhibit III. - Well data, in both tabular and schematic form, for each well proposed for injection.

Exhibit V. - Map identifying all wells and leases within two miles of each proposed injection well (two-mile boundary highlighted in yellow). A one-half mile radius circle (drawn in red) around each proposed injection well identifies the wells' areas of review. Chart, "Redesignation of Well Names" listing original well names of wells within the Unit Area together with corresponding redesignated well names.

Exhibit VI.A. - Tabulation of data for all wells of public record within the proposed Unit Area.

Exhibit VI.B. - Tabulation of data for all wells of public record outside the proposed Unit Area but within the "area of review".

Exhibit VI.C. - Schematics (illustrating all plugging detail) of any plugged and abandoned well within one mile of Unit Area.

Exhibit VII.4. - Chemical analyses and compatibility analyses of the proposed injection fluid (fresh water samples from possible sources as described hereinabove) with that of the receiving Chaveroo San Andres formation (sample from State "BF" Well #2 located within the Unit Area).

Exhibit VIII. - Geological data related to the injection zone
through including appropriate lithological detail,
Exhibit VIII.I. geological name, thickness and depth.
SEE FILE 3.

Exhibit X. - Appropriate logging and test data for the proposed
injection wells.

Exhibit XI. - Letter dtd. 08/15/88 from Frank Bradley, Supervisor,
Portales Water Basin, Office of the State Engineer, confirming record search of
fresh water sources within one mile of any proposed injector.

Exhibit XIII. - Proof that copies of the application have been
furnished by certified mail to: a) the owner of the surface of the land on
which the proposed injection wells are to be located; and b) to the leasehold
operators within one-half mile of the proposed injection wells.

FILE 3. ENGINEERING AND GEOLOGICAL REPORT.

Exhibit VIII. - Engineering and Geological Report - Proposed Haley
Chaveroo San Andres Unit, prepared by Bert H. Murphy, Registered Professional
Petroleum Engineer, dated August 1, 1988.

Exhibit VIII.A. - General Location Map;

Exhibit VIII.B. - Report dated November, 1966 prepared by Roswell
Geological Society Symposium with attached structural and isopachus maps and
type log;

Exhibit VIII.C. - Core Data - "Completion Coregraph" for State "AZ"
Well #2 located within Unit Area; "Completion Coregraph" and "Core-Gamma
Correlation" for State "CVB" Well #1 located in near proximity of Unit in
Section 31, T-7-S, R-33-E;

Exhibit VIII.D. - Tabulated Summary of Geological Data;

Exhibit VIII.E. - Structure Map with proposed Unit Area delineated;

Exhibit VIII.F. - Isopachus Map with proposed Unit Area delineated;

Exhibit VIII.G.1. - East-West Stratigraphic Cross-Section

Exhibit VIII G.2. - North-South Stratigraphic Cross-Section.

Exhibit VIII.H. - Chart, Derivation of Tract Participation Factors.

Exhibit VIII.I. - Decline Curves for Wells within Area of Review.

FILE 4. PLAN OF OPERATION 1988-1989 with attached Exhibit 1., "Field Map
Indicating Proposed Unit Facilities".

We greatly appreciate your prompt and courteous replies to our numerous
questions in connection with this Application. Please contact me for any
additional information that may be required by your office.

Sincerely,

MURPHY OPERATING CORPORATION



Ann Murphy Ezzell, Esq.
Chairman and Chief Executive Officer

AME:fnr

Enclosures: as stated.

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COUNTY Roosevelt

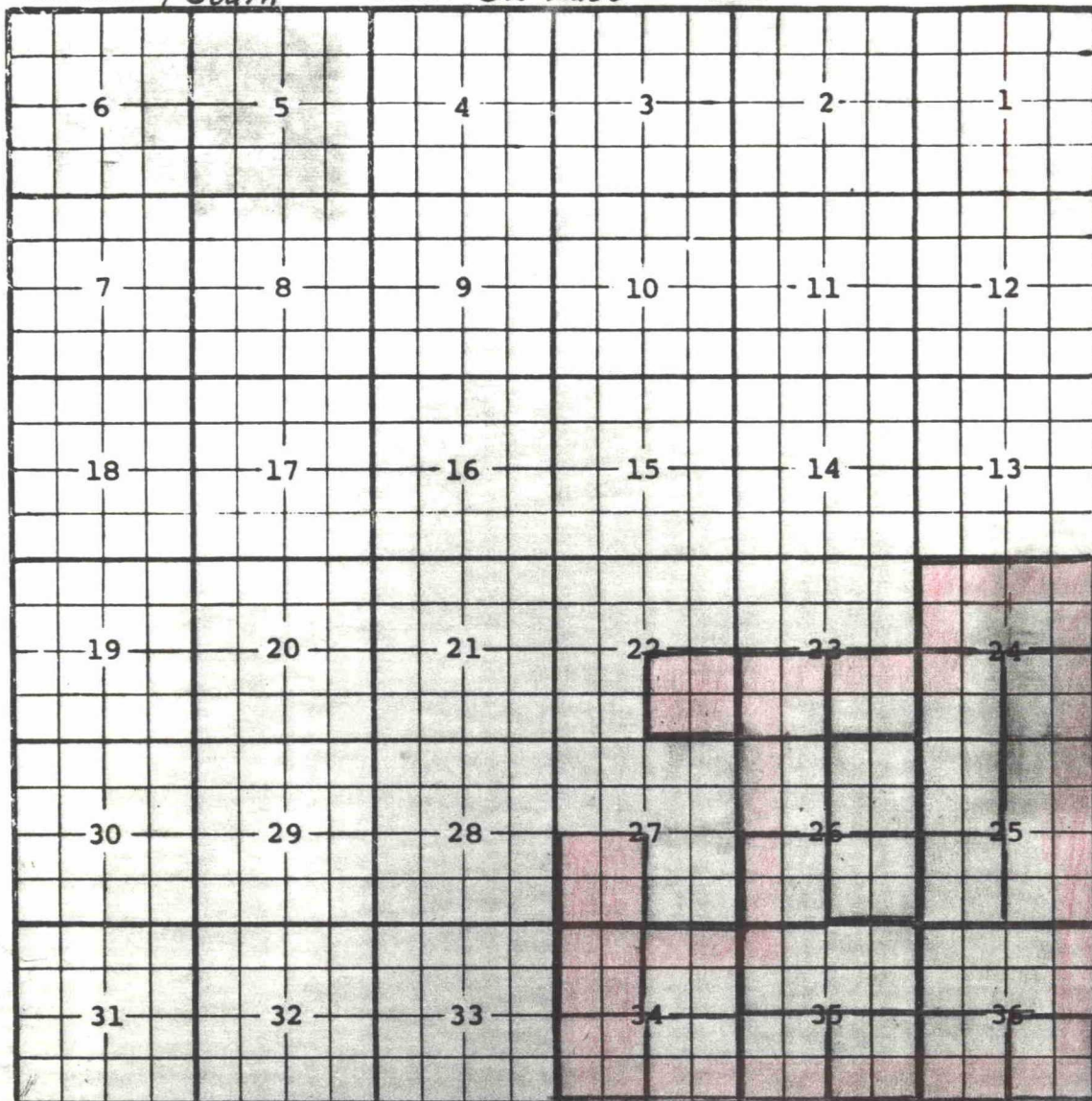
POOL

Chaveroo-San AndresTOWNSHIP 7 South

RANGE

32 East

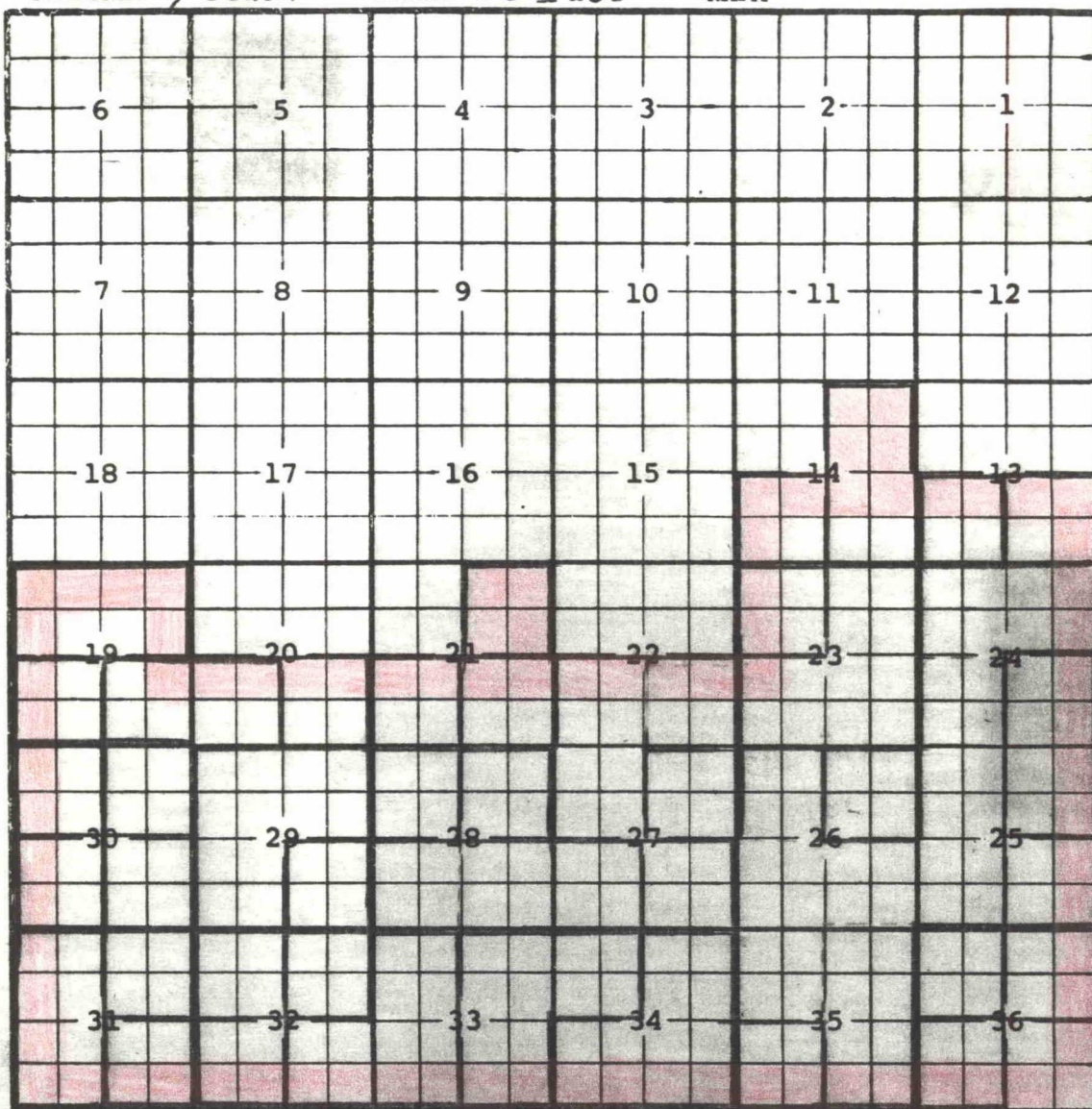
NMPM



Ext: $\frac{SE}{4}$ Sec 36 (R-3295, 9-1-67) - $\frac{N}{4}$ Sec 36 (R-3329, 11-1-67) - $\frac{SW}{4}$ Sec 25;
 $\frac{SW}{4}$ Sec 36 (R-3355, 1-1-68) - $\frac{SW}{4}$ Sec 24; $\frac{NW}{4}$ Sec 25; $\frac{SE}{4}$ Sec 26 (R-3389, 4-1-68)
- $\frac{SE}{4}$ Sec 23 (R-3411, 6-1-68) - $\frac{SE}{4}$ Sec 24; $\frac{E}{2}$ Sec 25; $\frac{NE}{4}$ Sec 26; $\frac{N}{2}$ Sec 35 (R-3505, 10-1-68)
- $\frac{N}{2}$ Sec 24; $\frac{SW}{4}$ Sec 26 (R-3562, 12-1-68) - $\frac{SE}{4}$ Sec 35 (R-3853, 11-1-69)
- $\frac{SW}{4}$ Sec 23 (R-4080, 1-1-71) - $\frac{SE}{4}$ Sec 22; $\frac{SW}{4}$ Sec 35 (R-4106, 3-1-71)
Ext: $\frac{SE}{4}$ Sec 34 (R-5667, 4-1-78) Ext: $\frac{SW}{4}$ Sec 34 (R-6033, 7-1-79)
Ext: $\frac{NW}{4}$ Sec 34 (R-6328, 5-1-80) Ext: $\frac{NE}{4}$ Sec 34 (R-6368, 7-1-80)
Ext: $\frac{SW}{4}$ Sec 27 (R-6657, 4-10-81)

COUNTY *Roosevelt*POOL *Chaveroo - San Andres*TOWNSHIP *7 South*RANGE *33 East*

NMPM

Description: *NE 1/4 Sec. 32 (R-2923, 7-1-65)*

Ext: *NW 1/4 & SE 1/4 Sec. 32; W 1/2 Sec. 33 (R-2923, 8-1-65) - SE 1/4 Sec. 29; E 1/2 Sec. 33;*
NW 1/4 Sec. 34 (R-2967, 10-1-65) - SW 1/4 Sec. 27; 1/2 Sec. 28; W 1/2 & NE 1/4 Sec. 29;
S 1/2 & NE 1/4 Sec. 34 (R-3014, 1-1-66) - SE 1/4 Sec. 19; SW 1/4 Sec. 20; SE 1/4 Sec. 27;
NW 1/4 Sec. 28; NE 1/4 Sec. 31; SW 1/4 Sec. 35 (R-3043, 3-1-66) - SW 1/4 Sec. 19; SE 1/4 Sec. 20;
SW 1/4 & N 1/2 Sec. 24; W 1/2 Sec. 25; S 1/2 & NW 1/4 Sec. 26; NE 1/4 Sec. 28; NE 1/4 Sec. 30; SW 1/4 Sec. 32;
NW 1/4 & E 1/2 Sec. 35 (R-3056, 6-1-66) - SW 1/4 Sec. 13; SE 1/4 Sec. 24; NE 1/4 Sec. 25; NE 1/4 Sec. 26;
SE 1/4 Sec. 30; NW 1/4 Sec. 36 (R-3080, 7-1-66) - SE 1/4 Sec. 13; E 1/2 & SW 1/4 Sec. 23; SE 1/4 Sec. 26;
NE 1/4 Sec. 27; SE 1/4 Sec. 31 (R-3104, 9-1-66) - NW 1/4 Sec. 19; SW 1/4 Sec. 21; S 1/2 Sec. 22;
NW 1/4 Sec. 27; NW 1/4 Sec. 30; NE 1/4 & SW 1/4 Sec. 36 (R-3139, 11-1-66) - E 1/2 Sec. 14; SE 1/4 Sec. 14;
NW 1/4 Sec. 23 (R-3166, 1-1-67) - W 1/2 Sec. 31 (R-3205, 4-1-67) - SW 1/4 Sec. 14; NE 1/4 Sec. 21 (R-3295, 9-1-67)
- SW 1/4 Sec. 30 (R-3505, 10-1-68)

COUNTY Roosevelt

POOL

Chareroo - San Andres

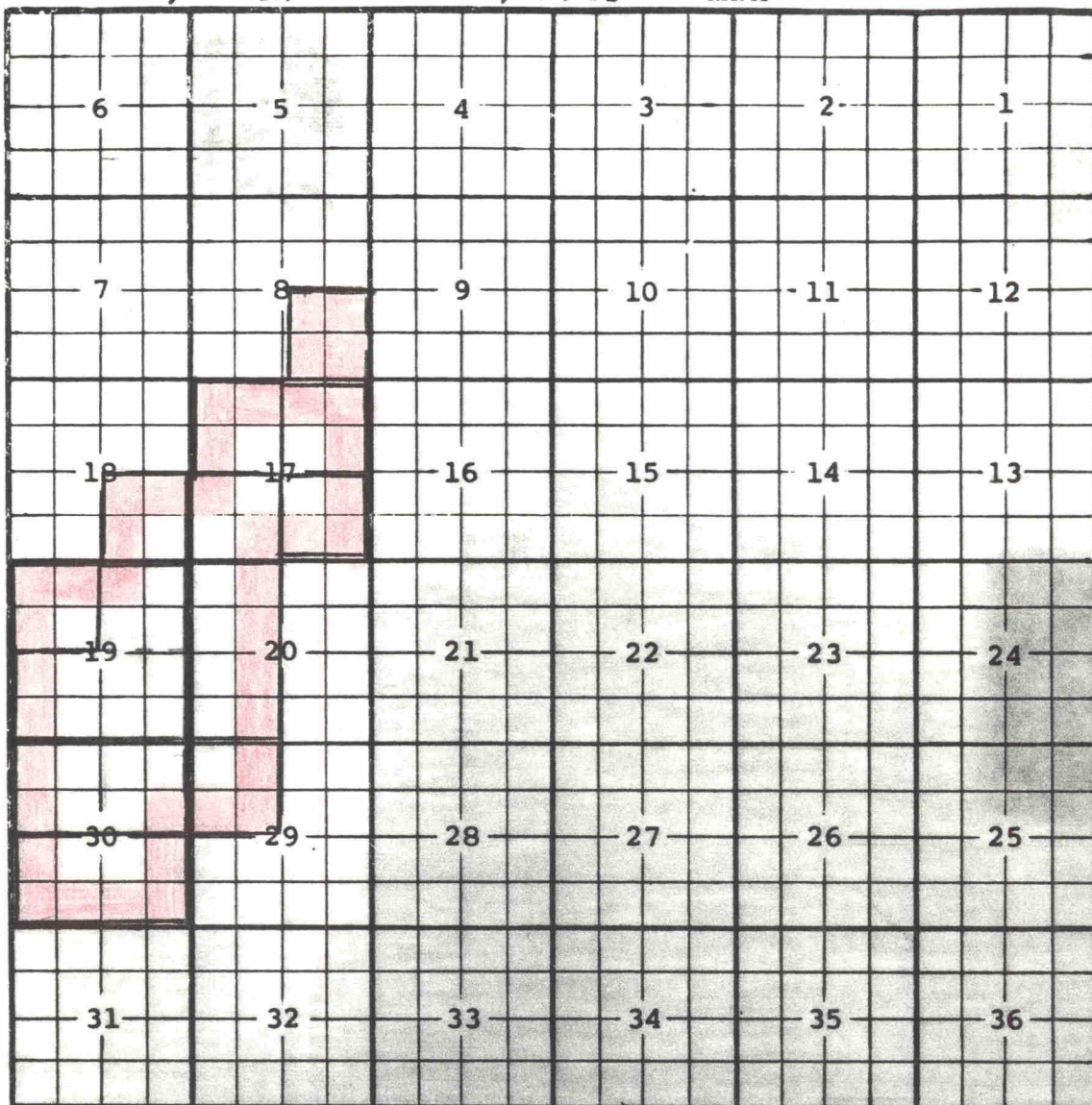
TOWNSHIP

7 South

RANGE

34 East

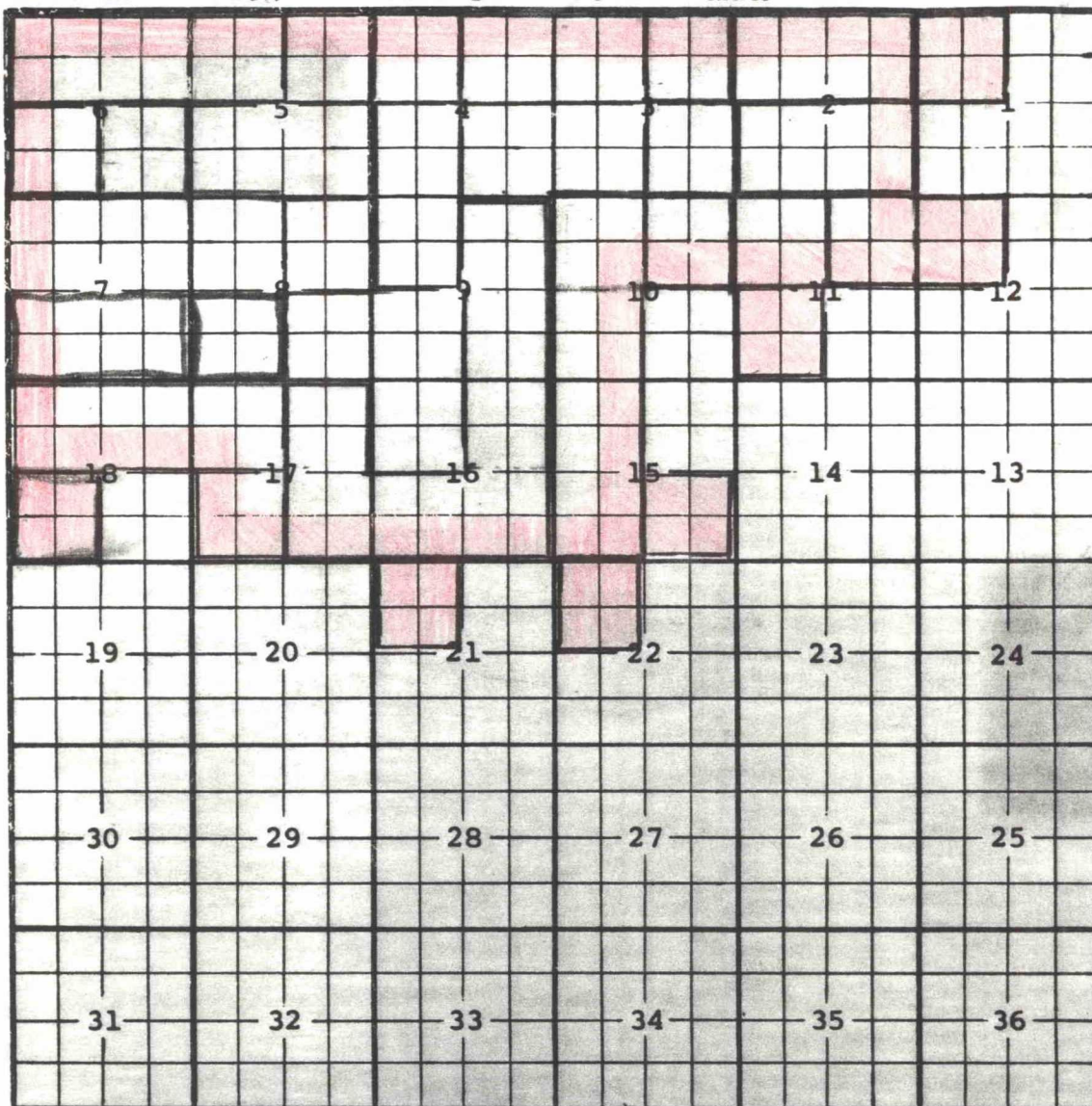
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Ext: $\frac{NW}{4}$ Sec. 19 (R-3056, 5-1-66) - $\frac{NE}{4} \frac{3}{4}$ Sec. 19 (R-3104, 9-1-66)
- $\frac{W}{2}$ Sec. 20; $\frac{N}{2}$ Sec. 30 (R-3139, 11-1-66) - $\frac{SE}{4}$ Sec. 18; $\frac{NW}{4}$ Sec. 29; $\frac{S}{2}$ Sec. 30 (R-3166, 1-1-67)
- $\frac{SW}{4}$ Sec. 17 (R-3205, 4-1-67) Ext: $\frac{SE}{4}$ Sec. 17 (A-7322, 8-1-83)
Ext: $\frac{NW}{4}$ Sec. 17 (A-7419, 12-21-83) Ext: $\frac{NE}{4}$ Sec. 17 (A-7437, 2-6-84)
Ext: $\frac{SE}{4}$ Sec. 8 (A-7502, 4-20-84)

COUNTY *Chaves*POOL *Chaveroo - San Andres*TOWNSHIP *8 South*RANGE *33 East*

NMFM



Ext: $\frac{NW}{4}$ Sec. 4 (R-3014, 1-1-66) - $\frac{SW}{4}$ Sec. 4; $\frac{NE}{4}$ Sec. 5; $\frac{NW}{4}$ Sec. 9 (R-3043, 3-1-66)
 - $\frac{NE}{4}$ Sec. 3; $\frac{NW}{4}$ Sec. 5; $\frac{N}{2}$ Sec. 6; $\frac{E}{2}$ Sec. 9; $\frac{NE}{4}$ & $\frac{S}{2}$ Sec. 16; $\frac{E}{2}$ Sec. 17 (R-3080, 7-1-66)
 - $\frac{N}{2}$ Sec. 2; $\frac{NW}{4}$ Sec. 3; $\frac{NE}{4}$ Sec. 4 (R-3104, 9-1-66) - $\frac{NW}{4}$ Sec. 1; $\frac{S}{2}$ Sec. 2 (R-3139, 11-1-66)
 - $\frac{SE}{4}$ Sec. 3; $\frac{SW}{4}$ Sec. 6 (R-3166, 1-1-67) - $\frac{SW}{4}$ Sec. 3; $\frac{SE}{4}$ Sec. 4; $\frac{NE}{4}$ Sec. 10; $\frac{NE}{4}$ Sec. 11; $\frac{NW}{4}$ Sec. 12 (R-3237, 6-1-67)
 - $\frac{SE}{4}$ Sec. 6; $\frac{NW}{4}$ Sec. 11 (R-3295, 9-1-67) - $\frac{SE}{4}$ Sec. 8; $\frac{SW}{4}$ Sec. 9; $\frac{SW}{4}$ Sec. 11; $\frac{NW}{4}$ Sec. 16 (R-3329, 11-1-67)
 - $\frac{NE}{4}$ Sec. 8 (R-3389, 4-1-68) Ext: $\frac{NW}{4}$ Sec. 17 $\frac{N}{2}$ Sec. 18 (R-5143, 2-1-76)
 Ext: $\frac{S}{2}$ Sec. 5 (R-5252, 9-1-76) Ext: $\frac{SW}{4}$ Sec. 17 (R-5338, 1-1-77)
 Ext: $\frac{W}{2}$ Sec. 10, $\frac{W}{2}$ Sec. 15 (R-6923, 3-9-82)
 Ext: Sec. 7 $\frac{S}{2}$, Sec. 8 $\frac{SW}{4}$, Sec. 18 $\frac{SW}{4}$ (R-7030, 7-21-82)
 Ext: $\frac{SE}{4}$ Sec. 15 (A-7131, 11-30-82) Ext: $\frac{NW}{4}$ Sec. 21 (A-7437, 2-6-84)
 Ext: $\frac{NW}{4}$ Sec. 22 (A-7917, 5-13-85)