

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: \_\_\_\_\_ Secondary Recovery  Pressure Maintenance \_\_\_\_\_ Disposal \_\_\_\_\_ Storage \_\_\_\_\_  
Application qualifies for administrative approval?  Yes \_\_\_\_\_ No

II. OPERATOR: Melrose Operating Company

ADDRESS: c/o P.O. Box 953, Midland, TX 79702

CONTACT PARTY: Ann E. Ritchie, Regulatory Agent PHONE: 915 684-6381

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project?  Yes \_\_\_\_\_ No  
If yes, give the Division order number authorizing the project: Case No. 3653, Order No. R-3311

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

\*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

\*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

\*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

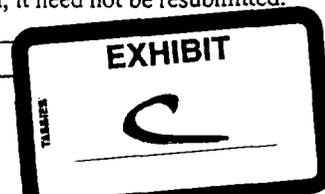
XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Ann E. Ritchie TITLE: Regulatory Agent

SIGNATURE:  DATE: 8-25-00

\* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office



### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

**Melrose Operating Company**

Artesia Unit

Well Numbers 2, 3, 10, 11, 12, 13, 16, 17, 18, 19, 22, 28, 29, 44, 46, 54 & 57

Sections 26, 35, 36, T17S, R28E & Section 3, T18S, R28E

Eddy County, New Mexico

**Attachment A**

**III. Well Data**

**Section A:**

1. Lease Name: Artesia Unit  
Locations: See table attached
2. Casing & Cement: Wellbore Diagrams Attached
3. Tubing: 2 3/8" plastic coated tubing w/Baker Model R packer, set approximately 70-90' above perforations.

**Section B:**

1. Injection Formations: Penrose-Queen-Grayburg-San Andres  
Field Name: Artesia; Queen-Grayburg-San Andres
2. Injection Interval: Approximate depths among 18 wells: 1800-2750'
3. Original Purpose of Wells: Drilled for purpose of producing oil/gas
4. No other perforated intervals
5. Next Higher gas/oil zone: Penrose @ approximately 1650'  
Next Lower gas/oil zone: Abo @ approximately 6200'

**IV.** This is an expansion of an existing project: see copy of *Artesia Pool* Case Nos. attached

**V.** Map attached – two miles & 1/2 mile radius area of review

**VI. Area of Review**

There are extensive wells within the 1/2 mile area of review for each of the 18 wells which are included in this application as designated in the table attached.

**Melrose Operating Company**

**Artesia Unit**

Page 2

**VII. Operation Data:**

1. Proposed average daily injection volume: 150 bbls/day  
Proposed maximum daily injection volume: 400 bbls/day
2. These wells will be a closed system.
3. Proposed average daily injection pressure: 400 psi  
Proposed maximum daily injection pressure: .65 gradient to top perf, Est. @ 1170 psi.
4. Sources of injection water will be from the Penrose/Queen/Grayburg/San Andres
5. Chlorides are as listed in the attached Water Analysis

**VII. Geological Data:**

Information pertaining to the lithological details and thickness are as stated in the attached "Geological Statement"

**VIII. Stimulation Program:**

- IX. At this time no stimulation program is proposed for the injection interval

**IX. Logs and Test Data:**

Logs have previously been submitted for the Artesia Unit.

- X. **Fresh Water:** The fresh water is estimated to be @ 350-400' according to New Mexico Oil Conservation Division recommendation, for this area.

**XI. Statement:**

To the best of current knowledge of the area there is no evidence of open faults or other hydrologic connection between the injection zone and any underground sources of drinking water.

**XIII. Proof of Notice attached with newspaper certification**

- XIV. Certification:** Form C-108 "Application for Authorization to Inject"

## **Melrose Operating Company**

### ***Artesia Unit***

Injection Application: 8-25-00

#### Well Numbers and locations:

Well #2: 330' FSL & 330' FWL, Section 26, T17S, R28E  
Well #3: 330' FSL & 1750' FWL, Section 26, T17S, R28E  
Well #10: 330' FNL & 1950' FWL, Section 35, T17S, R28E  
Well #11: 360' FNL & 360' FWL, Section 35, T17S, R28E  
Well #12: 1980' FNL & 660' FWL, Section 35, T17S, R28E  
Well #13: 1980' FNL & 1980' FWL, Section 35, T17S, R28E  
Well #16: 1980' FNL & 660' FWL, Section 36, T17S, R28E  
Well #18: 1980' FSL & 1980' FWL, Section 36, T17S, R28E  
Well #19: 1980' FSL & 660' FWL, Section 36, T17S, R28E  
Well #22: 1980' FSL & 1980' FWL, Section 35, T17S, R28E  
Well #23: 1980' FSL & 660' FWL, Section 35, T17S, R28E  
Well #28: 990' FEL & 330' FSL, Section 35, T17S, R28E  
Well #44: 1980' FNL & 1070' FWL, Section 3, T17S, R28E  
Well #46: 2310' FNL & 2267' FWL, Section 3, T18S, R28E  
Well #54: 1654' FSL & 2272' FWL, Section 3, T18S, R28E  
Well #57: 1570' FSL & 1070' FWL, Section 3, T18S, R28E

Eddy County, New Mexico

Artesia; Queen-Grayburg-San Andres pool

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit

WELL NO: 2

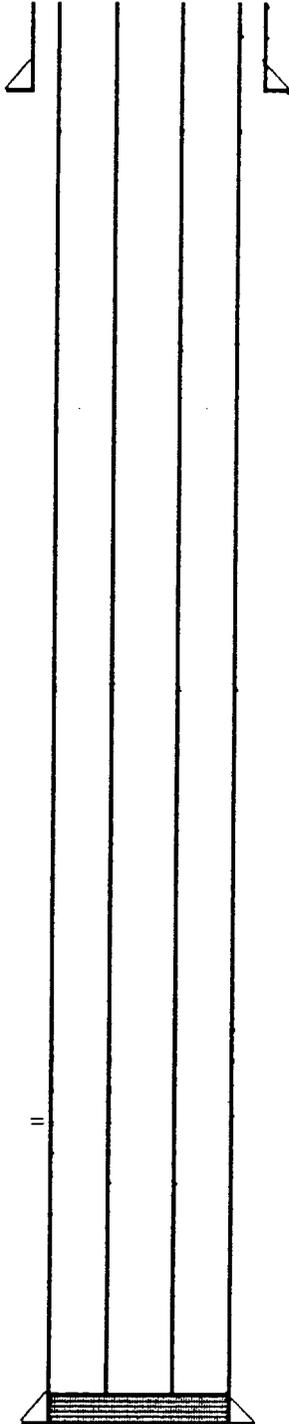
LOCATION: 330' FSL & 330' FWL Unit: M Section: 26 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01563

CURRENT STATUS: Shut-in Injection

POOL: Artesia; Queen-Grayburg-San Andres

Date Drilled: 11/13/60



**Surface Casing:**

Depth: 248'  
Hole Size: 14"  
Size & Weight: 10 3/4"  
Cmt./Sx. set- n/a  
Top: surface-visual

**Intermediate:**

8 5/8" @ 562', cemented w/75 sx  
Top cement calculated to surface in 9 5/8" hole

Perfs: 2110-16'

Form: San Andres

Anticipated Perfs:

**Production String:**

Depth: 2154'  
Hole Size: 7 7/8"  
Size & Weight: 4 1/2"  
Cmt./Sx. 275 sx.  
Top Cement: 642'-calc.

TD: 2154'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
WELLBORE DIAGRAM

WELL NAME: Artesia Unit

WELL NO: 3

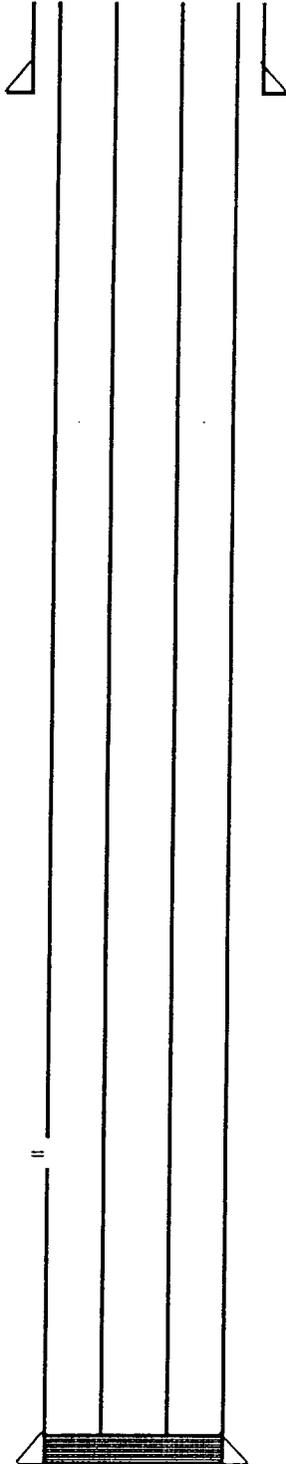
LOCATION: 330' FSL 1750' FWL Unit: N Section: 26 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01565

CURRENT STATUS: OIL PROD.

POOL: Artesia; Queen-Grayburg-San Andres

DATE DRILLED: 12/19/60



Surface Casing:

Depth: 609'  
Hole Size: 8 3/4"  
Size & Weight: 7"  
Cmt./Sx. 75 sx.  
Top: Surface

Perfs: 2136-2142'  
Form: San Andres

Production String:

Depth: 2155'  
Hole Size: 6 1/4"  
Size & Weight: 4 1/2"  
Cmt./Sx. 125 sx.  
Top Cement: 550' Calc.

Anticipated Perfs:

TD: 2156'

MELROSE OPERATING COMPANY  
WELLBORE DIAGRAM

WELL NAME: Artesia Unit

WELL NO: 10

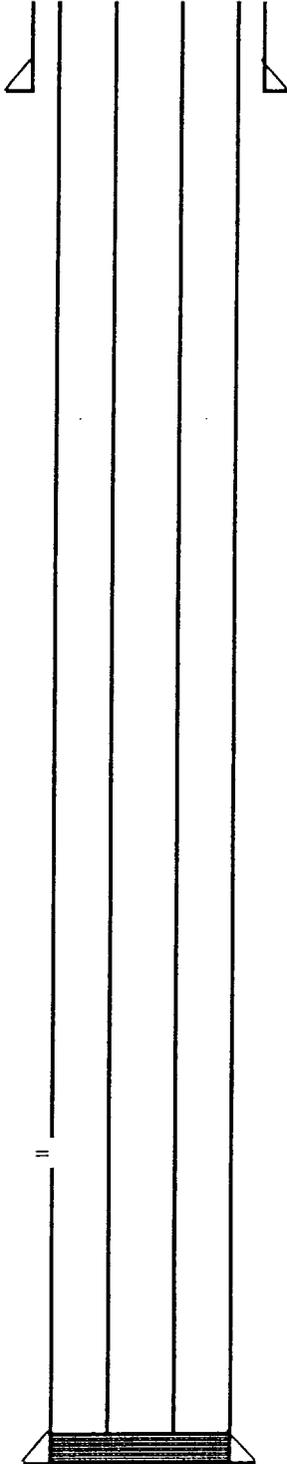
LOCATION: 360' FNL 1950' FWL Unit: C Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01749

CURRENT STATUS: OIL PROD.

POOL: Artesia; Queen-Grayburg-San Andres

DATE DRILLED: 1/31/61



Surface Casing:

Depth: 580'

Hole Size: 8 3/4"

Size & Weight: 7"

Cmt./Sx. 75 sx.

Top: Surface

Perfs: 2167-2173'  
Form: San Andres

Anticipated Perfs:

Production String:

Depth: 2214'

Hole Size: 6 1/4"

Size & Weight: 4 1/2"

Cmt./Sx. 125 sx.

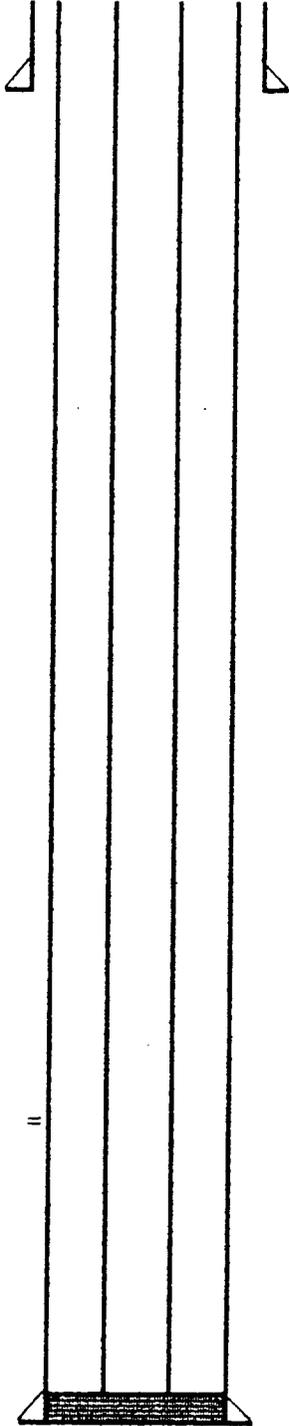
Top Cement: 600' Calc.

TD: 2215'

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 360' FNL 360' FWL Unit: D Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-02654  
CURRENT STATUS: SI - OIL PROD.  
DATE DRILLED: 11/11/60

WELL NO: 11  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 460'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. n/a  
Top: Surface-visual

Perts: 2130-2140'  
Form: San Andres

Anticipated Perts:

Production String:  
Depth: 2163'  
Hole Size: 7 7/8"  
Size & Weight: 4 1/2"  
Cmt./Sx. 450 sx.  
Top Cement: Surface - Calc.

TD: 2166'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit

WELL NO: 12

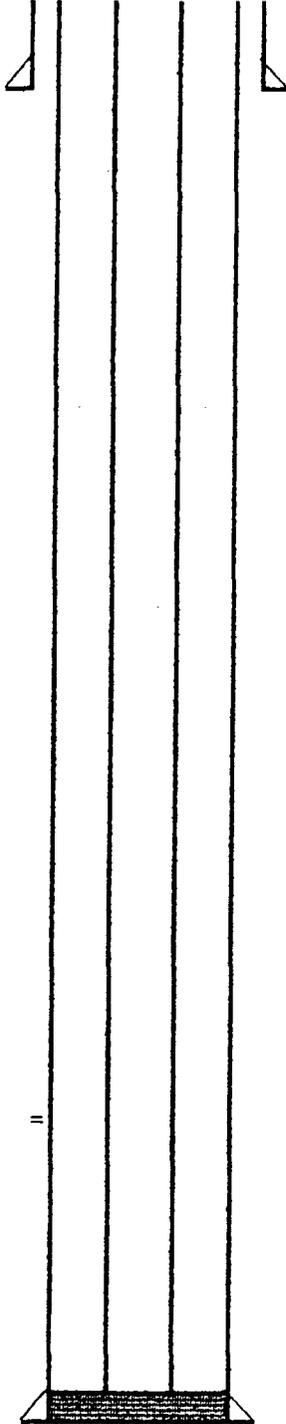
LOCATION: 1980' FNL 660' FWL Unit: E Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01745

CURRENT STATUS: SI - OIL PROD.

POOL: Artesia; Queen-Grayburg-San Andres

DATE DRILLED: 9/5/54



Surface Casing:

Depth: 600'

Hole Size: 11"

Size & Weight: 8 5/8"

Cmt./Sx. n/a

Top: Surface-visual

Perfs: 2262-2270'

Form: San Andres

Anticipated Perfs:

Production String:

Depth: 2640'

Hole Size: 7 7/8"

Size & Weight: 5 1/2"

Cmt./Sx. 75 sx.

Top Cement: 2000'-calc.

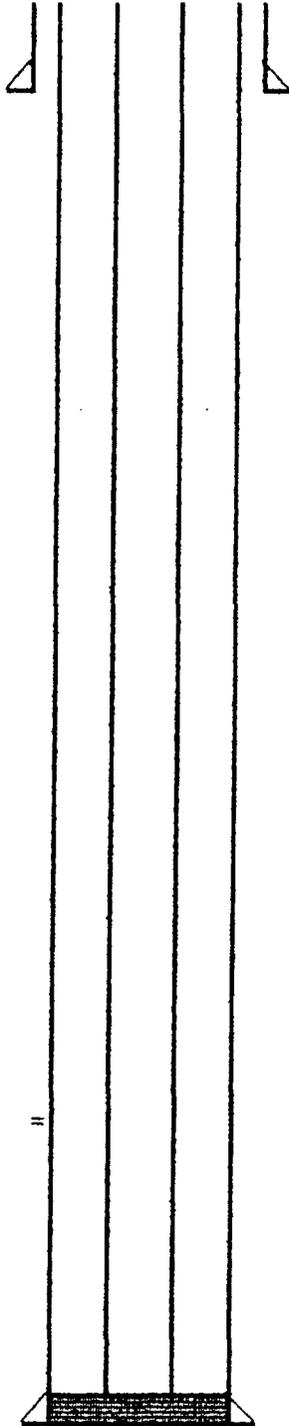
TD: 2715'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 1980' FNL & 1960' FWL Unit: F Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01754  
CURRENT STATUS: SI - OIL PROD.  
DATE DRILLED: 12/30/54

WELL NO: 13  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 400'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. n/a  
Top: Surface-visual

Perfs: 2275-2300'  
Form: San Andres

Anticipated Perfs:

Production String:  
Depth: 2275'  
Hole Size: 7 7/8"  
Size & Weight: 5 1/2"  
Cmt./Sx. 80 sx.  
Top Cement: 1675'-calc.

TD: 2900'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit

WELL NO: 16

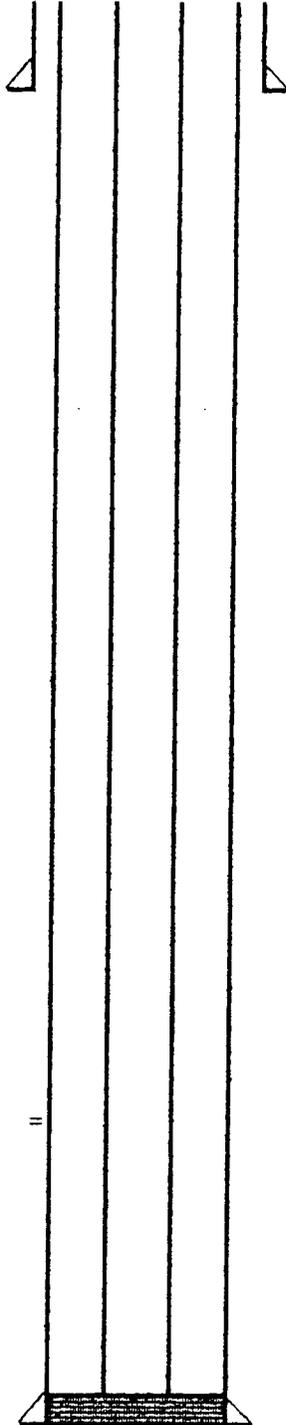
LOCATION: 1980' FWL & 660' FWL Unit: E Section: 36 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01759

CURRENT STATUS: Injection

POOL: Artesia; Queen-Grayburg-San Andres

DATE DRILLED: 2/19/57



Surface Casing:

Depth: 605'

Hole Size: 8 3/4"

Size & Weight: 7"

Cmt./Sx. 75 sx.

Top: Surface-calc.

Perfed @ 2492-99', 2458-63', 2236-43'.

Well was P & A with BP @ 2505', BP @ 2470'

BP @ 2250', plugs: 3-13-57, drilled out: 3-20-57.

Perfs: 2601-2654'OH =

Form: San Andres

Anticipated Perfs:

Production String:

Depth: 2601'

Hole Size: 6 1/4"

Size & Weight: 4 1/2"

Cmt./Sx. 200 sx.

Top Cement: 101' - calc.

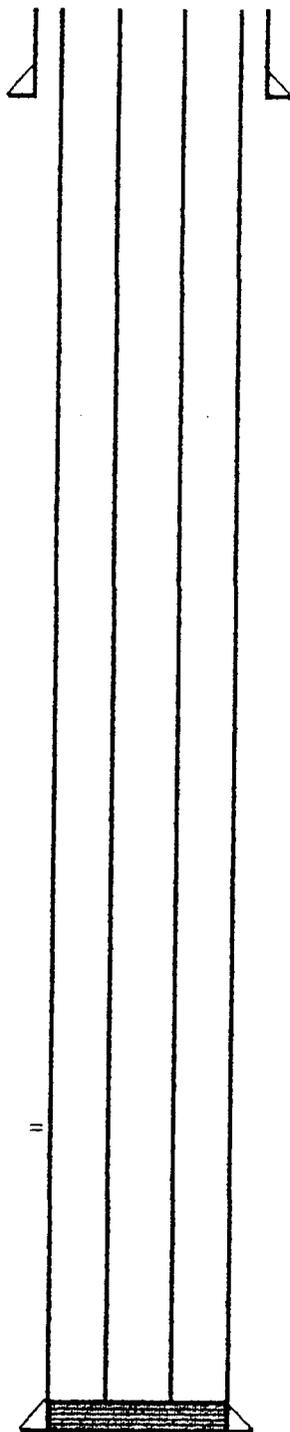
TD: 2651'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 1980' FNL & 1980' FWL Unit: F Section: 36 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01761  
CURRENT STATUS: Oil Prod.  
DATE DRILLED: 4/3/57

WELL NO: 17  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 594'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. 50 sx.  
Top: Surface-visual

Perfs: 2306-2685'  
Form: San Andres

Anticipated Perfs:

Production String:  
Depth: 2722'  
Hole Size: 7 7/8"  
Size & Weight: 4 1/2"  
Cmt./Sx. 300 sx.  
Top Cement: 1072' - calc.

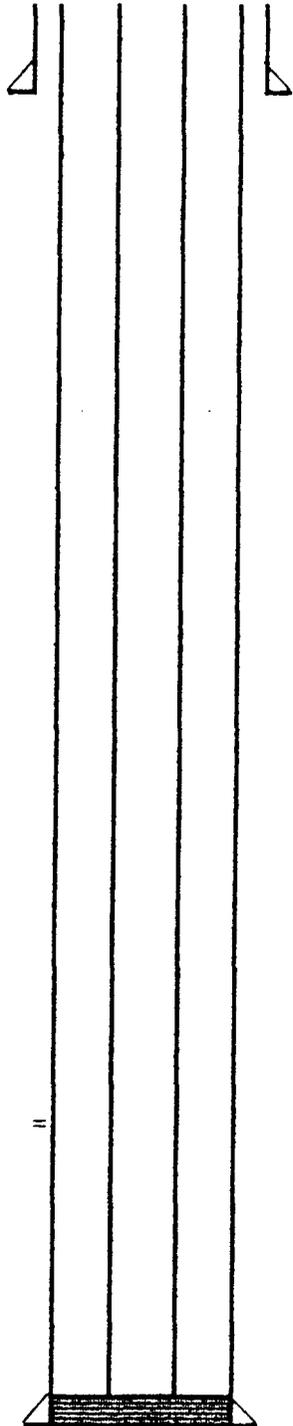
TD: 2725'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 1980' FSL & 1980' FWL Unit: K Section: 36 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01762  
CURRENT STATUS: Oil Prod.  
DATE DRILLED: 4/6/57

WELL NO: 18  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 445'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. 75 sx.  
Top: Surface-calculated

Perfs: 2356-2750' =  
Form: San Andres  
Anticipated Perfs:

Production String:  
Depth: 2782'  
Hole Size: 7 7/8"  
Size & Weight: 4 1/2"  
Cmt./Sx. 200 sx.  
Top Cement: 1682'-calc.

TD: 2784'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
WELLBORE DIAGRAM

WELL NAME: Artesia Unit

WELL NO: 19

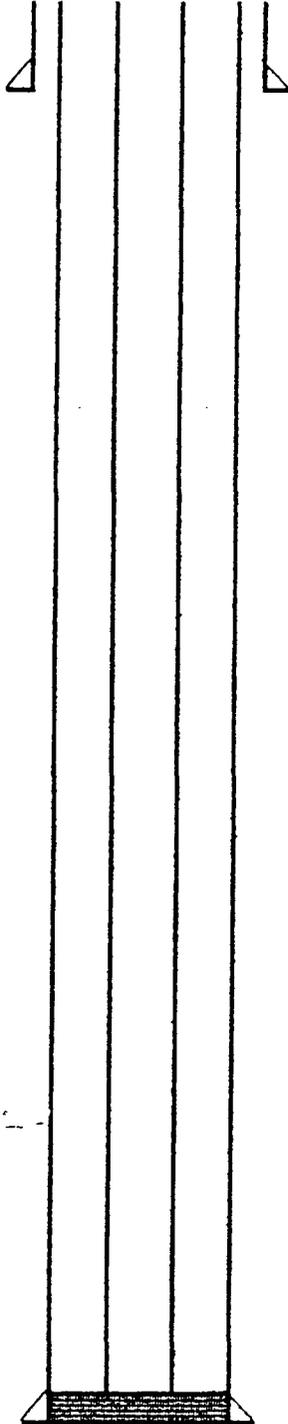
LOCATION: 1980' FSL & 660' FWL Unit: L Section: 36 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01760

CURRENT STATUS:SI - Oil Prod.

POOL: Artesia; Queen-Grayburg-San Andres

DATE DRILLED: 2/25/57



Surface Casing:

Depth: 600'  
Hole Size: 8 3/4"  
Size & Weight: 7"  
Cmt./Sx. 75 sx.  
Top: Surface-calculated

3-20-57: Perforated: 2528-84', 2546-48', 2536-42',  
2446-56', 2306-12'. BP @ 2590', 2573', 2462', 2320'

3-27-57: Drilled out all plugs.

Perfs: 2277-2730'OH, ... -  
2296-2584'

Form: San Andres

Anticipated Perfs:

Production String:

Depth: 2677'  
Hole Size: 6 1/4"  
Size & Weight: 4 1/2"  
Cmt./Sx. 200 sx.  
Top Cement: 1577' - calc.

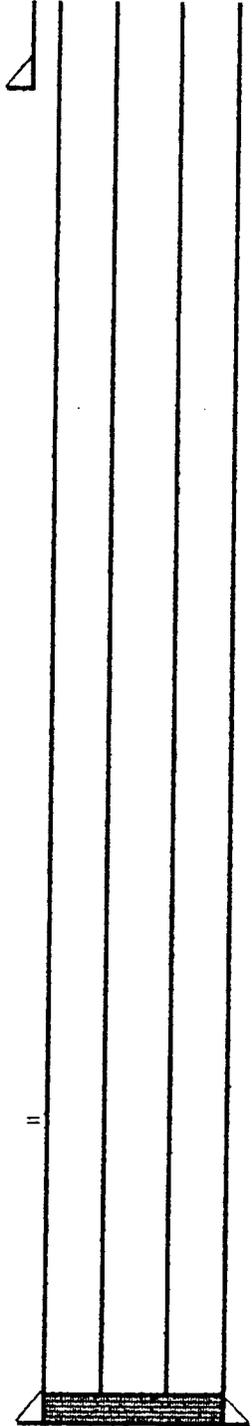
TD: 2730'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 1980' FSL & 1980' FWL Unit: K Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01747  
CURRENT STATUS: Injection  
DATE DRILLED: 2/18/57

WELL NO: 22  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 569'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. 75 sx.  
Top: Surface-calculated

Perfs: 2150-2444'  
OH: 2503-2625'  
Form: San Andres  
Anticipated Perfs:

Production String:  
Depth: 2503'  
Hole Size: 7 7/8"  
Size & Weight: 4 1/2"  
Cmt./Sx. 300 sx.  
Top Cement: 770'-calc.

TD: 2625'

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit

WELL NO: 23

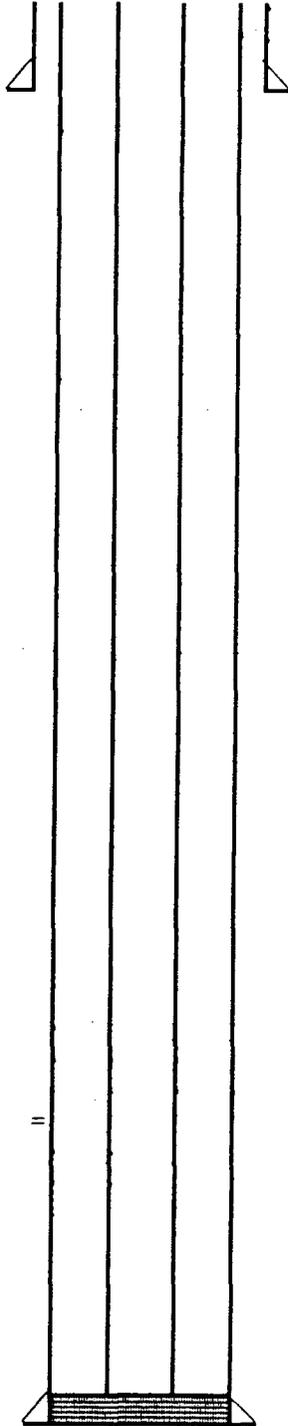
LOCATION: 1980' FSL & 660' FWL Unit: L Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01746

CURRENT STATUS: Prod.

POOL: Artesia; Queen-Grayburg-San Andres

DATE DRILLED: Re-Spud-12-3-71



Surface Casing:

Depth: 620'  
Hole Size: 8 3/4"  
Size & Weight: 7"  
Cmt./Sx. 75 sx.  
Top: Surface-calculated

Perfs: 2082-2378'

Form: San Andres

Anticipated Perfs:

Production String:

Depth: 2395'  
Hole Size: 6 1/4"  
Size & Weight: 4 1/2"  
Cmt./Sx. 150 sx  
Top Cement: 475'-calc.

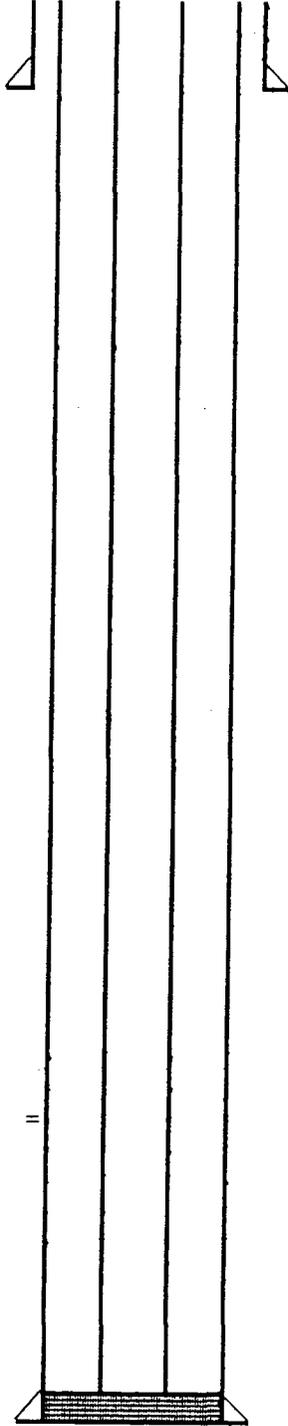
TD: 2395'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 990' FSL & 330' FWL Unit: M Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01732  
CURRENT STATUS: Injection  
DATE DRILLED: 4/2/51

WELL NO: 28  
POOL: Artesia; Queen-Grayburg-San Andres



**Surface Casing:**  
Depth: 552;  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. 50 sx.  
Top: Surface-calculated

Perfs: 2356-2421'OH =  
Form: San Andres  
Anticipated Perfs:

**Production String:**  
Depth: 2356'  
Hole Size: 7 7/8"  
Size & Weight: 5 1/2"  
Cmt./Sx. 100 sx.  
Top Cement: 1631'-calc.

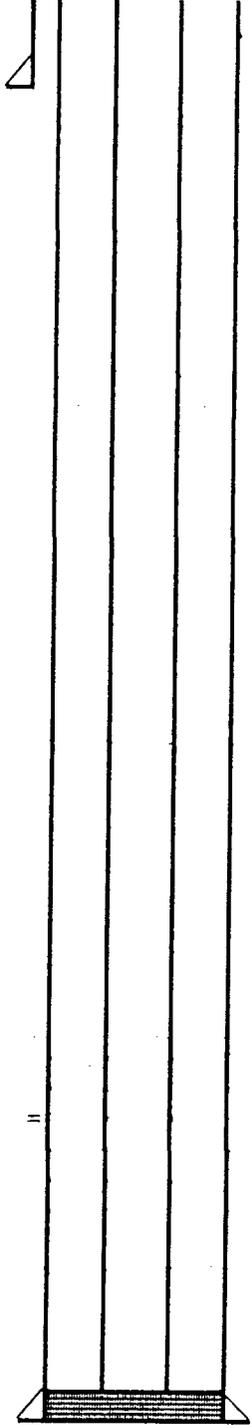
TD: 2421'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 990' FSL & 1650' FWL Unit: N Section: 35 TWNS: T-17-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01742  
CURRENT STATUS: Producing  
DATE DRILLED: 11/15/56

WELL NO: 29  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 551'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. 100 sx.  
Top: Surface-calculated

Perfs: 2454-2467'  
Form: San Andres  
Anticipated Perfs:

Production String:  
Depth: 2494'  
Hole Size: 8"  
Size & Weight: 4 1/2"  
Cmt./Sx. 100 sx.  
Top Cement: 1944'-calc.

TD: 2495'

MELROSE OPERATING COMPANY  
WELLBORE DIAGRAM

WELL NAME: Artesia Unit

WELL NO: 46

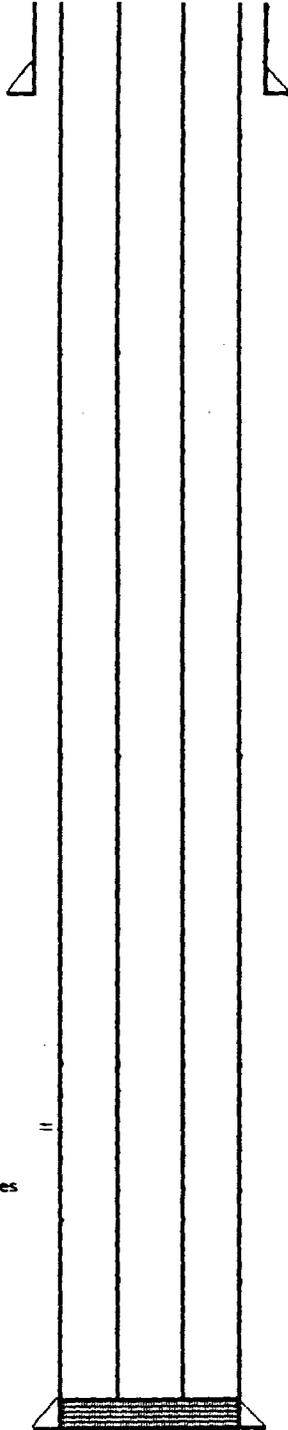
LOCATION: 2310' FNL & 2267' FWL Unit: F Section: 3 TWNS: T-18-S Range: R-28-E Eddy Co. NM

API NO. 30-015-02541

CURRENT STATUS: Producing

POOL: Artesia; Queen-Grayburg-San Andres

Date Drilled: 8/20/55



Surface Casing:

Depth: 535'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. n/a  
Top: Surface-visual

Perfs: 2370-2419' =  
1847-55'  
Form: Penrose/San Andres

Anticipated Perfs:

Production String:

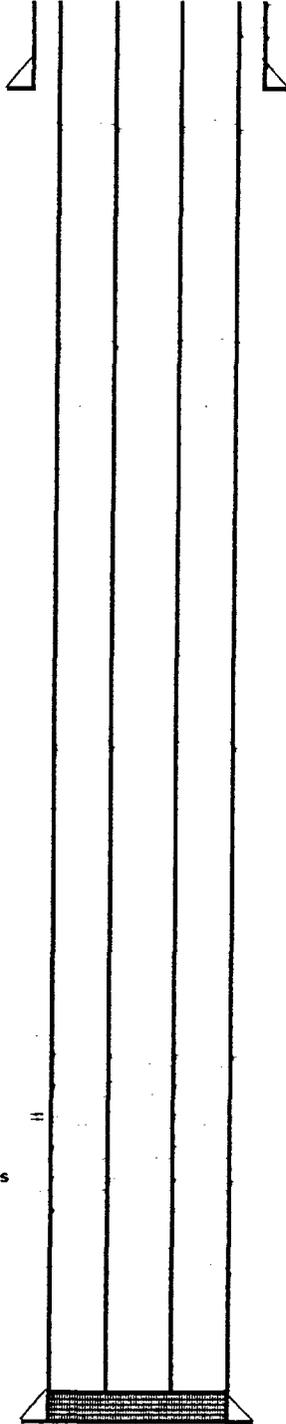
Depth: 2453'  
Hole Size: 7 7/8"  
Size & Weight: 5 1/2"  
Cmt./Sx. 125 sx.  
Top Cement: 1583'-calc.

TD: 2563'

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
LOCATION: 2310' FNL & 2267' FWL Unit: F Section: 3 TWNS: T-18-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-02541  
CURRENT STATUS: Producing  
Date Drilled: 8/20/55

WELL NO: 46  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth: 535'  
Hole Size: 11"  
Size & Weight: 8 5/8"  
Cmt./Sx. n/a  
Top: Surface-visual

Perfs: 2370-2419' =  
1847-55'  
Form: Penrose/San Andres

Anticipated Perfs:

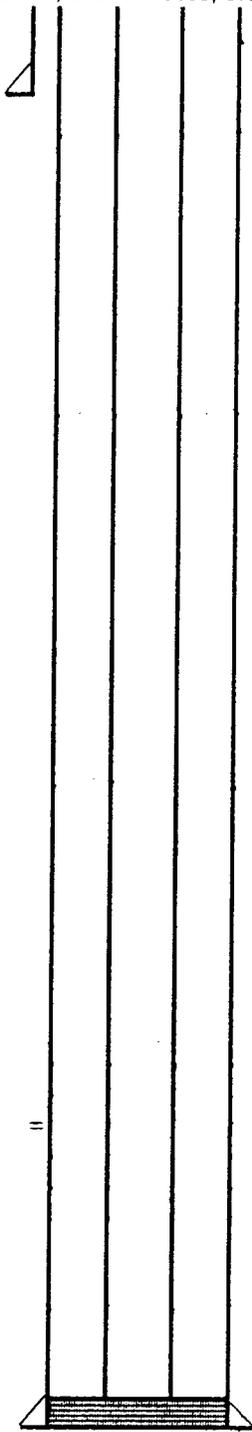
Production String:  
Depth: 2453'  
Hole Size: 7 7/8"  
Size & Weight: 5 1/2"  
Cmt./Sx. 125 sx.  
Top Cement: 1583'-calc.

TD: 2563'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit  
WELL NO: 44  
LOCATION: 2310' FNL & 990' FWL Unit: E Section: 3 TWNS: T-18-S Range: R-28-E Eddy Co. NM  
API NO. 30-015-01796  
CURRENT STATUS: Injection  
Converted to injection: 3-18-68, Case No. 3653, Order No. R-3311  
POOL: Artesia; Queen-Grayburg-San Andres



Surface Casing:  
Depth:  
Hole Size:  
Size & Weight:  
Cmt./Sx.  
Top:

Copy of NMOCD reports attached.  
Squeeze @ 247' w/100 sx., squeeze @ 2703'  
w/300 sx.

Perfs: 2280-2420' =  
Form: San Andres  
Anticipated Perfs:

Production String:  
Depth: 2302'  
Hole Size: 7"  
Size & Weight: 4 1/2"  
Cmt./Sx. 150 sx.  
Top Cement: 1510'-temp.

TD: 2420'

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit

WELL NO: 54

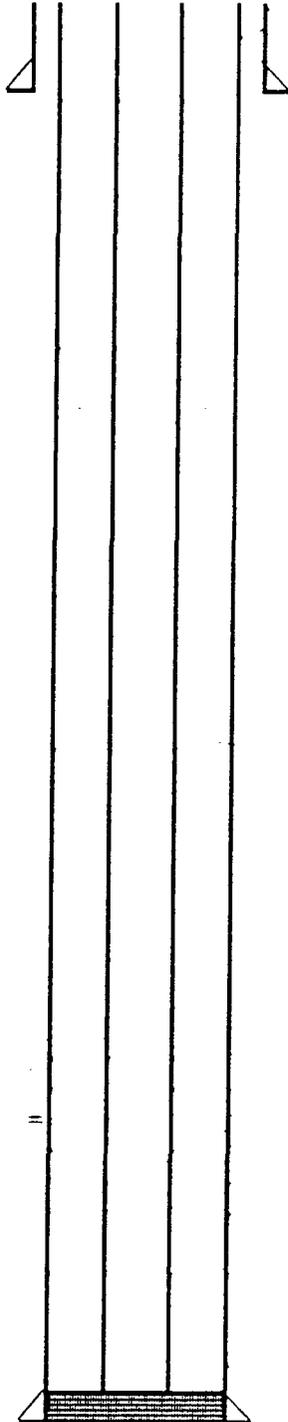
LOCATION: 1654' FSL & 2272' FWL Unit: K Section: 3 TWNS: T-18-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01801

CURRENT STATUS: Producing

POOL: Artesia; Queen-Grayburg-San Andres

Date Drilled: 7/12/55



Surface Casing:

Depth: 535'

Hole Size: 11"

Size & Weight: 8 1/4"

Cmt./Sx. 50 sx.

Top: Surface-visual

Perfs: 2342-2406'

Form: (San Andres

Anticipated Perfs:

Production String:

Depth: 2473'

Hole Size: 7 7/8"

Size & Weight: 5 1/2"

Cmt./Sx. 50 sx.

Top Cement: 2110'-calc.

TD: 2473'

Date: 8/22/00 aer

MELROSE OPERATING COMPANY  
**WELLBORE DIAGRAM**

WELL NAME: Artesia Unit

WELL NO: 57

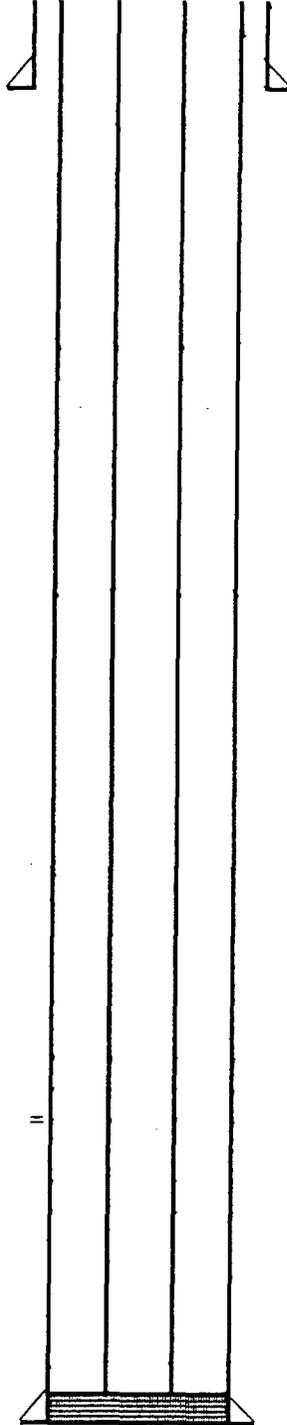
LOCATION: 1570' FSL & 1070' FWL Unit: L Section: 3 TWNS: T-18-S Range: R-28-E Eddy Co. NM

API NO. 30-015-01795

CURRENT STATUS: P & A'd

POOL: Artesia; Queen-Grayburg-San Andres

Date Drilled: 7/11/27



Surface Casing:

Depth: 682'  
Hole Size: 11"  
Size & Weight: 8 1/4"  
Cmt./Sx. n/a  
Top: n/a

Well P & A'd 5-6/8-87:

70 sx Cl C cmt from 2243'-1888',  
135 sx Cl C cmt from 1665'-1387'  
55 sx Cl C cmt from 1111'-293'  
10 sx plug @ surface w/marker.

Perfs: 2322-2432'OH =

Form: (San Andres

Anticipated Perfs:

Production String:

Depth: need OCD completion  
Hole Size: n/a  
Size & Weight: n/a  
Cmt./Sx. n/a  
Top Cement: n/a

TD: 2438'

Date: 8/22/00 aer

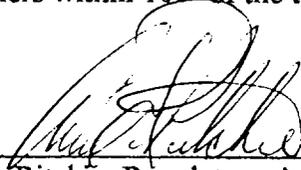
**Melrose Operating Company**  
Artesia Unit  
Sections 26, 35, 36 in T17S, R28E &  
Section 3, T18S, R28E  
Eddy County, New Mexico

Concerning the injection/waterflood application for Wells #2, 3, 10, 11, 12, 13, 16, 17, 18, 19, 22, 23, 28, 29, 44, 46, 54, and 57, all of the wells were initially drilled and completed for oil/gas production to the best of my knowledge.

The perforations designated on the wellbore diagrams included in this application are the existing perforations, excluding Wells # 16 & 57 which are P & A and will be drilled out to open the existing perms/open hole interval as designated on the wellbore diagram.

The Abo formation underlies the Grayburg/San Andres/Penrose in this area at an approximate depth of 6200'.

Upon approval of the Artesia Unit injection well(s) application, Melrose intends to pull out all existing tubing in the wells and run 2 3/8" plastic coated tubing with Baker Model R packers within 100' of the top perforation or open hole interval.



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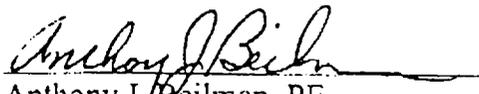
Ann E. Ritchie, Regulatory Agent  
Melrose Operating Company  
C/o P.O. Box 953  
Midland, TX 79702  
(915) 684-6381

Attachment to Oil Conservation Division Form C-108 "Application for Authorization to Inject"

*Geological Statement*

C-108  
APPLICATION FOR AUTHORIZATION TO INJECT  
ARTESIA UNIT

The proposed injection zones are Grayburg-Upper San Andres formations approximately 1800 to 2700 feet. The formations consist of dolomite and sandstones with alternating beds of silty to sandy dolomite and gray arkosic sandstones. Generally, the gross thickness of the Grayburg ranges from 300 to 400 feet thick and the Upper San Andres ranges from 350 to 400 thick. Both of these zones have historically flooded very well and are still actively being flooded in other leases in the area. There is no know sources of drinking water underlying the injection interval.

  
Anthony J. Beilman, PE

**OFFSET OPERATORS NOTIFICATION**

A copy of the C-108 Authorization to Inject application has been sent to the following operators by certified mail. Surface owners or offset operators must file any objections or requests for hearing of administrative application within 15 days from the date this application was mailed to them.

Vastar Resources  
15375 Memorial Dr.  
Houston, TX 77079-4101

BP Permian Business Unit (Arco)  
501 Westlake Park Blvd. WL Suite 200  
Houston, TX 77070

Marbob Energy  
PO Box 227  
Artesia, NM 88211-0227

Yates Drilling Co.  
110 S. 4th Street Yates Bldg  
Artesia, NM 88210-2123

Mewbourne Oil  
PO Box 7698  
Tyler, TX 75711-7698

Fulton Co.  
PO Box 1121  
Artesia, NM 88211-1121

Larue, C.E. Muncy  
PO Box 1370  
Artesia, NM 88211-1370

Mack Energy  
PO Box 400  
Duncan, OK 73534-0400

*P.O. Box 960  
Artesia, NM  
88211-0960*

R.B. Operating  
5100 E. Skelly STE 650  
Meridian Tower  
Tulsa, OK 74135-6549

Yates Energy  
PO Box 2323  
Roswell, NM 88202-2323

W.E. Jeffers  
PO Box 65  
Artesia, NM 88210

Brothers Production Co.  
PO Box 7515  
Midland, TX 79708

B&W Oil Co  
R-252 N. Haldeman RD  
Artesia, NM 88210

Sandlott Energy  
PO Box 711  
Lovington, NM 88260

**Surface Owners:**

Bogle LTD  
PO Box 441  
Artesia, NM 88210

State Of New Mexico  
Commissioner of Public Lands  
PO Box 1148  
Santa Fe, NM 87504-1148