

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Division  
P.O. Box 1980  
Hobbs, NM 88241

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

ORIGINAL

SUNDRY NOTICES AND REPORTS ON WELL

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well  
Oil Gas  
☒ Well ☐ Well ☐ Other

2. Name of Operator

Santa Fe Energy Resources, Inc.

3. Address and Telephone No.

P. O. Box 2327 Carlsbad, New Mexico 88221-2327 (505) 887-0821

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

330' FSL & 2310' FWL, Sec 30 T23S R32E

5. Lease Designation and Serial No.

NM 14157

6. If Indian, Allocated or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Tresnor Mitchell 30 Fed #1

9. API Well No.

30-025-32688

10. Field and Pool, or exploratory Area

Sand Dunes (Bone Spring-Delaware)

11. County or Parish, State

Lea NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☐ Other \_\_\_\_\_  
☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☒ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

1. This well produces water from Bone Spring-Delaware formation.
2. This well produces 240 bbls/day of water.
3. A current water analysis is attached.
4. Water is stored on the lease in a 500 bbl fiberglass tank.
5. Water is moved to disposal site by transfer pump through flowline.
6. Disposal Facility Identification:  
(A) Texaco  
(B) SDE Fed 31 Well #9  
(C) SWD  
(D) 1980' FSL & 1980' FEL, (UNIT J) Sec 31 T23S R32E, Lea County, NM

7. Copy of Underground Injection Control Permit is attached.

8. Submitted in triplicate, Original and 2 copies.

14. I hereby certify that the foregoing is true and correct

Signed [Signature] Title Area Superintendent

Date 8-15-96

(This space for Federal or State office use)

(ORIG. SGD.) DAVID R. GLASS

Title PETROLEUM ENGINEER

Date AUG 22 1996

Conditions of approval, if any:

SEE ATTACHED FOR

CONDITIONS OF APPROVAL  
I, the undersigned, make a prima facie statement knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See Instruction on Reverse Side



# Laboratory Services, Inc.

1331 Taskar Drive

Hobbs, New Mexico 88240

Telephone: (505) 397-3713

## Water Analysis

COMPANY Santa Fe Energy

SAMPLE Tresnor Mithcell 30 Fed. #1

SAMPLED BY Glen-Pro Well

DATE TAKEN 7/31/96

### REMARKS

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	204	
pH at Lab	5.93	
Specific Gravity @ 60°F	1.147	
Magnesium as Mg	32,886	
Total Hardness as CaCO <sub>3</sub>	56,700	
Chlorides as Cl	134,140	
Sulfate as SO <sub>4</sub>	250	
Iron as Fe	153.8	
Potassium	84.38	
Hydrogen Sulfide	0	
Resistivity Ohms	0.062	@ 22.0° C
Total Dissolved Solids	180,750	
Calcium as Ca	23,814	
Nitrate	55	

Results reported as Parts per Million unless stated

Langeller Saturation Index 0.43

Analysis by: Rolland Perry

Date: 7/31/96

Aug 13 2 10 PM '96

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NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

Welfile  
OIL CONSERVATION DIVISION  
2840 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

ADMINISTRATIVE ORDER SWD-621

**APPLICATION OF TEXACO EXPLORATION & PRODUCTION, INC. FOR SALT WATER  
DISPOSAL, LEA COUNTY, NEW MEXICO.**

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Rule 701(B), Texaco Exploration & Production, Inc. made application to the New Mexico Oil Conservation Division on March 4, 1996, for permission to complete for salt water disposal its SDE '31' Federal Well No.9 located 1980 feet from the South line and 1980 feet from the East line (Unit J) of Section 31, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;
- (2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;
- (3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and
- (4) No objections have been received within the waiting period prescribed by said rule.

**IT IS THEREFORE ORDERED THAT:**

The applicant herein, is hereby authorized to complete its SDE '31' Federal Well No.9 located 1980 feet from the South line and 1980 feet from the East line (Unit J) of Section 31, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico, in such manner as to permit the injection of salt water for disposal purposes into the Bell Canyon formation at approximately 5150 feet to 5700 feet through 2 7/8-inch plastic-lined tubing set in a packer located at approximately 5100 feet.

\*\*\* OFFICIAL PERMIT \*\*\*  
ISSUED BY ENGINEERING BUREAU OF NMCD

Aug 16 2 11 PM '96

*Administrative Order SWD-621*  
*Texaco Exploration & Production, Inc.*  
*April 4, 1996*  
*Page 2*

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**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 1020 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Bell Canyon formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

**PROVIDED FURTHER THAT,** jurisdiction of this cause is hereby retained by the Division for the entry of such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

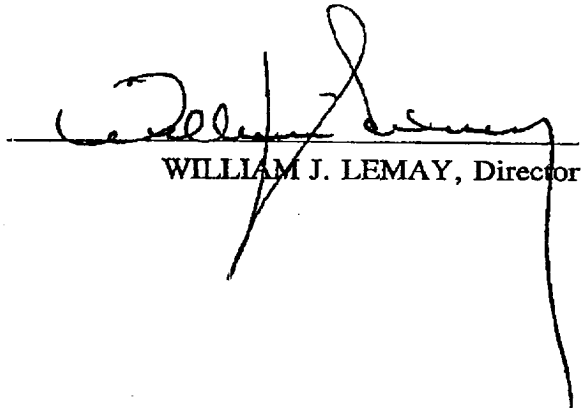
The operator shall submit monthly reports of the disposal operations in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

*Administrative Order SWD-621*  
*Texaco Exploration & Production, Inc.*  
*April 4, 1996*  
*Page 3*

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The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 4th day of April, 1996.

  
WILLIAM J. LEMAY, Director

S E A L

WJL/BES

xc: Oil Conservation Division - Hobbs  
Bureau of Land Management - Carlsbad

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COPY

March 1, 1996

Notification of Application for Salt Water Disposal Well

SDE '31' Federal Lease  
Bell Canyon Field  
Lea County, New Mexico

OFFSET OPERATORS AND SURFACE OWNER :

This letter is to notify you that Texaco Exploration & Production Inc. is proposing to convert the following well to a salt water disposal well within the non-productive portion of the Bell Canyon interval between 4600' and 5500'. The subject lease is in Lea County, New Mexico.

Lease Name Well Number : SDE '31' Federal #9 (Bell Canyon Interval)  
Location : Unit Letter J, 1980'FSL & 1980'FEL,  
Section 31, T-23-S, R-32-E

The purpose of this application is to convert the subject non-commercial well into a salt water disposal well. The disposal interval will be the Bell Canyon between approximately 4,600' and 5,500'. Anticipated maximum rate is 3,000 BWIPD and maximum wellhead injection pressure will be 920 psig (0.2 psi/ft). Attached are maps showing the location of the above well and a copy of the pertinent wellbore data. If you have any questions, please contact me at (505)397-0419. Attached is a copy of the NMOCD C-108 application.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, P. O. Box 6429, Santa Fe, New Mexico, 87505, within fifteen (15) days of receipt of this letter.

Sincerely,

Michael C. Alexander  
Production Engineer

MCA/s  
Attachments  
File  
Chrono

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AUG 16 2 10 PM '96

## APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage  
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Texaco Exploration & Production Inc.  
Address: P.O. BOX 730 Hobbs, New Mexico 88240  
Contact party: Michael Alexander Phone: (505) 393 - 7191
- 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 \_\_\_\_\_.
- 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 geological data on the injection zone including appropriate lithologic detail, geological 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 source 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 source 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: Michael Alexander Title: Production Engineer  
Signature: Michael P. Alexander Date: 3 - 1 - 96
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

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III. SALT WATER DISPOSAL WELL DATA

SDE '31' Federal : Bell Canyon Interval

# 9 - Unit Letter J, 1980'FSL & 1980'FEL, Section 31, T-23-S, R-32-E  
Lea County, New Mexico

All pertinent data for the above proposed salt water disposal well is included on the well schematic sheets in this application.

V. SUBJECT AREA MAPS AND AREA OF REVIEW

A map of the subject area, SDE '31' Federal, including all wells within a 2 mile radius is attached. Also attached is a map showing the subject well's area of review (or 1/2 mile radius circle).

VI. TABULATION OF DATA ON WELLS WITHIN AREA OF REVIEW

Currently, Texaco E&P Incorporated operates ten wells on the subject lease (and two offsetting leases, SDE '19' Federal and SDE '18' Federal) producing approximately 400 BOPD, 1,500 MCFPD and 500 BWPD. The subject well is approaching its economic limit and further development potential does not exist within the wellbore. Therefore, Texaco E&P Inc. is proposing to utilize the well to dispose of produced fluids from Texaco's SDE '31' lease, SDE '19' lease and SDE '18' lease within the non-commercial Bell Canyon interval. Attached is a schematic of the subject disposal well and its proposed completion and tubing/packer arrangement.

The intent of this application is to seek approval, either through a NMOCC administrative approval, or through a New Mexico Oil Conservation Commission sponsored hearing to modify the subject well for salt water disposal. This application is pursuant to the continuation of development and production on Texaco's SDE '31' Federal, SDE '19' Federal and SDE '18' Federal leases, which produce from the Brushy Canyon and Bone Spring intervals. The approval of this application will enhance Texaco E&P Inc. efforts to operate the subject lease as optimally as possible and increase the reserve potential by lowering the economic limit on each producing well.



VI. TABULATION OF DATA ON WELLS WITHIN AREA OF REVIEW (continued)

To date, the following wells within a half mile radius of the proposed salt water disposal well injection wells have been plugged and abandoned :

T-23-S, R-32-E

Section 31 : well(s) : Curtis Hankamer; Continental Fed #1

T-24-S, R-32-E

Section 6 : well(s) : Curtis Hankamer; Bondurant-Federal #1

VII. PROPOSED OPERATION

The proposed completion within the SDE '31' Federal wellbore will be in the Bell Canyon interval with selective perforations between 4600' and 5500'. The packer will be placed within approximately 50' of the top perforation. The tubing will be internally plastic coated. The proposed maximum salt water disposal rate is expected to be 3,000 BWPD. The initial disposal rate is expected to be 500 BWPD. Maximum injection pressure will not exceed 920 psig (0.2 psi/ft OCD allowable rate) until a step rate test establishes a higher limit. Injected fluids will be produced fluids from the Brushy Canyon and Bone Spring intervals. These zones and the proposed injection interval (Bell Canyon) all contain saline waters with total dissolved solids (TDS) and salinity above 10,000 ppm (mg/l). No current recent chemical analysis of the disposal zone is available within the adjacent area, but produced test samples all had TDS and salinity above 10,000 ppm. The system will be closed.

VIII. GEOLOGICAL DATA

The injection interval consists of an interbedded, fine to medium grain sorted sandstone reservoir. The saturation within the reservoir show a low oil saturation which is non-mobile making the formation non-commercial. The Bell Canyon interval has a total thickness of approximately 1400' within the subject area. It overlays the Cherry Canyon (non-productive) and the Brushy Canyon and Bone Spring intervals which are the productive interval within the subject area.

The known sources of fresh water within the subject area exist from approximately 30' to 800' deep. Based on a current geological and

VIII. GEOLOGICAL DATA (continued)

engineering data and a petrophysical rock-properties evaluation, there is no evidence of any natural or artificially created open faults within the unitized interval, or above, which would communicate salt water to the shallow fresh water strata. Texaco E&P Inc., has taken all efforts to insure that all mechanical means of isolation were implemented during drilling and they have been and will continue to be maintained within the proposed disposal well..

IX. PROPOSED STIMULATION PROGRAM

The subject wells will be stimulated using 4,000 to 10,000 gallons of 20% NEFE HCl acid. Rock salt blocks or ball sealers will be utilized during the jobs.

STATEMENT OF SURFACE OWNER AND OFFSET OPERATOR

SURFACE OWNER :

BUREAU OF LAND MANAGEMENT (BLM)  
P.O. BOX 1778  
CARLSBAD, NEW MEXICO 88220

OFFSET OPERATOR(S) :

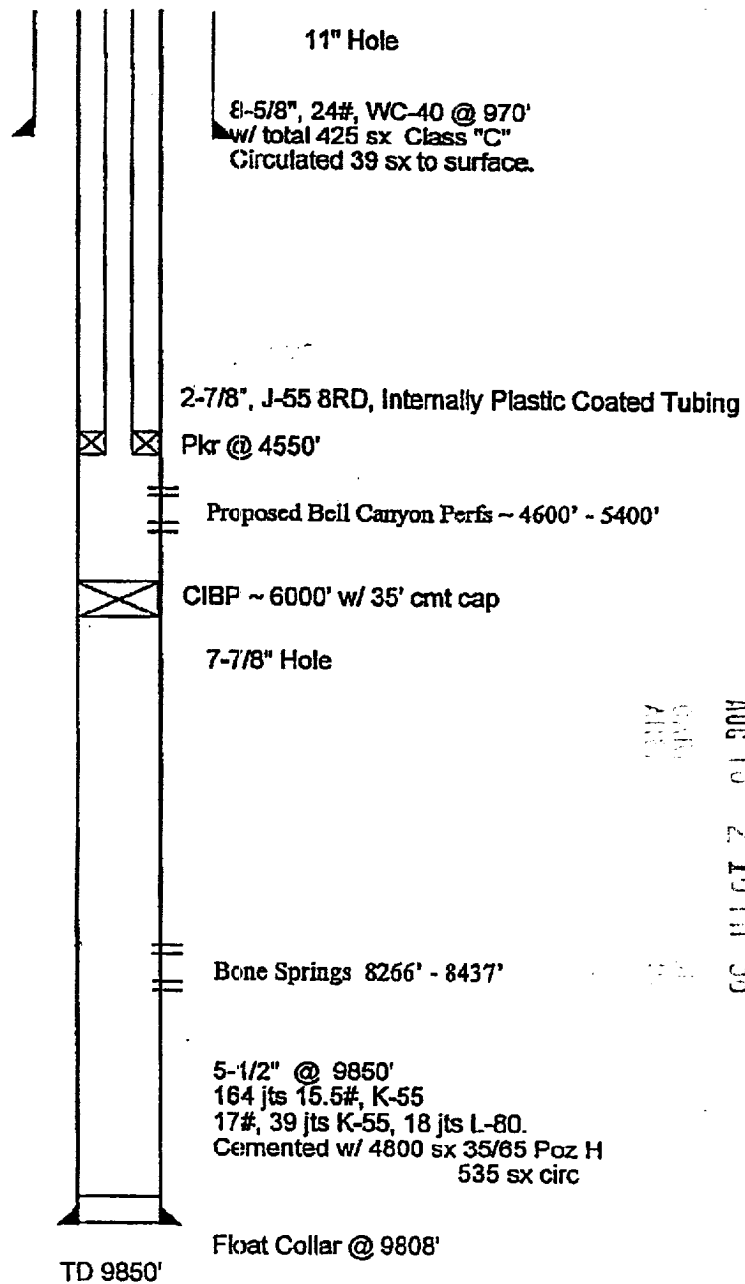
SANTA FE ENERGY RESOURCES INC.  
500 WEST TEXAS AVE., SUITE 1330  
MIDLAND, TEXAS 79701

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**C-108 APPLICATION**  
**III. PROPOSED DISPOSAL WELL**  
**TEXACO E&P INC., SDE FEDERAL '31' LEASE**

**SDE Federal 31 Well #9**  
**Triste Draw West**  
**Lea County, New Mexico**

Unit Letter J, 1980' FSL, 1980' FEL Sec. 31, T-23S, R-32E



Aug 16 2 10 PM '85

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OPERATOR'S COPY  
FORM APPROVED

Judget Bureau No. 1004-0137  
Expires: December 31, 1991

ORIGINAL WITH 5 COPIES

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Type of Well: OIL ☒ GAS ☐ DRY ☐ OTHER ☐ AREA ☐

Type of Completion: EW ☒ WORK ☐ DEEPEN ☐ PLUG ☐ DIFF. ☐ OTHER ☐  
RELL OVER N BACK RESVR.

Name of Operator: TEXACO EXPLORATION & PRODUCTION INC.

Address and Telephone No.: P.O. BOX 730, HOBBS, NM 88240 397-0418

Location of Well (Report location clearly and in accordance with any State requirements.):

Surface

Letter J : 1980 Feet From The SOUTH Line and 1980 Feet From The EAST Line  
proposed prod. zone

SAME

Total Depth

14. Permit No.

Date Issued

12. County or Parish

13. State

1. Date Spudded

16. Date T.D. Reached

17. Date Compl. (Ready to Prod.)

18. Elevations (Show whether DF, RT, GR, etc.)

19. Elev. Casinhead

1. Total Depth, MD & TVD

21. Plug Back T.D., MD & TVD

22. If Multiple Compl., How Many

23. Intervals Drilled By

Rotary Tools

Cable Tools

1. Producing Interval(s), Of This Completion - Top, Bottom, Name (MD and TVD)

8265-8437: TRISTE DRAW; DELAWARE, WEST

25. Was Directional Survey Made

YES

1. Time Electric and Other Logs Run

DL, GR-DL, GR-CSL

27. Was Well Cored

NO

CASING RECORD (Report all strings set in well)

CASING SIZE & GRADE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENT RECORD	AMOUNT PULLED
8 3/8	24#	970'	11	CL-C 425 SX, CIRC 39	
1 1/2	17#	9850'	7 7/8	CL-H 4800 SX, CIRC 535	

LINER RECORD					TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2 7/8"	8445'	-

1. Perforation record (Interval, size, and number)

8265-8437: 8413'-8437' (112 HOLES)

32. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
8265-8437	ACID - 2000 GALS 15% NEFE HCL
8265-8437	FRACT W/ 33,000 GALS 30# BORATE XLG
	CARRYING 134,000# 20/40 OTTOWA SAND
	& 24,000# 16/30 RESIN COATED SAND

PRODUCTION

Date First Production: 4/22/95  
Production Method (Flowing, gas lift, pumping - size and type pump): PUMPING 2.5" X 1.75" X 20" ROD PUMP  
Well Status (Prod. or Shut-In): PROD.

Date of Test	Hours tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
4/26/95	24			88	146	346	1688
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr)	
						42.7	

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

SOLO

Test Witnessed By

HOLLIS COX

35. List of Attachments

DEVIATION SURVEY

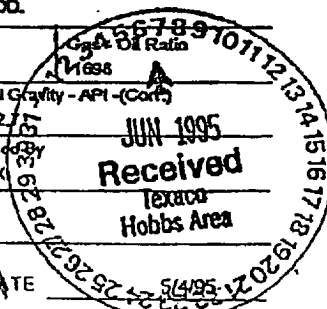
36. I hereby certify that the foregoing is true and correct.

SIGNATURE: *Monte C. Duncan*

TITLE: Engr Asst

TYPE OR PRINT NAME

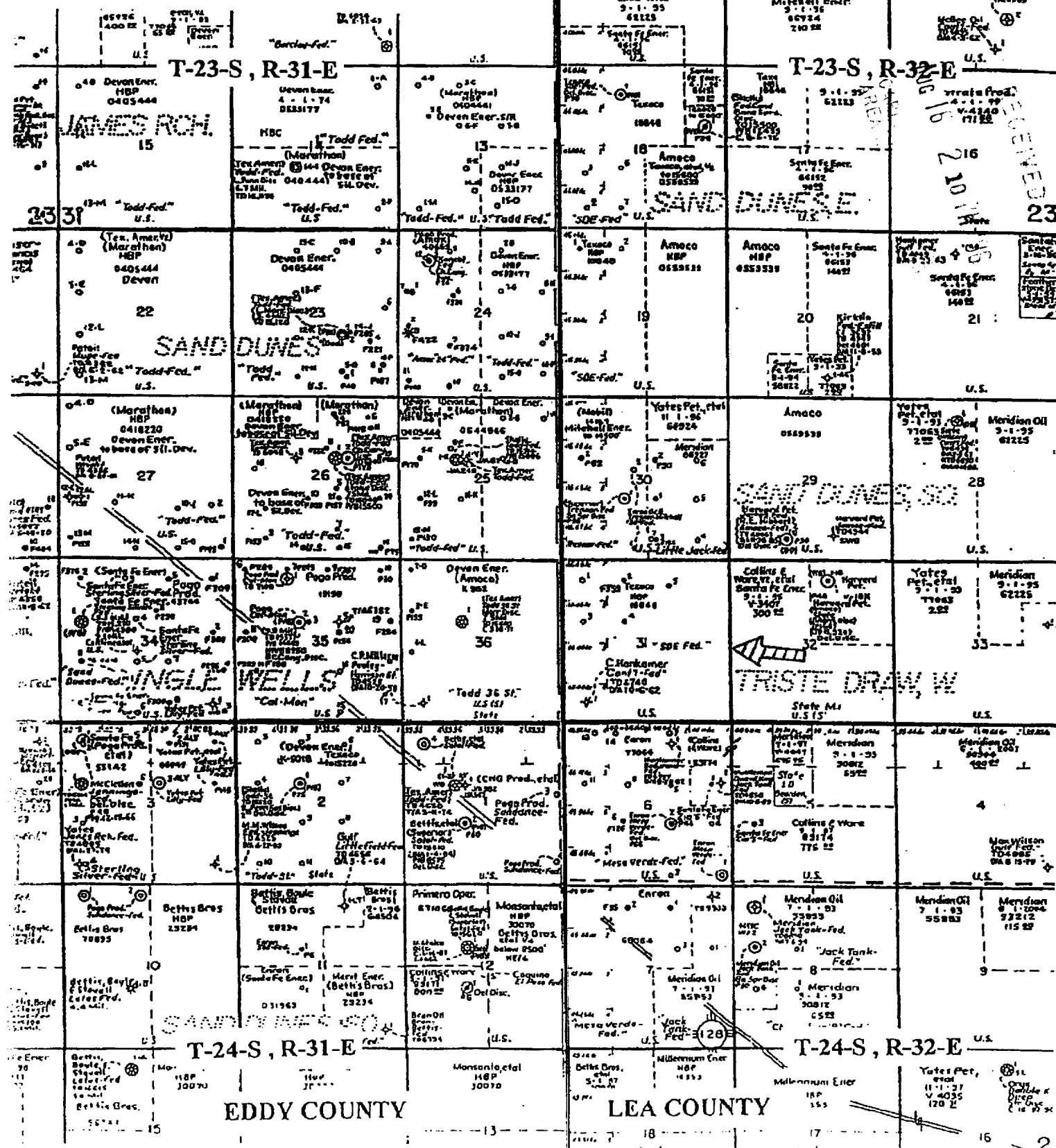
Monte C. Duncan



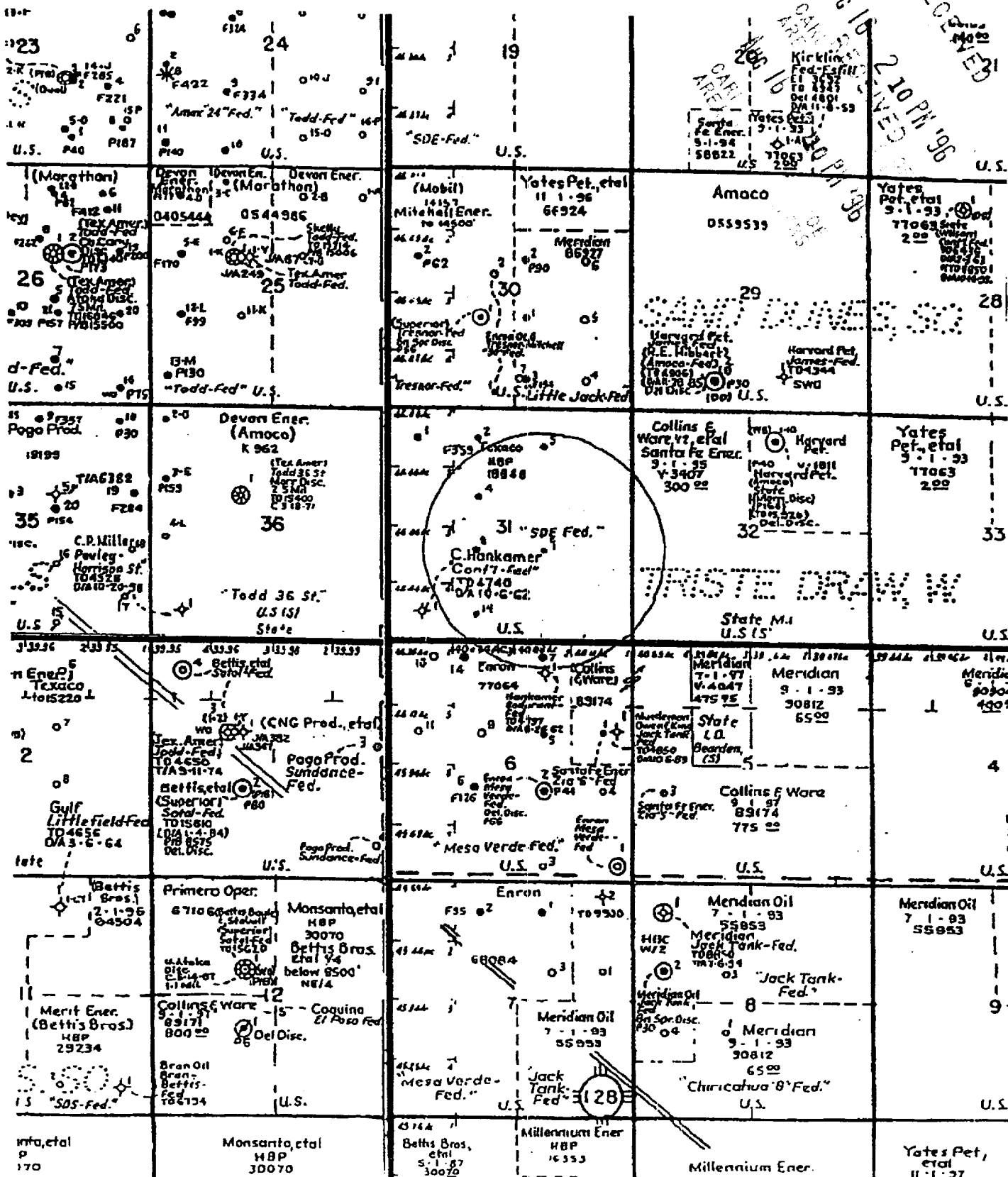
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# C-108 APPLICATION

## V. MAP OF SUBJECT ARLA



A COUNTY, NEW MEXICO  
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 2 10 PM '96  
 U.S.  
 Kirkling  
 Fed. Expt.  
 El Paso  
 To 4343  
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 Notes  
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 58622  
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SCALE : 1" = 2,800'