Form 3160-5	UNITED STATES	N.M. Oil Cons. Di	Vieinn	URIGIN
(June 1990)	DEPARTMENT OF THE INTE	RIOR P.O. Box 1980	Budget Bureau No. 1004-0135	
	BUREAU OF LAND MANAGE	Hobbs, NM 88241	Expires: March 31, 1993	
	SUNDRY NOTICES AND REPORTS O	N WELL	<ol> <li>Lease Designation and Serial No.</li> <li>NM 14157</li> </ol>	
Do not use	this form for proposals to drill or to deepen or r		6. If Indian , Alkottee or Tribe Name	······································
	Use "APPLICATION FOR PERMIT -" for su	ch proposals		
1. Type of Well	SUBMIT IN TRIPLICAT	Е	7. If Unit or CA, Agreement Designation	
Oil Gas				
X Well Well Ot	her		8. Well Name and No.	
Santa Fe Energy Res	Sources Inc		Tresnor Mitchell 30 Fed	¥1
3. Address and Telephone No		······································	9. AP! Well No.	
P. O. Box 2327 C	arlsbad, New Mexico 88221-232	?7 (505) 887-0821	30-025-32688	
Location of Well (Footage, S	Sec., T., R., M., or Survey Description)	(000) 001 0021	10. Field and Pool, or exploratory Area	
330' FSL & 2310' FWL	., Sec 30 T23S R32E		Sand Dunes (Bone Sprin 11. County or Parish, State	g-Delaware)
2.	CHECK APPROPRIATE BOX(s) TO	INDICATE NATURE OF NOTICE.	Lea NM REPORT, OR OTHER DATA	
TYPE OF SUB	MISSION	TYPE OF A		
X Notice o	fIntent	Abandonmeni	Change of Plans	
Subseq	uent Report	Plugging Back		
			Non-Routine Fracturing	1
Final Ab	andonment Notice	Altering Casing	Water Shut-Off	
		Altering Casing	Conversion to Injection	
3. Describe Proposed or Corr	ipleted Operations (Clearly state all pertinent d	Other	X Dispose Water (Note: Report results of multiple completion Completion or Recompletion Report and Lo imated date of starting any proposed (	
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# Laboratory Services, Inc.

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### 1331 Tasker Drive Hobbs, New Mexico 88240 Telephone: (505) 397-3713

## Water Analysis

COMPANY Santa Fe Energy			
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ALIOLED BU ALCONOL MICHOELL	30 Fed. #1	· · · · · · · · · · · · · · · · · · ·	·····
SAMPLED BY Glen-Pro Well			
DATE TAKEN 7/31/96			
REMARKS			
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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		<u> </u>
Total Hardness as CaCO3	56,700		<u></u>
Chlorides as CI	134,140		
	250		
Iron as Fe	153.8		
Potassium	84.38	· · · · · · · · · · · · · · · · · · ·	
Resistivity Ohms	0.062	€ 22.0° C	
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# NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 South Facheco Street Santa Fe, New Nexico 87805 (505) 827-7131

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### 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.

\* \* \* CEFICIAL PERMIT \* \* \* ISSUED BY ENGINEERING BUREAU OF NMOCO Administrative Order SWD-621 Texaco Exploration & Production, Inc. April 4, 1996 Page 2

#### **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 steprate 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.

<u>PROVIDED FURTHER THAT</u>, 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.

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

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

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

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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 noncommercial 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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ENERGY	STATE OF NEW AND MINERALS		OIL CONSERVATION DIVISIO FOST OFFICE BUILDING STATE LAND INFICE BUILDING SATA VE, NOW MERICO \$7201	N	FORM C-108 Revised 7-1-81
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I.	Purpose:	Secondary Recove			
II.	Operator:		tion & Production In	່ 🖓 ເ	0
	Address:		Hobbs, New Mexico	88240	
	Contact party	/: Michael A	lexander	Phone: (5	05) 393 - 7191
III.	Well data: (	Complete the data	required on the revers tion. Additional shee	s side of this	For for each well
IV.	Is this an ex	consion of an exi			
۷.	INJECTION WEL	Li with a one⊷half	ll wells and leases wi mile radius circle da the well's area of rev	news around each	of any proposed proposed injection
* VI.	wall's type.	construction. dat	all wells of public a on zone. Such dats si e drilled, location, c l illustrating all plu	Nell include a de	area of review which scription of each completion, and
VII.	Attach data c	n the proposed op	eration, including:		
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*VIII.	bottom of all total dissolv	igical name, thick l underground sour red solids concent: ne as well as any s	data on the injection ness, and depth. Give ces of drinking water rations of 10,000 mg/J such source known to b	the geologic n (aquifers conta: for less) overly	ining waters with
IX.	Describe the	proposed stimulat:	ion program, if any.		
* X.	Attach approp with the Divi	riate logging and sion they need no	test data on the well t be resubmitted.)	L. (If well log:	s have been filed
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submit	information	not be duplicated	ctions VI, VIII, X, ar and resubmitted. Ple	nd XI above bas i	CCO previously

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

NEW MEXICO OIL CONSERVATION DIVISION - Form C-108

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.

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### 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 noncommercial 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

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#### 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 (Bell Canyon) all contain saline waters with total interval 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 evaluatice, 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



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