

CASE 2022: Application of TMSOQ  
to dispose of produced salt water  
in the Basal San Andres formation.

CASE No.  
2929

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

DOCKET MAILED

MAIN OFFICE OCC STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

10-15-63 1963 OCT 1 PM 3 52 APPLICATION

DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION  
NOT PRODUCTIVE OF OIL OR GAS

Operator TEXACO Inc. Address Box 728, Hobbs, New Mexico

State of New Mexico

Lease "0" (NCT-1) Well No. 12 County Lea

Unit J Section 36 Township 17-S Range 34-E

This is an application to dispose of salt water produced from the following pool(s):

Vacuum Devonian, Blinbry, Pennsylvanian, Wolfcamp, Glorieta, & North Abo

Name of Injection Formation(s): Basal San Andres

Top of injection zone: 5606' Bottom of injection zone: 5638'

Give operator, lease, well no., and location of any other well in this area using this same

zone for disposal purposes: None

# CASING PROGRAM

	Diameter	Setting Depth	Sacks Cement	Top of Cement
Surface	8-5/8"	1599'	580'	Circulated
Intermediate	None	-	-	-
Long String	2-7/8"	6918'	300'	1850'
	2-7/8"	6919'		

Will injection be through tubing, casing, or annulus? Casing (2-7/8" OD EUE)

Size tubing: - Setting depth: - Packer set at: -

Name and Model No. of packer: -

Will injection be through perforations or open hole? Perforations

Proposed interval(s) of injection: 5606'-5638'

Well was originally drilled for what purpose? Oil (dual tubingless-Glorieta & Blinbry)

Has well ever been perforated in any zone other than the proposed injection zone? Yes

List all such perforated intervals and sacks of cement used to seal off or squeeze each:  
2-7/8" Glorieta casing string: 5945'-5949'; presently producing.

2-7/8" Blinbry casing: 6558, 6569, 6591, 6617 squeezed w/185 sx; 6388, 6407, 6420, 6434, 6457,  
6468, 6488 squeezed w/150 sx; 6350, 6369, 6388, 6407, 6420 to be squeezed with est. 100 sx.

Give depth of bottom of next higher zone which produces oil or gas: 4800'

Give depth of top of next lower zone which produces oil or gas: 5945'

Give depth of bottom of deepest fresh water zone in area: 135'

Expected volume of salt water to be injected daily (barrels): 1000

Will injection be by gravity or pump pressure? Pump Estimated pressure: 800 psi

Is system open or close type? Open Is filtration or chemical treatment necessary? No

Is the water to be disposed of mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? Yes

Is any water occurring naturally within the proposed disposal formation mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? Yes

List all offset operators to the lease on which this well is located and their mailing address

Continental Oil Company, Box 68, Eunice, New Mexico.

Marathon Oil Company, Box 2107, Hobbs, New Mexico

~~Amerada Petroleum Corp.~~ Box 668, Hobbs, New Mexico

Shell Oil Co., Box 1858, Roswell, New Mexico

Phillips Petroleum Co., Box 2105, Hobbs, New Mexico

Mobil Oil Company, Box 2406, Hobbs, New Mexico

Pacific Western, c/o Tidewater Oil Company, Box 547, Hobbs, New Mexico

Name and address of surface owner Scharbauer Land & Cattle Co.

Scharbauer Hotel, Midland, Texas

Have copies of this application been sent by registered mail or given to all offset operators, surface owners, and to the New Mexico State Engineer? By Registered Mail 9-30-63

Gamma-Neutron

Is a complete ~~electric log~~ of this well attached? Yes

Operator: TEXACO Inc.

By: H. D. Raymond  
H.D. Raymond

Title: Assistant District Supt.

STATE OF New Mexico )  
 ) ss.  
County of Lea )

BEFORE ME, The undersigned authority, on this day personally appeared H. D. Raymond known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein and that said report is true and correct.

SUBSCRIBED AND SWORN TO before me this the 30th day of Sept, 19 63.

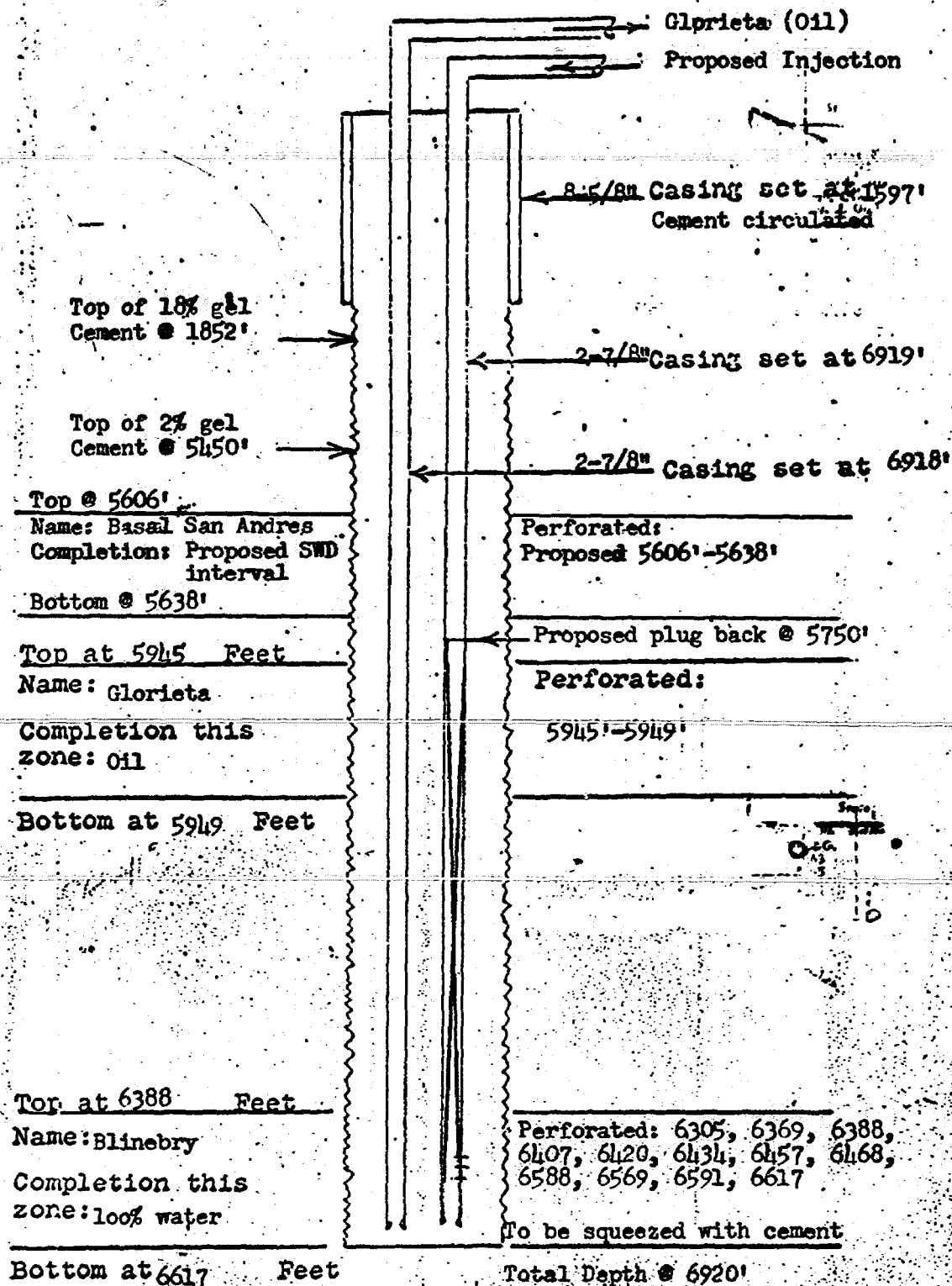
Notary Public in and for the County of Lea, New Mexico

June 20, 1965  
My Commission Expires

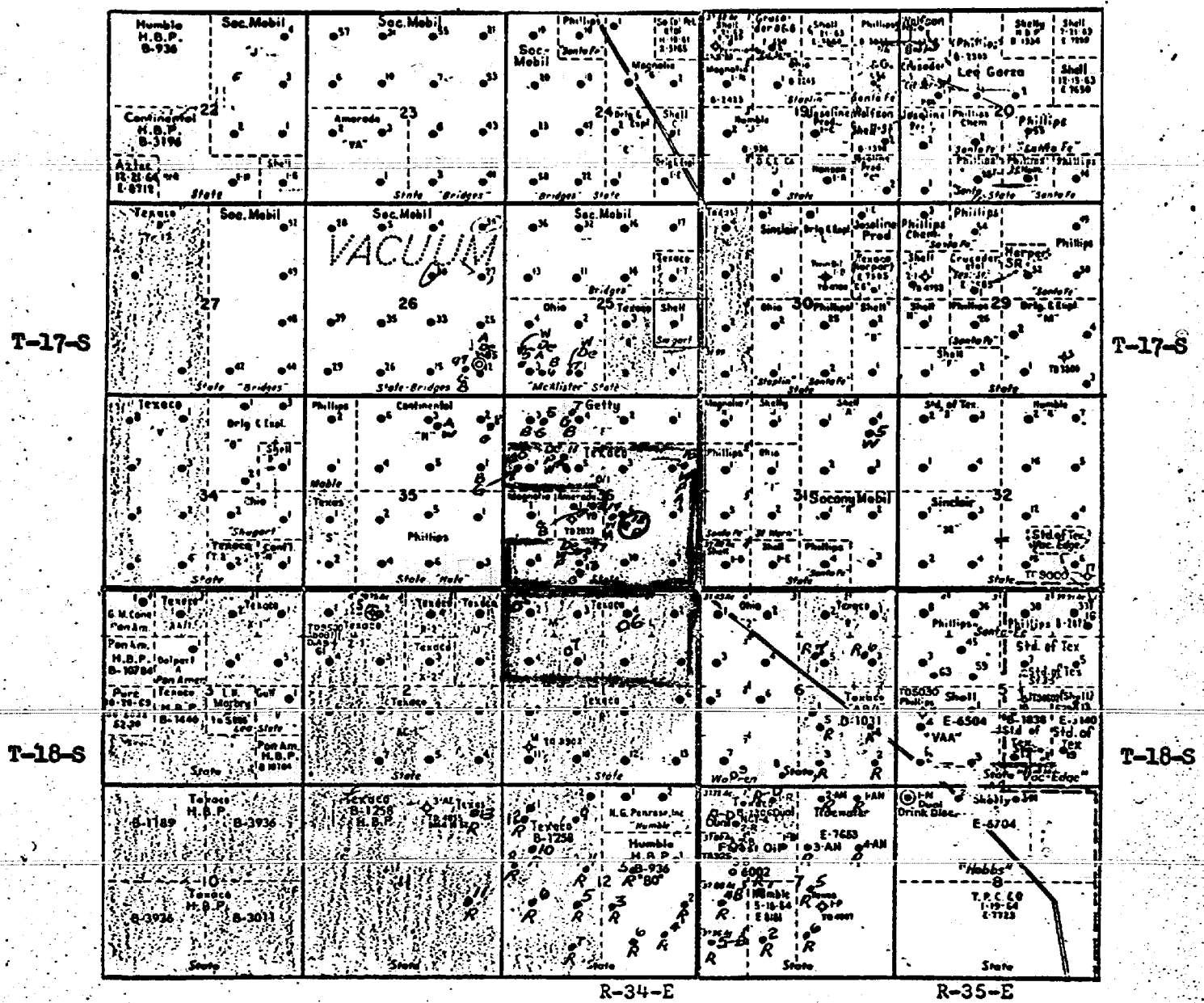
NOTE: Should waivers from all offset operators, the surface owner, and the State Engineer not accompany an application, the New Mexico Oil Conservation Commission will hold the application for a period of fifteen (15) days from date of receipt by the Commission's Santa Fe office. If at the end of said fifteen-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

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# DIAGRAMATIC SKETCH SHOWING DUAL COMPLETION INSTALLATION (TUBINGLESS)



LEASE: State of New Mexico "O" (NCT-1) Well No. 12  
 FIELD: Vacuum (Glorieta and Blinebry)  
 DATE: September 30, 1963



TEXACO Inc.  
State of New Mexico "O" (NCT-1) Lease  
Vacuum Field  
Lea County, New Mexico

Scale: 1" = 4000'

## Offset Operators.

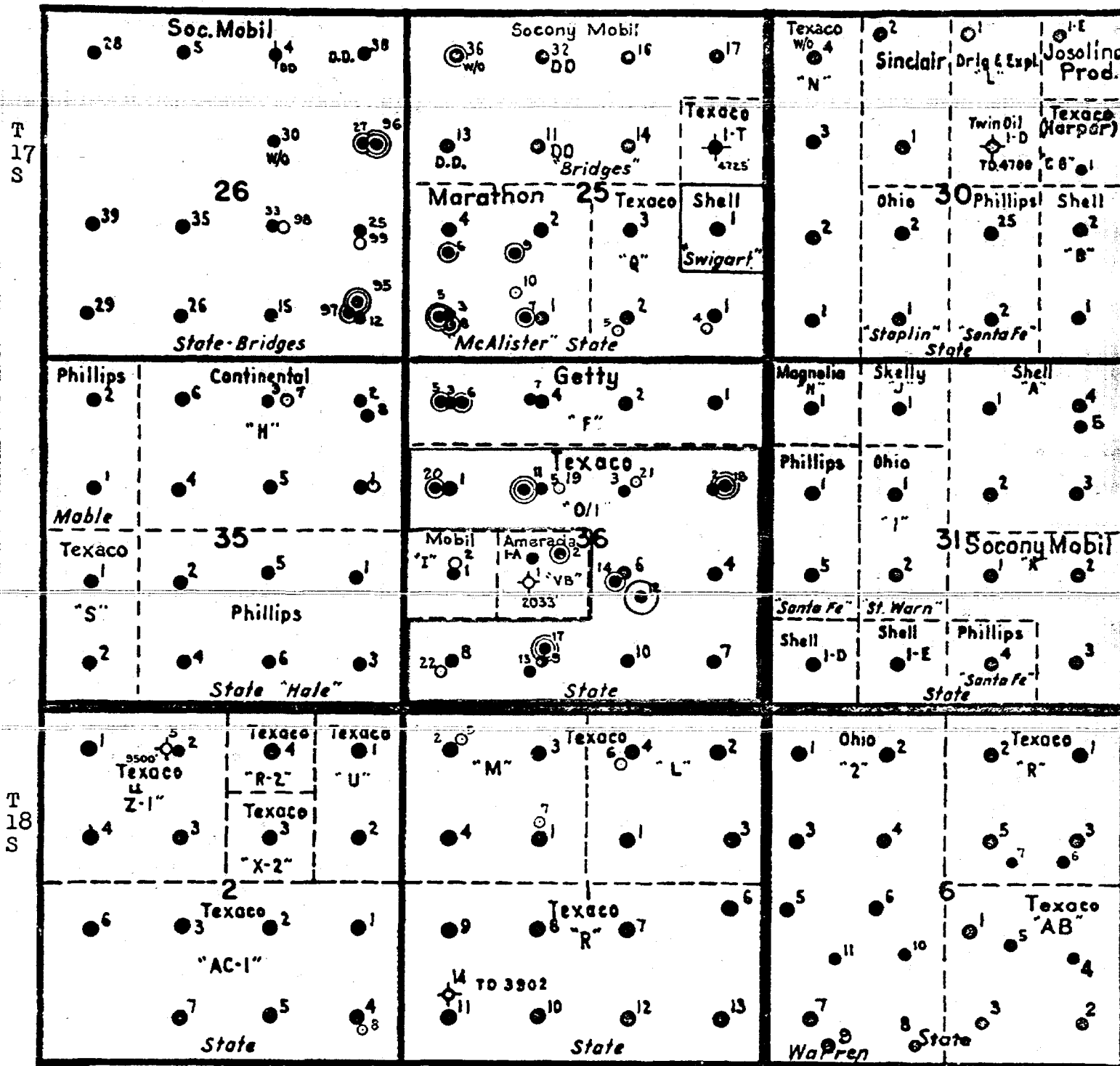
Tidewater Oil Company, Box 547, Hobbs, New Mexico  
Continental Oil Company, Box 68, Eunice, New Mexico  
Phillips Petroleum Company, Box 2105, Hobbs, New Mexico  
Shell Oil Company, P. O. Box 845, Roswell, New Mexico  
Mobil Oil Company, Box 2406, Hobbs, New Mexico  
Amerada Petroleum Corp., Box 668, Hobbs, New Mexico

A- North Abo  
B- Blinebry  
D- Drinkard  
De- Devonian  
G- Glorieta  
P- Pennsylvanian  
R- Abo Reef  
W- Wolfcamp  
- Undesignated  
completed in  
San Andres

- Undesignated  
completed in  
San Andres

R-34-E

R-35-E



TEXACO INC.  
VACUUM POOLS AREA  
LEA COUNTY, NEW MEXICO  
SCALE 1" = 2000

BEFORE EXAMINER NUTTER

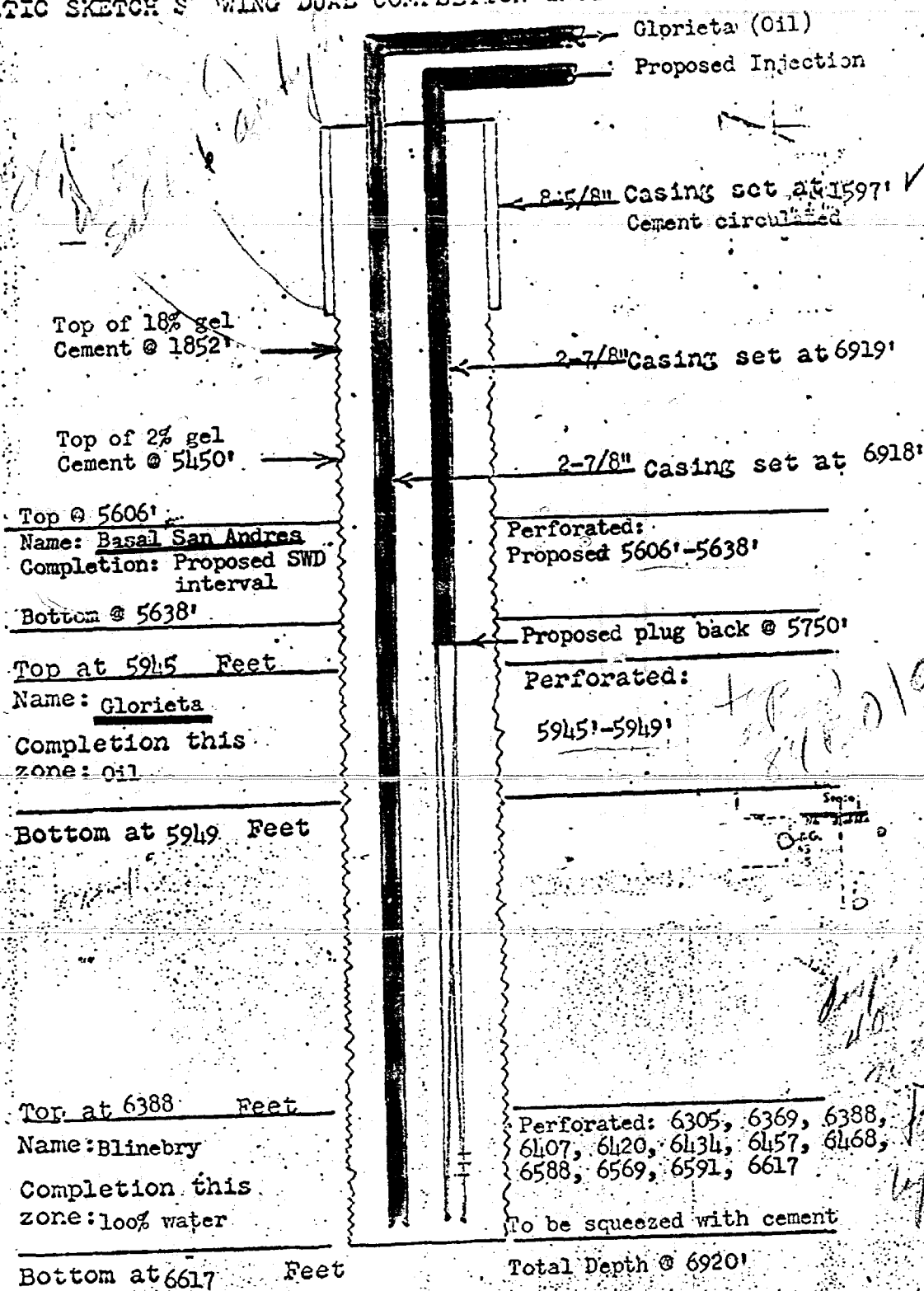
OIL CONSERVATION COMMISSION

EXHIBIT NO. 1

CASE NO. 2929



# DIAGRAMMATIC SKETCH SHOWING DUAL COMPLETION INSTALLATION (TUBINGLESS)



TEXACO Inc.

LEASE: State of New Mexico "0" (NCT-1) Well No. 12  
 FIELD: Vacuum (Glorieta and Blinebry)  
 DATE: September 30, 1963

BEFORE EXAMINER NUTT

IN REPLETION COMMISSION

EXHIBIT NO. 3

2929



DRAFT

JMD/esr  
December 3, 1963

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 2929

Order No. R-2413-D?

APPLICATION OF TEXACO INC.  
FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 30, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this        day of December, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That Order No. R-2413, dated January 30, 1963, authorized the applicant, Texaco Inc., to complete its State of New Mexico "O" NCT-1 Well No. 12, located in Unit J of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, as a dual completion (tubingless) to produce oil from an undesignated Glorieta pool and an undesignated Blinebry pool through parallel strings of 2 7/8-inch casing cemented in a common well bore.

(3) That the Blinebry completion in the subject well has proven non-productive and the applicant now seeks authority to dispose of produced salt water into the Basal San Andres formation through the string of 2 7/8-inch casing authorized for Blinebry oil production by Order No. R-2413.

(4) That approval of the subject application will prevent waste and protect correlative rights.

(5) That Order No. R-2413 should be amended to authorize the applicant to complete its State of New Mexico "O" NCT-1 Well No. 12, located in Unit J of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, to produce oil from an undesignated Glorieta pool and to dispose of produced salt water into the Basal San Andres formation through parallel strings of 2 7/8-inch casing cemented in a common well bore.

IT IS THEREFORE ORDERED:

(1) That Order No. R-2413 is hereby amended to authorize the applicant, Texaco Inc., to complete its State of New Mexico "O" NCT-1 Well No. 12, located in Unit J of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, to produce oil from an undesignated Glorieta pool and to dispose of produced salt water into the Basal San Andres formation <sup>*below 5300 feet*</sup> through parallel strings of 2 7/8-inch casing cemented in a common well bore.

PROVIDED HOWEVER, That the applicant shall complete, operate and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

2929

Revised 9 16 58

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

1963 OCT 1 PM 3:52 APPLICATION  
TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION  
NOT PRODUCTIVE OF OIL OR GAS

Operator TEXACO Inc. Address Box 728, Hobbs, New Mexico  
State of New Mexico  
Lease "0" (NCT-1) Well No. 12 County Lea  
Unit J Section 36 Township 17-S Range 34-E

This is an application to dispose of salt water produced from the following pool(s):

Vacuum Devonian, Blinberry, Pennsylvanian, Wolfcamp, Glorieta, & North Abo

Name of Injection Formation(s): Basal San Andres

Top of injection zone: 5606' Bottom of injection zone: 5638'

Give operator, lease, well no., and location of any other well in this area using this same

zone for disposal purposes: None

CASING PROGRAM

	Diameter	Setting Depth	Sacks Cement	Top of Cement
Surface	8-5/8"	1599'	580'	Circulated
Intermediate	None	-	-	-
Long String	2-7/8"	6918'	900'	1850'
	2-7/8"	6919'		

Injection be through tubing, casing, or annulus? Casing (2-7/8" OD EUE)

NOTE: Should waivers from all offset operators, the surface owner, and the State Engineer not accompany an application, the New Mexico Oil Conservation Commission will hold the application for a period of fifteen (15) days from date of receipt by the Commission's Santa Fe office. If at the end of said fifteen-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

My Commission Expires  
June 20, 1965

MAIN OFFICE OCT 1 1963 STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

1963 OCT 1 PM 3:52 APPLICATION  
TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION  
NOT PRODUCTIVE OF OIL OR GAS

Operator TEXACO Inc. Address Box 728, Hobbs, New Mexico  
Lease State of New Mexico "0" (NCT-1) Well No. 12 County Lea  
Unit J Section 36 Township 17-S Range 34-E

This is an application to dispose of salt water produced from the following pool(s):

Vacuum Devonian, Blinebry, Pennsylvanian, Wolfcamp, Glorieta, & North Abo

Name of Injection Formation(s): Basal San Andres

Top of injection zone: 5606' Bottom of injection zone: 5638'  
Give operator, lease, well no., and location of any other well in this area using this same  
zone for disposal purposes: None

CASING PROGRAM

	Diameter	Setting Depth	Sacks Cement	Top of Cement
Surface	8-5/8"	1599'	580'	Circulated
Intermediate	None	-	-	-
Long String	2-7/8"	6918'	900'	1850'
	2-7/8"	6919'		

Will injection be through tubing, casing, or annulus? Casing (2-7/8" OD EUE)

Size tubing: - Setting depth: - Packer set at: -

Name and Model No. of packer: -

Will injection be through perforations or open hole? Perforations

Proposed interval(s) of injection: 5606'-5638'

Well was originally drilled for what purpose? Oil (dual tubingless-Glorieta & Blinebry)

Has well ever been perforated in any zone other than the proposed injection zone? Yes

List all such perforated intervals and sacks of cement used to seal off or squeeze each:  
2-7/8" Glorieta casing string: 5945'-5949'; presently producing.  
2-7/8" Blinebry casing: 6558, 6569, 6591, 6617 squeezed w/185 sx; 6388, 6407, 6420, 6434, 6457,  
6468, 6488 squeezed w/150 sx; 6350, 6369, 6388, 6407, 6420 to be squeezed with est. 100 sx.

Give depth of bottom of next higher zone which produces oil or gas: 4800'

Give depth of top of next lower zone which produces oil or gas: 5945'

Give depth of bottom of deepest fresh water zone in area: 135'

Expected volume of salt water to be injected daily (barrels): 1000

Will injection be by gravity or pump pressure? Pump Estimated pressure: 800 psi

Is system open or close type? Open Is filtration or chemical treatment necessary? No

Is the water to be disposed of mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? Yes

Is any water occurring naturally within the proposed disposal formation mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? Yes

List all offset operators to the lease on which this well is located and their mailing address

Continental Oil Company, Box 68, Eunice, New Mexico.

Marathon Oil Company, Box 2107, Hobbs, New Mexico

Amerada Petroleum Corp. Box 668, Hobbs, New Mexico

Shell Oil Co., Box 1858, Roswell, New Mexico

Phillips Petroleum Co., Box 2105, Hobbs, New Mexico

Mobil Oil Company, Box 2406, Hobbs, New Mexico

Pacific Western, c/o Tidewater Oil Company, Box 547, Hobbs, New Mexico

Name and address of surface owner Scharbauer Land & Cattle Co.

Scharbauer Hotel, Midland, Texas

Have copies of this application been sent by registered mail or given to all offset operators, surface owners, and to the New Mexico State Engineer? By Registered Mail 9-30-63

Gamma-Neutron

Is a complete ~~structural log~~ of this well attached? Yes

Operator: TEXACO Inc.

By: H. D. Raymond  
H. D. Raymond

Title: Assistant District Supt.

STATE OF New Mexico )

) ss.

County of Lea )

BEFORE ME, The undersigned authority, on this day personally appeared H. D. Raymond known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein and that said report is true and correct.

SUBSCRIBED AND SWORN TO before me this the 30th day of Sept, 19 63.

Notary Public in and for the County of Lea, New Mexico

June 20, 1965

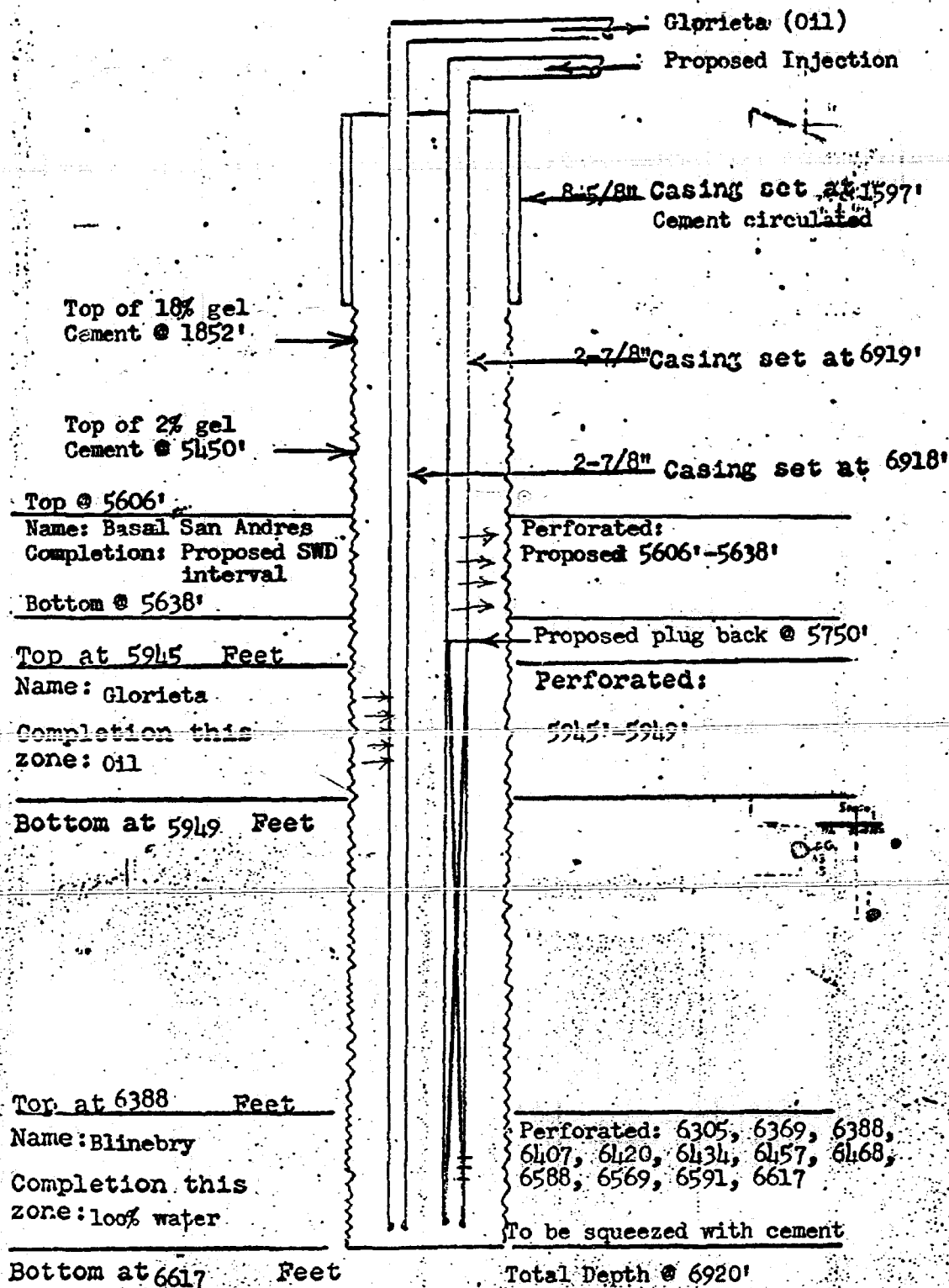
My Commission Expires

NOTE:

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ir/

# DIAGRAMATIC SKETCH SHOWING DUAL COMPLETION INSTALLATION (TUBINGLESS)



TEXACO Inc.

LEASE: State of New Mexico "O" (NCT-1) Well No. 12

FIELD: Vacuum (Glorieta and Blinebry)

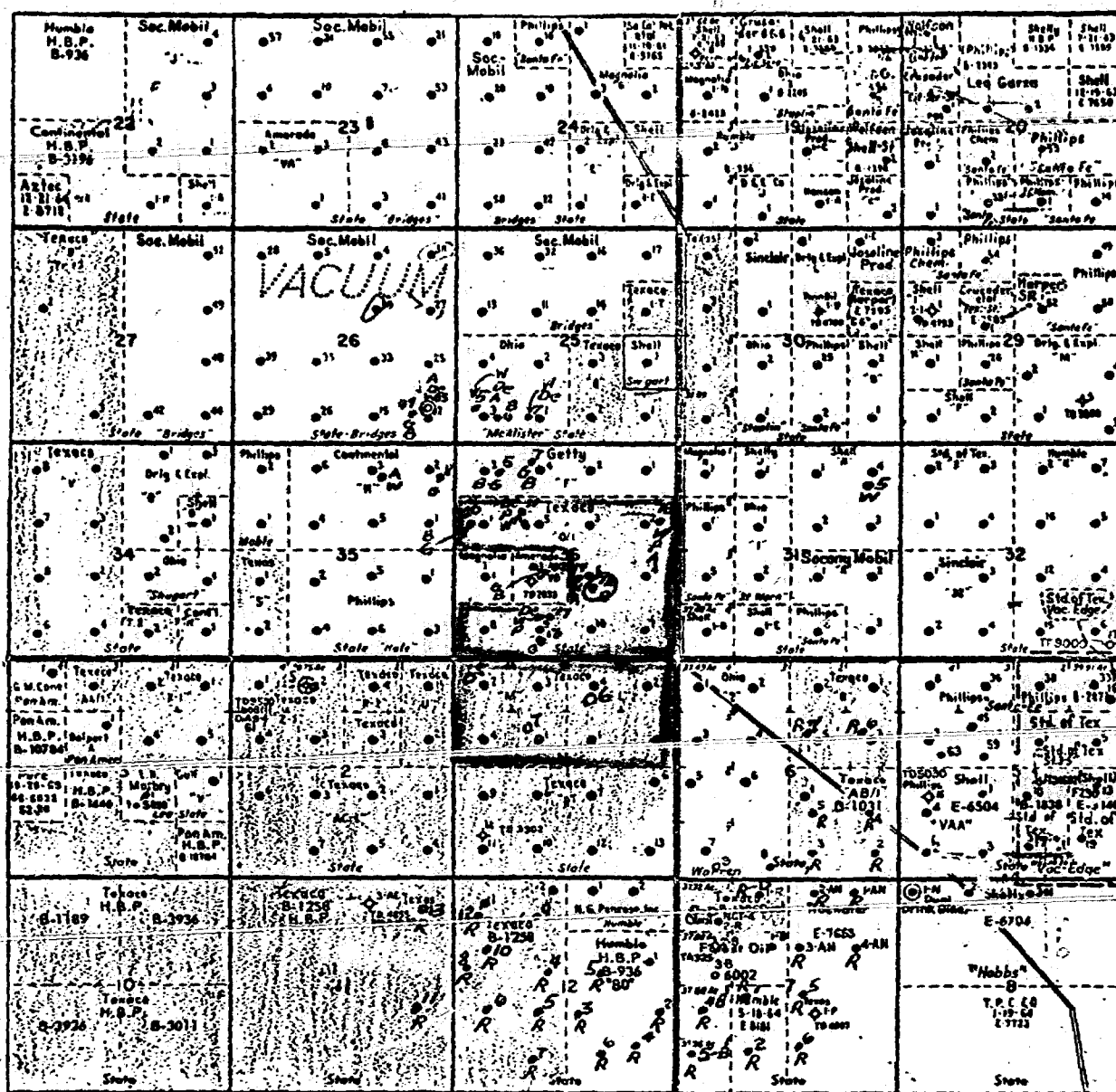
DATE: September 30, 1963

T-17-S

T-17-S

T-18-S

T-18-S



TEXACO Inc.  
State of New Mexico "O" (NCT-1) Lease  
Vacuum Field  
Lea County, New Mexico

Scale: 1" = 4000'

Offset Operators.

Tidewater Oil Company, Box 547, Hobbs, New Mexico  
Continental Oil Company, Box 68, Eunice, New Mexico  
Phillips Petroleum Company, Box 2105, Hobbs, New Mexico  
Shell Oil Company, P. O. Box 845, Roswell, New Mexico  
Mobil Oil Company, Box 2406, Hobbs, New Mexico  
Amerada Petroleum Corp., Box 668, Hobbs, New Mexico

A- North Abo  
B- Blinebry  
D- Drinkard  
De- Devonian  
G- Glorieta  
P- Pennsylvanian  
R- Abo Reef  
W- Wolfcamp  
- Undesignated  
completed in  
San Andres



OIL CONSERVATION COMMISSION

BOX 1980

HOBBS, NEW MEXICO

Date Oct. 10, 1963

Oil Conservation Commission  
Box 871  
Santa Fe, New Mexico

**SWD &**  
Re: Proposed HC Application

Gentlemen:

I have examined the application dated 10/1/63  
for the Texaco, Inc. State of New Mexico "O" NCT-1 #12-J 36-17-34  
Operator Lease & Well No. S-T-R

and my recommendations are as follows:

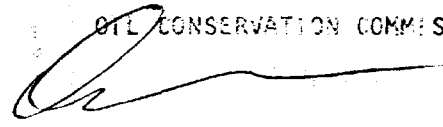
SWD & Oil Dual (Glo)-inject into lower San Andres. Vacuum Pool does produce from  
San Andres zone. Recommend a hearing--1. No dual completion as SWD SA & Glo. dual;  
2. Production from San Andres within two miles---E.F.E.  
Top @ 5836', proposed perforations are in lower San Andres, but refer to  
Eric's note---J.W.R.

MAIN OFFICE

1963 OCT 14 AM 10:08

Yours very truly,

OIL CONSERVATION COMMISSION



Docket No. 30-63

Docket No. 31-63

DOCKET: EXAMINER HEARINGS OCTOBER 18, 1963, AND OCTOBER 30, 1963

BOTH HEARINGS 9:00 A.M. OIL CONSERVATION COMMISSION CONFERENCE  
ROOM, STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

Examiner: Daniel S. Nutter; Alternate Examiner: Elvis A. Utz

DOCKET NO. 30-63 - OCTOBER 18, 1963:

CASE 2910: (Continued from the October 9, 1963, examiner hearing)

Application of Big (6) Drilling Company for extension of an existing oil pool and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the extension of the Scharb Bone Spring Oil Pool to comprise the W/2 of Section 5, all of Section 6, and the N/2 of Section 7, Township 19 South, Range 35 East, Lea County, New Mexico, and for special rules therefor, including 80-acre spacing and proration units to comprise any two contiguous 40-acre tracts, and for fixed well locations.

DOCKET NO. 31-63 - OCTOBER 30, 1963:

CASE 2678: (Reopened and continued from the October 9, 1963, examiner hearing)

In the matter of Case No. 2678 being reopened pursuant to provisions of Order No. R-2359, which order established temporary 160-acre proration units for the East Saunders Permo-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre proration units.

CASE 2903: (Continued from the October 9, 1963, examiner hearing)

Application of Coastal States Gas Producing Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Gulf State Well No. 1, located in Unit F of Section 20, Township 17 South, Range 36 East, Lea County, New Mexico, to produce oil from the Double-A Abo Pool and an undesignated Lower Leonard pool through parallel strings of tubing.

CASE 2921:

Application of Robert G. Hanagan for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a non-standard gas proration unit comprising the S/2 SW/4 of Section 1 and the N/2 NW/4 of Section 12, Township 12 South, Range 34 East, Four Lakes-Devonian Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled 660 feet from the South and West lines of said Section 1.

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Docket No. 30-63

Docket No. 31-63

CASE 2922:

Application of Consolidated Oil & Gas, Inc. for an unorthodox location and a dual completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Jicarilla No. C-1-11 to produce gas from the Blanco Mesaverde and Basin Dakota Gas Pools. Said well is at an unorthodox Blanco Mesaverde Pool location 890 feet from the South line and 990 feet from the East line of Section 11, Township 26 North, Range 4 West, Rio Arriba County, New Mexico.

CASE 2923:

Application of Cities Service Oil Company for a special gas-lift gas allocation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce Blinebry gas from its State "S" Well No. 1 located in Unit E of Section 15, Township 21 South, Range 37 East, Lea County, New Mexico, and to utilize said gas for Hare Pool gas-lift operations on its State "S" Well No. 4 located in said Unit E. Gas produced from said State "S" Well No. 1 would be metered and charged to the Blinebry Oil Pool casinghead gas production from applicant's State "S" Well No. 6 also located in the said Unit E.

CASE 2924:

Application of Socony Mobil Oil Company for a dual completion and for a tubing exception, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Bridges No. 58-DD in Unit M of Section 24, Township 17 South, Range 34 East, Lea County, New Mexico, to produce oil from the Vacuum Glorieta and Vacuum Blinebry Oil Pools through parallel strings of tubing. Applicant further seeks an exception to Commission Rule 107(d)4 to produce the Glorieta formation through the casing-tubing annulus from perforations at approximately 6000 feet up to 2 3/8-inch tubing landed in a dual packer at approximately 4020 feet.

CASE 2925:

Application of Sunray DX Oil Company for the creation of a Strawn Gas Pool and for Special Temporary Pool Rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn Gas Pool for its New Mexico State "AH" Well No. 1, located in Unit K of Section 30, Township 18 South, Range 23 East, Eddy County, New Mexico, and the establishment of temporary pool rules therefor, including a provision for 640-acre proration units and for fixed well locations.

PAGE -3-

Docket No. 30-63

Docket No. 31-63

CASE 2926:

Application of Sinclair Oil & Gas Company for an exception to Order No. R-1670, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order permitting its Barber Gas Unit Well No. 1, located in Unit E of Section 8, Township 20 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, to produce 600 MCF of gas per month in exception to the shut-in provisions of Rule 15(A) of Order No. R-1670, Southeast New Mexico Gas Pool Rules, said gas to be utilized in the oil well gas-lift system on applicant's B. J. Barber Lease.

CASE 2927:

Application of Skelly Oil Company for gas commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 21(A) of Order No. R-1670, Northwest New Mexico Gas Pool Rules, to permit the commingling of gas produced from its Jicarilla "C" Wells Nos. 3, 7, 4, 8 and 6, located in Units M and P of Section 21, Unit A of Section 28 and Units E and J of Section 27 respectively, Township 25 North, Range 5 West, South Blanco-Pictured Cliffs Pool, Rio Arriba County, New Mexico, allocating said gas to the individual wells on the basis of periodic testing. Applicant further proposes to meter said commingled gas and to commingle it with commingled casinghead gas produced from seven Otero-Gallup oil wells on its Jicarilla "C" lease.

CASE 2928:

Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (combination) of its State of New Mexico "O" NCT-1 Well No. 14, located in Unit J of Section 36, Township 17 South, Range 34 East, Lea County, New Mexico, to produce oil from the Vacuum-Wolfcamp and North Vacuum-Abo Pools through parallel strings of 2-7/8 inch casing and to produce oil from the Vacuum-Blaine Pool through 1-1/2 inch tubing run inside 3-1/2 inch casing, all casing strings to be cemented in a common well bore.

CASE 2929:

Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Basal San Andres formation through its State of New Mexico "O" NCT-1 Well No. 12 located in Unit J of Section 36, Township 17 South, Range 34 East, Vacuum Field, Lea County, New Mexico.

PAGE -4-

Docket No. 30-63  
Docket No. 31-63

CASE 2930:

Application of William G. Ross for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Wilson Deep Unit Area comprising 3,920 acres, more or less, of State and Fee lands in Township 21 South, Range 34 East, Lea County, New Mexico.

State of New Mexico  
Oil Conservation Commission

ir/

GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

*State of New Mexico*

## Oil Conservation Commission



LAND COMMISSIONER  
L. E. JENNIFY WALKER  
MEMBER

P. O. BOX 571  
SANTA FE

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

December 10, 1963

Mr. Charlie White  
Gilbert, White & Gilbert  
Attorneys at Law  
Box 787  
Santa Fe, New Mexico

Re: Case No. 2929  
Order No. R-2413-A  
Applicant:  
TRACU

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

*A. L. Porter, Jr.*

A. L. PORTER, Jr.  
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC       

Astec OCC       

OTHER Mr. Frank Isby

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 2929  
Order No. R-2413-A

APPLICATION OF TEXACO INC.  
FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 30, 1963, at Santa Fe, New Mexico, before Daniel S. Mutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 10th day of December, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Mutter, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That Order No. R-2413, dated January 30, 1963, authorized the applicant, Texaco Inc., to complete its State of New Mexico "O" NCT-1 Well No. 12, located in Unit J of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, as a dual completion (tubingless) to produce oil from an undesignated Glorieta pool and an undesignated Blinebry pool through parallel strings of 2 7/8-inch casing cemented in a common well bore.
- (3) That the Blinebry completion in the subject well has proven non-productive and the applicant now seeks authority to dispose of produced salt water into the Basal San Andres formation through the string of 2 7/8-inch casing authorized for Blinebry oil production by Order No. R-2413.
- (4) That approval of the subject application will prevent waste and protect correlative rights.



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CASE No. 2929  
Order No. R-2413-A

(5) That Order No. R-2413 should be amended to authorize the applicant to complete its State of New Mexico "O" NCT-1 Well No. 12, located in Unit J of Section 36, Township 17 South, Range 34 East, MNPM, Lea County, New Mexico, to produce oil from an undesignated Glorieta pool and to dispose of produced salt water into the Basal San Andres formation through parallel strings of 2 7/8-inch casing cemented in a common well bore.

IT IS THEREFORE ORDERED:

(1) That Order No. R-2413 is hereby amended to authorize the applicant, Texaco Inc., to complete its State of New Mexico "O" NCT-1 Well No. 12, located in Unit J of Section 36, Township 17 South, Range 34 East, MNPM, Lea County, New Mexico, to produce oil from an undesignated Glorieta pool and to dispose of produced salt water into the Basal San Andres formation below 5300 feet through parallel strings of 2 7/8-inch casing cemented in a common well bore.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

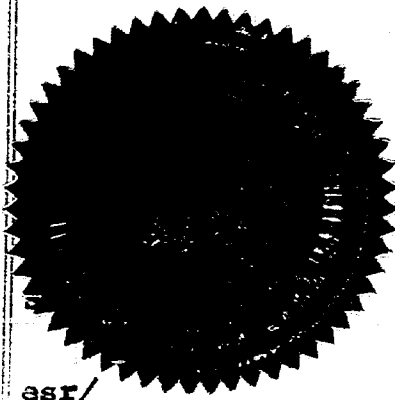
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Jack M. Campbell*  
JACK M. CAMPBELL, Chairman

*E. S. Walker*  
E. S. WALKER, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Member & Secretary



SSR/

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
October 30, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Basal-San Andres formation through its State of New Mexico "O" NCT-1 Well No. 12 located in Unit J of Section 36, Township 17 South, Range 34 East, Vacuum Field, Lea County, New Mexico.

Case No. 2929

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

SAN ANTONIO, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 983-3971

ALBUQUERQUE, N. M.  
PHONE 243-6691

MR. NUTTER: We will call Case 2929.

MR. DURRETT: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico.

MR. WHITE: May the record show the same appearance and the same witness and that he has been sworn.

MR. NUTTER: The record will.

C. R. BLACK,

called as a witness, having been previously sworn, testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Black, will you state what Texaco seeks by this application?

A This is the application for a salt water disposal well to be dually completed as a salt water disposal well and a Glorieta oil production well. It's the State of New Mexico "O" Well Number 12, and it's also located in the Vacuum multi-pay area in Lea County, New Mexico.

Q What is the reason for this matter being set for hearing?

A This application is for injection into an interval that is productive of oil or gas. I would like to take this opportunity to explain to the Commission that our original application submitted on September 30th was for administrative approval by injection into a zone not productive of oil or gas.

After reviewing this application which was submitted by our

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District Office, it was my opinion that the application was filed in error and it should have been filed and set for hearing as it has been done by the Commission. I am in agreement with the fact that a hearing was necessary. The reason that it was filed like this, for your information, is that we have drilled several wells in this area and penetrated a zone that our geological department is calling the Basal San Andres.

This zone in some areas is productive where you might have two areas of production within the San Andres formation. We had no evidence to support the fact that there even was production, or production would occur in this zone. So, it was filed though as a Basal San Andres salt water injection well, but in view of the fact the Commission does not recognize this zone as being separate from the San Andres Zone, and has not been set up as a separate zone or field by the Commission, it was my feeling and apparently the Commission's feeling that it was a part of the Vacuum-San Andres field and should be treated as such. That was the reason it has been set for hearing.

Q What is the status of the well at the present time?

A At the present time we have a top allowable Glorieta well producing 52 barrels of oil per day and we're waiting on approval before converting the well to salt water disposal.

Q What approvals have you obtained from the Commission?

A Case 2731 heard on January 23, 1963 resulted in Order R-2413, dated January 30th and it approved a dual completion in

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the Vacuum-Glorieta and Vacuum-Blinebry Pools. Our salt water disposal application, as I have previously said, was submitted on September 30th.

(Whereupon, Applicant's Exhibit No. 1 marked for identification.)

Q Will you refer to your ownership plat, Exhibit No. 1 and explain that, please?

A Exhibit No. 1 is an ownership plat showing the Texaco State of New Mexico "O" Lease bordered in yellow and the subject well circled in red. The actual footage location of this well is 1,800 feet from the south and east lines of Section 36, Township 17 South, Range 34 East, Lea County, New Mexico.

(Whereupon, Applicant's Exhibit No. 2 marked for identification.)

Q Will you explain your diagramatic sketch, Exhibit 2?

A Exhibit 2 is a diagramatic sketch of the proposed installation. We drilled an 11-inch hole to a total depth of 1,597 feet and at that point we set 8 5/8 inch surface casing and circulated cement to the surface. This string of casing was set in a dense, hard anhydrite stringer, which is found on top of the zone in here that's called salt and anhydrite.

We continued to a total depth of 6,920 with a 7 -7/8 inch hole and at that point we set two strings of 2 7/8 inch casing, one at 6,919 and one at 6,918.

We cemented these two strings with a total of 900 sacks of cement; 500 sacks of this cement was 18 percent gel with 3 pounds

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of salt per gallon. The reason that we followed this procedure is that we have been experiencing difficulty and we have not been able to circulate cement back up into the intermediate on some of these wells because of this, or back up into the surface casing because of the salt section in this area. We are attempting to lighten the slurry and add salt to the cement in an effort to bring it up through the salt section.

We followed the 500 sacks of 18 percent with 400 sacks of two percent gel. We ran a temperature survey and found the top of the two percent at 5,450, and the top of the 18 percent gel at 1,852; so we were some 300 feet or 250 feet shy of the surface casing. Now, the formation that is exposed from 15,97 to 1,852 is salt and anhydrite and we encountered no water in this interval.

We then attempted completions in the Blinbry but we were unable to complete it, and it is shut in at this time. It will be squeezed with cement if this application is approved.

We perforated the Glorieta from 5,945 to 5,949, and on January the 11th we completed a top allowable well flowing 82 barrels of oil in eight hours, with no water; had a tubing pressure of 300 pounds and produced through 1964 inch choke. We propose to perforate the Basal San Andres section from 5,606 to 5,638, and we will use that interval as our salt water disposal interval.

(Whereupon, Applicant's Exhibit No. 3 marked for identification.)

Q Will you explain Exhibit 3, please?



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A Exhibit 3 is two cross sections shown on the same exhibit. Basically they are a north-south and an east-west cross section through the subject well. Referring to what has been marked Cross Section AA-Prime, the uppermost cross section, it begins, the trend of this cross section is shown by the insert map; it begins with the Continental "H" 35 Lease, Well No. 8; it extends then into the Texaco State of New Mexico "O" Well No. 20, down to the Amerada VB Well No. 2, then into the subject well and on east to the State of New Mexico Well No. 18 and finally into the Shell State "A" Well No. 5, some one and a half miles east of the subject well.

On this cross section the red line indicates the top of the San Andres formation. The green line shown at the depth of a minus 1,016 feet is the top of an interval that was drillstem tested in the San Andres in our State of New Mexico NCT Well 17. This is shown more clearly in the cross section designated BB-Prime on the lower portion of the exhibit. We drillstem tested this interval and recovered all sulphur water, so we have shown this line to indicate what we feel would be the lowest possible oil-water contact for the San Andres formation.

I would like to call your attention to the insert map and the well circled in red, located in the southwest quarter-southwest quarter of Section 30. This is the Texaco State of New Mexico "N" Well No. 1. It was originally completed in the San Andres at a subsea depth of minus 850. It produced water on





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initial completion and was plugged back to minus 750. It is at the present time and has been water free since that time. We actually feel that the oil-water contact is somewhere between a minus 750 and a minus 850, and that the lowest possible contact would be the top of this interval we drillstem tested, and it would be at a minus 1,016.

The proposed injection interval is shown shaded in blue and it should be noted in the State of New Mexico "O" Well No. 20 that we had a drillstem test over this interval and this interval in this drillstem test the tool was open one hour, we recovered 90 feet of sulphur water with no shows of oil or gas whatsoever. The initial shut-in pressure and flowing pressure are shown on the exhibit. So, this indicates that this zone is water productive at that point.

I might at this time comment that if the application is approved for salt water disposal when we perforate this zone we will acidize it with 500 gallons and then test it to satisfy our geological department and ourselves as to whether or not it could be productive of oil. If it was a productive well, then the question would arise and it would be a different matter as to whether or not it would be separate from the San Andres reservoir.

Referring then to cross section BB-Prime, it shows basically the same thing as AA-Prime, except it is a north-south cross section, generally. It begins with the Marathon McAllister Well No. 8, then into the Tidewater Getty "F" Well No. 7, down to the



subject well on south to the Texaco "L" No. 6, and then southwestward to the Texaco State of New Mexico "R" No. 7. This was the well that we drillstem tested the San Andres in the upper portion of the San Andres.

It should be noted that the subject well is the highest point structural in this area for this Basal-San Andres. so if oil is to accumulate in this zone and if it is separate from the rest of the San Andres, it would accumulate at this point and we would get an indication of it when we do perforate this interval.

Q The zone in which you propose to inject the salt water is, however, below the oil-water contact?

A It's a minimum of 580 feet and it could possibly be 750 to 850 feet below the oil-water contact.

Q In your application the proposed injection interval was 5,606 -5,636, which would be 30 feet. At this time, would you like to request the examiner to extend that interval from 5,606 to 5,300, and if so, why and what justification would you have?

A Yes, sir, we would. The notice of hearing does not specify for the age of the injection interval. In looking at the log of the No. 12, it can be seen that there is some fairly good porosity from, say, 5,300 to 5,500 feet. We don't anticipate any problems in injecting into this zone. However, if, for some reason remote we encounter higher pressures and we think it desirable to maintain injection with, and also if we needed more injective capacity, we would want to perforate additional zones up the hole.

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In order to eliminate the necessity of a further hearing and amending the application, we would at this time, if the Commission feels that the notice of hearing is sufficiently broad, we would like to receive approval to inject into the interval from 5,300 to 5,638.

Q That could be done administratively then?

A Then all that would be necessary for us to do would be perforate additional interval and file the necessary form C102 with the Commission, indicating that we had performed some additional work on this well. It would not then be necessary to come on back for another hearing if for some reason we wanted to come up the hole with additional injection zones.

Q What is the deepest fresh water in the area?

A We have reviewed the fresh water wells completed in this area and we find that the deepest zone productive of fresh water is 135 feet deep.

Q Do you feel that this fresh water is adequately protected and that the proposed injection well will pose no hazard to fresh water?

A Yes, I do. The 8 5/8 is set at 1,597 feet, which is well below the fresh water. Cement was circulated to the surface and we feel that this application, or this system would pose no hazard whatsoever to the fresh water in this area.

Q What volumes of water do you intend to dispose of?

A At the present time we have approximately 400 barrels



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of water per day and the maximum we expect into this well would be 1,000 barrels per day.

Q Under what pressures?

A We expect pressures will not exceed 800 psi.

Q What type of system do you intend to use?

A It will initially be an open system.

Q Will any treatment of the water be necessary?

A Not initially, we will not conduct any treating of the water.

Q Will a coupon survey be conducted from time to time?

A Yes, sir, we will insert corrosion coupons into the injection system, and periodically review these to determine if excessive corrosion is occurring.

Q Does that conclude your testimony?

A Yes, it does.

Q Were these exhibits prepared by you or under your direction?

A Yes, sir, they were.

MR. WHITE: At this time we offer Exhibits 1 through 3.

MR. NUTTER: Applicant's Exhibits 1 through 3 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 3 were admitted in evidence.)

MR. WHITE: That concludes our testimony.

MR. NUTTER: Does anyone have any questions?



MR. IRBY: I have one.

MR. NUTTER: Mr. Irby.

CROSS EXAMINATION

BY MR. IRBY:

Q You say the surface casing is set into a dense anhydrite string, immediately above the salt section. Can you tell me how thick that salt section is, roughly?

A We found in this area that that on top of the salt section there is usual and normally occurs a dense anhydrite stringer of maybe 25 to 40 feet thick, and then once you get below this stringer, you go into a series of alternating salt sections, and anhydrite with anhydrite streaks. There's no real point to set your surface casing below this and set it in a dense zone. We have found in some of the wells in this area that the salt section extends down to twenty-three to twenty-four hundred feet. So, it is a relatively thick salt section in this area.

Q Then you would expect the salt section to extend down to that 18 percent gel cement or below?

A Yes, sir. It would extend on down to the top of that; cement is at 1,852 and the base of the salt in this well is approximately twenty-three, twenty-four hundred feet, or in this area.

MR. IRBY: That's all.

BY MR. NUTTER:

Q Mr. Black, these wells that are shown on these two cross-

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sections that you have, what formations are they completed in?  
Are some of these San Andres producers?

A No, all of these are the deeper wells, because the San Andres producers in this area didn't actually penetrate this lower San Andres section. I might say that the average, with the exception of the Texaco "N" No. 1, the average depth of completion in the San Andres for the wells within a mile radius of here, of this subject well, is a minus 675 to a minus 725. We have reviewed the completion in each of those wells and with the exception of the "N" No. 1, none of them are below a minus 750 feet.

Q None below 750?

A Yes.

Q That's within two miles?

A That's within a mile radius of this well.

Q And the range of them is from minus 675?

A Minus 675, that would be the average range. Some are higher.

Q In every case then that would be above the green line which you have drawn across the cross section?

A Yes, sir, it would be well above. The average would be 275 to 350 feet above the green line which we feel would be the lowest possible oil-water contact, and actually the oil-water contact is somewhere between minus 750 and minus 850.

Q Well, the productive interval in the San Andres then on this subject well that you are proposing to dispose of salt



water would be from approximately maybe about a 4625 or 30.

A I think we can get ---

Q Down to a 4930, maybe?

A I think we can get a little better estimate of that.

The No. 6 well, if you'll refer to Exhibit No. 1, or I believe it is shown on the insert on the cross section, the No. 6 well on the State of New Mexico "O" Lease is a San Andres completion. The lowest point of the completed interval in that well is a minus 723.

Q A minus 723 on the No. 6?

A Yes. And which is a twin to this No. 12.

Q In the same 40-acre tract?

A Yes, sir. So in that area we would be injecting into an interval that's approximately 800 to 850 feet below the producing interval of the San Andres.

MR. NUTTER: Are there anymore questions? Mr. Durrett.

MR. DURRETT: Yes, sir, I have one.

BY MR. DURRETT:

Q I might have just missed this. Would you give me again your proposed injection interval as amended now?

A As amended?

Q The one that you proposed.

MR. WHITE: From 5606.

A It would be from 5,300 to 5,638.

MR. NUTTER: They originally asked for 5,606 to 5,638.

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A Yes, sir. I would like to state that we intend to perforate only that interval at this time, but if some circumstances arose, such as we needed additional, we felt we needed additional injective capacity, we would come up the hole and perforate this porosity.

MR. NUTTER: Up no higher than 5,300?

A No, no higher.

Q (By Mr. Durrett) Is this proposed interval part of the San Andres formation?

A Yes, sir, it is. As far as Basal-San Andres, it has not been officially defined by the Commission and has not been designated as a separate zone, so it's all part of the San Andres formation.

Q Will you give the order number again that approved the original dual?

A Order 2413 dated January 30, 1963.

MR. DURRETT: Thank you.

MR. NUTTER: Any other questions of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. White?

MR. WHITE: Nothing.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2929? We will take the case under advisement.

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STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) ss.

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 18th day of November, 1963.

*Ada Dearnley*  
Notary Public - Court Reporter

My Commission Expires:  
June 19, 1967

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing of Case No. 2929 heard by me on 10/30, 1963.

*Asst. Sec.*, Examiner  
New Mexico Oil Conservation Commission

