

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR <b>SOMTO PETROLEUM COMPANY</b>		ADDRESS <b>Box 3167, Midland, Texas 79701</b>	
LEASE NAME <b>Phillips Lea</b>	WELL NO. <b>4 SWD</b>	FIELD <b>Vacuum Grayburg San Andres</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>M</b> ; WELL IS LOCATED <b>330</b> FEET FROM THE <b>South</b> LINE AND <b>330</b> FEET FROM THE <b>West</b> LINE, SECTION <b>31</b> TOWNSHIP <b>17S</b> RANGE <b>34E</b> NMPM.			
<b>CASING AND TUBING DATA</b>			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING <b>Current</b>	<b>8 5/8</b>	<b>319</b>	<b>132</b>
INTERMEDIATE	<b>None</b>		
LONG STRING <b>Proposed</b>	<b>4 1/2</b>	<b>4920</b>	<b>150 Sks 4% Gel Incor 150 Sks Incor 3230</b>
DEPTH			NAME, MODEL AND DEPTH OF TUBING PACKER <b>Johnston 101 @ 4880</b>
NAME OF PROPOSED INJECTION FORMATION <b>Aquifer of San Andres</b>		TOP OF FORMATION <b>4679 (Estimated)</b>	BOTTOM OF FORMATION <b>Below T.D.</b>
PERFORATION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing (PVC lined)</b>		PERFORATIONS OF OPEN HOLE? <b>Open Hole</b>	PROPOSED INTERVAL(S) OF INJECTION <b>4920 - 4995 (-813 to -888)</b>
IS THERE A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Queen test drilled by Neville G. Penrose-Hole</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH <b>(-700)</b>			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>300'</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>San Andres Pay Zone 4807</b>	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>None-Queen test was dry</b>
ANTICIPATED DAILY INJECTION VOLUME (BBL/DAY) <b>90</b>	MINIMUM <b>90</b>	MAXIMUM <b>330</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>
IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Pressure</b>		APPROX. PRESSURE (PSI) <b>30 psi</b>	
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -- <b>Yes</b>		WATER TO BE DISPOSED OF <b>San Andres</b>	NATURAL WATER IN DISPOSAL ZONE <b>San Andres</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Scarbauer Cattle Company, 111 South Loraine St., Midland, Texas 79701</b>		ARE WATER ANALYSES ATTACHED? <b>Yes</b>	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
<b>El Chorro Exploration, Inc., Citizens National Bank Bldg., Abilene, Texas 79603</b>			
<b>Kincaid and Watson, Box 498, Artesia, New Mexico 88210</b>			
<b>Atlantic Richfield Company, Box 1710, Hobbs, New Mexico 88240</b>			
<b>Phillips Petroleum Company, Phillips Building, 4th &amp; Washington, Odessa, Texas 79760</b>			
<b>Cities Service Oil Company, Box 69, Hobbs, New Mexico 88240</b>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>	SURFACE OWNER <b>Yes</b>	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>	THE NEW MEXICO STATE ENGINEER <b>Yes</b>
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>	PLAT OF AREA <b>Yes</b>	ELECTRICAL LOG <b>No (Will submit after deepening)</b>	DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

District Superintendent

October 21, 1969

(Signature) A. K. Hood

(Title)

(Date)

NOTE: Should raters from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

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LONG STRING <b>Proposed</b>	<b>4 1/2</b>	<b>4920</b>	<b>150 Sks 4% Gel Incor 150 Sks Incor 3230</b>
TUBING <b>Proposed</b>	<b>2 3/8</b>	<b>4880</b>	<b>Johnston 101 @ 4880</b>
NAME OF PROPOSED INJECTION FORMATION <b>Aquifer of San Andres</b>		TOP OF FORMATION <b>4679 (Estimated)</b>	BOTTOM OF FORMATION <b>Below T.D.</b>
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APPROX. PRESSURE (PSI) <b>30 psi</b>		ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - <b>Yes</b>	
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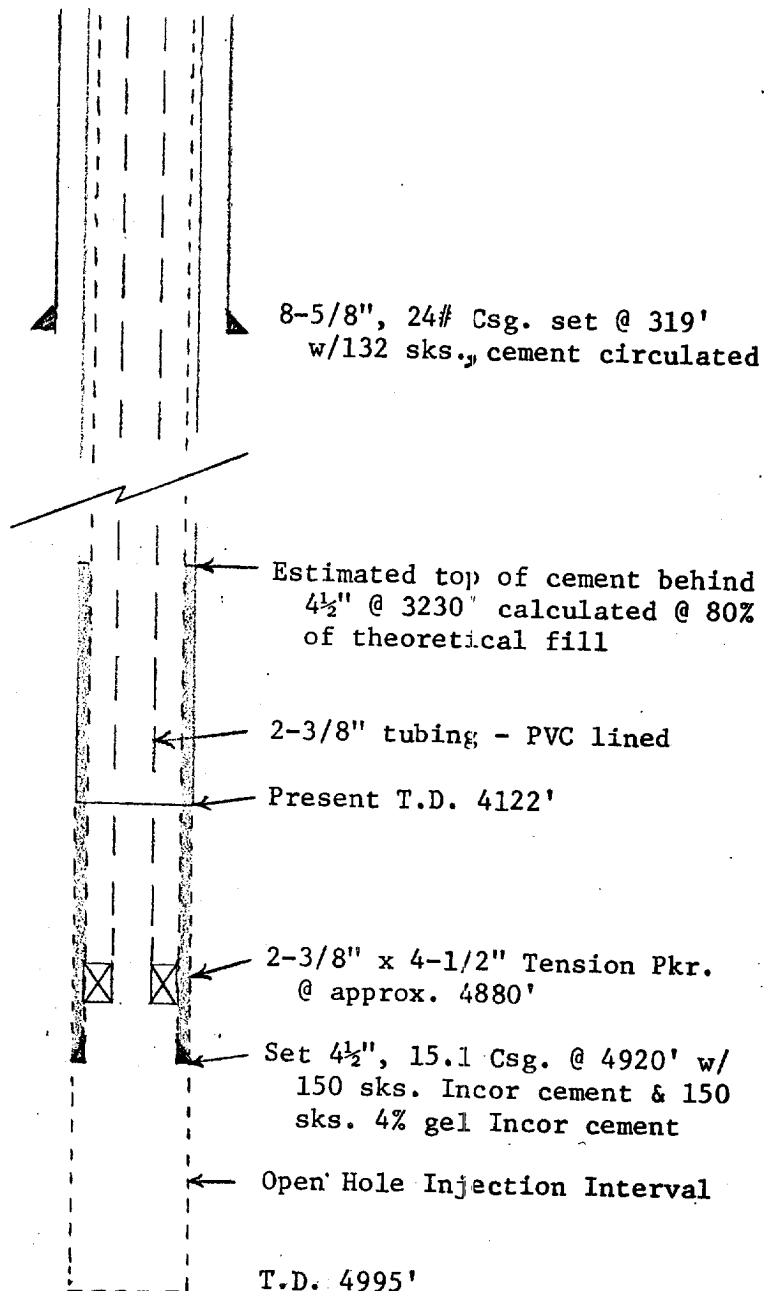
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

(Signature) **A. K. Hood**District Superintendent  
(Title)October 21, 1969  
(Date)

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SOHIO PETROLEUM COMPANY  
 Phillips Lea #4 (SWD)  
 Diagrammatic Sketch  
 of Proposed Completion

October 21, 1969



HALLIBURTON DIVISION LABORATORY  
HALLIBURTON COMPANY  
MIDLAND DIVISION

LABORATORY WATER ANALYSIS

No. 10-23-69

To Public, Petroleum Service

Date 9-27-69

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by \_\_\_\_\_ Date Rec. 9-15-69

Well No. Shirley Lee 75 Depth \_\_\_\_\_ Formation San Andre

County Lee Field Vacuna Source \_\_\_\_\_

Resistivity	<u>.047 @ 76 F.</u>		
Specific Gravity	<u>1.138</u>		
pH	<u>6.6</u>		
Calcium (Ca)	<u>2,500</u>		*MPL
Magnesium (Mg)	<u>1,320</u>		
Chlorides (Cl)	<u>100,000</u>		
Sulfates (SO <sub>4</sub> )	<u>2,000</u>		
Bicarbonates (HCO <sub>3</sub> )	<u>925</u>		
Soluble Iron (Fe)	<u>111</u>		

Remarks: From upper set of perforations

\*Milligrams per liter

Respectfully submitted,

Analyst: W. J. L. L.  
cc: \_\_\_\_\_

HALLIBURTON COMPANY

By

Frank White  
DIVISION CHEMIST

NOTICE

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to act or omission, resulting from such report or its use.

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5-27-66

Date Received

Confirmed San Antonio

Depth Formation

Water

Well & Lease Phillips State #1

Location Field Source

Specific gravity 60/60 76.2 1.132

Color, filtrate Clear

pH 7.2

Resistivity 0.060

Chlorides, Cl 134,400 ppm (mpl) 135,900

Sulfates, SO<sub>4</sub> 250

Alkalinity, HCO<sub>3</sub> 885

Calcium, Ca 4,000

Magnesium, Mg 680

Iron, Fe Nil

Sodium, Na<sup>+</sup> ND

Sulfides, H<sub>2</sub>S Trace

Remarks

ppm equals Parts per million uncorrected or milligrams per liter  
\* includes Potassium as Na.

Laboratory Analyst

Whitfield

cc: Mr. L. G. Moffatt

Respectfully submitted

HALLIBURTON COMPANY

By

F. D. Whitfield

Field Chemist

## NOTICE

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By

Frank Whitfield  
DIVISION CHEMIST

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OWDD  
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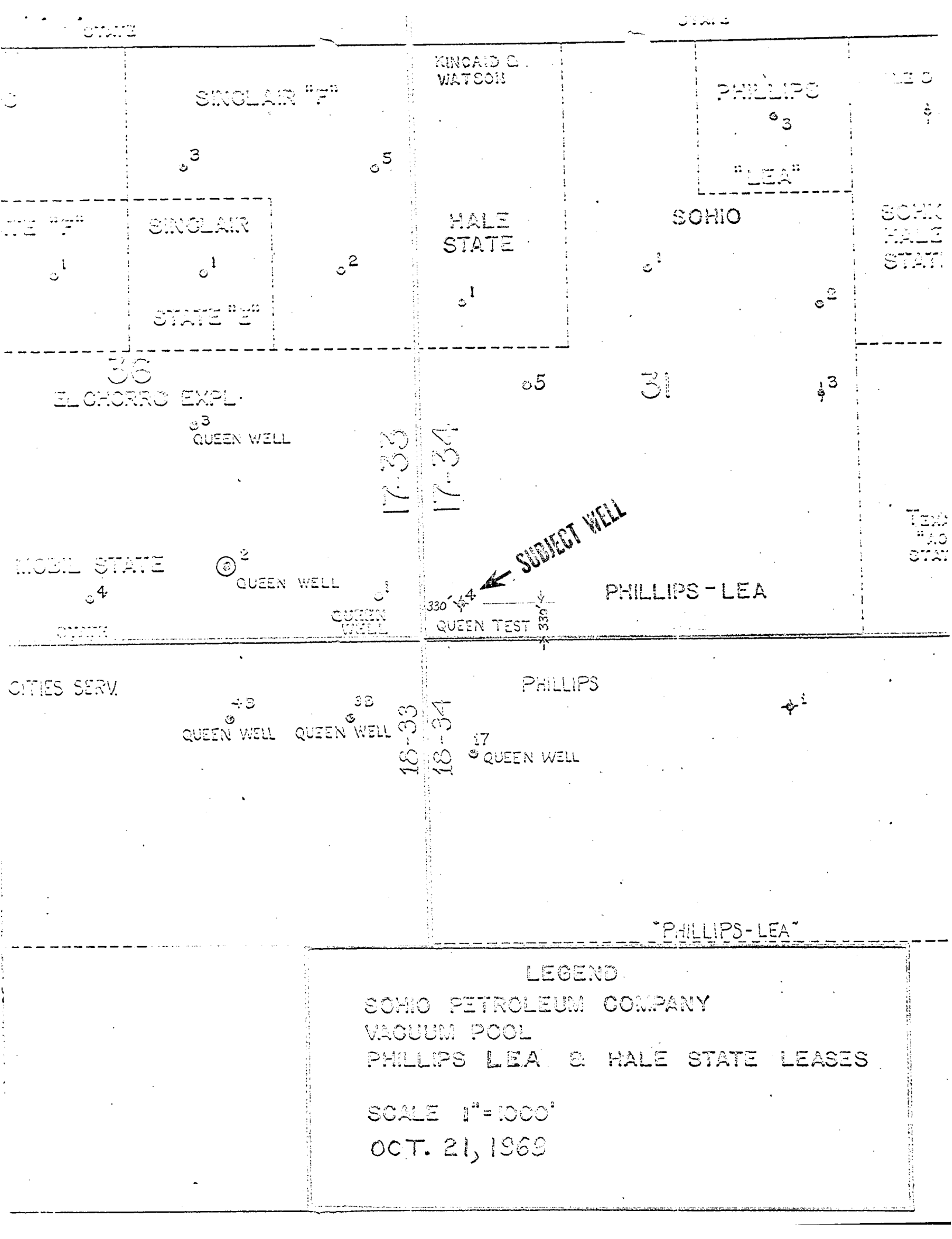
COUNTY	LEA-	FIELD	Vacuum	STATE	NM	MN	
OPR	SOHIO PET. CO.						
	WD-4 Phillips Lea						
	Sec 31, T-17-S, R-34-E						CO-ORD
	330' FSL, 330' FWL of Sec.						
	Re-Spd 1-3-70						
	Re-Cmp 1-28-70						
		FORMATION	DATUM	FORMATION	DATUM		
CSG & SX - TUBING 8 5/8" at 319' w/250 sx 4 1/2" at 4920' w/200 sx.							
LOGS	EL	GR	RA	IND	HC	A	
							TD 4995'

(San Andres) OH 4920-95' WATER DISPOSAL WELL.

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CONT.	PROP DEPTH	4995'	TYPE	RT
DATE				

	F.R. 10-28-69; WATER DISPOSAL WELL
	PD 4995' RT (San Andres)
	(Orig. Neville C. Penrose, P&A 10-16-61, OTD 4122')
1-7-70	Drlg. 4380'
1-14-70	TD 4995'; WOC
	Deepened from 4122' to 4995'
	Ran 4 1/2" Casing
1-21-70	TD 4995'; Complete
	Acid (4920-95') 2000 gals
2-2-70	TD 4995'; COMPLETE
2-5-70	COMPLETION REPORTED



STATE

STATE

KINCAID C.  
WATSON

SINGLAKR "F"

PHILLIPS

LEA

"LEA"

TE "F"

SINGLAKR

HALE  
STATE

SOHIO

SOHIO  
HALE  
STATE

STATE "E"

36  
EL CHORRO EXPL.

3  
QUEEN WELL

17-33

17-34

MOBIL STATE

2  
QUEEN WELL

SUBJECT WELL

PHILLIPS - LEA

TEXAS  
"AS  
STATE

330' 1/4  
QUEEN TEST 330' 1/4

CITIES SERV.

43  
QUEEN WELL

38  
QUEEN WELL

18-33

18-34

PHILLIPS

17  
QUEEN WELL

"PHILLIPS-LEA"

LEGEND

SOHIO PETROLEUM COMPANY

VACUUM POOL

PHILLIPS LEA & HALE STATE LEASES

SCALE 1"=1000'

OCT. 21, 1969