STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Phillips Petroleum Company

Address: 4001 Penbrook Street, Odessa, Texas 79762

Contact party: L. M. Sanders Phone: 915/367-1488

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: W. J. Mueller Title Engineering Supervisor, Reserv.

Signature: W. J. Mueller Date: November 4, 1986

* 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. See attachment Item X.

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

III. WELL DATA

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

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

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

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells:

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

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

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

Lambirth No. 7 - Application for Authorization to Inject

III. Well Data.

A. 1. Lambirth "A" Lease
Well No. 7
660' FNL & 1980' FEL, Section 30,
T-5-S, R-33-E NMPM

2. Surface casing: 8-5/8" OD, 24#/ft, K-55 @ 1,927'. Cemented with 800 sacks, cement circulated to surface.

Production casing: 5-1/2" OD, 15.5#/ft, K-55 @ 3,090'. 7-7/8" hole, cemented with 550 sacks, TOC will be determined by Temperature Survey if cement does not circulate to surface.

3. Injection tubing: 2-7/8" OD, 6.5#/ft, J-55 @ 3,080', plastic coated.

4. Injection packer: Baker Model TSN (or equivalent) @ 3,080'.

B. Other Data

1. Injection Formation: San Andres

2. Injection Interval: 3,090' - 4,290', open hole

3. Well was originally drilled for production, well was a "dry hole."

4. Additional perforated intervals: 7,650' - 7,658'
7,796' - 7,800'
5-1/2" casing was cut and pulled above 5,800'.

Plugs were set as follows:
CIBP @ 7,780' w/ 10' cement on top
CIBP @ 7,560' w/ 35' cement on top
25 sx cmnt plug 7,140' - 7,240'
25 sx cmnt plug 6,466' - 6,566'
35 sx cmnt plug 5,750' - 5,850'
35 sx cmnt plug 4,290' - 4,390'

5. Uppermost hydrocarbon bearing zone in the area is the Cisco @ 7,560'.

VI. Wells within the Area of Interest which penetrate the proposed injection zone.

Operator	Amoco
Lease	Swearingen A
Well Number	1
Location	1650' FSL & 1908' FEL, Section 19 T-5-S, R-33-E NMPM
Date Drilled	2/22/72
Type of well	Gas
Total Depth	8,221'
Surface Casing	13-3/8" set to 345' with 400 sx cmnt
Intermediate Casing	8-5/8" set to 3452' with 800 sx cmnt
Production Casing	5-1/2" set to 8075' with 470 sx cmnt
Perforations	7,705' - 7,720'
Field	Peterson Penn (Associated)

VII. Proposed Operation.

1. Injection rates: Average 1300 BWPD
   Maximum 1800 BWPD

2. Closed system

3. Injection pressure: Average 595 psig
   Maximum 595 psig

4. Injection fluid: Produced water from Pennsylvanian age formations. Attached are produced water analysis from the Phillips - Lambirth "A" #1 and Lambirth "A" #5 showing typical produced water properties.

5. Injection zone water analysis:
   The San Andres is not hydrocarbon productive in the area and a water sample is not available for analysis. An analysis of San Andres water from the Phillips - Davis "N" #1 is attached. This is a representative San Andres water analysis from the Chaveroo (San Andres) Poll located approximately 14 miles south of Lambirth #7.

VIII. Geological Description.

The San Andres Formation consists of 1,333' of interbedded dolomites and anhydrites from 3,084' to 4,417'. Some of the dolomites are porous and water wet. There is potential for surface recharged fresh water from the surface to the bottom of the Triassic Red Beds at 1,840'. No other potable water exists above or below the salt water disposal zone.

IX. Proposed stimulation program.

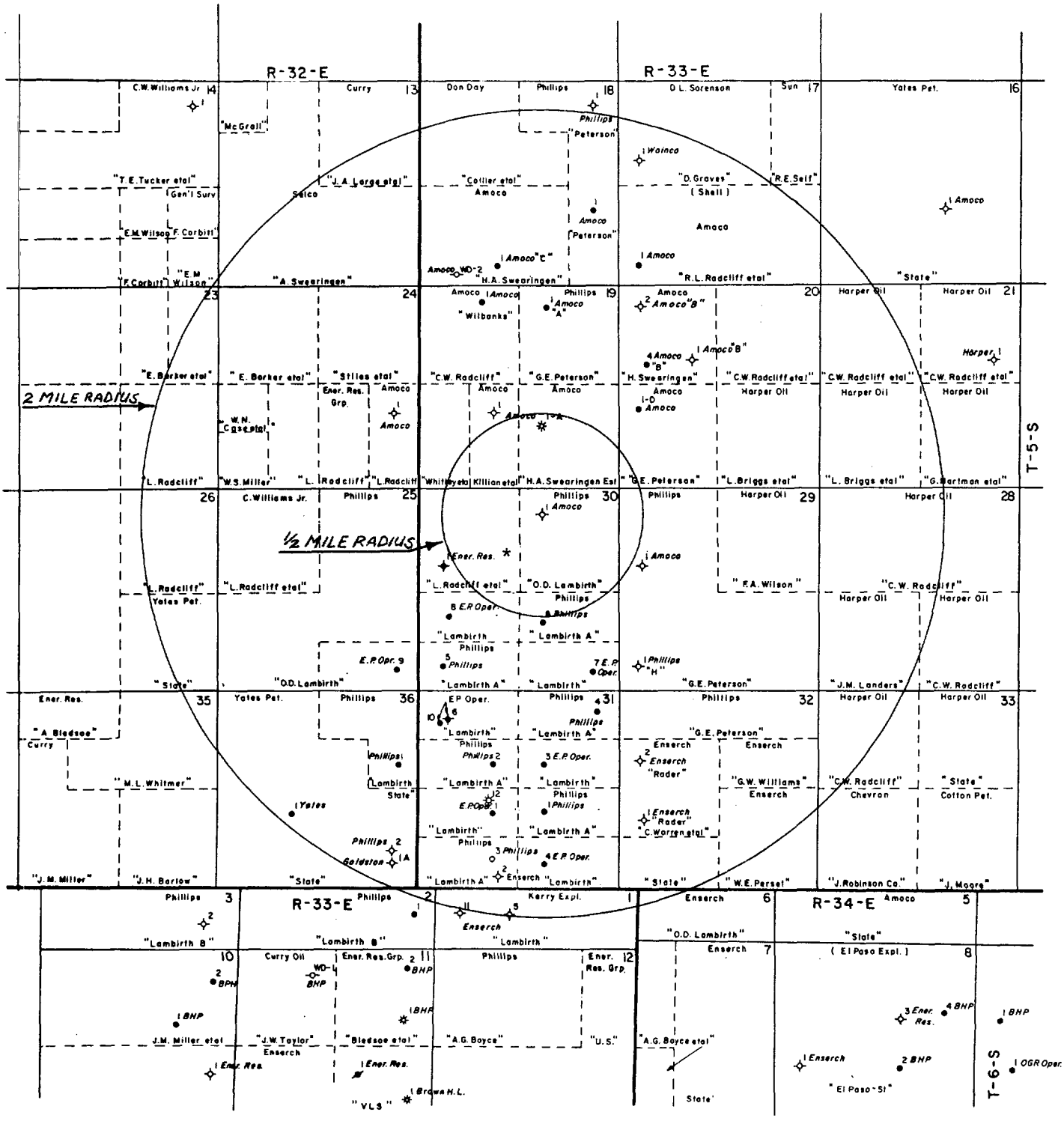
The San Andres open hole interval will be acidized with 7,500 gallons of 20% NEFe HCl acid in three stages using 600 lbs graded rock salt as the diverter. Maximum surface treating pressure will be 3000 psi at maximum 4 BPM rate. If necessary, the well will then be fracture treated with 121,000 gallons of crosslinked, gelled 2% KCl water carrying 60,000 lbs of 20/40 mesh sand and 196,000 lbs of 12/20 mesh sand. Five hundred lbs of graded rock salt will be used as the diverter. Maximum surface treating pressure will be 4000 psi at maximum 30 BPM rate.

X. Logs on well were filed after well was drilled in 1972 under the name Amoco - Lambirth Gas Com. #1.

XII. There is no evidence of faulting in the area at depths less than 7000'. All wells within the Area of Review have been properly cased, cemented, or plugged. Therefore, there is no evidence of any hydrologic connection between the disposal zone and any underground source of drinking water.

AP/sdb
REG3.1/inject4

Attachments

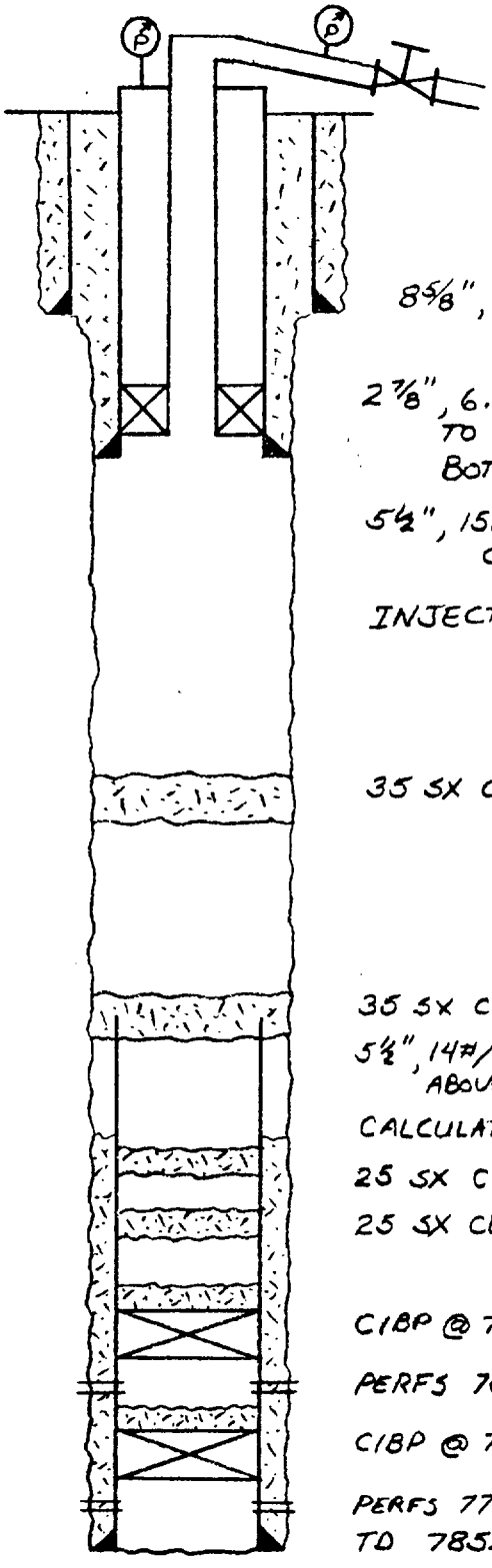


*Changed to E. P. Operating Co.

PHILLIPS PETROLEUM CO.
ROOSEVELT CO. NEW MEXICO
Area of Review Lambirth SWD Well
South Peterson Field

0 2000' 4000'
SCALE

ITEM V.



8 5/8", 24#/FT, K-55 SURFACE CASING @ 1927', TOP OF CEMENT AT SURFACE (800 SX)

2 7/8", 6.5#/FT, J-55 PLASTIC COATED INJECTION TUBING SET TO 3080' WITH BAKER TSN INJECTION PACKER ON BOTTOM

5 1/2", 15.5#/FT, K-55 PRODUCTION CASING @ 3090', TOP OF CEMENT AT SURFACE (550 SX), HOLE SIZE 7 7/8"

INJECTION INTERVAL: SAN ANDRES 3090'-4290' (OPEN HOLE)

35 SX CEMENT PLUG 4290'-4390'

35 SX CEMENT PLUG 5750'-5850'

5 1/2", 14#/FT - 17#/FT, K-55 CASING @ 7852', CUT AND PULLED ABOVE 5800'

CALCULATED T.O.C. OUTSIDE 5 1/2" CSG @ 6300'

25 SX CEMENT PLUG 6466'-6566'

25 SX CEMENT PLUG 7140'-7240'

CIBP @ 7560' W/35' CEMENT ON TOP

PERFS 7650'-7658'

CIBP @ 7780' W/10' CEMENT ON TOP

PERFS 7796'-7800'

TD 7852'

PROPOSED INJECTION WELL SCHEMATIC

NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS	PHILLIPS PETROLEUM COMPANY	JA NO.	FILE CODE
FOR APPR	BARTLESVILLE, OKLAHOMA	AFE NO.	SCALE NONE
FOR CONST	LAMBIRTH "A" No. 7	DWG NO.	
DRAWN 10/24/86 JCC	660' FNL & 1980' FEL, SECTION 30, T-5-S, R-33-E NMPM	SH NO.	
CHECKED	ROOSEVELT COUNTY, NEW MEXICO		
APP'D			

FORM 1779-S 8-81

1342-A

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W79-215

To Phillips Petroleum Company

Box 1178

Lovington, New Mexico

Date 2-28-79

Submitted by _____ Date Rec. 2-28-79

Well No. Lambirth "A" #1 Depth 7970' Formation Fusselman

County Roosevelt Field Peterson Source Heater Treater

Resistivity	0.103 @ 74°F.		
Specific Gravity	1.069		
pH	6.4		
Calcium (Ca)	3,350		*MPL
Magnesium (Mg)	3,000		
Chlorides (Cl)	59,000		
Sulfates (SO_4)	1,600		
Bicarbonates (HCO_3)	855		
Soluble Iron (Fe)	70		

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

cc:

HALLIBURTON COMPANY

By W. L. Brewer
CHEMIST

ITEM VII.

1342-A

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W80-320

To Phillips Petroleum Company

Box 1178

Lovington, New Mexico

Date 3-27-80

Submitted by _____ Date Rec. 3-27-80

Well No. Lambirth A #5 Depth As Marked Formation Penn

County Lea Field S. Peterson Source Swab

	7664-7748	7744-7748		
Resistivity	0.081 @ 70°F.	0.100 @ 70°F.		
Specific Gravity	1.076	1.061		
pH	6.2	5.7		
Calcium (Ca)	8,000	8,500		*MPL
Magnesium (Mg)	2,220	1,800		
Chlorides (Cl)	65,000	50,000		
Sulfates (SO_4)	900	850		
Bicarbonates (HCO_3)	315	855		
Soluble Iron (Fe)	60	80		

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

HALLIBURTON COMPANY

By W. L. Brewer
CHEMIST

cc:

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.

ITEM VII

HALLIBURTON COMPANY
MIDLAND DIVISION
LOVINGTON, NEW MEXICO 88260

(No. Book)

LABORATORY WATER ANALYSIS

No. 476-119

To Phillips Petroleum Company

Box 1173

Lovington, New Mexico

Date 2-10-76

Submitted by _____ Date Rec. 2-10-76

Well No. Davis N #1 Depth _____ Formation San Andres

County _____ Field Chaveroo Source _____

Resistivity	0.052 @ 75° F.			
Specific Gravity	1.145			
pH	6.5			
Calcium (Ca)	12,200			*MPL
Magnesium (Mg)	3,360			
Chlorides (Cl)	135,000			
Sulfates (SO_4)	1,450			
Bicarbonates (HCO_3)	490			
Soluble Iron (Fe)	Nil			

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

cc:

HALLIBURTON COMPANY

By W. L. Brewer

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.

ITEM VII.

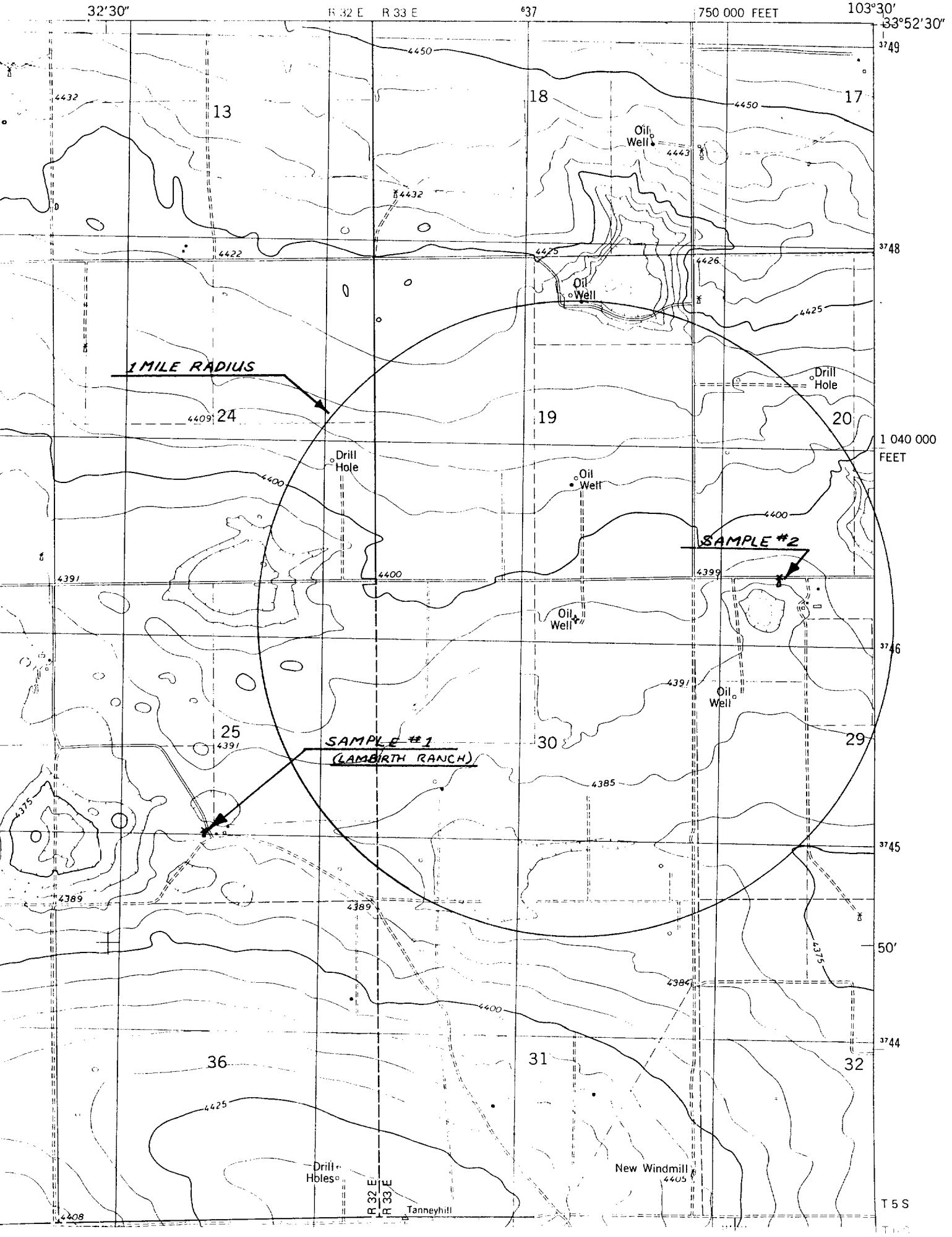
ITEM XI.

ELIDA SE QUADRANGLE

NEW MEXICO—ROOSEVELT CO.

7.5 MINUTE SERIES (TOPOGRAPHIC)

5351 IV NW (DORA NW)



PETROLITE OIL FIELD CHEMICALS GROUP
369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex 44-2417

WATER ANALYSIS REPORT

COMPANY PHILLIPS PETROLEUM CO. ADDRESS _____ DATE: 9-29-86

SOURCE SAMPLE # 2 DATE SAMPLED ?(9/26/86) JCC ANALYSIS NO. _____

Analysis	Mg/L		*Meq/L	
1. pH	7.0			
2. H_2S (Qualitative)	0			
3. Specific Gravity	1.000			
4. Dissolved Solids	698			
5. Suspended Solids	---			
6. Phenolphthalein Alkalinity ($CaCO_3$)	---			
7. Methyl Orange Alkalinity ($CaCO_3$)	100			
8. Bicarbonate (HCO_3)	122	÷61	2	HCO_3
9. Chlorides (Cl)	215	÷35.5	6	Cl
10. Sulfates (SO_4)	150	÷48	3	SO_4
11. Calcium (Ca)	80	÷20	4	Ca
12. Magnesium (Mg)	24	÷12.2	2	Mg
13. Total Hardness ($CaCO_3$)	300			
14. Total Iron (Fe)	0			
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca	HCO_3
2	Mg	SO_4
5	Na	Cl

		2
		3
		6

Compound	Equiv. Wt.	X Meq/L	= Mg/L
$Ca(HCO_3)_2$	81.04	2	162
$CaSO_4$	68.07	2	136
$CaCl_2$	55.50	0	0
$Mg(HCO_3)_2$	73.17	0	0
$MgSO_4$	60.19	1	60
$MgCl_2$	47.62	1	48
$NaHCO_3$	84.00	0	0
Na_2SO_4	71.03	0	0
NaCl	58.46	5	292

Saturation Values Distilled Water 20°C

$CaCO_3$	13 Mg/L
$CaSO_4 \cdot 2H_2O$	2,090 Mg/L
$MgCO_3$	103 Mg/L

REMARKS _____

Respectfully submitted
PETROLITE CORP.
Jayson Jones

PETROLITE OIL FIELD CHEMICALS GROUP
369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417

WATER ANALYSIS REPORT

COMPANY PHILLIPS PETROLEUM CO. ADDRESS _____ DATE: 9-29-86

SOURCE LAMBIRTH RANCH SAMPLE # 1 DATE SAMPLED ?(9/26/86) ANALYSIS NO. _____

Analysis	Mg/L		*Meq/L	
1. pH	7.0			
2. H_2S (Qualitative)	0			
3. Specific Gravity	1.000			
4. Dissolved Solids	626			
5. Suspended Solids	—			
6. Phenolphthalein Alkalinity ($CaCO_3$)	—			
7. Methyl Orange Alkalinity ($CaCO_3$)	100			
8. Bicarbonate (HCO_3)	HCO_3 122	÷61	2	HCO_3
9. Chlorides (Cl)	Cl 215	÷35.5	6	Cl
10. Sulfates (SO_4)	SO_4 100	÷48	2	SO_4
11. Calcium (Ca)	Ca 80	÷20	4	Ca
12. Magnesium (Mg)	Mg 24	÷12.2	2	Mg
13. Total Hardness ($CaCO_3$)	300			
14. Total Iron (Fe)	0			
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca ←	→ HCO_3
2	Mg →	→ SO_4
4	Na →	→ Cl

2	
2	
6	

Compound	Equiv. Wt.	X Meq/L =	Mg/L
Ca $(HCO_3)_2$	81.04	2	162
Ca SO_4	68.07	2	136
Ca Cl_2	55.50	0	0
Mg $(HCO_3)_2$	73.17	0	0
Mg SO_4	60.19	0	0
Mg Cl_2	47.62	2	95
Na HCO_3	84.00	0	0
Na_2 SO_4	71.03	0	0
Na Cl	58.46	4	233

Saturation Values Distilled Water 20°C

Ca CO_3	13 Mg/L
Ca $SO_4 \cdot 2H_2O$	2,090 Mg/L
Mg CO_3	103 Mg/L

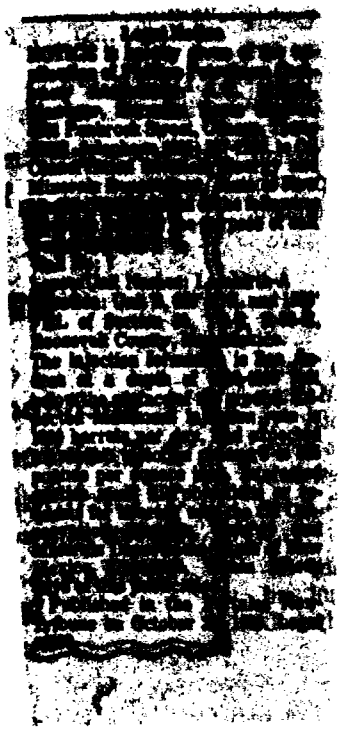
REMARKS _____

ITEM XI.

Respectfully submitted,
PETROLITE CORP.
Jayson Jones

35

Affidavit of Publication



I, Marshall Stinnett

Business Manager of

THE PORTALES NEWS-TRIBUNE

a newspaper of general paid circulation and entered under second class postal privilege in Roosevelt County, published daily, (except Saturday) at Portales, New Mexico, for the fifty-two (52) consecutive weeks preceding this date, do solemnly swear that a copy of the above notice, as per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof for 1 consecutive weeks commencing with the issue dated October 29 19 86

and ending with the issue dated October 29 19 86

All publication costs having been paid.

Marshall Stinnett

Subscribed and sworn to before me this 29th day of October 19 86

Le Mais Barnett

Notary Public

My commission expires 3/7/87 19

STATE OF NEW MEXICO

COUNTY OF Roosevelt

Before me, the undersigned authority, on this day personally appeared Marshall Stinnett (Name), the Business Manager (Title) of the Portales News-Tribune (Name of Newspaper), a newspaper having general circulation in Roosevelt County, New Mexico, who being by me duly sworn, deposes and says that the foregoing attached notice was published in said newspaper on the following date(s), to wit: October 29, 1986.

Marshall Stinnett

Subscribed and sworn to before me this the 29th day of October, 1986, to certify which witness my hand and seal of office.

Le Maris Barnett
Notary Public in and for

Roosevelt County, New Mexico

Item XIV.

Phillips Petroleum Company
Lambirth-A, Well No. 7
Section 30, T-5-S, R-33-E,
Roosevelt County, New Mexico

Offset Operators:

Amoco Production Company
Box 68
Hobbs, New Mexico 88240

E. P. Operating Company
Box 4815
Midland, Texas 79704

Surface Owner:

O. D. Lambirth Estate
South Star Route
Box 35
Elida, New Mexico 88116

PHILLIPS PETROLEUM COMPANY
EXPLORATION AND PRODUCTION GROUP
PERMIAN BASIN REGION
4001 PENBROOK
ODESSA, TEXAS 79762

CERTIFIED
P 503 931 394
MAIL

O. D. Lambirth Estate
South Star Route
Box 35
Elida, New Mexico 88116

Return Receipt Requested

PERMIAN BASIN REGION
4001 PENBROOK
ODESSA, TEXAS 79762

CERTIFIED
P 503 931 393
MAIL

E. P. Operating Company
Box 4815
Midland, Texas 79704

Return Receipt Requested

PERMIAN BASIN REGION
4001 PENBROOK
ODESSA, TEXAS 79762

CERTIFIED
P 503 931 392
MAIL

Amoco Production Company
Box 68
Hobbs, New Mexico 88240

Return Receipt Requested

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

TONEY ANAYA
GOVERNOR

November 7, 1986

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

Memo

From

DAVID CATANACH
Petroleum Engineer

To Recd call from Richard Lambirth ~ Nov. 16, 1986 objecting to the Phillips application. Hold application as per request from Phillips while they were negotiating with Lambirth.
Recd call from Harry Sanders 1-28-87 stating that they had reached an agreement with Lambirth.

DC
1-29-87

illed as Amoco Lambirth Gas Com #1
-T-R

will not make a