HINKLE, COX, EATON, COFFIELD & HENSLEY, L.L.P.

ATTORNEYS AT LAW

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NANCY L. STRATTON
TIMOTHY R. BROWN
JAMES C. MARTIN

*NOT LICENSED IN NEW MEXICO

July 2, 1996

RECEIVED

JUL 1996

Oil Conservation Division

Via Hand Delivery

Florene Davidson
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico

4579

Dear Florene:

Enclosed are an original and two copies of an application for establishment of a pressure maintenance project, together with one copy of a proposed advertisement, filed on behalf of Pogo Producing Company. Please set this matter for the July 25, 1996 Examiner hearing.

Very truly yours,

HINKLE, COX, EATON, COFFIELD & HENSLEY, L.L.P.

James Bruce

POST OFFICE BOX 10
ROSWELL, NEW MEXICO 88202
(505) 622-6510
FAX (505) 623-9332

POST OFFICE BOX 3580
MIDLAND, TEXAS 79702
(915) 683-4691
FAX (915) 683-6518

POST OFFICE BOX 9238
AMARILLO, TEXAS 79105
(806) 372-5569
FAX (806) 372-9761

POST OFFICE BOX 2043
ALBUQUERQUE, NEW MEXICO 87103
(505) 768-1500
FAX (505) 768-1529

401 W. 15TH STREET, SUITE 800
AUSTIN, TEXAS 78701
(512) 476-7137
FAX (512) 476-5431

PROPOSED ADVERTISEMENT

Case 11579: Application of Pogo Producing Company for a pressure maintenance project, Lea County, New Mexico. Applicant seeks approval to establish a pressure maintenance project in the West Red Tank-Delaware Pool within its Federal Lease NM 86149 located in the W½ of Section 26, Township 22 South, Range 32 East, N.M.P.M., by the injection of natural gas through the perforated interval from approximately 8399-8471 feet into its existing Red Tank "26" Fed. Well No. 1, located 1880 feet from the South and West lines (Unit K) of said Section 26. Said project is located approximately ____ miles _____ of _____, New Mexico.

RECEIVED
JUL 2 1996
Oil Conservation Division

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

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JUL 8 1996
Oil Conservation Division

APPLICATION OF POGO PRODUCING COMPANY FOR A PRESSURE MAINTENANCE PROJECT, LEA COUNTY, NEW MEXICO. **Case No.** 11577

APPLICATION

Pogo Producing Company hereby applies for an order establishing a pressure maintenance project, and in support thereof, states:

1. Applicant is the operator of United States Oil and Gas Lease NM 86149, which covers the W½ of Section 26, Township 22 South, Range 32 East, N.M.P.M.

2. Applicant proposes to institute a natural gas injection project for pressure maintenance and secondary recovery of oil and gas from the Delaware formation (West Red Tank-Delaware Pool), in the following manner:

(a) The Red Tank "26" Fed. Well No. 1, located 1880 feet from the South and West lines of Section 26 (Unit K), will be converted to injection. The injection interval will be 8399-8471 feet subsurface, in the Brushy Canyon member of the Delaware Mountain Group.

(b) The injection gas will be from the Red Tank "26" Fed. Well No. 8, located 500 feet from the South line and 2310 feet from the West line of Section 26 (Unit N). The producing interval of said well is 4900-4921 feet subsurface, in the Ramsey interval of the Delaware Mountain Group.

3. The injected gas will provide pressure support to offsetting wells operated by applicant.

4. Applicant requests that a project area comprising the S½NW¼ and SW¼ of Section 26 be approved, with an allowable of six times the depth bracket allowable for the West Red Tank-Delaware Pool.

5. The producing wells for said project area will be as follows:

WELL NAME	LOCATION
Red Tank "26" Fed. No. 3	1980' FNL & 330' FWL §26
Red Tank "26" Fed. No. 4	2310' FSL & 330' FWL §26
Red Tank "26" Fed. No. 5	990' FSL & 330' FWL §26
Red Tank "26" Fed. No. 7	1650' FNL & 1650' FWL §26

6. The original Form C-108 for the injection well is attached hereto.

7. Approval of this application will increase recoverable reserves within the project area, and thus is in the interests of conservation and the prevention of waste.

WHEREFORE, applicant requests that, after notice and hearing, the application be granted.

Respectfully submitted,

HINKLE, COX, EATON, COFFIELD & HENSLEY, L.L.P.

James Bruce
P. O. Box 2068
Santa Fe, New Mexico 87501
(505)982-4554

Attorneys for Pogo Producing Company

SANTA FE, NEW MEXICO 87501

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: POGO PRODUCING COMPANY

Address: P.O. BOX 10340 MIDLAND, TX 79702

Contact party: RICHARD L. WRIGHT Phone: 915/682-6822

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.).

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JUL 1996
Oil Conservation Division

*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: BILL F. HALEPESKA Title AGENT (PE)

Signature: Bill Halepeska Date: 7-1-96

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

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

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.

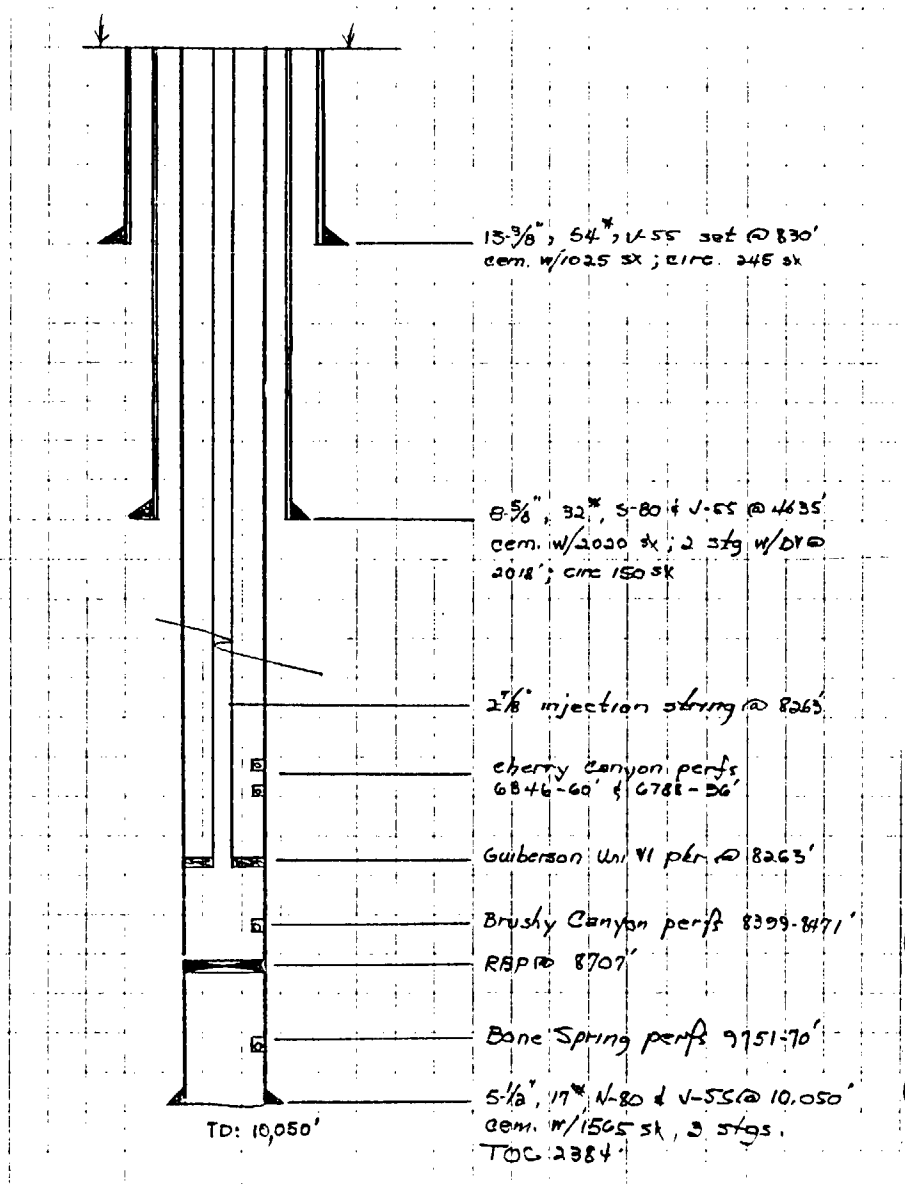
Pogo Producing Company

FORM C-108

ITEM III-A

INJECTION WELL DATA SHEET

SCHEMATIC



TABULAR DATA

(1). LEASE: Red Tank "26" Federal WELL # 1

LOCATION: Sec. 26 TWP 22-S Range 32-E

County Lea

Footage 1880' FS & WL

(2). CASING STRINGS:

Surface Casing

Size 13-3/8" Depth 830' Cemented w/ 1025 sx.

TOC Surf Determined by circ 245 sx

Hole size 17-½"

Intermediate Casing

Size 8-5/8" Depth 4635 Cemented w/ 2020 sx.

TOC Surf Determined by circ. 150 sx

Hole size 11"

Long String

Size 5½" Depth 10,050' Cemented w/ 1565 sx.

TOC 2384' Determined by CBL

Hole size 7-7/8"

Injection interval, From 8399' to 8471 ft.

(3). INJECTION TUBING STRING:

Size 2-⅞ in., coated/lined with -

Setting depth 8263 Ft.

(4) INJECTION PACKER:

Size 5½ in.; Make/Model Guiberson Uni VI

Setting depth 8263 Ft.

FORM C-108

Pogo Producing Company

ITEM III-B

INJECTION WELL DATA

(1). Injection formation: Delaware, Brushy Canyon

Field/Pool: West Red Tank Delaware

(2). Injection interval, from 8399 ft. to 8471 ft.

Perforated X Open Hole _____

(3). Original purpose well drilled -- producing well in field & Bone Spring test

(4). Other perforated intervals; X Yes _____ No

Squeezed with _____ sx., or isolated by RBP @ 6707' over lower perfs & pkr @ 8263' isolating from upper perfs.

(5). Oil or gas productive zone(s):

Next higher: Cherry Cn. 6800'

Next lower: none

FORM C-108
ITEM VI

WELL DATA - AREA OF REVIEW

(1). Location: 1980' FN'l & EL Sec 26 T-22-S R-32-E Lea Co.
Operator: Culberson & Irwin Lease: Culberson Well # 1
Well type: Oil ____ Gas ____ D & A X Depth: 4977'
Date Drilled: 11-21-44 Date Completed: 4-16-45
Completion Data: TD 3515 in anh. & ls Hd sul. wtr. Attempt to run 5½"; unsuccessful. TD 3607'. Run 7" csg. cmt w/300 sx. Drill to TD 4977' D&A. Sundry notice attached

(2). Location: 500' FSL & 2310' FWL Sec 26 T-22-S R-32-E Lea Co.
Operator: POGO Lease: Red Tank 26 Fed Well # 8
Well type: Oil ____ Gas X D & A ____ Depth: 6600'
Date Drilled: 7-23-95 Date Completed: 8-14-95
Completion Data: 8⅝" @ 807' w/575 sx, circ 150 sx. 5½" csg @ 6600' w/2350 sx, circ 200 sx. perf 4917', 6472-96'; A/1000 gal F/49,400 GW + 29,460# 16-30 sd. POT to 36 + 252 BW & 45 MCFG. Set RBP 5200'. perf 4900-21'. A/1000 gal. F/ow 500 MCFG

(3). Location: 990' FSL & 330' FWL Sec 26 T-22-S R-32-E Lea Co.
Operator: POGO Lease: RT 26 Fed Well # 5
Well type: Oil X Gas ____ D & A ____ Depth: 8770'
Date Drilled: 1-6-95 Date Completed: 2-6-95
Completion Data: 13-⅜" @ 812' w/950 sx, circ 250 sx. 8-⅝" @ 4564' w/1600 sx, circ 250 sx. 5½" @ 8770' w/1106 sx, TOC 3610'. perf 8400-26'. A/1000 gal 7½% HCl, F/58,000 gal GW + 102,100# 20-40 sd. PT 220 BOPD + 122 BW & 137 MCF

(4). Location: 2310' FSL & 330' FWL Sec 26 T-22-S R-32-E Lea Co.
Operator: POGO Lease: RT 26 Fed Well # 4
Well type: Oil X Gas ____ D & A ____ Depth: 8777'
Date Drilled: 3/04/04 Date Completed: 4-18-94
Completion Data: 13⅜" @ 665' w/800 sx, circ 450 sx. 8-⅝" @ 4580' w/1650 sx, circ 250 sx. 5½" @ 8777' w/1170 sx, TOC 4430. perf 8453-8530'. A/1200 gal 7½% HCl. F/54,200 gal GW + 46,800# 16-40 sd. PT 530 BOPD + 110 BW & 563 MCF

FORM C-108
ITEM VI

WELL DATA - AREA OF REVIEW

(5). Location: 1980' FNL & 330' FWL Sec 26 T-22-S, R-32-E, Lea Co.
Operator: Pogo Lease: Red Tank 36 Fed Well # 3
Well type: Oil X Gas ___ D & A ___ Depth: 8801'
Date Drilled: 4-13-94 Date Completed: 5-16-94
Completion Data: 13-3/8" @ 731' w/800 sx circ; 8-5/8" @ 4655' w/100 sx; 5-1/2" @ 8801' w/1200 sx, TOC 2030'; perf 8382-8413' 2 JSPF; A/1000 gal 7 1/2% HCL/Pentol 100 & BS. Re-A/1000 gal 7 1/2% HCl/Pentol 100 & BS; F/46,000 XLGW & 37,130# 20/40 sd

(6). Location: 1650' FN & WL Sec 26, T-22-S, R-32-E, Lea Co.
Operator: Pogo Lease: Red Tk 26 Fed Well # 7
Well type: Oil X Gas ___ D & A ___ Depth: 8785'
Date Drilled: 1-22-95 Date Completed: 2-18-95
Completion Data: 13-3/8" @ 800' w/950 sx, circ 200 sx; 8-5/8" @ 4575' w/2700 sx, circ 243 sx; 5-1/2" @ 8735' w/1100 sx; TOC 3570'; perf 8432-72'; A/1000 gals 7 1/2% HCl/Pentol 100 & BS; F/55,400 gals GW & 79,540# 20/40 sd; IPP 380 BOPD & 319 BW & 175 MCFG

(7). Location: 1980' FSL & 660' FEL Sec 27 T-22-S, R-32-E, Lea Co.
Operator: Pogo Lease: Prize Fed Well # 3
Well type: Oil X Gas ___ D & A ___ Depth: 8855'
Date Drilled: 11-6-93 Date Completed: 12-2-93
Completion Data: 13-3/8" @ 815' w/1000 sx circ 250; 8-5/8" @ 4537' w/1800 sx circ 280 sx; 5-1/2" @ 8855' w/1425 sx; TOC 2240'; perf 8368-8402'; A/1000 gal 15% HCl; F/50390 gals XLGW & 62,000# 20-40 sd; Pot 150 BO & 50 BW & 177 MCFG; RBP @ 8300'; perf 7942-72 (60); A/1000 - 7 1/2% HCl & BS; F/29400 GW & 67,000# 20-40 sd; Test 91 BOPD & 188 BW & 40 MCFG

( ). Location:
Operator: ___ Lease: ___ Well # ___
Well type: Oil ___ Gas ___ D & A ___ Depth: ___
Date Drilled: ___ Date Completed: ___
Completion Data:

FORM C-108 Pogo Producing Company

ITEM VII

OPERATIONAL DATA

(1). Average expected injection rate: 500 MCF ~~BWPD~~; maximum anticipated rate: 500 MCF ~~BWPD~~

(2). Closed system

(3). Estimated average injection pressure: 1680 psi.

Estimated maximum pressure: 1680 psi.

(4). Source of injection ~~water~~ gas: Bell Canyon zone 4900-21' in the Pogo - Red Tank 26 Fed. No. 8

Analysis of ~~waters~~ gas attached.

(5). Analysis of injection zone ~~water~~ gas attached.

Data source: Red Tank 26 Fed #1

FORM C-108

Pogo Producing Company

ITEM VIII

GEOLOGICAL DATA

INJECTION ZONE

Lithological description: sandstone, lt. gray, fine to v. fine grained, poorly consol., silty, poor calc. cmt.

Geological name: Brushy Canyon (Delaware)

Zone thickness: 72 ft.; Depth: 8399 ft.

FRESH WATER SOURCES

Geological name: NA

Depth to bottom of zone: _____ Ft.

ITEM IX

STIMULATION PROGRAM (~~Proposed~~)

ACIDIZE:

Volume: 2000 Type acid: 7½% HCl + Pentol 100

Rate: 2 BPM; Misc. 108 RCN BS ; good action

FRACTURE:

Fluid volume: 55,000 gal.; Type: XL GW

Prop type: 20-40 sd. Volume (#): 68,380

Rate: 30.8 BPM; Conductor: 5½ in.

Misc. _____

ITEM X

LOGGING PROGRAM

Logging program included: GR-Induction SFL & CND

Copy of CND log included in attachments

ITEM XI

FRESH WATER ANALYSIS NA

Fresh water well within 1 mile radius; _____ Yes _____ No

Chemical analysis from well(s) located: _____

Date sampled: _____

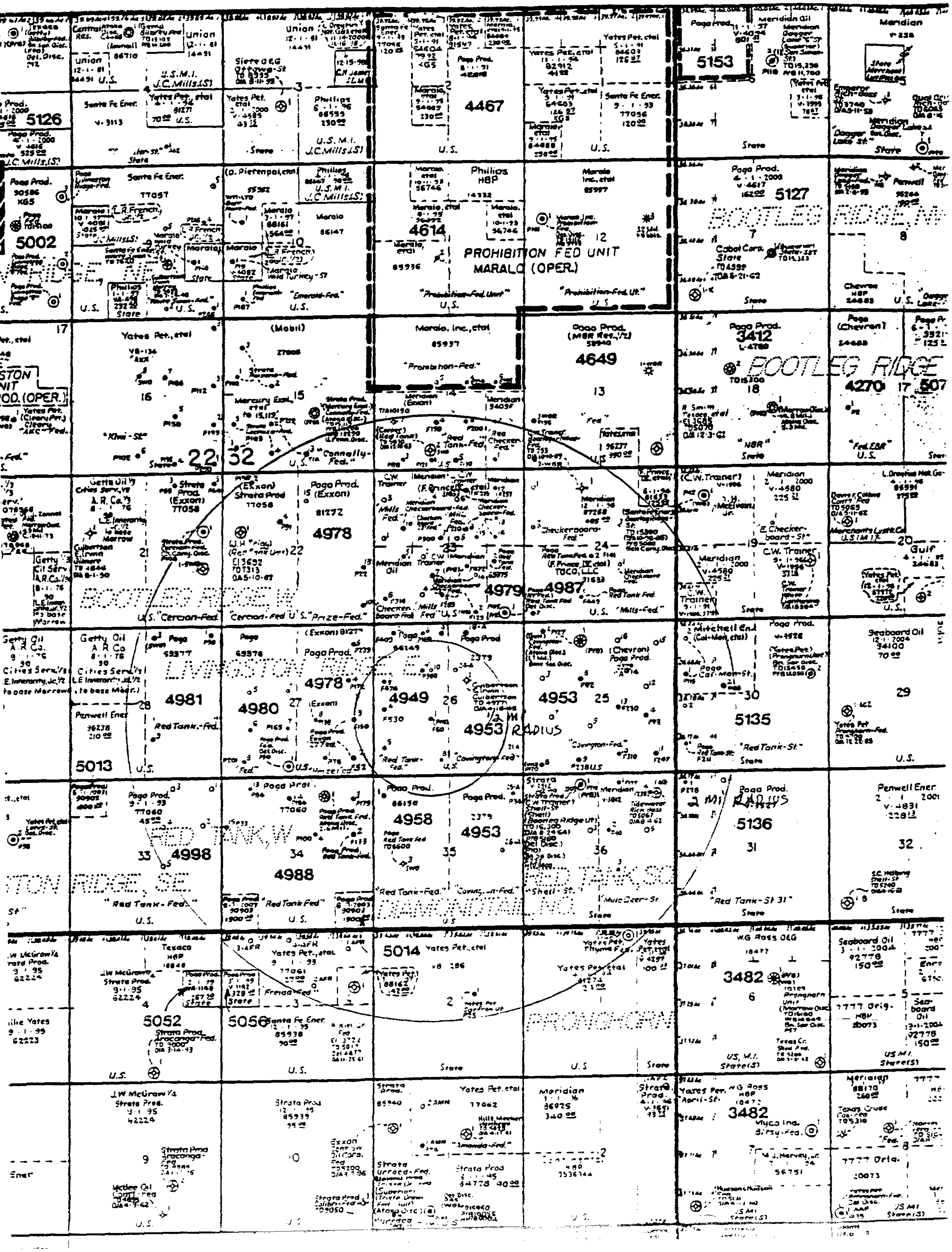
Chemical analysis from well(s) located: _____

Date sampled: _____

ITEM XII

HYDROLOGY

NA



5153
5126
4467
5002
4614
PROHIBITION FED UNIT
MARALO (OPER.)
5127
BOOTLEG RIDGE
3412
4649
4270
Pogo Prod.
Yates Pet., etal
Maralo, Inc., etal
"Prohibition-Fed."
4978
4979
4987
TOCO, LLC
BOOTLEG RIDGE W
4981
4980
4949
4953
4953 RADIUS
LIVINGSTON RIDGE
5013
5135
4998
4988
4958
4953
5136
2 MI RADIUS
RED TANK, W
"Red Tank-Fed."
"Red Tank-St."
DIAMONDTAIL
5014
3482
5052
5056
PRONGHORN
3482
U.S.
State

Form 9-331a
(March 1942)

(SUBMIT IN TRIPLICATE)

Land Office L. C.
Lease No. 061775
Unit Culbertson

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	X		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 16, 19 45

Well No. 1 is located 1980 ft. from {N/S} line and 1980 ft. from {E/W} line of sec. 26

SW of NE Sec. 26 (¼ Sec. and Sec. No.) 22S (Twp.) 32E (Range) N. M. P. M. (Meridian)

Wildcat (Field) Lea (County or Subdivision) New Mexico (State or Territory)

The elevation of the derrick floor above sea level is _____ ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Confirming verbal conversation of 4-16-45.
Propose to start plugging this well on April 17, as follows:
From 4977 T.D. to 4830 with 30 sacks cement, mud to 3625,
From 3625 to 3595 with 10 sacks cement, mud to where 7" casing is parted, 10 sacks cement in top of 7" casing stub, mud to 1320, from 1320 to 1290 with 10 sacks cement. Marker will be set with cement at top. Location will be cleaned and leveled.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Culbertson & Irwin Inc.

Address Box 398

Artesia, New Mexico

By Forrest Warren

Title Agent

U. S. GOVERNMENT PRINTING OFFICE 16—8497-1

Laboratory Services, Inc.

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pogo Producing Company
Attention: Mr. Richard Wright
P. O. Box 10340
Midland, Texas 79702

SAMPLE IDENTIFICATION: RT 26 Fed. #8
COMPANY: Pogo Producing Co.
LEASE:
PLANT:

SAMPLE DATA:
DATE SAMPLED: 05-02-96
ANALYSIS DATE: 05-03-96
PRESSURE – PSIG 1380.00
SAMPLE TEMP. °F
ATMOS. TEMP. °F 85.00

GAS (XX) LIQUID ( )
SAMPLED BY: Rolland Perry
ANALYSIS BY: Vickie Walker.

REMARKS: H2S = 0

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)	0.00	
Nitrogen	(N2)	47.00	
Carbon Dioxide	(CO2)	0.00	
Methane	(C1)	40.21	
Ethane	(C2)	7.48	1.996
Propane	(C3)	3.47	0.954
I-Butane	(IC4)	0.33	0.108
N-Butane	(NC4)	0.78	0.246
I-Pentane	(IC5)	0.18	0.065
N-Pentane	(NC5)	0.17	0.060
Hexane Plus	(C6+)	0.38	0.156
		100.00	3.585

BTU/CU.FT. – DRY	694	MOLECULAR WT.	24.6172
AT 14.650 DRY	692		
AT 14.650 WET	680		
AT 14.73 DRY	696		
AT 14.73 WET	683		
SPECIFIC GRAVITY – CALCULATED	0.850		
MEASURED			

Laboratory Services, Inc.

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pogo Producing Company
Attention: Mr. Richard Wright
P. O. Box 10340
Midland, Texas 79702

SAMPLE IDENTIFICATION: RT 26 Fed. #1
COMPANY: Pogo Producing Co.
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 05-02-96 10:05 AM GAS (XX) LIQUID ( )
ANALYSIS DATE: 05-03-96 SAMPLED BY: Rolland Perry
PRESSURE - PSIG 80.00 ANALYSIS BY: Vickie Walker
SAMPLE TEMP. °F
ATMOS. TEMP. °F 85.00

REMARKS: H2S = 0

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)	0.00	
Nitrogen	(N2)	16.60	
Carbon Dioxide	(CO2)	0.03	
Methane	(C1)	63.35	
Ethane	(C2)	10.07	2.687
Propane	(C3)	5.87	1.614
I-Butane	(IC4)	0.69	0.225
N-Butane	(NC4)	1.79	0.563
I-Pentane	(IC5)	0.47	0.172
N-Pentane	(NC5)	0.47	0.171
Hexane Plus	(C6+)	0.66	0.271
		100.00	5.703

BTU/CU.FT. - DRY		1116	MOLECULAR WT.	23.1302
AT 14.650	DRY	1112		
AT 14.650	WET	1093		
AT 14.73	DRY	1118		
AT 14.73	WET	1099		

SPECIFIC GRAVITY -
CALCULATED 0.799
MEASURED

COMPANY: POGO PRODUCING CO.

WELL: RED TANK "26" FEDERAL NO. 1

FIELD: UNDES. RED TANK BONE SPRING

COUNTY LEA **STATE** NEW MEXICO

COUNTY LEA
Field: UNDES. RED TANK BONE SPR
Location: 1880' FSL & 1880' FWL
Well: RED TANK "26" FEDERAL NO.
Company: POGO PRODUCING CO.

Schlumberger

COMPENSATED NEUTRON
LITHO-DENSITY
GAMMA RAY

LOCATION

1880' FSL & 1880' FWL

Elev.: K.B. 3723 F
G.L. 3708 F
D.F. 3722 F

Permanent Datum: GROUND LEVEL Elev.: 3708 F
Log Measured From: K.B. 15.0 F above Perm. Datum
Drilling Measured From: K.B.

API Serial No.	SECTION	TOWNSHIP	RANGE
N/A	26	22-S	32-E

Logging Date		APRIL 24 1993					
Run Number		1					
Depth Driller		10050 F					
Schlumberger Depth		10054 F					
Bottom Log Interval		10021 F					
Top Log Interval		200 F					
Casing Driller Size @ Depth		8.625 IN	@	4635 F		@	
Casing Schlumberger		4634 F					
Bit Size		7.875 IN					
Type Fluid in Hole		FRESH WATER					
Density	Viscosity	8.4 LB/G	28 S				
Fluid Loss	PH		10				
Source Of Sample		MEAS					
RM @ Measured Temperature		3.450 OHMM	@	72 DEGF		@	
RMF @ Measured Temperature		3.450 OHMM	@	72 DEGF		@	
RMC @ Measured Temperature			@			@	
Source RMF	RMC	CALC					
RM @ BHT	RMF @ BHT	1.944 @ 133	1.944 @ 133		@		@
Maximum Recorded BHT		133 DEGF	133				
Circulation Stopped	Time	APRIL 24, 1993	18:30				
Logger On Bottom	Time	APRIL 24, 1993	SEE LOG				
Unit Number	Location	2033	HOBBS, 3402				
Recorded By		CHRIS DAVIS					
Witnessed By		GARLAND LAMB