RELEASE 5-17-93

POGO PRODUCING COMPANY

OVERNIGHT MAIL

April 29, 1993

New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87504
Attention: Mr. David R. Catanach

Re: Sand Dunes Prospect NM-555
Eddy County, New Mexico
Application for Administrative
Approval to Inject Saltwater
into the Cal-Mon No. 5 Well,
located 1980' FNL & 1980' FEL
Section 35, T-23-S, R-31-E, N.M.P.M.

Gentlemen:

Pogo hereby respectfully submits two (2) original Applications for Authorization to Inject (Form C-108) pertaining to the captioned well and requests that same be given Administrative Approval.

Pursuant thereto, please find enclosed the following:

(1) Copy of Notification Letter sent to all Offset Leasehold Operators within a one-half (1/2) mile radius of the proposed injection well and to the surface owner upon which such well is located, along with copies of proof of mailing; and

(2) Proof of Legal Publication.

If you should have any questions regarding the subject Application, please contact the undersigned.

Very truly yours,

POGO PRODUCING COMPANY

Terry Gant
Consulting Landman

TG:lf/c:SWD17
Enclosures

cc w/encl.: New Mexico Oil Conservation Division
District I Office
P. O. Box 1157
Hobbs, New Mexico 88240

500 WEST ILLINOIS, SUITE 600 • POST OFFICE BOX 10340 • MIDLAND, TEXAS 79702-7340 • 915/682-6822 • FAX 915/682-9139

POGO PRODUCING COMPANY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 19, 1993

To: Offset Leasehold Operators and
Surface Owner
(See Attached List)

Re: Sand Dunes Prospect NM-555
Eddy County, New Mexico
Application for Administrative
Approval to Inject Saltwater
into the Cal-Mon No. 5 Well,
located 1980' FNL & 1980' FEL
Section 35, T-23-S, R-31-E

Gentlemen:

Pogo Producing Company has applied to the New Mexico Oil Conservation Division for Administrative Approval to inject saltwater into the captioned well.

A copy of the Form C-108 submitted by Pogo to the Division is enclosed.

If you object to and/or request that a hearing be held pertaining to this Application, you must notify the Division within fifteen (15) days from the date of Pogo's Application.

If you have any questions, please contact the undersigned or Mr. Richard L. Wright.

Very truly yours,

POGO PRODUCING COMPANY

Terry Gant
Consulting Landman

TG:lf/c:SWD12

Enclosure

cc: New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088
Attention: Mr. David R. Catanach

500 WEST ILLINOIS, SUITE 600 • POST OFFICE BOX 10340 • MIDLAND, TEXAS 79702-7340 • 915/682-6822 • FAX 915/682-9139

Attached to Notification Letter dated April 19, 1993
regarding Pogo's Application for Administrative Approval
to Inject Saltwater into the Cal-Mon No. 5 Well

Bureau of Land Management
P. O. Box 1449
Santa Fe, New Mexico 87504

Devon Energy Corporation
1500 Mid-America Tower
Oklahoma City, Oklahoma 73102
Attention: Mr. Steve Cromwell

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Devon Energy Corporation
1500 Mid-America Tower
Oklahoma City, OK
73102
Attn: Steve Cromwell

4a. Article Number
P 085 629 178

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

5. Signature (Addressee)

6. Signature (Agent)
[signature]

7. Date of Delivery
APR 21 1993

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

P 085 629 178

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to Devon Energy Corp.	
Street and No. 1500 Mid-America	
P.O., State and ZIP Code Oklahoma City, Ok	
Postage Attn: Steve	$
Certified Fee Cromwell	73102
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 4-19-93	

PS Form 3800, June 1991

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Bureau of Land Management
P.O. Box 1449
Santa Fe, N.M.
87504

4a. Article Number
P 085 629 177

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

5. Signature (Addressee)

6. Signature (Agent)
[signature]

7. Date of Delivery
APR 21 1993

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

P 085 629 177

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to Bureau of Land Management	
Street and No. P.O. Box 1449	
P.O., State and ZIP Code Santa Fe NM	
Postage	$ 87504
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 4-19-93	

PS Form 3800, June 1991

№ 14256

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

E. C. Cantwell, being first duly sworn, on oath says:

That he is publisher of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

APRIL 27 , 19 93

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that the cost of publication is $ 26.25 , and that payment thereof has been made and will be assessed as court costs.

E C Cantwell

Subscribed and sworn to before me this 27 day of APRIL , 19 93

Linda S Martin

My commission expires 7/22/96

Notary Public

April 27, 1993

PUBLIC NOTICE

APPLICATION FOR AUTHORIZATION TO INJECT SALTWATER

Pogo Producing Company, P.O. Box 10340, Midland, Texas 79702-7340 (Contact -Richard L. Wright at 915/ 682-6822) has applied to the New Mexico Oil Conservation Division for Administrative Approval for Authorization to inject saltwater into its Cal-Mon No. 5 Well, located 1980' FNL and 1980' FEL of Section 35, T-23-E, R-31-E, N.M.P.M., Eddy County, New Mexico. The purpose of such well will be to dispose of saltwater produced from Pogo's nearby wells. The injection interval will be in the Bell Canyon and Upper Cherry Canyon formations between 4,484' - 5,780' beneath the surface, with an expected maximum injection rate of approximately 3,000 BOWPD with an expected maximum injection pressure of approximately 900 psi. Any interested parties must file objections or requests for a hearing with the New Mexico Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088 within fifteen (15) days from the date of Pogo's Application.

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: POGO PRODUCING COMPANY

Address: P. O. Box 10340, Midland, Texas 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.).

*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 prooosed 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 R. Halepeska Title Agent (P. E.)

Signature: Bill Halepeska Date: 04/14/93

* 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.

AOR = 4 1/4 Dwg

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.

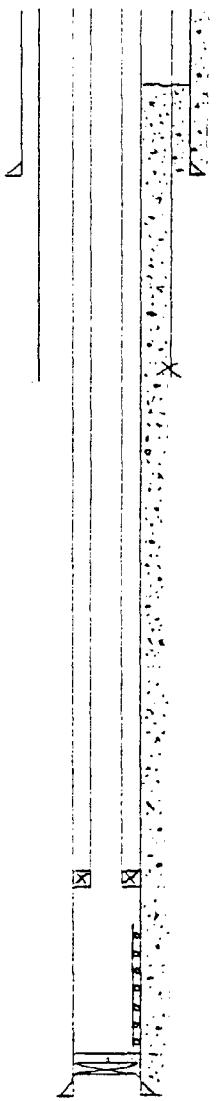
Pogo Producing Company

FORM C-103

ITEM 111-A

INJECTION WELL DATA SHEET

SCHEMATIC



surface casing

size 8 5/8 in.; depth 554 ft.

TOC: surface
cemented w/ 350 sx.

intermediate casing NA

size in.; depth

cemented w/ sx.

injection packer

5½" Guiberson Uni-VI

injection tubing

size 2 7/8 in.; set at 4400 ft.

injection interval

4484 - 5780'

PB: CIBP @ 5900'/cmt. cap

long string casing

size 5½ in.; depth 6382 ft.

cemented w/ 1705 sx.; TOC: 500 ft.

TABULAR DATA

(1). LEASE: Cal Mon WELL # 5

LOCATION: Sec. 35 TWP 23-S Range 31-E

County Eddy

Footage 1980' FNL, 1980' FEL

(2). CASING STRINGS:

Surface Casing

Size 8 5/8" Depth 554' Cemented w/ 350 sx.

TOC surf. Determined by circulation

Hole size 12¼"

Intermediate Casing

Size NA Depth _____ Cemented w/_____ sx.

TOC _____ Determined by _____

Hole size _____

Long String

Size 5½" Depth 6382' Cemented w/ 1705 sx.

TOC 500' Determined by Temperature Log

Hole size 7 7/8"

Injection interval, from 4484 to 5780 ft.

(3). INJECTION TUBING STRING:

Size 2 7/8 in., coated/lined with PVC

Setting depth 4400 Ft.

(4) INJECTION PACKER:

Size 5½ in.; Make/Model Guiberson Uni-VI

Setting depth 4400 ft.

FORM C-108

Pogo Producing Company

ITEM III-B

INJECTION WELL DATA

(1). Injection formation: Bell Canyon and Up. Cherry Canyon (Delaware)

Field/Pool: Sand Dunes

(2). Injection interval, from 4484 ft. to 5780 ft.

Perforated XX Open Hole _____

(3). Original purpose well drilled -- Oil test of Cherry Canyon

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

Squeezed with _____ sx., or isolated by CIBP set at 5900' and capped with 35' cement

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

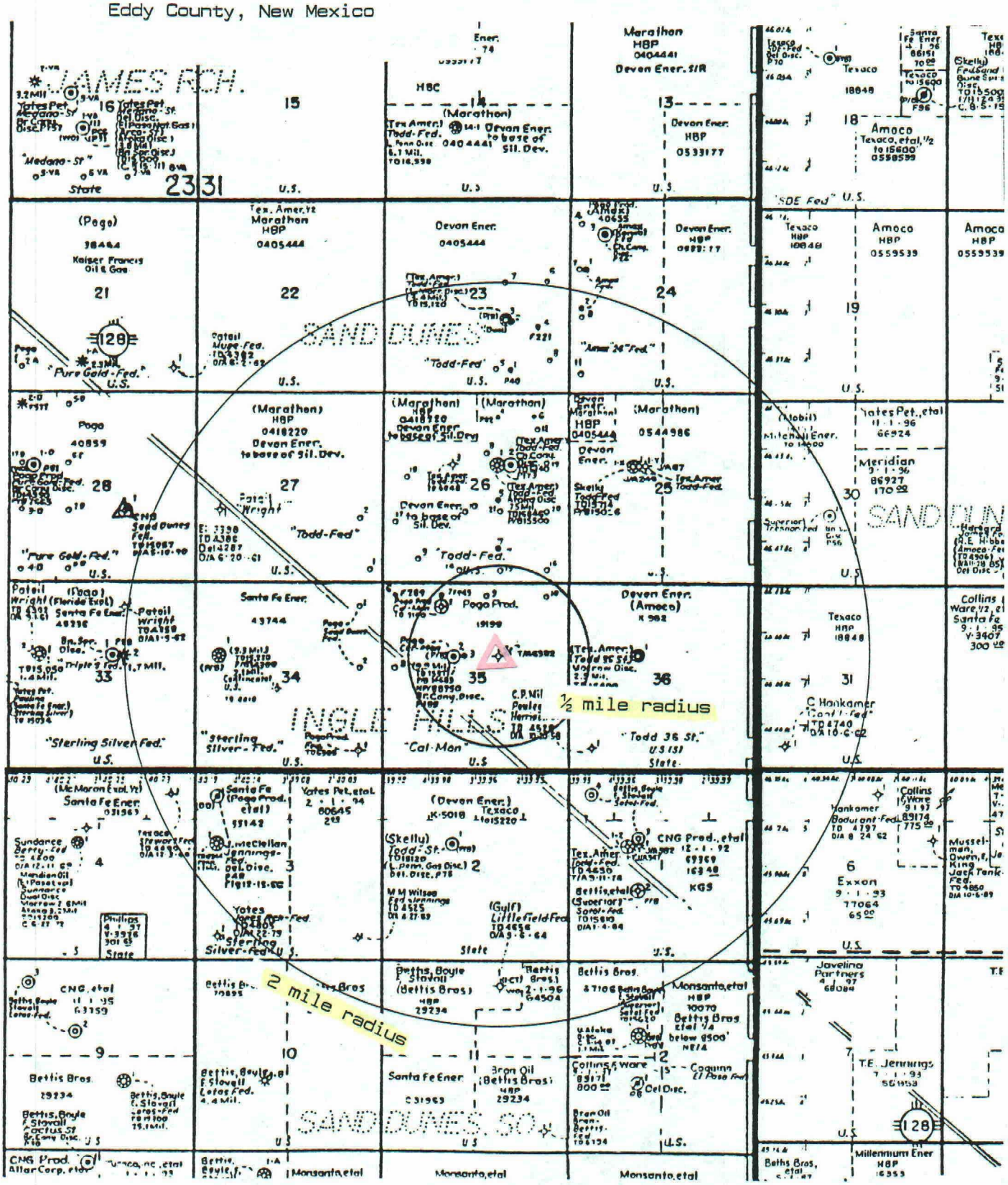
Next higher: None

Next lower: Cherry Canyon at 6100'

FORM C-108, ITEM V

IDENTIFICATION MAP

POGO PRODUCING COMPANY
CAL MON #5
Section 35, T 23-S, R 31-E
Eddy County, New Mexico



FORM C-108 Pogo Producing Company

ITEM VI , Page 1

WELL DATA - AREA OF REVIEW

(1). Location: Section 35, T 23-S, R 31-E , 660' FNL, 1650' FWL

Operator: Pogo Producing Co. Lease: Cal Mon Well # 1

Well type: Oil _____ Gas _____ D&A X Total depth 7100 ft.

Date drilled: spud 9/28/83 ; comp. 10/19/83

Completion Data: 10 3/4" 820' w/275 sx. (circ.); 50 sx. plug 6521 to 6671' (150'); 60 sx. @ 4610', tag @ 5150'; spot 2nd. 60 sx. @ 4610', no fill; spot 50 sx. @ 4610, tag @ 4798'; spot 4th. plug @ 4610' (50 sx.), tag @ 4493'; DO to 4500'; spot 86 sx. plug @ 4458 - 4158'; 131 sx. plug 1020 - 720'; 30 sx. (50') at surface.

Plugged XX Date: 10/19/83 (Schematic attached)

(2). Location: 330' FNL, 1650' FWL, Sec. 35, T 23-S, R 31-E

Operator: Pogo Producing Co. Lease: Cal Mon Well # 7

Well Type: Oil X Gas ___ D&A _____ Total Depth: 8400 ft.

Date Drilled: Spud 8/9/92; comp. 9/6/92

Completion Data: 13 3/8" - 797' w/1000 sx.,(circ); 8 5/8" - 4275' w/1525 sx. (circ.); 5½" - 8400' w/1275', TOC 2800'; perf. 152/ 8125 - 8201'; A/1800 g. 15% HCl; F/30,000 g. GW plus 57,580# 20/40 sand.; IPF: 240 BO + 120 BW; GOR 775:1

Plugged NA Date _____ (Schematic attached)

(3). Location: 1980' FNL, 1980' FWL, Sec. 35, T 23-S, R 31-E

Operator: Pogo Producing Co. Lease: Cal Mon Well # 2

Well Type ; Oil _____ Gas XX D&A ____ Total Depth: 15,377 ft.

Date Drilled: Spud 3/19/85; comp. (Morrow) 8/11/85

Completion Data: 13 3/8" - 444' w/3500 sx. (circ.); 9 5/8" - 11,862' w/3395 sx. (DV tool @ 7889'); 7" lnr. 11,464' to 14,720' w/700 sx.; perf. 14,344 - 14,362'; AOF 9944 MCF

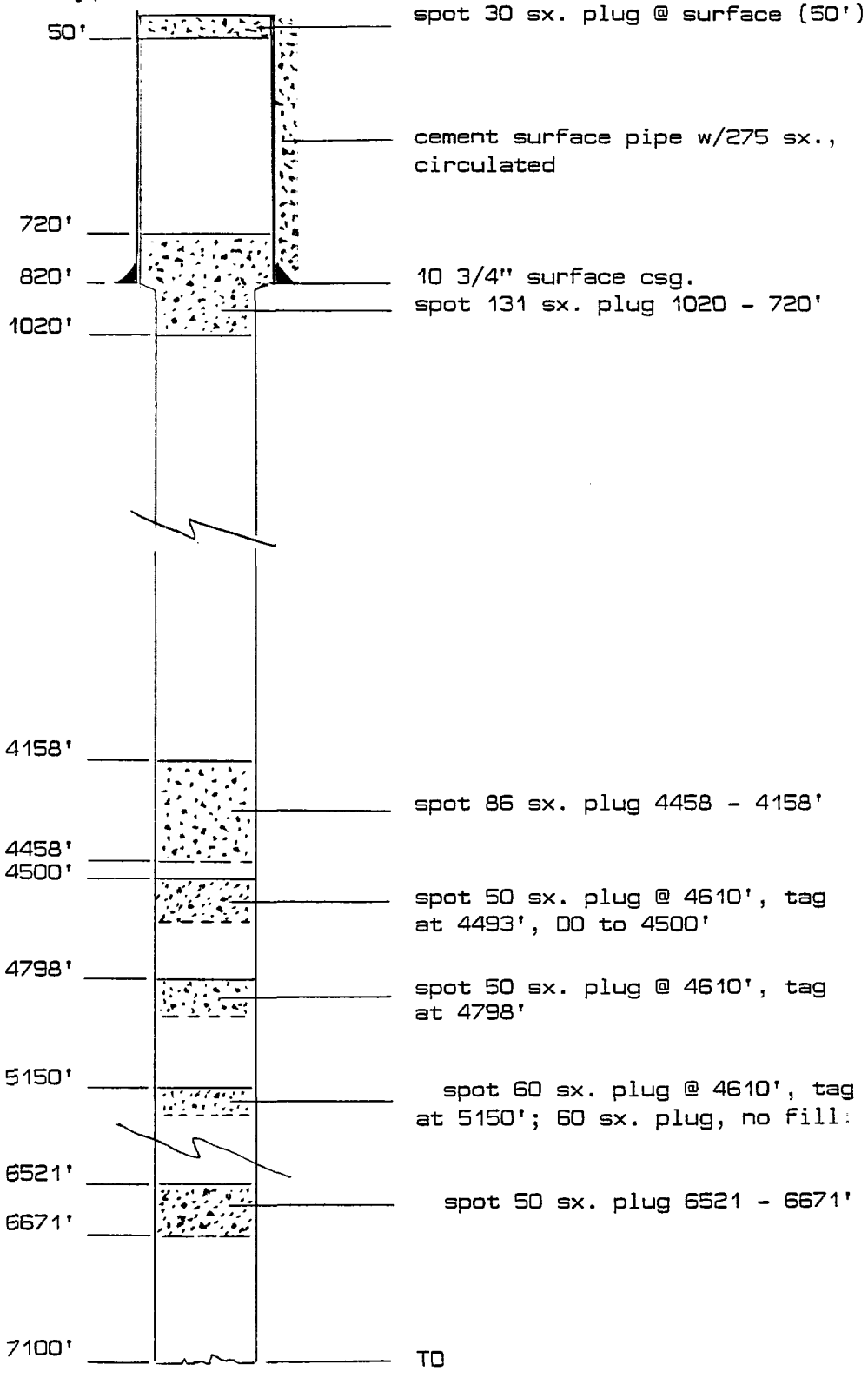
Recompletion continued on next page

Plugged NA Date _____ (Schematic attached)

FORM C-108, ITEM VI

SCHEMATIC - PLUGGING DATA

POGO PRODUCING COMPANY
CALMON #1
Section 35, T 23-S, R 31-E
Eddy County, New Mexico



FORM C-108 Pogo Producing Company

ITEM VI , Page 2

WELL DATA - AREA OF REVIEW

(1). Location: continued from preceding page

Operator: Pogo Producing Co. Lease: Cal Mon Well # 2

Well type: Oil XX Gas ____ D&A ____ Total depth PB 8950 ft.

Date drilled: recomplete from Delaware (Brushy Canyon) 5/9/91

Completion Data: recompletion; set CIBP 11,916' w/50' cmt. cap; spot 200' cmt. plug across 7" liner top; set 9 5/8" CIBP @ 9000' and spot 50' cmt. plug to 8950'; perf. 8220 - 8238'; A/2000 g. 15% NEFE HCl; F/12,500 g. GW + 52,800# 20/40 sand; IPF: 183 BO + 124 BW; GOR: 1850:1

Plugged NA Date: ____ (Schematic attached)

(2). Location: twin to #2

Operator: Pogo Producing Co. Lease: Cal Mon Well # 3

Well Type: Oil XX Gas ____ D&A ____ Total Depth: 6400 ft.

Date Drilled: spud 8/27/85; comp. 11/16/85

Completion Data: 8 5/8" - 810" w/550 sx.; 5½" - 6400' w/1516 sx.; perf: 6045 - 6072'; A/3000 g. 15% HCl + Ball Sealers; F/20,000 gal. XLGW and 36,000# 20/40 sand; IP: 89 BO + 86 BWPD

Plugged NA Date ____ (Schematic attached)

(3). Location: ____

Operator: ____ Lease: ____ Well # ____

Well Type ; Oil ____ Gas ____ D&A ____ Total Depth: ____ ft.

Date Drilled: ____

Completion Data: ____

Plugged ____ Date ____ (Schematic attached)

FORM C-108 Pogo Producing Company

ITEM VII

OPERATIONAL DATA

(1). Average expected injection rate: 750 BWPD; maximum anticipated rate: 3000 BWPD

(2). Closed system

(3). Estimated average injection pressure: 500 psi.
Estimated maximum pressure: 900 psi.

(4). Source of injection water: Delaware produced water from nearby Pogo operated wells and leases where Pogo has NOWI

Analysis of waters attached.

(5). Analysis of injection zone water attached.
Data source: Corbin Delaware; 31-17-33; Roswell Geological Society Symposium; Exhibit 2

FORM C-108

Pogo Producing Company

ITEM VIII

GEOLOGICAL DATA

INJECTION ZONE

Lithological description: sandstone, lt. tan - lt. gray, fg - vfg, unconsolidated/uncons. friable, some sl. lmy

Geological name: Bell Canyon and Up. Cherry Canyon (Delaware)

Zone thickness: 1300 ft.; Depth: 5780 ft. to base

FRESH WATER SOURCES

Geological name: Santa Rosa

Depth to bottom of zone: ±650 ft.

ITEM IX

STIMULATION PROGRAM (Proposed)

ACIDIZE:

Volume: 3000 gal. Type acid: 15% HCl/Pentol 100

Rate: 5 BPM; Misc. 90 Ball Sealers

FRACTURE:

Fluid volume: 30,000 gal.; Type: Gelled Water

Prop type: 20/40 sand Volume (#): 15,000

Rate: 18 BPM; Conductor: 2 7/8 in.

Misc. stage with Ball Sealers

FORM C-108 Pogo Producing Company

ITEM X LOGGING PROGRAM

Logging program included: DLL, MSFL and Seismic CBL as well as GR/CND.

Copy of CND log included in attachments

ITEM XI FRESH WATER ANALYSIS

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

Chemical analysis from well(s) located: Sec. 14 - 22 - 31 at WIPP site

Date sampled: 5/24/78

Chemical analysis from well(s) located: _____

Date sampled: _____

ITEM XII HYDROLOGY

Various engineering data and area well logs reveal no evidence that hydrologic connection might exist between the intended injection zone (Bell Canyon) at 4484' and possible water zone (Santa Rosa) above 650'

ITEM XIII COMMERCIAL INTENT

Initially, only water from Pogo operated wells will be disposed of in subject well (system). Eventually, Pogo could take water from other leases in the area operated by someone else, but in which Pogo has a Working Interest. It is intended that all water will be piped.

FORM C-108, ITEM VII(4)

EXHIBIT 1

ANALYSIS - INJECTION FLUID

POGO PRODUCING COMPANY
CAL MON #5
Section 35, T 23-S, R 31-E
Eddy County, New Mexico

ory Services
Tasker Drive
w Mexico 88240
) 397-3713

RECEIVED
SEP 21 1992
MIDLAND

WATER ANALYSIS

COMPANY Pogo Producing Co.

SAMPLE CAL MON #7
SAMPLED BY Rolland Perry

DATE TAKEN 9/15/92

REMARKS BRUSHY CANYON FORMATION (LOWER DELAWARE)

Sodium	50
Nitrate	22.44
Barium as Ba	0
Carbonate alkalinity PPM	0
Bicarbonate alkilinity PPM	82
pH At Lab	5.62
Specific Gravity @ 60 F	1.160
Magnesium as Mg	24,418
Total Hardness as CaCO3	42,100
Clorides as CL	145,436
Sulfate as SO4	475
Iron as Fe	45.5
Potassium	25.63
Hydrogen Sulfide	0
Resistivity Ohms	0.2288
Total Disolved Solids	215,250
Carbonate as CO3 G/L	7.45
Calcium as CA	17,682

Results reported as Parts Per Million Unless Stated.

Langelier Saturation Index + 0.12

Analysis By Rolland Perry
Date: 9/15/92

EXHIBIT 2

FORM C-108, ITEM VII(5)

ANALYSIS - INJECTION ZONE WATER

POGO PRODUCING COMPANY
CAL MON #5
Section 35, T 23-S, R 31-E
Eddy County, New Mexico

d Name: Corbin Delaware
Location: NE¼ Sec. 31, T.17 S., R.33 E.
County & State: Lea Co., N. Mex.

COMPLETION DATE: March 31, 1960

TYPICAL CORE ANALYSIS OF A PAY INTERVAL IN THIS FIELD: No cores taken

Perm. in millidarcys		% Porosity	Liquid Saturation (% of pore space)	
Horizontal	Vertical		Water	Oil

OTHER SHOWS ENCOUNTERED IN THIS FIELD: None

TRAP TYPE: Stratigraphic, sand pinchout
NATURE OF OIL: 37.8° gravity, sweet
NATURE OF GAS: sweet
NATURE OF PRODUCING ZONE WATER: Salt Resistivity: ohm-meters @ °F.

	Total Solids	Na—K	Ca	Mg	Fe	SO_4	Cl	CO_3	HCO_3	OH	H_2S
ppm		47,700	6160	2060	100	1500	89,400		160		neg

INITIAL FIELD PRESSURE: Unknown
TYPE OF DRIVE: Unknown
NORMAL COMPLETION PRACTICES: Set through, perforate & sand frac.

PRODUCTION DATA:

Year	Type	No. of wells @ yr. end: Producing	No. of wells @ yr. end: Shut in or Abnd.	Production Oil in barrels Gas in MMCF: Annual	Production Oil in barrels Gas in MMCF: Cumulative
1956	oil				
	gas				
1957	oil				
	gas				
1958	oil				
	gas				
1959	oil				
	gas				
1960*	oil	0	1 **	631.5	631.5
	gas				

* 1960 Figure is production to July 1, 1960.
** well shut in on April 19, 1960.

EXHIBIT 3

FORM C-108, ITEM XI

ANALYSIS - SANTA ROSA WATER

POGO PRODUCING COMPANY
CAL MON #5
Section 35, TWP 23-S, R 31-E
Eddy County, New Mexico

Chemical and radiochemical analyses of water from test hole H-5

Water produced from the Santa Rosa Sandstone, sample taken 5/24/78

Alkalinity Field (mg/l as HCO3)	200
Bicarbonate FET-FLD (mg/l as HCO3)	240
Nitrogen, NO2 + NO3 Dissolved (mg/l as N)	0.36
Hardness (mg/l as CACO3)	150
Hardness, noncarbonate(mg/l as CACO3)	150
Calcium Dissolved (mg/l as CA)	56
Magnesium, Dissolved (mg/l as MG)	51
Sodium, Dissolved (mg/l as NA)	280
Potassium, Dissolved (mg/l as K)	25
Chloride, Dissolved (mg/s as CL)	120
Sulfate, Dissolved (mg/l as SO4)	530
Fluoride, Dissolved (mg/l as F)	1.2
Silica, Dissolved (mg/l as SIO2)	11.0
Boron, Dissolved (ug/l as B)	890
Solids Residue at 105 Deg C, Dissolved (mg/l)	1200

Schlumberger

COMPENSATED NEUTRON-LITHO DENSITY

COMPANY POGO PRODUCING COMPANY

WELL CAL-MON NO. 5

FIELD SAND DUNES (CHERRY CANYON)

COUNTY EDDY STATE NEW MEXICO

LOCATION 1980' FNL & 1980' FEL

Other Services: DLL/MSFL

API SERIAL NO	SEC	TWP	RANGE
	35	23-S	31-E

Permanent Datum G.L. Elev. 3975

Log Measured From K.B. 11 Ft. Above Perm. Datum

Drilling Measured From K.B.

Elev.: K.B. 3986 D.F. 3985 G.L. 3975

Date	8-1-86			
Run No.	ONE			
Depth-Driller	6382			
Depth-Logger	6383			
Btm. Log Interval	6381			
Top Log Interval	SURFACE			
Casing-Driller	8 5/8 @ 554	@	@	@
Casing-Logger	555			
Bit Size	7 7/8			
Type Fluid in Hole	SALT BRINE			
Dens. / Visc.	10.1 / 30			
pH / Fluid Loss	8.5 /	ml	ml	ml
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.052 @ 76 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp	.047 @ 76 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp	@ °F	@ °F	@ °F	@ °F
Source Rmf / Rmc	MEAS /			
Rm @ BHT	.035 @ 107 °F	@ °F	@ °F	@ °F
Time Circulation Stopped	2300 8-31			
Time Logger on Bottom	0230 8-1			
Max. Rec. Temp.	107 °F	°F	°F	°F
Equip. / Location	BIRS ROSWL			
Recorded By	MILLER			
Witnessed By	BAUERNFEIND