CHECKLIST for ADMINISTRATIVE INJECTION APPLICATIONS

Operator: Pogo Producing Company Well: Red Talk Federal 35 No. 3

Contact: Richard Wright Title: Engr. Phone: 915-682-6822

DATE IN 11-28-95 RELEASE DATE 12-12-95 DATE OUT 12-27-95

Proposed Injection Application is for: ___ **WATERFLOOD** ___ Expansion ___ Initial

Original Order: R- _____ ___ Secondary Recovery ___ Pressure Maintenance

SENSITIVE AREAS X **SALT WATER DISPOSAL** ___ Commercial Well

___ WIPP ___ Capitan Reef

Data is complete for proposed well(s)? yes Additional Data Req'd _____

AREA of REVIEW WELLS

2 Total # of AOR 0 # of Plugged Wells

yes Tabulation Complete N/A Schematics of P & A's

yes Cement Tops Adequate N/A AOR Repair Required

INJECTION FORMATION

Injection Formation(s) Bell Canyon/Upper Cherry Can. Compatible Analysis yes

Source of Water or Injectate Area production - Delaware & Bone Spring

PROOF of NOTICE

yes Copy of Legal Notice yes Information Printed Correctly

yes Correct Operators yes Copies of Certified Mail Receipts

no Objection Received ___ Set to Hearing _____ Date

NOTES: _____

APPLICATION QUALIFIES FOR ADMINISTRATIVE APPROVAL? yes

COMMUNICATION WITH CONTACT PERSON:

1st Contact: ___ Telephoned ___ Letter _____ Date Nature of Discussion _____

2nd Contact: ___ Telephoned ___ Letter _____ Date Nature of Discussion _____

3rd Contact: ___ Telephoned ___ Letter _____ Date Nature of Discussion _____

Swo 12-12-95

POGO PRODUCING COMPANY

OVERNIGHT MAIL

November 10, 1995

New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
Attention: Mr. David R. Catanach

Re: S.E. Red Tank Prospect NM-607
Lea County, New Mexico
Application for Administrative
Approval to Inject Saltwater
into the Red Tank "35" Federal #3 Well
located 2310' FSL & 990' FWL
Section 35, T-22-S, R-32-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
Senior Landman

TG:lf/c:SWD35
Enclosures

cc w/encl.: New Mexico Oil Conservation Division
District I Office
P. O. Box 1980
Hobbs, New Mexico 88240
Attention: Mr. Jerry Sexton

POGO PRODUCING COMPANY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 6, 1995

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

Re: S.E. Red Tank Prospect NM-607
Lea County, New Mexico
Application for Administrative
Approval to Inject Saltwater
into the Red Tank "35" Federal #3 Well
located 2310' FSL & 990' FWL
Section 35, T-22-S, R-32-E, N.M.P.M.

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
Senior Landman

TG:lf/c:607.573

Enclosure

cc: New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
Attention: Mr. David R. Catanach

Attached to Notification Letter dated November 6, 1995
regarding Pogo's Application for Administrative Approval
to Inject Saltwater into the Red Tank "35" Federal #3 Well

Yates Petroleum Corporation
Yates Drilling Company
Abo Petroleum Corporation
Myco Industries, Inc.
105 South Fourth Street
Artesia, New Mexico 88210
Attention: Mr. Robert Bullock

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

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 27115
Santa Fe, New Mexico 87502-0115

4a. Article Number
Z 296 593 768

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

7. Date of Delivery
NOV 20 1995

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)
Application NM-607

6. Signature (Agent)

LF

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

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:

Yates Petroleum Corporation
Attn: Robert Bullock
105 South Fourth Street
Artesia, N.M. 88210

4a. Article Number
Z 296 593 824

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

7. Date of Delivery
NOV 8 1995

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)
Application NM-607

6. Signature (Agent)

LF

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Affidavit of Publication

STATE OF NEW MEXICO)

) ss.

COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is **Adv. Director** of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Public Notice

a[illegible] was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, [illegible] for **one (1) day** consecutive, beginning with the issue of **November 8**, 19**95** and ending with the issue of **November 8**, 19**95**

And that the cost of publishing said notice is the sum of $**19.53** which sum has been (Paid) [illegible] as Court Costs

Joyce Clemens

Subscribed and sworn to before me this **8th** day of **November**, 19**95**

Jean Lemen

Notary Public, Lea County, New Mexico

My Commission Expires **Sept. 28**, 19**98**

LEGAL NOTICE
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 Red Tank "35" Federal #3 Well, located 2310' FSL and 990' FWL of Section 35, T-22-S, R-32-E, N.M.P.M., Lea 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 Delaware (Bell Canyon and Upper Cherry Canyon) formation between 4,950'-6,252' beneath the surface, with an expected maximum injection rate of approximately 3,000 BOWPD with an expected maximum injection pressure of approximately 990 psi. Any interested parties must file objections or requests for a hearing with the New Mexico Oil Conservation Division, 2040 South Pacheco Street, Santa Fe, New Mexico 87505 within fifteen (15) days from the date of Pogo's Application. Published in the Lovington Daily Leader November 8, 1995.

APPLICATION FOR AUTHORIZATION TO INJECT

Red Tank "35" Federal No. 3

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 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

Signature: Bill F. Halepeska Date: 11/3/95

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. _____

A. The following well data must be submitted for each injection well covered by this applica 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 wel

(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.

IV. 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.

OTICE: 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.

FORM C-108

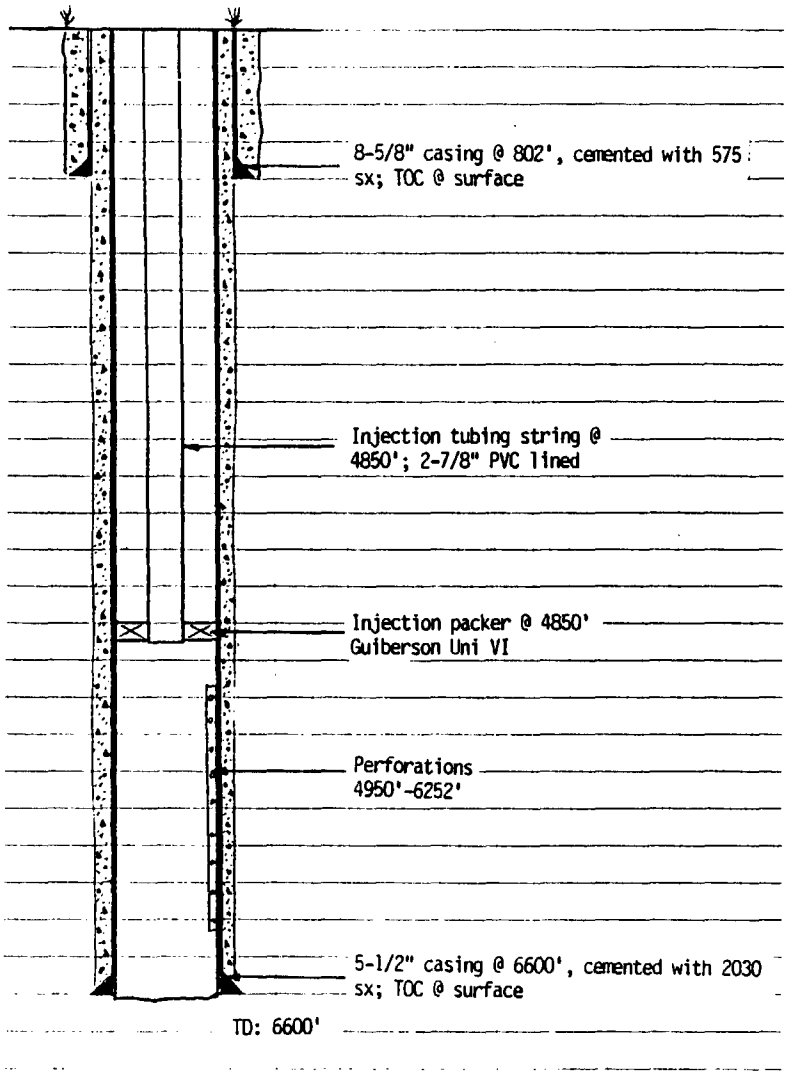
ITEM III-A

Pogo Producing Company

Red Tank "35" Federal No. 3

INJECTION WELL DATA SHEET

SCHEMATIC



TABULAR DATA

(1). LEASE: Red Tank "35" Federal WELL # 3

LOCATION: Sec. 35 TWP 22S Range 32E

County Lea

Footage 2310' FSL & 990' FWL

(2). CASING STRINGS:

Surface Casing

Size 8-5/8" Depth 802' Cemented w/ 575 sx.

TOC surf. Determined by circulated

Hole size 12-1/4"

Intermediate Casing

Size _____ Depth _____ Cemented w/_____ sx.

TOC _____ Determined by _____

Hole size _____

Long String

Size 5-1/2" Depth 6600' Cemented w/ 2030 sx.

TOC surf. Determined by circulated

Hole size 7-7/8"

Injection interval, from 4950' to 6252' Ft.

(3). INJECTION TUBING STRING:

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

Setting depth 4850 Ft.

(4) INJECTION PACKER:

Size 5-1/2 in.; Make/Model Guiberson Uni VI

Setting depth 4850 Ft.

FORM C-108

ITEM III-B

Pogo Producing Company
Red Tank "35" Federal No. 3

INJECTION WELL DATA

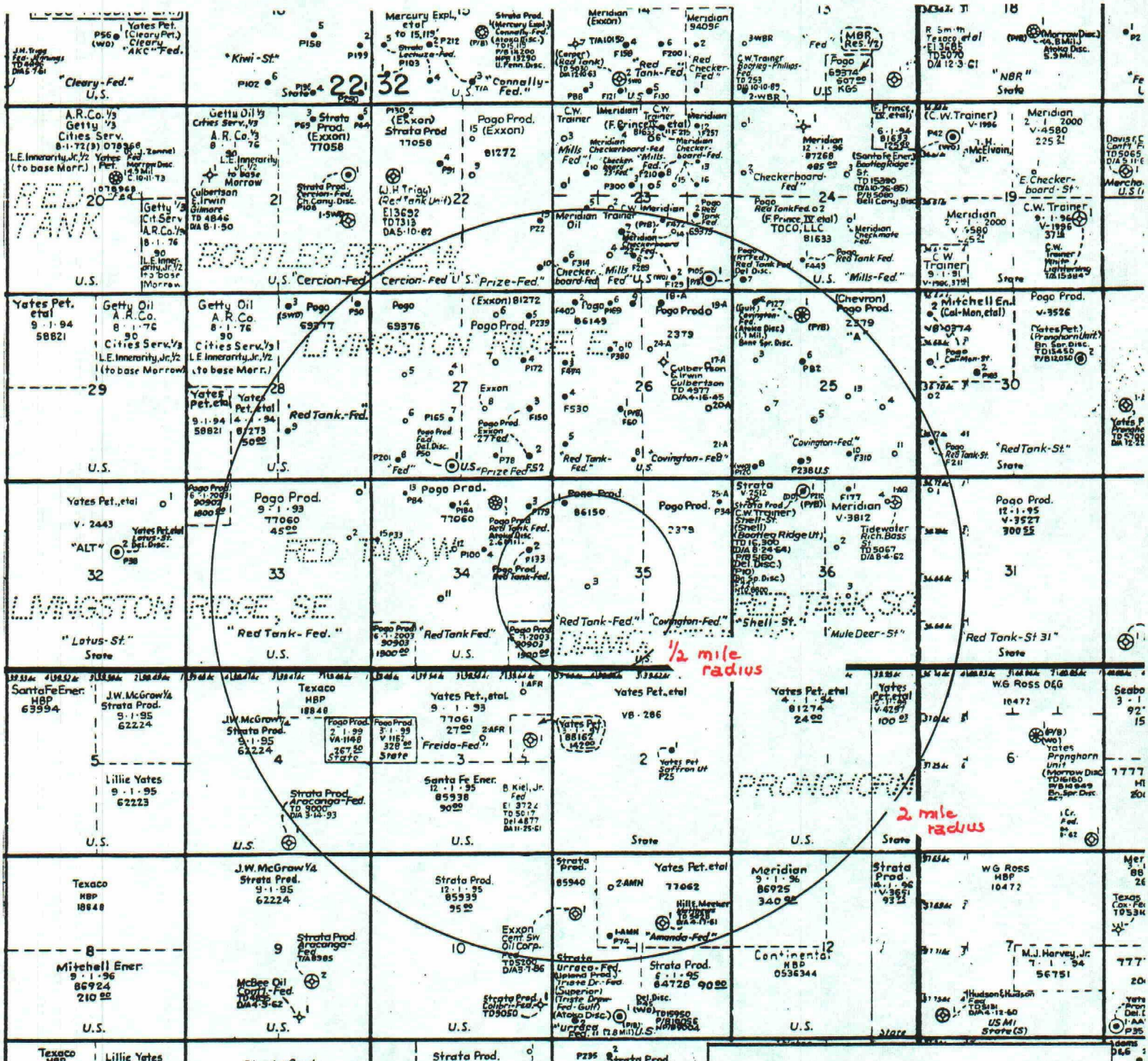
(1). Injection formation: Delaware (Bell Canyon and Upper Cherry Canyon)
Field/Pool: West Red Tank Delaware

(2). Injection interval; from 4950 ft. to 6252 ft.
Perforated XX Open Hole _____

(3). Original purpose well drilled -- drilled as SWD well

(4). Other perforated intervals; _____ Yes XX No
Squeezed with _____ sx., or isolated by _____

(5). Oil or gas productive zone(s):
Next higher: None
Next lower: Delaware (Lower Cherry Canyon) @ 7200'



SWD INJECTION PERMIT

LOCATION/AREA OF INTEREST MAP

POGO PRODUCING COMPANY
Red Tank "35" Federal No. 3
Section 35, T-22S, R-32E
Lea County, New Mexico

FORM C-108

ITEM VI

Pogo Producing Company
Red Tank "35" Federal No. 3

WELL DATA - AREA OF REVIEW

(1). Location: 660' FNL & 330' FWL, Sec. 35, T-22S, R-32E, Lea County

Operator: Pogo Producing Co. Lease: Red Tank "35" Federal Well # 1

Well type: Oil XXX Gas ____ D&A ____ Total depth 8800 ft.

Date drilled: Spud 12/14/93; Completed 1/19/94; Re-complete 1995

Completion Data: 13-3/8" @ 813' w/950 sx; 8-5/8" @ 4612' W/1800 sx, circ; 5-1/2" @ 8800' w/1500 sx, TOC 3100'; perf 8568'-82'; A/1000 gal; F/ 46,000 gal GW and 21,000# sd; IPP 153 BOPD + 159 BW; Set CIBP @ 7750'; perf 7226'-48'; A/1000 gal; F/36,000 gal GW + 57,000# 20/40 sd; test ppg 66 BOPD + 294 BW

Plugged ____ Date: ____ (Schematic attached)

(2). Location: 1980' FNL & 660' FEL Sec. 34, T-22S, R-32E, Lea County

Operator: Pogo Producing Company Lease: Red Tank "34" Federal Well # 2

Well Type: Oil XX Gas ____ D&A ____ Total Depth: 8900 ft.

Date Drilled: Spud 9/9/93; Complete 11/16/93; Re-complete 1995

Completion Data: 13-3/8" @ 820' w/900 sx; 8-5/8" @ 4570', circ,; 5-1/2" @ 8900' w/1530 sx; perf 8446'-68'; A/1000 gal 7-1/2%; F/48,500 gal GW + 67,500#; IPP 133 BOPD +249 BW; RBP @ 8000'; perf 7200'-50'; A/1200 gal; F/ 42,000 gal + 151,000# sd; test ppg 189 BOPD + 237 BLW

Plugged ____ Date ____ (Schematic attached)

( ). Location: ____

Operator: ____ Lease: ____ Well # ____

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

Date Drilled: ____

Completion Data: ____

Plugged ____ Date ____ (Schematic attached)

FORM C-108

ITEM VII

Pogo Producing Company
Red Tank "35" Federal No. 3

OPERATIONAL DATA

(1). Average expected injection rate: 1000 BWPD; maximum anticipated rate: 3000 BWPD

(2). Closed system

(3). Estimated average injection pressure: 750 psi.
Estimated maximum pressure: 990 psi.

(4). Source of injection water: Bone Spring and Delaware Sand water production from nearby Pogo operated wells

Analysis of waters attached. Exhibit I Exhibit II

(5). Analysis of injection zone water attached. Exhibit III
Data source: Mitchell Energy well Section 30, T-22S, R-33E, Lea Co. 02/26/93

FORM C-108

Pogo Producing Company
Red Tank "35" Federal No. 3

ITEM VIII

GEOLOGICAL DATA

INJECTION ZONE

Lithological description: sandstone, lt gray, fine - very fine grained, poorly consolidated, silty, poor cal cementing

Geological name: Delaware (Bell Canyon and Upper Cherry Canyon)

Zone thickness: 1312 ft.; Depth: 4950 ft.

FRESH WATER SOURCES

Geological name: Santa Rosa

Depth to bottom of zone: +/-650 ft.

ITEM IX

STIMULATION PROGRAM (Proposed)

ACIDIZE:

Volume: 3000 Type acid: 7-1/2% HCl/Pentol 100

Rate: 5 BPM; Misc. ball sealers

FRACTURE:

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

Prop type: 16/30 sand Volume (#): 250,000

Rate: 18-30 BPM; Conductor: 5-1/2 in.

Misc.

FORM C-108

Pogo Producing Company
Red Tank "35" Federal No. 3

ITEM X — LOGGING PROGRAM

Logging program included: Sp Den/GR

Copy of GR/D 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: Section 14, T-22S, R-31E

Date sampled: 5/24/78 Exhibit IV

Chemical analysis from well(s) located: _____

Date sampled: _____

ITEM XII — HYDROLOGY

Various engineering data and area well logs reveal no evidence that there might exist hydrologic connection between the intended injection zone (Bell Canyon) at 4950' and possible fresh water zone (Santa Rosa) above 650'.

ITEM XIII — COMMERCIAL INTENTION

Initially, only water from Pogo operated wells will be disposed into the system/well. Eventually, Pogo could take water from other leases in the area operated by someone else, but in which Pogo has a working interest. Only piped water will be taken into this system.

FORM C-108
ITEM VII(4)

ANALYSIS - Bone Spring
Produced Water

POGO PRODUCING COMPANY
Red Tank "35" Federal No. 3
Section 35, T-22S, R-32E
Lea County, New Mexico

EXHIBIT I

ANALYSIS REPORT

Date : 1-23-93
Date Sampled : 1-22-93
Analysis No. : 006

	ANALYSIS		mg/L		* meq/L
1.	pH	5.9			
2.	H2S	0			
3.	Specific Gravity	1.155			
4.	Total Dissolved Solids		243572.9		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	48.8	HCO3	0.8
12.	Chloride	Cl	151230.0	Cl	4266.0
13.	Sulfate	SO4	250.0	SO4	5.2
14.	Calcium	Ca	16840.0	Ca	840.3
15.	Magnesium	Mg	4140.2	Mg	340.6
16.	Sodium (calculated)	Na	71063.9	Na	3091.1
17.	Iron	Fe	0.0		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		59100.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

840	*Ca <----- *HCO3	1
	/------->	
341	*Mg -----> *SO4	5
	<----------/	
3091	*Na -----> *Cl	4266

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	0.8	65
CaSO4	68.1	5.2	354
CaCl2	55.5	834.3	46296
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	340.6	16215
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	3091.1	180643

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

REMARKS: L. MALLETT -FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
L. MALLETT

EXHIBIT II

FORM C-108
ITEM VII(4)

ANALYSIS - Lower Delaware Produced Water

POGO PRODUCING COMPANY
Red Tank "35" Federal No. 3
Section 35, T-22S, R-32E
Lea County, New Mexico

Nutro Products Co

P.O. Box 21187 Houston, Texas
Phone (713) 675-3421 * Fax (713)

WATER ANALYSIS

Date 06/08/95 Nutro Rep **TERRY SOLANSKY**
Sampling Point
Company **POGO PRODUCING** County
Field Lease **COVINGTON "A"** Well 9

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na^{+} (Calc.)	82,156	3,572
Total Hardness as Ca^{++}	26,560	0
Calcium, Ca^{++}	20,960	1,048
Magnesium, Mg^{++}	3,415	285
Barium, Ba^{++}	2	0
Iron (Total) Fe^{+++*}	30	2
ANIONS		
Chlorides, Cl^{-}	174,000	4,901
Sulfate, $SO_4^{=}$	225	5
Carbonate, $CO_3^{=}$	0	0
Bicarbonate, HCO_3^{-}	49	1
Sulfide, $S^{=*}$	0	0
Total Dissolved Solids (Calc.)	280,837	

OTHER PROPERTIES

pH*	5.200
Specific Gravity, 60°/60 F	1.179
TURBIDITY	>500

Remarks **SAMPLE TAKEN ON 05/02/95**

SCALING INDICIES

TEMP, F	CA CO_3	$CASO_4*2H_2O$	CA SO_4	BA SO_4
80	0.1101	-0.1998	-0.5770	0.0270
120	0.6873	-0.2122	-0.4089	-0.1128
160	1.5588	-0.2267	-0.2508	-0.3171

EXHIBIT III

FORM C-108
ITEM VII(5)

ANALYSIS - Injection Zone
Produced Water

POGO PRODUCING COMPANY
Red Tank "35" Federal No. 3
Section 35, T-22S, R-32E
Lea County, New Mexico

MARTIN WATER LABORATORIES,

P.O. Box 1468 Phone 943-3234 or 563-1040
Monahans, Texas 79756

709 W. Indiana Phone 682-4521
Midland, Texas 79701

RESULT OF WATER ANALYSES

LABORATORY NO. 3938
SAMPLE RECEIVED 3-3-93
RESULTS REPORTED 3-4-93

TO: Mr. Dan Tuffly
400 West Illinois, Suite 1000
Midland, TX 79701

API WATER ANALYSIS REPORT FORM

Company		Sample No.	Date Sampled
Mitchell Energy Corporation			2/26/93
Field	**Legal Description**	**County or Parish**	**State**
Bootleg Ridge		Lea	NM
Lease or Unit	**Well**	**Depth**	**Formation**	**Water, B/D**
Big Horn "30" State	#1	4946-4963	Delaware	
Type of Water (Produced, Supply, etc.)	**Sampling Point**		**Sampled By**
Produced			

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	61,383	2,668.8
Calcium, Ca	20,000	1,000.0
Magnesium, Mg	2,795	230.0
Barium, Ba	0	0.0

ANIONS		
Chloride, Cl	137,777	3,885.3
Sulfate, SO_4	566	11.8
Carbonate, CO_3	0	0.0
Bicarbonate, HCO_3	105	1.7

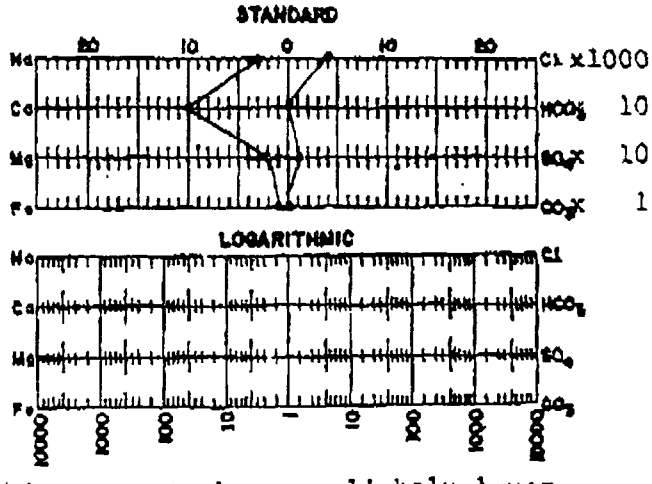
Total Dissolved Solids (calc.) 222,625

Iron, Fe (total) 18.0 0.7
Sulfide, as H_2S 0.0

OTHER PROPERTIES

pH	5.91
Specific Gravity, 60/60 F.	1.1481
Resistivity (ohm-meters) 77° F.	0.053
Total Hardness, as $CaCO_3$	61,500

WATER PATTERNS — me/l



REMARKS & RECOMMENDATIONS: The above results show this water to have a slightly lower level of sodium chloride than our predominant records in the area and also the water from Comanche State "17" #2. However, the characteristics are still those expected from natural Delaware; therefore, it is indicated to be all, or essentially all, natural Delaware.

FORM C-108
ITEM XI

ANALYSIS - Santa Rosa Water

POGO PRODUCING COMPANY
Red Tank "35" Federal No. 3
Section 35, T-22S, R-32E
Lea County, New Mexico

EXHIBIT IV

nical 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

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

11/29/95

GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC_____
DHC_____
NSL_____
NSP_____
SWD X
WFX_____
PMX_____

Gentlemen:

I have examined the application for the:

Pogo Producing Co Red Tank 35 Federal #3-L 35-22S-32E
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

COMPUTALOG CS400

SPECTRAL Pe DENSITY
GAMMA RAY

COMPANY POGO PRODUCING CO. | WELL RED TANK 35 FED. #3 | FIELD UNDES WRED TANK DEL. | COUNTY LEA | STATE NM

COMPANY POGO PRODUCING COMPANY
WELL RED TANK 35 FEDERAL #3 SWD
FIELD UNDES. WEST RED TANK DELAWARE
COUNTY LEA STATE N. MEXICO

LOCATION
API # NA
2310'FSL & 990'FWL
SEC. 35 TWP. 22 RGE. 32E

OTHER SERVICES:
NONE

PERMANENT DATUM GL ELEV. 3726
LOG MEASURED FROM KB 12.5 FT. ABOVE PERMANENT DATUM
DRILLING MEASURED FROM KB

ELEV.: K.B. 3738.5
D.F. 3737.5
G.L. 3726

DATE	10-30-95			
RUN NO.	ONE			
DEPTH-DRILLER	6600			
DEPTH-LOGGER	6598			
BTM. LOG INTER.	6595			
TOP LOG INTER.	SURF			
CASING-DRILLER	8-5/8 @ 802	@	@	@
CASING-LOGGER	804			
BIT SIZE	7-7/8			
FLUID TYPE	BRINE			
DENS. VISC.	10.0 29			
PH FLUID LOSS	10 NA ML	ML	ML	ML
SOURCE OF SAMPLE	MUD PIT			
RM @ MEAS. TEMP.	.030 @ 80 F	@ F	@ F	@ F
RMF @ MEAS. TEMP.	.024 @ 80 F	@ F	@ F	@ F
RMC @ MEAS. TEMP.	NA @ NA F	@ F	@ F	@ F
SOURCE: RMF/RMC	CALC NA			
RM @ BHT	.028 @ 118F	@ F	@ F	@ F
TIME SINCE CIRC.	5.5 HOURS			
MAX. REC. TEMP.	118 F @ TD	F@	F@	F@
EQUIP. LOCATION	3028 ODES			
RECORDED BY	DOENZ			
WITNESSED BY	AMF