POGO PRODUCING COMPANY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 23, 1996

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

Re: Diamond Prospect NM-609
Lea County, New Mexico
Application for Administrative
Approval to Inject Saltwater
into the Diamond "34" State No. 1 Well
located 990' FSL & 1650' FWL Section 34,
T-22-S, R-33-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:Diamond.609

Enclosure

cc: New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505
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 July 23, 1996
regarding Pogo's Application for Administrative Approval
to Inject Saltwater into the Diamond "34" State No. 1 Well

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762
Attention: Mr. Jamie Welin

Enron Oil & Gas Company
P. O. Box 2267
Midland, Texas 79702
Attention: Mr. Patrick Tower

Baber Well Serving Company
Pronghorn Management Corp.
P. O. Box 1772
Hobbs, New Mexico 88240
Attention: G. A. Baber, III

CNG Producing Company
CNG Tower
1450 Poydras Street
New Orleans, Louisiana 70112-6000
Attention: Ms. Donna Mullin

New Mexico State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Attention: Surface Division

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:
CNG Producing Company
CNG Tower
1450 Poydras Street
New Orleans, LA
70112-6000
Attn: Donna Mullin

4a. Article Number
Z 296 659 199

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)
[signature]

8. Addressee's Address (Only if requested and fee is paid)
Diamond NM-609

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.
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- 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:
Faber Well Servicing Company
Prong Horn Management Corp
P. O. Box 1772
Hobbs, NM 88240
Attn: G. A. Faber, III

4a. Article Number
Z 296 652 125

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

7. Date of Delivery
7-24-96

5. Signature (Addressee)

6. Signature (Agent)
[signature] Lana Martinez

8. Addressee's Address (Only if requested and fee is paid)
Diamond NM-609

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.
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1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Phillips Petroleum Company
Attn: Janice Walker
4001 Penbrook
Odessa, TX 79762

4a. Article Number

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

7. Date of Delivery
7-25-96

5. Signature (Addressee)
[signature]

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)
Diamond NM-609

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.
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- 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:
Exxon Oil & Gas Company
Attn: Patrick Tower
P.O. Box 2267
Midland, TX 79702

4a. Article Number
Z 296 652 200

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

7. Date of Delivery JUL 24 1996

5. Signature (Addressee)

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

6. Signature (Agent)
B Bolinger

Diamond NM-609

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.
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- 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:
New Mexico State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148
Attn: Surface Division

4a. Article Number
Z 107-967-672

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

SANTA FE, NM
7. Date of Delivery OCT 01 1996

5. Signature (Addressee)
John Romero

8. Addressee's Address (Only if requested and fee is paid)
PS-8750

6. Signature (Agent)

Diamond NM-609 SWD

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

and numbered ... in the ... Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, one day, for one (1) day consecutive weeks, beginning with the issue of July 23, 19 96 and ending with the issue of July 23, 19 96.

And that the cost of publishing said notice is the sum of $ 16.98 which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 23rd day of July, 19 96

Jean Lewis
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 Diamond "34" State #1 Well, located 990' FSL & 1650' FWL of Section 34, T-22-S, R-33-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 5,100'-6,516' beneath the surface, with an expected maximum injection rate of approximately 3,000 BOWPB with an expected maximum injection pressure of approximately 1020 psi. Any interested parties must file objections or requests for a hearing with the New Mexico Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505 within fifteen (15) days from the date of Pogo's Application.

Published in the Lovington Daily Leader July 23, 1996.

SWD-640

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

8/14/96

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 Diamond 34 State # 1-N 34-22-33
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

CNG Producing Company

A **CNG** COMPANY

CNG Tower
1450 Poydras Street
New Orleans, LA 70112-6000
(504) 593-7000

RECEIVED
AUG 14 1996
MIDLAND

August 9, 1996

Mr. Terry Gant
Pogo Producing Company
Post Office Box 10340
500 West Illinois, Suite 600
Midland, Texas 797020-7340

Re: Diamond Prospect
Diamond "34" State No. 1 Well
Section 34-22S-33E N.M.P.M.
Lea County, New Mexico

Dear Mr. Gant:

In respose to your letter dated July 23, 1996, CNG has no objection to your request to make the above referenced well a SWD Well.

Please feel free to call me at (504) 593-7109 should you have any questions or require additional information.

Sincerely yours,

CNG PRODUCING COMPANY

Janie L. McNabb
Land Assistant
West Central/Development

/jlm

cc: Ed Amrock
Andy Janes

F:\HOME\MCNABBJL\EAMROCK\AUGUST\POGO.LTR

SANTA FE, NEW MEXICO 87501

APPLICATION FOR AUTHORIZATION TO INJECT

POGO PRODUCING COMPANY
Diamond "34" State No. 1

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 correc to the best of my knowledge and belief.

Name: Bill F. Halepeska Title Agent

Signature: Bill Halepeska Date: 07/12/96

* 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.

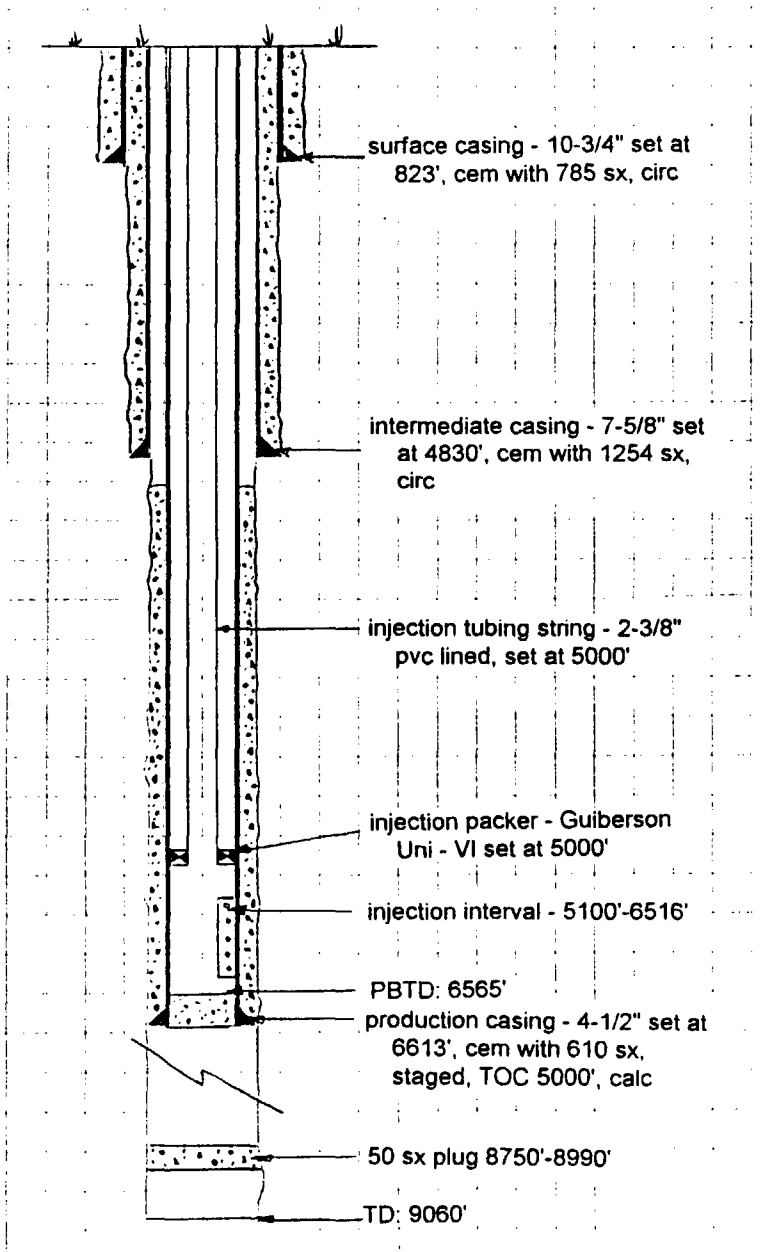
FORM C-108

ITEM III-A

Pogo Producing Company
Diamond "34" State No. 1

INJECTION WELL DATA SHEET

SCHEMATIC



TABULAR DATA

(1). LEASE: Diamond "34" State WELL # 1

LOCATION: Sec. 34 TWP 22-S Range 33-E

County Lea

Footage 990' FSL &1650' FWL

(2). CASING STRINGS:

Surface Casing

Size 10-3/4 Depth 823' Cemented w/ 785 sx.

TOC surf Determined by circulated

Hole size 14-3/4"

Intermediate Casing

Size 7-5/8 Depth 4830' Cemented w/ 1254 sx.

TOC surf Determined by circulated

Hole size 9-7/8"

Long String

Size 4-1/2 Depth 6613' Cemented w/ 610 sx.

TOC 5000 Determined by calculated

Hole size 6-3/4"

Injection interval, From 5100' to 6516 Ft.

(3). INJECTION TUBING STRING:

Size 2-3/8in., coated/lined with PVC

Setting depth 5000 Ft.

(4) INJECTION PACKER:

Size 4-1/2in.; Make/Model Guiberson Uni VI

Setting depth 5000 Ft.

FORM C-108

ITEM III-B

Pogo Producing Company
Diamond "34" State No. 1

INJECTION WELL DATA

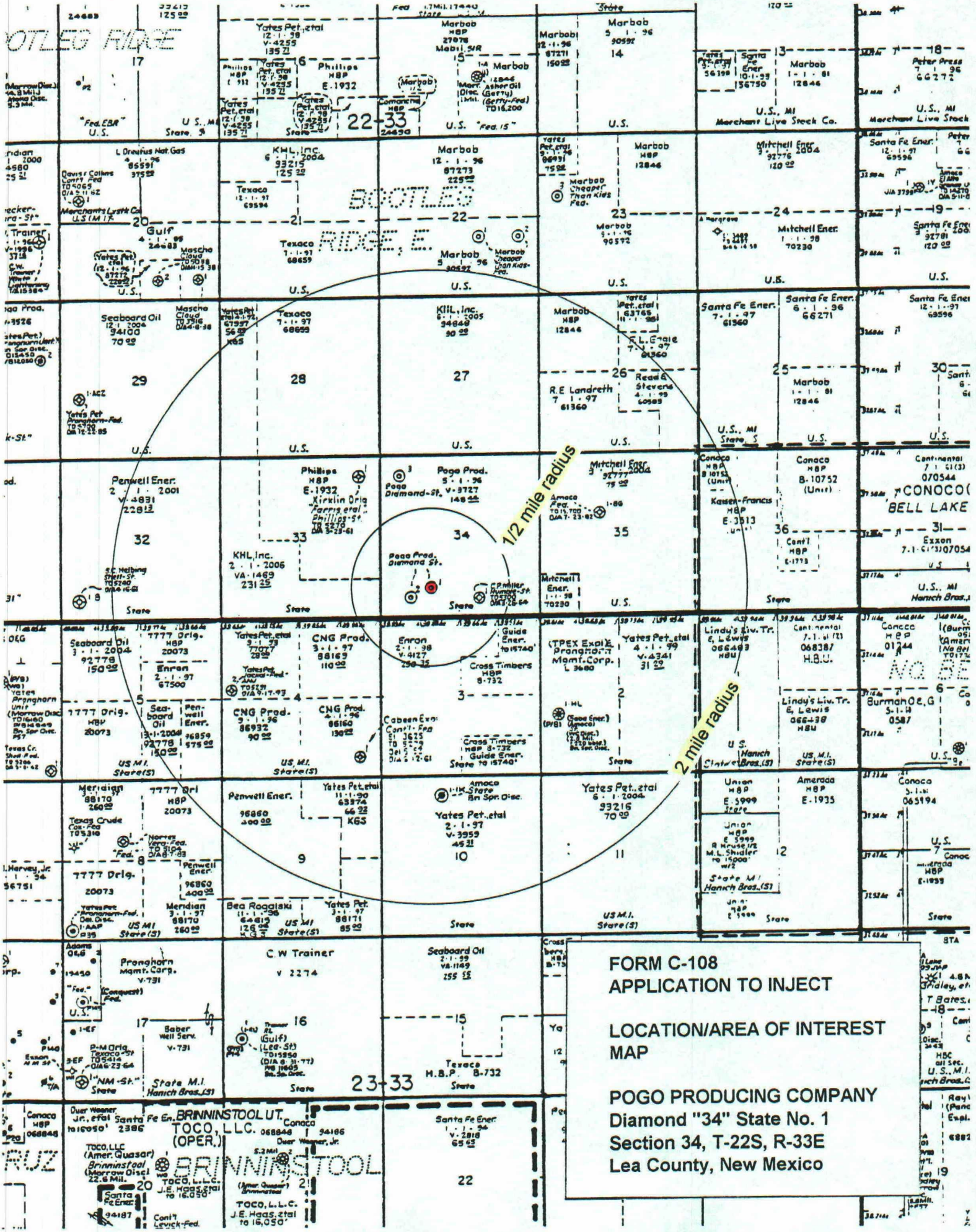
(1). Injection formation: Delaware (Bell Canyon and Up. Cherry Cn.
Field/Pool: Bell Lake, North (Bone Spring)

(2). Injection interval, from 5100 ft. to 6516 ft.
Perforated XX Open Hole _____

(3). Original purpose well drilled -- Bone Spring and Lowr Delaware test

(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: Bone Spring - 9460'



FORM C-108
APPLICATION TO INJECT

LOCATION/AREA OF INTEREST
MAP

POGO PRODUCING COMPANY
Diamond "34" State No. 1
Section 34, T-22S, R-33E
Lea County, New Mexico

FORM C-108

ITEM VI

Pogo Producing Company
Diamond "34" State No. 1

WELL DATA - AREA OF REVIEW

(1). Location: 660' FSL & 1980' FEL Sec. 34, T-22-S, R-33-E

Operator: C. P. Miller Lease: Humble State Well # 1

Well type: Oil ____ Gas ____ D&A XX Total depth 5300 ft.

Date drilled: 3/16/64 Compl. 3/26/64

Completion Data: 8-5/8" set @ 365' cem w/200 sx; crd 5133'-84', rec 51' sand and shale, NS; D & A

Plugged XX Date: 3-26-64 (Schematic attached)

(2). Location: _____

Operator: _____ Lease: _____ Well # ____

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

Date Drilled: _____

Completion Data: _____

FORM C-108

ITEM VII

Pogo Producing Company
Diamond "34" State No. 1

OPERATIONAL DATA

(1). Average expected injection rate: 1500 BWPD; maximum anticipated rate: 3000 BWPD

(2). Closed system

(3). Estimated average injection pressure: 800 psi.
Estimated maximum pressure: 1020 psi.

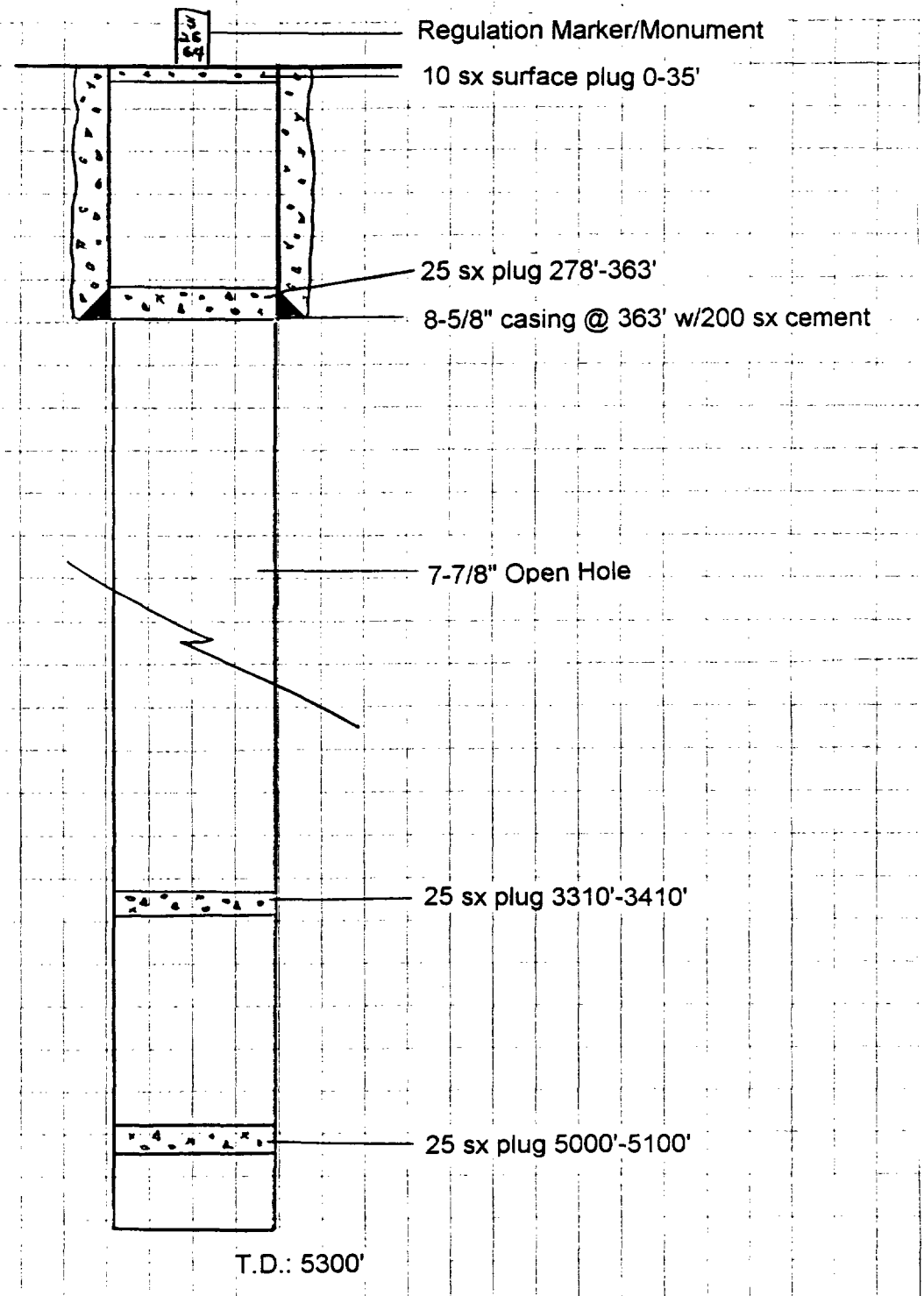
(4). Source of injection water: produced water from Red Tank Field; transferred from the Red Tank "35" Federal No. 3 system
Analysis of waters attached. Exhibits I and II

(5). Analysis of injection zone water attached. Exhibit III
Data source: Mitchell Energy; Sec. 30, T-22-S, R-33-E

FORM C-108, ITEM VI(1)

C. P. MILLER - HUMBLE STATE NO. 1
Sec. 34, T-22-S, R-33-E
660' FSL & 1980' FEL
Lea County, New Mexico

BOREHOLE SKETCH - P&A



NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-103
(Rev 3-55)

MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

Name of Company	Address
Charles P. Miller	

Lease	Well No.	Unit Letter	Section	Township	Range
Humble-State	1	O	34	22 South	33 East

Date Work Performed	Pool	County
3-26-64 and 4-14-64	Undesignated (Wildcat)	Lea

THIS IS A REPORT OF: *(Check appropriate block)*

- ☐ Beginning Drilling Operations
- ☐ Casing Test and Cement Job
- ☒ Other *(Explain)*: Back filling pits and clearing location site
- ☒ Plugging
- ☐ Remedial Work

Detailed account of work done, nature and quantity of materials used, and results obtained.

25 sacks of cement were set in top of the Lamar lime at depth of 5100 feet. 25 sacks of cement were set at the base of Salado salt at depth of 3410 feet. 25 sacks of cement were set at the base of Rustler Anhydrite at a depth of 1040 feet. 25 sacks of cement were set at the bottom of the 8-5/8" casing at a depth of 363 feet. 10 sacks of cement were set in top of the 8-5/8" casing with a Regulation marker set therein. (This portion of work was performed on March 26, 1964)

Pits were back filled and location site cleared on April 4, 1964.

Witnessed by	Position	Company
R. Malcin	Co-Operator	Charles P. Miller

FILL IN BELOW FOR REMEDIAL WORK REPORTS *ONLY*

ORIGINAL WELL DATA

D F Elev.	T D	P B T D	Producing Interval	Completion Date

Tubing Diameter	Tubing Depth	Oil String Diameter	Oil String Depth

Perforated Interval(s)	

Open Hole Interval	Producing Formation(s)

RESULTS OF WORKOVER

Test	Date of Test	Oil Production BPD	Gas Production MCFPD	Water Production BPD	GOR Cubic feet/Bbl	Gas Well Potential MCFPD
Before Workover						
After Workover						

OIL CONSERVATION COMMISSION

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

Approved by: Leslie A. Clements

Name: Charles P. Miller

Title: ORIGINAL SIGNED BY: LESLIE A. CLEMENTS OIL & GAS INSPECTOR

Position: Co-Operator

Date:

Company: Charles P. Miller

FORM C-108

Pogo Producing Company
Diamond "34" State No. 1

ITEM VIII

GEOLOGICAL DATA

INJECTION ZONE

Lithological description: sd, lt gray, fine-v. f. grained, poorly consol., silty, poor cal cementing

Geological name: Delaware (Bell Canyon & Up. Cherry Cn.

Zone thickness: 1416 ft.; Depth: 5100 ft.

FRESH WATER SOURCES

Geological name: Santa Rosa

Depth to bottom of zone: 650 ft.

ITEM IX

STIMULATION PROGRAM (Proposed)

ACIDIZE: per zone

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

Rate: 3-5 BPM; Misc. ball sealers as required to assure maximum breakdown

FRACTURE:

Fluid volume: 30,000 gal.; Type: XLGW

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

Rate: 15-20 BPM; Conductor: 4-1/2 in.

Misc.

FORM C-108

Pogo Producing Company
Diamond "34" State No. 1

ITEM X

LOGGING PROGRAM

Logging program included: GR-CND (Z) & DIFL-SP

Copy of GR-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, T-22-S, R-31-E

Date sampled: 5/21/78

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 5100' and possible fresh water at above 650' (Santa Rosa)

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
Diamond "34" State No. 1
Section 34, T-22S, R-33E
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

Saturation Values Dist. Water 20 C
CaCO3 13 mg/L
CaSO4 * 2H2O 2090 mg/L
BaSO4 2.4 mg/L

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

REMARKS: L. MALLETT -FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
L. MALLETT

FORM C-108
ITEM VII(4)

ANALYSIS - Lower Delaware Produced Water

POGO PRODUCING COMPANY
Diamond "34" State No. 1
Section 34, T-22S, R-33E
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
Field Lease COVINGTON "A" Well 9

DISSOLVED SOLIDS

CATIONS	mg/l	me/1
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
Produce Water

POGO PRODUCING COMPANY
Diamond "34" State No. 1
Section 34, T-22-S, R-33-E
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 ANALYSIS

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

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

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

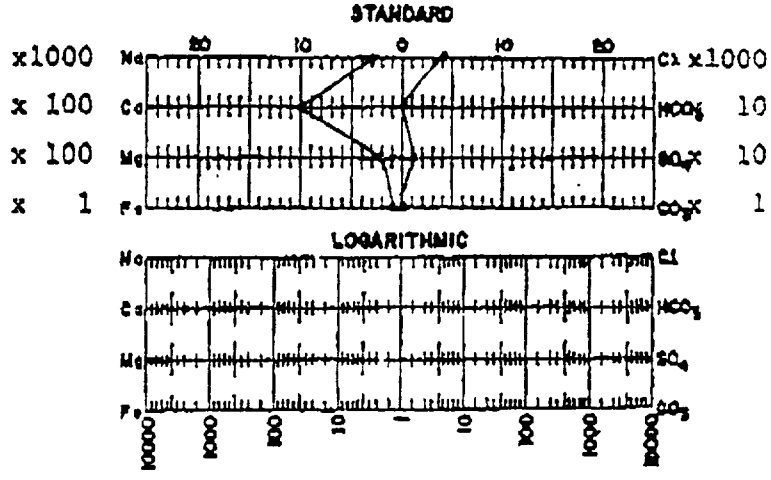
Total Dissolved Solids (calc.)	222,625
Iron, Fe (total)	18.0
Sulfide, as H_2S	0.0

0.7

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.

ITEM XI

ANALYSIS - Santa Rosa Water

POGO PRODUCING COMPANY
Diamond "34" State No. 1
Section 34, T-22-S, R-33-E
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

WESTERN ATLAS

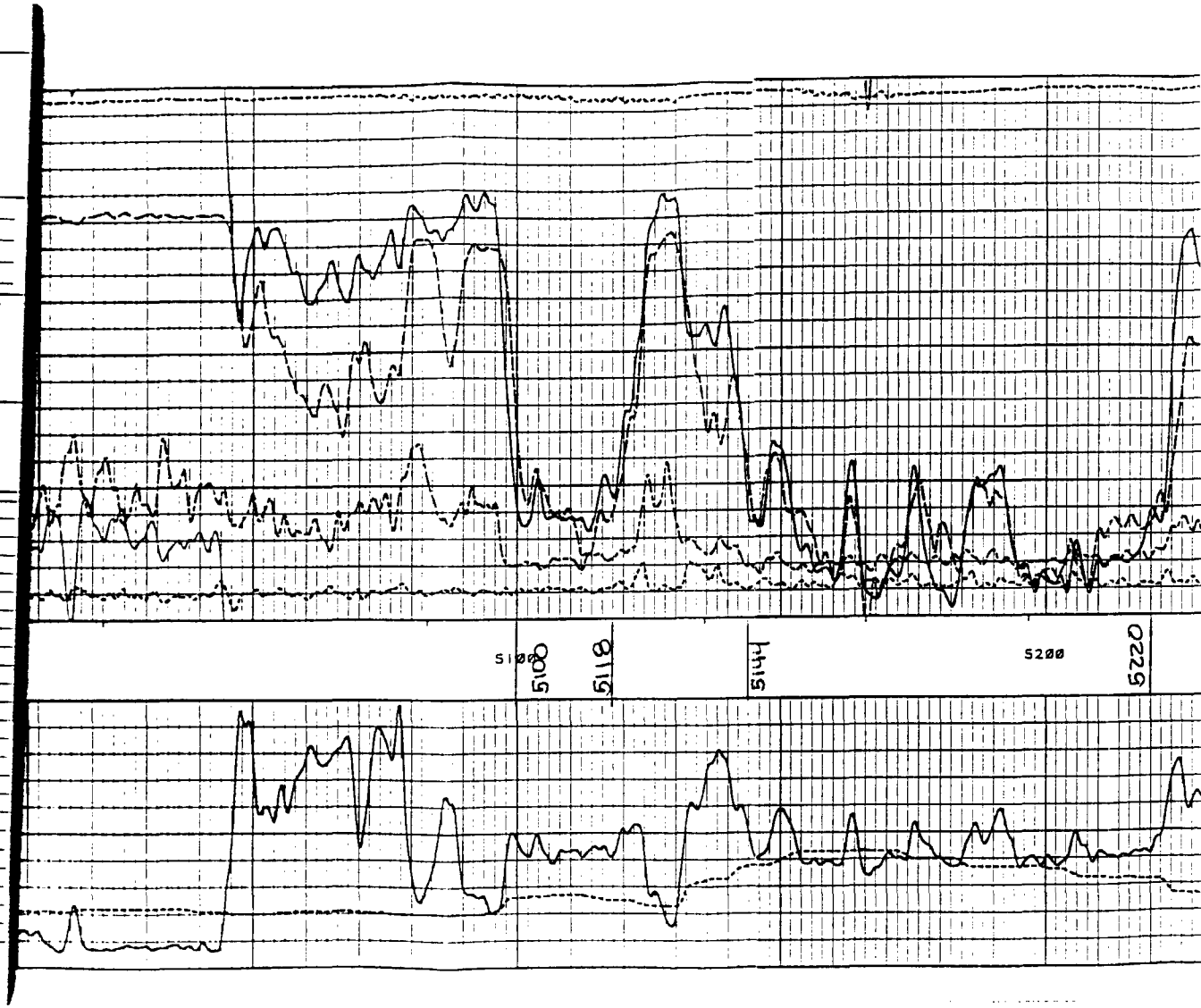
COMPENSATED Z-DENSILOG™
COMPENSATED NEUTRON LOG
GAMMA RAY LOG

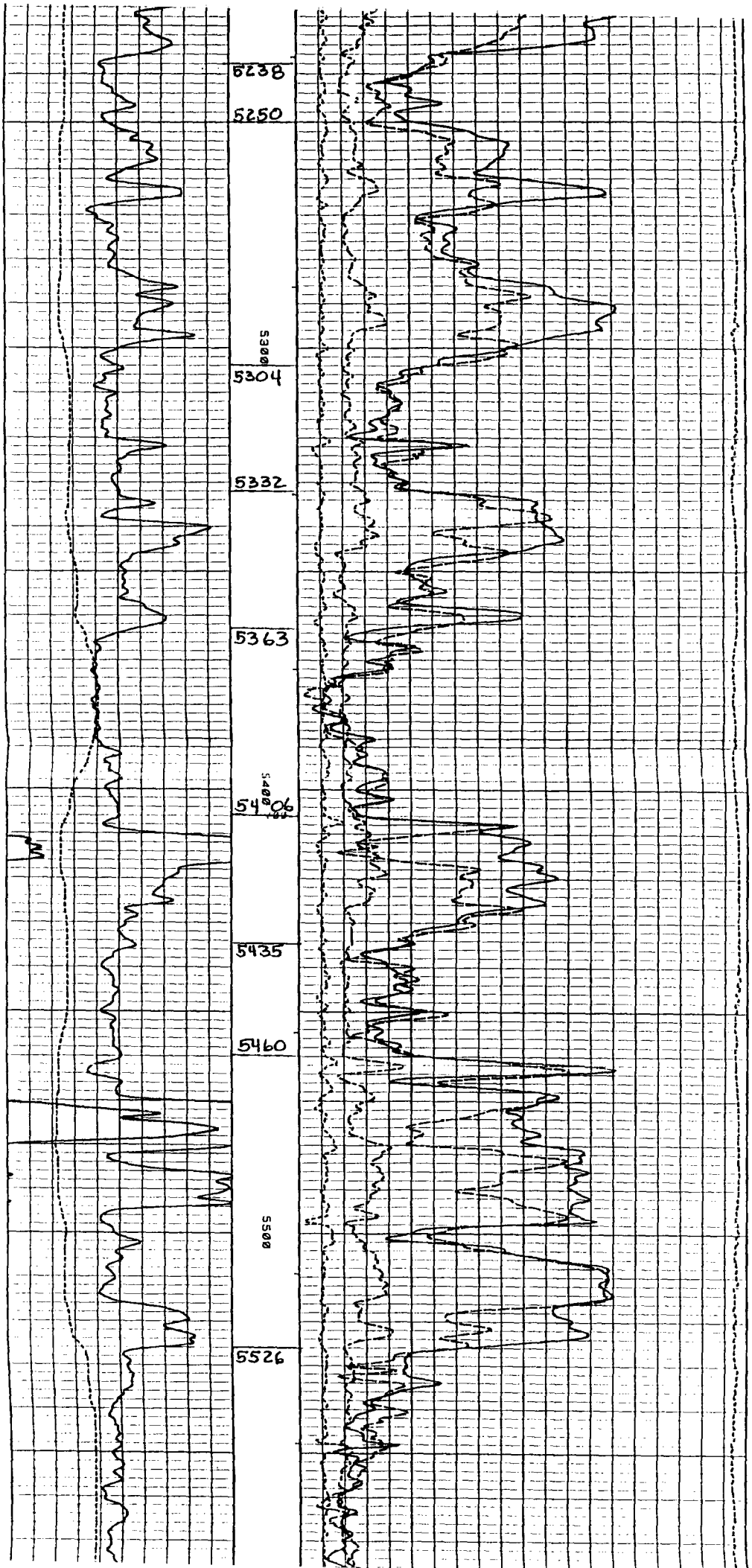
FILE NO: MD3560	COMPANY POGO PRODUCING COMPANY	
API NO: 30-025-33387	WELL DIAMOND "34" STATE NO.1	
	FIELD WILDCAT (BONE SPRING)	
	COUNTY LEA STATE NEW MEXICO	
FINAL PRINT	LOCATION: 990' FSL & 1650' FWL SEC 34 TWP 22-S RGE 33-E	OTHER SERVICES DIFL/SP

PERMANENT DATUM G.L. ELEVATION 3576 FT
LOG MEASURED FROM K.B. 12.5 FT ABOVE P.D.
DRILL. MEAS. FROM K.B.

ELEVATIONS
KB 3588.5 FT
DF 3587.5 FT
GL 3576 FT

DATE	04 JULY 1996		
RUN	ONE		
SERVICE ORDER	162112		
DEPTH DRILLER	9060 FT		
DEPTH LOGGER	9054 FT		
BOTTOM LOGGED INTERVAL	9054 FT		
TOP LOGGED INTERVAL	0 FT		
CASING - DRILLER	7.625 IN	@4838 FT	@
CASING LOGGER	4820 FT		
BIT SIZE	6.75 IN		
TYPE OF FLUID IN HOLE	FRESH WATER/GEL		
DENSITY / VISCOSITY	8.6 LB/G	29 S	
PH / FLUID LOSS	10		
SOURCE OF SAMPLE	CIRCULATION TANK		
RM AT MEAS. TEMP.	1.26 OHMM	@80 DEGF	@
RMF AT MEAS. TEMP.	1.26 OHMM	@80 DEGF	@
RMC AT MEAS. TEMP.		@	@
SOURCE OF RMF / RMC	MEASURED		
RM AT BHT	0.725 OHMM	@139 DEGF	@
TIME SINCE CIRCULATION	4.5 HOURS		
MAX. RECORDED TEMP.	139 DEGF		
EQUIP. NO. / LOCATION	HL 5598	MIDLAND	
RECORDED BY	B.A. JOHNSON		
WITNESSED BY	BUD CULBERT		

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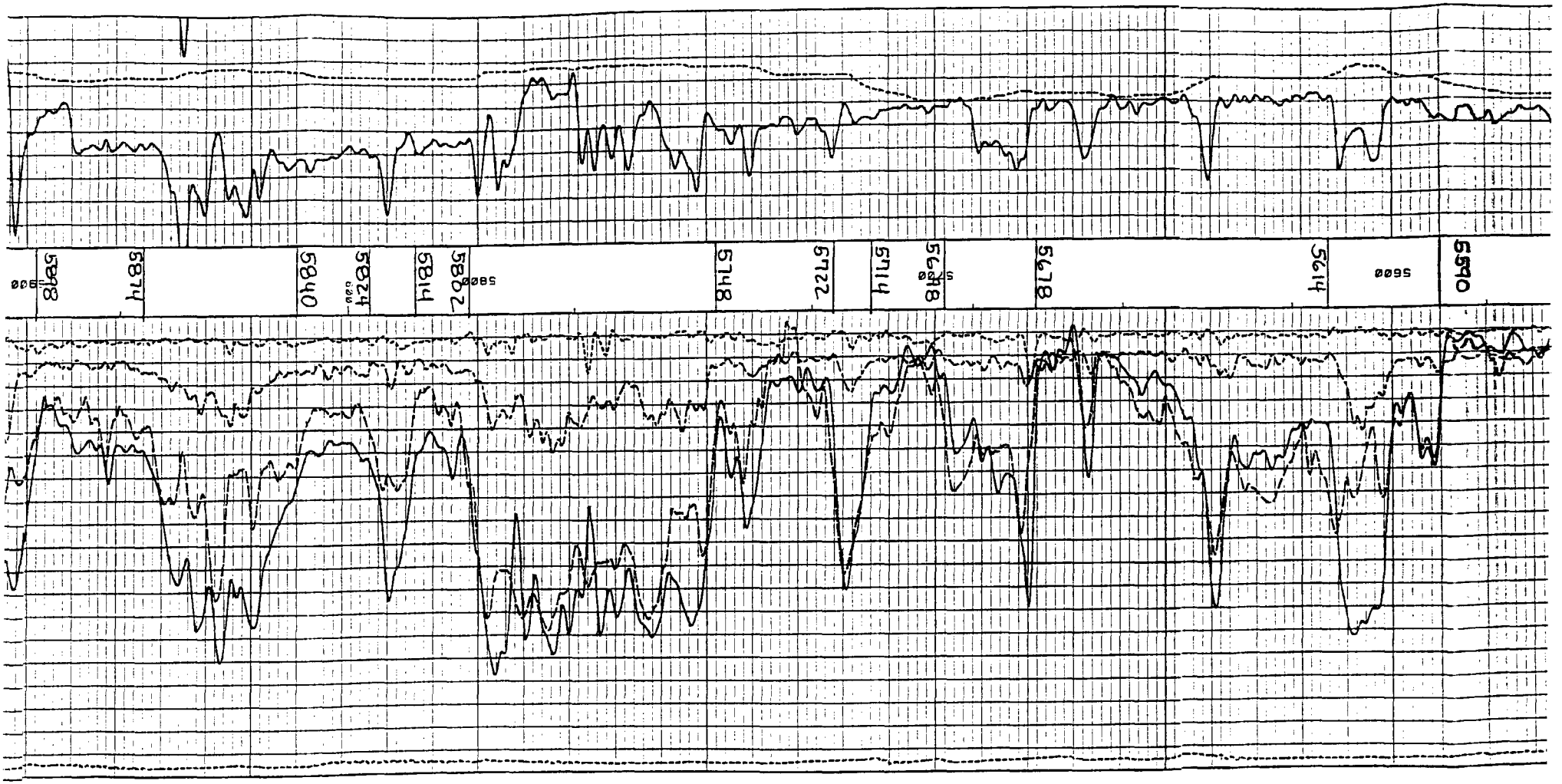
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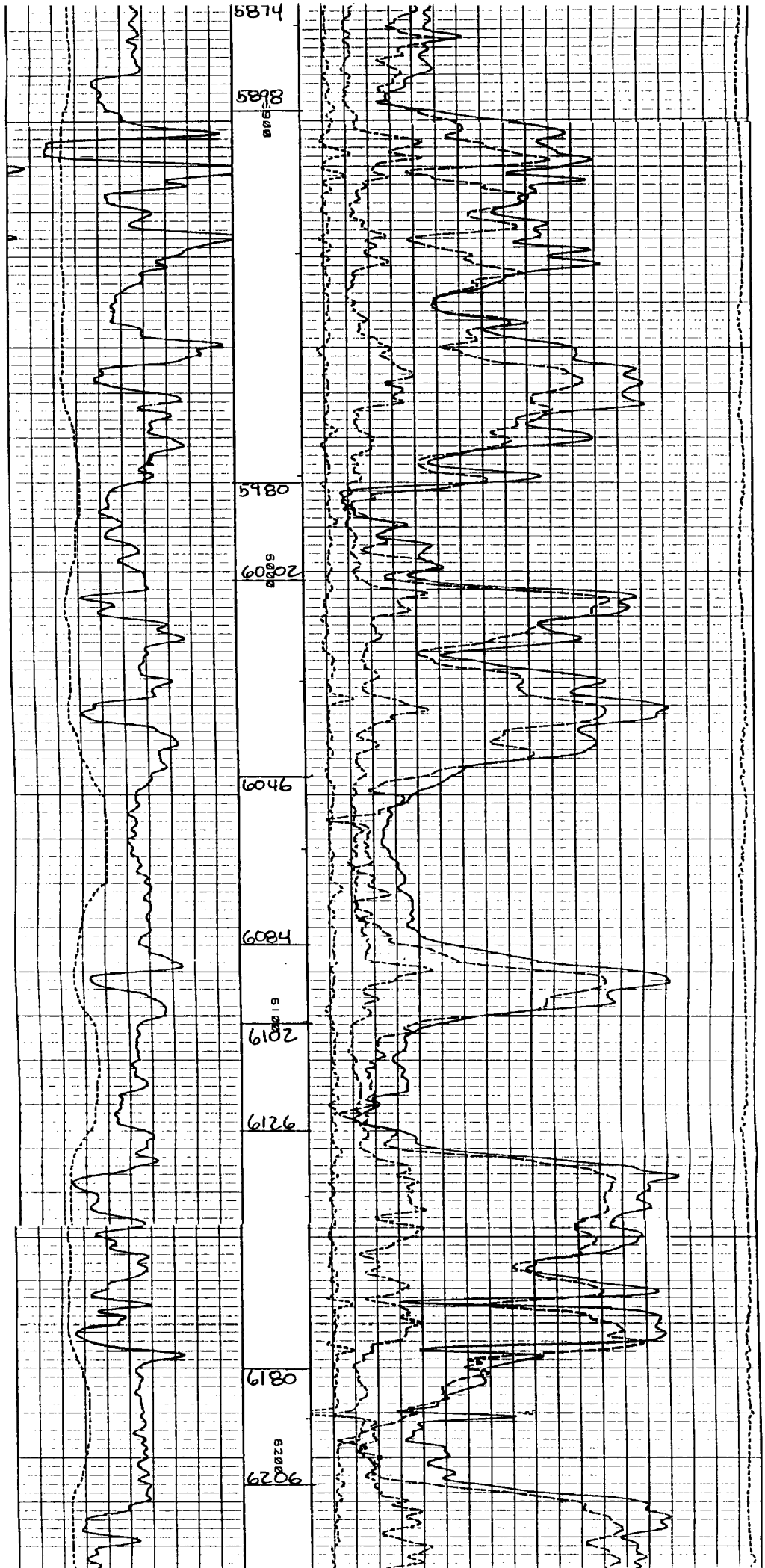
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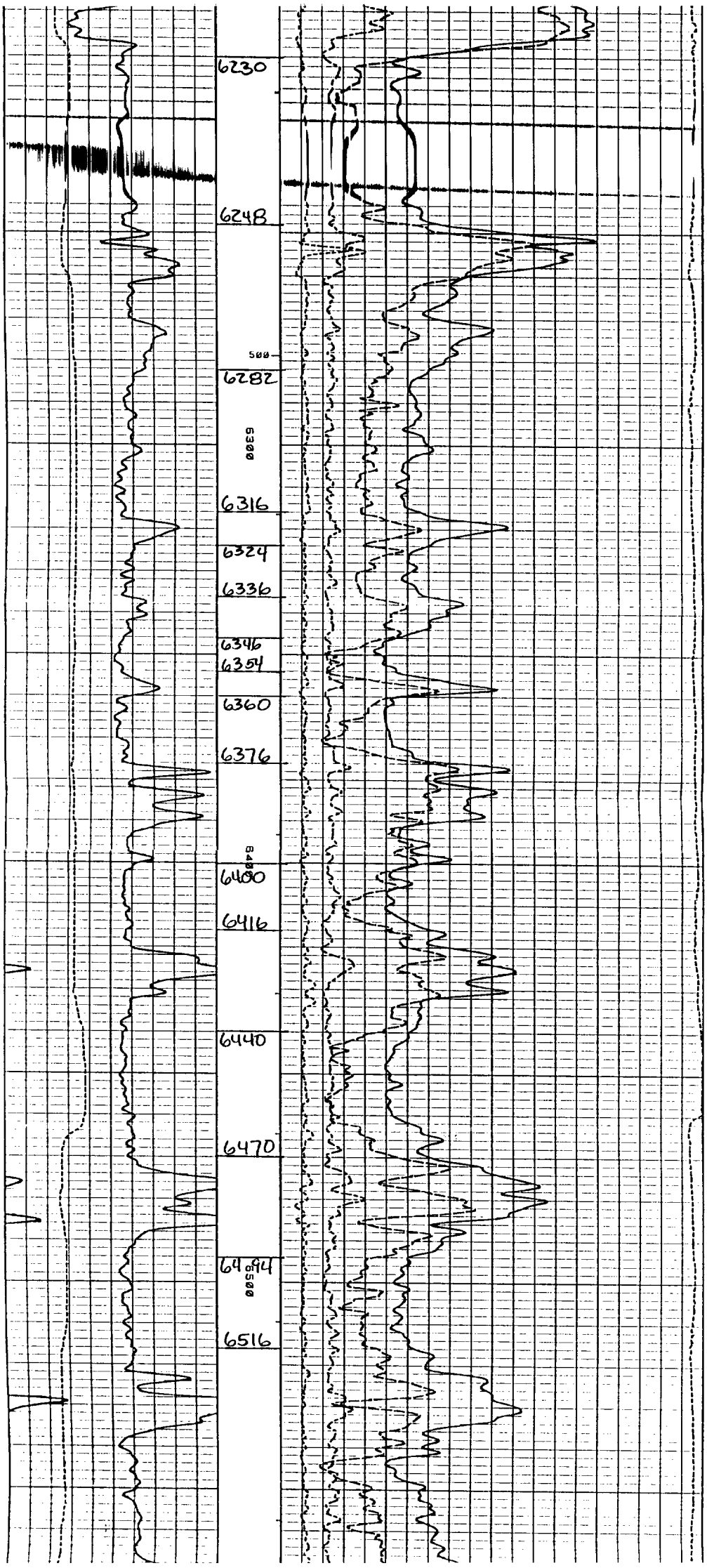
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