AE Order Number Banner

Application Number: pEG2515549302

Initial

Application

Part I

SWD-2657

RAYBAW Operating, LLC [330220]

Received: 5/28/2025

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau –
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: RAYBAW OPERATING, LLC **OGRID Number:** 330220
Well Name: CORBIN-ABO SWD #G-31 **API:** 3002501337
Pool: SWD; SAN ANDRES **Pool Code:** 96121

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD
Salt Water Lease obtained from surface owner Concho Land Co., LTD, John Norris
B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☐ Notification and/or concurrent approval by SLO
E. ☐ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☒ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

MAY 28, 2025
Date

Jack Carter
Print or Type Name

281-387-6515
Phone Number

Jack Carter
Signature

jack@oaknrg.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X Disposal _____ Storage
Application qualifies for administrative approval? X Yes _____ No

II. OPERATOR: RAYBAW OPERATING, LLC

ADDRESS: 2626 COLE AVE, SUITE 300, DALLAS, TEXAS 75204

CONTACT PARTY: NANCY WINN PHONE: 281-793-5452

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 X 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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources 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 sources 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: Jack Carter TITLE: Land Consultant

SIGNATURE: Jack Carter DATE: 05/27/2025

E-MAIL ADDRESS: jack@oaknrg.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: Administrative Order SWD-890; dated/approved 09/23/2003
C-108 filed by Southwestern Energy Production Company dated 08/11/2003

DISTRIBUTION: File Electronically Via OCD Permitting

Side 2

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 the 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, 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.

APPLICATION FOR REINSTATEMENTOF PERMIT TO INJECT
DATA SECTION SUBMISSIONS
CORBIN-ABO SWD G-31 (30-025-01337)

Raybaw Operating, LLC
Corbin-Abo SWD #G-31
Unit Letter "G", Section 31, Township 17 South, Range 33 East
1,980' FNL, 1,980' FEL
Lea County, New Mexico

DOCUMENTATION FOR FORM C-108

Section "I"

- *Purpose*

The purpose of this application is seeking administrative approval for the reinstatement of the Corbin- Abo SWD #G-31 from shut-in status as a disposal well in the Grayburg-San Andres to an active private lease salt water disposal well in the Grayburg-San Andres. (Original SWD authority was granted under Administrative Order SWD-890 Approved September 23, 2003)

Section "II"

- *Operator, Address, Contact Party, Phone.*
  - Raybaw Operating, LLC OGRID: 330220
  - 2626 Cole Avenue, Suite 300, Dallas, Texas 75204
  - Manager: Michael Lee Phone: 214-800-2301 Email: michael@raybawoperating.com

Section "III"

- *Complete the data required on the reverse side of Form C-108 for each well proposed for injection.*
  - Form C-108 provided data sheets completed additionally:
  - Exhibit "1": Corbin-Abo SWD #G-31 detail wellbore schematic
  - Exhibit "1a": Corbin-Abo SWD #G-31 detail well descriptive data sheet

Section "IV"

- *Identify scope/nature of project.*
  - The Corbin-Abo SWD #G-31 request is not an expansion of an existing project
  - The Corbin-ABO SWD #G-31 application request is limited to seeking approval for the reinstatement of permit to dispose of produced waters from company only operated wells

Section "V"

- *Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.*
  - Exhibit "2": Well Base Map showing all wells within one (1) mile radius of the Corbin-Abo SWD #G-31 – Noted as the Area Of Review.
  - Exhibit "2A": Well Base Map showing all wells within two (2) mile radius of the Corbin-Abo SWD #G-31.
  - Exhibit "2B" Land Base Map showing all leases within two (2) mile radius of the Corbin-Abo SWD #G-31

Section "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.*
  - Exhibit "3": Well data tabulation (four (4) pages)
  - Exhibit "3a" Plugging schematic of Ambrose 36 State Com #1, API 3002538277, S36 T17SR32E,

(TD 13740)
- Exhibit "3b" Plugging schematic of MA E #1 aka State CF #1, API 3002500830, S36 T17SR32E, (TD 8816)
- Exhibit "3c" Plugging schematic of Maud Saunders #4, API 300250556, S30 T17SR33E, (TD 8950)
- Exhibit "3d" Plugging schematic of State B #1, API 3002501335, S31 T17SR33E, (TD 8898)
- Exhibit "3e" Plugging schematic of Federal MA A#1, API 3002501339, S31 T17SR33E, (TD 8652)
- Exhibit "3f" Plugging schematic of Fee MA B #7, API 3002536747, S31 T17SR33E, (TD 8442)
- Exhibit "3g" Plugging schematic of Fee MA B #5, API 3002536495, S31 T17SR33E, (TD 6041)
- Exhibit "3h" Plugging schematic of Fee MA B #4, API 3002536494, S31 T17SR33E, (TD 5150)
- Exhibit "3i" Plugging schematic of State C #2, API 3002501354, S32 T17SR33E, (TD 8809)
- Exhibit "3j" Plugging schematic of State 245 #3, API 3002501348, S32 T17SR33E, (TD 5200)
- Exhibit "3k" Plugging schematic of State CD #3, API 3002501345, S32 T17SR33E, (TD 4810)
- Exhibit "3l" Plugging schematic of State CD #2, API 3002521636, S32 T17SR33E, (TD 4766)
- Exhibit "3m" Plugging schematic of State 32 #3, API 3002501343, S32 T17SR33E, (TD 4602)
- Exhibit "3n" Plugging schematic of Pure State #1, API 3002501583, S06 T18SR33E, (TD 9003)
- Exhibit "3o" Plugging schematic of Pearl B #3, API 3002508338, S30 T17SR33E, (TD 4857)
- Exhibit "3p" Plugging schematic of Fee MA B #6, API 3002536633, S31 T17SR33E, (TD 7454)
- Exhibit "3q" Plugging schematic of SMGSAU #619, API 3002541940, S29 T17SR33E, (TD 4566)

Section "VII"

- *Attach data on the proposed operation, including:*
  - *Proposed average and maximum daily rate and volume of fluids to be injected.*
  - *Whether the system is open or closed.*
  - *Proposed average and maximum injection pressure.*
  - *Sources and appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,*
  - *If injection is for disposal purposes into a zone not production of oil and 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).*

- Proposed average daily injection rate: 700 bwpd
- Proposed maximum daily injection rate: 1,000 bwpd
- The Corbin-Abo SWD G #31 is part of a closed SWD system. Raybaw Operating, LLC will operate and be the only user of the system. The water injected into the system will be from Raybaw operated Kachina Federal wells, Secs 5, 8 T 18S R 33E, Sniper AM 6 Federal, Sec 6,T18S R33E, Chevron 12 Federal wells, Sec 12, T18S R32E, and Denius Federal wells, Secs 33, 34 T17S R33E
- Proposed average injection pressure: 800 PSI SIP
- Proposed maximum injection pressure: 1,400 PSI SIP
  i. (previously authorized by the OCD dated 01/12/2004; Files SWD-890, R-3564, Case No. 3917, UIC)
- Source of proposed injection fluid: Bones Springs, Abo Reef

The source of the proposed injection water is primarily from the Bone Springs. Produced water will be from Kachina Federal wells, Secs 5, 8 T 18S R 33E, Sniper AM 6 Federal, Sec 6,T18S R33E, Chevron 12 Federal wells, Sec 12, T18S R32E

- Exhibit "4" chemical analysis of Bone Springs produced water from the Kachina 5 Federal #4
- Exhibit "4a" chemical analysis of Bone Springs produced water from Chevron 12 Federal #4
- Exhibit "4b" chemical analysis of Bone Springs produced water from Sniper AM 6 Federal #1
- Exhibit "4c" chemical analysis of Abo Reef produced water from the Denius Federal #1

Section "VIII"

- *Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources known to be immediately underlying the injection interval.

- Exhibit "5" Geologic data tabulation for the Corbin-Abo SWD #G-31

Section "IX"

- *Describe the proposed stimulation program, if any:*
  - At time of application filing, proposed that the Corbin-Abo SWD #G-31 be stimulated with 630 gal of solvent, 50 gal of demulsifier, and 3,500 gal of acid. Treatment indicated for clearing existing injection interval

Section "X"

- *Attach appropriate logging and test data on the well. (If welllogs have been filed with the Division, they need not be resubmitted*
  - Cement Bond Log for Corbin-Abo SWD #g-31 (Baker Atlas, 26 July 2003) filed by Southwestern Energy 08/27/2002 with the OCD with Injection Application which was approved under Administrative Order SWD-890, 09/23/2003.
  - Laterallog-Gamma Ray-Neutron log for the FEE MA #1-B, aka the Corbin-Abo SWD #G-31 (Schlumberger Well Surveying, 02/28/1960) filed by Southwestern Energy 08/27/2002 with the OCD with Injection Application which was approved under Administrative Order SWD-890, 09/23/2003. (included as Exhibit "6a")
  - Induction-Electrical log for the FEE MA #1-B, aka the Corbin-Abo SWD #G-31 (Schlumberger Well Surveying, 02/28/1960) filed by Southwestern Energy 08/27/2002 with the OCD with Injection Application which was approved under Administrative Order SWD-890, 09/23/2003. (included as Exhibit "6b")

Section "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).*
  - There are not any fresh water wells currently producing with a 1-mile radius of the Corbin-Abo SWD #G-31. Three water wells were found but all three were inactive and were not producing.
    - RA 09192, Caviness Ranch, Sec 29 T17S R 33E, SWSENE, Not Active
    - RA 09196, Caviness Ranch, Sec 29 T17S R33E, SWSESE, Not Active
    - RA 09195, Caviness Ranch, Sec 32 T17S R33E, NWNENE, Not Active

Section "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 sources of drinking water.*

  - Exhibit "7" - The available geologic and engineering data have been examined and I have found no evidence of open faults or any hydrologic connection between the disposal zone and any underground sources of drinking water.

_____

Jack Carter
Raybaw Consulting Geologist/Landman

Section “XIII”

- *Applicants must complete the “Proof of Notice” section on the reverse side of this form.*
  - Exhibit “8” Proof of publication – Legal Notice
  - Statement of Affected Person Notification

Entity Name	Entity Address	Mailing Date
Raybaw Operating	Khanie Nomichit, 2626 Cole Avenue, Suite 300, Dallas, Texas 75204	5/27/2025
Concho Cattle Co, LLC	John Norris, 633 Prairieview Road, Lovington, New Mexico 88260. 575-631-0001	5/27/2025
Mack Energy Corp	P.O. Box 960, Artesia, New Mexico, 88211-0960 or 11344 Lovington Hwy, Artesia, New Mexico, 88211-0960	5/27/2025
Exxon/XTO	Vicki Hustede, P.O. Box 2305, Houston, Texas 77252-2305	5/27/2025
Cross Timbers Operating Co	400 West 7th Street, Fort Worth, Texas, 76102	5/27/2025
Caviness Family Trust	New Mexico Hwy 114, Cause, New Mexico 88110	5/27/2025
DNCS Properties, LLC	Luke Gross, 3 Waterway Square Place, The Woodlands, Texas 77380	5/27/2025

Side 1

INJECTION WELL DATA SHEET

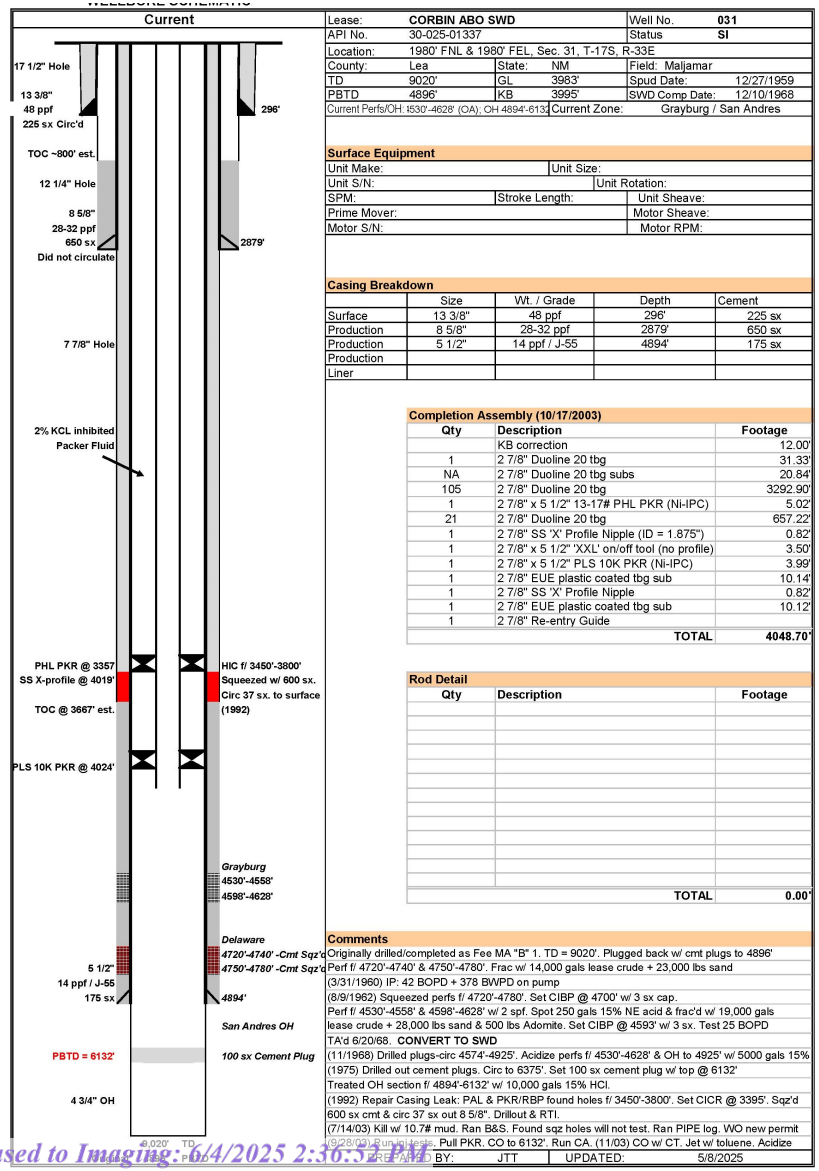
OPERATOR: Raybaw Operating, LLC

WELL NAME & NUMBER: Corbin-Abo SWD G-31

WELL LOCATION: 1980' FNL, 1980' FEL | G | Section 31 | Township 17 South | Range 33 East

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17-1/2" Casing Size: 13-3/8" 48# set at 296'

Cemented with: 225 sx. ***or*** _____ ft³

Top of Cement: Surface Method Determined: Visual

Intermediate Casing

Hole Size: 12-1/2" Casing Size: 8-5/8" 28-32# set at 2879'

Cemented with: 650 sx. ***or*** _____ ft³

Top of Cement: 800 Method Determined: Calculated

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2" 14# J-55 set at 4894'

Cemented with: 175* sx. ***or*** _____ ft³

Top of Cement: Surface* Method Determined: Visual

TOC @ surface-circulated to surface during squeeze job in 1992. Sqz'ed w/600 sxs cmt

Total Depth: Open Hole from 4,894'-9,020'. Cement plug @ 6,132'. Fill tagged at 5,593'

Permitted inject 3,400'-6,375'

Injection Interval

Perfs	4,530'		4,558'
Perfs	4,598'	feet to	4,628'
OH	4,894'		6,132'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: Duoline 20

Type of Packer: PHL Pkr @ 3357' & PLS 10K @4024'

Packer Setting Depth: Pkr @ 3357' & Pkr 4024'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____Yes X No

   If no, for what purpose was the well originally drilled? Well was originally drilled and completed as oil producer, the Fee MA #1-B. It was renamed the Corbin-ABO SWD #G-31 and permitted and converted to a salt water disposal well in 1969

2. Name of the Injection Formation: Grayburg perfs 4,530'-4,558' & 4,598'-4,628' ; San Andres openhole 4,894' to 6,132';

3. Name of Field or Pool (if applicable): _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

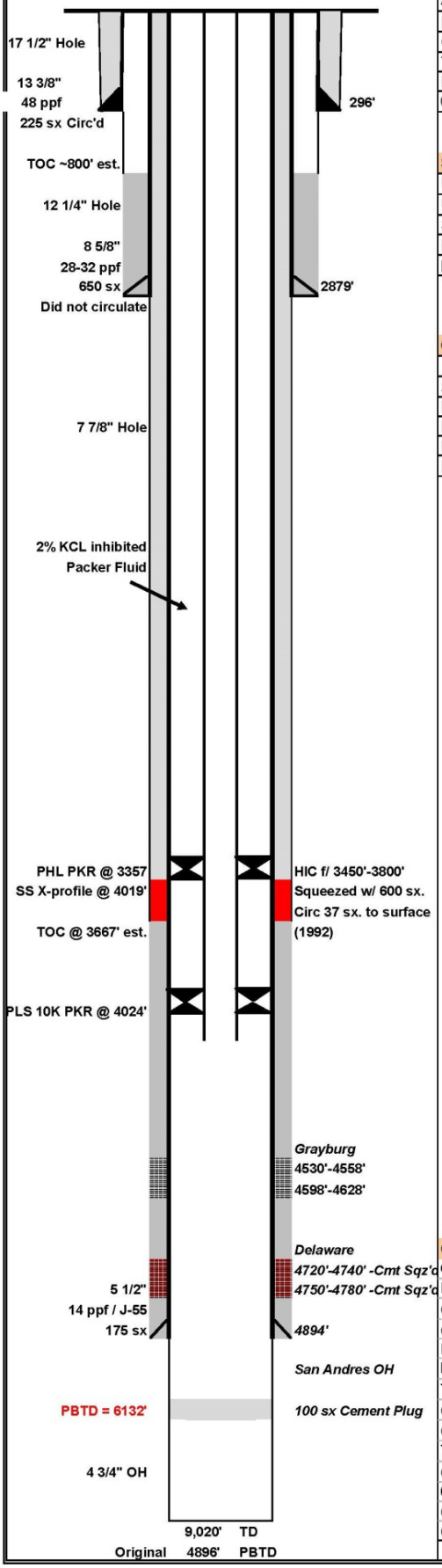
   a. Squeeze Perf: 3,449' - 3,482' Sqz'd to surface w/600sxs cmt
   b. Squeeze Perf: 3,708'- 3,786' Sqz'd to surface w/600sxs cmt
   c. Delaware Perfs: 4,720' - 4,740' Sqz'd w/unknown volume of cmt
   d. Delaware Perfs: 4,750' - 4,780' Sqz'd w/unknown volume of cmt

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Glorieta 6,378' Top of formation depth

   Nothing productive at a more shallow depth

EXHIBIT 1 – INJECTION APPLICATION SECTION III
WELLBORE SCHEMATIC
CORBIN-ABO SWD G-31 (30-025-01337)

Current



Lease:	CORBIN ABO SWD			Well No.	031
API No.	30-025-01337			Status	SI
Location:	1980' FNL & 1980' FEL, Sec. 31, T-17S, R-33E				
County:	Lea	State:	NM	Field:	Maljamar
TD	9020'	GL	3983'	Spud Date:	12/27/1959
PBTD	4896'	KB	3995'	SWD Comp Date:	12/10/1968
Current Perfs/OH: 4530'-4628' (OA); OH 4894'-6132'				Current Zone:	Grayburg / San Andres

Surface Equipment

Unit Make:		Unit Size:	
Unit S/N:		Unit Rotation:	
SPM:	Stroke Length:	Unit Sheave:	
Prime Mover:		Motor Sheave:	
Motor S/N:		Motor RPM:	

Casing Breakdown

	Size	Wt. / Grade	Depth	Cement
Surface	13 3/8"	48 ppf	296'	225 sx
Production	8 5/8"	28-32 ppf	2879'	650 sx
Production	5 1/2"	14 ppf / J-55	4894'	175 sx
Production				
Liner				

Completion Assembly (10/17/2003)

Qty	Description	Footage
	KB correction	12.00'
1	2 7/8" Duoline 20 tbg	31.33'
NA	2 7/8" Duoline 20 tbg subs	20.84'
105	2 7/8" Duoline 20 tbg	3292.90'
1	2 7/8" x 5 1/2" 13-17# PHL PKR (Ni-IPC)	5.02'
21	2 7/8" Duoline 20 tbg	657.22'
1	2 7/8" SS 'X' Profile Nipple (ID = 1.875")	0.82'
1	2 7/8" x 5 1/2" 'XXL' on/off tool (no profile)	3.50'
1	2 7/8" x 5 1/2" PLS 10K PKR (Ni-IPC)	3.99'
1	2 7/8" EUE plastic coated tbg sub	10.14'
1	2 7/8" SS 'X' Profile Nipple	0.82'
1	2 7/8" EUE plastic coated tbg sub	10.12'
1	2 7/8" Re-entry Guide	
	TOTAL	**4048.70'**

Rod Detail

Qty	Description	Footage
	TOTAL	**0.00'**

Comments

Originally drilled/completed as Fee MA "B" 1. TD = 9020'. Plugged back w/ cmt plugs to 4896'
Perf f/ 4720'-4740' & 4750'-4780'. Frac w/ 14,000 gals lease crude + 23,000 lbs sand
(3/31/1960) IP: 42 BOPD + 378 BWPD on pump
(8/9/1962) Squeezed perfs f/ 4720'-4780'. Set CIBP @ 4700' w/ 3 sx cap.
Perf f/ 4530'-4558' & 4598'-4628' w/ 2 spf. Spot 250 gals 15% NE acid & frac'd w/ 19,000 gals lease crude + 28,000 lbs sand & 500 lbs Adomite. Set CIBP @ 4593' w/ 3 sx. Test 25 BOPD
TA'd 6/20/68. **CONVERT TO SWD**
(11/1968) Drilled plugs-circ 4574'-4925'. Acidize perfs f/ 4530'-4628' & OH to 4925' w/ 5000 gals 15%
(1975) Drilled out cement plugs. Circ to 6375'. Set 100 sx cement plug w/ top @ 6132'
Treated OH section f/ 4894'-6132' w/ 10,000 gals 15% HCl.
(1992) Repair Casing Leak: PAL & PKR/RBP found holes f/ 3450'-3800'. Set CICR @ 3395'. Sqz'd 600 sx cmt & circ 37 sx out 8 5/8". Drillout & RTI.
(7/14/03) Kill w/ 10.7# mud. Ran B&S. Found sqz holes will not test. Ran PIPE log. WO new permit
(9/28/03) Run inj tests. Pull PKR. CO to 6132'. Run CA. (11/03) CO w/ CT. Jet w/ toluene. Acidize

PREPARED BY: JTT UPDATED: 5/8/2025

EXHIBIT 1A – INJECTION APPLICATION SECTION III
WELL DATA
CORBIN-ABO SWD G-31 (30-025-01337)

Lease Name:

1. Lease:	Corbin-Abo SWD	2. Unit & Well No.:	G-31
3. Section:	31	4. Township:	17 South
5. Range:	33 East	6. Footage:	1980’ FNL, 1980’ FEL

Casing Data:

1. 13-3/8” 48# @296’ w/225 sxs cmt to surface (17.1/2” hole)
2. 8-5/8” 28-32# @2,879’ w/650 sxs cmt (est. TOC @ 800’). (12-1/2” hole)
3. 5-1/2” 14# J-55 @4,894’ w/175 sxs cmt (TOC @ surface-circulated to surface during squeeze job in 1992). (7-7/8” hole). Sqz’ed w/600 sxs cmt to surface
4. Open hole section from 4,894’ to 9,020’. Cmt plug @6,132. Fill tagged at 5,593’.

Tubing Data:

1. 2-7/8” 6.5# Duoline 20-lined tubing run from surface to the packer. Bottom packer set at 4,024’

Packer Data:

1. 2-7/8” x 5-1/2” 13-17# PHL Packer (Ni-IPC) set at 3,357’
2. 2-7/8” x 5-1/2” PLS 10K Packer (Ni-IPC) set at 4,024’

Injection Data:

1. The Corbin-Abo SWD G-31 was originally drilled and completed as an oil producer, the Fee MA #1-B. Under Division Order No. R-3564 dated 11/19/1968 filed by Agua, Inc the well was authorized to be utilized as a disposal well. Interval approved for injection was from 4,530’ to 6,375’ (Queen and Grayburg-San Andres Formations).
2. The Corbin-Abo SWD G-31 under Administrative Order SWD-890 , application filed 8/27/2003 by Southwestern Energy Production Company was granted approval 09/23/2003 allowing an increase in the permitted injection interval. By this order the approved injection interval is from 3,400’ to 6,375’ (Yates, Queen and Grayburg-San Andres Formations).
3. The Corbin-Abo SWD G-31 is currently open into the Grayburg Formation with perforations from 4,530’ to 4,558’ and 4,598’ to 4,628’ and into the San Andres openhole from 4,894’ to 6,132’.

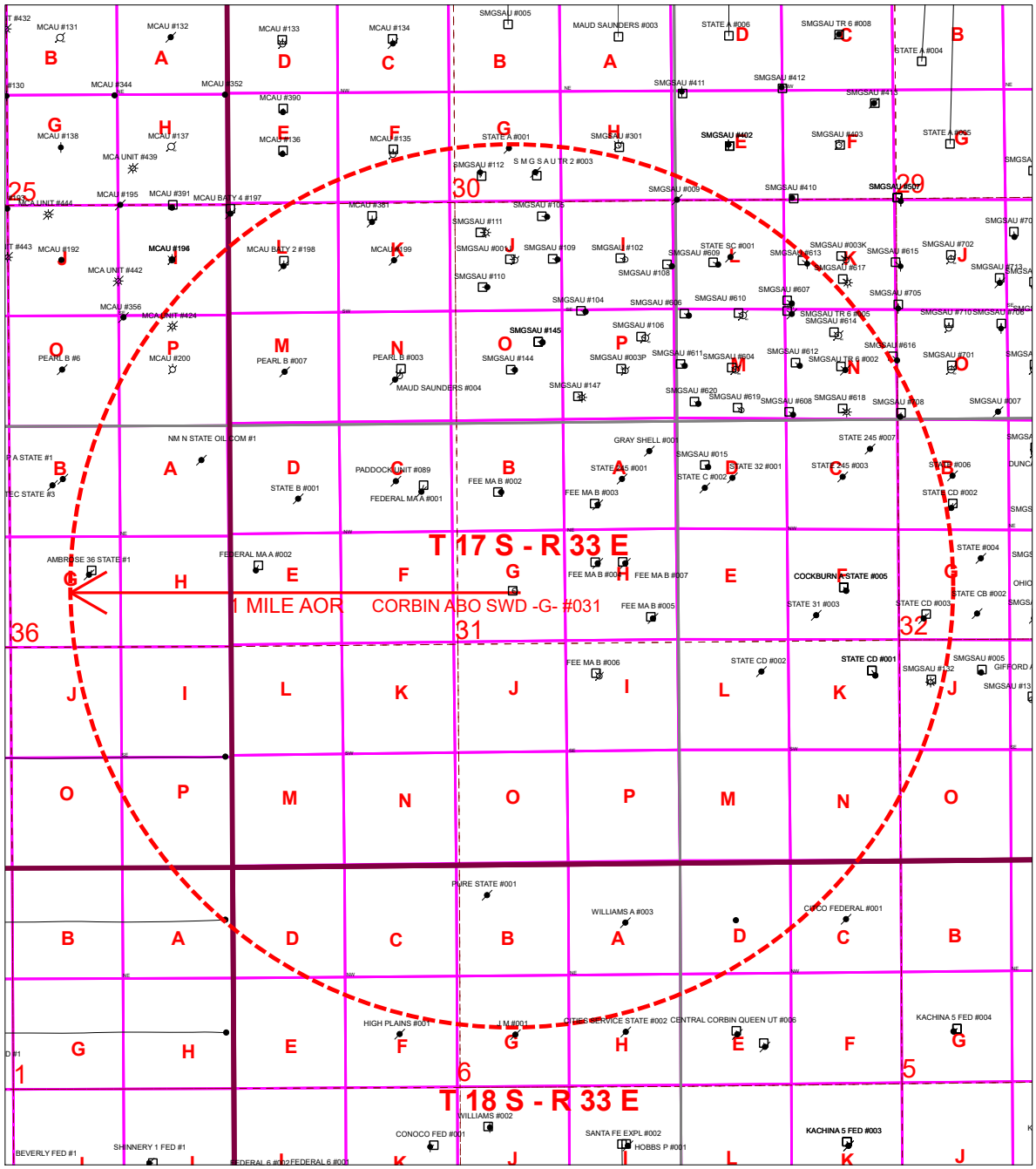
Perforations:

a.	Squeeze perfs:	3,446’-3,482’	Sqz’d to surface 2/600 sxs cmt
b.	Squeeze perfs:	3,708’-3,786’	Sqz’d to surface 2/600 sxs cmt
c.	Delaware perfs:	4,720’-4,740’	Sqz’d w/ unknown volume of cmt
d.	Delaware perfs:	4,750’-4,780’	Sqz’d w/ unknown volume of cmt
e.	Grayburg perfs:	4,530’-4,558’	Current injection perfs
f.	Grayburg perfs:	4,598’-4,628’	Current injection perfs
g.	San Andres (OH):	4,894’-6,132’	Current injection openhole section

Next Higher and Lower Productive Zone In Area:

a.	Glorieta:	6,378’	Top of formation depth
b.	Nothing productive at a more shallow depth		

EXHIBIT 2 - INJECTION APPLICATION SECTION V - AOR WELL MAP - 1-MILE RADIUS CORBIN-ABO SWD

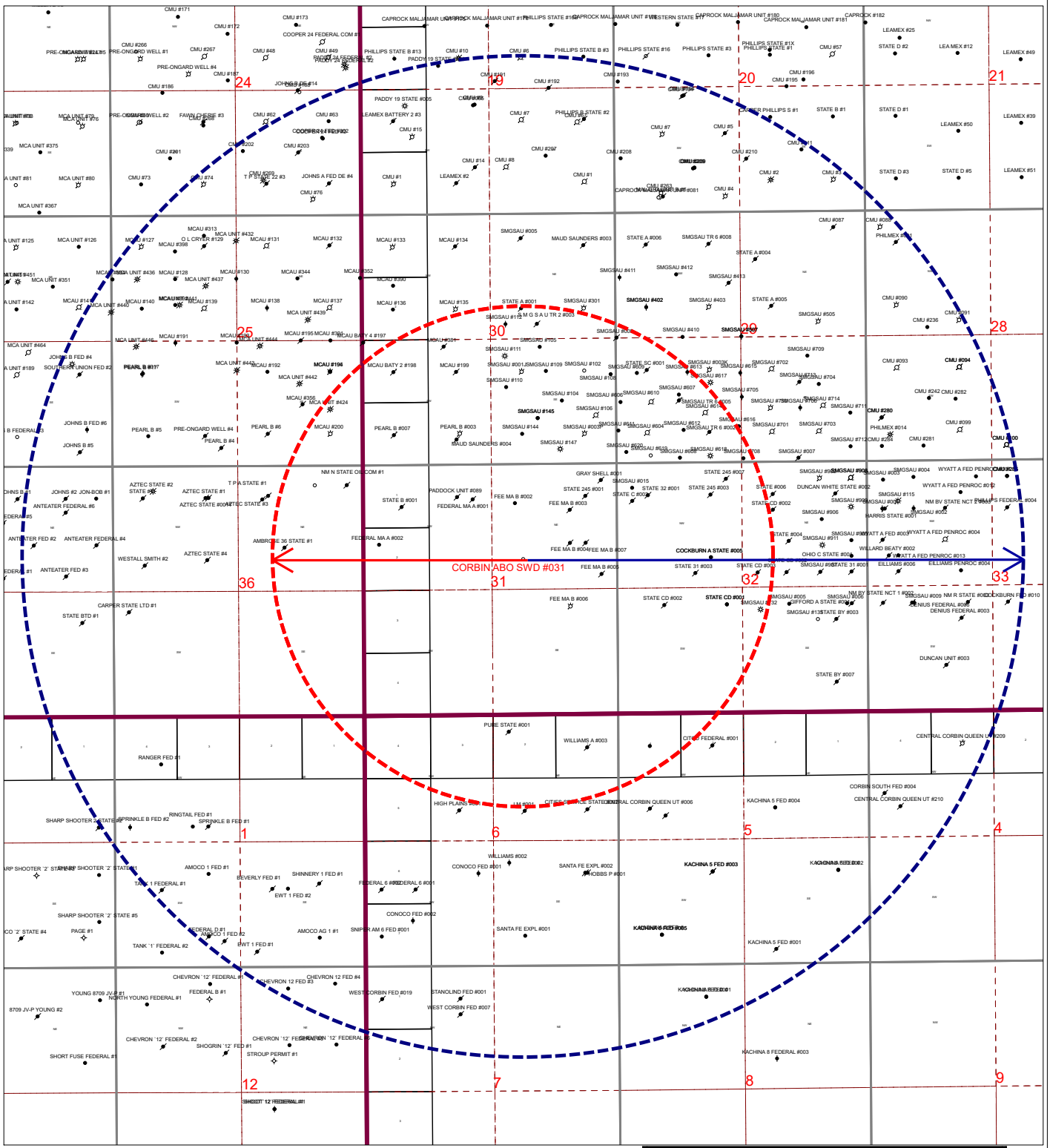


1 inch = 2000 feet

2000 0 2000 4000 ft

RAYBAW OPERATING, LLC
CORBIN-ABO SWD #G-31 API 30-025-01337 1980' FNL, 1980' FEL SEC 31 TWN 17 S, RNG 33 E Lea Co., New Mexico
APPLICTION FOR INJECTION AREA OF REVIEW – ONE MILE OF PROPOSED INJECTION
T.17S. R.33E **Sec 32 Unit Letters C,D,E,G,J,K,L** **Sec 31 Unit Letters A,B,C,D,E,G,H,I** **Sec 30 Unit Letters G,I,J,K,L, M,N,O,P** **Sec 29 Unit Letters K,L,M,N,O** **T.17S. R.32E** **Sec 36 Unit Letters A, G** **Sec 25 Unit Letters P** **T.18S. R.33E** **Sec 06 Unit Letters A,B**
Posted Well Data ● Well Number

EXHIBIT 2A - INJECTION APPLICATION SECTION V - REVIEW AREA
MAP - 2-MILE RADIUS CORBIN-ABO SWD



1 inch = 3000 feet

3000 0 3000 6000 ft

RAYBAW OPERATING, LLC

RAYBAW OPERATING
APPLICTION FOR INJECTION
CORBIN-ABO SWD #G-31
API 30-025-01337
1980' FNL, 1980' FEL SEC 31 TWN 17 S, RNG 33 E
WELLS WITHIN TWO MILES OF PROPOSED INJECTION

Geol/Geop:		Date:
jmc		8 May, 2025
	Scale:	

EXHIBIT 2B – INJECTION APPLICATION SECTION V
LEASE MAP – 2 – MILE RADIUS
CORBIN-ABO SWD G-31 (30-025-01337)

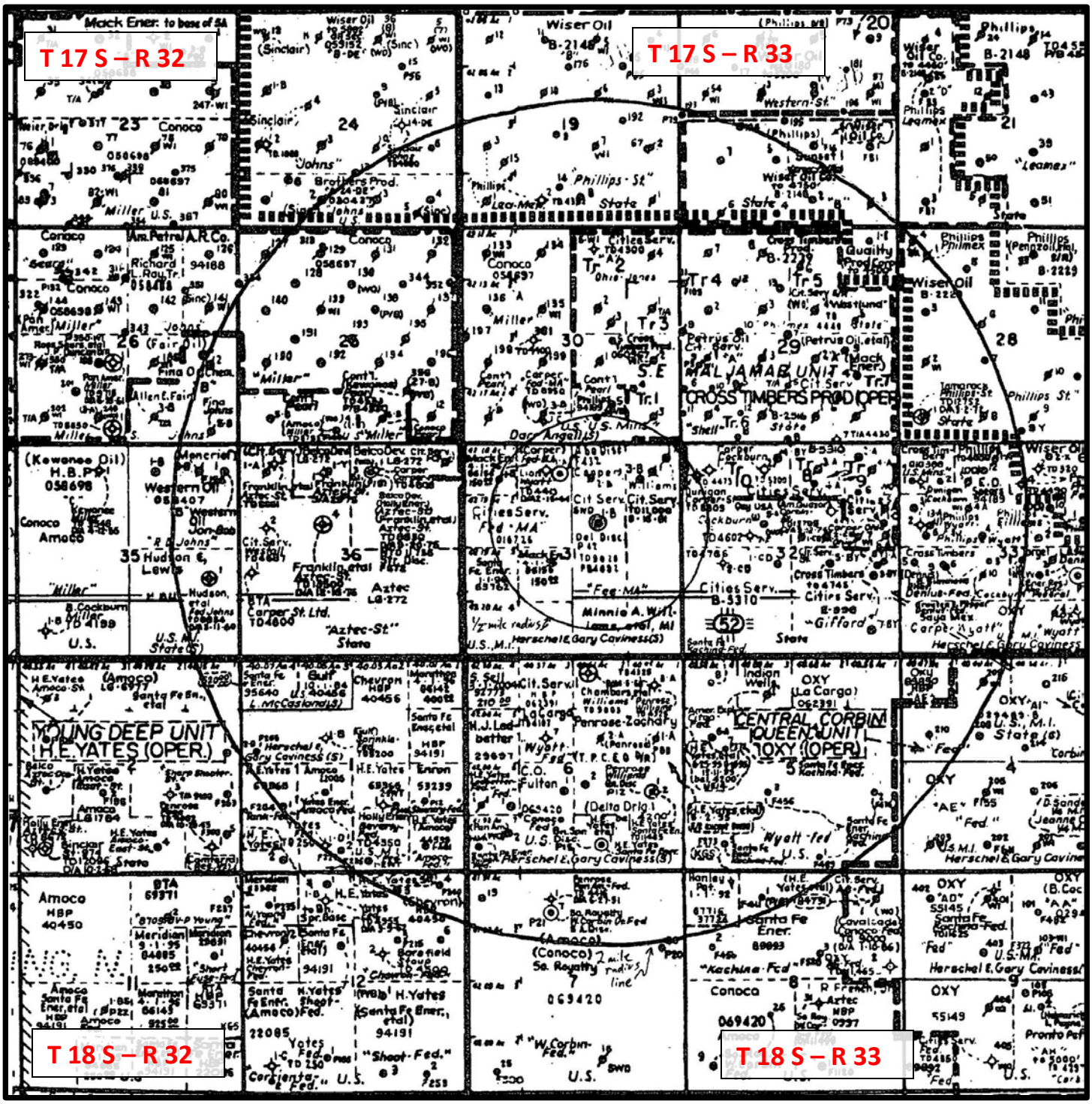


EXHIBIT 3 - INJECTION APPLICATION SECTION VI
TABULATION OF WELL DATA -AOR 1-MILE
RADIUS CORBIN-ABO SWD G - 31

Section 29 Township 17 South Range 33 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
K	3002501543	V	SMGSAU TR 6	5	CITIES SERVICE CO	4300	4300	P&A-O	P & A	NO	1/1/1948	4103	4273	Gybg-SA
K	3002526957	V	SMGSAU UNIT	607	CROSS TIMBERS ENERGY, LLC	4360	4360	OIL	ACTIVE	NO	10/28/1980	4177	4326	Gybg-SA
K	3002533336	V	SMGSAU UNIT	613	CROSS TIMBERS ENERGY, LLC	4325	4325	SI-O	INACTIVE	NO	5/23/1996	4250	4277	Gybg-SA
L	3002501539	V	STATE SC	1	CITIES SERVICE OIL CO	4272	4272	P&A-O	P & A	NO	1/1/1945	4166	4272	Gybg-SA
L	3002526025	V	SMGSAU UNIT	9	PRE-ONGARD WELL OPERATOR	4359	4359	P&A-O	P & A	NO	10/14/1978	4296	4326	Gybg-SA
L	3002531446	V	SMGSAU UNIT	609	CROSS TIMBERS ENERGY, LLC	4420	4420	OIL	ACTIVE	NO	1/15/1992	4328	4352	Gybg-SA
M	3002501542	V	SMGSAU UNIT	604	CROSS TIMBERS ENERGY, LLC	4395	4395	SWD	ACTIVE	NO	1/1/1970	4236	4336	Gybg-SA
M	3002524342	V	SMGSAU UNIT	606	CROSS TIMBERS ENERGY, LLC	4292	4292	OIL	ACTIVE	NO	2/5/1973	4224	4271	Gybg-SA
M	3002532888	V	SMGSAU UNIT	610	CROSS TIMBERS ENERGY, LLC	4397	4397	SWD	ACTIVE	NO	5/30/1995	4252	4278	Gybg-SA
M	3002532889	V	SMGSAU UNIT	611	CROSS TIMBERS ENERGY, LLC	4463	4463	OIL	ACTIVE	NO	5/24/1995	4234	4324	Gybg-SA
M	3002541940	V	SMGSAU UNIT	619	CROSS TIMBERS ENERGY, LLC	4566	4566	T&A-O	TA	YES	9/6/2014	4269	4377	Gybg-SA
M	3002542089	V	SMGSAU UNIT	620	CROSS TIMBERS ENERGY, LLC	4569	4569	OIL	ACTIVE	YES	9/26/2014	4269	4356	Gybg-SA
N	3002501540	V	SMGSAU TR 6	2	CITIES SERVICE CO	4300	4300	P&A-O	P & A	NO	1/1/1945	4080	4312	Gybg-SA
N	3002531471	V	SMGSAU UNIT	608	CROSS TIMBERS ENERGY, LLC	4550	4550	OIL	ACTIVE	YES	1/4/1992	4257	4382	Gybg-SA
N	3002532890	V	SMGSAU UNIT	612	CROSS TIMBERS ENERGY, LLC	4473	4473	OIL	ACTIVE	NO	5/31/1995	4280	4339	Gybg-SA
N	3002533337	V	SMGSAU UNIT	614	CROSS TIMBERS ENERGY, LLC	4395	4395	SWD	ACTIVE	NO	6/16/1996	4250	4308	Gybg-SA
N	3002541939	V	SMGSAU UNIT	618	CROSS TIMBERS ENERGY, LLC	4539	4539	GAS	ACTIVE	YES	10/23/2014	4257	4358	Gybg-SA
O	3002524391	V	SMGSAU UNIT	708	CROSS TIMBERS ENERGY, LLC	4316	4316	OIL	ACTIVE	NO	4/10/1973	4278	4292	Gybg-SA

CORBIN-ABO SWD G - 31

AREA OF REVIEW - OFFSET WELLS - 1 MILE RADIUS

Section 30 Township 17 South Range 33 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
G	3002501557	V	S M G S A U TR 2	3	XTO ENERGY, INC	4272	4272	P&A-O	P & A	NO	7/1/1953	3996	4272	Gybg-SA
G	3002501559	V	STATE A	1	COCKBURN, BARNEY	4303	4303	P&A-O	P & A	NO	10/11/1944	4027	4285	Gybg-SA
G	3002540301	V	SMGSAU UNIT	112	CROSS TIMBERS ENERGY, LLC	4351	4351	OIL	INACTIVE	NO	1/3/2012	4140	4196	Gybg-SA
I	3002508337	V	SMGSAU UNIT	102	CROSS TIMBERS ENERGY, LLC	4364	4364	SI-SWD	INACTIVE	NO	1/1/1973	4114	4226	Gybg-SA
I	3002533408	V	SMGSAU UNIT	108	CROSS TIMBERS ENERGY, LLC	4405	4405	OIL	ACTIVE	NO	6/7/1996	4223	4282	Gybg-SA
J	3002508339	V	SMGSAU UNIT	001J	XTO ENERGY, INC	4282	4282	P&A-SWD	P & A	NO	4/1/1980	4050	4260	Gybg-SA
J	3002526512	V	SMGSAU UNIT	105	CROSS TIMBERS ENERGY, LLC	4350	4350	INJ	ACTIVE	NO	1/1/1993	3498	4308	Gybg-SA
J	3002533654	V	SMGSAU UNIT	109	CROSS TIMBERS ENERGY, LLC	4355	4355	OIL	ACTIVE	NO	12/12/1996	4181	4218	Gybg-SA
J	3002533905	V	SMGSAU UNIT	110	CROSS TIMBERS ENERGY, LLC	4377	4377	OIL	ACTIVE	NO	5/11/1997	4213	4266	Gybg-SA
J	3002537573	V	SMGSAU UNIT	111	CROSS TIMBERS ENERGY, LLC	4345	4345	GAS	ACTIVE	NO	4/6/2006	4194	4280	Gybg-SA
K	3002501563	V	MCA UNIT	199	CONOCO INC	4265	4265	P&A-O	P & A	NO	6/28/1943	4161	4256	Gybg-SA
K	3002530348	V	MCA UNIT	381	CONOCOPHILLIPS COMPANY	4381	4381	P&A-O	P & A	NO	7/1/1988	4081	4332	Gybg-SA
L	3002501562	V	MCA UNIT BATTERY 2	198	CONOCO INC	4258	4258	P&A-O	P & A	NO	1/1/1963	4202	4258	Gybg-SA
M	3002525606	V	PEARL B	7	CONOCO INC	4500	4500	P&A-O	P & A	NO	10/17/1977	4424	4480	Gybg-SA
N	3002501556	V	MAUD SAUNDERS	4	CARPER DRILLING COMPANY	8950	8950	D&A	P & A	YES	4/29/1960			None
N	3002508338	V	PEARL B	3	CONOCOPHILLIPS COMPANY	4857	4857	P&A-SWD	P & A	YES	2/11/1970	3986	4370	Gybg-SA
O	3002522874	V	SMGSAU UNIT	144	CROSS TIMBERS ENERGY, LLC	4381	4381	OIL	ACTIVE	NO	1/1/1970	4250	4350	Gybg-SA
O	3002526668	V	SMGSAU UNIT	145	CROSS TIMBERS ENERGY, LLC	4500	4500	OIL	ACTIVE	NO	10/4/2004	4226	4425	Gybg-SA
P	3002508335	V	SMGSAU UNIT	003P	XTO ENERGY, INC	4355	4355	P&A-SWD	P & A	NO	3/22/1944	4215	4265	Gybg-SA
P	3002525319	V	SMGSAU UNIT	104	CROSS TIMBERS ENERGY, LLC	4350	4350	OIL	ACTIVE	NO	1/16/1977	4184	4306	Gybg-SA
P	3002533353	V	SMGSAU UNIT	106	CROSS TIMBERS ENERGY, LLC	4418	4418	SWD	ACTIVE	NO	5/22/1996	4218	4279	Gybg-SA
P	3002538613	V	SMGSAU UNIT	147	CROSS TIMBERS ENERGY, LLC	4420	4420	GAS	ACTIVE	NO	6/3/2009	4272	4353	Gybg-SA

CORBIN-ABO SWD G - 31

AREA OF REVIEW - OFFSET WELLS - 1 MILE RADIUS

Section 31 Township 17 South Range 33 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
A	3002501334	V	STATE 245	1	PRE-ONGARD WELL OPERATOR	4328	4328	P&A-O	P & A	NO	8/11/1943	4215	4300	Gybg-SA
A	3002501336	V	FEE MA B	3	MACK ENERGY CORP	4009	4009	P&A-O	P & A	NO	2/1/1961	8455	8560	Abo Reef
A	3002501565	V	GRAY SHELL	1	PRE-ONGARD WELL OPERATOR	4314	4314	P&A-O	P & A	NO	6/13/1950	4200	4290	Gybg-SA
B	3002501338	V	FEE MA B	2	MACK ENERGY CORP	8935	8935	OIL	ACTIVE	YES	7/1/1960	8654	8692	Abo Reef
C	3002501339	V	FEDERAL MA A	1	MACK ENERGY CORP	8652	8652	P&A-O	P & A	YES	11/1/1959	8410	8652	Abo Reef
C	3002508340	V	PADDOCK UNIT	89	LION OIL REFINING CO.	4413	4413	P&A-O	P & A	NO	2/15/1944	4215	4290	Gybg-SA
D	3002501335	V	STATE B	1	CARPER DRILLING COMPANY	8904	8904	P&A-O	P & A	YES	8/24/1960	3670	8687	Abo Reef/Gybg
E	3002536388	V	FEDERAL MA A	2	MACK ENERGY CORP	5805	5805	OIL	ACTIVE	YES	12/12/2003	4731	4913	Gybg-SA
G	**3002501337**	**V**	**CORBIN ABO SWD**	**31**	**RAYBAW OPERATING, LLC**	**9020**	**9020**	**SI-SWD**	**INACTIVE**	**YES - REQST**	12/10/1968	4530	4628	Gybg-SA
H	3002536494	V	FEE MA B	4	MACK ENERGY CORP	5150	5150	P&A-O	P & A	YES	3/1/2004	4492-4661		Gybg-SA
H	3002536495	V	FEE MA B	5	MACK ENERGY CORP	6041	6041	P&A-O	P & A	YES	5/7/2004	4823	4872	Gybg-SA
H	3002536747	V	FEE MA B	7	MACK ENERGY CORP	8442	8442	P&A-O	P & A	YES	10/19/2004	6320	6468	Delaware
I	3002536633	V	FEE MA B	6	MACK ENERGY CORP	7454	7454	P&A-SWD	P & A	YES	6/22/2005	4973	5200	Delaware

Section 32 Township 17 South Range 33 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
C	3002501348	V	STATE 245	2	PRE-ONGARD WELL OPERATOR	5200	5200	D&A	P & A	YES	8/7/1944			None
C	3002501350	V	STATE 245	7	CITIES SERVICE OIL CO	4298	4298	P&A-O	P & A	NO	1/1/1952			None
D	3002501347	V	STATE 32	1	PRE-ONGARD WELL OPERATOR	4473	4473	D&A	P & A	NO	3/18/1980			None
D	3002501354	V	STATE C	2	COCKBURN, BARNEY	8809	8809	D&A	P & A	YES	8/1/1946			None
D	3002533615	V	SMGSAU UNIT	15	CROSS TIMBERS ENERGY, LLC	4510	4510	OIL	ACTIVE	YES	12/22/1996	4322	4395	Gybg-SA
F	3002501343	V	STATE 31	3	CARPER DRLG COMPANY INC.	4602	4602	D&A	P & A	YES	6/7/1962			None
F	3002525286	V	COCKBURN A STATE	5	MACK ENERGY CORP	13705	13705	OIL	ACTIVE	YES	7/5/1988	4362	4447	Gybg-SA
G	3002501345	V	STATE CD	3	MACK ENERGY CORP	4810	4810	P&A-O	P & A	YES	1/1/1962	4345	4492	Gybg-SA
J	3002541892	V	SMGSAU UNIT	132	CROSS TIMBERS ENERGY, LLC	4826	4826	GAS	ACTIVE	YES	8/27/2014	4481	4546	Gybg-SA
K	3002501346	V	STATE CD	1	MACK ENERGY CORP	4955	4955	OIL	ACTIVE	YES	2/5/1962	4512	4604	Gybg-SA
L	3002521636	V	STATE CD	2	CITIES SERVICE OIL COMPANY	4766	4766	P&A-O	P & A	YES	1/19/1966	4337	4703	Gybg-SA

CORBIN-ABO SWD G - 31

AREA OF REVIEW - OFFSET WELLS - 1 MILE RADIUS

Section 25 Township 17 South Range 32 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
P	3002500688	V	MCA UNIT	200	CONOCO INC	4435	4435	P&A-INJ	P & A	NO	11/19/1965	3936	4008	Gybg-SA Inj

Section 36 Township 17 South Range 32 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
A	3002500830	V	NM N ST OIL COM	2	CITIES SERVICE OIL	8817	8817	P&A-O	P & A	YES	3/1/1961	8434	8694	Abo Reef
G	3002538277	V	AMBROSE 36 ST COM	1	ARMSTRONG ENERGY CORP	13740	13740	P&A-O	P & A	YES	12/7/2007	4919	5063	Delaware

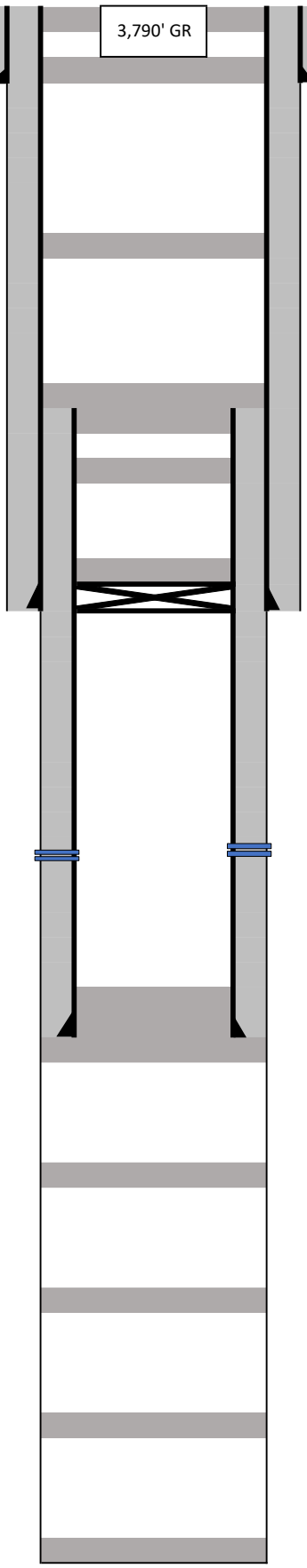
Section 06 Township 18 South Range 33 East														
Unit Letter	API #	Type	Lease/Well Name	Well No	Operator	MTD	TVD	Class	Status	Penetrates Injection Interval	Comp Date	Upr Perf	Lwr Perf	Comp Formation
A	3002501590	V	WILLIAMS A	3	PRE-ONGARD WELL OPERATOR	4325	4325	D&A	P & A	NO	4/8/1957			None
B	3002501583	V	PURE STATE	1	PRE-ONGARD WELL OPERATOR	9003	9003	D&A	P & A	YES	4/5/1960			None

Armstrong ENERGY CORPORATION

Current Wellbore Diagram

LAST UPDATED 6/25/2024

3,790' GR



Rustler - 1,255

7 Rivers - 3,055'

Queen - 3,731'

San Andres - 4,330'

Delaware - 4,794'

Wolfcamp - 9,494'

Strawn - 12,309'

Penn - 12,684'

Mississippian - 13,654'

17.5" hole

10 sx surface plug (P&A 2008)

80sx C @ 475' (P&A 2008)

13.375" 48#/ft J55 @ 425'

500sx C, circ

12.25" hole

60sx C @ 1300' (P&A 2008)

60sx C @ 2825' (P&A 2008)

25 sx C @ 3500' (P&A 2008)

CIBP @ 4800' w/20' cement (P&A 2008)

9.625" 40#/ft J-55 @ 4,809'

1750sx circ 450sx

5.5" 17# J-55 @ 5,943'

500sx C, original TOC @ 2950' CBL

60sx plug 6,900'-6,800' (P&A 2008)

60sx plug 8,890'-8,990' (P&A 2008)

70sx plug 11,750'-11,650' (P&A 2008)

8.75" hole drilled to 13,740' (Morrow) 25sx cement

Armstrong Energy Corporation

Ambrose 36 State Com #001

Unit G 1650' FNL & 1650' FEL
Section 36, T17S, R32E
Lea County, New Mexico

API Number ***30-025-38277***
Spud Date: 6/2/2007

Downhole Production Equipment

Surface Production Equipment

Notes

Drilled by Patterson Petroleum

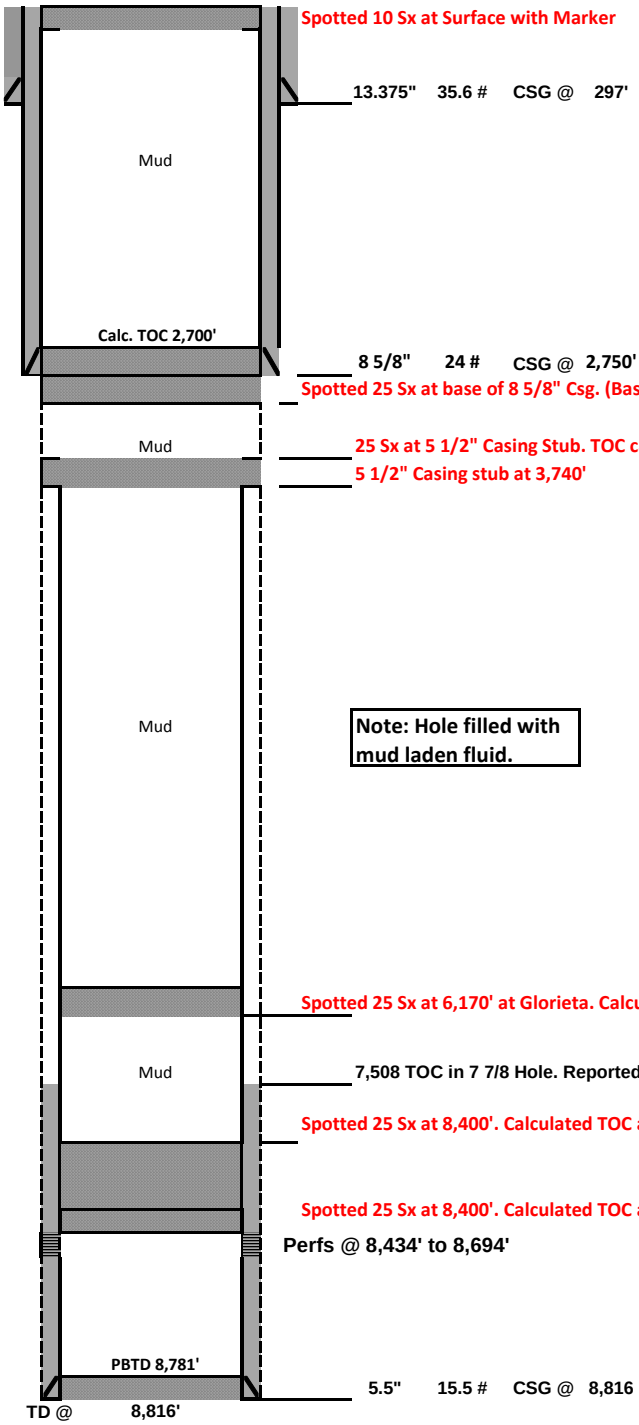
P&A 2008 by CML Exploration

Delaware	STIMULATION
4,919'-4,946'	2000gal 10% acid
5,028'-5,063'	2000gal 10% acid, Frac w/17k gal & 40k lbs 16/30 sand

RAYBAW Operating, LLC		PROPOSED Rev. a	
Author:	Sid Campbell		
Well Name	State CF	Well No.	1
Field/Pool	ABO	API #:	30-025-00830
County	Lea	Location:	NE/4-NE/4-S36-T17S-R32E
State	NM		
Spud Date	11/13/1960	GL:	3987

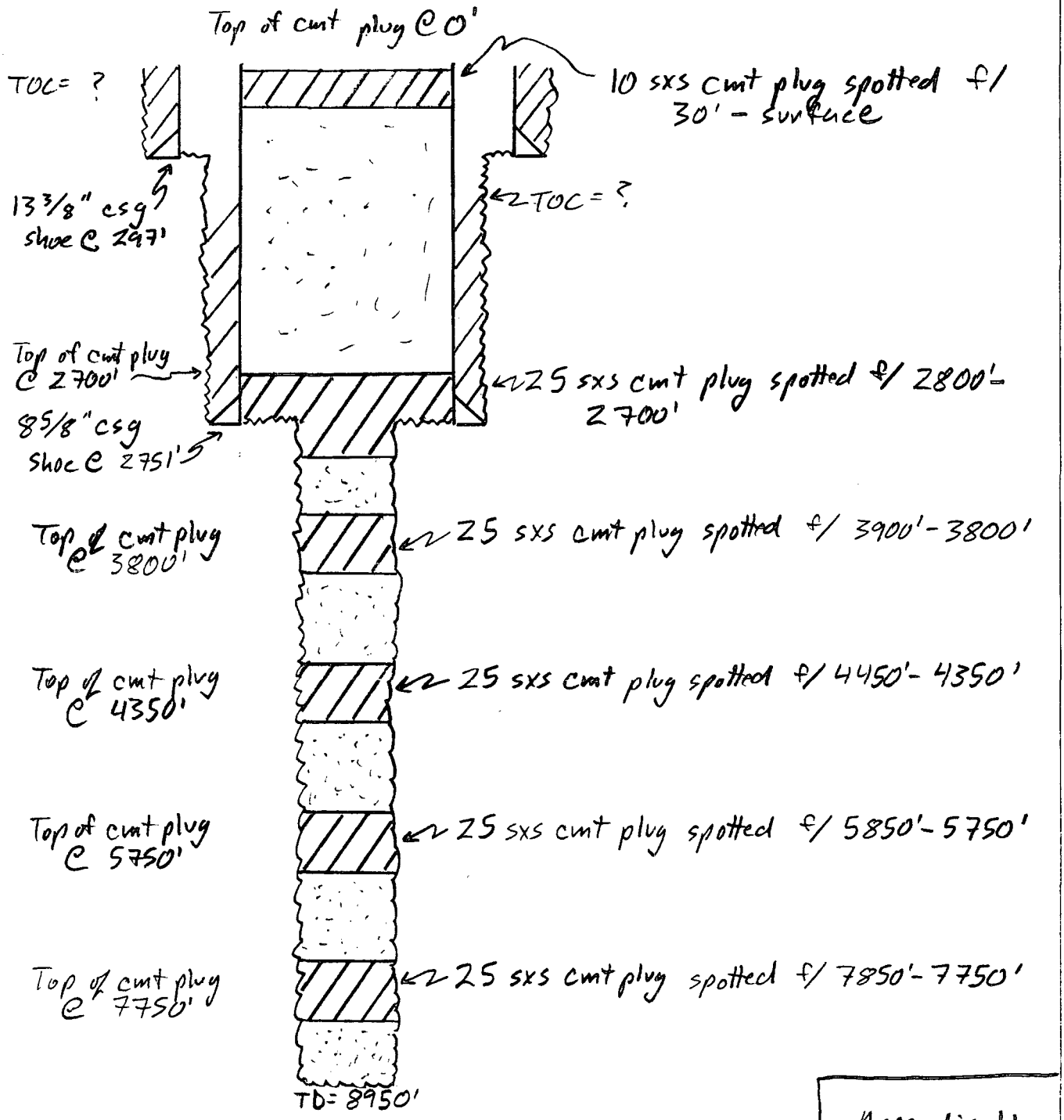
Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	13.375"	NA	35.6 #	297'	17 1/2	225	Surface
Inter Csg	8 5/8"	J-55	24 #	2,750'	11	950	Surface
Prod Csg	5.5"	15.5	15.5 #	8,816	7 7/8	175	7,508

Note: The State CF 1 was originally drilled by Carper Drilling Company, Inc. as the State MA "E" No. 1
The well was P&A'd by Cities Service Company as the State CF No. 1



Information from C-103 1) Spotted a 25 sx cement plug at 8400'. 2) Spotted a 25 sx cement plug at Glorietta at 6170' 3) Spotted a 25 sx cement plug at 5-1/2" casing stub at 3740' 4) spotted a 25 sx cement plug at 8-5/8" casing shoe at 2750'. 5) Spotted a 10 sx cement plug at surface with marker. 6) Hole was loaded with mud-laden fluids 7) Well was plugged and abandoned on 6/28/71. 13) I hereby certify that the information above is true and complete to the best of my knowledge and belief. SIGNED by H. Schneider (Agent) 7/2/71. CONDITIONS OF APPROVAL, IF ANY: Approved by Nathan E. Clegg (Title: Oil & Gas Inspector) FEB 14 1972.

Well: Federal MA "C" #1
Operator: Carper-Drilling Company
API No.: 30-025-01556-0000
Legal: Sec. 30, T17S, R33E, 555'FSL, 1980'FWL, Lea Co., NM
Spud date: 3-15-1960
P&A date: 4-29-1960



Note: 10.2# mud between plugs

Appendix Item #VI-5 ('12)

Well: Federal MA "C" #1
Operator: Carper Drilling Company
API No.: 30-025-01556-0000
Legal: Sec. 30, T17S, R33E, 555' FSL, 1980' FWL, Lea Co., NM
Spud date: 3-15-1960
P&A date: 4-29-1960

Casing, Cement, & Hole Detail:

1. 13 3/8" csg @ 297' w/ 200 sxs cmt. Hole size is unknown.
2. 8 5/8" csg @ 2,751' w/ 950 sxs cmt. Hole size is unknown.
3. Unknown hole size drilled to 8950'. Dry hole. No csg.

Plugging Detail

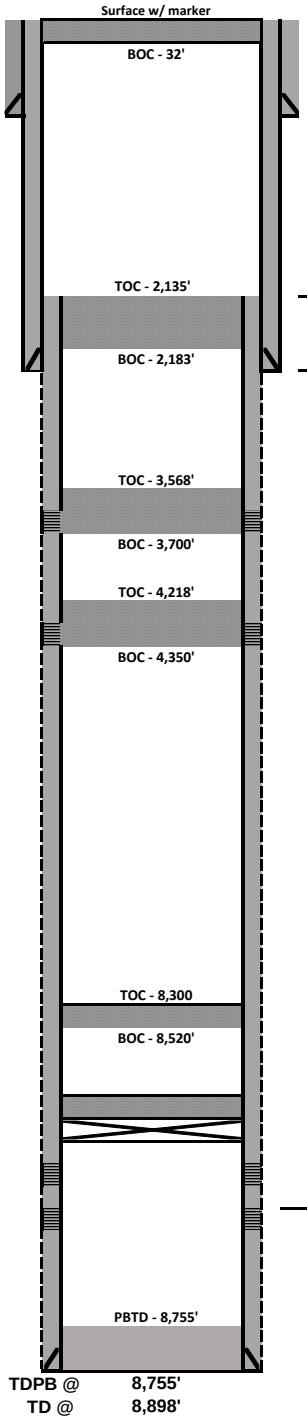
	Top of Plug, ft	Bottom of Plug, ft	Cmt. Plug Vol # of sxs	Hole size inches
1.	7750'	7850'	25	???
2.	5750'	5850'	25	???
3.	4350'	4450'	25	???
4.	3800'	3900'	25	???
5.	2700'	2800'	25	???
6.	0'	30'	10'	8 5/8"

Note: 10.2# mud used between plugs.

Appendix Item #VI-5 (2/2)

RAYBAW Operating, LLC			Current (P&A 1970)
Author	Sid Campbell		
Lease	State B	Well No.	1
Field/Pool	Corbin ABO	API #:	30-025-01335
County	Lea	Location:	Sec 31-T17S-R33E
State	New Mexico		860' FNL and 810' FWL
Spud Date	7/12/1960	GL:	3,922'

Description	O.D.	Grade	Weight, #	Depth,ft	Hole, in.	Cmt Sx	TOC
Surface Csg	13 3/8"	-	42 #	296'	17 1/2"	225	Surface
Inter Csg	8 5/8"	-	24 #	2,779'	11"	950	Surface
Prod Csg	5 1/2"	-	15.5 #	8,898'	7 7/8"	1,200	
Note: the 5 1/2" Casing was cut and pulled from 2,104' to the surface							



10 Sx plug at 32' to Surface

13 3/8" 42 # CSG @ 296'

Top of 5 1/2" Casing at 2,120'. Cut off in original P&A December 1964

15 Sx plug @ 2,135' to 2,183'
8 5/8" 24 # CSG @ 2,779'

15 Sx plug @ 3,568' to 3,700'
Perfs @ 3,670' to 3,680'

15 Sx plug @ 4,218' to 4,350'
Perfs @ 4,310' to 4,320'

25 Sx plug at 8,300' to 8,520'

CIBP w/ Cement at 8,860'

Perfs at 8,468' to 8,602'

Perfs @ 8,842' to 8,607'

5 1/2" 15.5 # CSG @ 8,898'

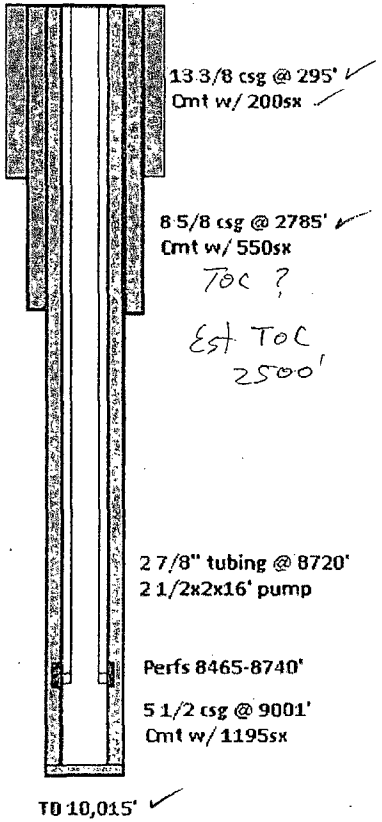
Note: From BLM Form 9-331 Dated 4-9-71

Nov., 1970 - Attempted to complete well in Abo section as a re-entry. Dec., 1970 - Plug and abandon as follows: **1**) 25 sack cement plug (221') 8520' to 8300' across perforations . **2)** 15 sack cement plug (132') 4350' to 4218' across perforations 4310' - 4320'. **3)** 15 sack cement plug (132') 3700' to 3568' across perforations 3670' - 3680'. **4)** 15 sack cement plug (48') 2183' to 2135' top 5 1/2" stub. **5)** 10 sack cement plug (32') at surface and screw 4 1/2". Marker pipe in 8 5/8" extending 4' above surface.

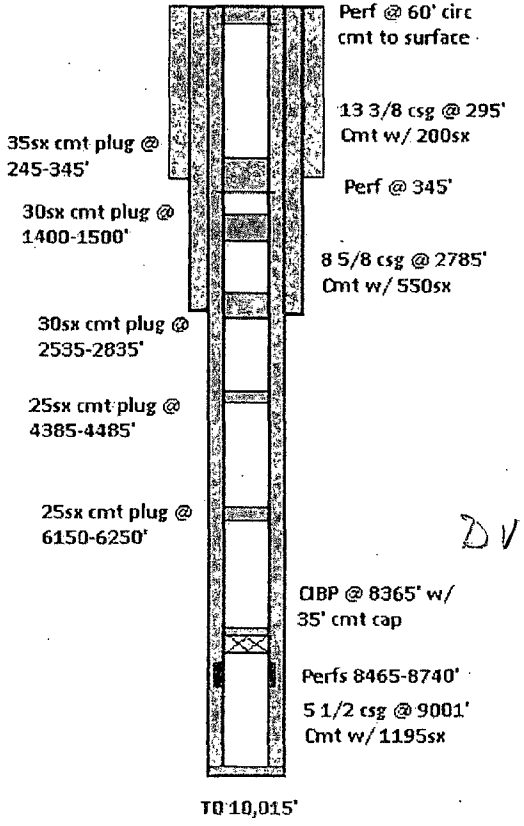
Mack Energy Corporation

Federal MA A #1
30-025-01339
NE/4 NW/4 Sec. 31 T17S R33E
710 FNL 2130 FWL

Before



After



Abv 1250
T/salt 1470
B/salt 2456
Yates 2610
Qu 3630
SA 4450
GL 5460
Abo 8290
WC 9510

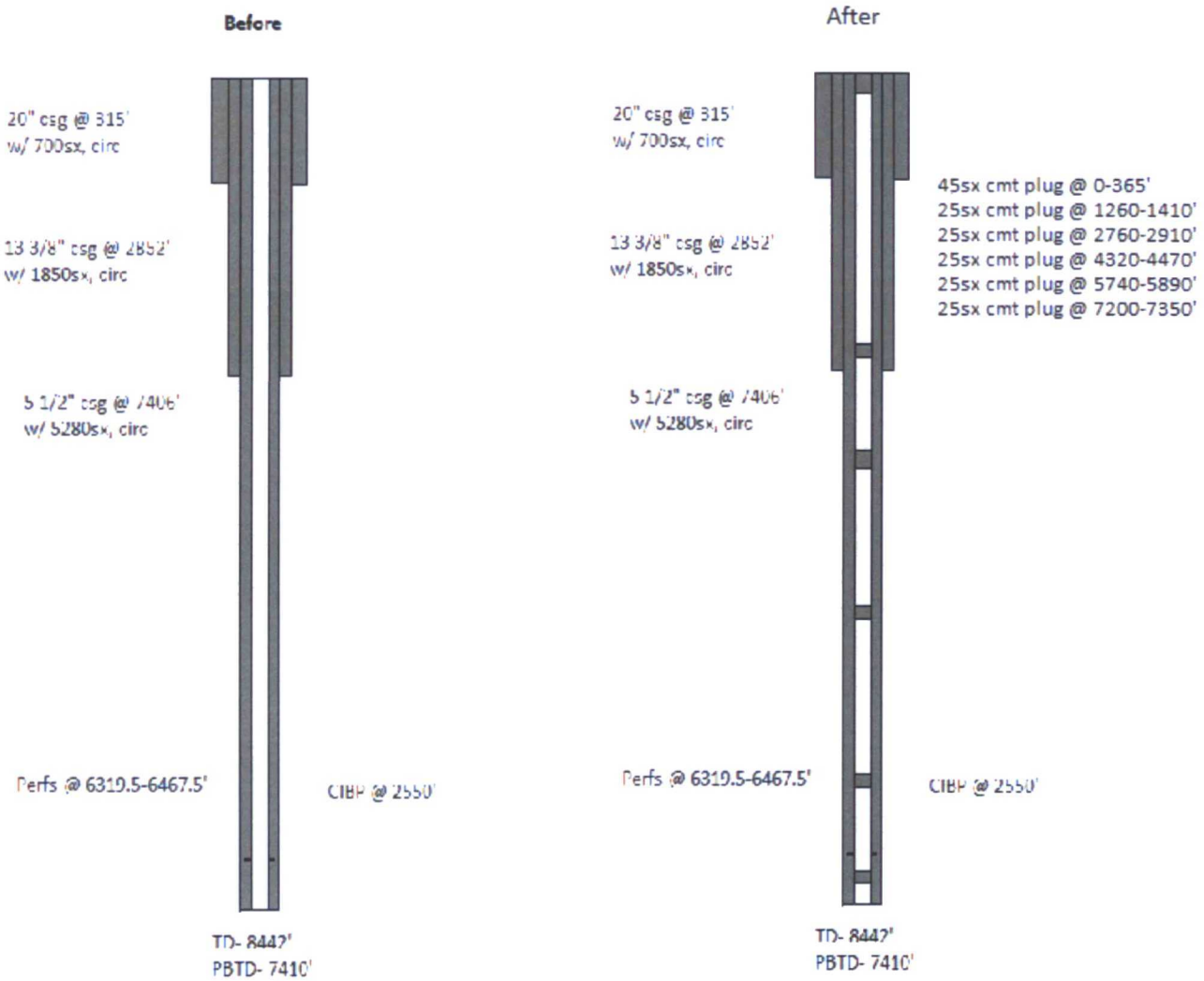
DVT @ 7935

8652 - 8582

Mack Energy Corporation

Fee MA B #7

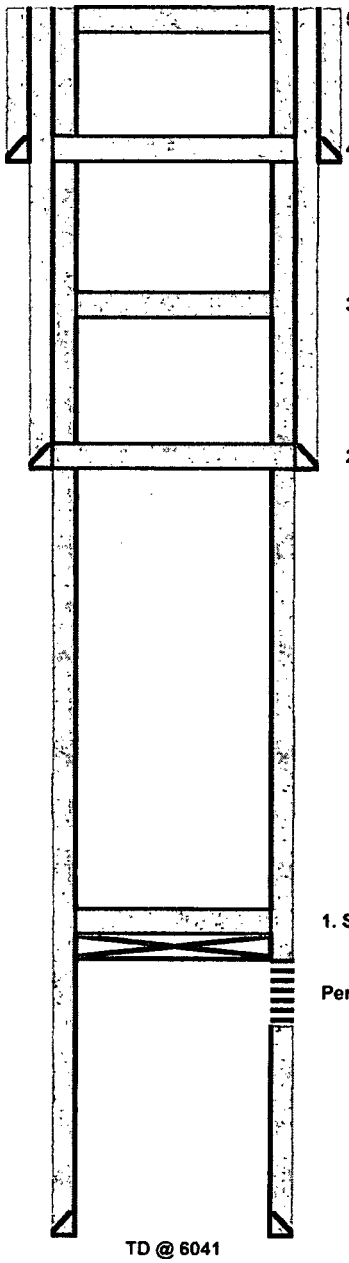
Sec. 31 T17S R33E 30-025-36747



Mack Energy Corp

Author:	BCM & Associates, Inc		
Well Name	Fee MA B	Well No.	#5
Field		API #:	30-025-36495
County	Lea	Prop #:	23972
State	New Mexico	Zone:	
Spud Date	3/24/2004		Unit H; 2310 FNL & 330 FEL
GL	4003'		Sec 31, T17S, R33E

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	13 3/8"	H-40	48#	306'	17 1/2"	400	CIRC'D
Inter Csg	8 5/8"	J-55	32#	2542'	12 1/4"	1,150	CIRC'D
Prod Csg	5 1/2"	J-55	17#	6038'	7 7/8"	1,625	CIRC'D



5. Spot 25 sx cmt @ 100' to surface.

13 3/8" H-40 48# CSG @ 306'

4. Perf & Sqz 50 sx cmt @ 356-256'. WOC & Tag (13 3/8" Shoe)

3. Spot 25 sx cmt @ 1600-1450'. WOC & Tag (T/Salt)

8 5/8" J-55 32# CSG @ 2542'

2. Perf & Sqz 50 sx cmt @ 2650-2450'. WOC & Tag (Yates & 8 5/8" Shoe)

1. Set 5 1/2" CIBP @ 4800'. Pressure test csg. Circ hole w/ MLF. Spot 25 sx cmt @ 4800-4650'

Perfs @ 4823-4871'

5 1/2" J-55 17# CSG @ 6038'

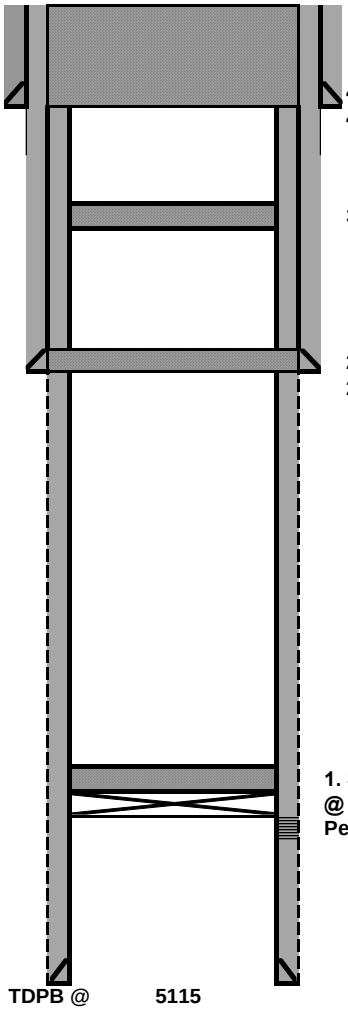
TD @ 6041

C:\Scans\Mack Project\Mack-Fee MA B #5 WBD

Mack Energy Corporation			PLUGGED
Author:	Abby BCM		
Well Name	Fee MA B	Well No.	#4
Field/Pool	Maljamar GB SA	API #:	30-025-36494
County	Lea	Location:	Sec 31, T17S, R33E
State	NM		1650 FNL & 990 FEL
Spud Date	2/15/2004	GL:	4005

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	13 3/8		48#	322	17 1/2	400	0
Inter Csg	8 5/8		32#	2,573	12 1/4	1,100	0
Prod Csg	5 1/2		17#	5,128	7 7/8	1,325	0

Formation	Top
Yates	2628
7 Rivers	3034
Queen	3670
GRBG	4036
San Andres	4414



13 3/8 48# CSG @ 322

4. Perf'd @ 372'. Pressured up on perf to 500 PSI. Spotted 55 sx class C cmt @ 422' to surface.

3. Spotted 25 sx class C cmt @ 1410-1157'.

8 5/8 32# CSG @ 2,573

2. Perf'd @ 2623'. Pressured up to 500 PSI. Spotted 25 sx class C cmt @ 2673-2420'. WOC. Tagged plug @ 2401'.

1. Set CIBP @ 4394' w/ Kerry Fortner's approval. Circ'd hole w/ MLF. Pressure tested csg, established 1.5 BPM @ 300 PSI. Spotted 25 sx class C cmt @ 4394-4141'.
Perfs @ 4492-4661.5'

32.7936935
-103.6971054

5 1/2 17# CSG @ 5,128

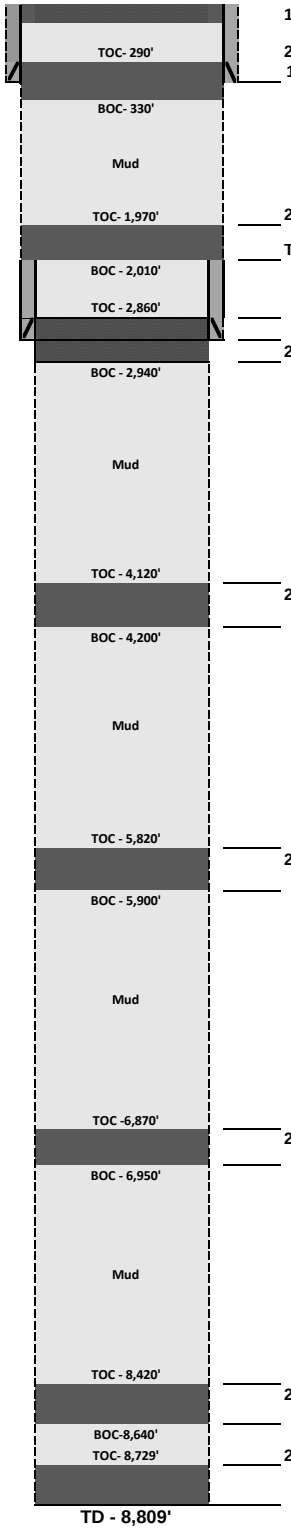
TDPB @ 5115
TD @ 5150

RAYBAW Operating, LLC		Current WBD from OCD File	
Author:	Sid Campbell		
Well Name	State C	Well No.	1
Field/Pool	Corbin ABO	API #:	30-025-01354
County	Lea	Location:	Sec. 32-T17S-R33E
State	NM		777' FNL and 330' FWL
Spud Date	6/12/1961	GL:	4,051'

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	11 3/4"	NA	28 #	315'	17 1/2	275	Surface
Inter Csg	8 5/8"	NA	24 & 32 #	2,915'	11"	250	Est. 2010'
Prod Csg	None	-	-	8,809'	7 7/8"	-	-

Note: 8 5/8" Casing cut and pulled at 2,010' during P&A. July 1961.

Note: The well was D&A'd. The casing was cut at 2,010' and plugs set as shown on Form C-103 showing work performed on 7-13-1961.



10 Sx Plug @ Surface with Marker.

25 Sx Plug @ 330'. TOC at 290'

11 3/4" 28 # CSG @ 315'

25 Sx Plug @ 2,010'. TOC @ 1,970'

Top of 8 5/8" at 2,010'. Cut and Pulled during P&A July 1961

8 5/8" 24 & 32 # CSG @ 2,915'

25 Sx @ 2,940'. TOC at 2,860'. Base of 8 5/8" Casing

25 Sx Plug @ 4,200'. TOC @ 4,120'

25 Sx Plug @ 5,900'. TOC @ 5,820'

25 Sx Plug @ 6,950'. TOC @ 6,870'

25 Sx Plug @ 8,640'. TOC @ 8,420'

25 Sx Plug @ 8,809' with TOC at 8,729'

7 7/8" Hole Based on OCD NOI to Drill

Note: Information from C-103 dated 7-13-61

THIS IS A REPORT OF: (Check appropriate block) ☐ Casing Test and Cement Job Beginning Drilling Operations XPlugging ☐Remedial Work Lea ☐ Other (Explain): Detailed account of work done, nature and quantity of materials used, and results obtained. Hole was full of heavy mud. Spotted 25 sacks of regular neat cement from total depth of 8809- 8729'. Spotted 25 sacks of regular neat cement from 8420-8640'. Spotted 25 sacks of regular neat cement from 6950-6870'. Spotted 25 sacks regular neat cement from 5900-5820'. Spotted 25 sacks regular neat cement from 4200-4120'. Spotted 25 sacks of regular neat cement from 2940-2860'. Cut off 8 5/8" O. D. casing at 2010' and pulled same. Spotted 25 sacks regular neat cement from 2010-1970'. Spotted 25 sacks regular neat cement from 1200-1160'. Spotted 25 sacks regular neat cement from 330-290'. Spotted 10 sacks regular neat cement in top of surface casing. Will level location and erect regulation dry hole marker when rig is moved from location. Verbal permission was obtained from Mr. Engbrecht by James P. Dunigan and J. B. Harrell, Jr., on 7-11-61 to plug this well. Witnessed by Albert Pierce-Position Superintendent-Company Carper Drilling Company, Inc.

Well: Carper-Lion #1, aka Wyatt #1
Operator: Carper Drilling Company
API No.: 30025083400001
Legal: Sec. 31, T17S, R33E, 660' FNL, 1980' FWL
Spud date: 11-2-1943;
P&A date: 8-29-1958 (Junked & Abandoned); 2-15-1944 (P&A'd)

Casing, Cement, & Hole Detail:

1. 8 5/8" (unknown weight) @ (unknown depth) cmt'd w/ (unknown cement volume to unknown top of cement). unknown hole size.

2. 5 1/2" (unknown weight & grade) @ 4,413' (estimated, 4413' was TD of well) w/ (unknown cement volume to unknown top of cement). Unknown hole size. The 5 1/2" csg was cut & pulled f/ 3565' when the well was plugged & abandoned in 1944.

* Note: Casing depths, grades, & weights and cement info is unknown due to incomplete data. The NMOCC Scout Report on file w/ the NMOCD is marked ILLEGIBLE & most information is illegible on the report.

Plugging Detail:

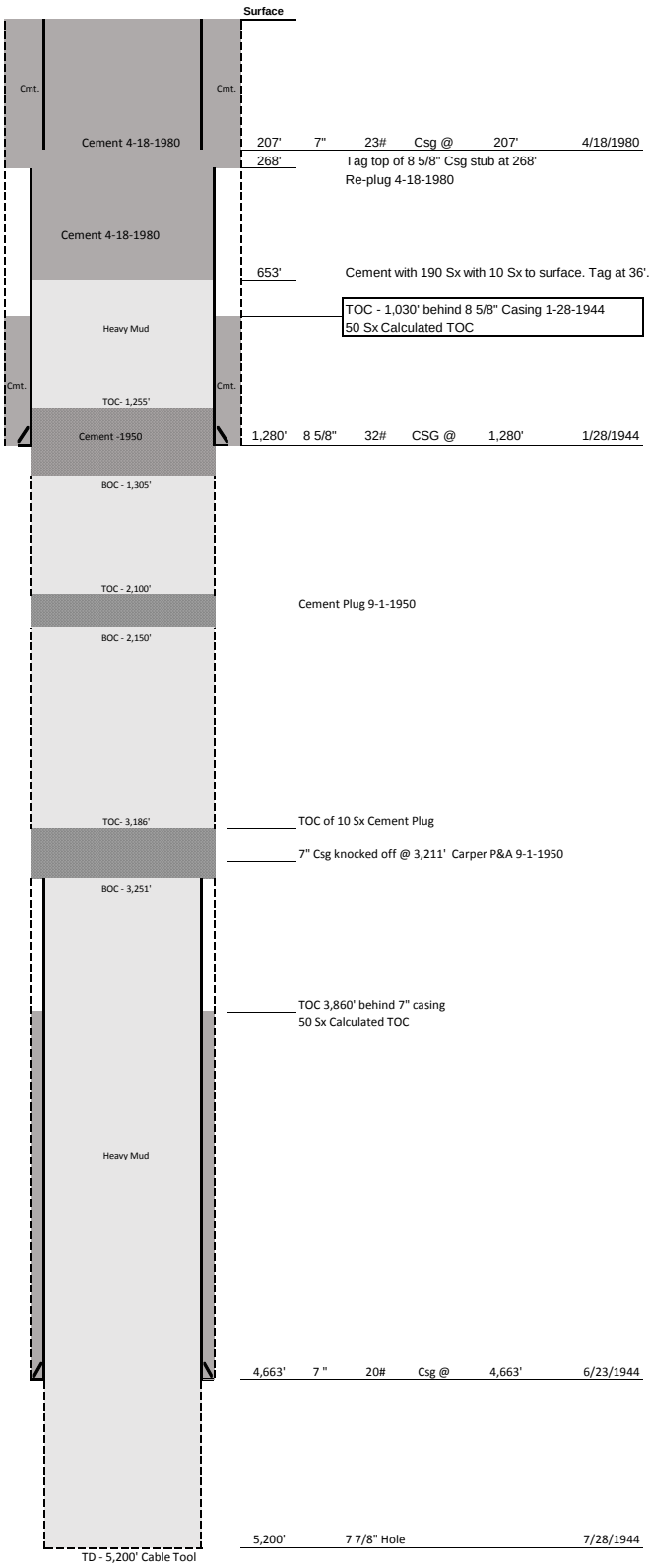
	Top of Plug, ft	Bottom of Plug, ft	Cmt Plug Vol # of SXS	Hole Size inch
1.	0'	200'	unknown	8 5/8"
2.	200'	unknown	Fish (csg swage)	8 5/8"

Appendix Item #VI-3 (2/2)

RAYBAW Operating, LLC			P&A WBD from 1950 and 1980
Author:	Sid Campbell		
Well Name	State 245	Well No.	C-2
Field/Pool	Maljamar-GBSA	API #:	30-025-01348
County	Lea	Location:	NE-NW- Sec 17S-R33E
State	NM		
Spud Date	1/22/1944	GL:	3,987'

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface	8 5/8"	NA	32#	1,280'	10 7/8"	50	1,030' Calc.
Inter Csg	7"	N/A	20#	4,663'	7 7/8"	50	3,860' Calc.
Re-Plug 4-1-80	7"	K-55	23#	207'	8 3/4"	175 + TJ	Surface

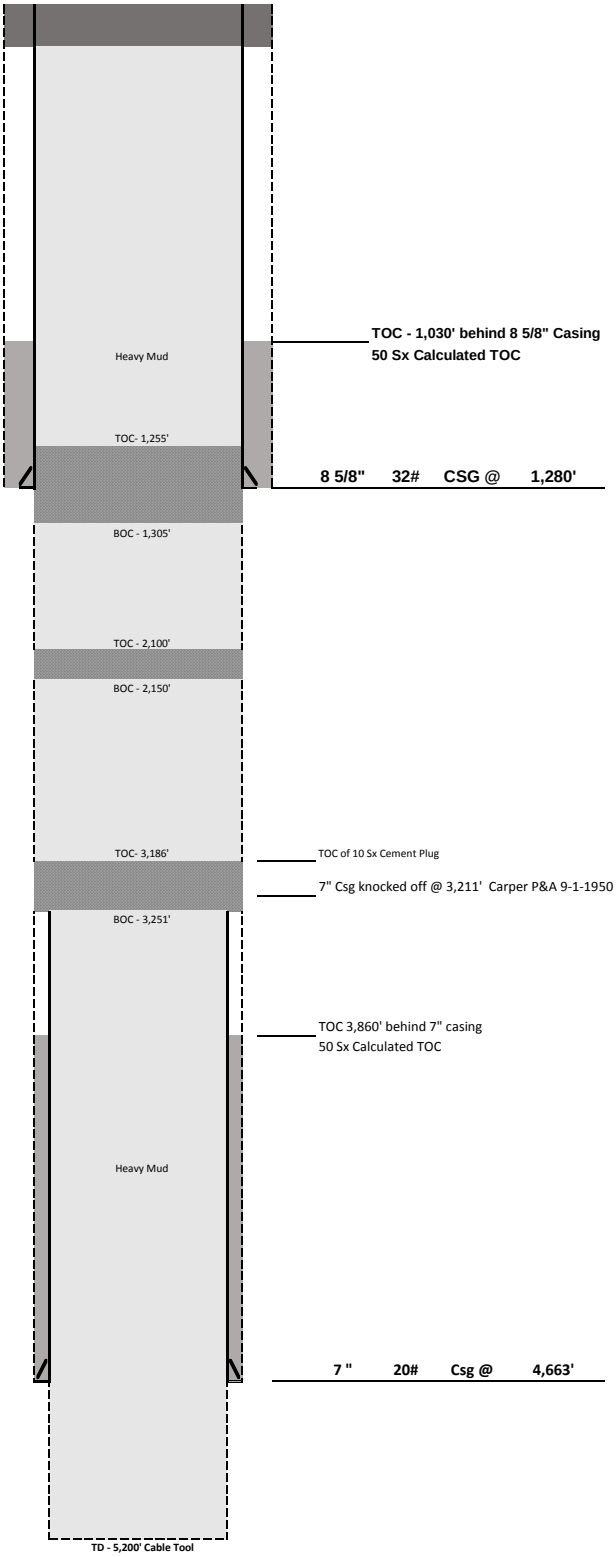
The State 245 No.C-2 was originally drilled by Carper Drilling Company, Inc. as the Cochran-State No.2. It was spudded 1-22-1944. It appears to have produced some production.
It was P&A'd 9-1-1950 by Carper Drilling. Cities Service re-entered and replugged based on report dated 4-18-1980



RAYBAW Operating, LLC		PROPOSED Rev. a	
Author:	Sid Campbell		
Well Name	State 245	Well No.	C-2
Field/Pool	Maljamar-GBSA	API #:	30-025-01348
County	Lea	Location:	NE-NW- Sec 17S-R33E
State	NM		
Spud Date	1/22/1944	GL:	3987

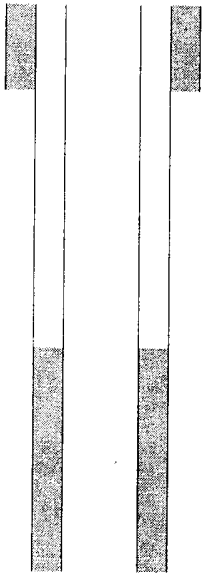
Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface	8 5/8"	NA	32#	1,280'	10 7/8"	50	1,030' Calc.
Inter Csg	7"	N/A	20#	4,663'	7 7/8"	50	3,860' Calc.
Prod Csg	None			5,200'	6 1/4"		

The State 245 No.C-2 was originally drilled by Carper Drilling Company, Inc. as the Cochran-State No.2. It was spudded 1-22-1944. It appears to have produced some production. It was P&A'd 9-1-1950 by Carper Drilling. Cities Service re-entered and replugged based on report dated 4-18-1980



MACK ENERGY CORPORATION
STATE CD #3
Sec 32 T17S R33E 2310FNL 2310FEL

BEFORE



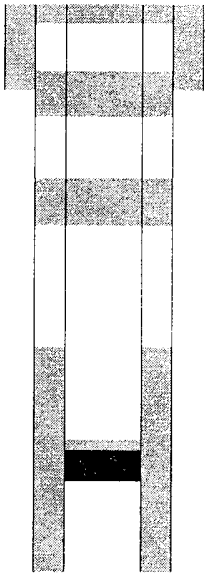
8 5/8" 24# @ 329' Circ Cmt

Top of Salt @ 1350'

TOC @ 3493'

Perfs 4345'-4492'

4 1/2" 10.5# 4809" C/w 250sks



8 5/8" 24# @ 329' Circ Cmt

Perf @ 329' squeeze cmt
50' above and below 8 5/8" shoe

Perf @ 1350' squeeze cmt
50' above and below TOS

TOC @ 3493'

CIBP @ 4245' w/35' Cmt cap
Perfs 4345'-4492'

4 1/2" 10.5# 4809" C/w 250sks

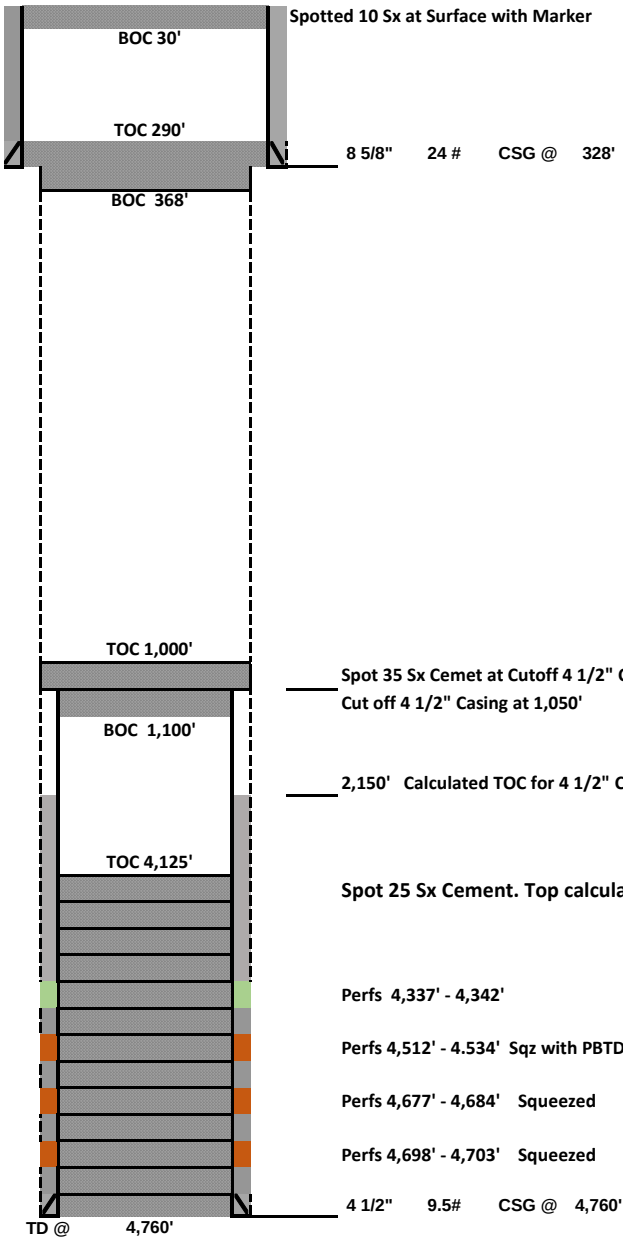
06/13/2005

#3.WK4

RAYBAW Operating, LLC			
Author:	Sid Campbell		
Well Name	State CD #2	Well No.	2
Field/Pool	San Andes	API #:	30-025-21636
County	Lea	Location:	NW/SW Sec 32-T17S-R33E
State	NM		
Spud Date	12/8/1965	GL:	4,015' (Csg Head)

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	8 5/8"		24 #	328'	11 1/4	300	Surface
Prod Csg	4 1/2"		9.5#	4,760'	7 7/8	550	-

Note: The State CD No.2 was drilled by Cities Service Oil Company. Spudded 12-8-1965.
The well ran 4 1/2" casing at TD of 4,766' and tested the San Andres and P&A'd the well on 1-24-1966



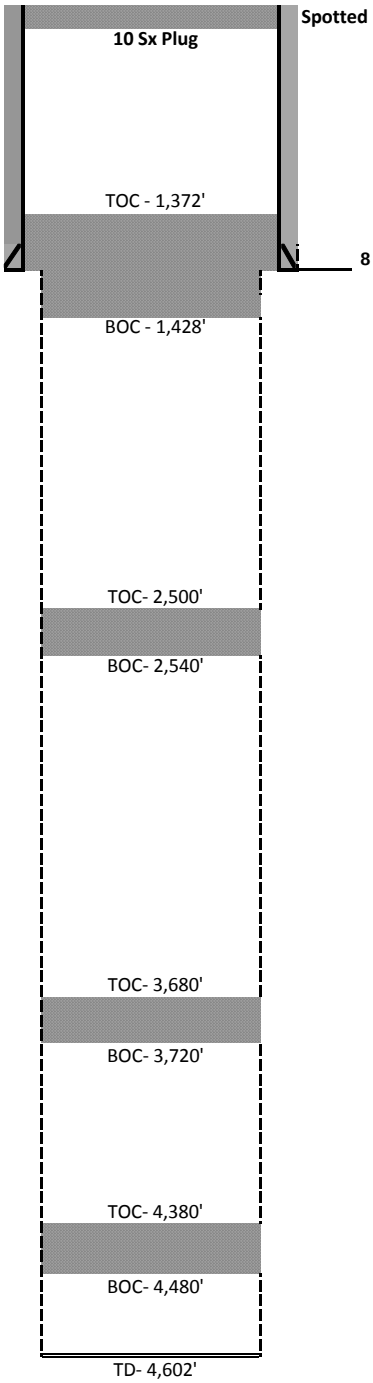
Details from 12-8-1967 P&A report

The above well was plugged and abandoned in the following manner: 1. Loaded hole w/mud laden fluid. 2. Set 25 sack cement plug @ PBTD (4468') to cover perfs. 4337, 4339 and 4342. 3. Set 35 sack cement plug 1050 cut point of 4 1/2" casing, half of plug in and half out of casing stub. 4. Displaced 25 sack plug at base of 8 5/8" from 368' to 290'. 5. Set 10 sack plug from surface to 30' w/4" dry hole marker extending 4' above ground level. 6. Cleaned location of all debris and equipment, filled pits and cellar.

RAYBAW Operating, LLC			
Author:	Sid Campbell		
Well Name	State 32	Well No.	3
Field/Pool	Maljamar-Grayburg	API #:	30-025-01343
County	Lea	Location:	SE/NW Sec 32-T17S-R33E
State	NM		
Spud Date	2/19/1962	GL:	4,034'

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	8 5/8"		24 & 32 #	1,402'	12 1/4"	350	Surface
Prod Csg	None						

Note: The State 32 No. 3 was drilled by Carper Drilling Company, Inc. It spudded 2-19-1962 The well set 8 5/8" casing at TD of 1,280' and cable tool drilled to 4,,480' and dry holed the well 6-15-62



Spotted 10 Sx at Surface with Marker

8 5/8" 24 & 32 # CSG @ 1,402'

15 Sx Plug 2,500' to 2,540'

15 Sx Plug 3,680' to 3,720'

15 Sx Plug 4,380' to 4,420'

Drilled with Cable Tools

Plugging Information: C-103 of work on 6-5-1962 approved by John W. Runyan of NMOCC

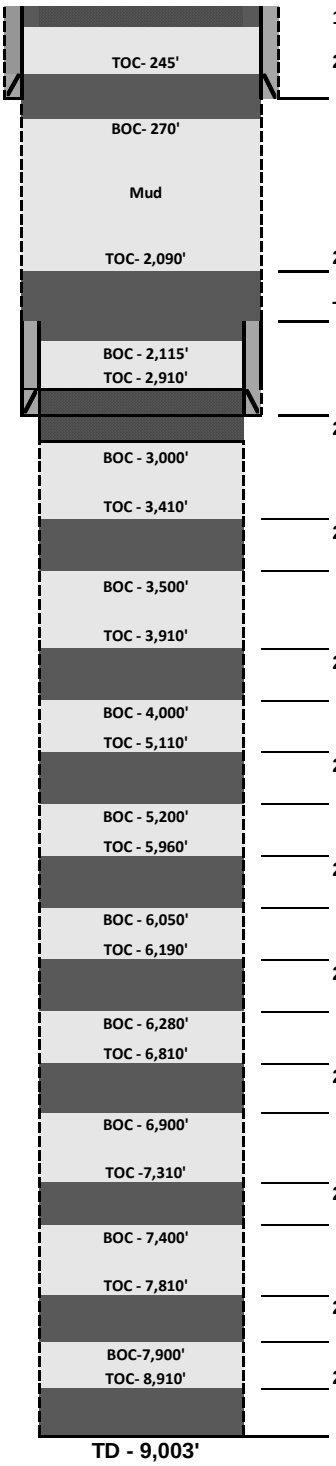
T. D. 4602 Ran Lane-Wells Gamma Ray-Neutron Log. Well was plugged and abandoned, no fluid encountered to total depth. Cement plugs set as follows: 15 Sacks neat cement 4420'-4380'. 15 Sacks neat cement 3720' - 3680'. 15 Sacks neat cement 2540-2500. 20 Sacks neat cement 1428 - 1372. 10 Sacks neat cement w/marker at surface. Verbal approval for plugging was obtained by telephone from Mr. Joe Ramey by Vincent Foster - May 29, 1962. Witnessed by C. E. Storm Position Prod. Supt. Company Carper Drilling Company, Inc.

RAYBAW Operating, LLC		Current WBD from OCD File	
Author:	Sid Campbell		
Well Name	State	Well No.	1
Field/Pool	ABO	API #:	30-025-01583
County	Lea	Location:	NW/NE of Sec 6-T18S-R33E
State	NM		
Spud Date	2/2/1960	GL:	3,951.8'

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	13 5/8"	NA	42 #	259"	17 1/2	260	Surface
Inter Csg	8 5/8"	J-55	24 #	2,975	11 1/4	454	1,895"
Prod Csg	None	-	-	9,003'	7 7/8"	-	0

Note: 8 5/8" Casing cut and pulled at 2,104'.

Note: The well was plugged back to 3,410' on work completed on 4-5-1960. The casing was cut at 2,104' and plugs from base of 8 5/" to surface were set as shown on Form C-103 showing work performed on 12-1-1960.



10 Sx Plug @ Surface

25 Sx Plug @ 290'. Calculated Plug is 25 feet. Base at 270' with Top at 245'

13 5/8" 42 # CSG @ 259"

25 Sx Plug @ 2,115' with TOC @ 2,090' calculated as a 75' Plug.

Top of 8 5/8" at 2,104'. Cut and Pulled

8 5/8" 24 # CSG @ 2,975

25 Sx @ 3,000' . Calculated TOC and BOC for Plug shown on Schematic

25 Sx Plug @ 3,500'. Calculated TOC @ 3,410'

25 Sx Plug @ 4,000' . Calculated TOC @ 3,910'

25 Sx Plug @ 5,200'. Calculated TOC @ 5,110'

25 Sx Plug @ 6,050' . Calculated TOC @ 5,960'

25 Sx Plug @ 6,280'. Calculated TOC @ 6,190'

25 Sx Plug @ 6,900'. Calculated TOC @ 6,810'

25 Sx Plug @ 7,400'. Calculated TOC @ 7,310"

25 Sx Plug @ 7,900'. Calculated TOC @ 7,810'

25 Sx Plug @ 9,000' Calculated TOC @ 8,910"

7 7/8" Hole Based on OCD NOI to Drill

Well: Miller B #20
Operator: John Cockburn
API No.: 3002508338
Legal: Sec. 30, T17S, R33E, 685' FSL, 2050' FWL, Lea Co., NM
Spud date: 7-17-1947
P&A date: 1-15-1948

* Note: This well was re-entered in 1969 and completed in the Grayburg f/ 4450' to 4370'. The well was re-named at the time it was re-entered. The well was converted to an injection well on 5 July 1973. Injection perfs were added f/ 4200' to 4350'. The well was shut in due to high injection pressure on 7-14-1986.

WELL IS ACTIVE!!!
P&A'd well was re-entered & renamed

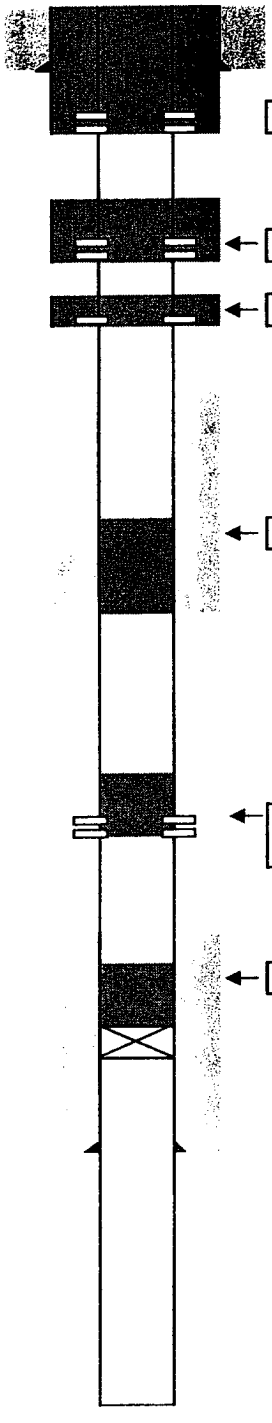
CURRENT WELL DATA:

Well: Pearl B #3
Operator: ConocoPhillips Co.
API #: 3002508338
Legal: Sec. 30, T17S, R33E, 685' FSL, 2050' FWL, Lea County, New Mexico
Status: TA'd injection well.

Appendix Item #VI-4 (1/1)

ConocoPhillips - Permian Basin
February 4, 2004
Plugged Wellbore Diagram

TRIPLE N SERVICES INC. MIDLAND, TX



10", 32# csg @ 20' w/ 15 sx

65 sx C cmt sqzd 60' to surface

60 sx C cmt sqzd 400 - 270' **TAG**

60 sx C cmt sqzd @ 900-775' **TAG**

TOC unknown.

25 sx C cmt plug @ 1,372 - 1,230'

Multi-stage tool at 1372'.

45 sx C cmt 2,670-2,430' **TAGGED** unable to pump into perfs @ 1,500#

TOC unknown.

25 sx C cmt plug @ 3,870 - 3,728'

CIBP @ 3870'

9 7/8" hole.
7", 17# casing set at 3986'.
Multi-stage tool at 1372'.
1st stage: Cmtd w/ 100 sx.
2nd stage: Cmtd w/ 100 sx.

25 sk cmt plug from 4380-4420'.

Open hole:
6 1/2" 3986-4857'

PBTD: 4380'
TD: 4857'

Lease & Well No.: **Pearl B #3** (Originally Miller B #20)

Well Category: One Status: TA'd
Area: New Mexico
Subarea: Maljamar Field: Maljamar G-SA
API Number: 30-025-08338
Legal Description: 685' FSL & 2050' FWL
Sec. 30, T-17-S, R-33-E
Lea County, New Mexico
Spudded: 07/17/1947
Completed: 10/29/1947

Well History:

9/47 Drilled OH 3986-4857' w/ cable tool. Encountered water flow at 4265-4300'. TD reached on 10/29/47.

11/47 Lost drilling tools in hole. Unable to recover tools. Plugged back w/ plastic plug at 4260-4300' to shut off water flow.

8/48 Temporarily abandoned on 8/4/48.

1/70 Ran 6 1/4" cable tool bit. CO from 4212-4260'. Ran imp block. Block ind it was going down beside fish in hole. Ran 6 1/4" cable tool bit. CO to 4270'. Ran wash pipe & 4 DC's on 2 7/8" tbg. Milled on junk from 4271-81'. Ran junk mill. Tagged junk at 4267'. Milled to 4277'. Fell through at 4277' & washed down to 4304'. Rec wire rope & iron pieces. CO to 4431'. Ran 6 1/4" flat btm mill. Tagged fill at 4420'. CO to 4431'. Ran GR-N log from 4424-3686'. Spotted 25 sk cmt plug from 4420-4370'. Ran Lynes OH pkr. Spotted 175 gal 15% LSTNE HCl from 4355-4250'. Set pkr at 4202'. Frac'd OH 4202-4380' w/ 30,000 gal 40# gelled wtr & 45,000# 20-40 mesh sand in two equal stages using 2000# rock salt. Tagged top of cmt plug at 4380' w/ sinker bar on wireline. IPP 58 bo & 216 bw / 24 hrs on 4/15/70.

8/73 CO to 4380'. Acdzd OH 3986-4380' w/ 1200 gal 28% NE HCl. Ran 7" Baker AD-1 tension pkr on 2 3/8" cement lined tbg. Set pkr at 3508'. SI pending completion of water inj line.

11/73 Placed on water injection on 11/26/73.

12/89 Set CIBP at 3870'. Circ well w/ 10# brine & pkr fluid. Tested csg to 500 psig for 15 min. Held. TA'd on 12/13/89.

10/95 Performed MIT on 10/25/95. Tested to 550# for 30 min. Held.

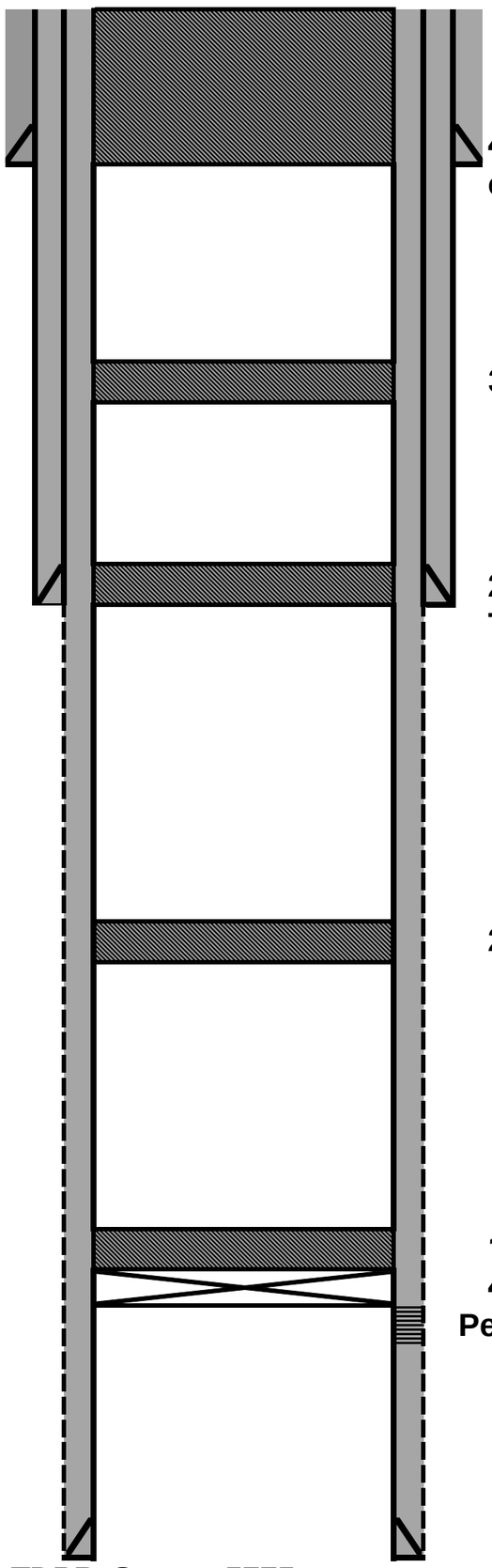
8/97 Performed MIT on 8/27/97. Tested to 600# for 30 min. Held.

8/02 Performed MIT on 8/28/02. Tested to 500# for 30 min. Held.

Mack Energy Corporation			PLUGGED
Author:	Abby BCM		
Well Name	Fee MA B	Well No.	#6
Field/Pool	SWD;Del-Bone Spring	API #:	30-025-36633
County	Lea	Location:	Sec 31, T17S,R33E
State	NM		2310 FSL & 990 FEL
Spud Date	4/25/2004	GL:	3986'

Description	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	13 3/8	H40	48#	319	17 1/2	400	0
Inter Csg	8 5/8	J55	32#	2,760	12 1/4	1,200	0
Prod Csg	5 1/2	J55	17#	7,459	7 7/8	1,800	0

Formation	Top
Yates	2770
7 Rvs	3166
Queen	3866
GRBG	4317
San Andres	4764
Del Sand	4940
Bone Springs	6060



13 3/8 48# CSG @ 319

4, Perf'd @ 370'. Pressured up on perfs to 500 PSI. Spotted 50 sx class C cmt @ 420' & circulated to surface.

3. Spotted 25 sx class C cmt @ 900-647'.

8 5/8 32# CSG @ 2,760

2. Perf'd csg @ 2820'. Pressured up on perfs to 500 PSI. Spotted 25 sx class C cmt @ 2870-2617'. WOC & Tagged plug @ 2572'.

2. Spotted 25 sx class C cmt @ 3800-3547'.

1. Set 5 ½ CIBP @ 4923'. Circ'd hole w/ MLF. Pressure tested csg, held 500 PSI. Spotted 25 sx class C cmt @ 4923-4670'.

Perfs @ 4973-5200'

5 1/2 17# CSG @ 7,459

TDPB @ 5775

TD @ 7459

WellView

Schematic - Current

Well Name: SOUTHEAST MALJAMAR GB/SA UNIT 619

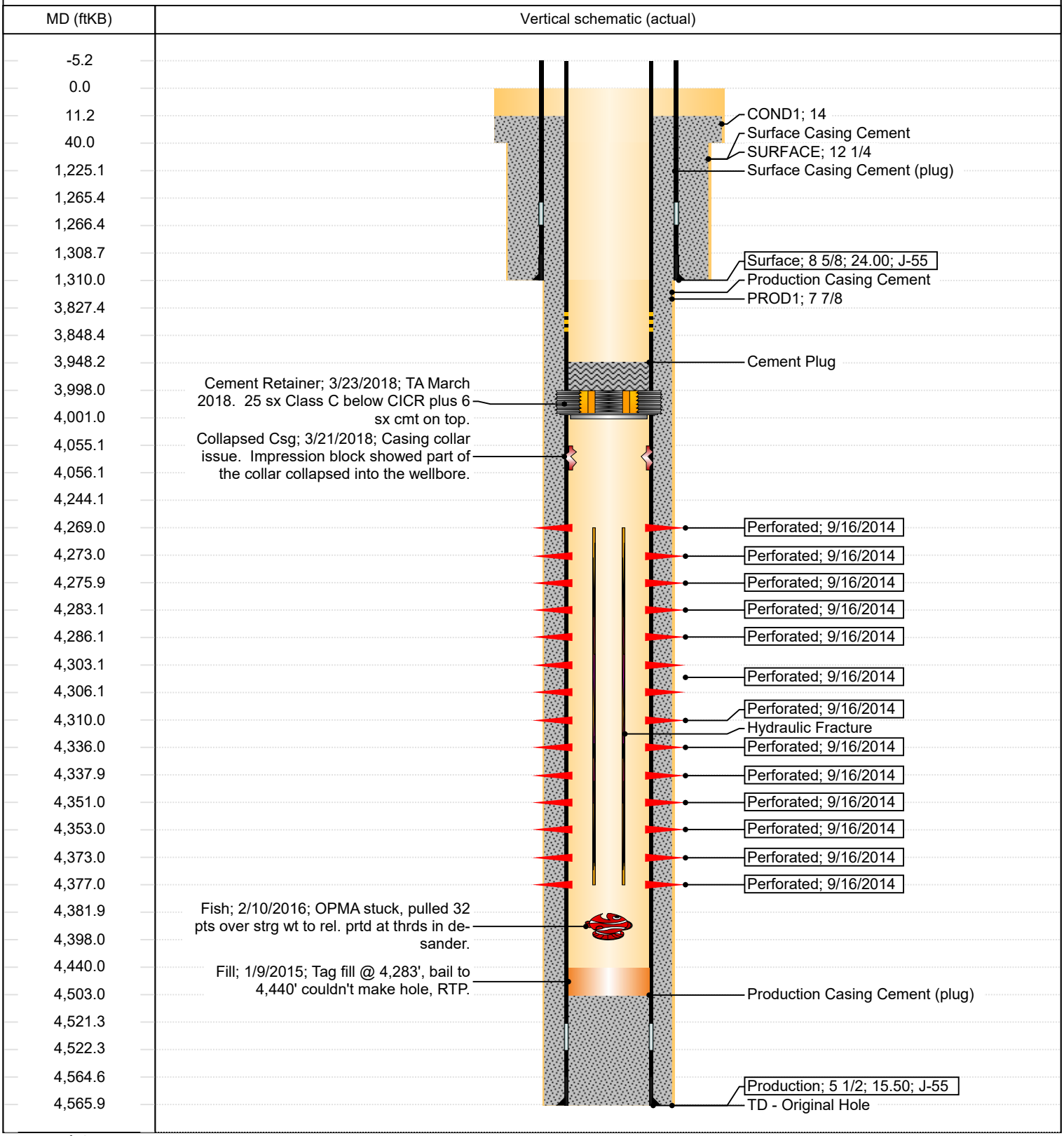
API/UWI	Location	Field Name	Permit Number	State/Province	Well Configuration Type
3002541940	179 FSL, 728 FWL	MALJAMAR	188421	New Mexico	Vertical
Original KB Elevation (ft)	**KB-Tubing Head Distance (ft)**	**Spud Date**	**Rig Release Date**	**PBTD (All) (ftKB)**	**Total Depth All (TVD) (ftKB)**
4,047.28		8/29/2014 02:00	9/6/2014 16:00		

Most Recent Job

Job Category	Primary Job Type / Initial Job Type	Secondary Job Type / Final Job Type	Start Date	End Date
Abandonment	Temporarily Abandon Well		3/19/2018	3/26/2018

TD: 4,566.0

Vertical - Original Hole, 8/10/2021 1:51:10 PM



JACAM CATALYST

DownHole SAT®

WATER CHEMISTRY

RAYBAW OPERATING LLC
JODY FORTNER
LEA NM

KACHINA 5 FED 4
WELLHEAD

Report Date: 05-14-2025
Sample #: 6311

Sampled: 03-27-2025 at 0000
Sample ID: 415578

CATIONS		ANIONS	
Calcium (as Ca)	11490	Chloride (as Cl)	140965
Magnesium (as Mg)	2357	Sulfate (as SO_4)	840.00
Barium (as Ba)	0.490	Bromine (as Br)	0.00
Strontium (as Sr)	306.61	Dissolved CO_2 (as CO_2)	200.00
Sodium (as Na)	73373	Bicarbonate (as HCO_3)	244.00
Potassium (as K)	1001	Carbonate (as CO_3)	0.00
Lithium (as Li)	0.00	Oxalic acid (as C_2O_4)	0.00
Ammonia (as NH_3)	0.00	Silica (as SiO_2)	0.00
Aluminum (as Al)	0.00	Phosphate(as PO_4)	0.00
Iron (as Fe)	4.29	H_2S (as H_2S)	0.00
Manganese (as Mn)	0.710	Fluoride (as F)	0.00
Zinc (as Zn)	0.00	Nitrate (as NO_3)	0.00
Lead (as Pb)	0.00	Boron (as B)	198.58

PARAMETERS	
Calculated T.D.S.	251134
Molar Conductivity	255077
Resistivity	3.92
Sp.Gr.(g/mL)	1.159
Pressure(atm)	1.00
pCO_2(atm)	0.0366
pH_2S(atm)	0.00
Temperature (^oF)	75.00
pH	6.60

BOUND IONS	TOTAL	FREE
Calcium	13317	13046
Barium	0.568	0.568
Carbonate	23.24	0.0275
Phosphate	0.00	0.00
Sulfate	973.56	129.04

CORROSION RATE PREDICTION

CO_2 - H_2S Rate(mpy) 0.0682

COMMENTS

LEA NM

Jacam Catalyst
1656 Ave Q Building 8, Sterling, KS 67579

JACAM CATALYST

DownHole SAT®

DEPOSITION POTENTIAL INDICATORS

RAYBAW OPERATING LLC
JODY FORTNER
LEA NM

KACHINA 5 FED 4
WELLHEAD

Report Date: 05-14-2025
Sample #: 6311

Sampled: 03-27-2025 at 0000
Sample ID: 415578

SATURATION RATIO as IAP/Ksp	
Calcite ($CaCO_3$)	4.05
Aragonite ($CaCO_3$)	3.76
Witherite ($BaCO_3$)	0.00
Strontianite ($SrCO_3$)	0.06
Calcium oxalate (CaC_2O_4)	0.00
Magnesite ($MgCO_3$)	1.10
Anhydrite ($CaSO_4$)	0.63
Gypsum ($CaSO_4*2H_2O$)	0.74
Barite ($BaSO_4$)	0.45
Celestite ($SrSO_4$)	0.21
Fluorite (CaF_2)	0.00
Calcium phosphate	0.00
Hydroxyapatite	0.00
Silica (SiO_2)	0.00
Brucite ($Mg(OH)_2$)	< 0.001
Magnesium silicate	0.00
Iron hydroxide ($Fe(OH)_3$)	0.66
Strengite ($FePO_4*2H_2O$)	0.00
Siderite ($FeCO_3$)	0.46
Halite (NaCl)	0.36
Thenardite ($Na2SO_4$)	0.00
Iron sulfide (FeS)	0.00

FREE ION MOMENTARY EXCESS (Lbs/1000 Barrels)	
Calcite ($CaCO_3$)	0.0120
Aragonite ($CaCO_3$)	0.0117
Witherite ($BaCO_3$)	-28.58
Strontianite ($SrCO_3$)	-0.382
Calcium oxalate (CaC_2O_4)	-0.00197
Magnesite ($MgCO_3$)	0.00122
Anhydrite ($CaSO_4$)	-37.39
Gypsum ($CaSO_4*2H_2O$)	-25.26
Barite ($BaSO_4$)	-0.405
Celestite ($SrSO_4$)	-165.96
Fluorite (CaF_2)	-1.41
Calcium phosphate	>-0.001
Hydroxyapatite	-225.74
Silica (SiO_2)	-25.53
Brucite ($Mg(OH)_2$)	-0.113
Magnesium silicate	-79.02
Iron hydroxide ($Fe(OH)_3$)	< 0.001
Strengite ($FePO_4*2H_2O$)	>-0.001
Siderite ($FeCO_3$)	-0.0214
Halite (NaCl)	-52193
Thenardite ($Na2SO_4$)	-87661
Iron sulfide (FeS)	-0.422

SIMPLE INDICES	
Langelier	1.62
Ryznar	3.37
Puckorius	2.00
Larson-Skold Index	919.89
Stiff Davis Index	1.68
Oddo-Tomson	0.600

CARBONATE PRECIPITATION POTENTIAL (Lbs/1000 Barrels)	
Calcite ($CaCO_3$)	79.78
Aragonite ($CaCO_3$)	79.11
Witherite ($BaCO_3$)	-34.91
Strontianite ($SrCO_3$)	5.25
Magnesite ($MgCO_3$)	64.81
Siderite ($FeCO_3$)	3.11

OPERATING CONDITIONS

Temperature (^oF)	75.00
Time(secs)	0.00

Jacam Catalyst
1656 Ave Q Building 8, Sterling, KS 67579

JACAM CATALYST Water Chemistry Report

SYSTEM IDENTIFICATION

RAYBAW OPERATING LLC
KACHINA 5 FED 4
JODY FORTNER
WELLHEAD
LEA NM

Sample ID#: 6311
ID 415578

Sample Date: 03-27-2025 at 0000
Report Date: 05-14-2025

WATER CHEMISTRY

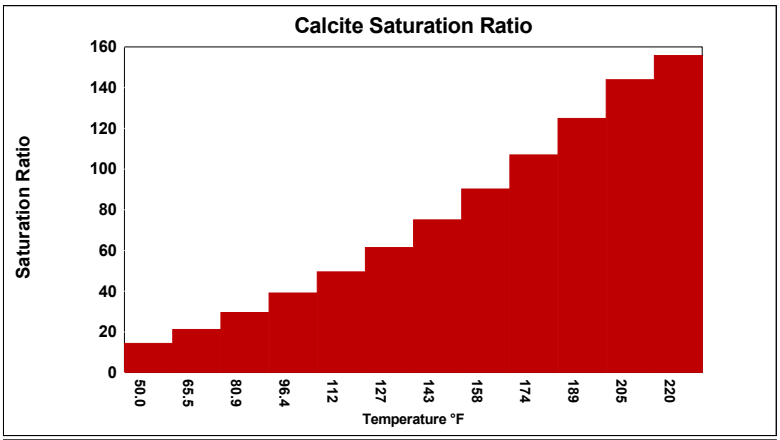
CATIONS		ANIONS	
Calcium(as Ca)	11490	Chloride(as Cl)	140965
Magnesium(as Mg)	2357	Sulfate(as SO_4)	840.00
Barium(as Ba)	0.490	Bromine(as Br)	0.00
Strontium(as Sr)	306.61	Dissolved CO_2(as CO_2)	200.00
Sodium(as Na)	73373	Bicarbonate(as HCO_3)	244.00
Potassium(as K)	1001	Carbonate(as CO_3)	0.00
Lithium(as Li)	0.00	Silica(as SiO_2)	0.00
Iron(as Fe)	4.29	Phosphate(as PO_4)	0.00
Ammonia(as NH_3)	0.00	H_2S (as H_2S)	0.00
Aluminum(as Al)	0.00	Fluoride(as F)	0.00
Manganese(as Mn)	0.710	Nitrate(as NO_3)	0.00
Zinc(as Zn)	0.00	Boron(as B)	198.58
Lead(as Pb)	0.00		

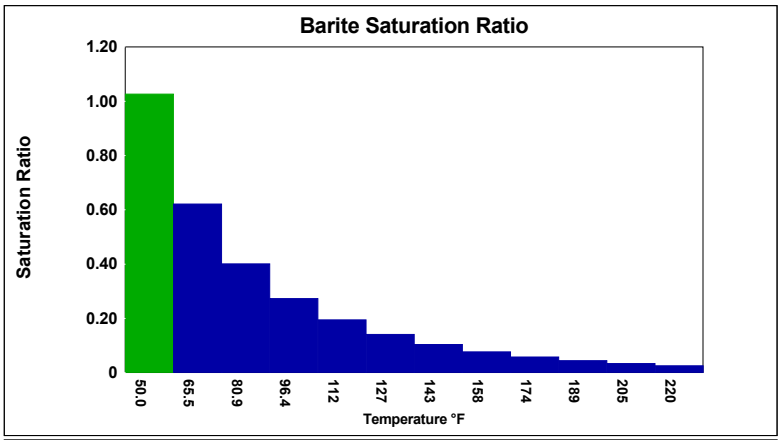
PARAMETERS			
Temperature(°F)	75.00	Sample pH	6.60
Conductivity	255077	Sp.Gr.(g/mL)	1.159
Resistivity	3.92	T.D.S.	251134

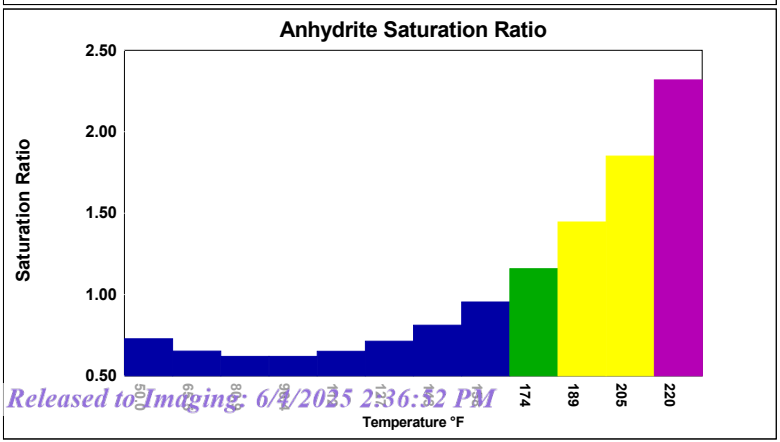
SCALE AND CORROSION POTENTIAL

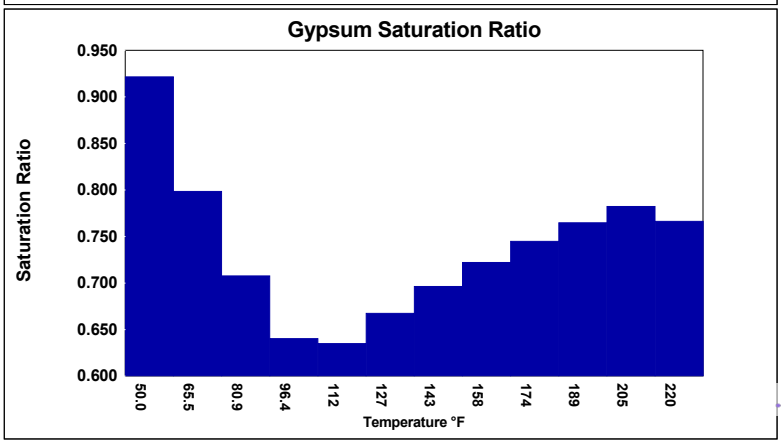
Temp. (°F)	Press. (atm)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackinawite FeS		CO_2 (mpy)	pCO_2 (atm)
50.00	1.000	14.31	0.0666	0.728	-27.35	0.921	-7.13	1.03	0.00825	0.262	-144.61	1.40	0.0240	0.00	-0.405	0.0462	0.0366
65.45	1.000	21.19	0.0898	0.653	-36.37	0.798	-19.61	0.621	-0.204	0.228	-159.25	2.33	0.0622	0.00	-0.415	0.0226	0.0366
80.91	1.000	29.55	0.114	0.620	-39.18	0.708	-29.97	0.400	-0.500	0.211	-164.54	3.65	0.0989	0.00	-0.425	0.0774	0.0366
96.36	1.000	39.08	0.139	0.621	-36.67	0.640	-38.22	0.273	-0.887	0.203	-164.71	5.36	0.133	0.00	-0.437	0.101	0.0366
111.82	1.000	49.47	0.163	0.652	-30.26	0.635	-36.89	0.194	-1.37	0.197	-162.75	7.50	0.166	0.00	-0.451	0.106	0.0366
127.27	1.000	61.41	0.189	0.714	-21.55	0.667	-30.33	0.141	-2.00	0.192	-161.54	10.23	0.199	0.00	-0.465	0.0891	0.0366
142.73	1.000	75.00	0.218	0.812	-11.91	0.696	-25.30	0.103	-2.82	0.186	-161.26	13.66	0.236	0.00	-0.481	0.0722	0.0366
158.18	1.000	90.19	0.250	0.955	-2.34	0.722	-21.41	0.0766	-3.86	0.179	-161.84	17.90	0.275	0.00	-0.498	0.0752	0.0366
173.64	1.000	106.88	0.285	1.16	6.47	0.745	-18.40	0.0575	-5.17	0.173	-163.22	22.99	0.317	0.00	-0.516	0.0779	0.0366
189.09	1.000	124.86	0.324	1.45	14.19	0.765	-16.06	0.0437	-6.76	0.167	-165.38	29.00	0.364	0.00	-0.536	0.0393	0.0366
204.55	1.000	143.84	0.367	1.85	20.73	0.782	-14.23	0.0335	-8.69	0.161	-168.28	35.91	0.415	0.00	-0.557	0.0329	0.0366
220.00	18.207	155.72	0.424	2.32	25.85	0.766	-15.70	0.0249	-11.44	0.149	-181.22	42.47	0.480	0.00	-0.590	0.201	0.666
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		

Saturation Ratios (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (atm) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









JACAM CATALYST

DownHole SAT®

WATER CHEMISTRY

RAYBAW OPERATING LLC
JODY FORTNER
LEA NM

CHEVRON 12 FEDERAL 4
WELLHEAD

Report Date: 09-20-2024
Sample #: 6311

Sampled: 09-18-2024 at 0000
Sample ID: 385785

CATIONS		ANIONS	
Calcium (as Ca)	5923	Chloride (as Cl)	122400
Magnesium (as Mg)	1180	Sulfate (as SO_4)	1475
Barium (as Ba)	0.350	Bromine (as Br)	0.00
Strontium (as Sr)	186.35	Dissolved CO_2 (as CO_2)	250.00
Sodium (as Na)	69796	Bicarbonate (as HCO_3)	122.00
Potassium (as K)	1632	Carbonate (as CO_3)	0.00
Lithium (as Li)	23.36	Oxalic acid (as C_2O_4)	0.00
Ammonia (as NH_3)	0.00	Silica (as SiO_2)	0.00
Aluminum (as Al)	0.250	Phosphate(as PO_4)	0.00
Iron (as Fe)	9.29	H_2S (as H_2S)	20.00
Manganese (as Mn)	0.240	Fluoride (as F)	0.00
Zinc (as Zn)	0.190	Nitrate (as NO_3)	0.00
Lead (as Pb)	0.00	Boron (as B)	23.08

PARAMETERS		BOUND IONS	TOTAL	FREE
Calculated T.D.S.	217536	Calcium	6699	6415
Molar Conductivity	209832	Barium	0.396	0.396
Resistivity	4.77	Carbonate	9.41	0.0246
Sp.Gr.(g/mL)	1.131	Phosphate	0.00	0.00
Pressure(atm)	1.00	Sulfate	1668	418.18
pCO_2(atm)	0.0180			
pH_2S(atm)	0.0140			
Temperature (^oF)	70.00	**CORROSION RATE PREDICTION**		
pH	6.60	CO_2 - H_2S Rate(mpy)		0.0321

COMMENTS

LEA NM

Jacam Catalyst
1656 Ave Q Building 8, Sterling, KS 67579

JACAM CATALYST

DownHole SAT®

DEPOSITION POTENTIAL INDICATORS

RAYBAW OPERATING LLC
JODY FORTNER
LEA NM

CHEVRON 12 FEDERAL 4
WELLHEAD

Report Date: 09-20-2024
Sample #: 6311

Sampled: 09-18-2024 at 0000
Sample ID: 385785

SATURATION RATIO as IAP/Ksp		FREE ION MOMENTARY EXCESS (Lbs/1000 Barrels)	
Calcite ($CaCO_3$)	1.28	Calcite ($CaCO_3$)	0.00309
Aragonite ($CaCO_3$)	1.20	Aragonite ($CaCO_3$)	0.00238
Witherite ($BaCO_3$)	0.00	Witherite ($BaCO_3$)	-27.18
Strontianite ($SrCO_3$)	0.03	Strontianite ($SrCO_3$)	-0.608
Calcium oxalate (CaC_2O_4)	0.00	Calcium oxalate (CaC_2O_4)	-0.00532
Magnesite ($MgCO_3$)	0.29	Magnesite ($MgCO_3$)	-0.0289
Anhydrite ($CaSO_4$)	0.81	Anhydrite ($CaSO_4$)	-45.89
Gypsum ($CaSO_4*2H_2O$)	1.03	Gypsum ($CaSO_4*2H_2O$)	6.85
Barite ($BaSO_4$)	1.36	Barite ($BaSO_4$)	0.0621
Celestite ($SrSO_4$)	0.47	Celestite ($SrSO_4$)	-91.37
Fluorite (CaF_2)	0.00	Fluorite (CaF_2)	-2.30
Calcium phosphate	0.00	Calcium phosphate	>-0.001
Hydroxyapatite	0.00	Hydroxyapatite	-250.02
Silica (SiO_2)	0.00	Silica (SiO_2)	-25.33
Brucite ($Mg(OH)_2$)	< 0.001	Brucite ($Mg(OH)_2$)	-0.198
Magnesium silicate	0.00	Magnesium silicate	-83.21
Iron hydroxide ($Fe(OH)_3$)	0.00	Iron hydroxide ($Fe(OH)_3$)	< 0.001
Strengite ($FePO_4*2H_2O$)	0.00	Strengite ($FePO_4*2H_2O$)	>-0.001
Siderite ($FeCO_3$)	0.85	Siderite ($FeCO_3$)	-0.00282
Halite (NaCl)	0.25	Halite (NaCl)	-71092
Thenardite ($Na2SO_4$)	0.00	Thenardite ($Na2SO_4$)	-84926
Iron sulfide (FeS)	7.13	Iron sulfide (FeS)	0.688

SIMPLE INDICES		CARBONATE PRECIPITATION POTENTIAL (Lbs/1000 Barrels)	
Langelier	0.818	Calcite ($CaCO_3$)	27.23
Ryznar	4.96	Aragonite ($CaCO_3$)	26.71
Puckorius	4.05	Witherite ($BaCO_3$)	-26.14
Larson-Skold Index	1626	Strontianite ($SrCO_3$)	-8.84
Stiff Davis Index	0.680	Magnesite ($MgCO_3$)	12.74
Oddo-Tomson	-0.299	Siderite ($FeCO_3$)	5.88

OPERATING CONDITIONS

Temperature (^oF)	70.00
Time(secs)	0.00

Jacam Catalyst
1656 Ave Q Building 8, Sterling, KS 67579

JACAM CATALYST

Water Chemistry Report

SYSTEM IDENTIFICATION

RAYBAW OPERATING LLC
CHEVRON 12 FEDERAL 4
JODY FORTNER
WELLHEAD
LEA NM

Sample ID#: 6311
ID 385785

Sample Date: 09-18-2024 at 0000
Report Date: 09-20-2024

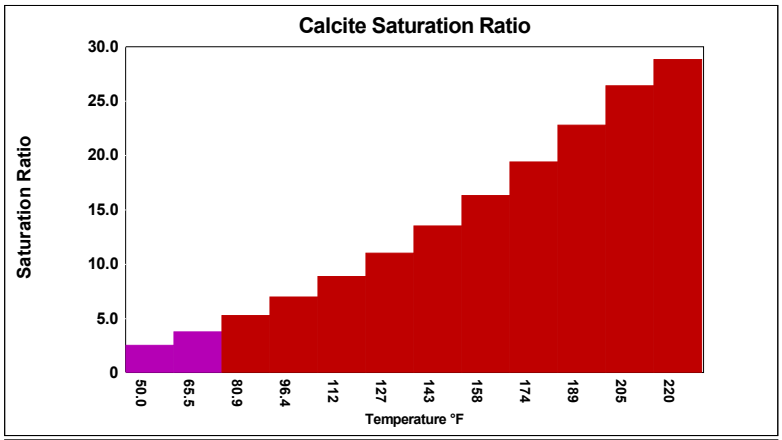
WATER CHEMISTRY

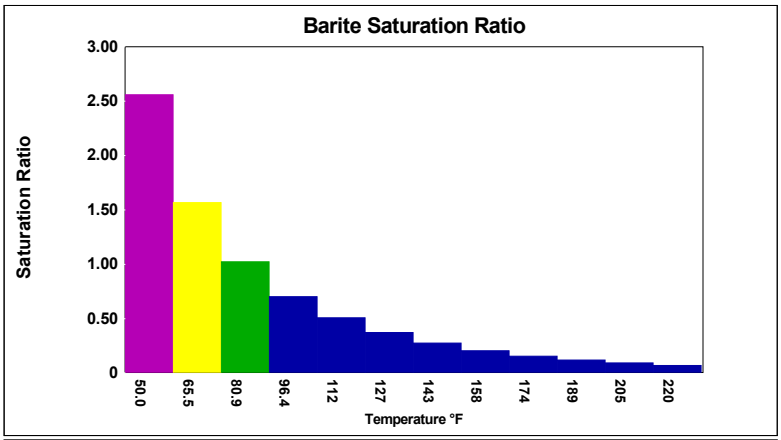
CATIONS		ANIONS	
Calcium(as Ca)	5923	Chloride(as Cl)	122400
Magnesium(as Mg)	1180	Sulfate(as SO_4)	1475
Barium(as Ba)	0.350	Bromine(as Br)	0.00
Strontium(as Sr)	186.35	Dissolved CO_2(as CO_2)	250.00
Sodium(as Na)	69796	Bicarbonate(as HCO_3)	122.00
Potassium(as K)	1632	Carbonate(as CO_3)	0.00
Lithium(as Li)	23.36	Silica(as SiO_2)	0.00
Iron(as Fe)	9.29	Phosphate(as PO_4)	0.00
Ammonia(as NH_3)	0.00	H_2S (as H_2S)	20.00
Aluminum(as Al)	0.250	Fluoride(as F)	0.00
Manganese(as Mn)	0.240	Nitrate(as NO_3)	0.00
Zinc(as Zn)	0.190	Boron(as B)	23.08
Lead(as Pb)	0.00		
PARAMETERS			
Temperature(°F)	70.00	Sample pH	6.60
Conductivity	209832	Sp.Gr.(g/mL)	1.131
Resistivity	4.77	T.D.S.	217536

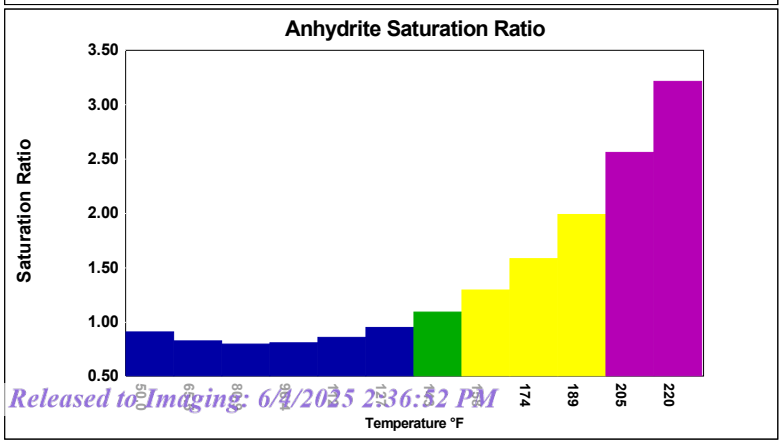
SCALE AND CORROSION POTENTIAL

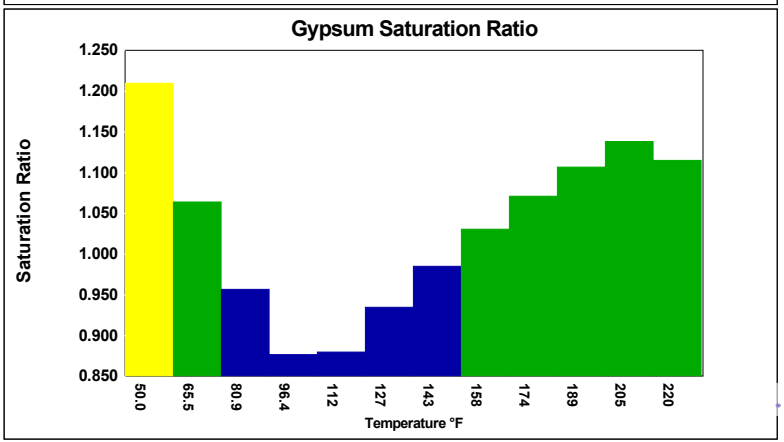
Temp. (°F)	Press. (atm)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackinawite FeS		CO_2 (mpy)	pCO_2 (atm)
50.00	1.000	2.51	0.0205	0.907	-22.39	1.21	42.82	2.56	0.143	0.554	-71.19	1.46	0.0126	31.42	0.837	0.0201	0.0180
65.45	1.000	3.74	0.0327	0.825	-43.41	1.06	13.91	1.57	0.0845	0.488	-87.58	2.45	0.0306	27.69	0.818	0.00686	0.0180
80.91	1.000	5.24	0.0452	0.795	-49.88	0.956	-10.12	1.02	0.00418	0.457	-95.27	3.83	0.0477	24.10	0.796	0.0295	0.0180
96.36	1.000	6.96	0.0576	0.806	-44.11	0.877	-29.37	0.701	-0.100	0.442	-98.03	5.63	0.0639	20.80	0.772	0.0386	0.0180
111.82	1.000	8.84	0.0694	0.857	-29.35	0.880	-27.23	0.504	-0.230	0.434	-98.54	7.88	0.0790	17.89	0.746	0.0405	0.0180
127.27	1.000	11.01	0.0822	0.948	-9.21	0.934	-13.38	0.368	-0.401	0.425	-99.55	10.76	0.0948	15.46	0.719	0.0340	0.0180
142.73	1.000	13.49	0.0961	1.09	13.17	0.985	-2.89	0.272	-0.626	0.415	-101.23	14.38	0.112	13.40	0.690	0.0275	0.0180
158.18	1.000	16.29	0.111	1.29	35.37	1.03	5.11	0.203	-0.917	0.403	-103.52	18.85	0.130	11.64	0.659	0.0287	0.0180
173.64	1.000	19.39	0.128	1.58	55.81	1.07	11.25	0.153	-1.29	0.391	-106.38	24.23	0.150	10.11	0.626	0.0297	0.0180
189.09	1.000	22.77	0.147	1.99	73.68	1.11	16.00	0.116	-1.77	0.378	-109.78	30.59	0.172	8.77	0.590	0.0150	0.0180
204.55	1.000	26.38	0.167	2.56	88.74	1.14	19.72	0.0895	-2.36	0.366	-113.70	37.91	0.196	7.58	0.552	0.0125	0.0180
220.00	18.207	28.81	0.193	3.21	100.68	1.11	16.78	0.0661	-3.27	0.336	-126.33	44.99	0.227	114.13	0.603	0.0766	0.328
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		

Saturation Ratios (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (atm) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









JACAM CATALYST

DownHole SAT®

WATER CHEMISTRY

RAYBAW OPERATING LLC
JODY FORTNER
LEA NM

SNIPER AM 6 FEDERAL 1
WELLHEAD

Report Date: 10-30-2024
Sample #: 6311
Sampled: 10-17-2024 at 0000
Sample ID: 391202

CATIONS		ANIONS	
Calcium (as Ca)	6474	Chloride (as Cl)	117000
Magnesium (as Mg)	1160	Sulfate (as SO_4)	200.00
Barium (as Ba)	0.390	Bromine (as Br)	0.00
Strontium (as Sr)	188.30	Dissolved CO_2 (as CO_2)	300.00
Sodium (as Na)	65482	Bicarbonate (as HCO_3)	122.00
Potassium (as K)	1068	Carbonate (as CO_3)	0.00
Lithium (as Li)	24.38	Oxalic acid (as C_2O_4)	0.00
Ammonia (as NH_3)	0.00	Silica (as SiO_2)	0.00
Aluminum (as Al)	0.0200	Phosphate(as PO_4)	0.00
Iron (as Fe)	2.35	H_2S (as H_2S)	0.00
Manganese (as Mn)	0.290	Fluoride (as F)	0.00
Zinc (as Zn)	0.0820	Nitrate (as NO_3)	0.00
Lead (as Pb)	0.00	Boron (as B)	14.56

PARAMETERS		BOUND IONS	TOTAL	FREE
Calculated T.D.S.	204192	Calcium	7238	7175
Molar Conductivity	197243	Barium	0.436	0.436
Resistivity	5.07	Carbonate	7.68	0.0252
Sp.Gr.(g/mL)	1.118	Phosphate	0.00	0.00
Pressure(atm)	1.00	Sulfate	223.60	55.83
pCO_2(atm)	0.0179			
pH_2S(atm)	0.00			
Temperature (^oF)	70.00	**CORROSION RATE PREDICTION**		
pH	6.60	CO_2 - H_2S Rate(mpy)		0.0495

COMMENTS

LEA NM

Jacam Catalyst
1656 Ave Q Building 8, Sterling, KS 67579

JACAM CATALYST

DownHole SAT®

DEPOSITION POTENTIAL INDICATORS

RAYBAW OPERATING LLC
JODY FORTNER
LEA NM

SNIPER AM 6 FEDERAL 1
WELLHEAD

Report Date: 10-30-2024
Sample #: 6311

Sampled: 10-17-2024 at 0000
Sample ID: 391202

SATURATION RATIO as IAP/Ksp	
Calcite ($CaCO_3$)	1.37
Aragonite ($CaCO_3$)	1.29
Witherite ($BaCO_3$)	0.00
Strontianite ($SrCO_3$)	0.03
Calcium oxalate (CaC_2O_4)	0.00
Magnesite ($MgCO_3$)	0.28
Anhydrite ($CaSO_4$)	0.12
Gypsum ($CaSO_4*2H_2O$)	0.15
Barite ($BaSO_4$)	0.21
Celestite ($SrSO_4$)	0.07
Fluorite (CaF_2)	0.00
Calcium phosphate	0.00
Hydroxyapatite	0.00
Silica (SiO_2)	0.00
Brucite ($Mg(OH)_2$)	< 0.001
Magnesium silicate	0.00
Iron hydroxide ($Fe(OH)_3$)	0.34
Strengite ($FePO_4*2H_2O$)	0.00
Siderite ($FeCO_3$)	0.22
Halite (NaCl)	0.21
Thenardite ($Na2SO_4$)	0.00
Iron sulfide (FeS)	0.00

FREE ION MOMENTARY EXCESS (Lbs/1000 Barrels)	
Calcite ($CaCO_3$)	0.00398
Aragonite ($CaCO_3$)	0.00331
Witherite ($BaCO_3$)	-26.93
Strontianite ($SrCO_3$)	-0.598
Calcium oxalate (CaC_2O_4)	-0.00506
Magnesite ($MgCO_3$)	-0.0313
Anhydrite ($CaSO_4$)	-203.48
Gypsum ($CaSO_4*2H_2O$)	-172.26
Barite ($BaSO_4$)	-0.960
Celestite ($SrSO_4$)	-205.95
Fluorite (CaF_2)	-2.25
Calcium phosphate	>-0.001
Hydroxyapatite	-257.23
Silica (SiO_2)	-25.92
Brucite ($Mg(OH)_2$)	-0.205
Magnesium silicate	-84.39
Iron hydroxide ($Fe(OH)_3$)	< 0.001
Strengite ($FePO_4*2H_2O$)	>-0.001
Siderite ($FeCO_3$)	-0.0567
Halite (NaCl)	-77947
Thenardite ($Na2SO_4$)	-84586
Iron sulfide (FeS)	-0.470

SIMPLE INDICES	
Langelier	0.810
Ryznar	4.98
Puckorius	4.07
Larson-Skold Index	1560
Stiff Davis Index	0.624
Oddo-Tomson	-0.321

CARBONATE PRECIPITATION POTENTIAL (Lbs/1000 Barrels)	
Calcite ($CaCO_3$)	26.05
Aragonite ($CaCO_3$)	25.52
Witherite ($BaCO_3$)	-26.81
Strontianite ($SrCO_3$)	-9.84
Magnesite ($MgCO_3$)	10.25
Siderite ($FeCO_3$)	0.816

OPERATING CONDITIONS

Temperature (^oF)	70.00
Time(secs)	0.00

Jacam Catalyst
1656 Ave Q Building 8, Sterling, KS 67579

JACAM CATALYST Water Chemistry Report

SYSTEM IDENTIFICATION

RAYBAW OPERATING LLC
SNIPER AM 6 FEDERAL 1
JODY FORTNER
WELLHEAD
LEA NM

Sample ID#: 6311
ID 391202

Sample Date: 10-17-2024 at 0000
Report Date: 10-30-2024

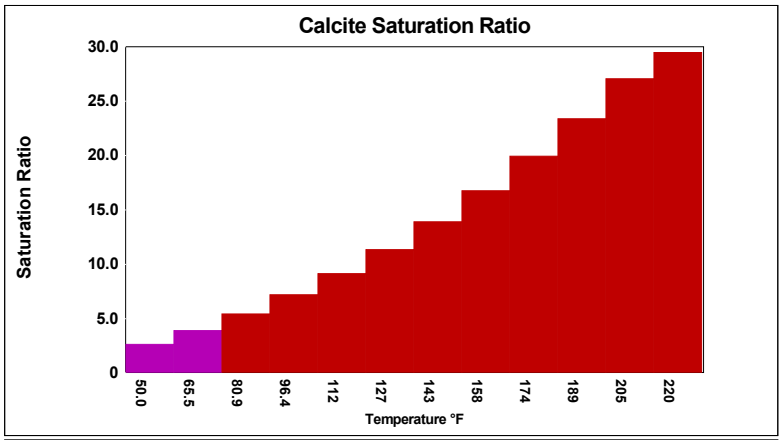
WATER CHEMISTRY

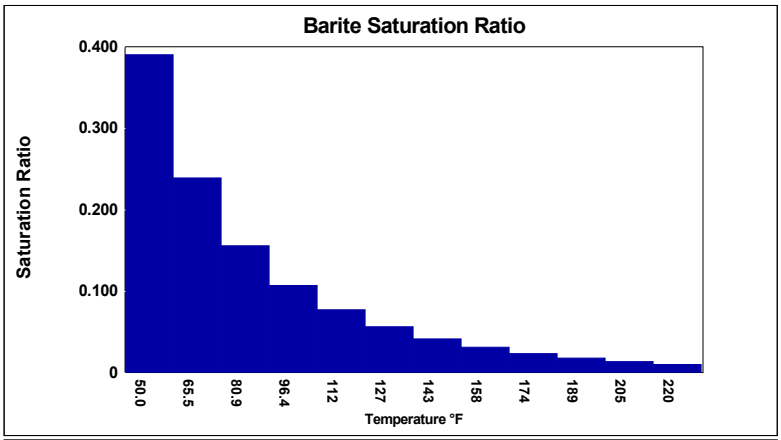
CATIONS		ANIONS	
Calcium(as Ca)	6474	Chloride(as Cl)	117000
Magnesium(as Mg)	1160	Sulfate(as SO_4)	200.00
Barium(as Ba)	0.390	Bromine(as Br)	0.00
Strontium(as Sr)	188.30	Dissolved CO_2(as CO_2)	300.00
Sodium(as Na)	65482	Bicarbonate(as HCO_3)	122.00
Potassium(as K)	1068	Carbonate(as CO_3)	0.00
Lithium(as Li)	24.38	Silica(as SiO_2)	0.00
Iron(as Fe)	2.35	Phosphate(as PO_4)	0.00
Ammonia(as NH_3)	0.00	H_2S (as H_2S)	0.00
Aluminum(as Al)	0.0200	Fluoride(as F)	0.00
Manganese(as Mn)	0.290	Nitrate(as NO_3)	0.00
Zinc(as Zn)	0.0820	Boron(as B)	14.56
Lead(as Pb)	0.00		
PARAMETERS			
Temperature(°F)	70.00	Sample pH	6.60
Conductivity	197243	Sp.Gr.(g/mL)	1.118
Resistivity	5.07	T.D.S.	204192

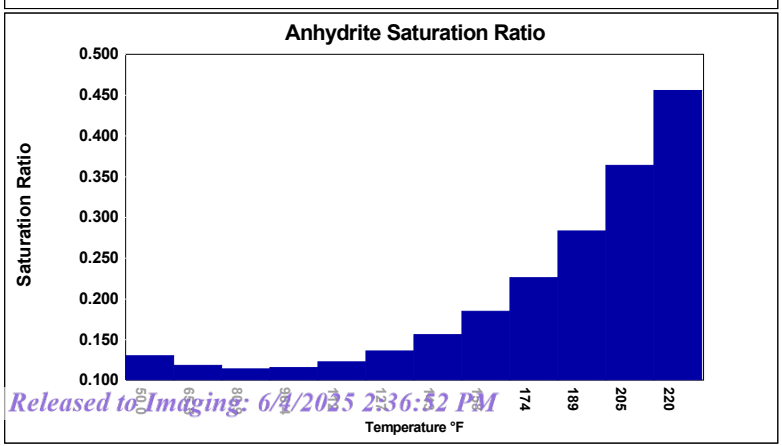
SCALE AND CORROSION POTENTIAL

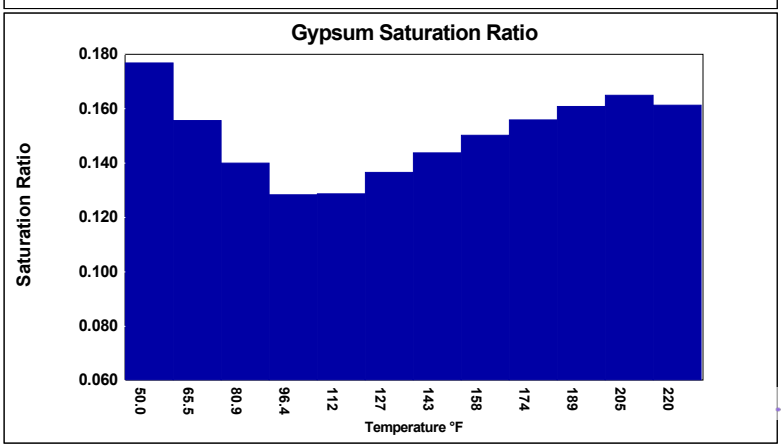
Temp. (°F)	Press. (atm)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackinawite FeS		CO_2 (mpy)	pCO_2 (atm)
50.00	1.000	2.59	0.0204	0.130	-195.30	0.177	-154.86	0.390	-0.399	0.0766	-193.36	0.366	-0.0615	0.00	-0.458	0.0461	0.0179
65.45	1.000	3.86	0.0322	0.118	-204.76	0.156	-169.89	0.239	-0.805	0.0675	-204.29	0.613	-0.0295	0.00	-0.467	0.0864	0.0179
80.91	1.000	5.41	0.0445	0.114	-201.87	0.140	-181.70	0.156	-1.35	0.0632	-206.87	0.958	-0.00196	0.00	-0.477	0.0490	0.0179
96.36	1.000	7.18	0.0565	0.116	-188.63	0.128	-190.28	0.107	-2.04	0.0612	-204.95	1.41	0.0220	0.00	-0.488	0.0484	0.0179
111.82	1.000	9.11	0.0681	0.123	-168.04	0.129	-180.61	0.0771	-2.87	0.0601	-201.30	1.97	0.0430	0.00	-0.500	0.0280	0.0179
127.27	1.000	11.33	0.0805	0.136	-143.35	0.137	-161.32	0.0563	-3.91	0.0589	-198.57	2.69	0.0633	0.00	-0.513	0.0564	0.0179
142.73	1.000	13.87	0.0941	0.156	-117.40	0.144	-145.97	0.0416	-5.20	0.0575	-196.94	3.60	0.0836	0.00	-0.527	0.0457	0.0179
158.18	1.000	16.74	0.109	0.185	-92.38	0.150	-133.75	0.0310	-6.76	0.0559	-196.33	4.71	0.104	0.00	-0.543	0.0476	0.0179
173.64	1.000	19.90	0.126	0.226	-69.73	0.156	-124.05	0.0234	-8.61	0.0542	-196.70	6.06	0.126	0.00	-0.559	0.0493	0.0179
189.09	1.000	23.35	0.144	0.283	-50.19	0.161	-116.44	0.0178	-10.78	0.0524	-198.03	7.64	0.149	0.00	-0.577	0.0248	0.0179
204.55	1.000	27.04	0.163	0.364	-33.99	0.165	-110.59	0.0137	-13.29	0.0505	-200.32	9.46	0.174	0.00	-0.596	0.0208	0.0179
220.00	18.207	29.45	0.189	0.455	-23.32	0.161	-113.80	0.0101	-16.80	0.0464	-212.56	11.19	0.204	0.00	-0.626	0.127	0.326
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		

Saturation Ratios (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (atm) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









Pro-Kem Inc.

WATER ANALYSIS REPORT

SAMPLE

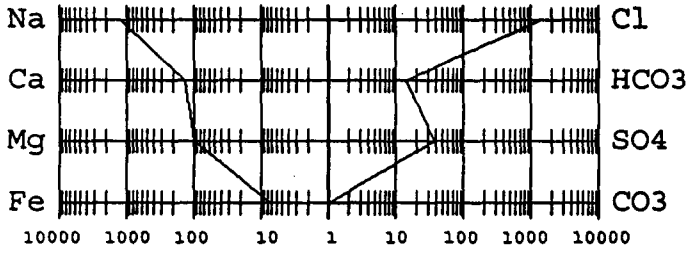
Oil Co. : **Southwestern Energy**
Lease : **Denius Fed.**
Well No.: **#1**
Lab No. : **F:\ANALYSES\Feb0102.001**

Sample Loc. :
Date Analyzed: **01-February-2002**
Date Sampled :

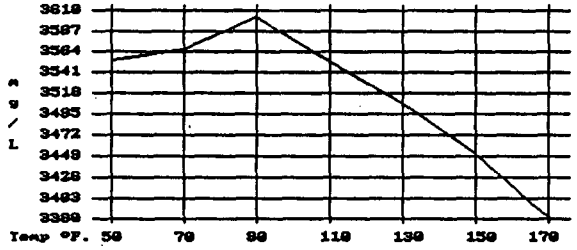
ANALYSIS

1.	pH		6.400		
2.	Specific Gravity 60/60 F.		1.058		
3.	$CaCO_3$ Saturation Index @ 80 F.		-0.036		
	@ 140 F.		+0.889		
	Dissolved Gasses		**MG/L**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide		300		
5.	Carbon Dioxide		100		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	2,585	/ 20.1 =	128.61
8.	Magnesium	(Mg^{++})	1,192	/ 12.2 =	97.70
9.	Sodium	(Na^{+}) (Calculated)	27,703	/ 23.0 =	1,204.48
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	844	/ 61.1 =	13.81
14.	Sulfate	($SO_4^{=}$)	1,750	/ 48.8 =	35.86
15.	Chloride	(Cl^{-})	48,989	/ 35.5 =	1,379.97
16.	Total Dissolved Solids		83,063		
17.	Total Iron (Fe)		125	/ 18.2 =	6.87
18.	Total Hardness As $CaCO_3$		11,362		
19.	Resistivity @ 75 F. (Calculated)		0.117 /cm.		

LOGARITHMIC WATER PATTERN
***meq/L.**



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT. X	*meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	13.81	1,119
$CaSO_4$	68.07	35.86	2,441
$CaCl_2$	55.50	78.93	4,381
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	97.70	4,653
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,203.33	70,347

***Milli Equivalents per Liter**

3 water is slightly corrosive due to the pH observed on analysis.
ıe corrosivity is increased by the content of mineral salts, and the presence of H2S, CO2 in solution.

VII-1

Well: Corbin-Abo SWD #G-31
Operator: Southwestern Energy Production Company
API No.: 30-025-01337
Legal: Sec. 31, T17S, R33E, 1,980' FNL, 1,980' FEL, Lea County, New Mexico

Fresh Water Zones

	Formation	Formation Top *ft*	Formation Bottom *ft*
1.	Surface Alluvium	0	80
2.	Santa Rosa Formation	850	1,100

Note: The bottom depth of the surface alluvium and the top and bottom depths of the Santa Rosa Formation are approximate. These approximate depths were determined from available data and conversations with the District Office of the New Mexico Office of Oil Conservation.

Geologic Zones

	Formation	Formation Top *ft*	Lithology
1.	Rustler	1,310	Anhydrite, limestone, dolomite
2.	Salt	1,490	Salt
3.	Yates	2,683	Limestone, dolomite
4.	Queen	3,772	Sand, shale, limestone
5.	San Andres	4,648	Limestone, dolomite
6.	Cherry Canyon	4,720	Sandstone
7.	Glorietta	5,838	Limestone, dolomite
8.	Abo	8,792	Dolomite

Baker Atlas

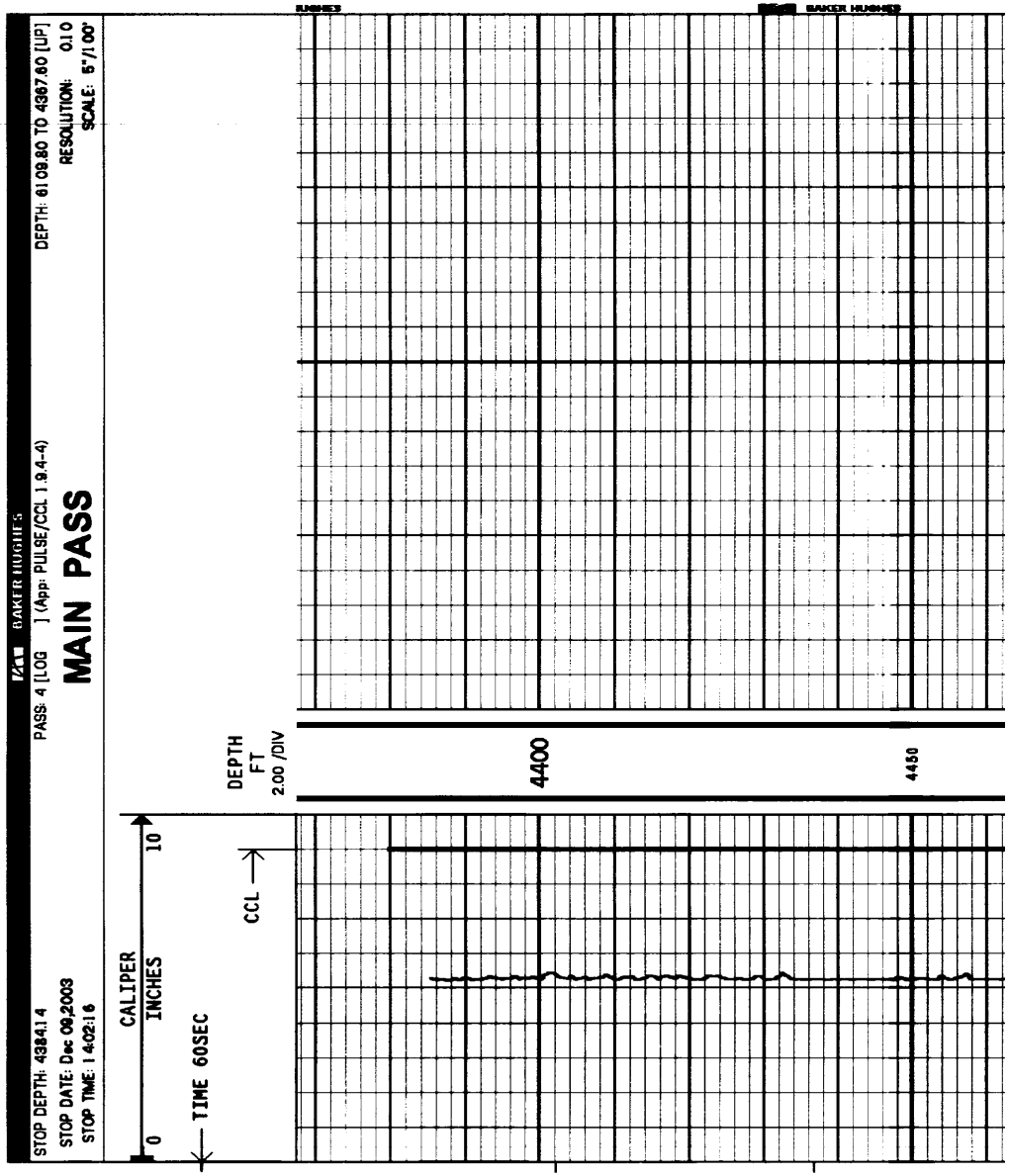
3-ARM CALIPER

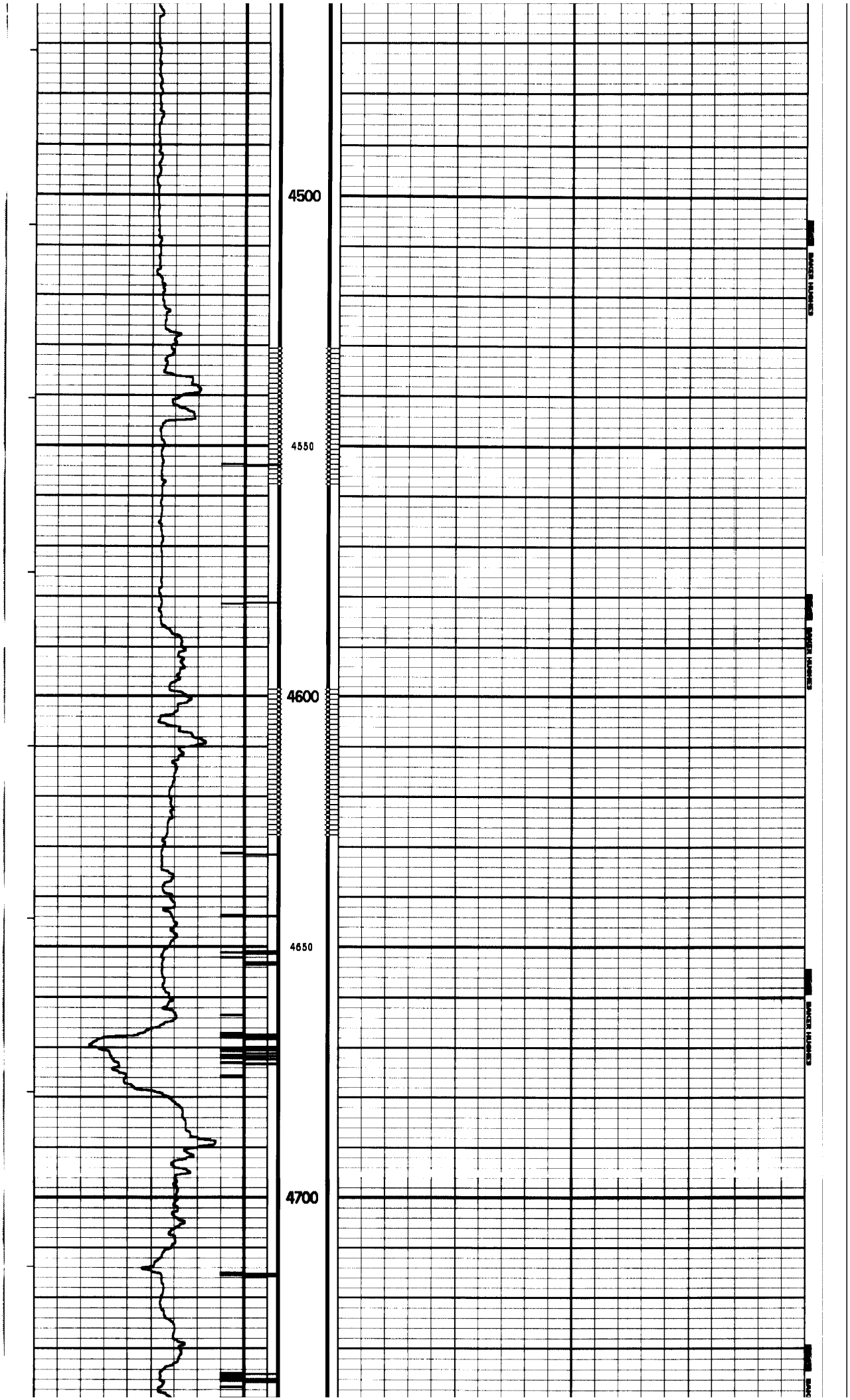
FILING NUMBER: 429476	COMPANY: SOUTHWESTERN ENERGY PRODUCTION CO.
	WELL: CORBIN-ABO SWD #6-31
	FIELD: MALJAMAR
	COUNTY: LEA STATE: NEW MEXICO
	LOCATION: 1980' FNL & 1980' FEL SEC.: 31 TWP.: 17-S RGE.: 33-E
	OTHER SERVICES: SIP
PERMANENT DATUM: GROUND LEVEL ELEV.: 3983'	ELEV.: K.B.: 3994.8 D.F.: 3993.8 G.L.: 3983
LOG MEASURED FROM: K.B. 11.8 FT. ABOVE PERM. DAT.	
DRILLING MEASURED FROM: KELLY BUSHING	

DATE	DECEMBER 09, 2003		API # 30-025-01337
RUN NUMBER	ONE		
TYPE LOG	3 ARM CALIPER		
DEPTH - DRILLER	6132'		
DEPTH - LOGGER	6123'		
LOGGED INTERVAL	6100' TO 4400'		TO
OPERATING RIG TIME	CRANE TRUCK		**********
TYPE FLUID IN HOLE	SALT WATER		LOG CORRECTED TO
SALINITY, PPM CL.	N/A		CASING BOTTOM AT
DENSITY -VISCOSITY	N/A		4894'.
LEVEL	FULL		**********
MAX. REC. TEMP., DEG. F	N/A		
EQUIPMENT-LOCATION	6354	HOBBS, NM	
RECORDED BY	B. GARDNER		E. WILLIAMS
WITNESSED BY	B. DRUMMOND		

RUN NO.	BORE - HOLE RECORD BIT	FROM	TO	CASING RECORD SIZE	WEIGHT	FROM	TO
				13.3	48#	SURFACE	266'
				8.62	28/32	SURFACE	2879'
				5.5"	14#	SURFACE	4894'
				2.87	DUOLN	SURFACE	4048
				O/H		4894	9020'

THIS HEADING CONFORMS TO API STANDARD PRACTICE RP - 33




4500
4550
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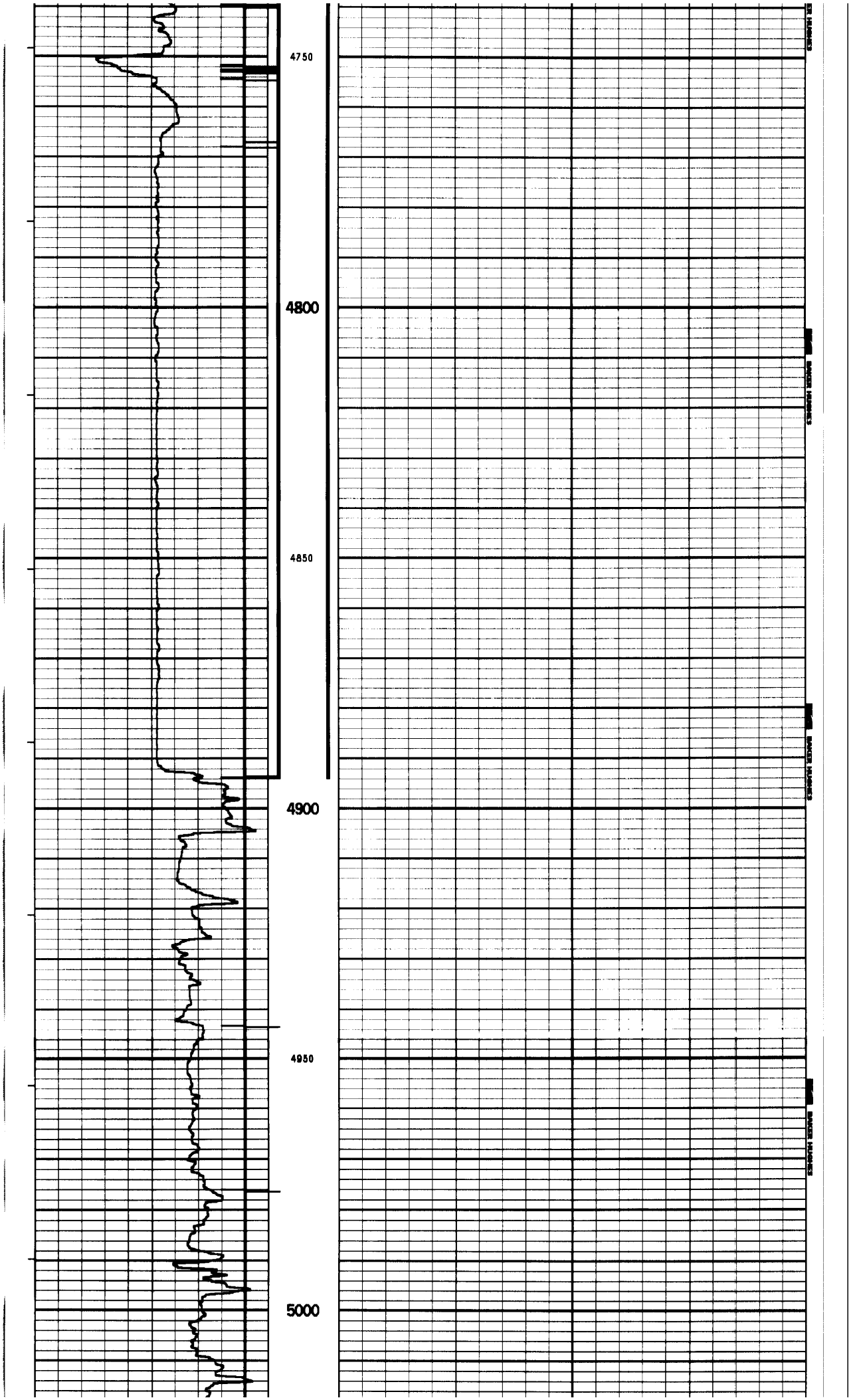
BAKER HUGHES
BAKER HUGHES
BAKER HUGHES


4750
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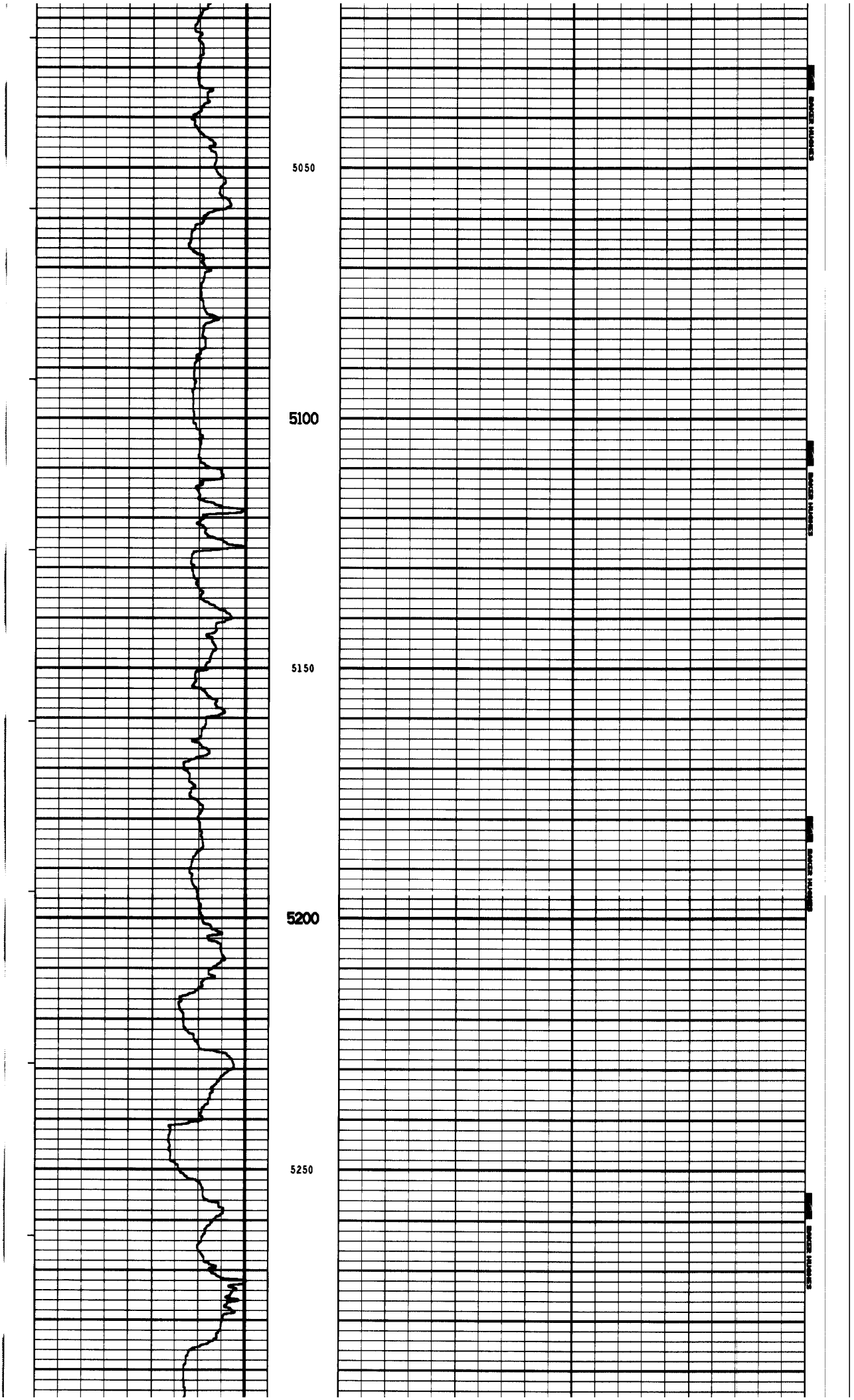
4950
5000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5200
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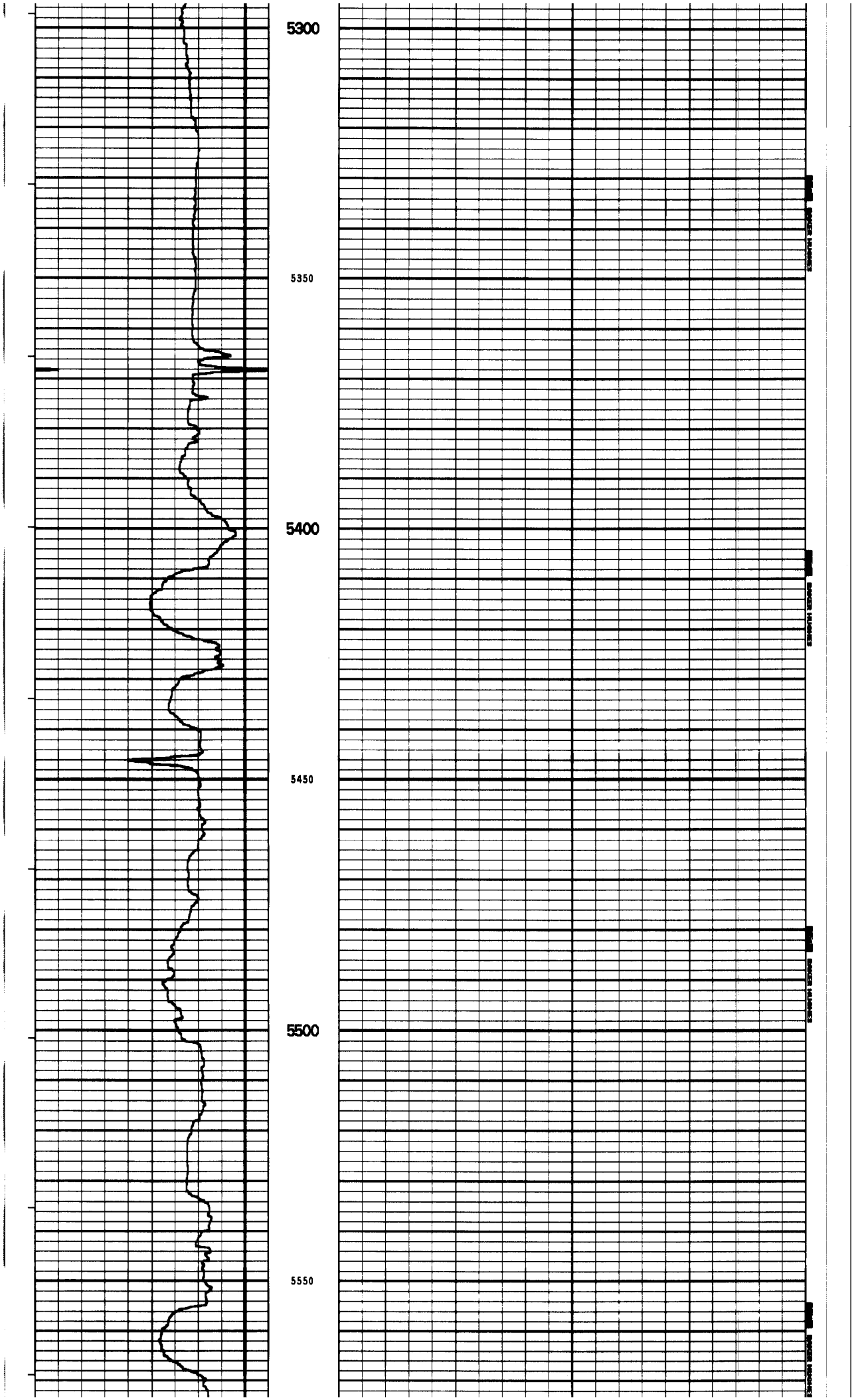
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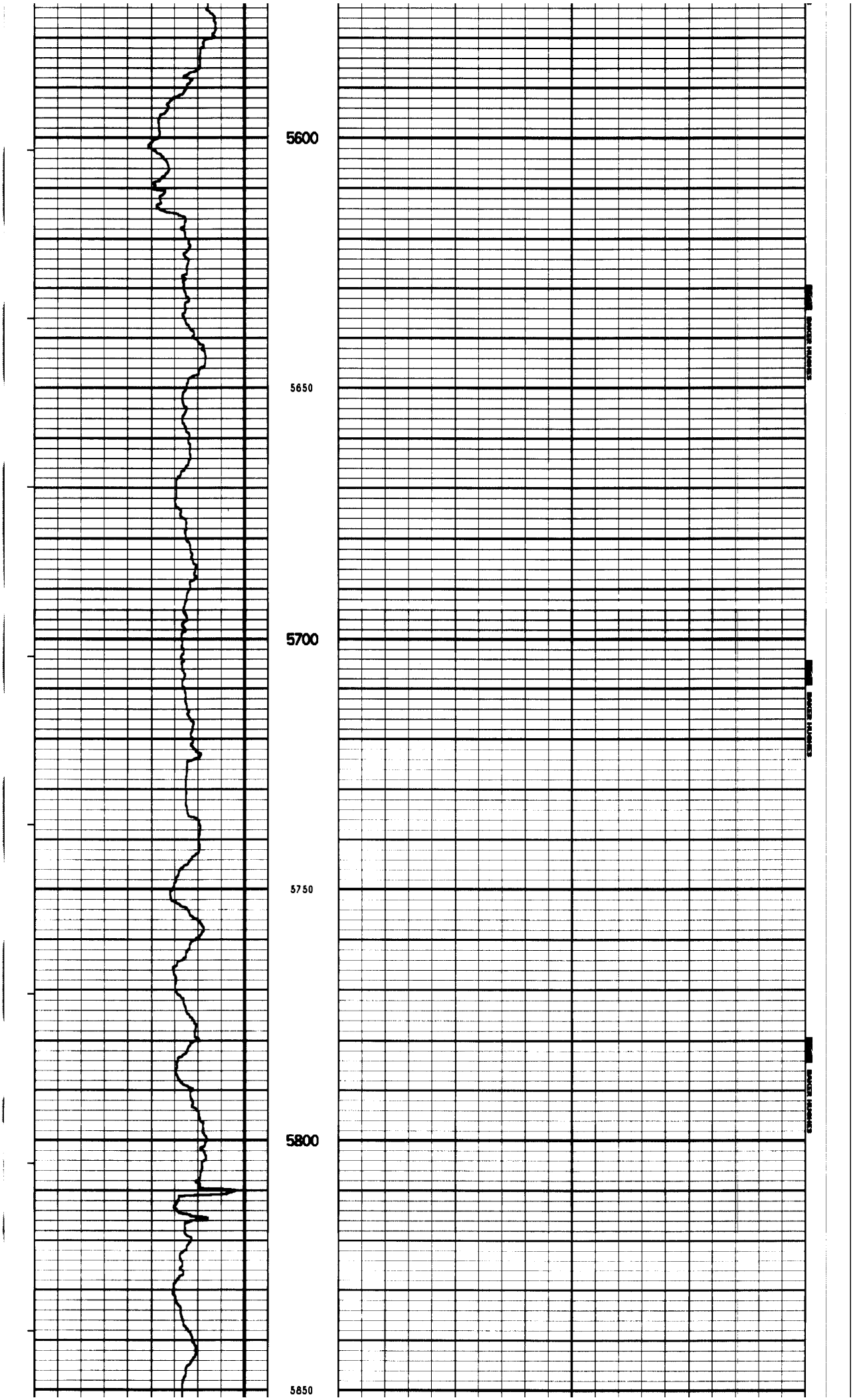
5400
5450
5500
5550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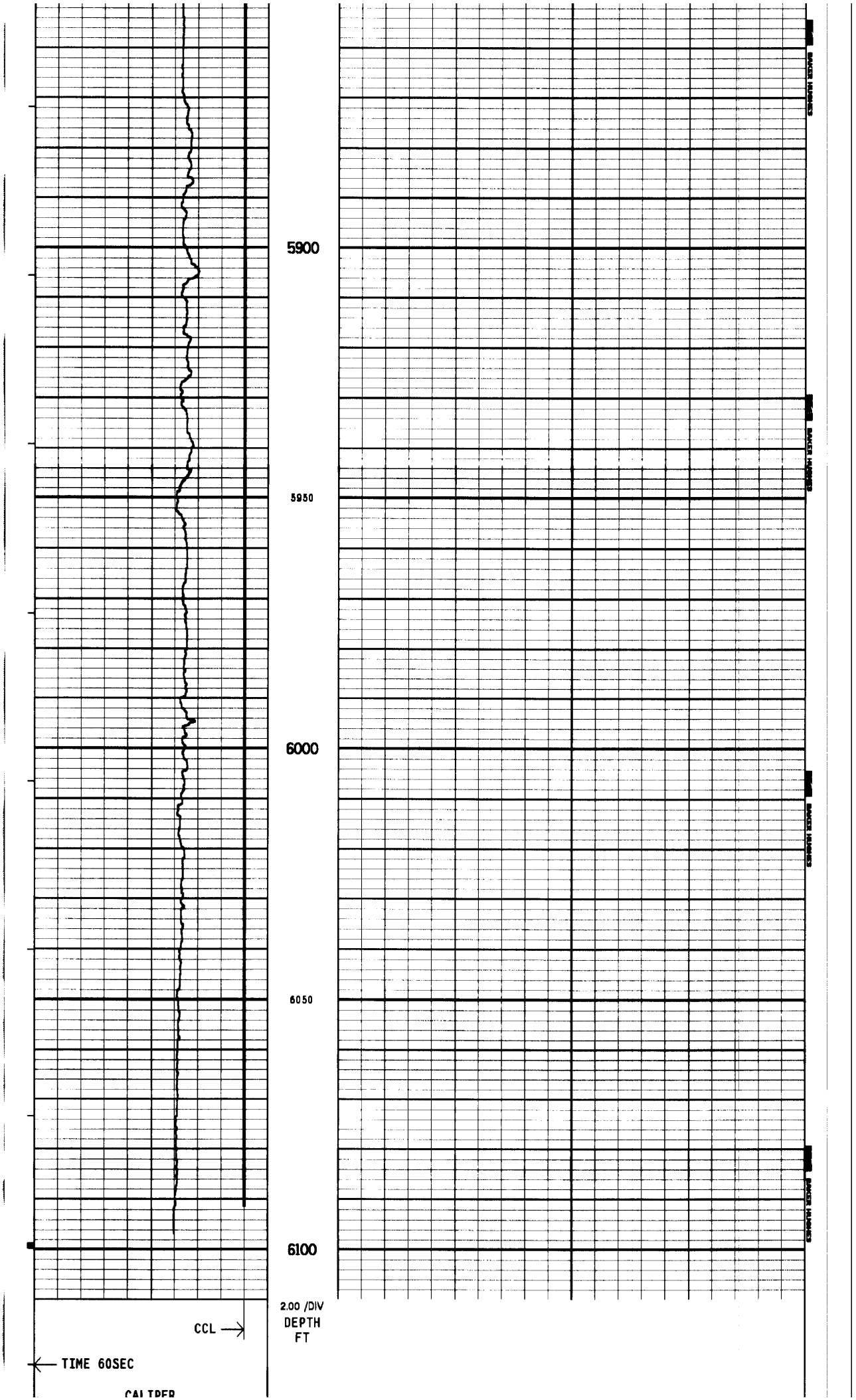
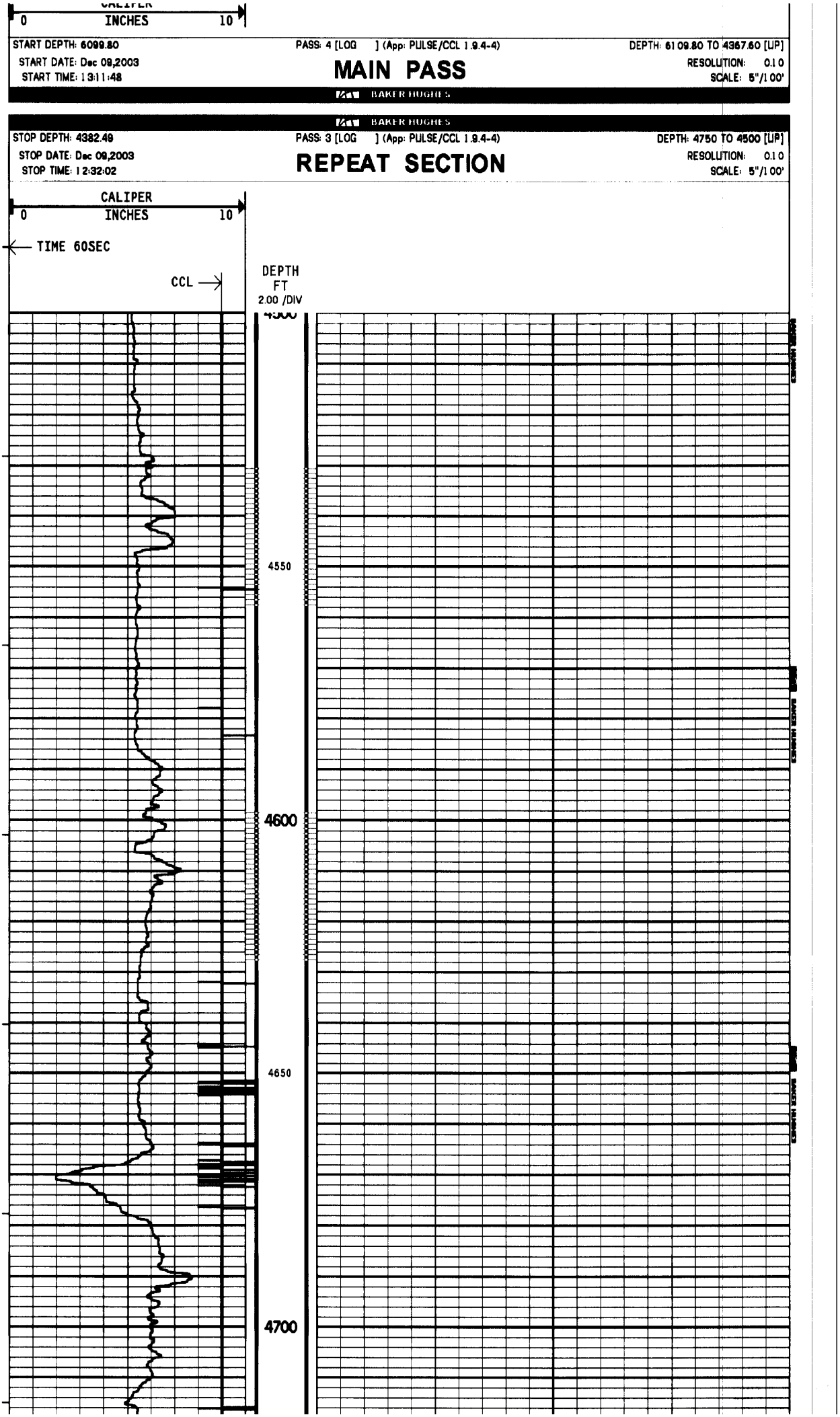
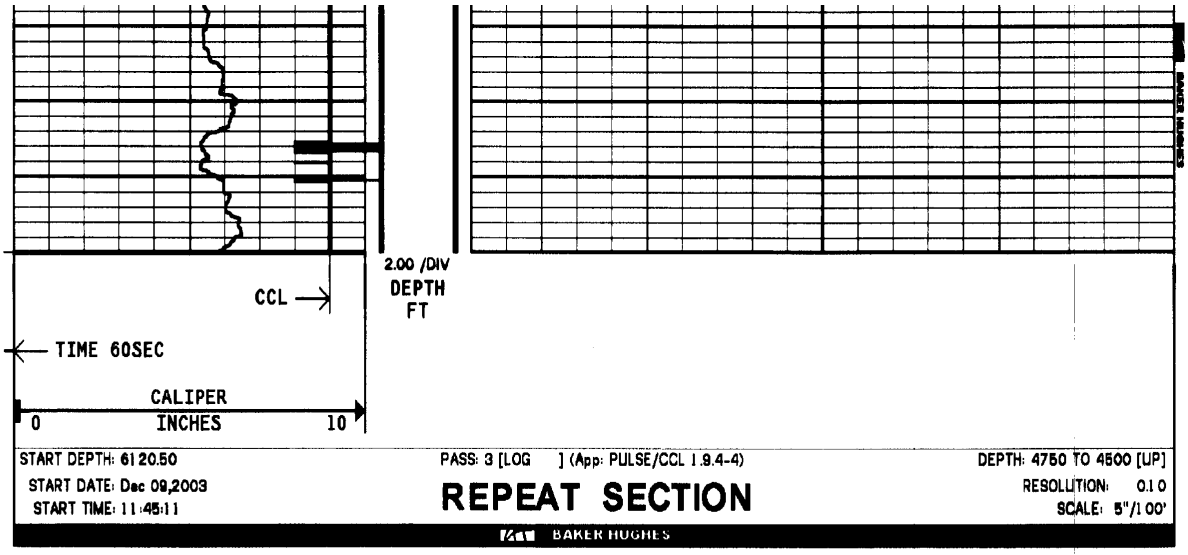
5650
5700
5750
5800
5850


5900
5950
6000
6050
6100
2.00 /DIV
DEPTH
FT
CCL
TIME 60SEC
CALIPER
BAKER HUGHES
BAKER HUGHES
BAKER HUGHES
BAKER HUGHES


CALIPER
0 INCHES 10
START DEPTH: 6099.80
START DATE: Dec 09,2003
START TIME: 13:11:48
PASS: 4 [LOG] (App: PULSE/CCL 1.9.4-4)
MAIN PASS
DEPTH: 6109.80 TO 4367.60 [UP]
RESOLUTION: 0.10
SCALE: 5"/100'
BAKER HUGHES
STOP DEPTH: 4382.49
STOP DATE: Dec 09,2003
STOP TIME: 12:32:02
PASS: 3 [LOG] (App: PULSE/CCL 1.9.4-4)
REPEAT SECTION
DEPTH: 4750 TO 4500 [UP]
RESOLUTION: 0.10
SCALE: 5"/100'
CALIPER
0 INCHES 10
TIME 60SEC
CCL
DEPTH
FT
2.00 /DIV
4550
4600
4650
4700


2.00 /DIV
DEPTH
FT
CCL
TIME 60SEC
CALIPER
0
INCHES
10
START DEPTH: 6120.50
START DATE: Dec 09,2003
START TIME: 11:45:11
PASS: 3 [LOG] (App: PULSE/CCL 1.9.4-4)
REPEAT SECTION
DEPTH: 4750 TO 4500 [UP]
RESOLUTION: 0.10
SCALE: 5"/100'
BAKER HUGHES

Agua SWDW G-31
Corbin Abo SWD system

SCHLUMBERGER WELL SURVEYING CORPORATION

Appendix Item X-2
lateralog-gamma ray-neutron log
Fee MA #1-B, aka Corbin-Abo SWD # G-31

COUNTY	LEA
FIELD or LOCATION	WILDCAT
WELL	FEE MA #1-B
COMPANY	CARPER DRILLING COMPANY, INC.

COMPANY CARPER DRILLING COMPANY, INC. ET AL

WELL FEE MA # 1-B

FIELD WILDCAT

COUNTY LEA STATE NEW MEXICO

Location: 1980' FROM N&E/L

Sec. 31 Twp. 17S Rge. 33E

Other Services: IES

Permanent Datum: GL, Elev.: 3985
Log Measured From ____, ____ Ft. Above Perm. Datum
Drilling Measured From ____

Elev.: K.B. 3997.5, D.F. 3996, G.L. 3985

Date	2-28-60
Run No.	ONE
Depth - Driller	[illegible]
Depth - Schlum.	[illegible]
Btm. Log Interval	[illegible]
Top Log Interval	0
Casing - Driller	[illegible] @ 2879
Casing - Schlum.	2879
Bit Size	7 7/8
Type Fluid in Hole	BENT. - BRIS.
Dens. / Visc.	9.6 / 33
pH / Fluid Loss	7 / 13.8 cc
Source of Sample	PIT
Rm @ Meas. Temp.	1.9 @ 60 °F
Rmf @ Meas. Temp.	1.5 @ [illegible] °F
Rmc @ Meas. Temp.	[illegible]
Source: Rmf / Rmc	M
Rm @ B.H.T.	.95 @ 118 °F
Time Since Circ.	4 HOURS
Max. Rec. Temp.	118 °F
Equip. / Location	1504 HOBBS
Recorded By	WILSON
Witnessed By	STORM

Reproduced By
West Texas Electrical Log Service
Dallas 8, Texas

REFERENCE W8784D

13 COMPLETION RECORD

SPUD DATE

COMP DATE

DST RECORD

CASING RECORD

PERFORATING RECORD

ACID. FRAC SHOT

IP

GOR GR

TP CP

REMARKS:

FOLD HERE

REMARKS

Changes in Mud Type or Additional Samples

Date / Sample No.		
Depth - Driller		
Type Fluid in Hole		
Dens. / Visc.		
pH / Fluid Loss	cc	cc
Source of Sample		
Rm @ Meas. Temp.	@ °F	@ °F
Rmf @ Meas. Temp.	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F
Source: Rmf / Rmc		
Rm @ B.H.T.	@ °F	@ °F
Rmf @ B.H.T.	@ °F	@ °F
Rmc @ B.H.T.	@ °F	@ °F

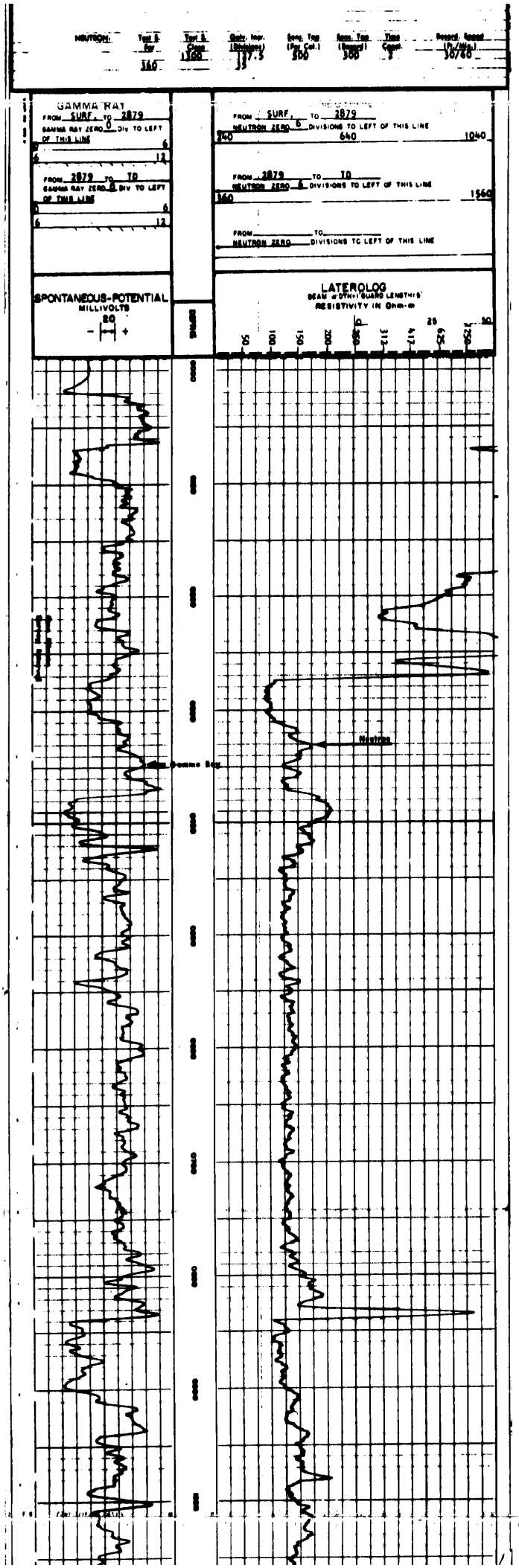
Scale Changes

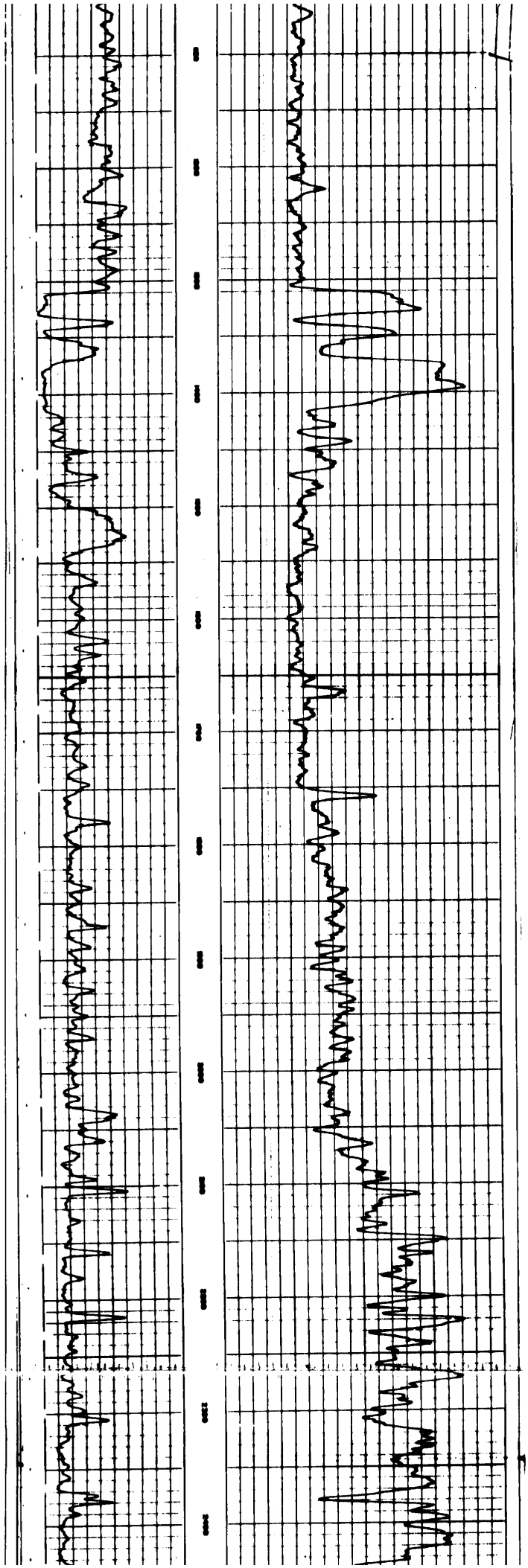
Type Log	Depth	Scale Up Hole	Scale Down Hole
GNT-G NEUTRON	2880	240-1040	360-1560

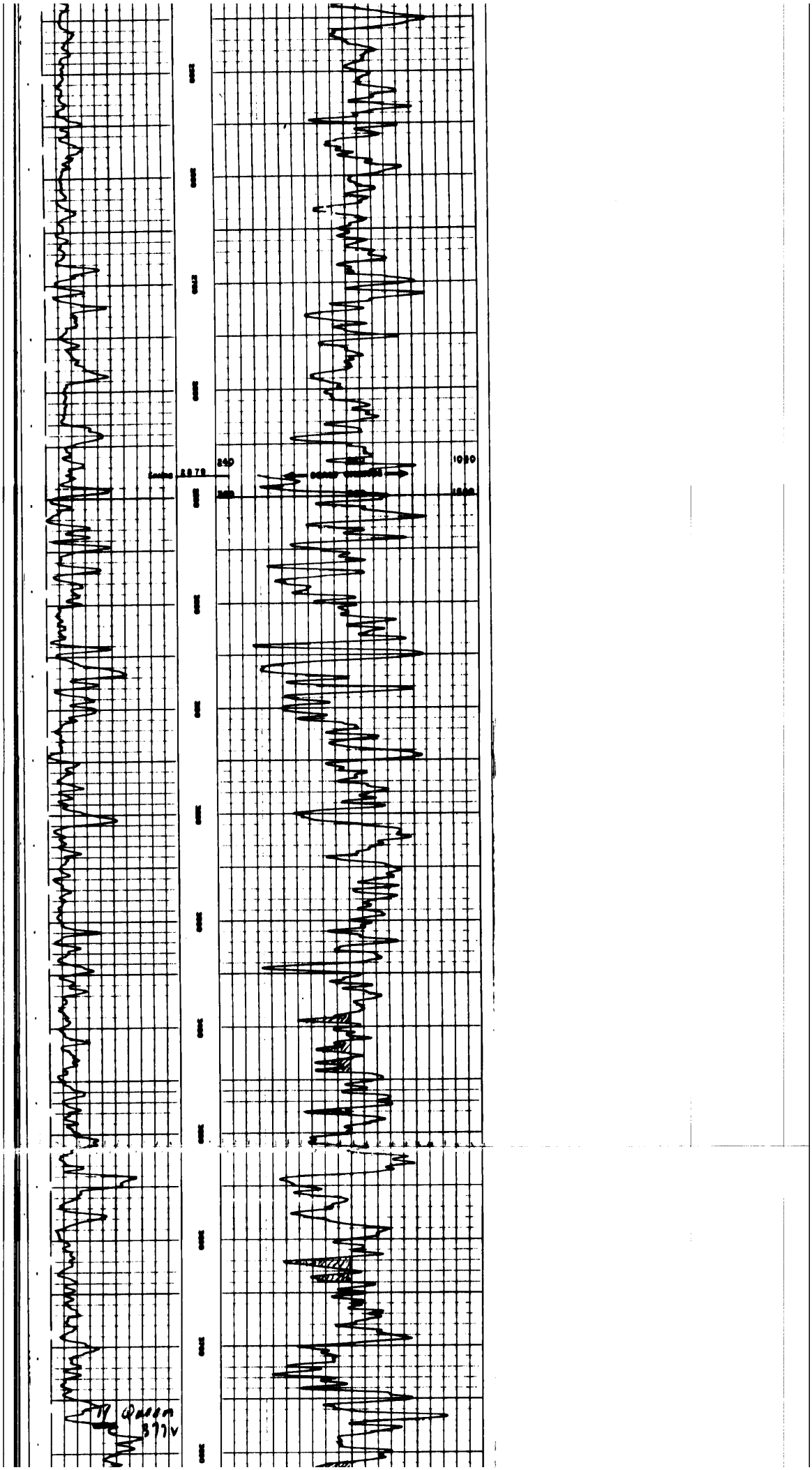
Equipment Data

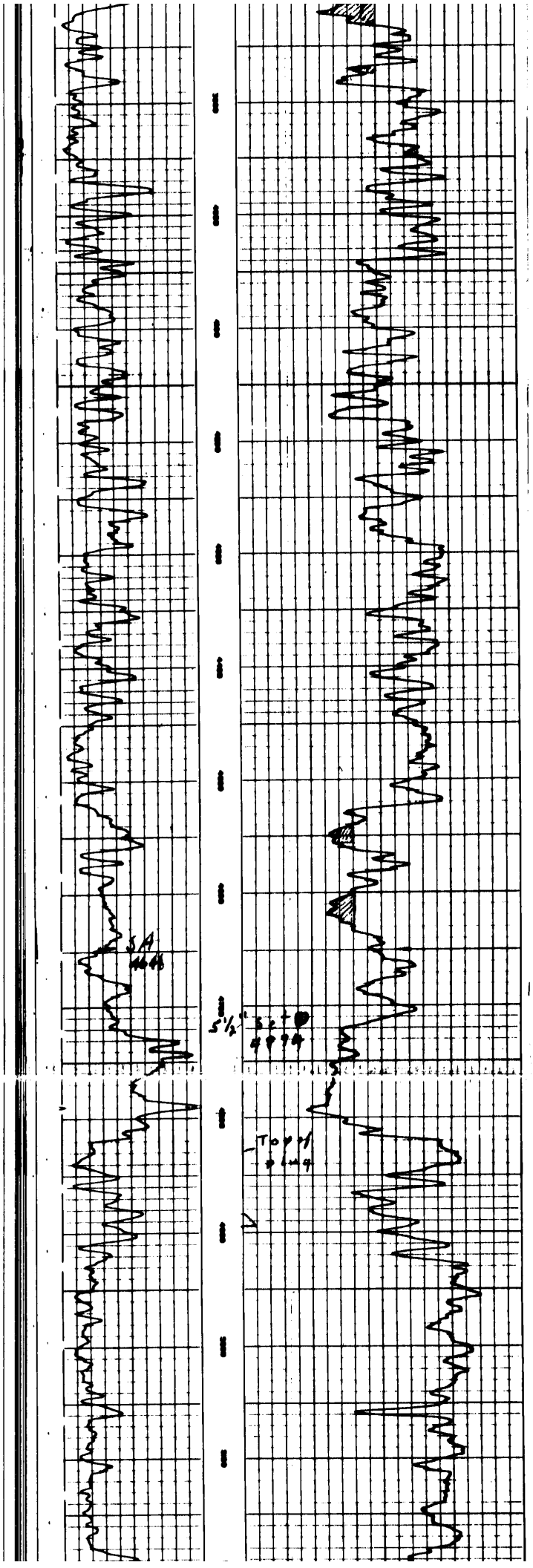
Run No.	Tool Type	Pad Type	Tool Position	Other

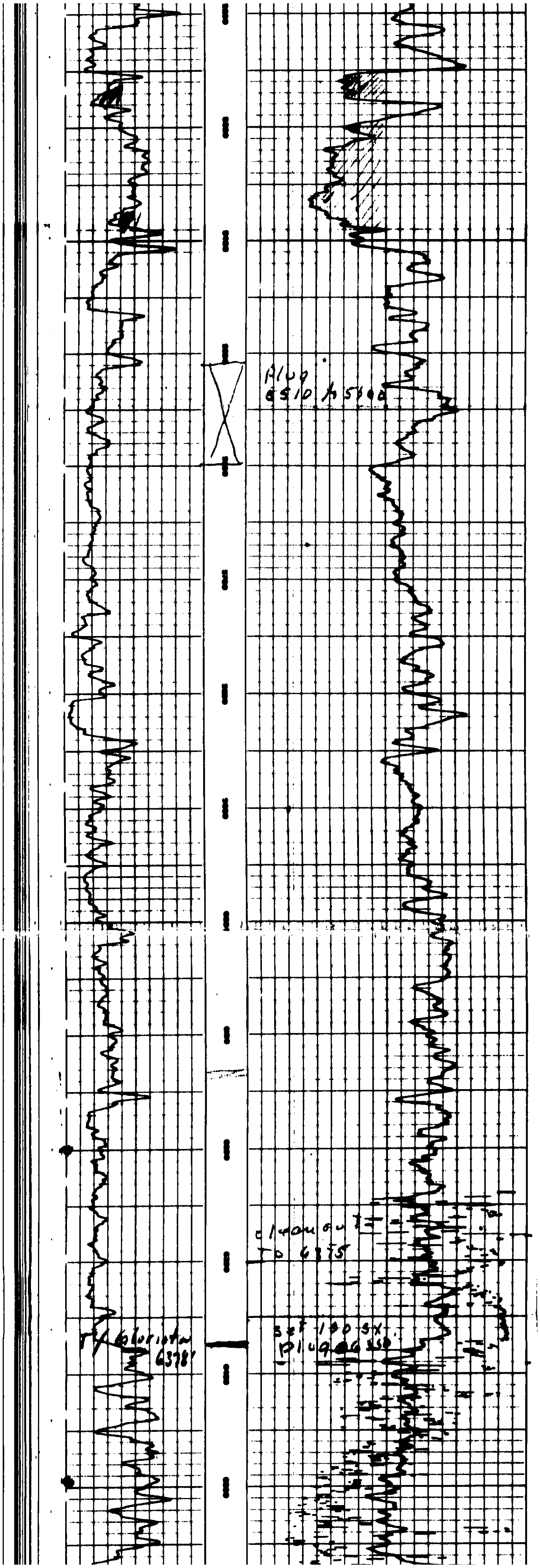
CALIBRATION: GAMMA RAY	Backgnd. C.P.S.	Tool B. + Bkgd. C.P.S.	Galv. Incr. (Divisions)	Sens. Tap (For Cal.)	Sens. Tap (Record)	Time Const.	Record. Speed (Ft./Min.)
	75	450	100	500	300	2	30/60

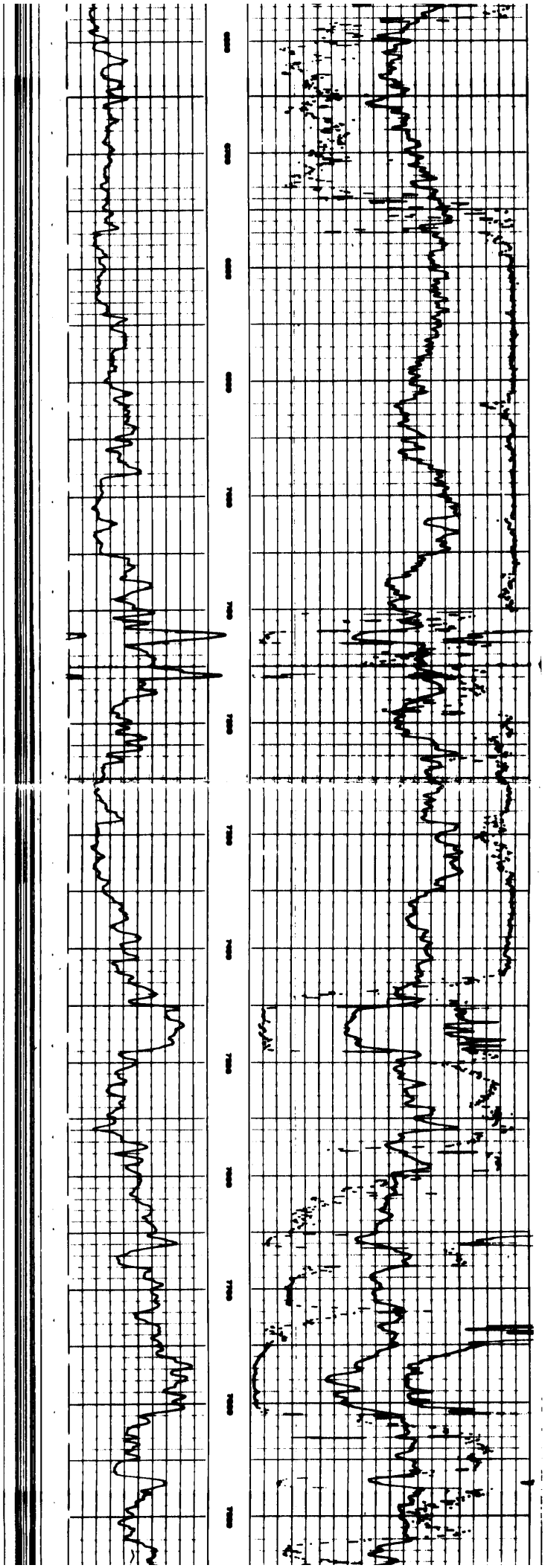

NEUTRON
GAMMA RAY
FROM SURF. TO 2879
GAMMA RAY ZERO 0 DIV TO LEFT OF THIS LINE
FROM 2879 TO TD
GAMMA RAY ZERO 0 DIV TO LEFT OF THIS LINE
FROM SURF. TO 2879
NEUTRON ZERO 6 DIVISIONS TO LEFT OF THIS LINE
640
FROM 2879 TO TD
NEUTRON ZERO 6 DIVISIONS TO LEFT OF THIS LINE
FROM TO
NEUTRON ZERO DIVISIONS TO LEFT OF THIS LINE
SPONTANEOUS-POTENTIAL
MILLIVOLTS
LATEROLOG
RESISTIVITY IN Ohm-m
Neutron
Gamma Ray

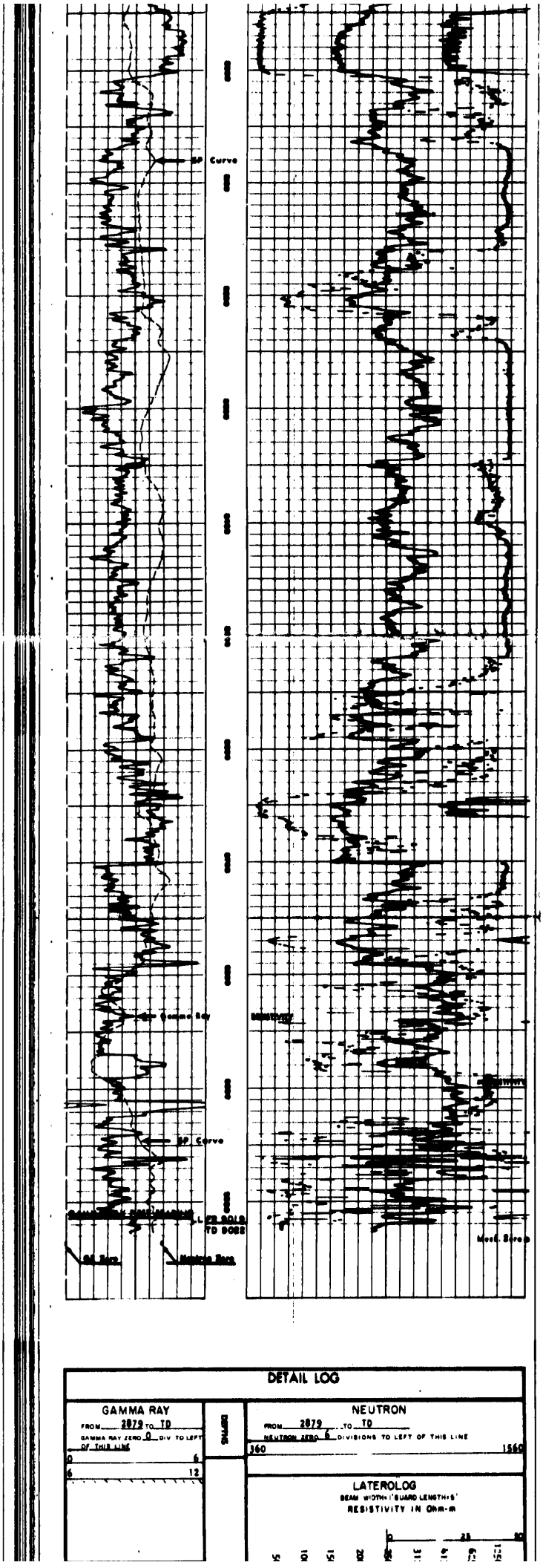


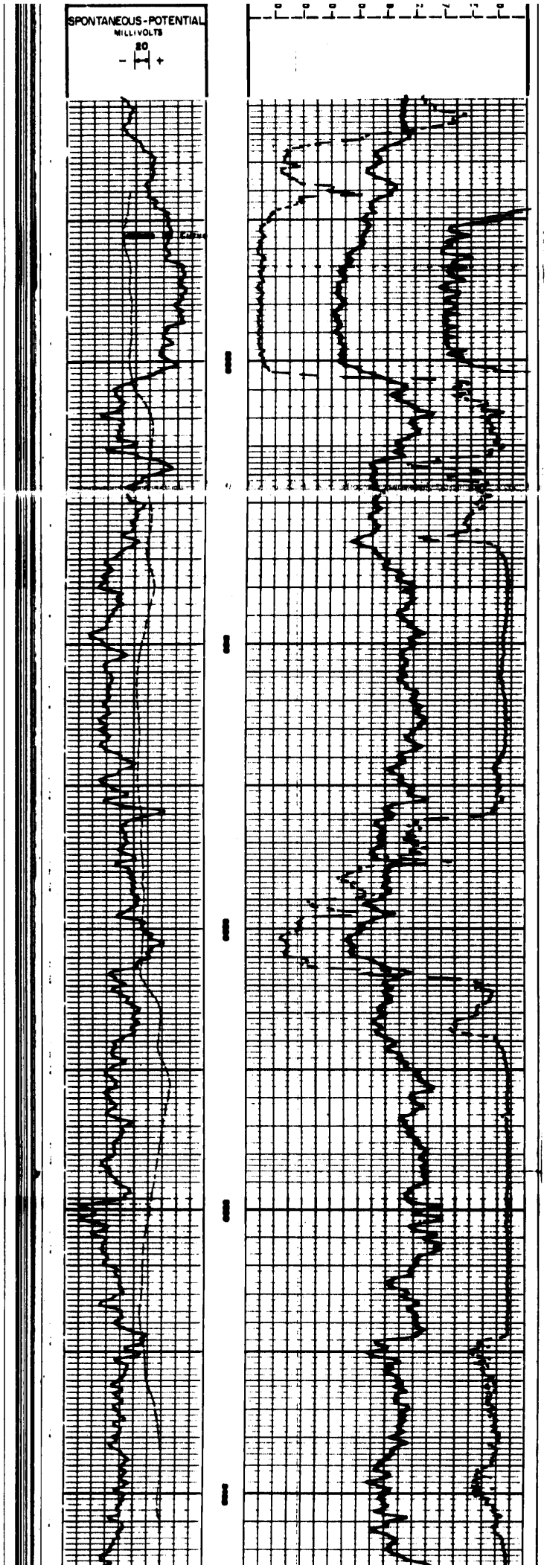

2870
240
1930
Pump
377v

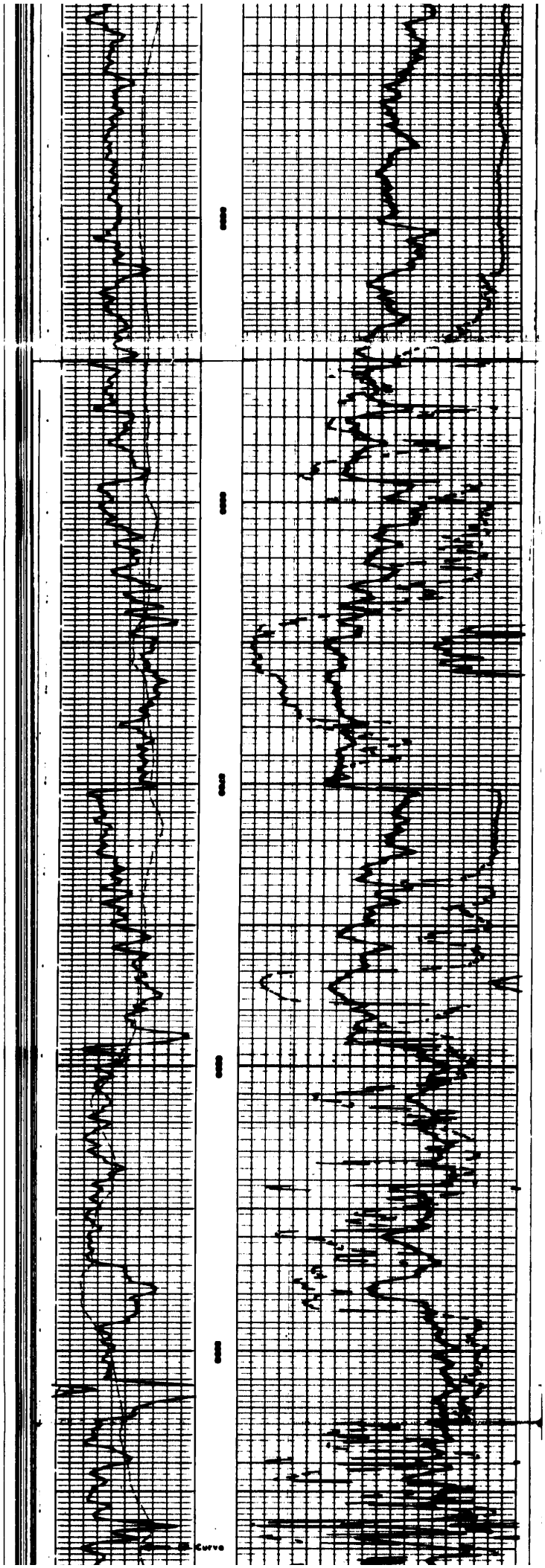

SA
4644
5½"
4994
Top of
Plug

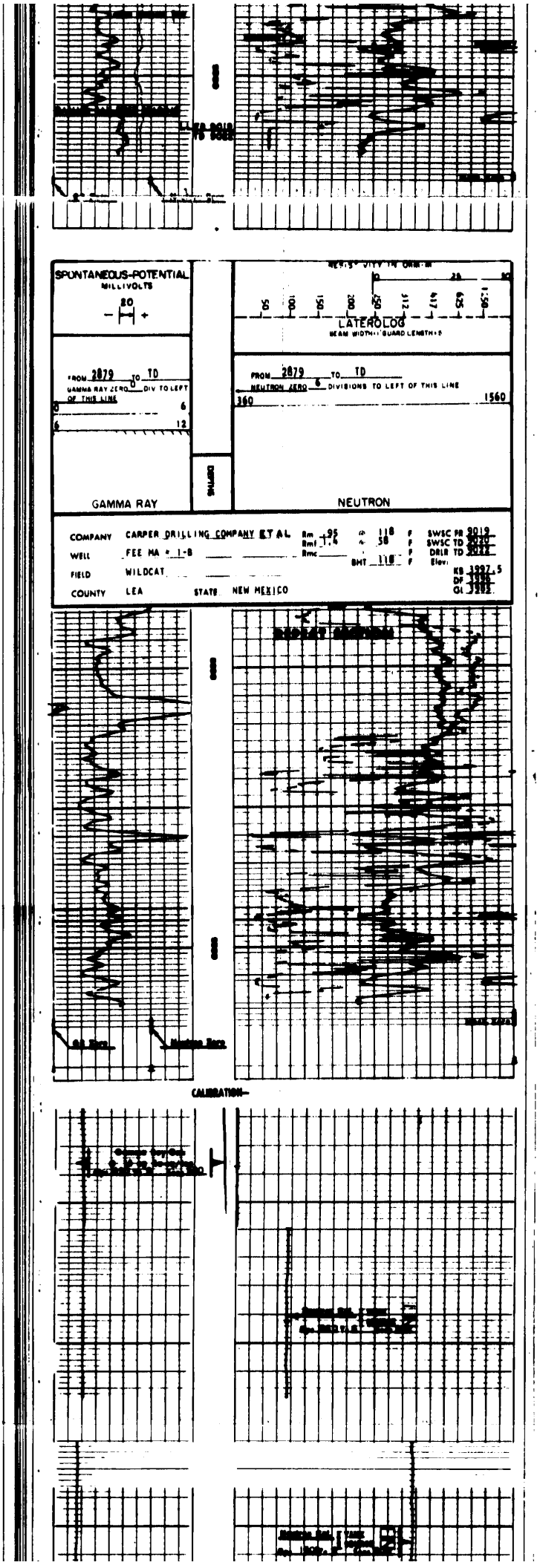

Plug
6510 to 5900
T/ Glorieta
6378'
clean out
TD 6375
set 100 sx
plug




SP Curve
Gamma Ray
SP Curve
Gamma Ray
Neutron
DETAIL LOG
GAMMA RAY
FROM 2879 TO TD
GAMMA RAY ZERO 0 DIV TO LEFT OF THIS LINE
0 6
6 12
SCALES
NEUTRON
FROM 2879 TO TD
NEUTRON ZERO 6 DIVISIONS TO LEFT OF THIS LINE
360 1560
LATEROLOG
BEAM WIDTH-I 'GUARD LENGTHS'
RESISTIVITY IN Ohm-m
0 25 50


SPONTANEOUS-POTENTIAL
MILLIVOLTS
80
- +




SPONTANEOUS-POTENTIAL
MILLIVOLTS
80
FROM 2879 TO TD
GAMMA RAY ZERO 0 DIV TO LEFT OF THIS LINE
0 6
6 12
GAMMA RAY
LATEROLOG
FROM 2879 TO TD
NEUTRON ZERO 6 DIVISIONS TO LEFT OF THIS LINE
360 1560
NEUTRON
COMPANY CARPER DRILLING COMPANY ET AL
WELL FEE MA # 1-B
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
Rm 1.95 @ 118 F
Rmf 1.4 @ 58 F
Rmc @ F
BHT 118 F
SWSC PR 9019
SWSC TD 9020
DRLR TD 9022
Elev.:
KB 3997.5
DF 3996
GL 3982
CALIBRATION

Corbin

CORBIN G-31

Appendix Item X-3
induction-electrical log
Fee MA #1-B, aka Corbin
Abo SWD # G-31

SCHLUMBERGER WELL SURVEYING CORPORATION

COMPANY	CARPER DRILLING COMPANY, INC. ET AL
WELL	FEE MA 1-B
FIELD	WILDCAT
LOCATION	SEC. 31-17S-33E
COUNTY	LEA
STATE	NEW MEXICO

Other Surveys: LL-GRN

Location of Well: 1980' FROM N&E/L

Elevation: D.F.: 1996 K.B.: 1997.5 or G.L.: 1985

FILING No.

RUN No.	ONE				
Date	2-28-60				
First Reading	9016				
Last Reading	8000				
Feet Measured	1016				
Csg. Schlum.	-				
Csg. Driller	2879				
Depth Reached	9022				
Bottom Driller	9020				
Depth Datum	KB				
Mud Nat.	DRIS-BENT.				
Dens. | Visc.	8.6 | 33				
Mud Resist.	1.90 @ 60 °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	.960 @ 118 °F	@ °F	@ °F	@ °F	@ °F
Rmf	.75 @ 118 °F	@ °F	@ °F	@ °F	@ °F
Rmc	@ °F	@ °F	@ °F	@ °F	@ °F
" pH	7 @ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	11.8 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	7 7/8"				
Spcgs.—AM	16"				
AN	28'				
IND.	5FF40"				
Opr. Rig Time	11 HOURS				
Truck No.	1506-HOBBS				
Recorded By	WILSON				
Witness	STORM				

Reproduced By
West Texas Electrical Log Service
Dallas 2, Texas

REFERENCE W9784C

6 COMPLETION RECORD

SPUD DATE

COMP DATE

DST RECORD

CASING RECORD

PERFORATING RECORD

ACID. FRAC SHOT

I P

GOR GR

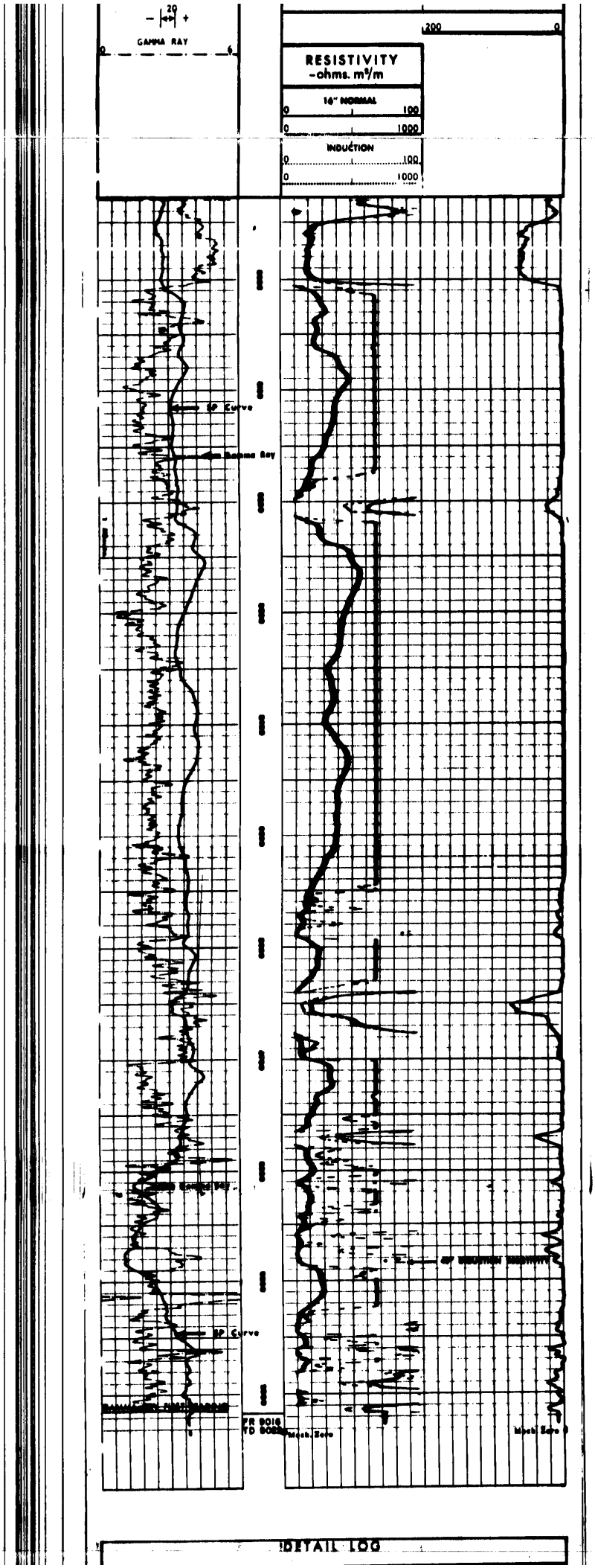
T P C P

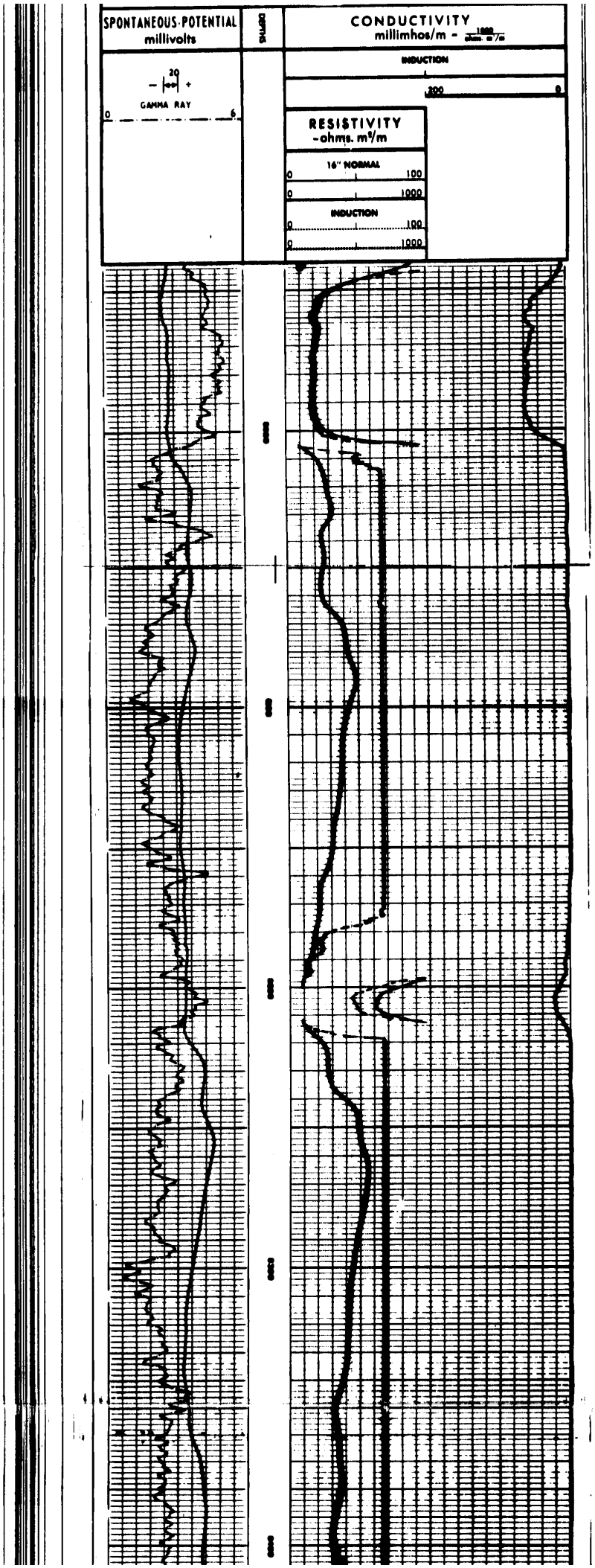
REMARKS:

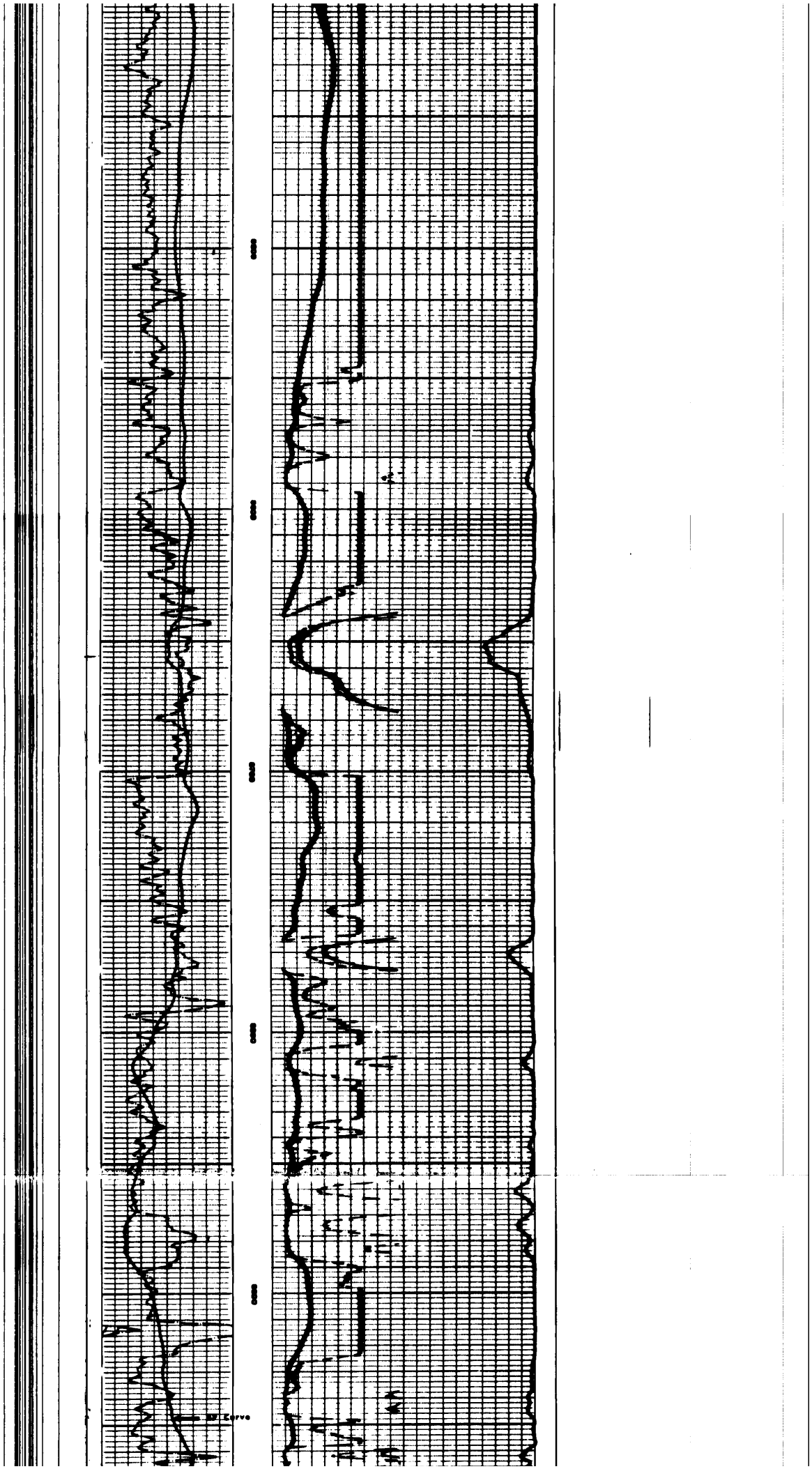
REMARKS C.D. YES T.O. 13"
GR ... 5 450 100 500 SENS: 300 T.C. 2 SPEED: 30/60 FT./MIN.
Cartridge No. 490
Panel No. TRF 3-98
Sond. No. 224

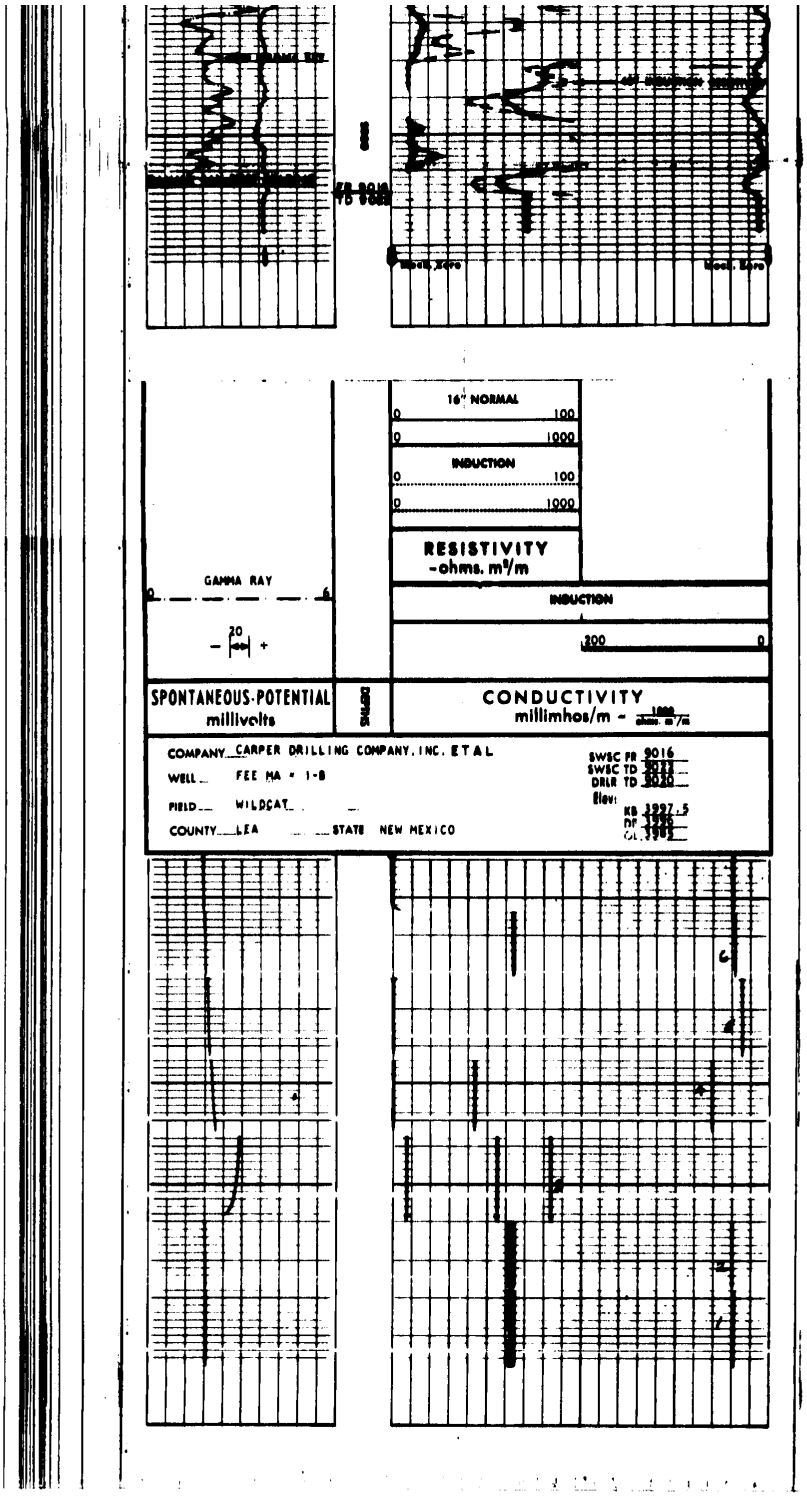
THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

SPONTANEOUS-POTENTIAL millivolts	DEPTHS	CONDUCTIVITY millimhos/m = 1000 / ohms. m²/m
		INDUCTION


GAMMA RAY
RESISTIVITY
-ohms. m²/m
16" NORMAL
INDUCTION
SP Curve
SP Curve
DETAIL LOG


SPONTANEOUS-POTENTIAL
millivolts
DEPTHS
CONDUCTIVITY
millimhos/m
INDUCTION
300
0
GAMMA RAY
0
6
RESISTIVITY
-ohms. m²/m
16" NORMAL
0
100
0
1000
INDUCTION
0
100
0
1000




16" NORMAL
0 100
0 1000
INDUCTION
0 100
0 1000
RESISTIVITY
-ohms. m²/m
GAMMA RAY
0 6
- 20 +
INDUCTION
200 0
SPONTANEOUS-POTENTIAL
millivolts
SHALE
CONDUCTIVITY
millimhos/m
COMPANY CARPER DRILLING COMPANY, INC. ETAL
WELL FEE MA - 1-B
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
SWSC PR 9016
SWSC TD 9013
DRLR TD 9020
Elev:
KB 3997.5
DF 3996
GL 3985

2626 Cole Avenue, Suite 300
Dallas, Texas 75204
214-600-9185

Subject C-108 Application for Authorization to inject.
Raybaw Operating, LLC
Corbin-Abo #G-31
1,980FNL, 1,980 FEL, Sec 31 T17S R33E,
Lea County, New Mexico

Raybaw Operating, LLC has examined available geological and engineering data and finds no evidence of open faults or any other hydrological connection between the disposal zone and any underground sources of drinking water.

Jack Carter
Consulting Geologist/Landman
Raybaw Operating, LLC

Date 5/12/2025

EXHIBIT "7"

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
May 23, 2025
and ending with the issue dated
May 23, 2025.

Publisher

Sworn and subscribed to before me this 23rd day of May 2025.

Business Manager

My commission expires
January 29, 2027
(Seal)

STATE OF NEW MEXICO
NOTARY PUBLIC
GUSSIE RUTH BLACK
COMMISSION # 1087526
COMMISSION EXPIRES 01/29/2027

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said publication has been made.

LEGAL LEGAL

LEGAL NOTICE
May 23, 2025

Legal Notice

Salt Water Disposal Well Application
Lease Name of Application:
Lease: Corbin-Abo SWD; Well No.: G-1
Location: Section 31, Township 17 South, Range 33 East
Footage Call: 1980' FNL, 1980' FEL
Contact Information for Application:
Raybaw Operating, LLC
2626 Cole Ave, Suite 300, Dallas, Texas 75204
Contact Person: Tom Campbell, 713-540-0619,
Email: tom@oaknrg.com
Intended Purpose of Well:
The Corbin-Abo SWD #G-31 is a salt water disposal well that was first approved to disposing of produced water in 1969. The #G-1 is open in the Grayburg-San Andres from 4,530' to 6,375'. Raybaw Operating is seeking reinstatement of the injection permit to continue to utilize the #G-1 as a salt water disposal well.
The proposed maximum surface injection pressure of the Corbin-Abo SWD #G-31 is 1,400 psi and the proposed maximum daily injection rate is 1,000 bwpd.
Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.
#00301192

67118566 00301192

ABBIE PSHIGODA
FLINT OAK ENERGY
21105 EVA ST., STE. 220
MONTGOMERY, TX 77356

EXHIBIT "8"

7019 0160 0001 1131 4193

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Artesia, NM 88211

OFFICIAL USE

Certified Mail Fee	$4.85	0356 06
Extra Services & Fees (check box, add fee as appropriate)	$4.10	
☐ Return Receipt (hardcopy)	$0.00	
☐ Return Receipt (electronic)	$0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$0.00	
☐ Adult Signature Required	$0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$3.71	05/27/2025
Total Postage and Fees	$12.66	

Sent To: MACK ENERGY CORP
Street: PO BOX 960
City, State: ARTESIA, NM 88211-0960
CORBIN ABO SWD

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7019 0160 0001 1131 4179

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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Fort Worth, TX 76102

OFFICIAL USE

Certified Mail Fee	$4.85	0356 06
Extra Services & Fees (check box, add fee as appropriate)	$4.10	
☐ Return Receipt (hardcopy)	$0.00	
☐ Return Receipt (electronic)	$0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$0.00	
☐ Adult Signature Required	$0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$3.71	05/27/2025
Total Postage and Fees	$12.66	

Sent To: CROSS TIMBERS OPERATING CO
Street: 400 WEST 7TH STREET
City, State: FORT WORTH, TX 76102
CORBIN ABO SWD

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7019 0160 0001 1131 4155

U.S. Postal Service™
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Spring, TX 77380

OFFICIAL USE

Certified Mail Fee	$4.85	0356 06
Extra Services & Fees (check box, add fee as appropriate)	$4.10	
☐ Return Receipt (hardcopy)	$0.00	
☐ Return Receipt (electronic)	$0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$0.00	
☐ Adult Signature Required	$0.00	
☐ Adult Signature Restricted Delivery	$0.00	
Postage	$4.01	05/27/2025
Total Postage and Fees	$12.96	

Sent To: DNCS PROPERTIES, LLC
Street and: ATTN: LUKE GROSS
City, State: 3 WATERWAY SQUARE PLACE
THE WOODLANDS, TX 77380
CORBIN ABO SWD

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7019 0160 0001 1131 4186

U.S. Postal Service™
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Houston, TX 77252

OFFICIAL USE

Certified Mail Fee	$4.85	0356 06
Extra Services & Fees (check box, add fee as appropriate)	$4.10	
☐ Return Receipt (hardcopy)	$0.00	
☐ Return Receipt (electronic)	$0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$0.00	
☐ Adult Signature Required	$0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$3.71	05/27/2025
Total Postage and Fees	$12.66	

Sent: EXXON/XTO
Stree: ATTN: VICKI HUSTEDE
City, PO BOX 2305
HOUSTON, TX 77252
CORBIN ABO SWD

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7019 0160 0001 1131 4209

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Lovington, NM 88260

OFFICIAL USE

Certified Mail Fee	$4.85	0356 06
Extra Services & Fees (check box, add fee as appropriate)	$4.10	
☐ Return Receipt (hardcopy)	$0.00	
☐ Return Receipt (electronic)	$0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$0.00	
☐ Adult Signature Required	$0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$3.71	05/27/2025
Total Postage and Fees	$12.66	

CONCHO CATTLE CO, LLC
ATTN: JOHN NORRIS
633 PRAIRIEVIEW ROAD
LOVINGTON, NM 88260
CORBIN ABO SWD

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 467946
	Action Type: [C-108] Fluid Injection Well (C-108)

CONDITIONS

Created By	Condition	Condition Date
erica.gordan	None	6/4/2025