

FACT SHEET

Applicant: **DTM Louisiana Gathering, LLC**
500 Woodward Ave Suite 2900
Detroit, MI 48226
734-276-4568

Project Proposal: Permit to drill one Class V Stratigraphic Test Well

Type of Facility: N/A

Well Names: **ALT Well No. 005**

Project Location: Section **31**, Township **06 North**, Range **10 West**, of **Sabine Parish**

Facility Local Address: N/A

Application No.: 44149

Docket No.: N/A

Project Summary: The following information is prepared according to the requirements of Statewide Order No. 29-N-1, (LAC 43:XVII, Subpart 1) to briefly set forth the principal facts and significant policy questions considered in preparing a draft permit concerning an application by **DTM Louisiana Gathering, LLC** to drill one Class V stratigraphic test well in **Sabine Parish**, Louisiana.

The application is for the drilling of one proposed Class V stratigraphic test well. The total depth of the well is at a depth of approximately **9000** feet below ground level.

The acquisition of geotechnical data is proposed to occur in the drilling of this well. No disposal of waste via injection will occur.

General Information: **DTM Louisiana Gathering, LLC** proposes to collect geotechnical cores, fluid samples, static pressure measurements, and other applicable information.

The base of the lowermost underground source of drinking water (USDW) is approximately 1490 feet below ground level. There are **11** registered water wells located within a one mile radius of the proposed well location. The principal regional aquifers in the area comprise of the confined **Sparta** Aquifer below.

The complete application consists of the application form (Form UIC-25 Stratigraphic Test); technical attachments describing the geology, hydrology, construction, completion, and financial responsibility estimate.

The draft permit conditions were based on applicable rules and regulations as set forth in Statewide Order No. 29-N-1 (LAC: 43:XVII, Subpart 1) as amended. Such rules provide for the protection and non-endangerment of USDW regarding the permitting, drilling, completing, operating and maintaining of Classes I (nonhazardous waste), III, IV, and V injection well operations in the State of Louisiana.

Application Locations: An application package is available for inspection at the Louisiana Office of Conservation, Injection and Mining Division, LaSalle Building, 617 North Third Street, Room 817, Baton Rouge, LA 70802 from 8:00 am until 4:30 pm, Monday through Friday. To view, please ask for the **DTM Louisiana Gathering, LLC** Class V Permit Application identified at the beginning of this document. The application package is also available at the Louisiana Department of Natural Resources, Office of Conservation and Injection and Mining Division websites.

For information regarding any information concerning the application, refer to the Public Notice for Application No. 44149, or call **Holton Hinchliffe** at (225) 342-8936, Monday through Friday, between the hours of 8:00 a.m. to 4:30 p.m.

Comment Period: The public comment period officially commences **December 5, 2023** at 8:00 a.m. and concludes **January 4, 2024** at 4:30 p.m. Submit all comments in writing to **Holton Hinchliffe**, Louisiana Office of Conservation, Injection and Mining Division, 617 N. 3rd St, Baton Rouge, LA 70802. Comments may also be e-mailed to info@la.gov. Please reference DTM Louisiana Gathering, LLC, Class V Permit, Application Number 44149.



JOHN BEL EDWARDS
GOVERNOR

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

MONIQUE M. EDWARDS
COMMISSIONER OF CONSERVATION

_____, 2024

KATHERINE A. PANCZAK
DTM LOUISIANA GATHERING, LLC (D1047)
500 WOODWARD AVE SUITE 2900
DETROIT, MI 48226

***** APPROVAL TO CONSTRUCT *****

RE: STRATIGRAPHIC TEST WELL – NEW
WELL: ALT WELL NO. 005
FIELD: WILDCAT-NO LA SHREVEPORT DIST
PARISH: SABINE

APPLICATION NO. 44149
SERIAL NO. _____
API NO. _____
SEC/TWN/RNG: 30/06N/10W

Ms. Panczak:

The application by DTM Louisiana Gathering, LLC (D1047) to drill a Class V stratigraphic test well has met the interim requirements for permitting such a well. You are hereby granted approval to perform the work as described in the application. The approved work must be completed by _____.

DTM Louisiana Gathering, LLC (D1047) is to notify the Conservation Enforcement Specialist (CES) for Sabine Parish, Rex Darden at 318-623-4925, Monday through Friday, or by calling the Injection and Mining Division at (225) 342-5515 at least 72 hours prior to commencement of work.

Within twenty (20) days after completion of the work, submit the documentation requested in the enclosed Reporting Requirements to the Injection and Mining Division. PLEASE READ THE ENCLOSURES CAREFULLY.

Please be reminded that for future work on the well, a work permit approval must be obtained from this office before repairing, stimulating, plugging, or otherwise working on this well.

Yours very truly,

Monique M. Edwards
Commissioner of Conservation

Stephen H. Lee, Director
Injection and Mining Division

Enclosures



OFFICE OF CONSERVATION

IMD REPORTING REQUIREMENTS >> Class V Stratigraphic Test

Drilling and construction of the well must be completed within one (1) year from the date of the permit approval letter, otherwise, the permit will expire. **Before the expiration of the permit, the operator must notify the Injection and Mining Division (IMD) if a time extension will be requested or if well will not be drilled.**

The approved application describes how the well is to be constructed. Changes in the approved construction, such as well surface location, well depth, or casing setting depths, will require prior written approval from IMD. Failure to obtain prior written approval will be cause for revoking the permit.

At least forty-eight (48) hours prior to commencement of work, the appropriate Conservation Enforcement Specialist (CES) identified below must be contacted. If you are unable to reach the CES, please call the Injection and Mining Division at (225) 342-5515 between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday.

Application No. 44149 Serial No. _____
CES Name Rex Darden CES Phone No. 318-623-4925

Within twenty (20) days after completion of the well, the completion documents listed below must be filed with IMD for review and approval in compliance with the regulations. Please place the well's Serial Number on the log headings.

- A Class V Well History and Work Résumé Report (Form UIC-42 STRAT TEST) with an original signature from an authorized representative of the operating company and two photocopies of the form (front and back). The Form UIC-42 can be saved, filled-out, and printed by going to www.dnr.louisiana.gov/consforms >> Injection & Mining Division >> Form UIC-42.
- Two (2) copies of the wellbore schematic depicting the completed well.
- Two (2) copies of the electric log used to identify the USDW.
- Two (2) copies of the cement bond log for each respective casing string.
- An original AFFIDAVIT OF TEST OF CASING IN WELL (Form CSG-T) signed by a company representative and witnessed by a third party for each casing. Provide a copy of the properly labeled pressure chart if the Form CSG-T does not have a witnessed signature. Include the well name, well serial number, casing size, test start time and stop time, date of test, and signature of company representative. The Form CSG-T can be downloaded from www.dnr.louisiana.gov/consforms >> Injection & Mining Division >> Form CSG-T.

Send the above required documentation together in **ONE PACKAGE** to:

Office of Conservation- 9th Floor
Injection & Mining Division
617 North 3rd Street
Baton Rouge, LA 70802



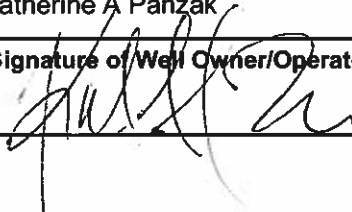
UIC-25 Stratigraphic Test

CLASS-V WELL PERMIT APPLICATION

Application 44149
OFFICE OF CONSERVATION

NOV 06 2023

1. APPLICATION TYPE: (Check One) <input checked="" type="checkbox"/> DRILL AND COMPLETE NEW CLASS-V WELL <input type="checkbox"/> CONVERT AN EXISTING WELL TO CLASS-V <input type="checkbox"/> OTHER (SPECIFY):		LOUISIANA DEPARTMENT OF NATURAL RESOURCES - OFFICE OF CONSERVATION INJECTION & MINING DIVISION Injection-Mining@la.gov (225) 342-5515	
2. IDENTIFY WELL USE Acquisition of Geotechnical Data and Monitoring of Class VI Above Zone Formation.			
3. OWNER/OPERATOR NAME DTM Louisiana Gathering, LLC			4. OC OPERATOR CODE D1047
5. OWNER/OPERATOR MAILING ADDRESS 500 Woodward Ave Suite 2900		6. CITY, STATE, ZIP CODE Detroit, MI 48226	
7. TELEPHONE NO 734-276-4568	8. E-MAIL ADDRESS katherine.panczak@dtmidstream.com		
9. WELL NAME Alt	10. WELL NO 5	11. WELL SERIAL NO (Well Conversions Only)	
12. FIELD NAME (if known) Wildcat			13. FIELD CODE (if known) N/A
14. PARISH NAME Sabine Parish		15. SECTION 31	16. TOWNSHIP 6N
		17. RANGE 10W	
18. LOUISIANA COORDINATE ZONE (Check One) <input checked="" type="checkbox"/> NORTH ZONE <input type="checkbox"/> SOUTH ZONE		For Item Numbers 19 Through 24, Give Coordinates in Louisiana Coordinate System 1927 and 1983	
19. LATITUDE (NORTH) NAD 1927 31°27'31.77" N	20. LONGITUDE (WEST) NAD 1927 93°25'46.61" W	21. LOUISIANA LAMBERT (X-Y) COORDINATES (NAD 1927) x: 1,710,138.321 y: 289,388.727	
22. LATITUDE (NORTH) NAD 1983 31°27'32.41" N	23. LONGITUDE (WEST) NAD 1983 93°25'47.23" W	24. LOUISIANA LAMBERT (X-Y) COORDINATES (NAD 1983) x: 2,990,924.302 y: 350,094.698	
25. LIST PERMITS, LICENSES, OR APPROVALS THE APPLICANT HAS RECEIVED OR APPLIED FOR WHICH SPECIFICALLY AFFECT THE APPLICANT'S LEGAL OR TECHNICAL ABILITY TO CARRY OUT THE PROPOSED ACTIVITY. INCLUDE IDENTIFICATION NUMBER OF APPLICATIONS OR, IF ISSUED, THE IDENTIFICATION NUMBER OF THE PERMIT, LICENSE, OR OTHER APPROVALS.			
Regulatory Program or Agency		Permits, Licenses, Construction, Project Approval Identification	

26. WELL CASING / CEMENT DATA								
HOLE SIZE (inches)	CASING SIZE (OD - inches)	CASING WEIGHT (lb/ft)	CASING GRADE	CASING/LINER SETTING DEPTHS		SACKS CEMENT	TYPE CEMENT/ YIELD (ft ³ /sack)	CEMENT TOP (feet)
				TOP (feet)	BOTTOM (feet)			
Driven	20		B	0	60	N/A	N/A	0
17.5	13 3/8	61	J55	0	1875	1337	1.18	0
12 1/4	9 5/8	47	L80	0	4700	1164	1.1/1.95	0
8 1/2	5 1/2	17	L80	0	5600	1323	1.18	5600
8 1/2	5 1/2	17	13CrL80	5600	6550	207	1.11	5600
27. BASE OF USDW 1490		28. WELL TOTAL DEPTH 9000		29. WELL PLUGBACK DEPTH 6600		30. TUBING SIZE & DEPTH 2.875, 4850		31. PACKER SIZE & DEPTH 5.5x2.875, 4800
32. INJECTION ZONE DEPTHS (if applicable) Top: N/A Bottom: N/A			33. COMPLETION/PERFORATION DEPTHS (if applicable) Top: 5068 Bottom: 5088			34. WELL COMPLETION (Check One) <input type="checkbox"/> OPEN HOLE <input checked="" type="checkbox"/> PERFORATIONS <input type="checkbox"/> SCREEN		
INJECTIVITY TEST INFORMATION (if applicable)								
35. TEST MATERIAL (e.g. nitrogen, brine, etc): N/A <i>***CO2 is prohibited as a Class V test material***</i>			36. MAXIMUM TEST PRESSURE (psi): N/A			37. TOTAL INJECTION VOLUME: N/A		
38. Is the Well Located on Indian Lands or Other Lands Owned by or under the Jurisdiction or Protection of the Federal Government?						<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
39. Is the Well Located on State Water Bottoms or Other Lands Owned by or under the Jurisdiction or Protection of the State of Louisiana?						<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
40. AGENT OR CONTACT AUTHORIZED TO ACT ON BEHALF OF THE APPLICANT DURING THE PROCESSING OF THIS APPLICATION								
NAME: Zachary Freund						OFFICE OF CONSERVATION		
MAILING ADDRESS: 1840 MacKenzie Dr						NOV 06 2023		
CITY, STATE, ZIP CODE: Upper Arlington, OH 43220						INJECTION AND MINING DIVISION		
TELEPHONE NUMBER: 724-712-1195						FAX NUMBER: 703-528-0439		
E-MAIL ADDRESS: zfreund@adv-res.com								
41. CERTIFICATION BY WELL OWNER/OPERATOR								
I certify that as the owner/operator of the injection well, the person identified in Item No. 40 above is authorized to act on my behalf during the processing of this application, to submit additional information as requested, and to give oral statements in support of this application. I will grant an authorized agent of the Office of Conservation entry onto the property to inspect the injection well and related appurtenances as per LSA-R.S. 30:4. I agree to operate the well in accordance with Office of Conservation guidelines. I further certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment or both (LSA-R.S. 30:17).								
Print Name of Well Owner/Operator Katherine A Panzak					Print Title of Company Official (as applicable) Vice President			
Signature of Well Owner/Operator 						Date 11/3/2023		

I. SUBMIT THE FOLLOWING AS A COMPLETE APPLICATION PACKAGE FOR A CLASS-V WELL:

A. Application Fee: Submit the non-refundable application fee for each well per LAC 43:XIX.Chapter 7.

B. Include the following as applicable:

1. One Form UIC-25 with original signature;
2. Two original Form MD-10-R-A for each existing well to be converted (if conversion is proposed);
3. One original Certified Location Plat showing the location of each Class-V well location;
 - a. Please be sure to comply with the requirements of the IMD-GS-10 Policy
4. Injection test fluid analysis (if injection is proposed);
5. An annotated copy of an electric well log of the nearest offset well that shows the Underground Source of Drinking Water (USDW);
6. An annotated copy of an electric well log of the nearest offset well that shows the proposed injection zone (if injection is proposed);
7. Work prognosis for drilling, completing, and testing the well;
8. Schematic(s) of the Class-V well showing:
 - a. Casing diameter, specifications, material (PVC, steel, etc.), and depth,
 - b. Screen type, length, material, slot or opening size,
 - c. Injection tubing size inside casing (if any),
 - d. Hole diameter (bit size),
 - e. Amount and type of cement used and depths to top and bottom of cement,
 - f. Wellhead showing all fittings,
 - g. Discharge line diameter and connection to wellhead,
 - h. Well house (if any).

Schematics should be stamped and signed by a Louisiana-registered Professional Engineer (PE) as appropriate

OFFICE OF CONSERVATION

NOV 06 2023

INJECTION AND MINING DIVISION

II. REQUIREMENTS OF A PERMIT APPLICATION FOR CLASS-V INJECTION WELL:

- A. Operating a Class-V well without a permit is a violation of Statewide Order No. 29-N-1 (LAC 43:XVII, Subpart 1) and may subject the well owner to enforcement action including fines as provided by La. R.S. 30. No fines will be imposed on the owner of an existing unpermitted injection well provided the owner submits an application for a permit. However, repairing, stimulating, plugging or performing other work on a Class-V well without a work permit (Form UIC-17) may subject the well owner to a fine.
- B. After completing the Class-V well, a permanent, weather-proof sign not less than 1 foot by 2-foot in size must be erected within ten feet of the well, which, at a minimum shows the Well Name and Office of Conservation issued Well Serial Number. If the Class-V well is enclosed within a well house, the sign may be inside the well house, if it is prominently visible upon entering. After completing the Class-V well, complete and submit the Form UIC-42, Well History and Work Résumé Report.
- C. When abandoning, the well must be plugged in accordance with Office of Conservation guidelines in effect at the time of abandonment.

The Injection & Mining Division can be reached by telephone at 225-342-5515 or email Injection-Mining@la.gov.

You may submit the application with all required attachments online at www.sorris.com via the Online UIC Reporting Portal, or submit the completed application form with all required attachments to:

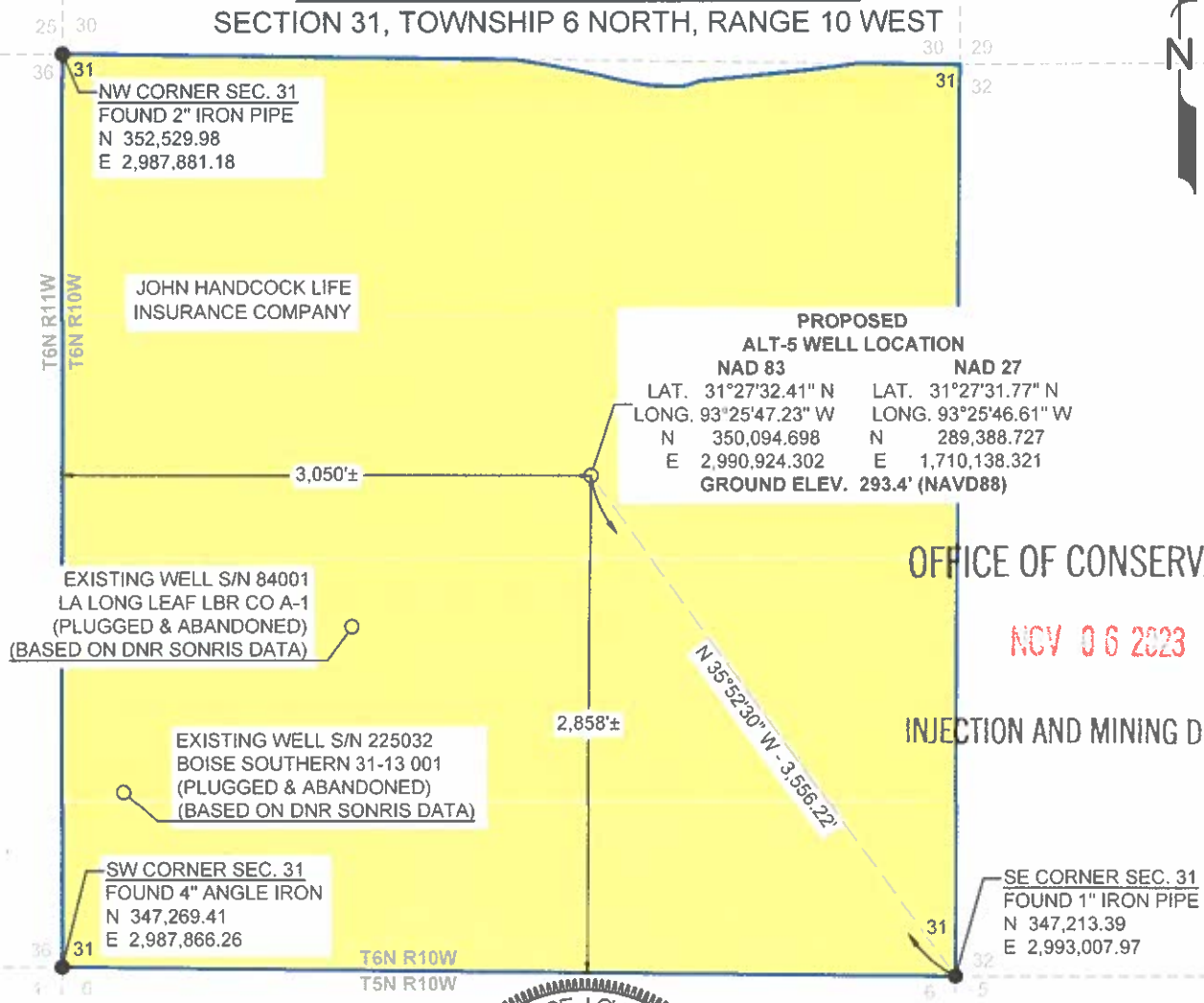
Mailing Address

Office of Conservation Injection &
Mining Division
617 North Third Street
Baton Rouge, LA 70802-5428

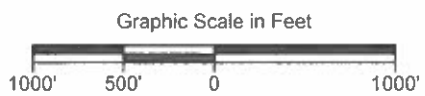
Street Delivery Address

Office of Conservation
Injection & Mining Division
LaSalle Building
617 North Third Street, Suite 817
Baton Rouge, LA 70802-5428

EXHIBIT "A"
SABINE PARISH, LOUISIANA
SECTION 31, TOWNSHIP 6 NORTH, RANGE 10 WEST



OFFICE OF CONSERVATION
NOV 06 2023
INJECTION AND MINING DIVISION



NOTES:
 1. THIS DRAWING IS NOT TO BE CONSTRUED AS A BOUNDARY SURVEY. LOCATION OF BOUNDARY LINES SHOWN IS MADE USING DOCUMENTATION AND FIELD EVIDENCE MADE AVAILABLE TO THE SURVEYOR AT THE TIME THE SURVEY WAS MADE ON THE GROUND.
 2. NORTH ARROW AND COORDINATES REFER TO THE LOUISIANA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83). COORDINATES WERE DERIVED FROM RTK GPS OBSERVATIONS USING SMARTNET NORTH AMERICA REAL TIME NETWORK CORRECTIONS.
 3. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD88), BASED ON RTK GPS OBSERVATIONS USING SMARTNET NORTH AMERICA REAL TIME NETWORK CORRECTIONS AND GEOID MODEL "GEOID 18".
 4. DISTANCES IN FEET BY HORIZONTAL MEASUREMENT.
 5. PROPOSED INJECTION WELL LOCATION FURNISHED BY ADVANCED RESOURCES INTERNATIONAL, INC.

NOTES:
 I, BRETT J. ANTILL, A PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL THAT IT CONFORMS TO LAC TITLE 46:XXI - 2019 FOR ROUTE SURVEYS TO THE BEST OF MY KNOWLEDGE AND BELIEF.
 DATED THIS 25TH DAY OF AUGUST, 2023.

Brett J. Antill

BRETT J. ANTILL PLS #5226
 ENCOMPASS SERVICES, LLC / FIRM NO. 0000720
 14800 ST. MARY'S LANE, STE. 230, HOUSTON, TX, 77079 (832) 781-4800

REV	DATE	BY	DESCRIPTION	CHK.
1	08/25/23	JCV	REVISED WELL NAME	BJA
0	08/09/23	JCV	ISSUED FOR ACQUISITION	BJA

PROJECT NO. **64272**



DT MIDSTREAM - CSS ALT-5 WELL SURVEY
JOHN HANDCOCK LIFE INSURANCE COMPANY
SABINE PARISH, LOUISIANA

encompass
 ENCOMPASS SERVICES, LLC
 14800 ST. MARY'S LANE SUITE 230
 HOUSTON, TEXAS 77079
 OFFICE NUMBER: 832-781-4800
 T8PLS# - 10184561

DRAWN BY: JCV	DATE: 08/09/23
CHECKED BY: BJA	DATE: 08/09/23
SCALE: 1" = 1000'	APP BY: BJA

DWG. NO.	REV.
64272_CSS ALT-5 WELL PLAT	1
SHEET 1 OF 1	

NCV 06 2023

STATE OF LOUISIANA
OFFICE OF CONSERVATION FORM MD-10-R-1
APPLICATION FOR PERMIT TO DRILL FOR MINERALS
TYPE ONLY - FILE IN DUPLICATE

(Print on Buff color paper)

INJECTION AND MINING DIVISION

OFFICE USE ONLY

SERIAL NUMBER: _____

Company Data

DATE OF APPLICATION: _____

OPERATOR: DTM Louisiana Gathering, LLC

CODE NO. D1047

ADDRESS: 500 Woodward Ave Suite 2900

Detroit, MI 48226

Well Data

PARISH: Sabine Parish

CODE NO. 43

FIELD: Wildcat

CODE NO. _____

WELL NAME: Alt

Well No.: 005

LOCATION: Section: 31 Township: 6N Range: 10W

LOCATION DESCRIPTION:

[Empty box for location description]

PRODUCT: OIL GAS OTHER

TYPE OF WELL

- New Well
- Redrill
- Dual
- Lease
- Unit

- Repermit
- Straight
- Directional
- Horizontal
- SPC Plan
(on water)

Proposed Total Depth: 9,000 feet - Measured Depth

(and TVD, if applicable) 9,000 feet - True Vertical Depth

Application Fee: \$252.00

Check No.: _____

6 Month

1 Year

PROPOSED ZONE OF COMPLETION: Ozan SS

APPLICABLE CONSERVATION ORDERS: _____

SERIAL NUMBER OF REDRILL OR REPERMIT (if applicable): _____

CONTACT DATA

SEND PERMIT TO: Katherine Panczak

ADDRESS: 500 Woodward Avenue, Suite 2900

(if different than above)

Detroit, Michigan 48226

FOR ADDITIONAL INFORMATION, CONTACT: Katherine Panczak

Phone No.: 734-276-4568

APPLICANT

SUBMITTED BY: Katherine A Panczak, Vice President

TYPED NAME AND TITLE

SIGNATURE: [Signature]

APPLICANT'S REPRESENTATIVE SIGNATURE

OFFICE USE ONLY

OFFICE USE ONLY

FINANCIAL SECURITY REQUIRED PRIOR TO PERMITTING:

Yes

No

DISTRICT APPROVAL: _____

DATE: _____

ISSUED BY: _____

DATE: _____

API No.: _____

Exp.: _____

NOV 06 2023

STATE OF LOUISIANA
OFFICE OF CONSERVATION FORM MD-10-R-1
APPLICATION FOR PERMIT TO DRILL FOR MINERALS
TYPE ONLY - FILE IN DUPLICATE

(Print on Buff color paper)

INJECTION AND MINING DIVISION

OFFICE USE ONLY

SERIAL NUMBER: _____

Company Data

DATE OF APPLICATION: _____

OPERATOR: DTM Louisiana Gathering, LLC

CODE NO. D1047

ADDRESS: 500 Woodward Ave Suite 2900

Detroit, MI 48226

Well Data

PARISH: Sabine Parish

CODE NO. 43

FIELD: Wildcat

CODE NO. _____

WELL NAME: Alt

Well No.: 005

LOCATION: Section: 31 Township: 6N Range: 10W

LOCATION DESCRIPTION:

[Empty box for location description]

PRODUCT: OIL GAS OTHER

TYPE OF WELL

- New Well
- Redrill
- Dual
- Lease
- Unit

- Repermit
- Straight
- Directional
- Horizontal
- SPC Plan (on water)

Proposed Total Depth: 9,000 feet - Measured Depth

(and TVD, if applicable) 9,000 feet - True Vertical Depth

Application Fee: \$252.00

Check No.: _____

6 Month

1 Year

PROPOSED ZONE OF COMPLETION: Ozan SS

APPLICABLE CONSERVATION ORDERS: _____

SERIAL NUMBER OF REDRILL OR REPERMIT (if applicable): _____

CONTACT DATA

SEND PERMIT TO: Katherine Panczak

ADDRESS: 500 Woodward Avenue, Suite 2900

(if different than above)

Detroit, Michigan 48226

FOR ADDITIONAL INFORMATION, CONTACT:

Katherine Panczak

Phone No.: 734-276-4568

APPLICANT

SUBMITTED BY: Katherine A Panczak, Vice President

TYPED NAME AND TITLE

SIGNATURE: _____


APPLICANT'S REPRESENTATIVE SIGNATURE

OFFICE USE ONLY

OFFICE USE ONLY

FINANCIAL SECURITY REQUIRED PRIOR TO PERMITTING:

Yes

No

DISTRICT APPROVAL: _____

DATE: _____

ISSUED BY: _____

DATE: _____

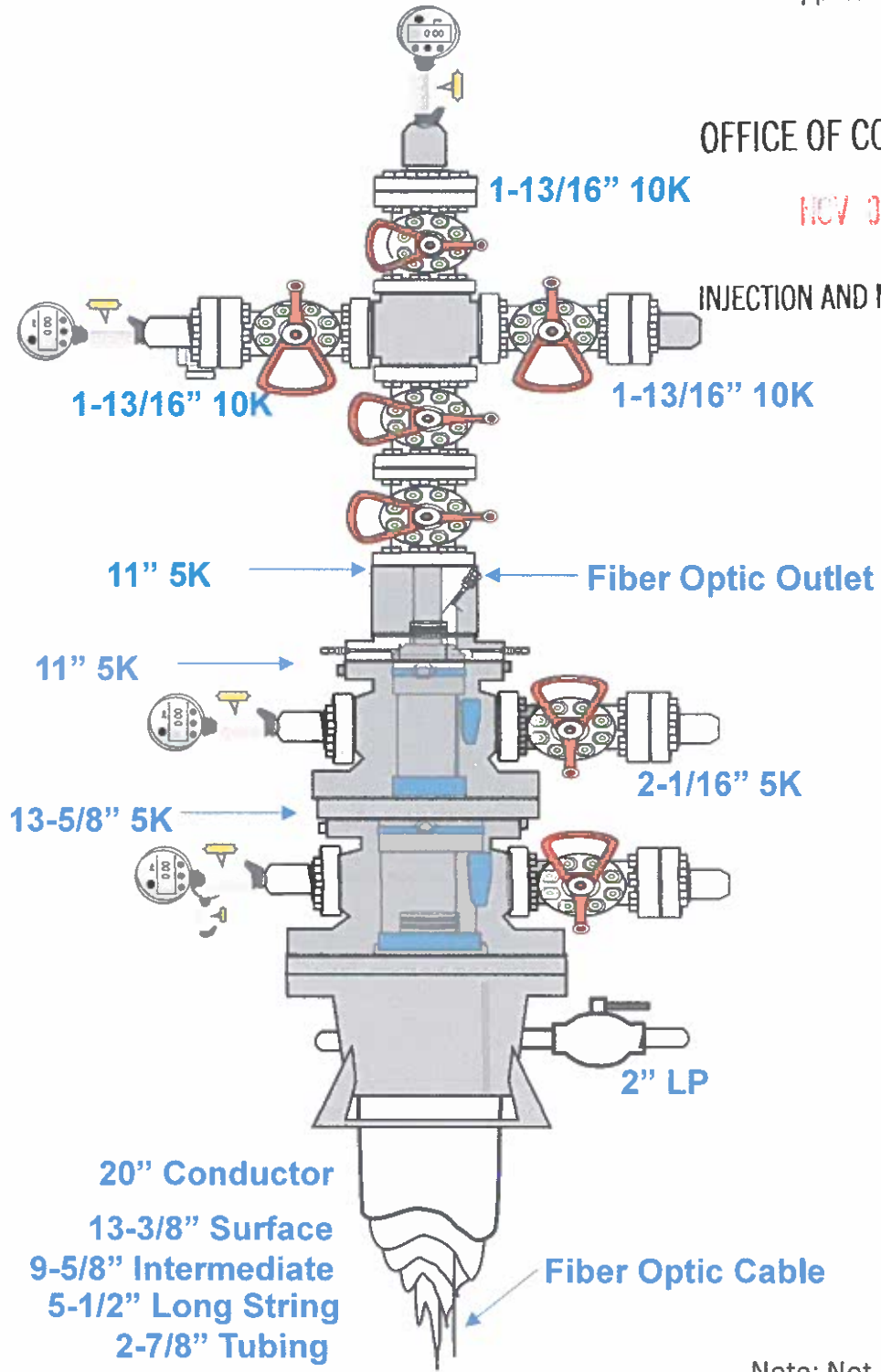
API No.: _____

Exp.: _____

OFFICE OF CONSERVATION

NOV 06 2023


INJECTION AND MINING DIVISION

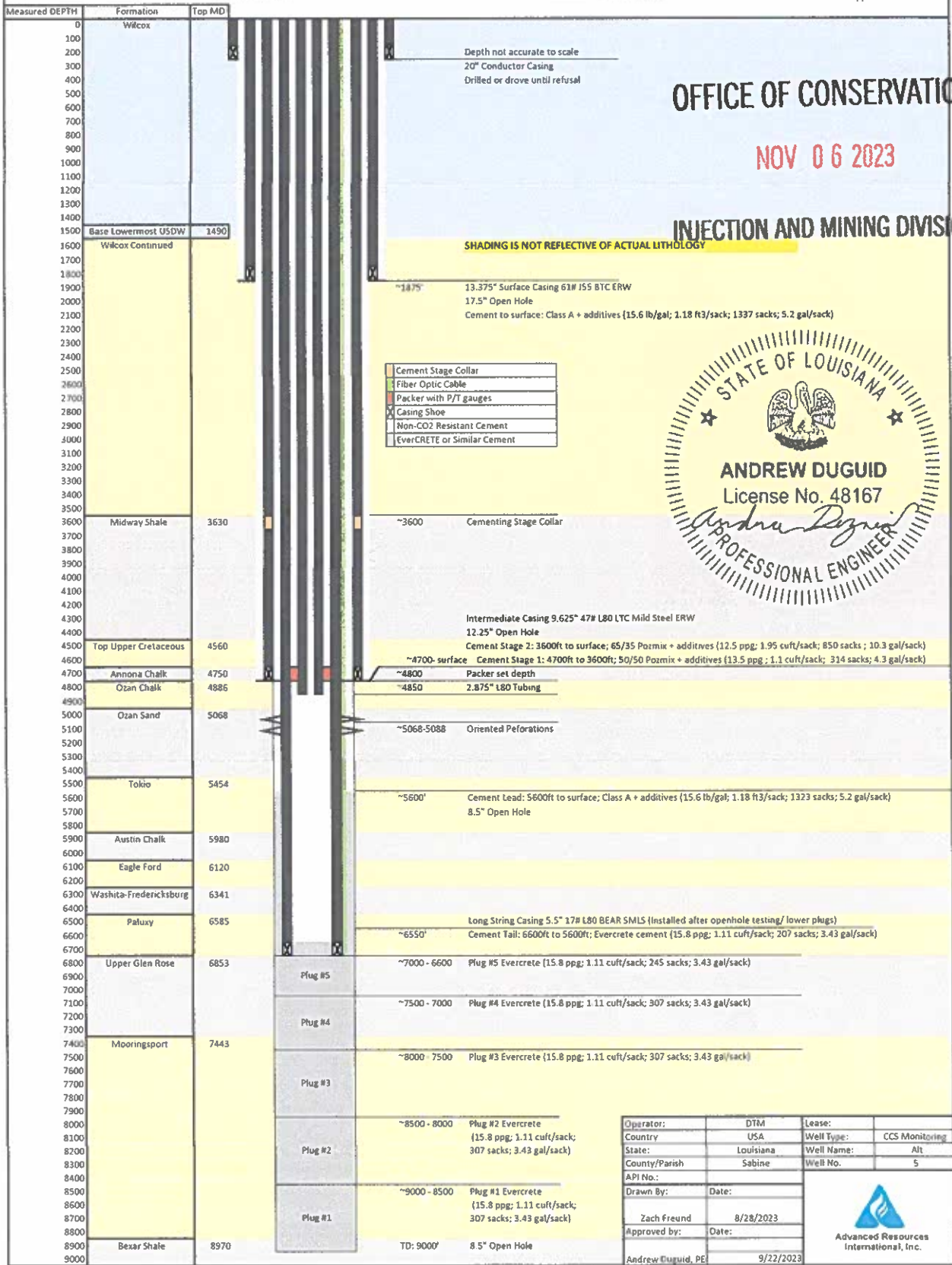


20" Conductor
 13-3/8" Surface
 9-5/8" Intermediate
 5-1/2" Long String
 2-7/8" Tubing

Note: Not Drawn to Scale



Operator:	DTM	Lease:	
Country	USA	Well Type:	CCS Monitoring
State:	Louisiana	Well Name:	Alt
County/Parish	Sabine	Well No.	5
API No.:		 Advanced Resources International, Inc.	
Drawn By:	Date:		
Zach Freund	8/28/2023		
Approved by:	Date:		
Andrew Duguid, PE	9/22/2023		



OFFICE OF CONSERVATION

NOV 06 2023

INJECTION AND MINING DIVISION

Operator:	DTM	Lease:	
Country:	USA	Well Type:	CCS Monitoring
State:	Louisiana	Well Name:	Alt
County/Parish:	Sabine	Well No.:	5
API No.:			
Drawn By:	Date:		
Zach Freund	8/28/2023		
Approved by:	Date:		
Andrew Duguid, PE	9/22/2023		



NOV 06 2023

Alt 5 Well Class V Application – NOD #1

Work Prognosis of Drilling, Testing, and Completion:

INJECTION AND MINING DIVISION

1. General Well Information:

Well Name	Alt-5
Well Classification	Class V
County, State	Sabine Parish, Louisiana
Target Formation	Mooringsport
TVD / MD (ft)	9,000 ft
Trajectory	Vertical

2. Geologic Prognosis:

Interval Tops	TVD (feet)
Ground Level	12
Wilcox	12
Midway	3630
Top Upper Cretaceous	4560
Annona Chalk	4750
Ozan Chalk	4886
Ozan Sand	5068
Tokio	5454
Austin Chalk	5980
Eagle Ford Shale	6120
Washita-Fredericksburg	6341
Paluxy	6585
Upper Glen Rose	6853
Mooringsport	7443
Bexar Shale	8970

3. Work Prognosis of Drilling and Completion

1. Survey location
2. Build location and cellar. Set 20" conductor to required depth (+/- 60ft)
3. Hold pre-spud meeting at TBD location.
4. Move in, rig up drilling rig.
5. Nipple up and test BOP
6. Drill 17.5" hole to +1875 ft
7. Notify CES at least 48 hours prior to anticipated casing test
8. RIH, circulate & condition hole for logging. TOH
9. Run open hole surface logs.

10. Submit logs confirming lowermost USDW and at least one non-USDW sand.
11. Upon approval of logs, set 13.375" casing at 1875 ft & cement with Class A blend to surface. (15.6 lb/gal; 1.18 ft³/sack; 1337 sacks; 5.2 gal/sack)
12. Wait on cement (WOC), to 500 psi compressive strength.
13. Run cased hole logs.
14. Nipple up and pressure test casing to a minimum of 600 psi for 30 minutes and test BOP. Document the results of the casing test on LDNR Form CSG-T.
15. Drill out shoe track and +/-10 feet of open hole. Perform FIT to 12 ppg equivalent.
16. Drill 12.25" hole to ±4700 ft
17. Circulate & condition hole for logging. TOH
18. Log well with recommended logging suite.
19. RIH, circulate & condition hole for cementing. TOH
20. Run 9 5/8"; 47#/ft L-80 LTC casing to TD.
21. Cement 9.625" casing in two stages bringing cement system to surface. Circulate eight hours between stages.
 - Cement Stage 1: 4700 ft to 3600 ft; 50/50 Pozmix + additives (13.5 ppg; 1.1 ft³/sack; 314 sacks; 4.3 gal/sack)
 - Cement Stage 2: 3600 ft to surface; 65/35 Pozmix + additives (12.5 ppg; 1.95 ft³/sack; 850 sacks; 10.3 gal/sack)
22. WOC, to 500 psi compressive strength.
23. Run cement bond log 48 hours after wiper plug down.
24. Nipple up and pressure test Casing to a minimum of 1000 psi for a minimum of 30 minutes and test BOP. Document the results of the casing test on Form CSG-T.
25. Drill out casing after CBL.
26. Drill out shoe with 8.5" bit and 10 feet of new hole. Perform FIT to 12 ppg equivalent.
27. Drill 8.5" hole to first coring point (~6600') in the Paluxy. (Exact depth picked by wellsite geologist).
28. Pick up 60 feet core barrel & 8.5" PDC core bit. TIH and core Paluxy f/ ±6600'-6660' (actual depths picked by well site geologist).
29. POH & lay down core.
30. Make hole conditioning trip if any hole problems encountered during coring operation.
31. TIH and drill to ±7400 feet
32. Pick up 60' core barrel & 8.5" PDC bit. TIH and core f/ top of Mooringsport f/ ±7400'-7460' (actual depths picked by wellsite geologist)
33. POH & lay down core.
34. Make hole conditioning trip if any hole problems encountered during coring operation.

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35. TIH and drill to TD \pm 9000 feet
36. Circulate & condition hole for logging. TOH
37. Log well with recommended logging suite.
38. Run MDT tools to desired depths (exact depths picked by wellsite geologist).
39. Run SWC tool and core at selected intervals
40. TIH and circulate and condition hole for setting cement plugs.
41. Nipple up cementing equipment
42. Place cement plug #1 EverCRETE CO2 Resistant blend or similar (TD-8500')
 - 15.8 ppg; 1.11 ft³/sack; 307 sacks; 3.43 gal/sack
43. WOC
44. TIH and tag cement plug #, POH.
45. Place cement plug #2 EverCRETE CO2 Resistant blend or similar (8500' -8000')
 - 15.8 ppg; 1.11 ft³/sack; 307 sacks; 3.43 gal/sack
46. WOC
47. TIH and tag cement plug #2, POH.
48. Place cement plug #3 EverCRETE CO2 Resistant blend or similar (8000'-7500')
 - 15.8 ppg; 1.11 ft³/sack; 307 sacks; 3.43 gal/sack
49. WOC
50. TIH and tag cement plug #3, POH.
51. Place cement plug #4 EverCRETE CO2 Resistant blend or similar (7500'-7000')
 - 15.8 ppg; 1.11 ft³/sack; 307 sacks; 3.43 gal/sack
52. WOC
53. TIH and tag cement plug #4, POH.
54. Place cement plug #5 EverCRETE CO2 Resistant blend or similar (7000'-6600 feet)
 - 15.8 ppg; 1.11 ft³/sack; 245 sacks; 3.43 gal/sack
55. WOC
56. TIH and tag cement plug #5, circulate, and condition hole for running casing.
57. POH laying down drill pipe & collars.
58. Run & set 5.5" casing at 6550 feet as follows. From 6550 to surface 5 ½' 17# L-80 Attach fiber optic DTS-DAS line to exterior of casing. Cement to surface in one stage with lead and tail system.
 - 5600 ft to surface; Class A + additives (15.6 lb/gal; 1.18 ft³/sack; 1323 sacks; 5.2 gal/sack)
 - Cement Tail: 6600ft to 5600ft; EverCRETE CO2 Resistant cement (15.8 ppg; 1.11 ft³/sack; 207 sacks; 3.43 gal/sack)
59. Nipple up and pressure test casing to a minimum of 1000 psi for a minimum of 30

minutes and test BOP. Document the results of the casing test on Form CSG-T.

60. WOC to 500 psi compressive strength.
61. Remove BOP
62. Install Wellhead
63. Rig down and move out.
64. Move in completion rig with all equipment.
65. Nipple up BOP and test BOP and casing.
66. Run cement evaluation logs both sonic and ultra-sonic as well as other baseline cased hole logs.
67. Perforate using orientated perforating technique to protect fiber optic line the interval +/- 5068-5088.
68. Develop well as needed.
69. Install lower completion on 2 7/8" 6.5# L-80 tubing. Lower completion will consist of packer with pressure monitoring and sampling capability.
70. Rig down and move out all equipment.
71. Install surface equipment for continuous monitoring.

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4. Logging and Testing Program:

a. Mudlogging Requirements:

- i. Once every 30 feet until the Eagle Ford Shale. Then once every 10 feet until total depth.

b. Coring Requirements

- i. One core at ±6600'-6660 feet in the Paluxy (Primary Seal)
- ii. One core at ±7400'-7460 feet in the Mooringsport (Primary testing target)
- iii. Sidewall Cores will be taken to supplement whole coring operations. Core points will be picked after open hole logging.

c. Logging Program:

Section	Open Hole Log	Cased Hole Logging
Surface	Quad Combo	Cement Bond Log Temperature
Intermediate	Quad Combo Sonic Scanner Photo Electric Spectral Gamma Ray Pulsed Neutron Full-bore Formation Micro-imager Combinable Magnetic Resonance Elemental Capture Spectroscopy Sonde	Cement Bond Log Ultrasonic Cement Image Tool Temperature
Production Hole	Quad Combo Sonic Scanner Photo Electric Spectral Gamma Ray Pulsed Neutron Full-bore Formation Micro-imager Combinable Magnetic Resonance Elemental Capture Spectroscopy Sonde Modular Formation Dynamics Tester at selected intervals	Cement Bond Log Ultrasonic Cement Image Tool Pulsed Neutron Capture Temperature

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Well Plugging and Site Closure Estimate

This estimate was completed for DTM Alt-5 well design by Advanced Resources International Inc.

Well Plugging and Site Closure		
Item	Cost (Dollars)	Notes
Mobilization	\$50,000	
Rig Rates	\$65,550	
Hauling and Disposal	\$10,000	
Technical Services, Subsistence, and Travel	\$35,400	
Rentals	\$38,921	
Service Companies and Logging	\$200,000	USIT, CBL, and PNC logging
Consumables	\$35,720	
Tubulars (Work string)	\$24,300	
Cementing		
CO2 Resistant Plugs	\$188,774	74 BBL @ \$2551/BBL
Standard Cement Plugs	\$39,337	169 BBL @ \$233/BBL
Total for Plugging	\$688,002	
Site Closure and Remediation	\$50,000	
Total For Plugging and Site Closure	\$738,002	

Plugging Procedure:

1. Notification of the intent to plug shall be given to the Louisiana DNR Injection and Mining Division in writing through form UIC-17.
2. After approval and work permit is issued, notify the appropriate oil and gas inspector a minimum of 12 hours prior to the beginning of plugging operations.
3. Mobilize rig and field staff to the facility and rig up.
4. Conduct and document a safety meeting to identify site-specific occupational hazards.
5. Record bottom hole pressure from down hole gauge and calculate kill fluid density.
6. Open up all valves on the vertical run of the tree and check pressures.
7. Test the pump and line to 2,500 psi. Fill tubing with kill weight brine (9.5 ppg or determined by bottom hole pressure measurement). Bleeding off occasionally may be necessary to remove all air

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from the system. Test casing annulus to 1000 psi and monitor. If there is pressure remaining on tubing, rig to pump down tubing and inject two tubing volumes of kill weight brine. Monitor tubing and casing pressure for 1 hour. If both casing and tubing are dead, then nipple up blowout preventers (NU BOP's). Monitor casing and tubing pressures.

8. If the well is not dead or the pressure cannot be bled off tubing, RU slickline and set plug in lower profile nipple below packer. Check pressure on well and dump kill fluid down tubing until the hydro-static on the profile plug is equal to the kill pressure under the plug. Nipple down tree, NU BOPs, and perform a function test. BOPs should have appropriately sized single pipe rams on top and blind rams in the bottom ram for tubing. Test pipe rams and blind rams to 250 psi low, 3,000 psi high. Test annular preventer to 250 psi low and 3,000 psi high. Test all Texas Iron Works (pressure valve), BOP's choke and kill lines, and choke manifold to 250 psi low and 3,000 psi high. NOTE: Make sure casing valve is open during all BOP tests. After testing BOPs, pick up tubing string and unlatch seal assembly from seal bore. Rig slick line and lubricator back to well and remove plug from well. Rig to pump via lubricator and circulate until well is dead.
9. Pull out of hole with tubing laying it down. NOTE: Pump down annulus as needed to insure the well is over-balanced with no flow through the packer from the formation pressure and there are at least 2 well control barriers in place at all times.
10. Lay down the-seal assembly, pick up work string, and trip in hole (TIH) with the packer retrieving tools. Latch onto the packer and pull out of hole laying down same.
 - a. *Contingency:* If unable to pull seal assembly, RU electric line and make cut on tubing string just above packer. Note: Cut must be made above packer at least 5-10 ft measured depth (MD). If unable to pull the packer, pull the work string out of hole and proceed to the next step. If problems are noted, update cement remediation plan (if needed) and execute prior to plugging operations.
11. TIH with work string to total depth (TD). Keep the hole full at all times. Circulate the well and prepare for cement plugging operations.
12. The lower section of the well will be plugged using CO₂-resistant cement from TD to around 500 ft above the top of the Paluxy Formation. This will be accomplished by placing plugs in 500 ft incremental lifts and using specific cement design. It is anticipated that 6 plugs of 500 feet in length will be necessary and a third 100 ft plug at the surface. No more than two plugs will be set before cement is allowed to set and plugs verified by setting work string weight down onto the plug.
13. Circulate the well and ensure it is in balance. Mix and spot 500 ft balanced plugs in 5.5" casing starting at the shoe and working up incrementally. Each plug must be tagged prior to placement of the next. Once first four plugs are placed, move up hole to upper plugs. Place tubing 500 ft. below the lowest identified base of USDW. Mix and spot 500 ft balanced plug in 5.5" casing. Pull out of plug and reverse circulate tubing. Repeat this operation until a total of 5 plugs have been set and 500 ft above the top of the USDW has been reached. If plugs are well balanced, then the reverse circulation step can be omitted until after each third plug. Lay down work string while pulling from well. If the rig is working daylight only then pull 10 stands above the last cement plug and rack back in derrick and reverse tubing before shutting down for night. After waiting overnight, trip back in hole and tag plug and continue. After the required plugs have been set, pull tubing from well and shut in for 12 hours. TIH with tubing and tag cement top. Pull tubing back out of well. Nipple down

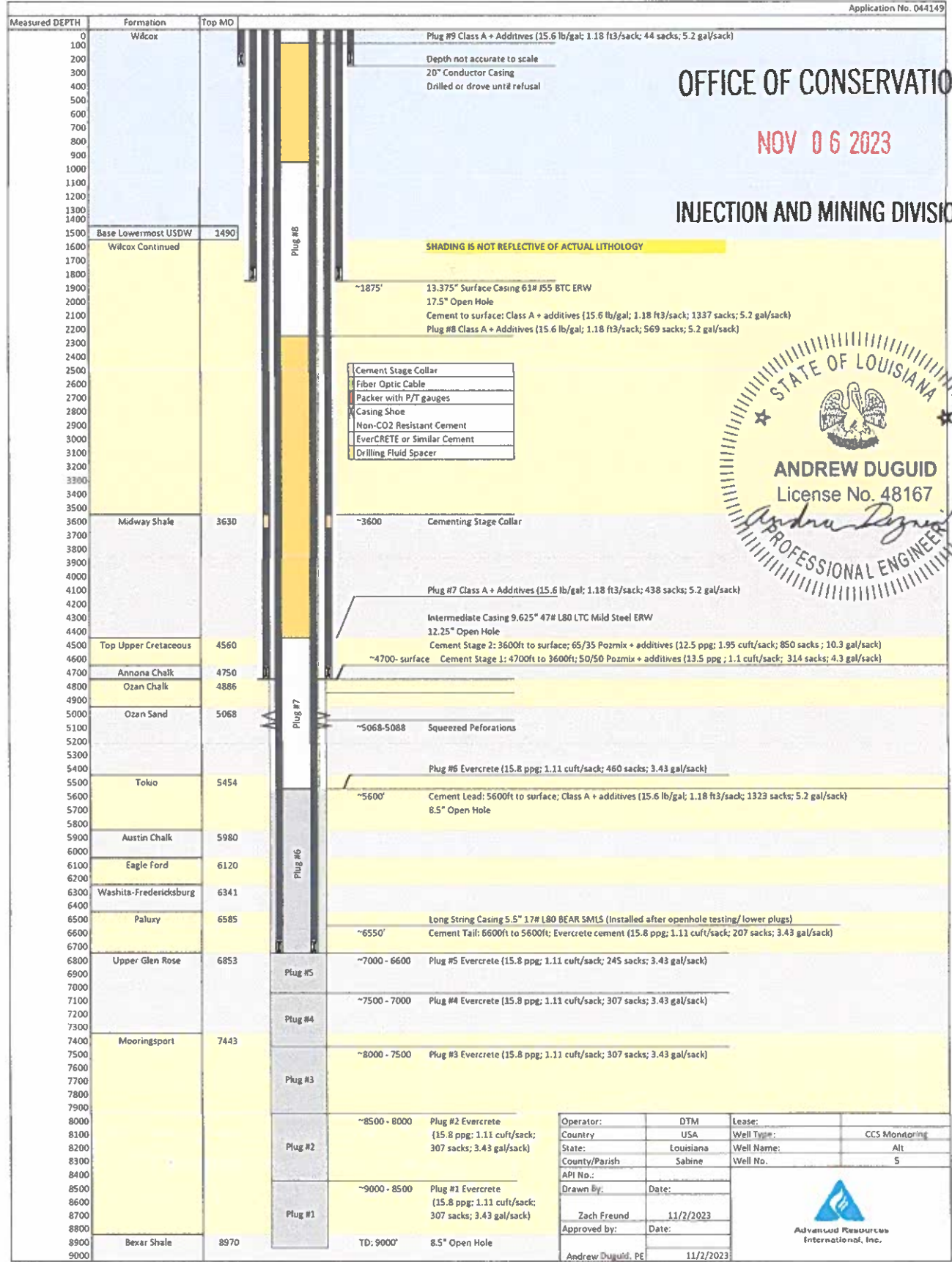
BOPs and cut all casing strings below plow line (min 3 feet below ground level). Trip in well and set final cement plug. Lay down all work string, etc. Rig down all equipment and move out. Clean cellar to where a plate can be welded with well name onto lowest casing string at 3 feet.

14. The procedures described above are subject to modification during execution as necessary to ensure a plugging operation that protects worker safety and is effective to protect USDWs, and any significant modifications due to unforeseen circumstances will be described in the Well Plugging Report. Complete plugging forms (Form P&A) and send in with charts and all lab information to the regulatory agency within 20 days.

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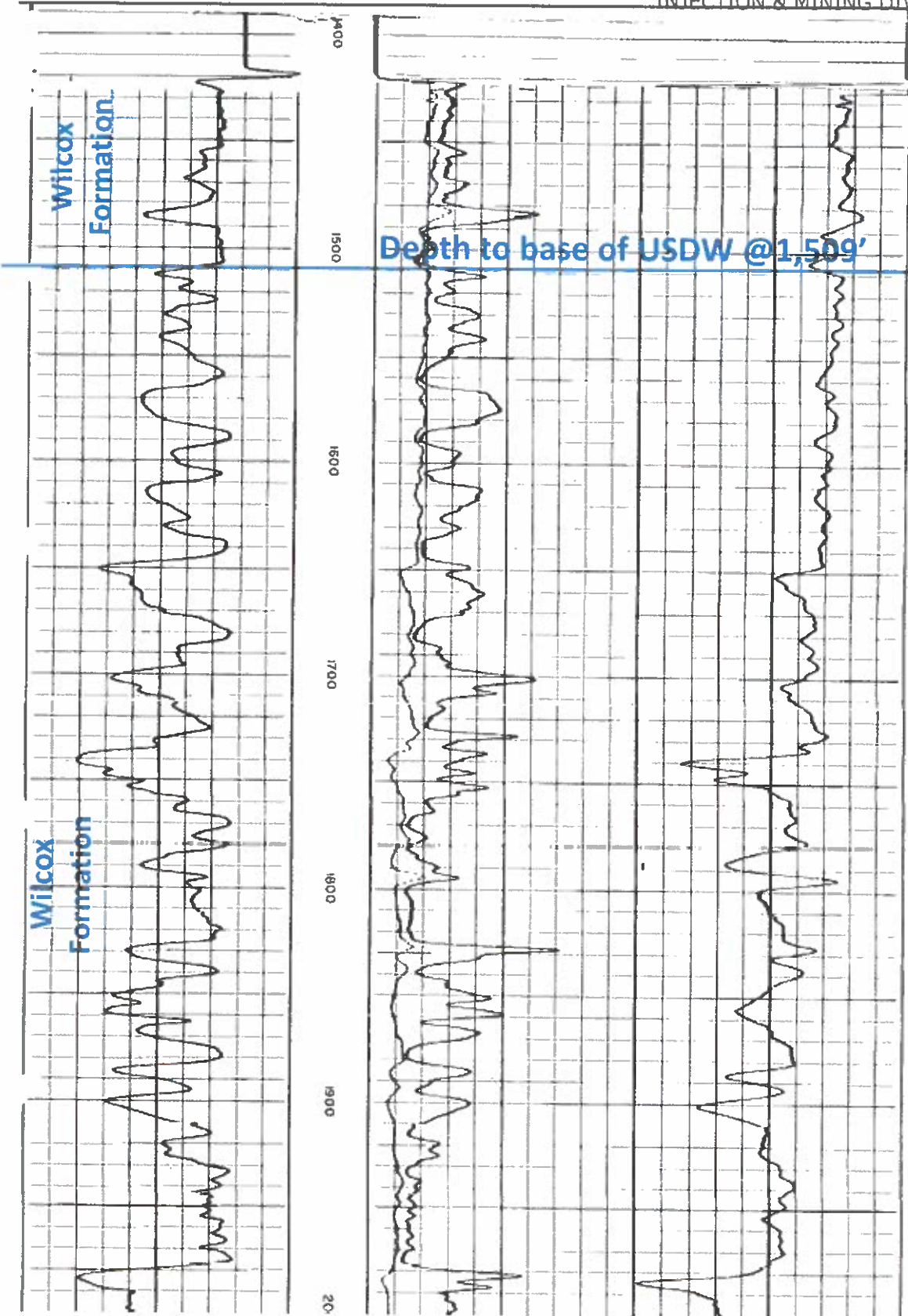
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SHADING IS NOT REFLECTIVE OF ACTUAL LITHOLOGY

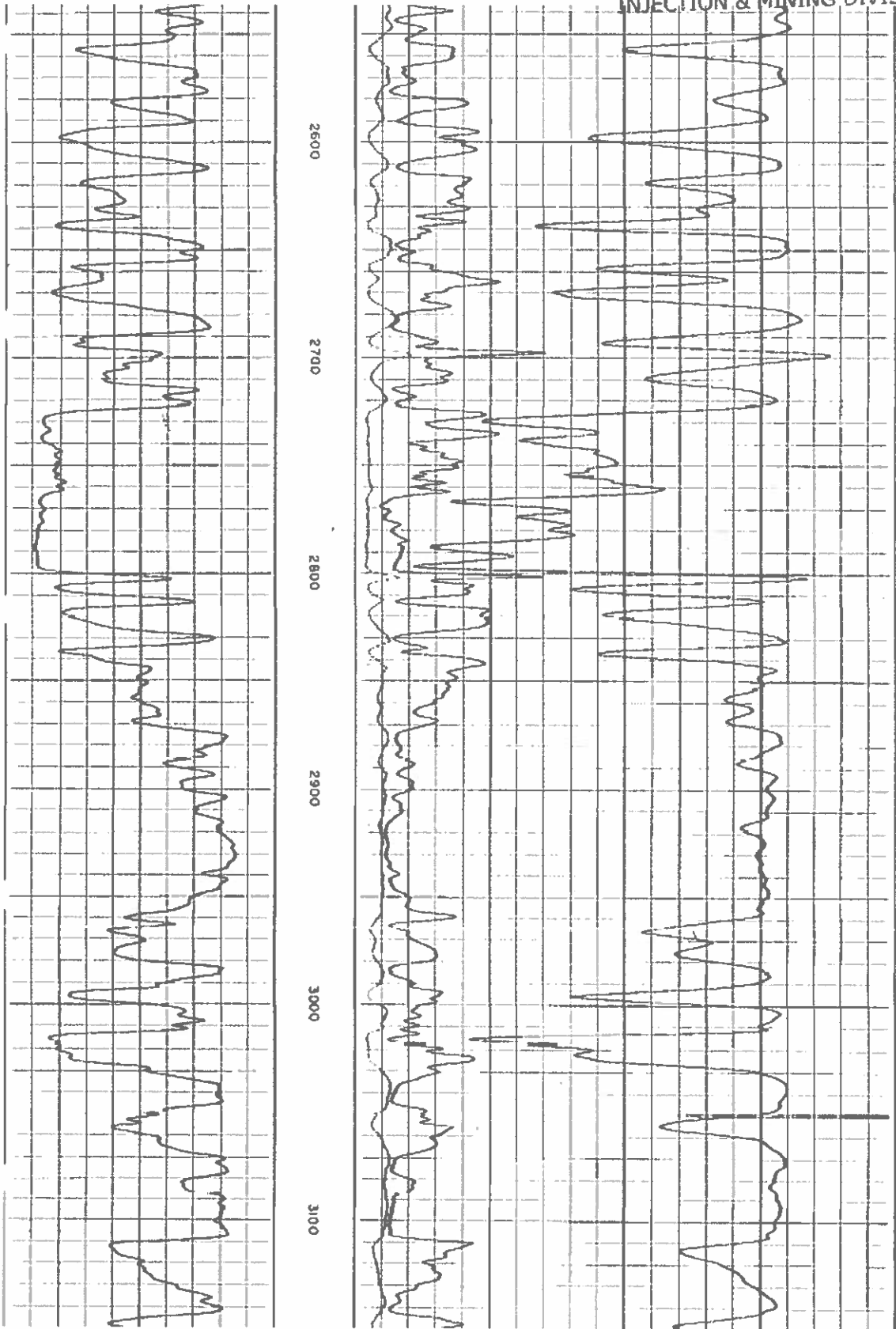
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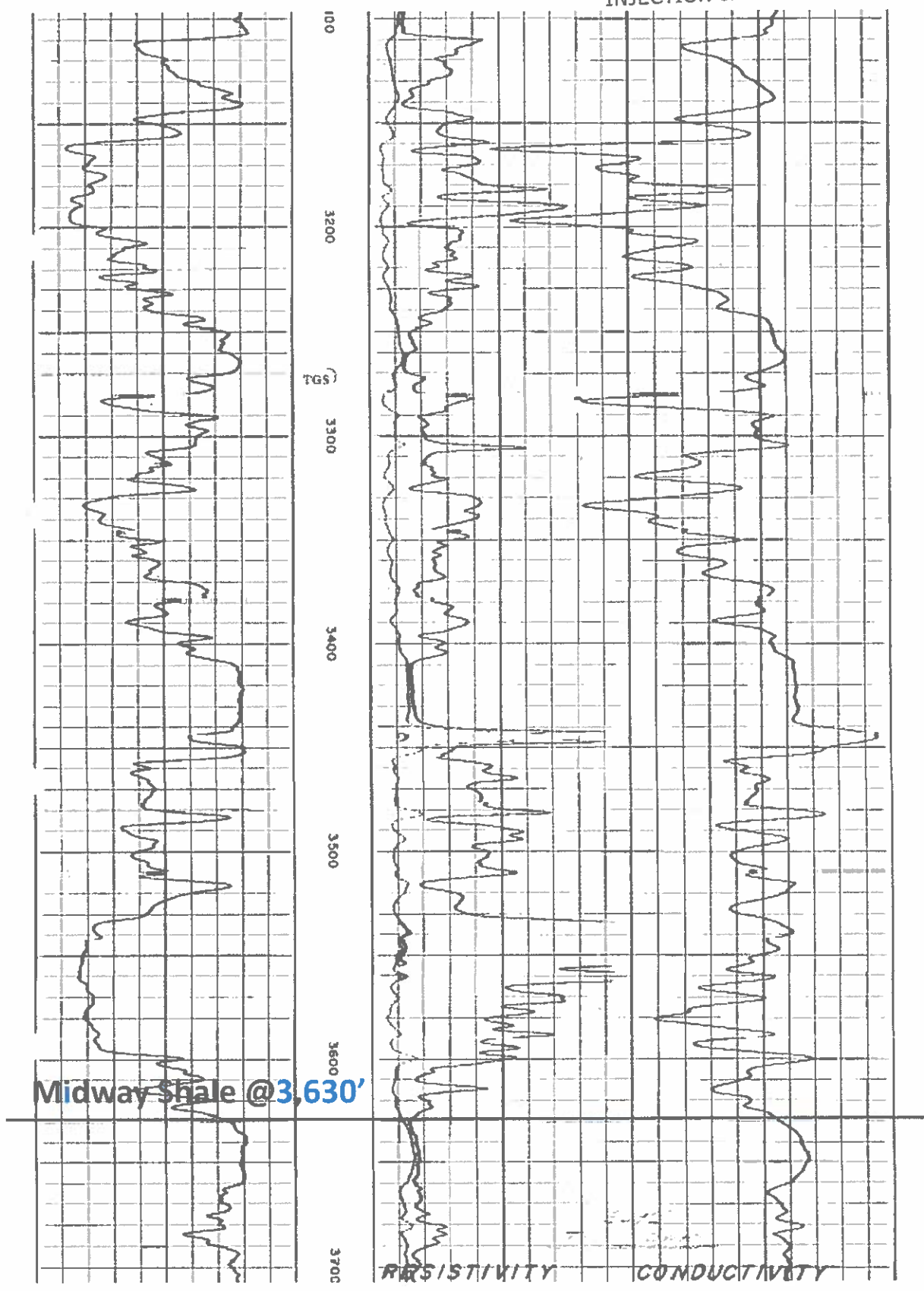
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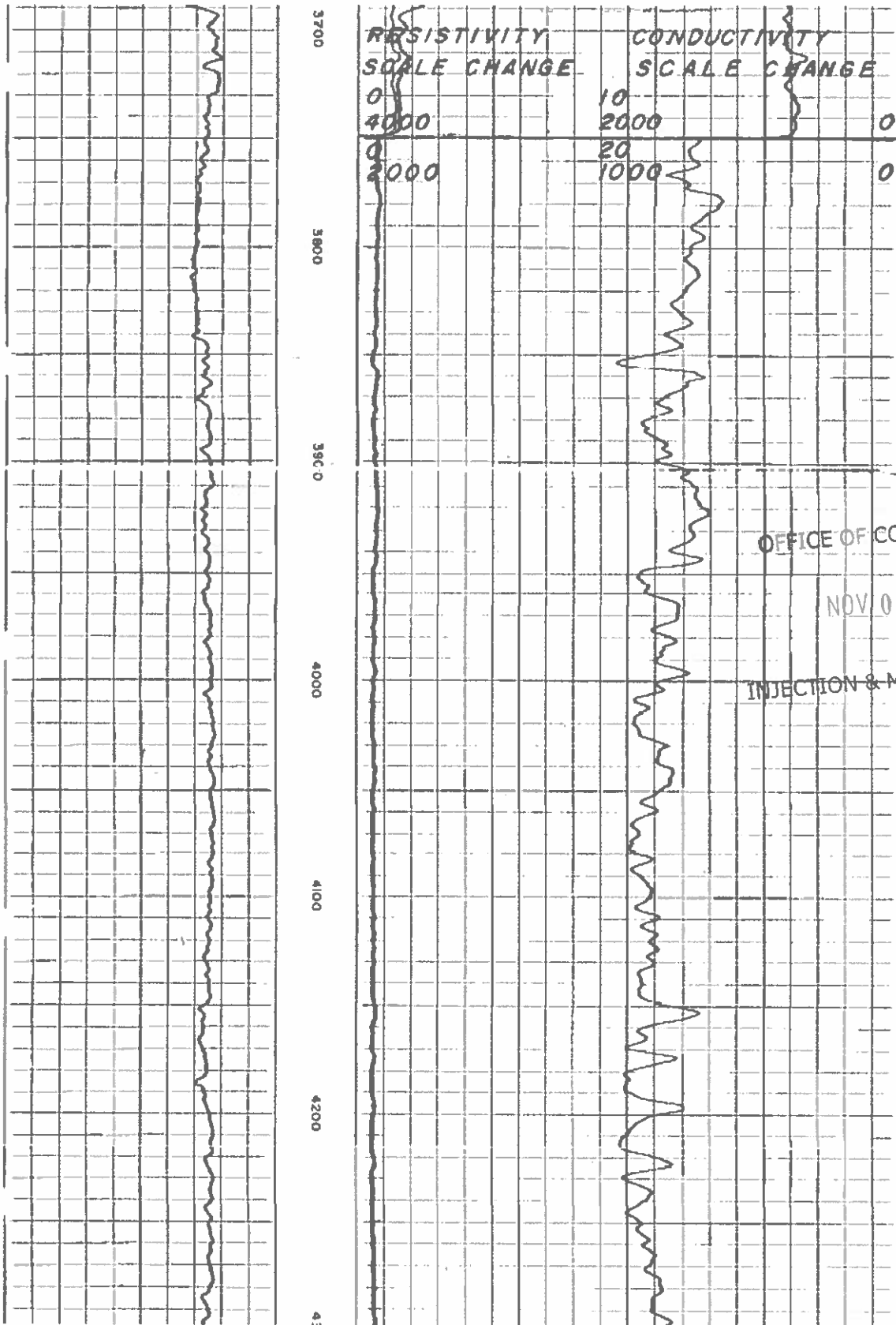
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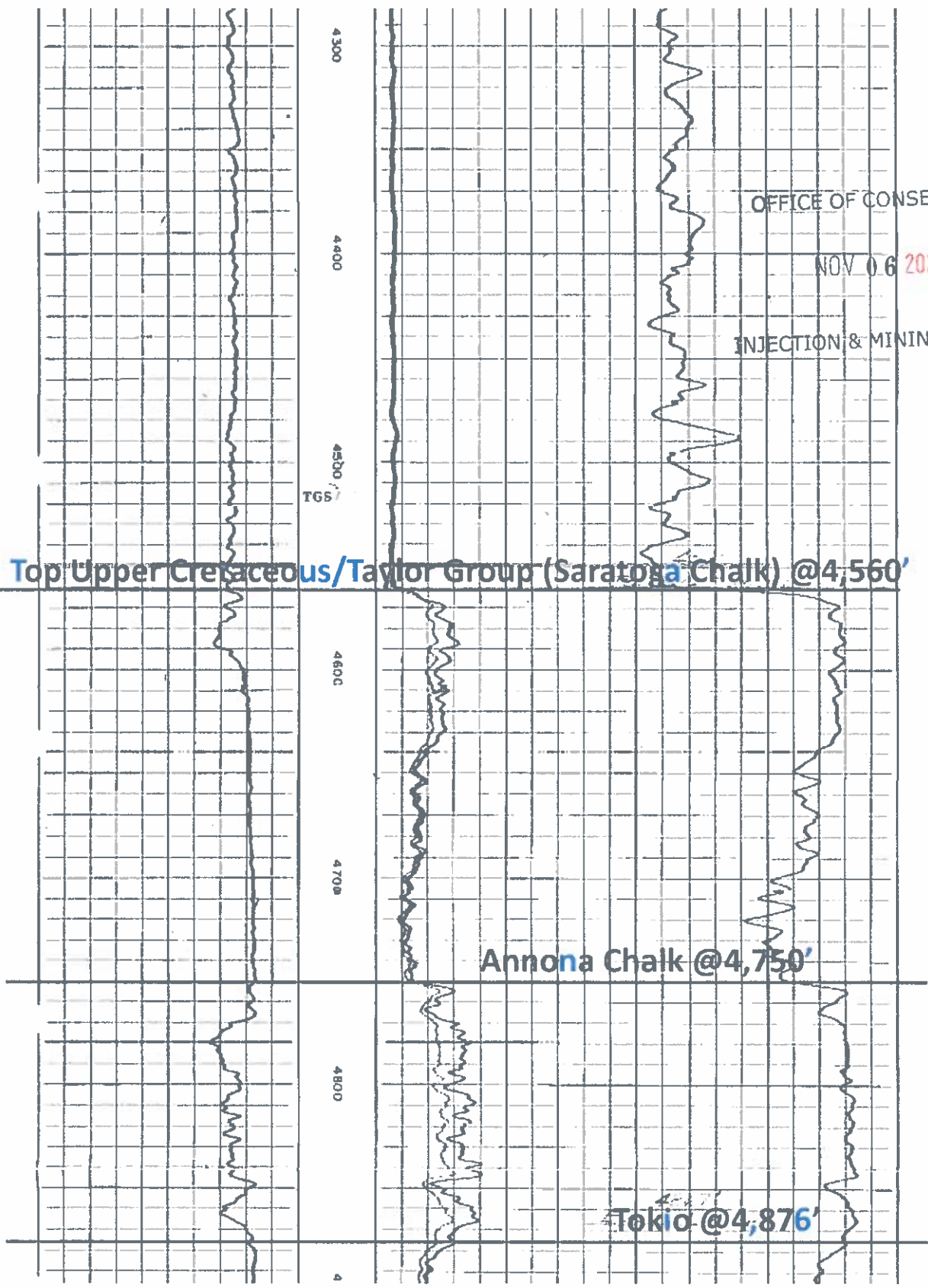




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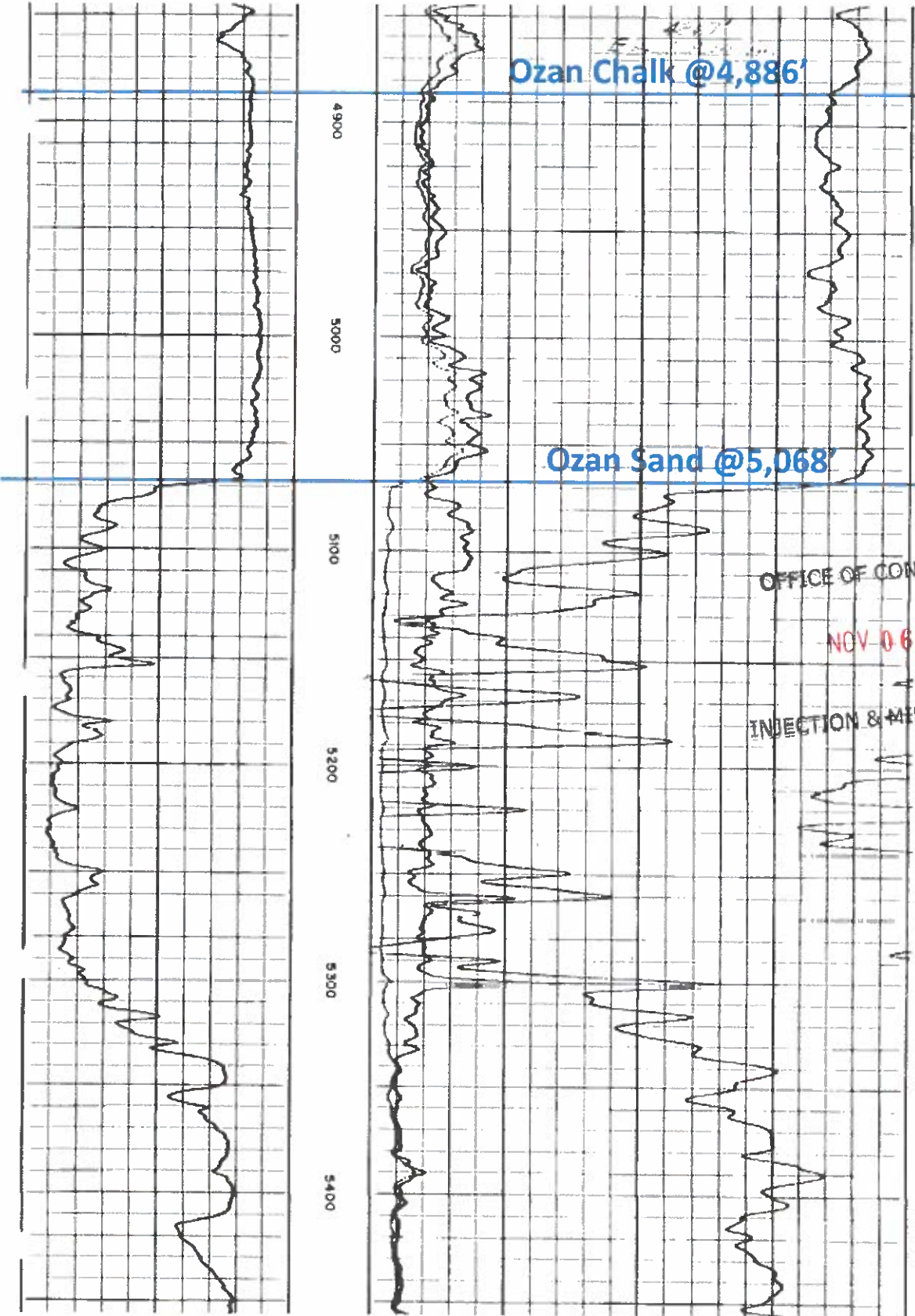
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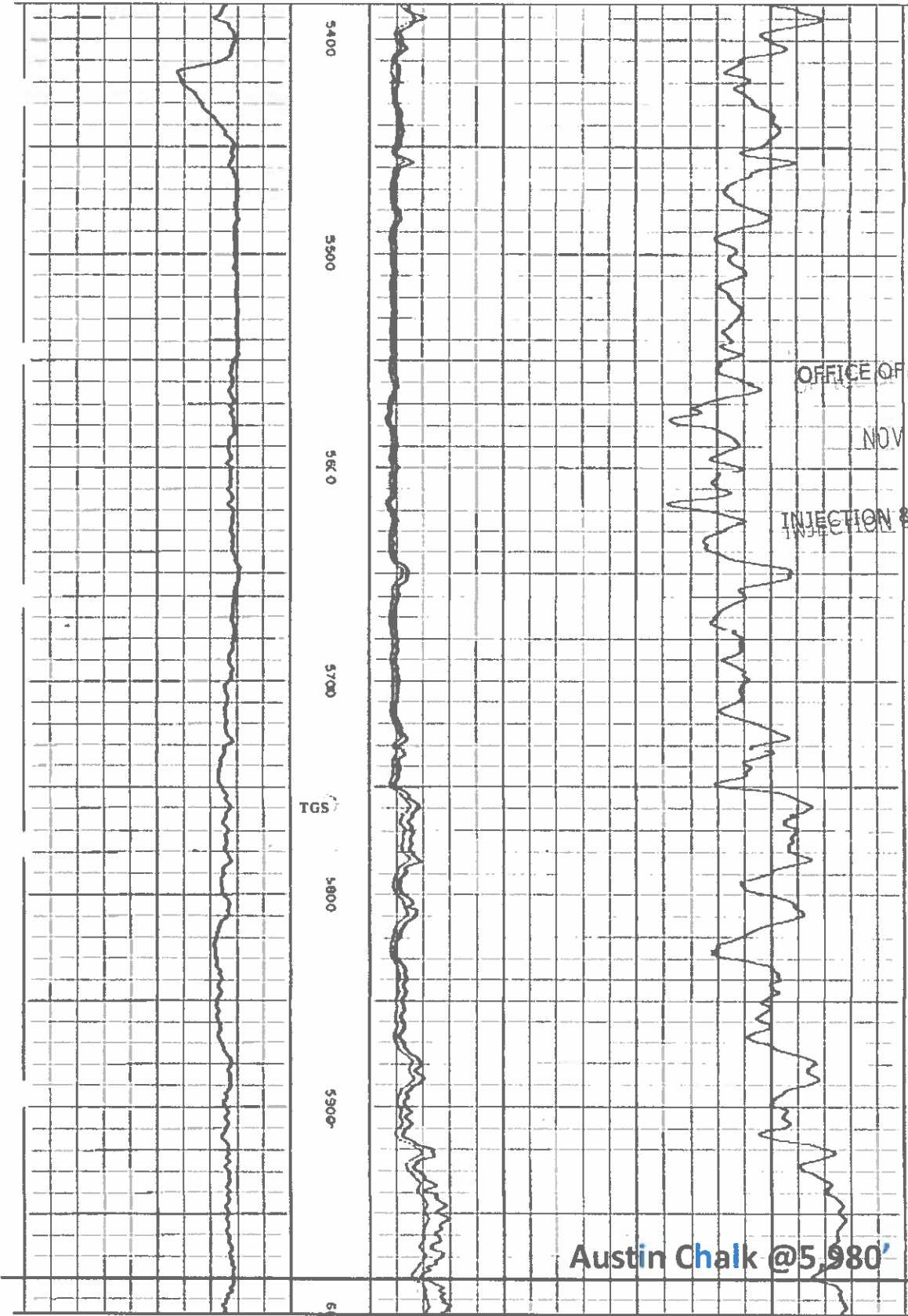
Ozan Chalk @4,886'

Ozan Sand @5,068'

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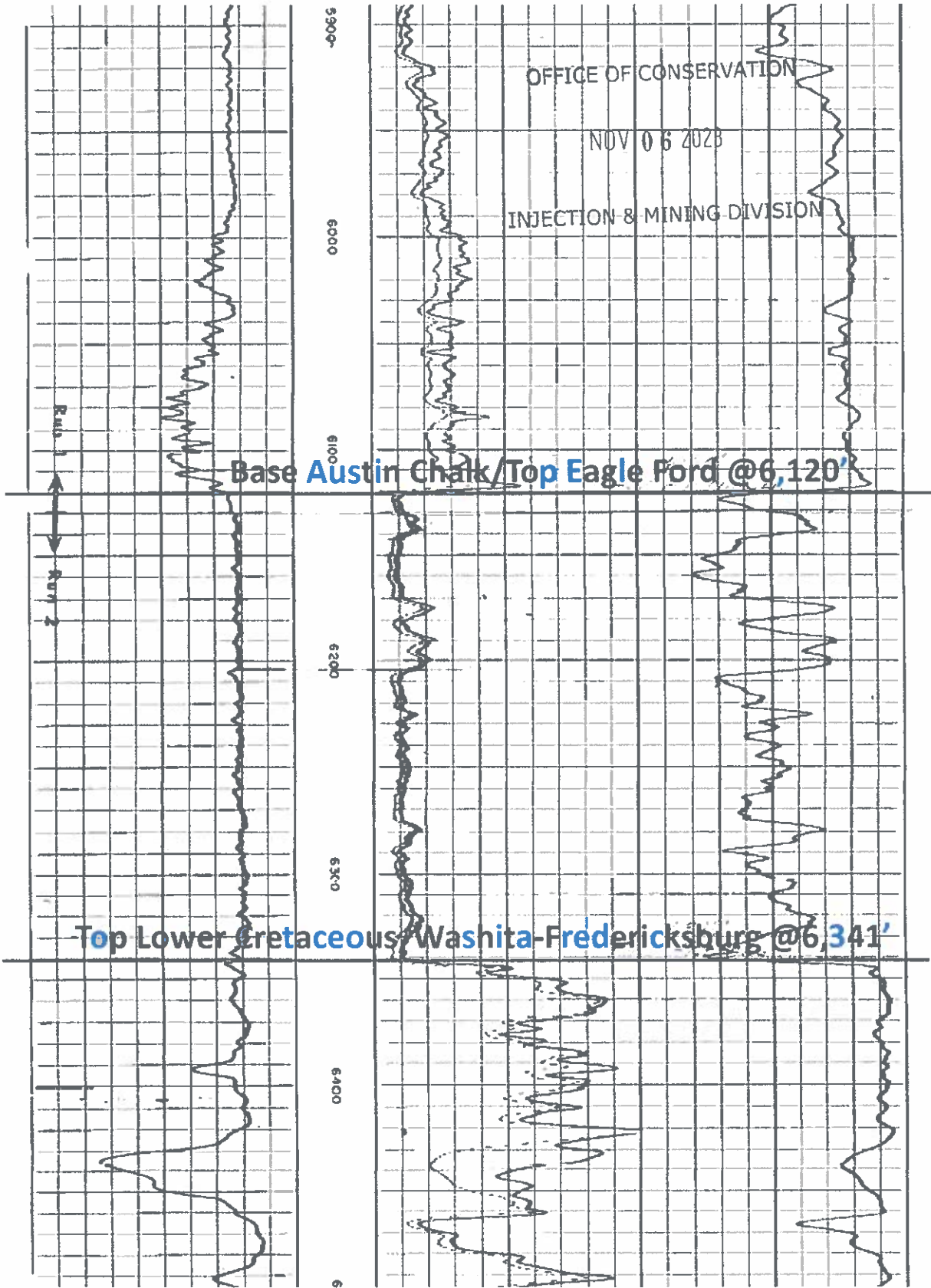


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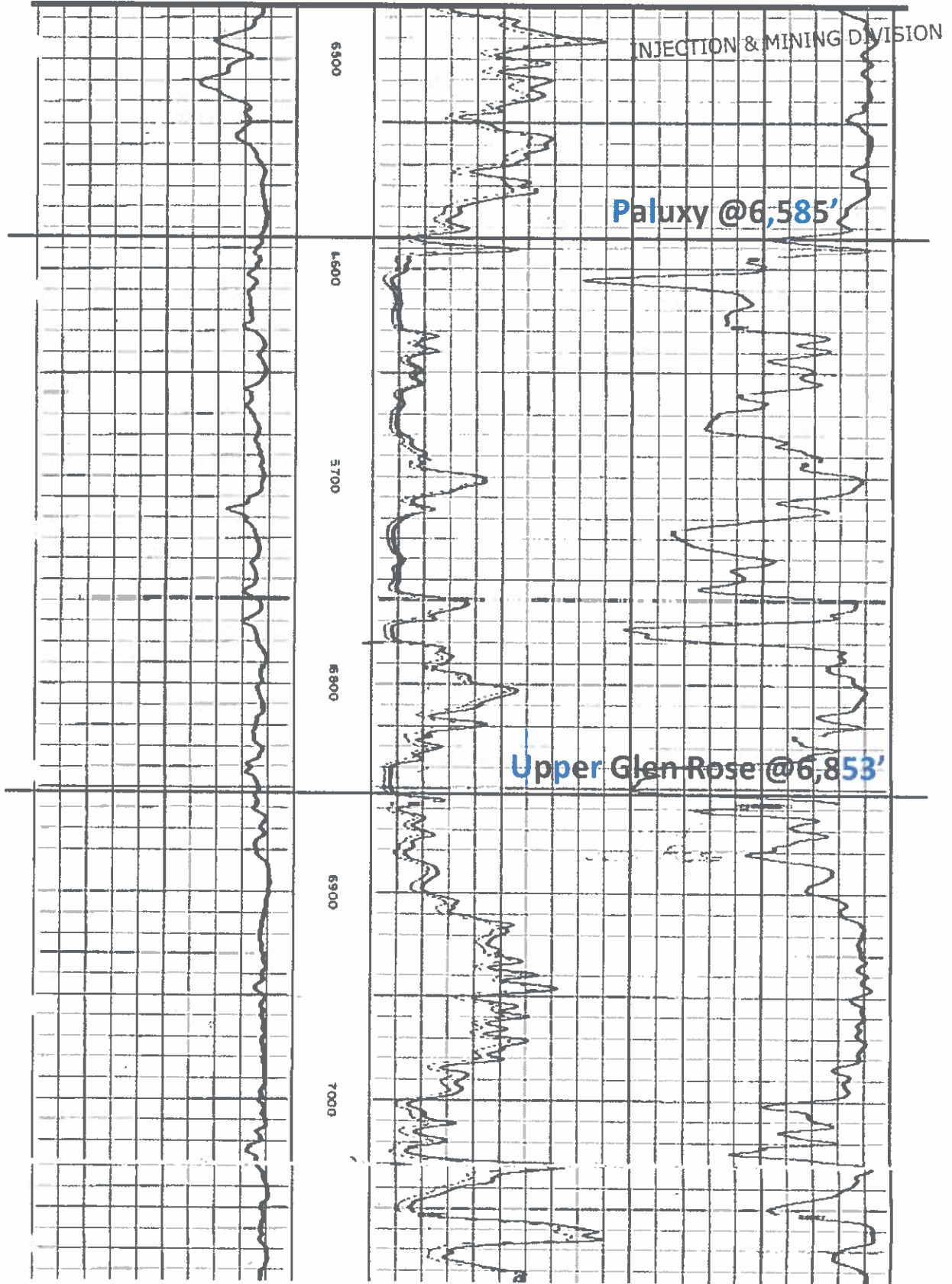
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Austin Chalk @5,980'

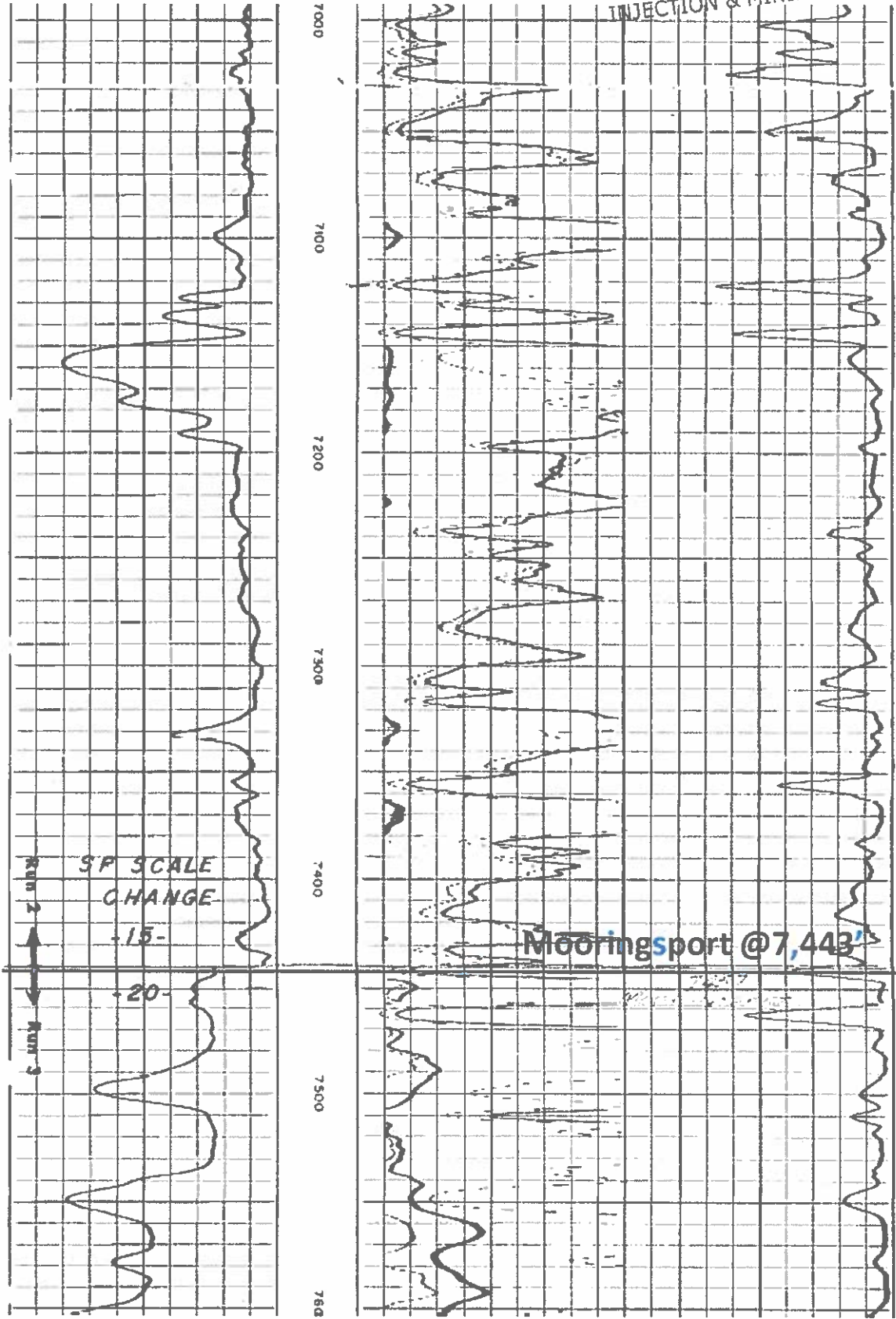


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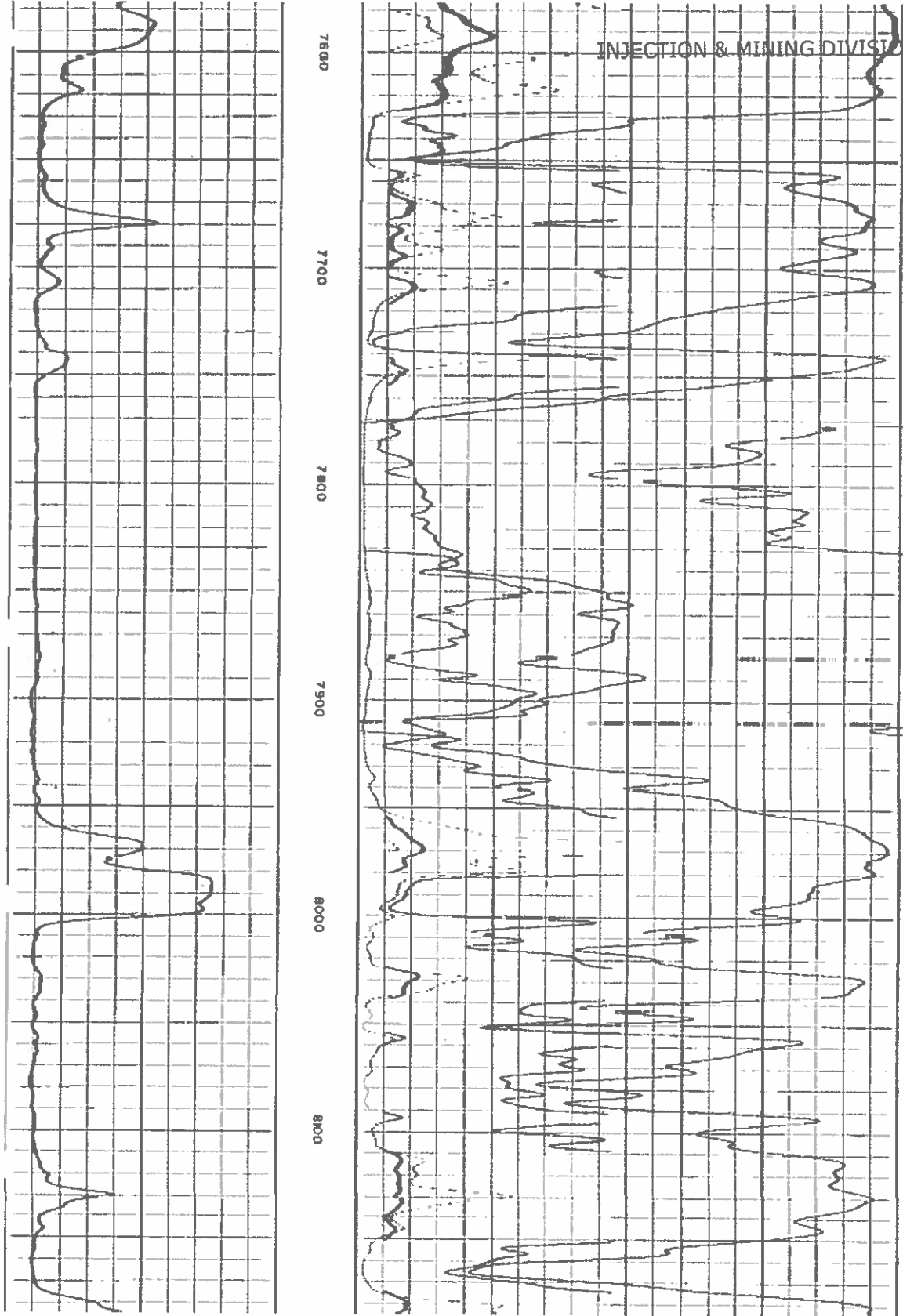
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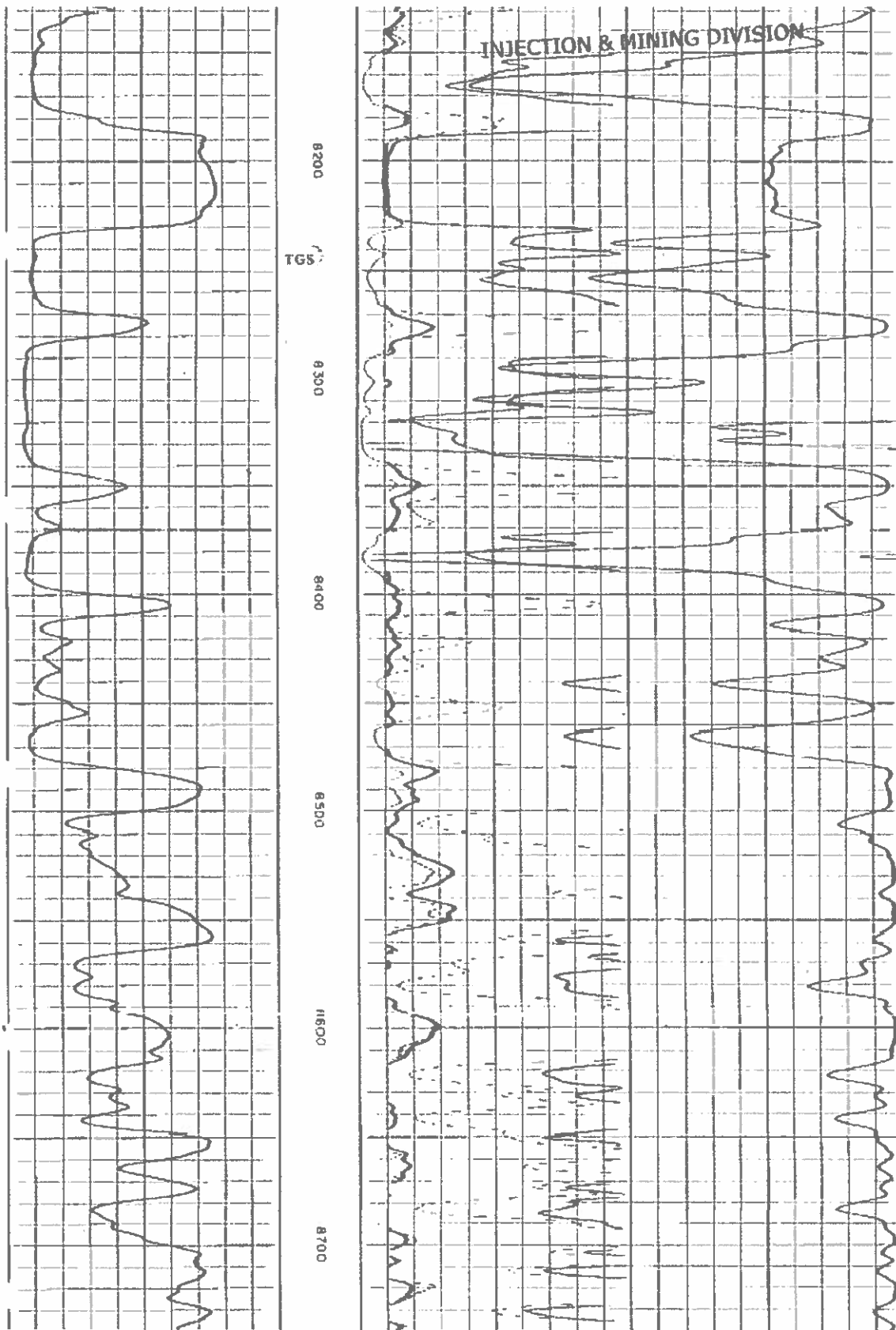


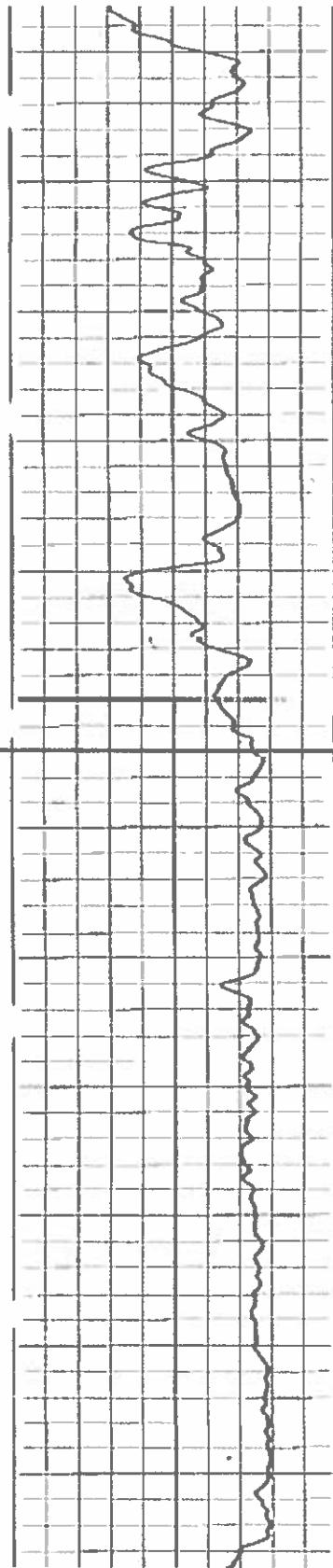
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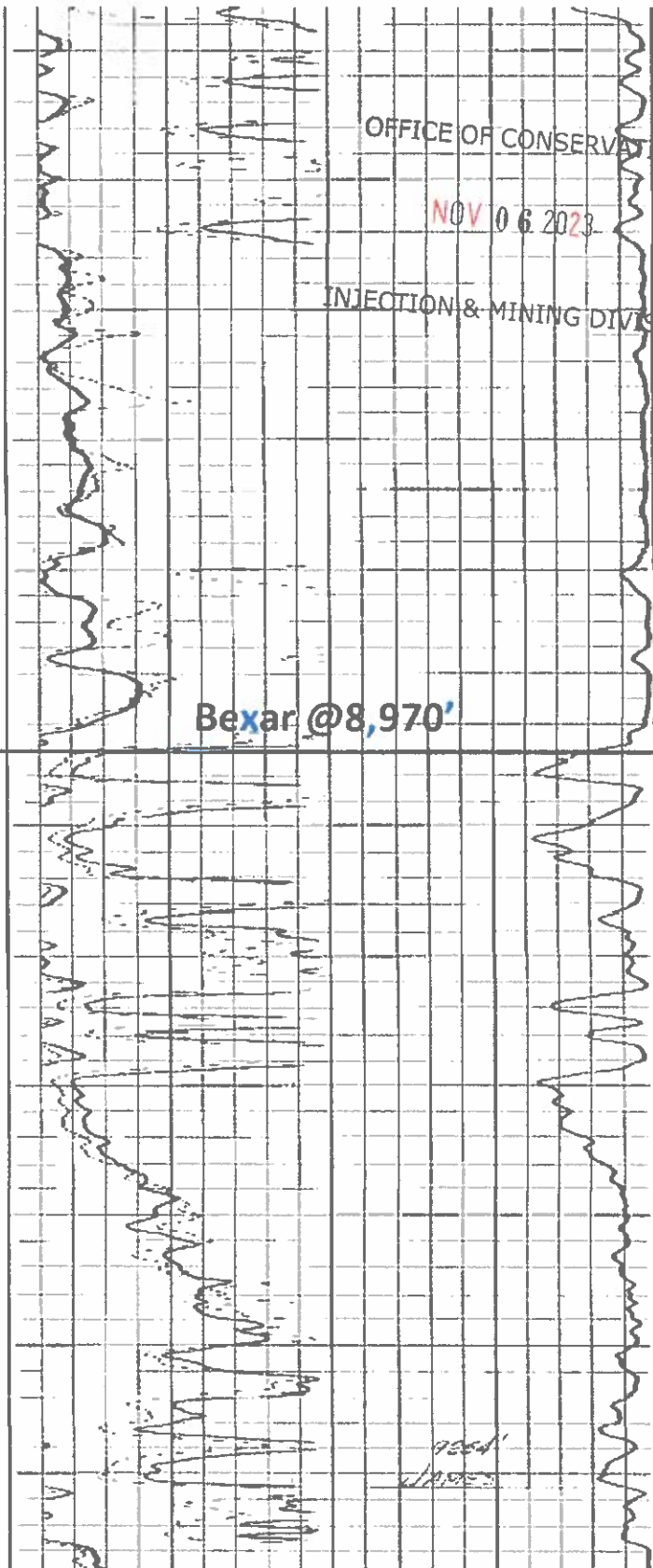
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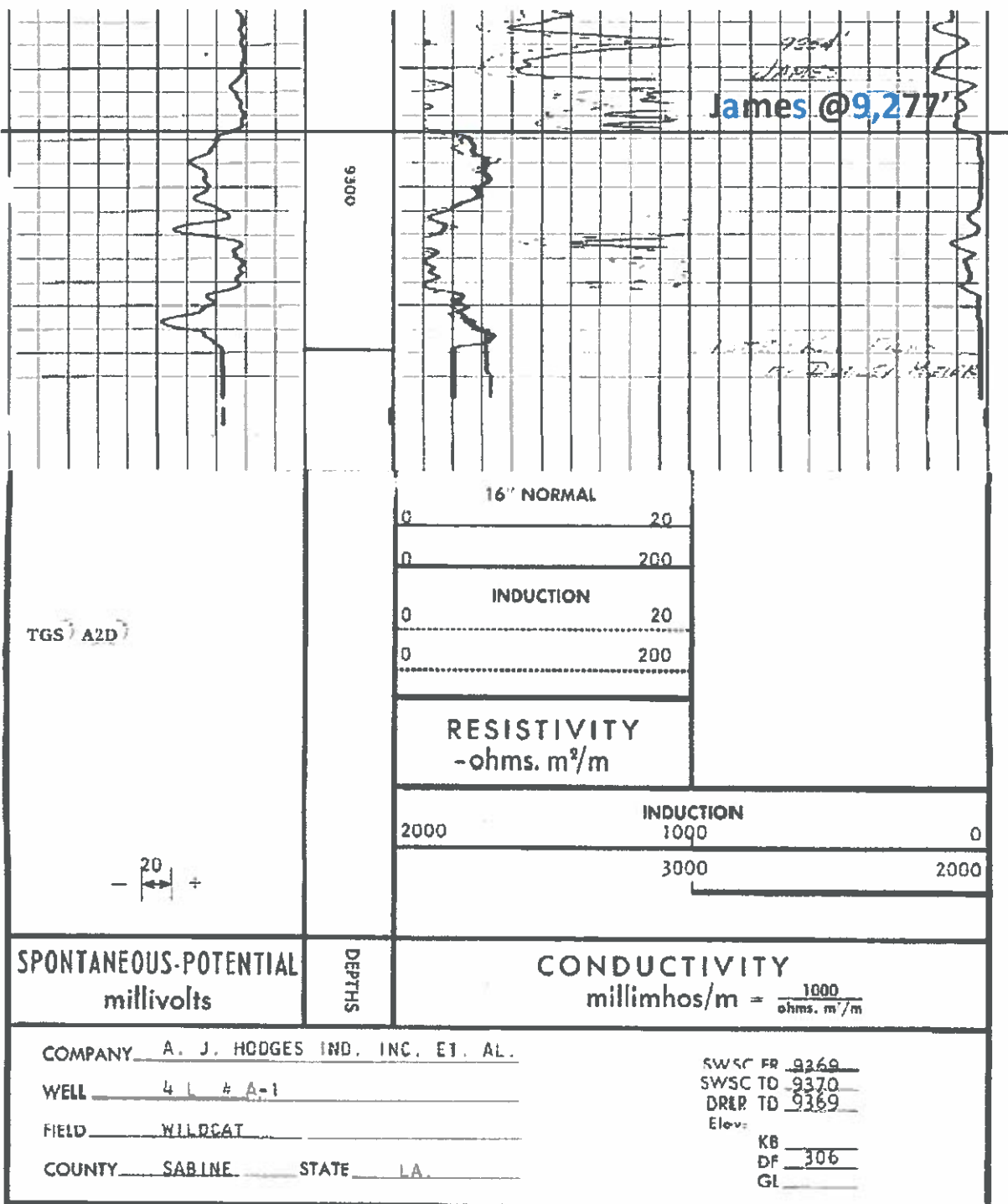
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Bexar @8,970'

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COMPANY: JUSTISS OIL CO., INC.
 WELL: BOISE SOUTHERN 31-13 #1
 FIELD: WILDCAT
 PARISH: SABINE STATE: LOUISIANA

Schlumberger *** PLATFORM EXPRESS ***
 ARRAY INDUCTION
 BHC SONIC / NEUTRON

990' FSL & 330' FWL of Section 31
 Elev: K.B. 317 ft
 G.L. 310 ft
 D.F. 316 ft

Permanent Datum: GROUND LEVEL Elev: 310 ft
 Log Measured From: KELLY BUSHING 7.0 ft above Perm Datum
 Drilling Measured From: KELLY BUSHING

API Serial No 1708521955 SECTION 31 TOWNSHIP 8 N RANGE 10 W

Logging Date 4-DEC-2000
 Run Number ONF
 Depth Driller 1900 ft
 Schlumberger Depth 1900 ft
 Bottom Log Interval 1900 ft
 Top Log Interval 0 ft
 Casing Driller Size @ Depth 0.000 in @
 Casing Schlumberger 0 ft
 Bit Size 7.875 in
 Type Fluid In Hole Fresh Water Dispersed Mud
 Density 9.2 lbm/gal Viscosity 45 s
 Fluid Loss PH
 Source Of Sample Mud Pit
 RM @ Measured Temperature 7.060 ohm.m @ 60 degF
 RMF @ Measured Temperature 5.285 ohm.m @ 60 degF
 RMC @ Measured Temperature 10.590 of m.m @ 60 degF
 Source RMF RMC Calculated
 RM @ MRT RMF @ MRT 3.903 @ 114 2.927 @ 114
 Maximum Recorded Temperatures 114 degF 114 114
 Circulation Stopped Time 4-DEC 2000 12:00
 Logger On Bottom Time 4-DEC 2000 14:30
 Unit Number Location 3080 Shreveport, LA
 Recorded By Mike McConnell
 Witnessed By Mr. Bill Ross

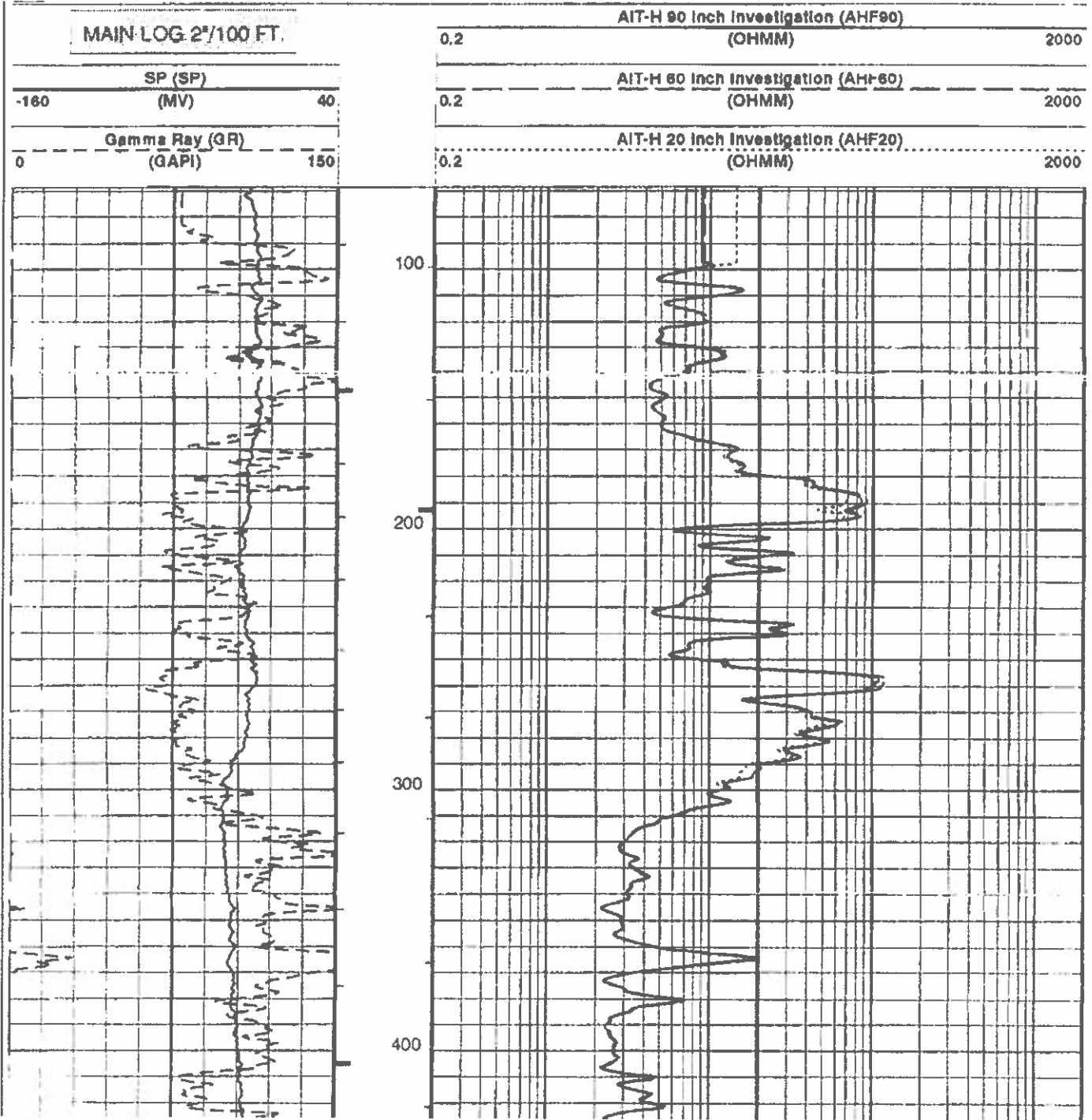
Logging Date
 Run Number
 Depth Driller
 Schlumberger Depth
 Bottom Log Interval
 Top Log Interval
 Casing Driller Size @ Depth
 Casing Schlumberger
 Bit Size
 Type Fluid In Hole
 Density Viscosity
 Fluid Loss PH
 Source Of Sample
 RM @ Measured Temperature
 RMF @ Measured Temperature
 RMC @ Measured Temperature
 Source RMF RMC
 RM @ MRT RMF @ MRT
 Maximum Recorded Temperatures
 Circulation Stopped Time
 Logger On Bottom Time
 Unit Number Location
 Recorded By
 Witnessed By

225032
 5.717
 LSN57170200000225032

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 OFFICE OF CONSERVATION
 SHREVEPORT, LA
 RECEIVED
 FEB 08 2007
 LOGICAL DIVISION

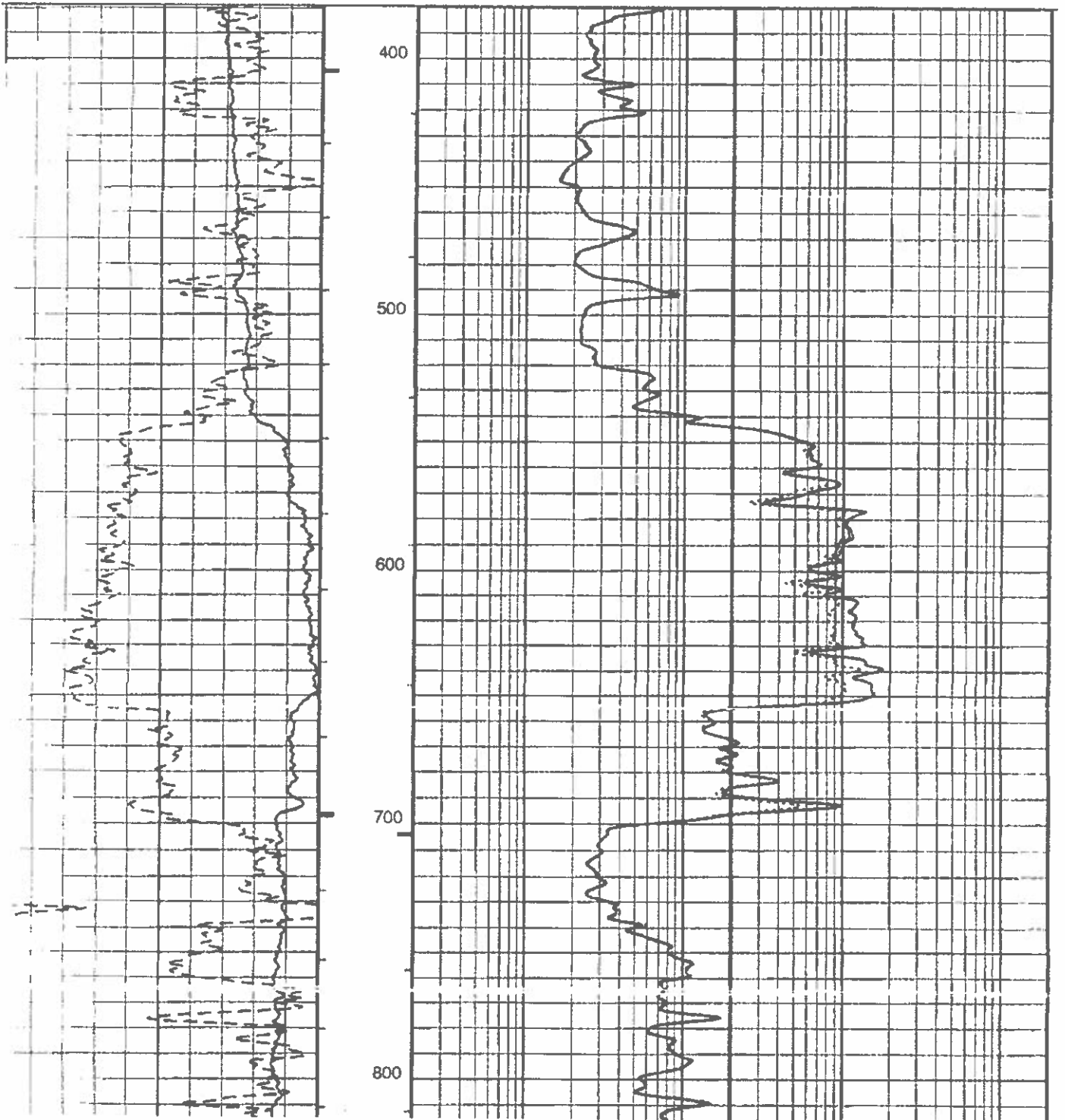
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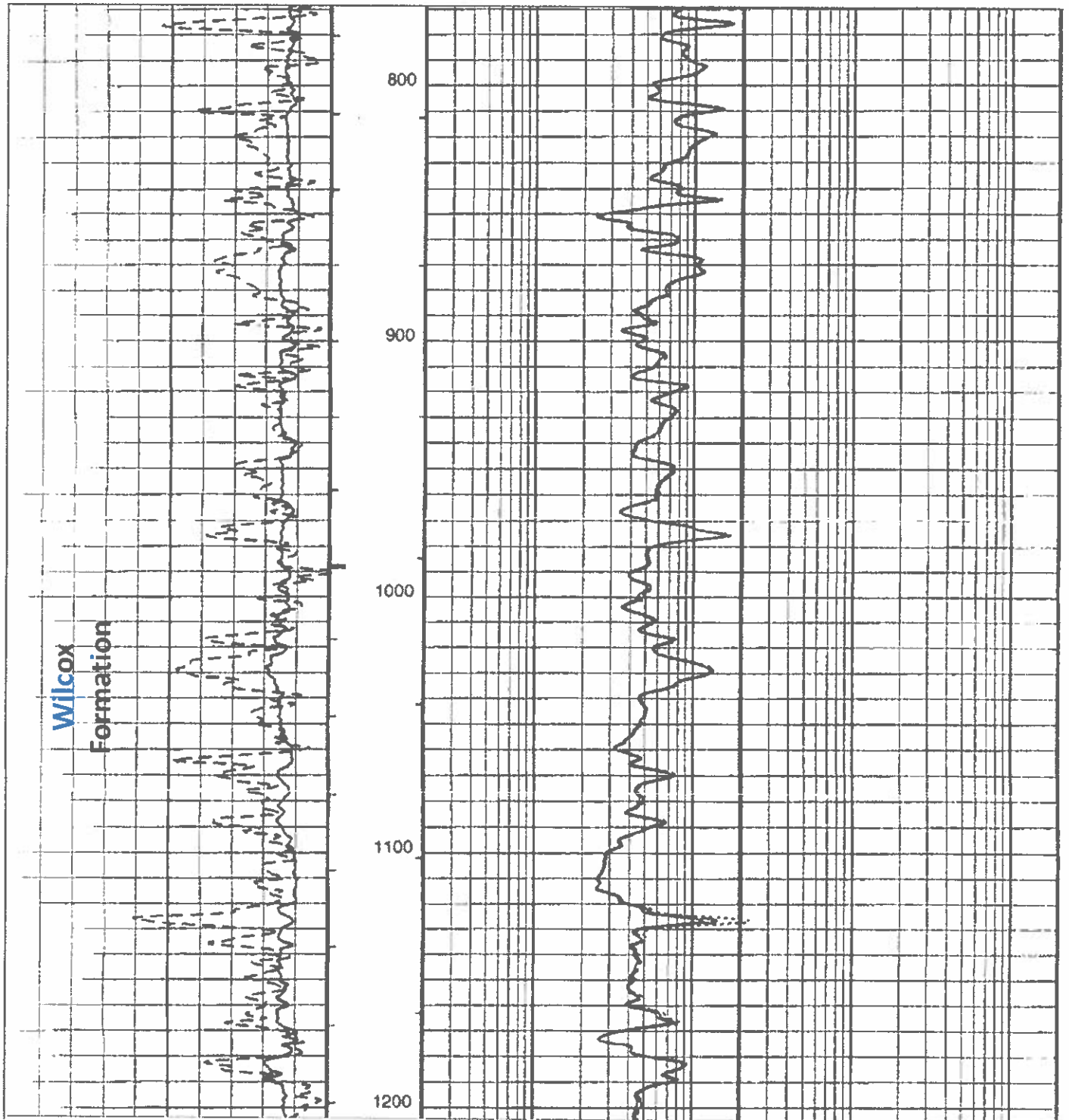
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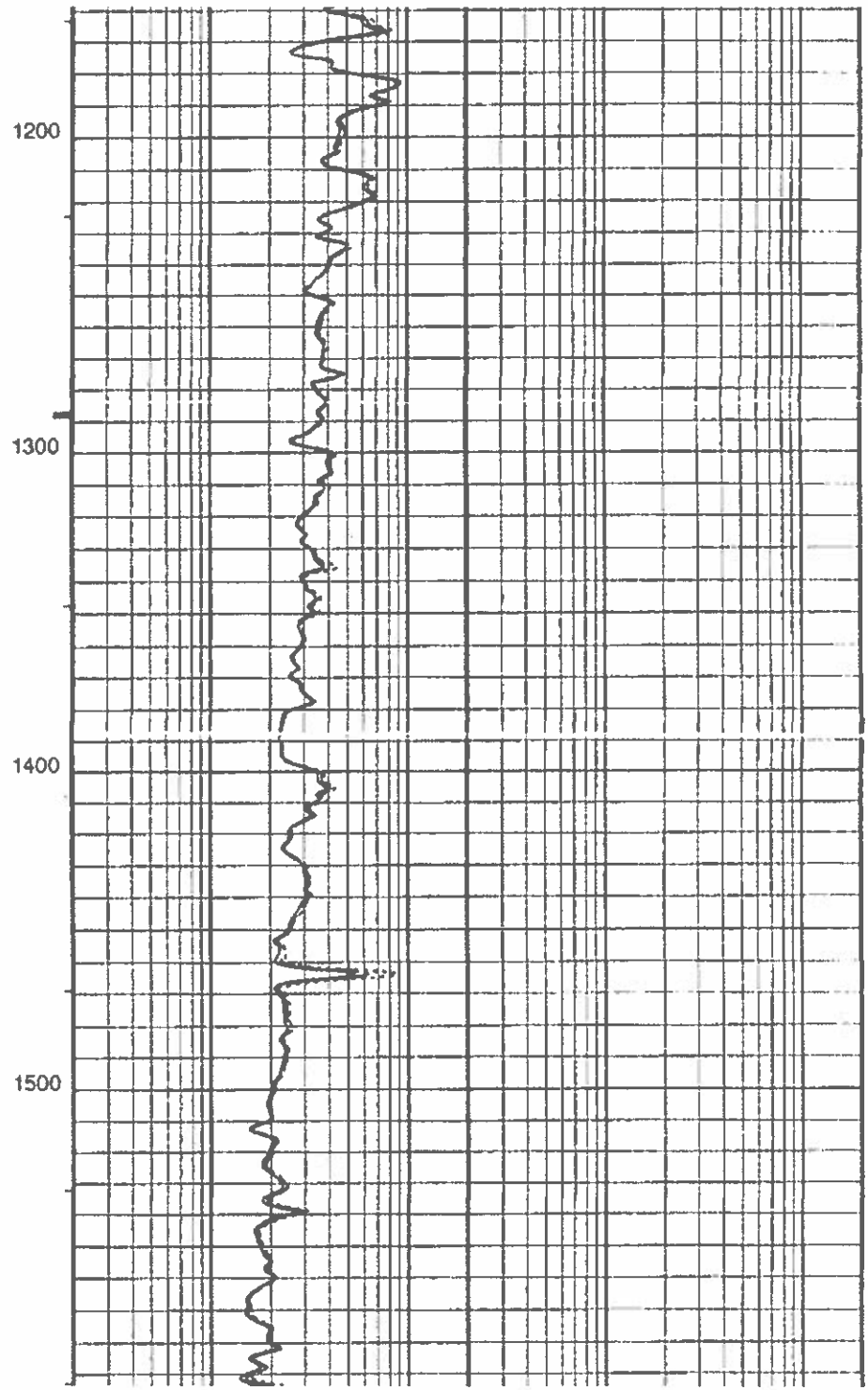
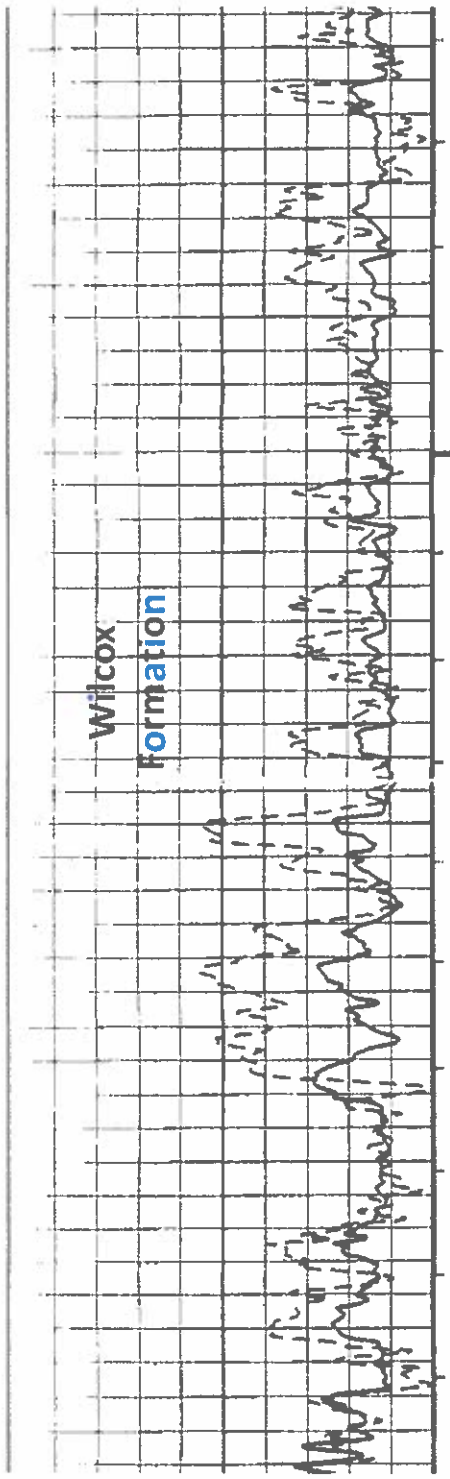
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