



JOHN BEL EDWARDS  
GOVERNOR

State of Louisiana  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF CONSERVATION

THOMAS F. HARRIS  
SECRETARY

MONIQUE M. EDWARDS  
COMMISSIONER OF CONSERVATION

\_\_\_\_\_, 2023

CODY TODD  
DENBURY CARBON SOLUTIONS, LLC (D10126)  
5851 LEGACY CIRCLE, SUITE 1200  
PLANO, TX 75024

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

RE: STRATIGRAPHIC TEST WELL – NEW  
WELL: DRACO IZM NO. 1  
FIELD: WILDCAT-SO LA LAFAYETTE DIST  
PARISH: VERNON

APPLICATION NO. 44308  
SERIAL NO. \_\_\_\_\_  
API NO. \_\_\_\_\_  
SEC/TWN/RNG: 8/2S/6W

Mr. Todd:

The application by Denbury Carbon Solutions, LLC (D10126) 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 \_\_\_\_\_, 2024.

Denbury Carbon Solutions, LLC is to notify the Conservation Enforcement Specialist (CES) for Vernon Parish, Billy Carnes at 225-405-7470, 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. _____	Serial No. _____
CES Name <b>Billy Carnes</b>	CES Phone No. <b>225-405-7470</b>

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](http://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](http://www.dnr.louisiana.gov/consforms) >> Injection & Mining Division >> Form CSG-T.

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

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

044308

OFFICE OF CONSERVATION

JUN 29 2023

INJECTION & MINING DIVISION

June 27, 2023

Laura Sorey, P.G.  
Louisiana Department of Natural Resources  
Office of Conservation, Injection & Mining Division  
617 North Third Street  
Baton Rouge, LA 70802

RE: Class V Stratigraphic Test Well  
Well Name: Draco IZM  
Well No: 1  
Section 8, T-2S, R-6W  
Vernon Parish, LA

Dear Ms. Sorey,

Denbury Carbon Solutions, LLC ("Denbury") respectfully submits the attached UIC-25 Stratigraphic Test Class V Well permit application as well as the Form IMD-1 Request to Expedite. In support of this request, please find the following documentation:

- Form UIC-25 Stratigraphic Test
- Certified location plat showing the location of the Class V well
- Annotated copies of electronic well logs of the nearest offset well showing the depths of the USDW and injection zones
- Work prognosis for drilling, completing, and testing the well
- Wellbore and wellhead schematics
- P&A procedure, schematic, and a third-party estimate.

The fluid source for the injectivity test(s) will be a water source well drilled on location. A fluid source analysis from a LELAP accredited laboratory will be provided to the Injection & Mining Division (IMD) prior to any injection.

Denbury is currently working on financial security in the form of a performance bond. Once the third-party P&A estimate is approved by IMD, the financial surety will be finalized and submitted.

Please contact me at (972) 673-2238 or by email at [cody.todd@denbury.com](mailto:cody.todd@denbury.com) if you have any questions regarding this application.

Regards,



Cody Todd, P.E.

CCUS Regulatory Compliance Specialist

**Denbury** 

5851 Legacy Circle Suite 1200  
Plano, TX 75024

**B. ATTACHMENTS**

044308

**B.1 ONE FORM UIC-25 WITH ORIGINAL SIGNATURE**

OFFICE OF CONSERVATION

JUN 29 2023

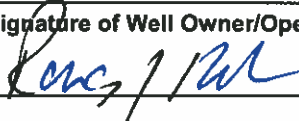
INJECTION & MINING DIVISION



UIC-25 Stratigraphic Test JUN 29 2023 CLASS-V WELL PERMIT APPLICATION

INJECTION & MINING DIVISION

1. APPLICATION TYPE: (Check One)
[ ] DRILL AND COMPLETE NEW CLASS-V WELL
[ ] CONVERT AN EXISTING WELL TO CLASS-V
[ ] OTHER (SPECIFY):
LOUISIANA DEPARTMENT OF NATURAL RESOURCES - OFFICE OF CONSERVATION
INJECTION & MINING DIVISION
Injection-Mining@la.gov
(225) 342-5515
2. IDENTIFY WELL USE
Drill a stratigraphic test well to acquire site specific data and validate properties of a storage complex to meet requirements of UIC Class VI Site Characterization for the Draco Storage Facility Carbon Sequestration Project.
3. OWNER/OPERATOR NAME
DENBURY CARBON SOLUTIONS, LLC
4. OC OPERATOR CODE
D10126
5. OWNER/OPERATOR MAILING ADDRESS
5851 LEGACY CIRCLE
SUITE 1200
6. CITY, STATE, ZIP CODE
PLANO, TX 75024
7. TELEPHONE NO
972-673-2238
8. E-MAIL ADDRESS
Cody.Todd@denbury.com
9. WELL NAME
DRACO IZM
10. WELL NO
1
11. WELL SERIAL NO (Well Conversions Only)
12. FIELD NAME (if known)
WILDCAT-SO LA LAFAYETTE DISTRICT
13. FIELD CODE (if known)
9727
14. PARISH NAME
VERNON (58)
15. SECTION
8
16. TOWNSHIP
2S
17. RANGE
6W
18. LOUISIANA COORDINATE ZONE (Check One)
[ ] NORTH ZONE [ ] SOUTH ZONE
For Item Numbers 19 Through 24, Give Coordinates in Louisiana Coordinate System 1927 and 1983
19. LATITUDE (NORTH) NAD 1927
30°54'11.51
20. LONGITUDE (WEST) NAD 1927
93°00'36.32
21. LOUISIANA LAMBERT (X-Y) COORDINATES (NAD 1927)
x: 1,839,997 y: 86,417
22. LATITUDE (NORTH) NAD 1983
30°54'12.18
23. LONGITUDE (WEST) NAD 1983
93°00'36.89
24. LOUISIANA LAMBERT (X-Y) COORDINATES (NAD 1983)
x: 3,120,784 y: 147,119
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: CORPS OF ENGINEERS
Permits, Licenses, Construction, Project Approval Identification: NATIONWIDE PERMIT 14 - File # MVN-2022-00957-CG

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 <sup>3</sup> /sack)	CEMENT TOP (feet)
				TOP (feet)	BOTTOM (feet)			
20	20	94	H-40	INJECTION MINING DIVISION				
17 1/2"	13 3/8"	54.5	J-55	0	4,916	3,220/590	A + additives(1.909/1.179)	Surface
12 1/4"	9 5/8"	47	L-80	0	7,736	1,565/272	A/H+ additives(1.714/1.444)	Surface
8 1/2"	5 1/2"	23	22Cr125	7,436	11,616	1,295	CO2 Res. (1.204)	7,436
27. BASE OF USDW 3,700		28. WELL TOTAL DEPTH 11,616		29. WELL PLUGBACK DEPTH 11,596		30. TUBING SIZE & DEPTH 3 1/2" @ 10,873		31. PACKER SIZE & DEPTH 10,863
32. INJECTION ZONE DEPTHS (if applicable) Top: 7,920      Bottom: 11,279			33. COMPLETION/PERFORATION DEPTHS (if applicable) Top: ~10,913      Bottom: ~11,113			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): Freshwater from water source well ***CO2 is prohibited as a Class V test material***			36. MAXIMUM TEST PRESSURE (psi): 2,800 psi			37. TOTAL INJECTION VOLUME: 3,300 bbls		
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: <u>Cody Todd, P.E.</u>								
MAILING ADDRESS: <u>5851 Legacy Circle, Suite 1200</u>								
CITY, STATE, ZIP CODE: <u>Plano, TX, 75024</u>								
TELEPHONE NUMBER: <u>972-673-2238</u> FAX NUMBER: _____								
E-MAIL ADDRESS: <u>Cody.Todd@denbury.com</u>								
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 Denbury Carbon Solutions, LLC					Print Title of Company Official (as applicable) VP of HSE			
Signature of Well Owner/Operator 						Date 06/27/23		

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**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.

OFFICE OF CONSERVATION

B. Include the following as applicable:

JUN 29 2023

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\*\*

**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](mailto:Injection-Mining@la.gov).

You may submit the application with all required attachments online at [www.sonris.com](http://www.sonris.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

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Denbury Carbon Solutions, LLC  
Class V Stratigraphic Test Well Application  
OFFICE OF CONSERVATION Vernon Parish, LA

JUN 29 2023

INJECTION & MINING DIVISION

**B.2 TWO ORIGINAL FORM MD-10-R-A FOR EACH EXISTING WELL  
TO BE CONVERTED (IF CONVERSION IS PROPOSED)**

**Not Applicable – New Drill**



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Denbury Carbon Solutions, LLC  
Class V Stratigraphic Test Well Application  
Vernon Parish, LA

OFFICE OF CONSERVATION

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INJECTION & MINING DIVISION

**B.3 ONE ORIGINAL CERTIFIED LOCATION PLAT SHOWING THE  
LOCATION OF THE CLASS-V WELL LOCATION**

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Denbury Carbon Solutions, LLC- Draco IZM No. 1 Well  
Surveyed June 9, 2023 as follows:  
SURFACE LOCATION being 1918' from the North Line  
and 894' from the West Line of Section 8, located in  
Section 8, T2S-R6W, Vernon Parish, Louisiana.

NOTE: This plat is not a property boundary survey and as such does  
not comply with the "Standards of Practice for Property Boundary  
Surveys" as adopted by the Louisiana Professional Engineering and  
Land Surveying Board; it is however in compliance with Statewide  
Order 29-B and 29-E. (Title 43 of the Louisiana Administrative Code)

There are no residential or commercial structures, not owned by the  
applicant, his lessor, or other predecessor in interest, within a 500' radius  
of the proposed location as of June 9, 2023.

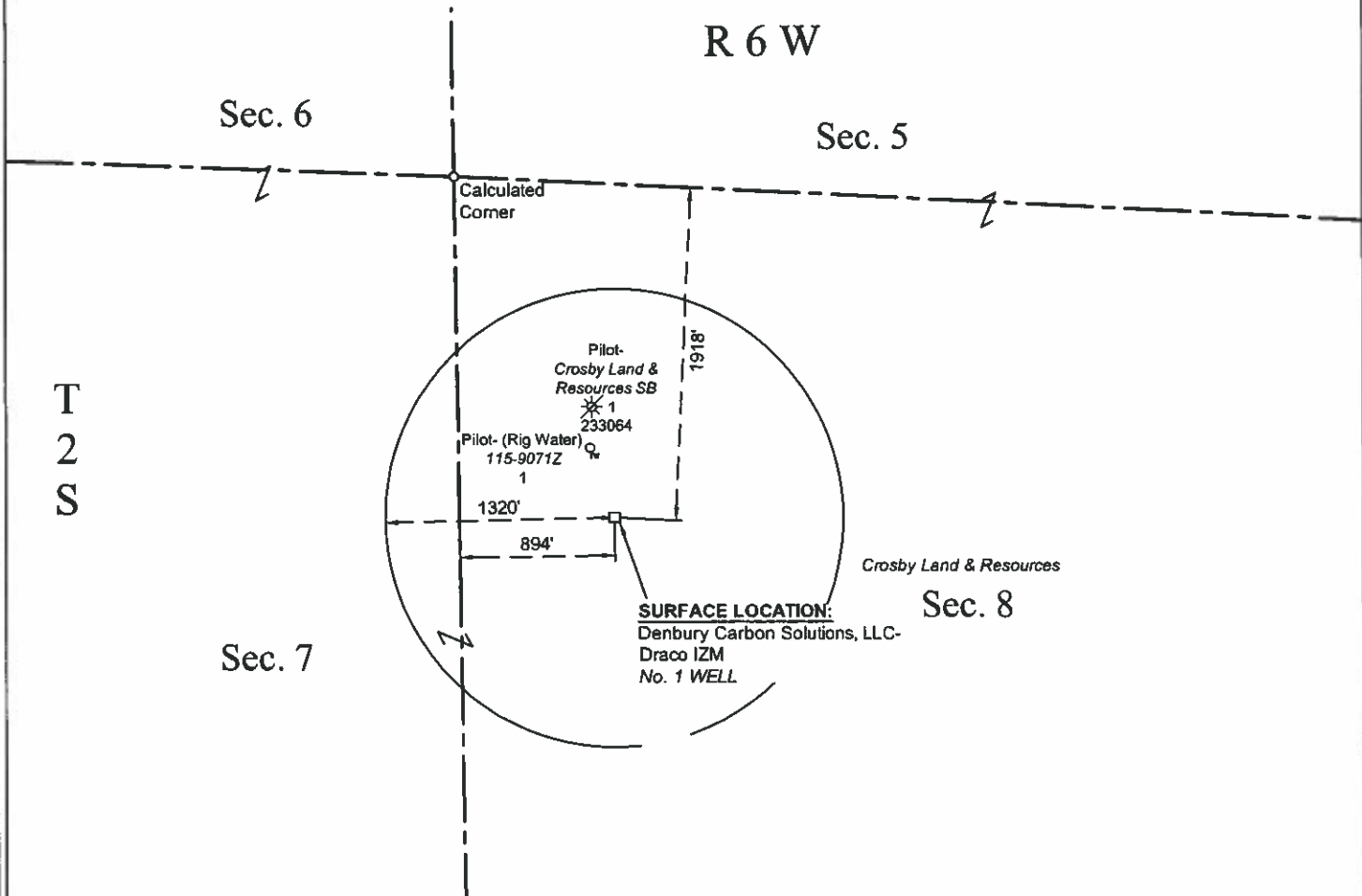
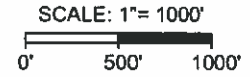
All bearings, distance, areas and coordinates refer to the North  
American Datum of 1927, Louisiana North Zone, US survey feet.  
Elevations refer to the North American Vertical Datum of 1988 and  
are derived from static and kinematic GPS observations unless  
otherwise note.

**DRACO IZM NO. 1 WELL**  
X = 1,839,996.70' (NAD27 La N)  
Y = 86,416.57'  
LAT. 30° 54' 11.51" N (NAD27)  
LONG. 93° 00' 36.32" W  
X = 3,120,784.21' (NAD83/2011 La N)  
Y = 147,118.90'  
LAT. 30° 54' 12.18" N (NAD83/2011)  
LONG. 93° 00' 36.89" W  
ELEV. 195.4' (NAVD88)

OFFICE OF CONSERVATION  
JUN 29 2023  
INJECTION & MINING DIVISION



LEGEND	
□	Proposed Well
⊙	Water Well (Plugged)
✱	Plugged & Abandoned Well



**SURFACE LOCATION:**  
Denbury Carbon Solutions, LLC-  
Draco IZM  
No. 1 WELL

FOR THE EXCLUSIVE USE OF  
DENBURY CARBON SOLUTIONS, LLC.  
I, Danielle B. McMath, Professional Land  
Surveyor, certify that the well location  
depicted and described in this plat  
was staked and surveyed in the field by me  
or under my direction with accuracy and  
precision to the nearest foot. I have properly  
examined this plat and have determined  
that it complies with existing local  
Louisiana codes, and has been properly  
adapted to use in this area.

**WELL LOCATION PLAT**  
**DRACO IZM**  
**NO. 1 WELL**  
**DENBURY CARBON SOLUTIONS, LLC.**  
SITUATED IN  
SECTION 8, T2S-R6W  
VERNON PARISH, LOUISIANA

C. H. Fenstermaker  
& Associates, L.L.C.  
135 Regency Sq.  
Lafayette, LA 70503  
Ph. 337-237-7333  
Fax. 337-237-7333

**FENSTERMAKER**

REVISIONS	

DRAWN BY: DBM      PROJ. MGR.: DBM  
DATE: 06/14/2023  
JOB#: 2236398.00C      SHEET 1 OF 1

STATE OF LOUISIANA  
06/20/23  
**DANIELLE B. MCMATH**  
License No. 5297  
PROFESSIONAL  
LAND SURVEYOR

*Danielle B. McMath*  
Danielle B. McMath  
Registration No. 5297

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Denbury Carbon Solutions, LLC  
Class V Stratigraphic Test Well Application  
Vernon Parish, LA

OFFICE OF CONSERVATION

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## **B.4 INJECTION FLUID ANALYSIS**

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Injection fluid source will be a water well drilled on location. A fluid source analysis from a LELAP accredited lab will be provided to LDNR – IMD prior to any injection.

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Denbury Carbon Solutions, LLC  
Class V Stratigraphic Test Well Application  
OFFICE OF CONSERVATION Vernon Parish, LA

JUN 29 2023

INJECTION & MINING DIVISION

**B.5 AN ANNOTATED COPY OF AN ELECTRIC WELL LOG OF THE  
NEAREST OFFSET WELL THAT SHOWS THE UNDERGROUND  
SOURCE OF DRINKING WATER (USDW)**

See attached marked well log of the Crosby Land & Resources 8 No. 1 – SN 235977

Denbury Carbon Solutions, LLC  
Class V Stratigraphic Test Well Application  
Vernon Parish, LA

OFFICE OF CONSERVATION

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INJECTION & MINING DIVISION

**B.6 AN ANNOTATED COPY OF AN ELECTRIC WELL LOG OF THE  
NEAREST OFFSET WELL THAT SHOWS THE PROPOSED  
INJECTION ZONE**

See attached marked well log of the Crosby Land & Resources SB No. 1 – SN 233064

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✓ 235977

Schlumberger

Company: PILOT RESOURCES INC.

Well: CROSBY LAND RESOURCES 8 #1

Field: SUGARTOWN

Parish: VERNON State: LOUISIANA

ARRAY INDUCTION TOOL  
BOREHOLE COMPENSATED SONAR  
PPC - GAMMA RAY - SP

2971 SOUTH AND 1066 WEST FROM THE  
NE CORNER OF SEC 6 T25 R6W  
Elev. 171.9 ft  
D = 179.9 ft

Permanent Datum: GROUND LEVEL Elev. 171.9 ft  
Log Measured From: KELLY BUSHING 9.0 ft above Perm Datum  
Drilling Measured From: KELLY BUSHING

API Serial No 17-115-20236 Section 8 Township 2S Range 6W

Parish: VERNON  
Field: SUGARTOWN  
Location: 2971 SOUTH AND 1066 WEST  
Well: CROSBY LAND RESOURCES 8 #1  
Company: PILOT RESOURCES INC.

Logging Date	21-Aug-2007
Run Number	ONE
Depth Driller	4880 ft
Schlumberger Depth	4890 ft
Bottom Log Interval	4890 ft
Top Log Interval	500 ft
Casing Outer Size at Depth	6.625 in
Casing Schlumberger	500 ft
Bit Size	7.875 in
Type Fluid in Hole	WATER BASED MUD
Density	9.5 gm/cc
Viscosity	30 cP
Fluid Loss	0.00
Source of Sample	MEASURED
RMF @ Measured Temperature	3.410 ohm m @ 88 degF
RMF @ Measured Temperature	2.557 ohm m @ 88 degF
RMF @ Measured Temperature	3.115 ohm m @ 88 degF
Source RMF	RMC
RMF @ MRT	RMC
RMF @ MRT	2.232 @ 138 1.674 @ 138
Maximum Recorded Temperatures	138 degF
Circulation Stopped	Time 21-Aug-2007 0:30
Logger On Bottom	Time 21-Aug-2007 5:10
Unit Number	2019 NATCHEZ
Recorded By	E RICE
Witnessed By	MR. SCEROLER & PERRET

OFFICE OF CONSERVATION  
RECEIVED  
JUL 03 2007  
GEOLOGICAL DIVISION

Annotated USDW Well Log  
Offset Well SN 235977  
~3565' away

OFFICE OF CONSERVATION

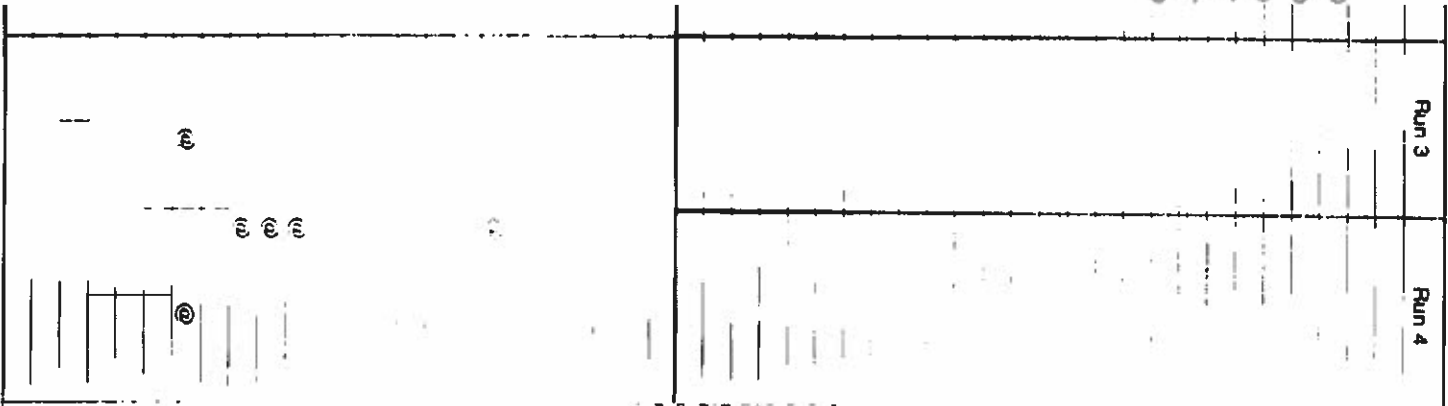
JUN 29 2023

INJECTION & MINING DIVISION

Run 1 Run 2

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

2



**DEPTH SUMMARY LISTING**

Date Created: 21 AUG 2007 5:33:20

**Depth System Equipment**

Depth Measuring Device		Tension Device		Logging Cable	
Type	LDW-H	Type	CMTD-B/A	Type	7-46 M18 XS
Serial Number	3987	Serial Number	1396	Serial Number	2019
Calibration Date	28 MAY 2007	Calibration Date	dd-Mmm-yyyy	Length	28900.00 FT
Calibrator Serial Number	1	Calibrator Serial Number	1355	Conveyance Method	Wireline
Calibration Cable Type	7-46P	Calibration Gain	0.92	Rig Type	LAND
Wheel Correction 1	4	Calibration Offset	289.00		
Wheel Correction 2	-4				

**Depth Control Parameters**

Log Sequence:	First Log In the Well
Rig Up Length At Surface	0.00 FT
Rig Up Length At Bottom	0.00 FT
Rig Up Length Correction	0.00 FT
Stretch Correction	2.00 FT
Tool Zero Check At Surface	0.40 FT

**Depth Control Remarks**

1. SLB DEPTH CONTROL POLICY FOLLOWED
- 2.
- 3.
- 4.
- 5.
- 6.

**DISCLAIMER**

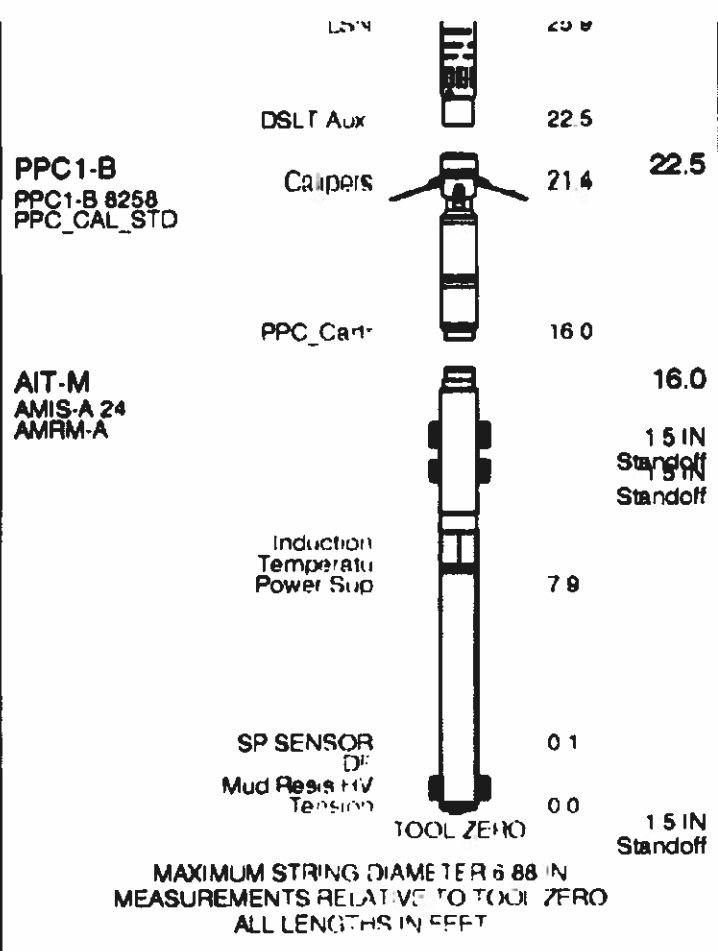
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1 OS1: CST OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1 THANK YOU FOR CHOOSING SCHLUMBERGER!	REMARKS: RUN NUMBER 2





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Production String	MD		Well Schematic	MD			Casing String
	(m)	(ft)		(m)	(m)	(in)	
				0.0	5.625		Casing String
				500.0	8.525		Casing Shoe
				500.0	7.875		Borehole Segment
							<b>DRILLERS DEPTHS</b>



**Schlumberger**

**MAIN PASS 1"=100'**

MAXIS Field Log

**Output DLIS Files**

DEFAULT	AIT_CAL_SONIC_012LUP	FN:8	PRODUCER	21-Aug-2007 05:03	4903 5 FT	390 2 FT
PILOT	AIT_CAL_SONIC_012LUP	FN:9	PRODUCER	21-Aug-2007 05:03	4903 5 FT	390 2 FT

**OP System Version: 15C0-309**

MCM

AIT-M	SRPC-3357-Q2_2007	PPC1-B	15C0-309
DSL-T-H	15C0-309	SGT-N	15C0-309
DTC-H	15C0-309		

**PIP SUMMARY**

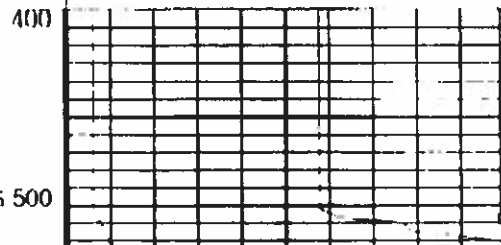
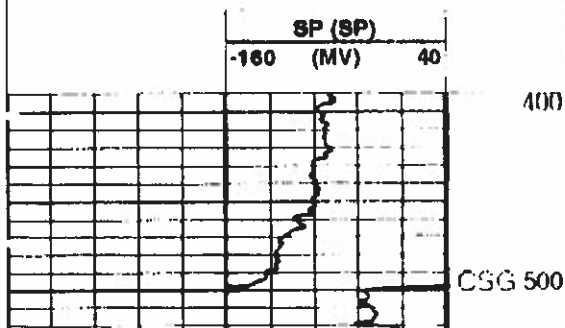
Time Mark Every 60 S

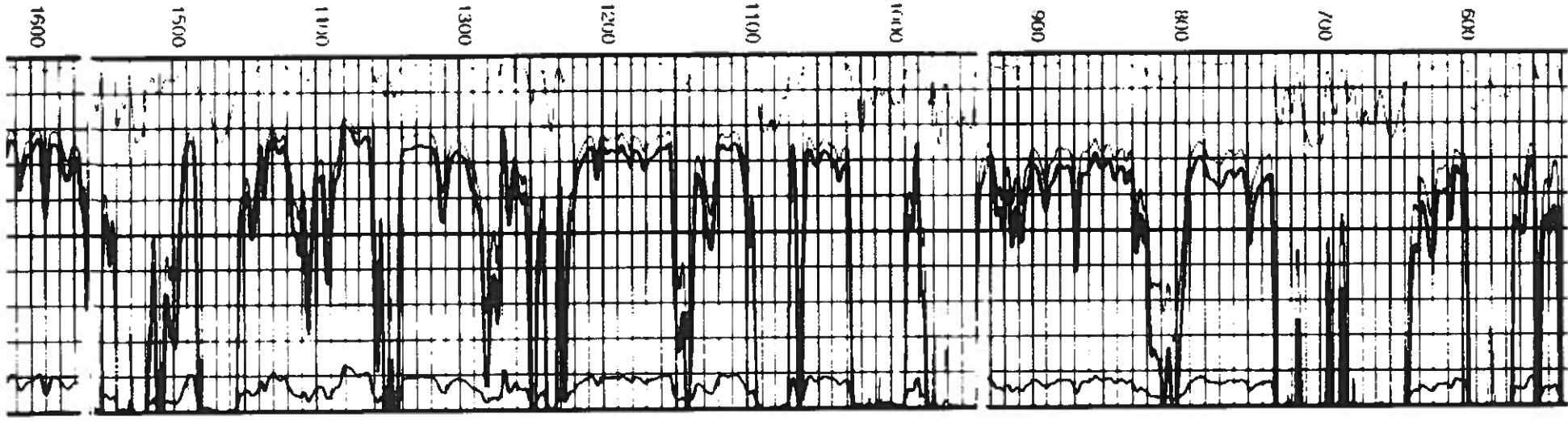
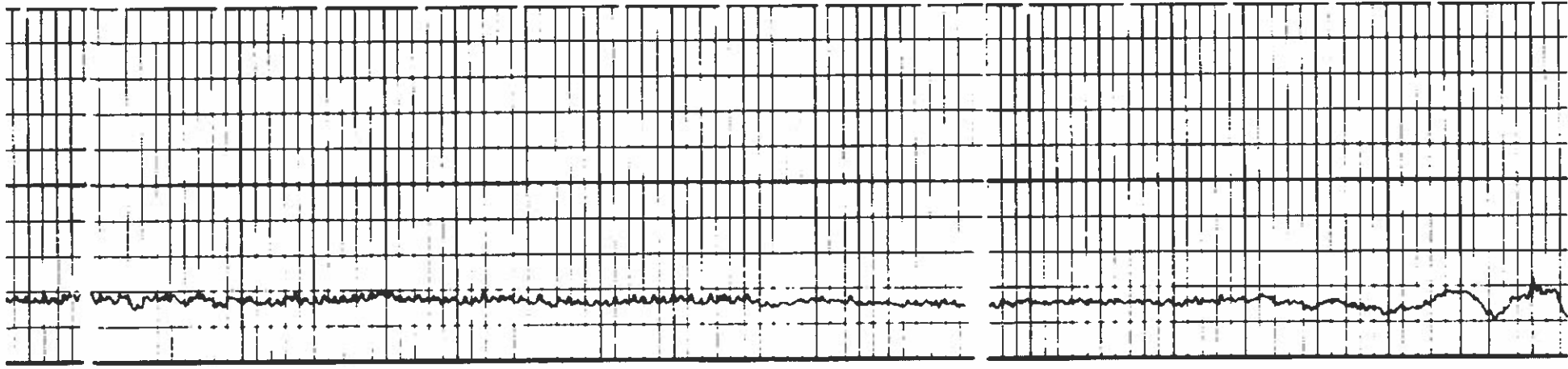
AIT 90 Inch Investigation Conductivity  
(AF90)  
4000 (MM/M) 0

AIT 90 Inch Investigation (AF90)  
0 (OHMM) 10

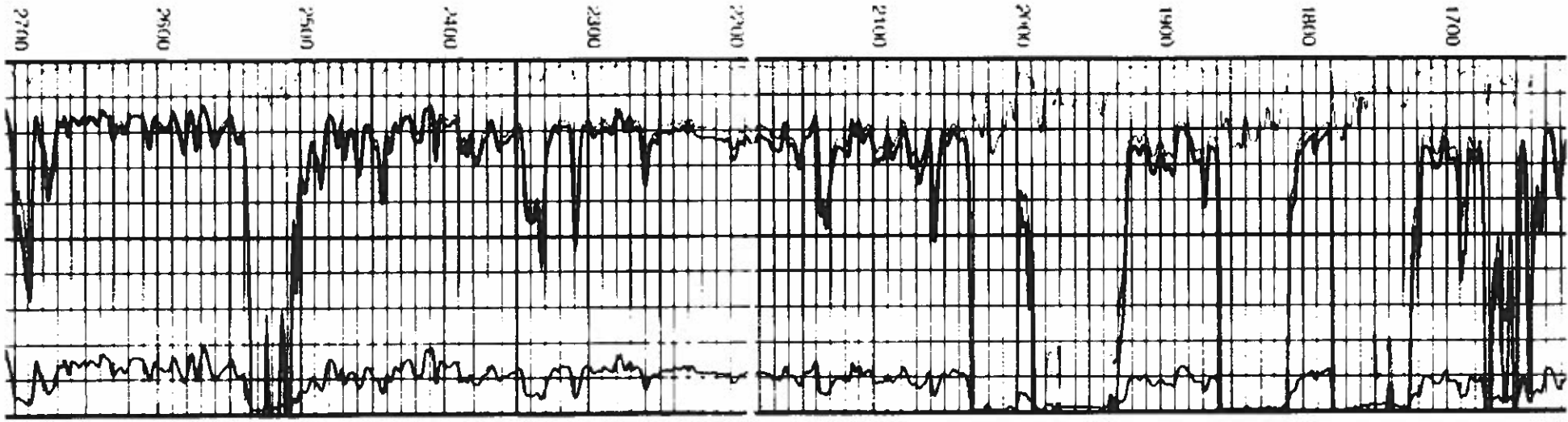
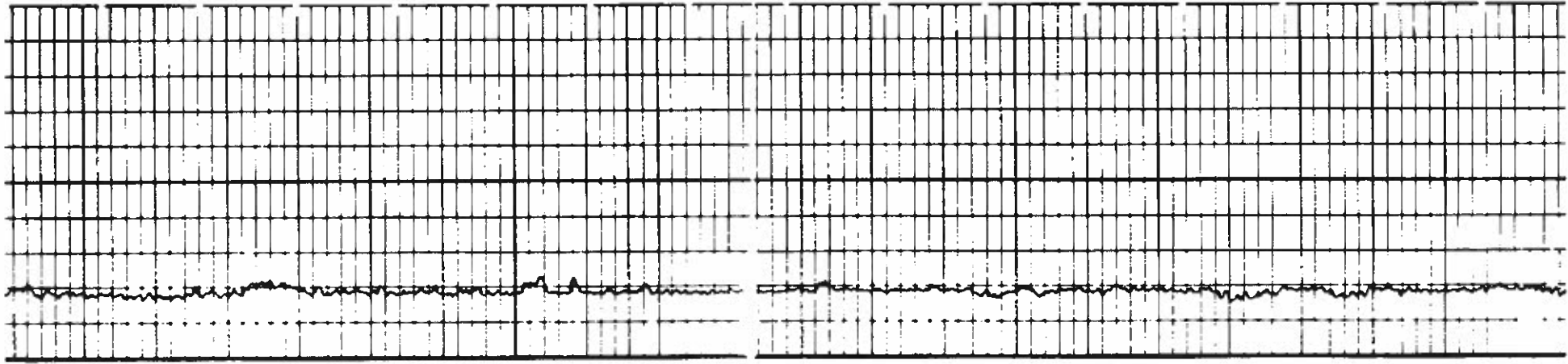
AIT 10 Inch Investigation  
0 (OHMM) 100

AIT 10 Inch Investigation (AF10)  
0 (OHMM) 10

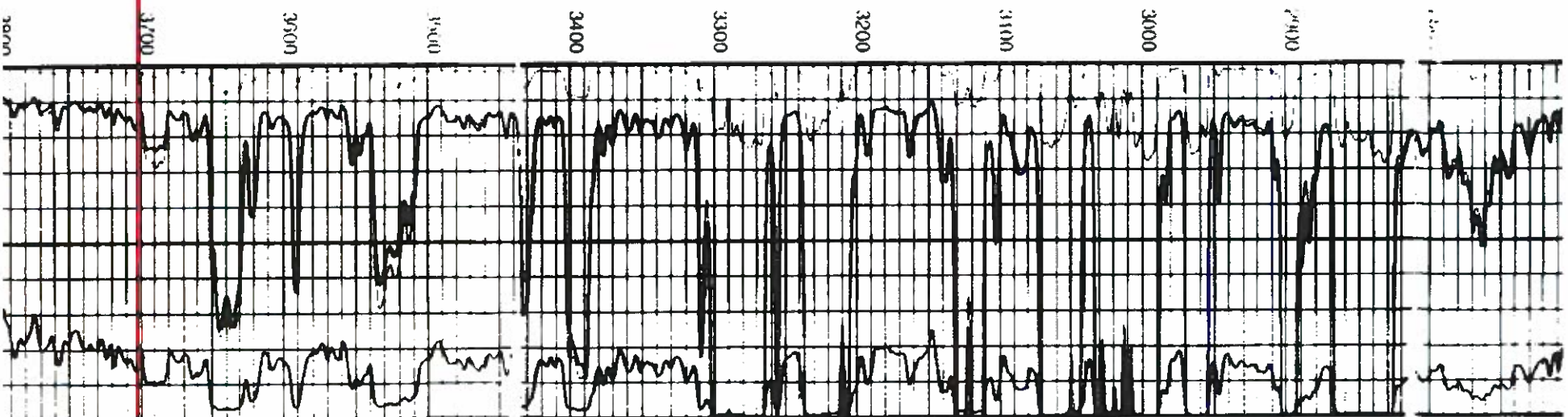
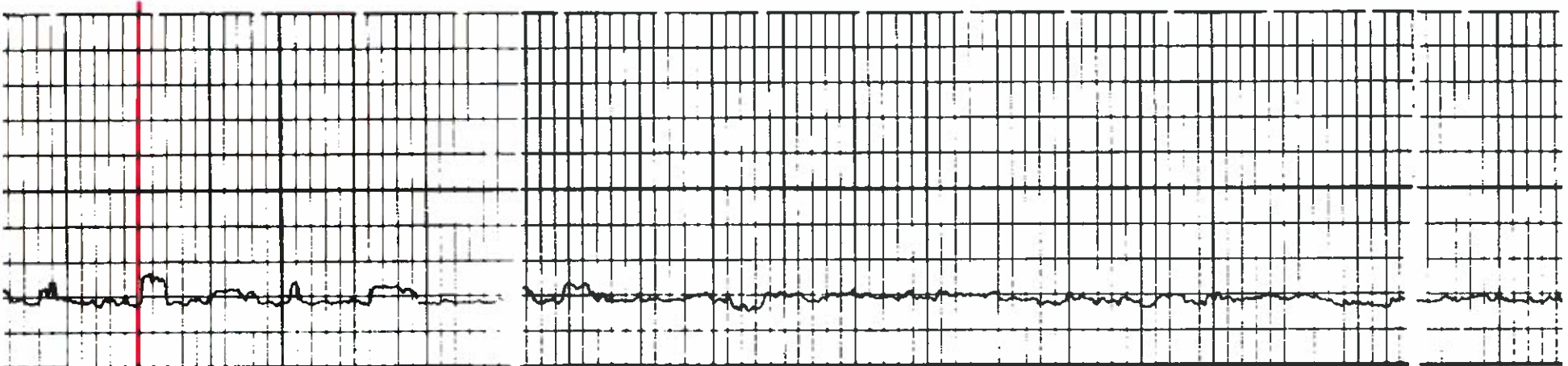




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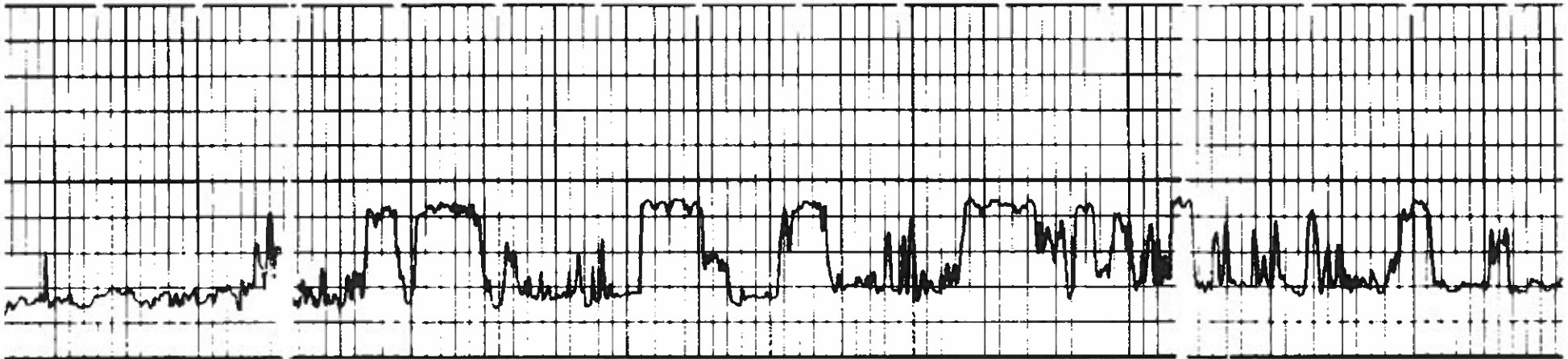


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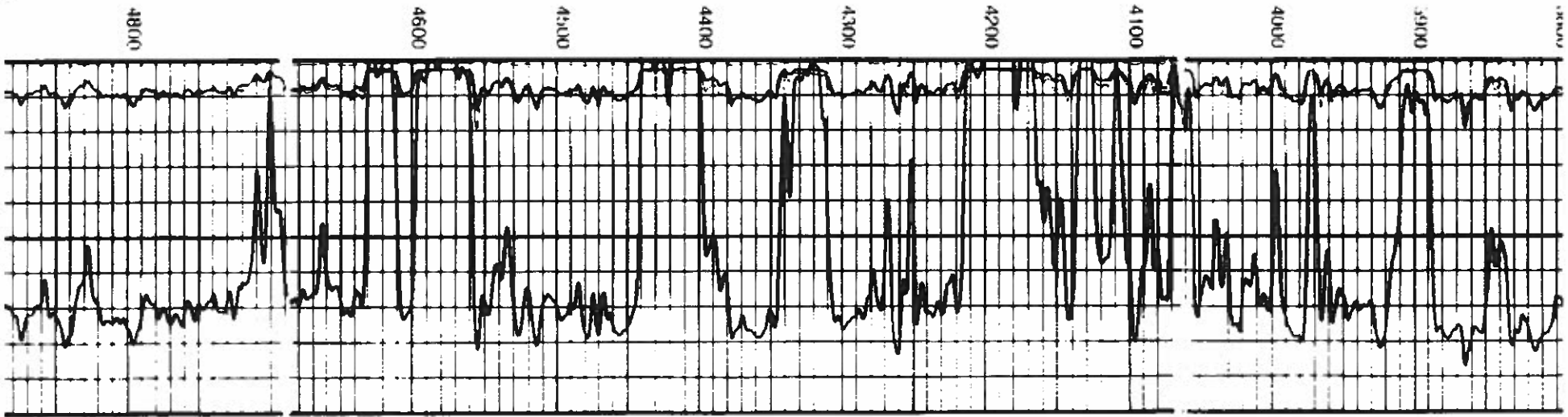


3700' USDW as  
called 3/25/20 by  
LDNR-IMD

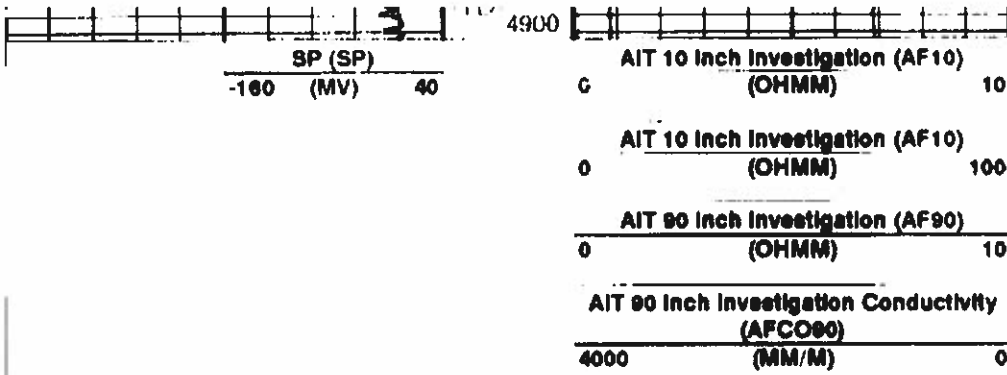
044308



11



044508



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
<b>AIT-M: Array Induction Tool - M</b>			
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Loge Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Loge Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (In Borehole)	Centered	
ALSDU	Array Induction Logging Shoes Estimated Depth		
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
BHT	Bottom Hole Temperature (used in calculations)	140	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HD1_PPC1	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
<b>SGT-N: Scintillation Gamma Ray Tool - N</b>			
BHT	Bottom Hole Temperature (used in calculations)	140	DEGF
GCSE	Generalized Caliper Selection	HD1_PPC1	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
<b>RWA: Apparent Water Resistivity</b>			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
<b>HOLEV: Integrated Hole Cement Volume</b>			
BHT	Bottom Hole Temperature (used in calculations)	140	DEGF
GCSE	Generalized Caliper Selection	HD1_PPC1	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
<b>System and Miscellaneous</b>			
BS	Bit Size	7.875	IN
DFD	Drilling Fluid Density	9.50	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	-50000.00	FT
MST	Mud Sample Temperature	68.00	DEGF
TD	Total Depth	4880	FT



AIT-M	SRPC-3357-Q2_2007	PPC1-B	15C0-309
DSL-T-H	15C0-309	SGT-N	15C0-309
DTC-H	15C0-309		

**Output DLIS Files**

DEFAULT	AIT_CAL_SONIC_012LUP	FN:8	PRODUCER	21-Aug-2007 05:03
PILOT	AIT_CAL_SONIC_012LUP	FN:9	PRODUCER	21-Aug-2007 05:03

**Schlumberger**

**MAIN PASS 2" = 100'**

MAXIS Field Log

**Output DLIS Files**

DEFAULT	AIT_CAL_SONIC_012LUP	FN:8	PRODUCER	21-Aug-2007 05:03	4903.5 F1	390.2 FT
PILOT	AIT_CAL_SONIC_012LUP	FN:9	PRODUCER	21-Aug-2007 05:03	4903.5 FT	390.2 FT

**OP System Version: 15C0-309**  
MCM

AIT-M	SRPC-3357-Q2_2007	PPC1-B	15C0-309
DSL-T-H	15C0-309	SGT-N	15C0-309
DTC-H	15C0-309		

**PIP SUMMARY**

Time Mark Every 60 S

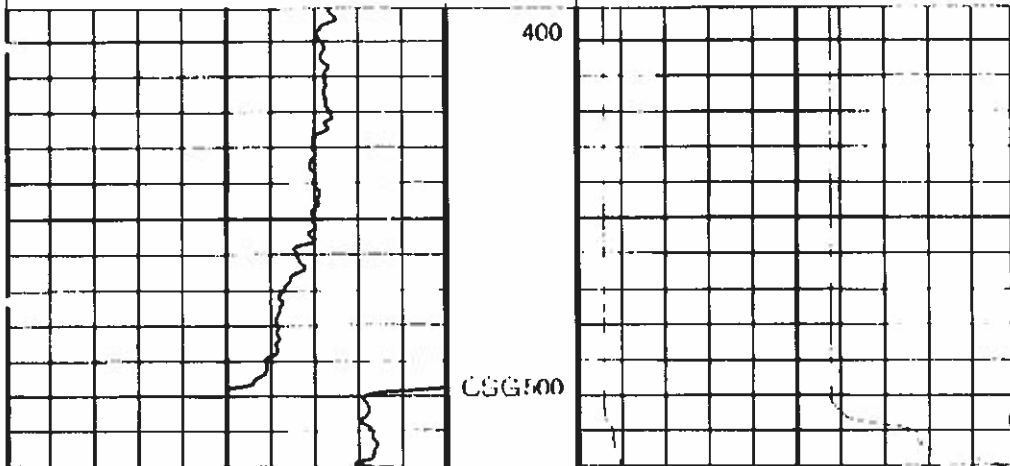
**AIT 90 Inch Investigation Conductivity (AF90)**  
4000 (MM/M) 0

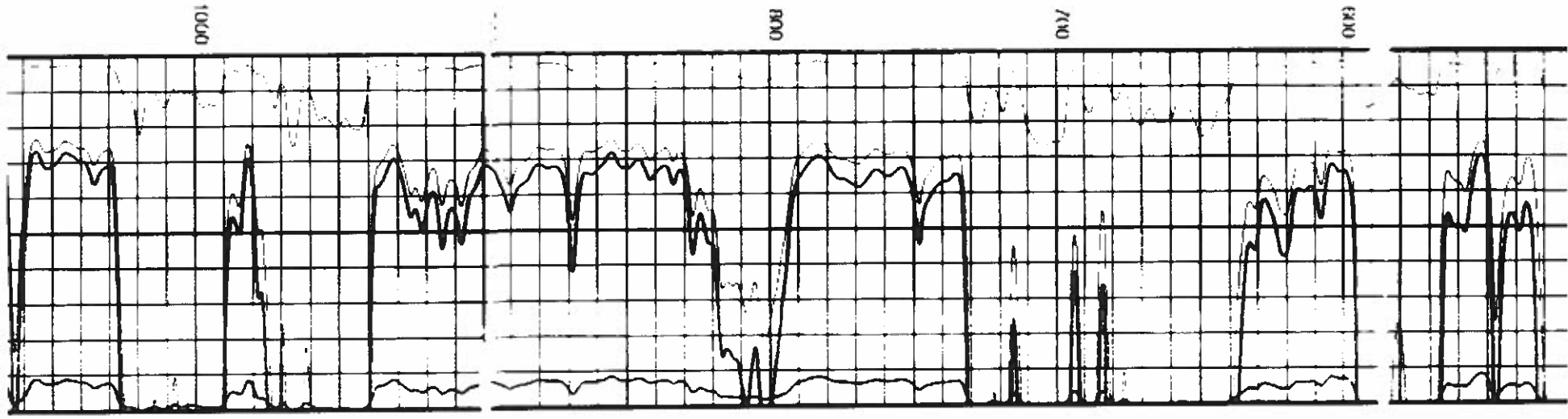
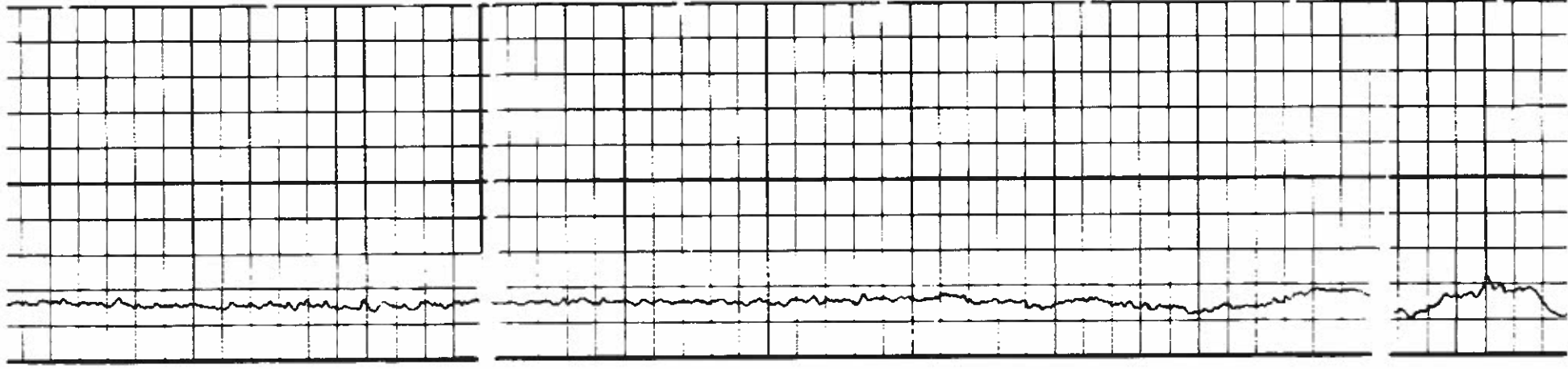
**AIT 90 Inch Investigation (AF90)**  
0 (OHMM) 10

**AIT 10 Inch Investigation (AF10)**  
0 (OHMM) 100

**AIT 10 Inch Investigation (AF10)**  
0 (OHMM) 10

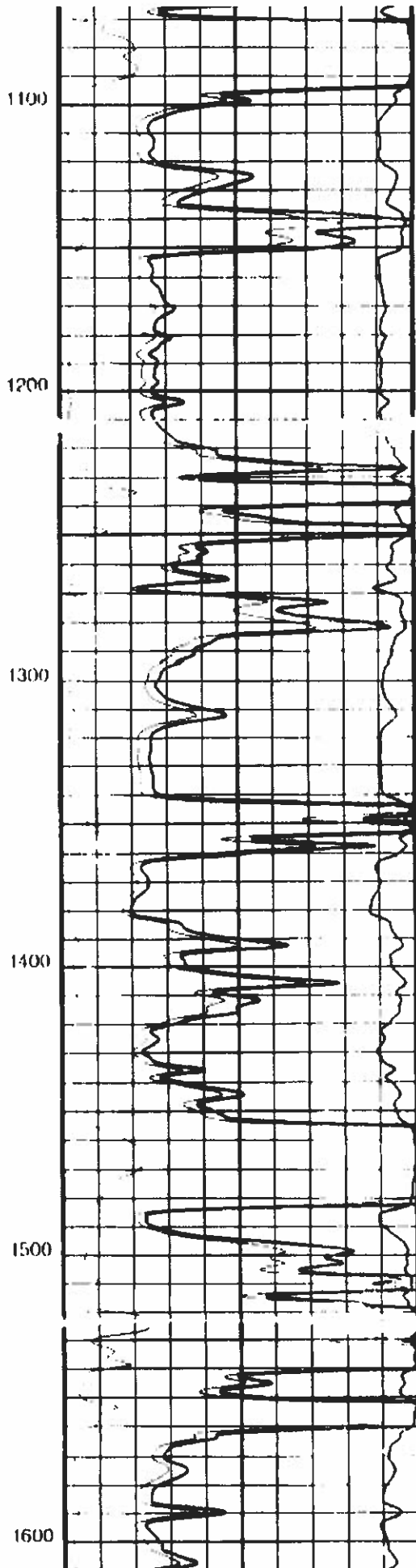
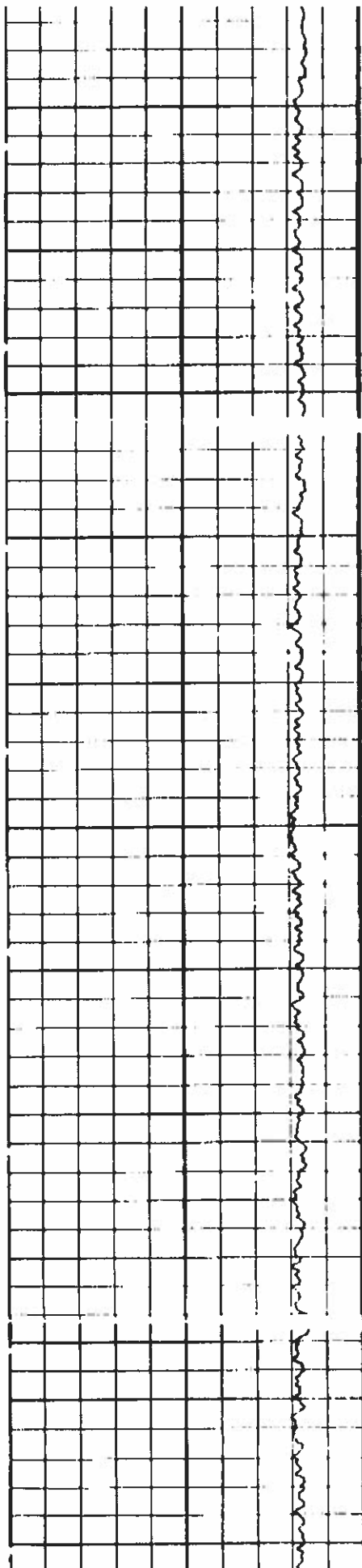
SP (SP)  
-160 (MV) 40

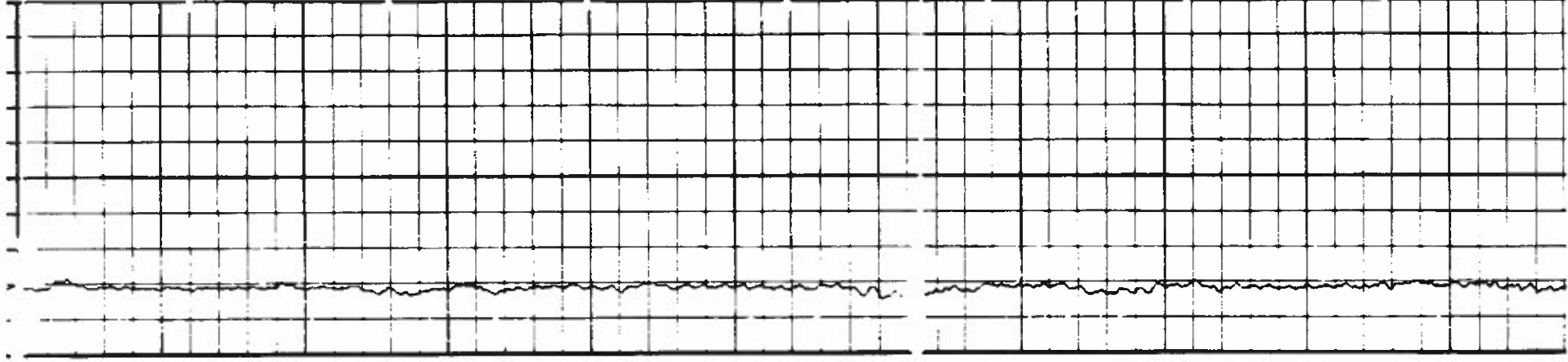




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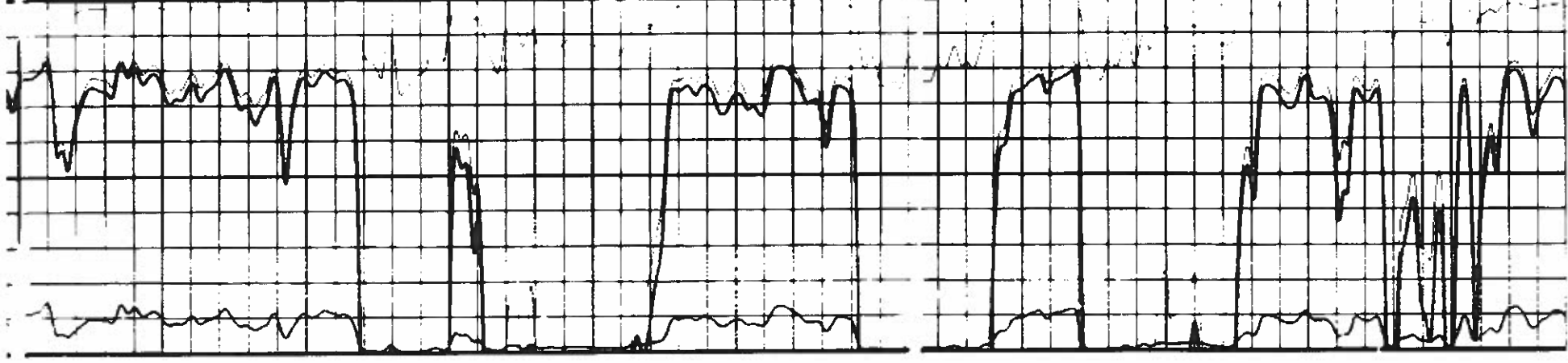
2100

0000

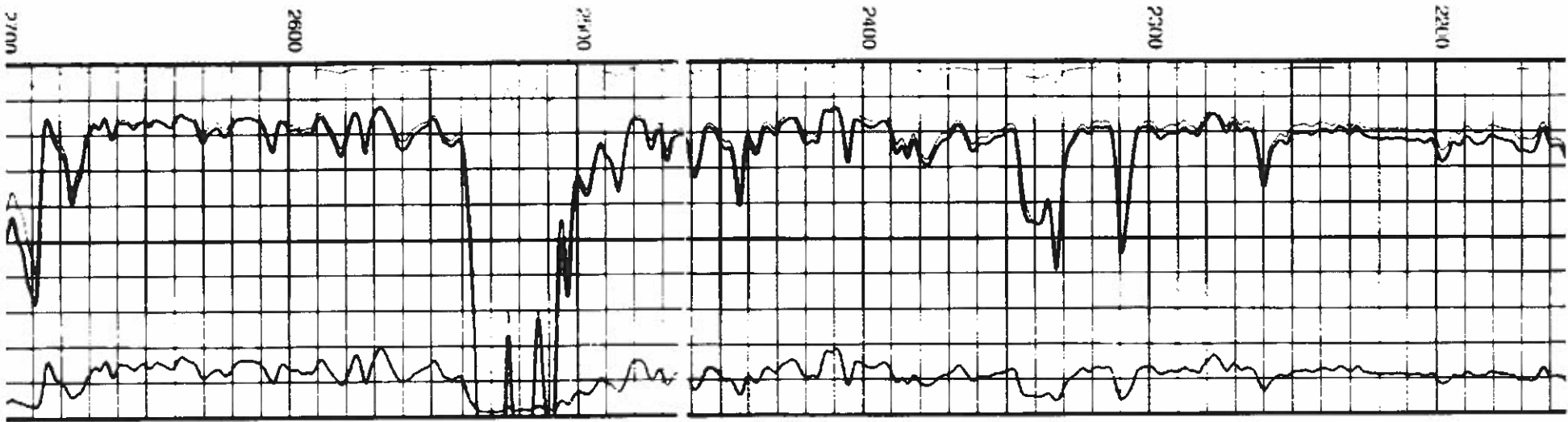
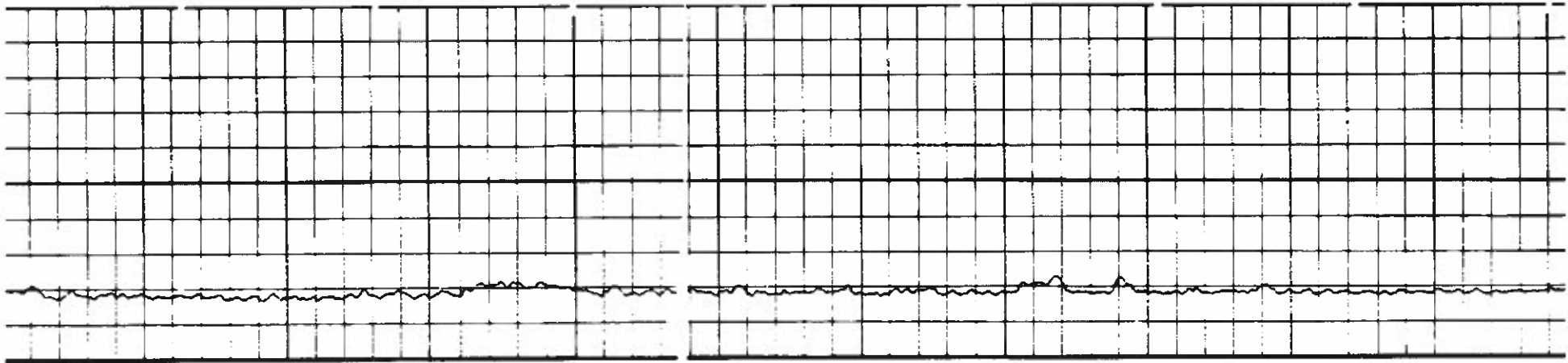
1000

1000

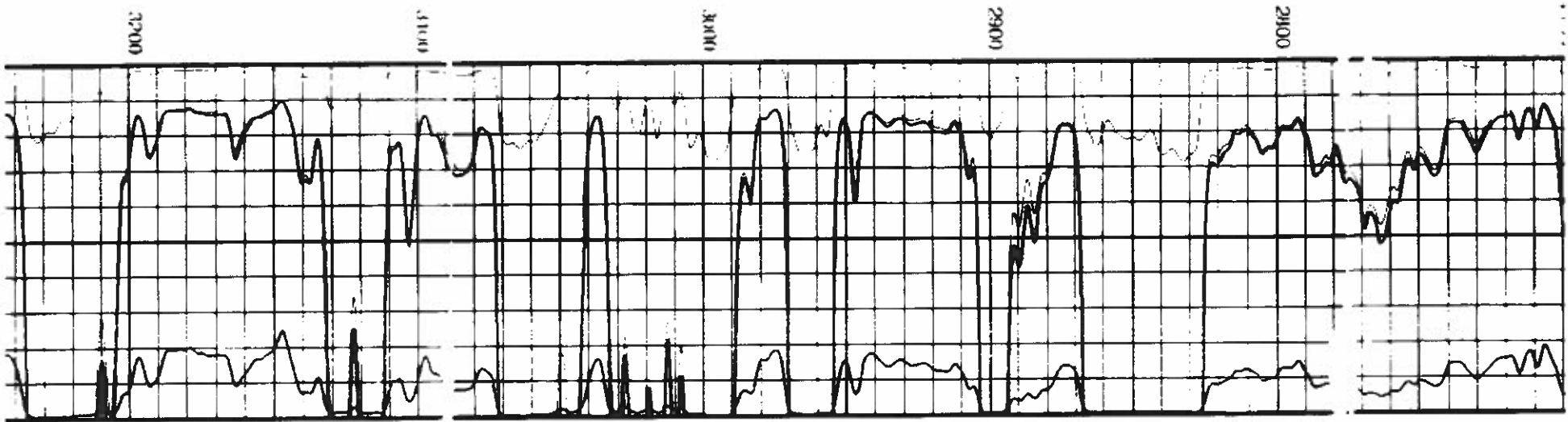
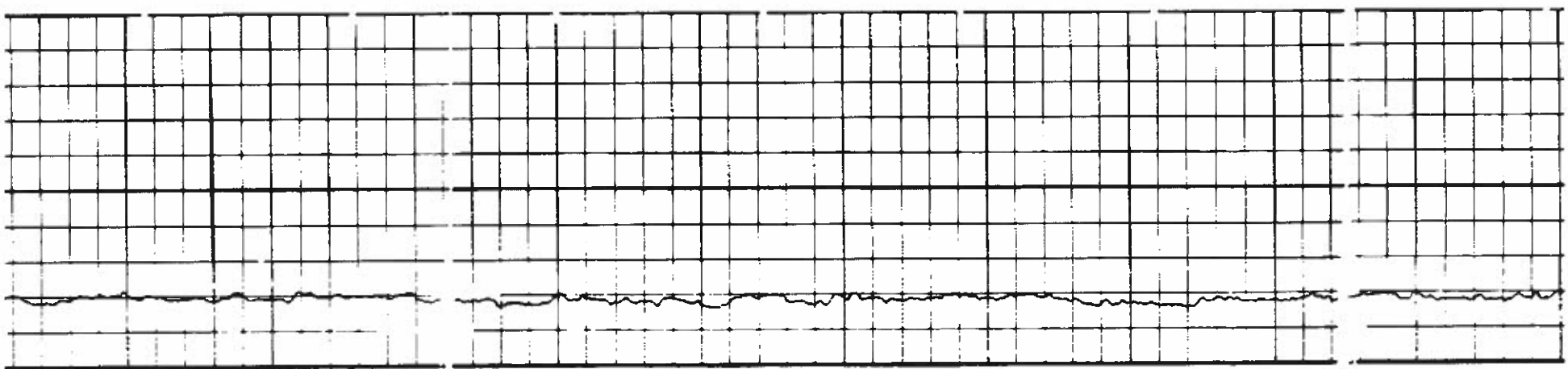
1000



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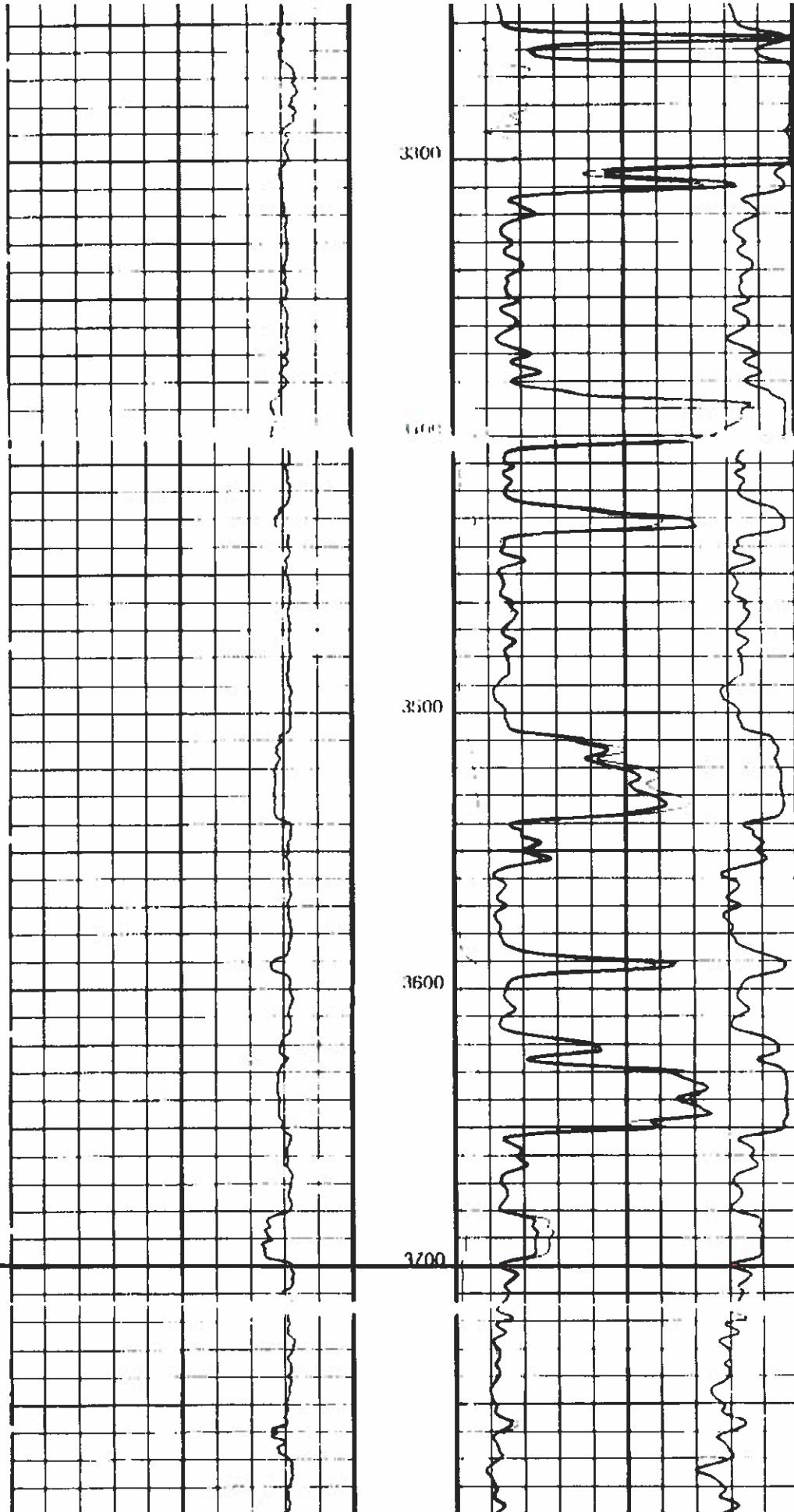


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3100

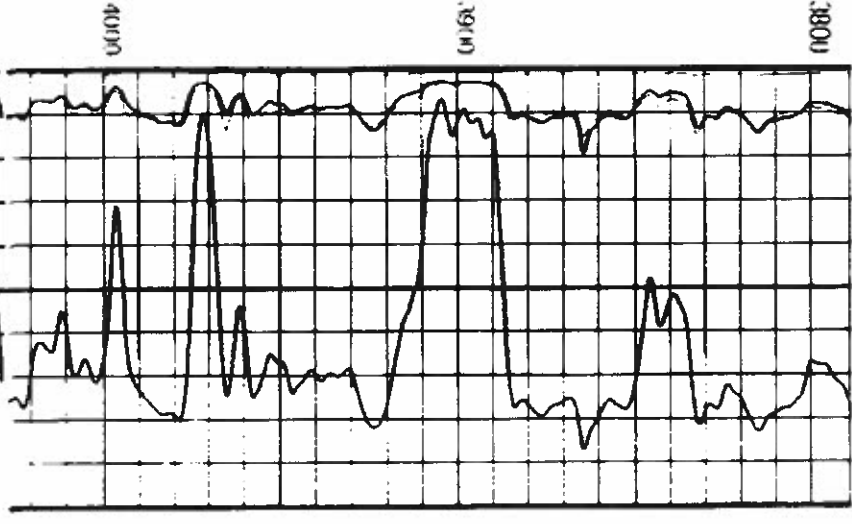
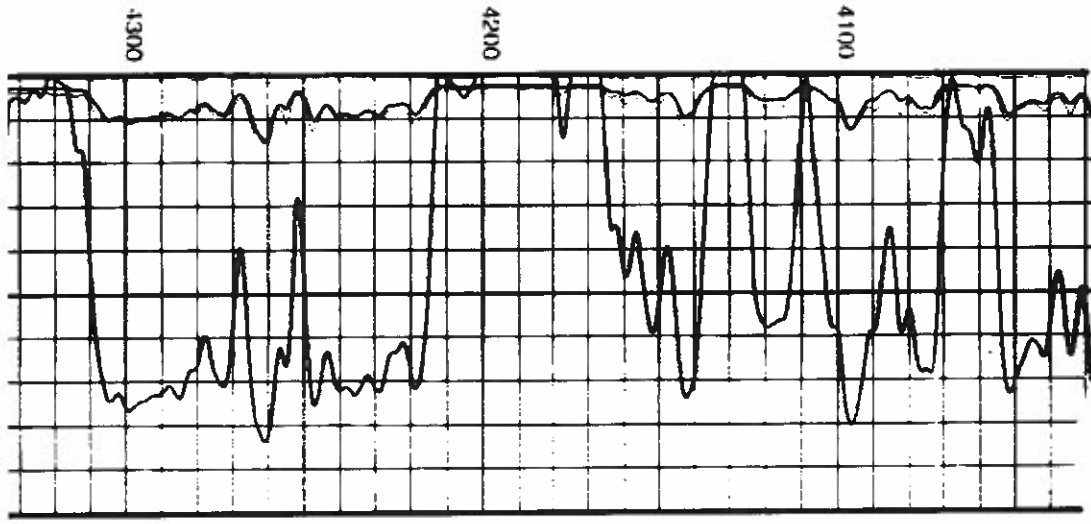
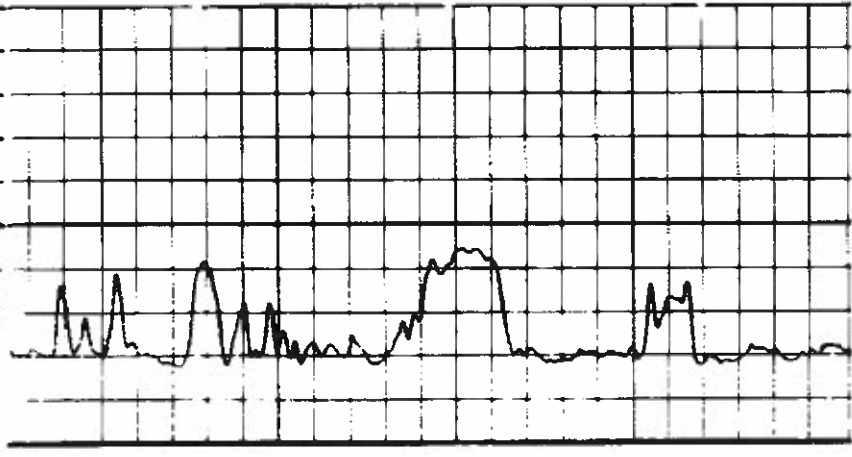
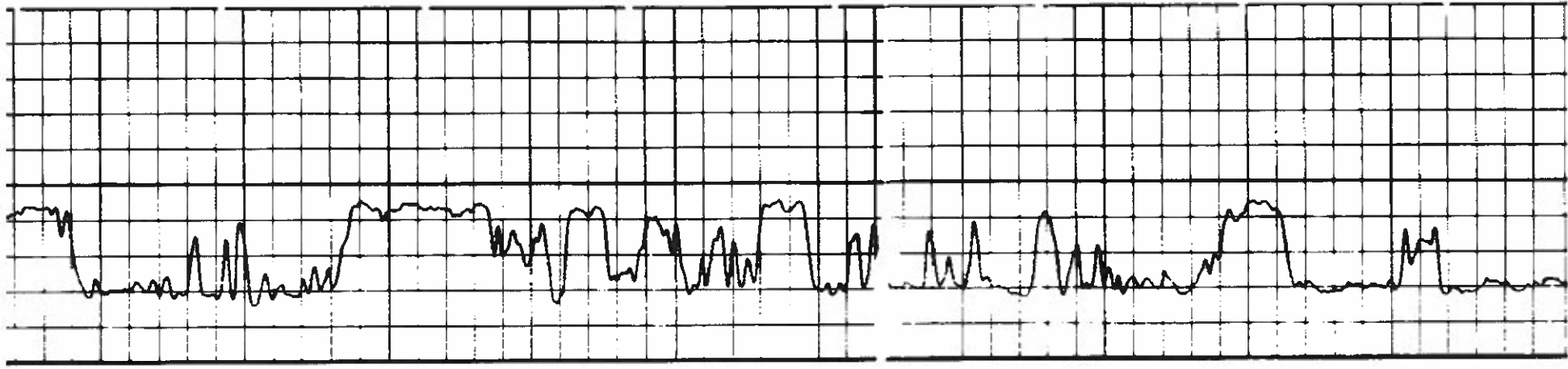
3200

3500

3600

3700

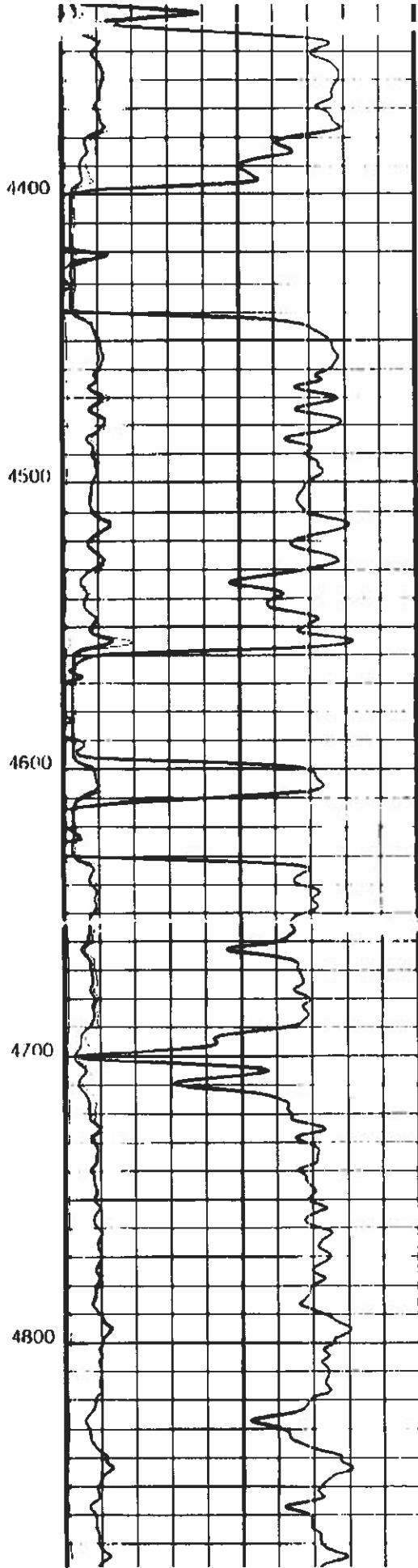
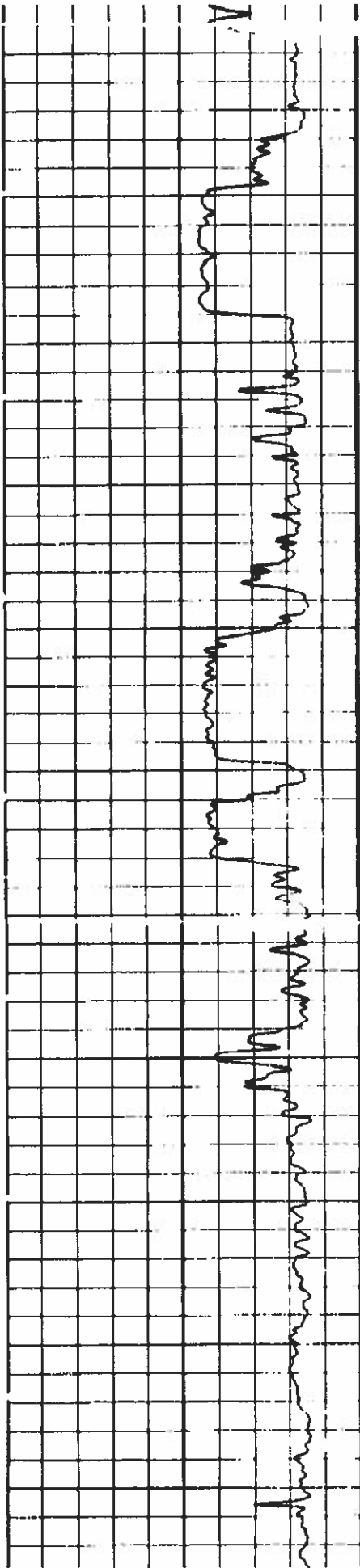
3700' USDW as  
called 3/25/20 by  
LDNR-IMD



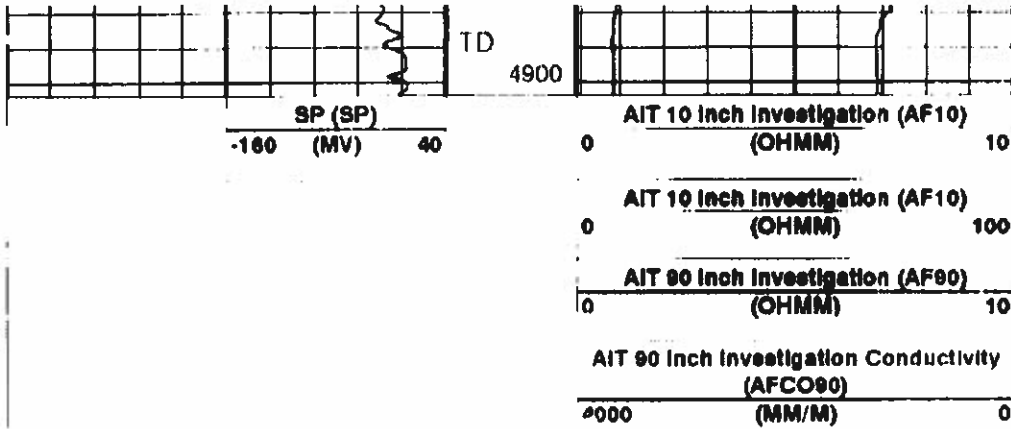
044308



044308



044308



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
<b>AIT-M: Array Induction Tool - M</b>			
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Centered	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	FT
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
BHT	Bottom Hole Temperature (used in calculations)	140	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Calliper Selection	HD1_PPC1	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF F
GRSE	Generalized Mud Resistivity Selection	CHART GEN 9	
QTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
<b>SGT-N: Scintillation Gamma Ray Tool - N</b>			
BHT	Bottom Hole Temperature (used in calculations)	140	DEGF
GCSE	Generalized Calliper Selection	HD1_PPC1	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF F
GRSE	Generalized Mud Resistivity Selection	CHART GEN 9	
QTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
<b>RWA: Apparent Water Resistivity</b>			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
<b>HOLEV: Integrated Hole Cement Volume</b>			
BHT	Bottom Hole Temperature (used in calculations)	140	DEGF
GCSE	Generalized Calliper Selection	HD1_PPC1	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF F
GRSE	Generalized Mud Resistivity Selection	CHART GEN 9	
QTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
<b>System and Miscellaneous</b>			
BS	Bit Size	7.875	IN
DFD	Drilling Fluid Density	9.50	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	-50000.00	FT
MST	Mud Sample Temperature	88.00	DEGF
TD	Total Depth	4900	FT

044308

OFFICE OF CONSERVATION

JUN 29 2023

INJECTION & MINING DIVISION

SN 233064 A

Schlumberger

Company: PILOT RESOURCES, INC.  
 Field: CROSBY LAND & RESOURCES SB #1  
 Location: SUGARTOWN  
 Well: VERNON State: LOUISIANA

API Series: No 233064 Section 8 Township 2S Range 9W

Permanent Datum GROUND LEVEL Elev 193 ft  
 Log Measured From KELLY BUSHING 16.0 ft above Perm. Datum  
 Drilling Measured From KELLY BUSHING

Logging Date 12-May-2006  
 Run Number 1  
 Depth 11503 ft  
 Schlumberger Depth 11619 ft  
 Bottom Log Interval 11619 ft  
 Top Log Interval 5086 ft  
 Casing Driller Size 9 1/2"  
 Casing Schlumberger 5086 ft  
 Bit Size 9 5/8 in  
 Type Fluid In Hole FRESH WATER MUD  
 Density 10.5 lbm/gal Viscosity 44 s  
 Fluid Loss 8 cm3 PH 11.2  
 Source Of Sample AIT MUD SENSOR  
 RM @ Measured Temperature 0.901 ohm.m @ 91 degF  
 RMF @ Measured Temperature 0.675 ohm.m @ 91 degF  
 RMC @ Measured Temperature 1.352 ohm.m @ 91 degF  
 Source RMF RMC CALCULATED CALCULATED  
 RM @ MRT RMF @ MRT @ @  
 Maximum Recorded Temperatures @ @  
 Circulation Stopped Time 11-May-2006 18:00  
 Logger On Bottom Time 12-May-2006 4:00  
 Unit Number Location 2019 NATCHEZ, MS  
 Recorded By BRAD PINKSTAFF  
 Witnessed By SEE REMARKS

RECEIVED  
 AUG 17 2006

Logging Date  
 Run Number  
 Depth  
 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

Marked Injection Zone Log  
 Offset Well SN 233064  
 ~653' away

Run 1

	Run 2
	Run 3
	Run 4

### DEPTH SUMMARY LISTING

Date Created: 12-MAY-2006 1:31:34

#### Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B	Type: CMTD-B A	Type: 7-46 M18 XS
Serial Number: 6515	Serial Number: 2562	Serial Number: 2019
Calibration Date: 7-FEB-2006	Calibration Date: dd-Mmm-yyvv	Length: 27000.00 FT
Calibrator Serial Number: 33	Calibrator Serial Number: 1	Conveyance Method: Wireline
Calibration Cable Type: 7-46NT-XS	Calibration Gain: 0.93	Rig Type: LAND
Wheel Correction 1: -4	Calibration Offset: 309.00	
Wheel Correction 2: -3		

#### Depth Control Parameters

Log Sequence:	First Log in the Well
Rig Up Length At Surface:	165 00 FT
Rig Up Length At Bottom:	165 00 FT
Rig Up Length Correction:	0 00 FT
Stretch Correction:	5 00 FT
Tool Zero Check At Surface:	0.40 FT

#### Depth Control Remarks

- 1 SCHLUMBERGER DEPTH POLICY FOLLOWED
- 2
- 3
- 4
- 5
- 6

#### DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED DATA, (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED DATA, AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED DATA.

#### OTHER SERVICES 1

OS1 CST

OS2

OS3

#### OTHER SERVICES 2


OS1

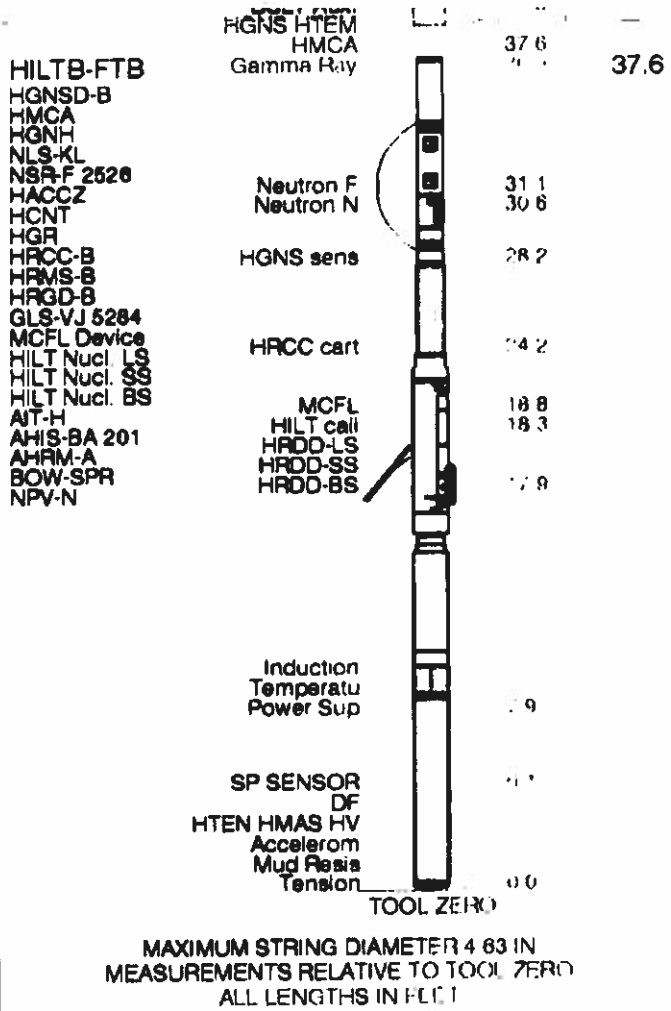
OS2

OS3

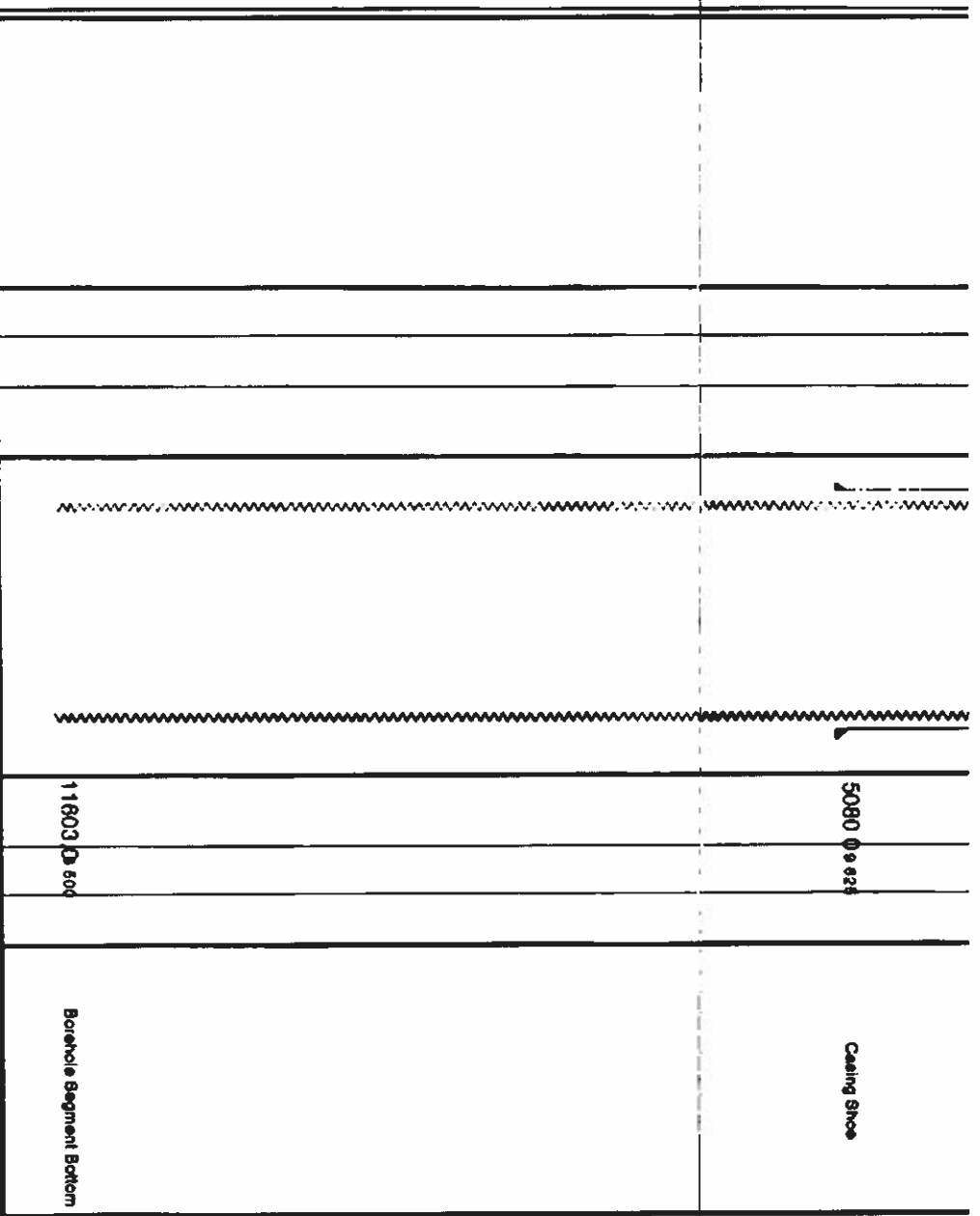
OS3:		OS4:	
OS4:		OS5:	
OS5:			
REMARKS: RUN NUMBER 1		REMARKS: RUN NUMBER 2	
LOGGED ON SANDSTONE MATRIX 2.65 G/G			
MINIMUM POSITIONS RUN AS PER CLIENT REQUEST			
WITNESSES WERE:			
SCEROLER, PERRET, PRICE, AND STEWART			
YOUR CREW TODAY WAS			
ADOLPH HAYES AND GENÉ BRASHIER			
Rig: Crown DBL #2			
THANK YOU FOR CHOOSING SCHLUMBER SERVICES			
RUN 1		RUN 2	
SERVICE ORDER #:	11269832	SERVICE ORDER #:	
PROGRAM VERSION:	1300 300	PROGRAM VERSION:	
FLUID LEVEL:		FLUID LEVEL:	
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL
			START
			STOP

**EQUIPMENT DESCRIPTION**

RUN 1		RUN 2	
SURFACE EQUIPMENT			
WITM (DTS) A			
GSR-U/Y NCT-B CNB-A8 NCS-VB			
DOWNHOLE EQUIPMENT			
LEH-Q		66.6	
LEH-Q			
DTC-H	CTEM	63.5	64.5
ECH-KC	ToolStatus		
DTCH0-A	ToolStatus	61.5	
DSL-T-FT8			61.5
DSL-C-B			
ECH-KH			
SLS-Z			
	ULF	49.9	
	LLF ULN	48.9	
	LLN	47.9	



Production String	(m)		Well Schematic	(m)		Casing String
	OD	ID		MD	OD	
				0.0	4.63	Backup string



5080 Ø 828

Casting Shoe

11603 Ø 606

Borehole Segment Bottom

**Schlumberger**

**MAIN PASS 1" = 100'**

MAXIS Field Log

Input DLIS Files					
DEFAULT	AIT_TLD_MCFL_CNL_018LUP	FN:17	PRODUCER	12-May-2006 04:22	11834.0 FT 5008.0 FT

Output DLIS Files					
DEFAULT	AIT_TLD_MCFL_CNL_021PIUP	FN:20	PRODUCER	12-May-2006 08:40	11834.0 FT 5012.0 FT

**OP System Version: 13C0-300**  
MCM

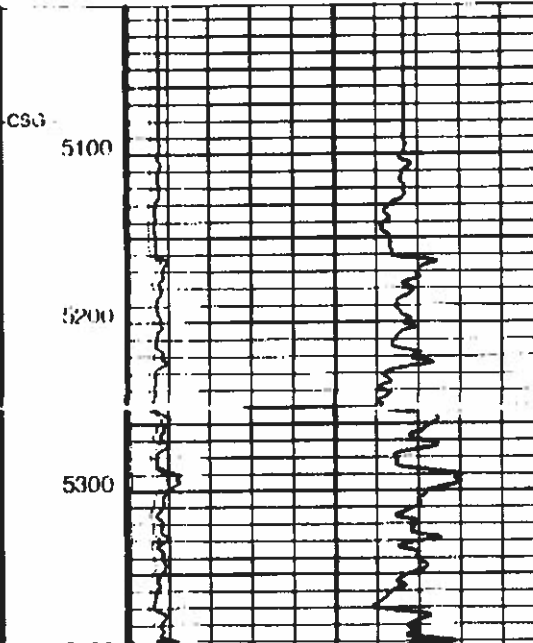
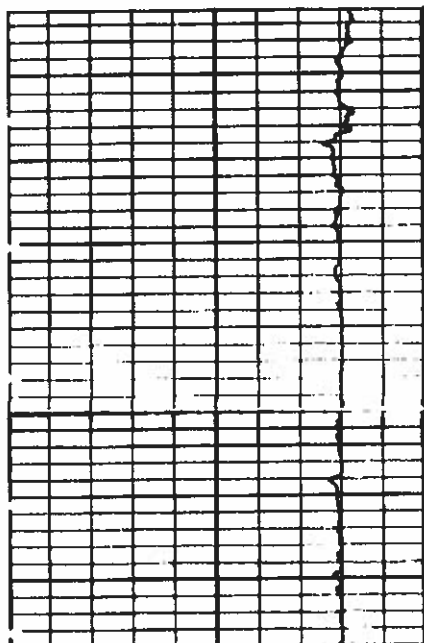
HILTB-FTB	SRPC-3097-FEB_2006_b	DSLT-FTB	SRPC-3097-FEB_2006_b
DTC-H	SRPC-3097-FEB_2006_b		

**PIP SUMMARY**

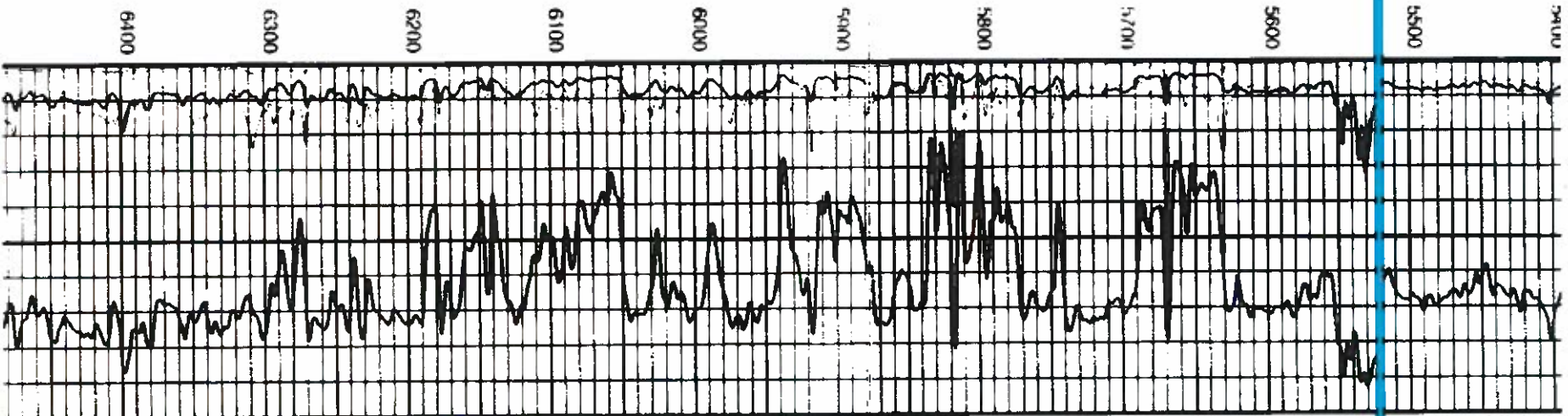
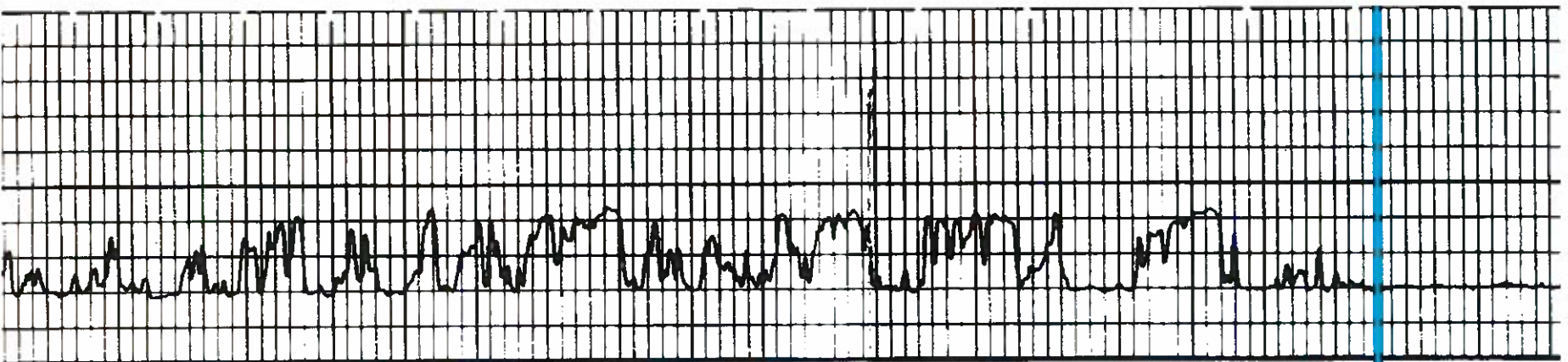
Time Mark Every 60 S

AIT-H 90 Inch Investigation Conductivity (AHFC90)		
4000	(MM/M)	0
AIT-H 90 Inch Investigation (AHF90)		
0	(OHMM)	10
AIT-H 10 Inch Investigation (AHF10)		
0	(OHMM)	100
AIT-H 10 Inch Investigation (AHF10)		
0	(OHMM)	10

SP (SP)  
-160 (MV) 40



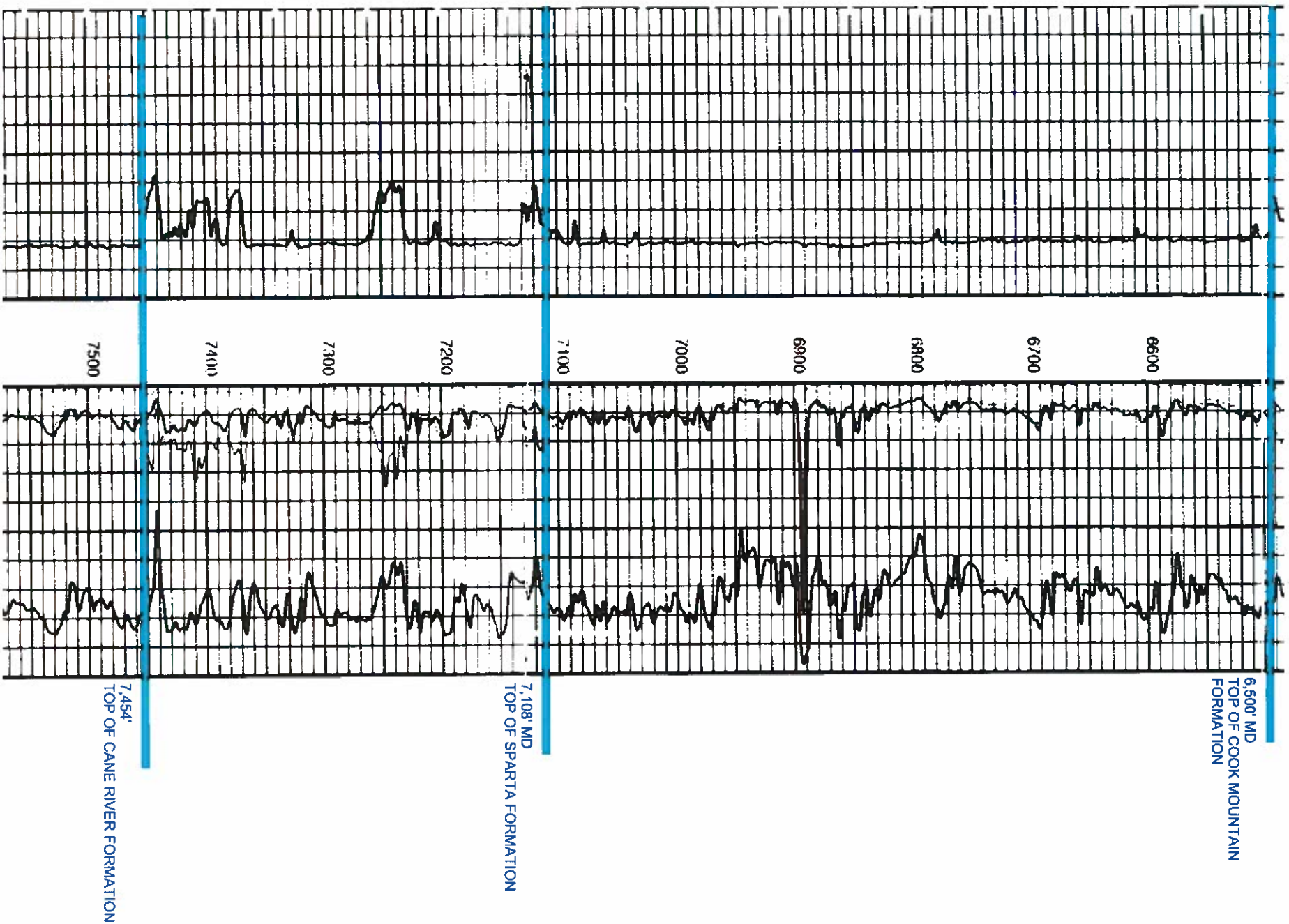




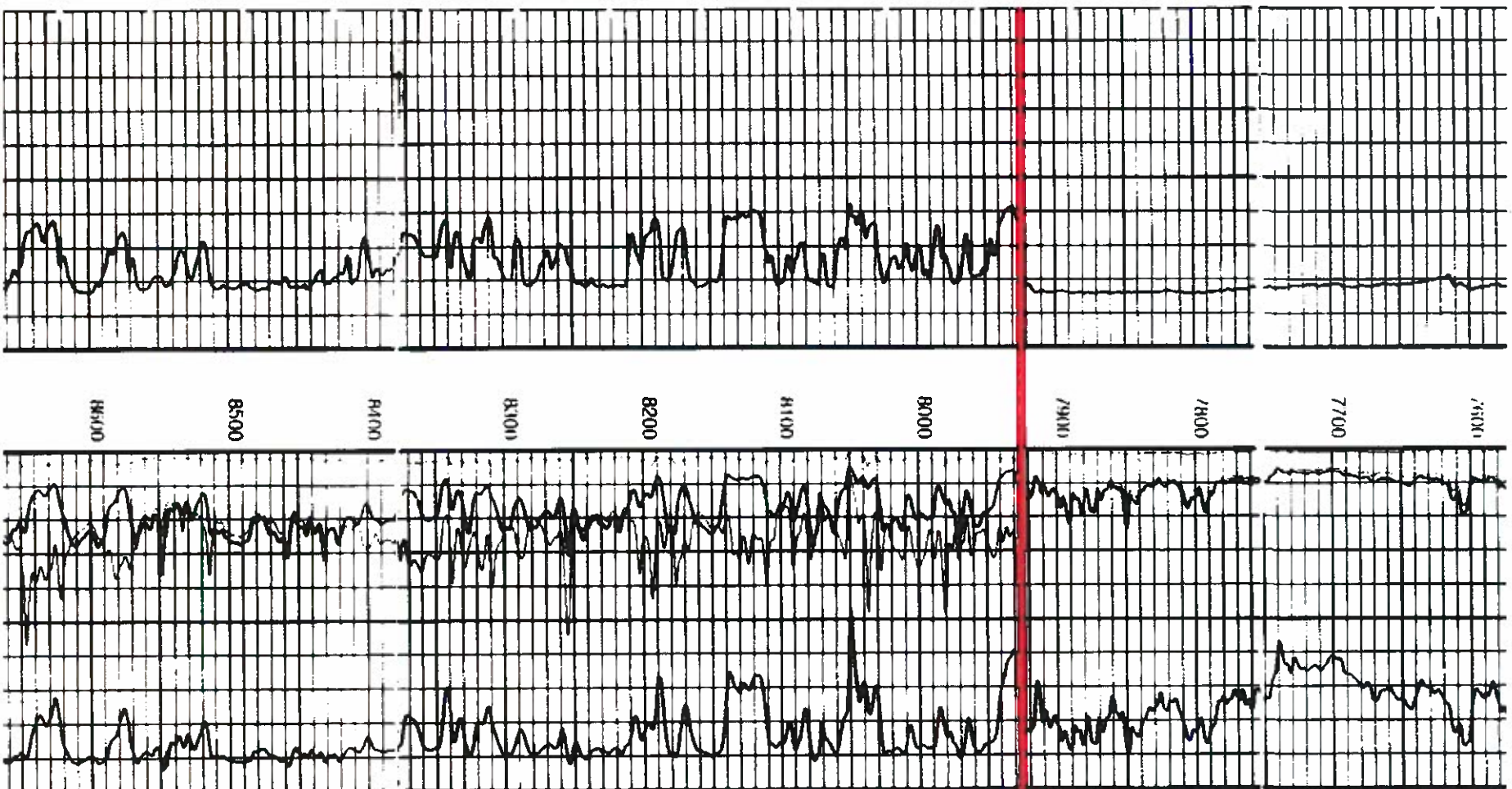
6400 6300 6200 6100 6000 5900 5800 5700 5600 5500 2400

5,517' MD  
TOP OF COCKFIELD FORMATION  
(CLAIBORNE GROUP TOP)

044308



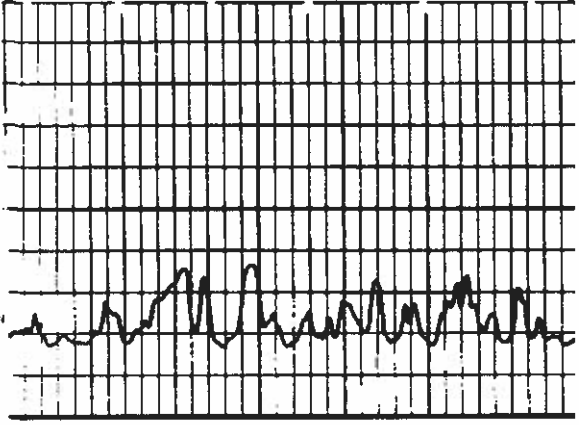
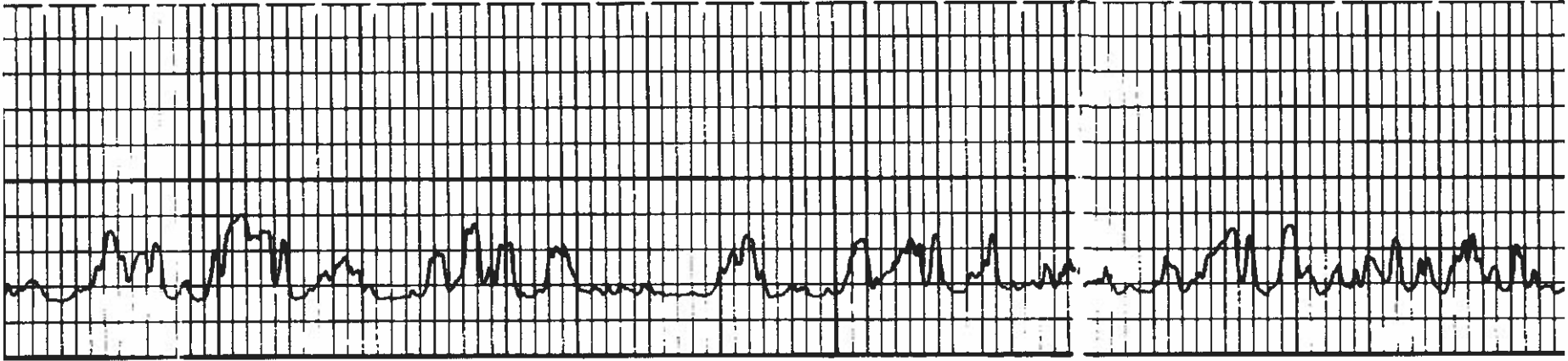
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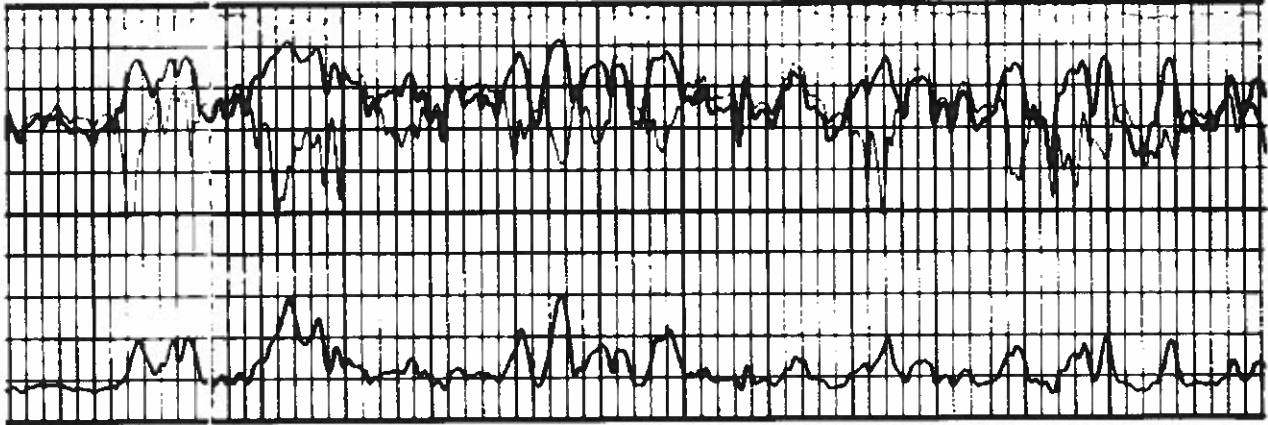
**TOP OF ZONE**  
**7,920'**

7,920' MD  
TOP OF WILCOX GROUP

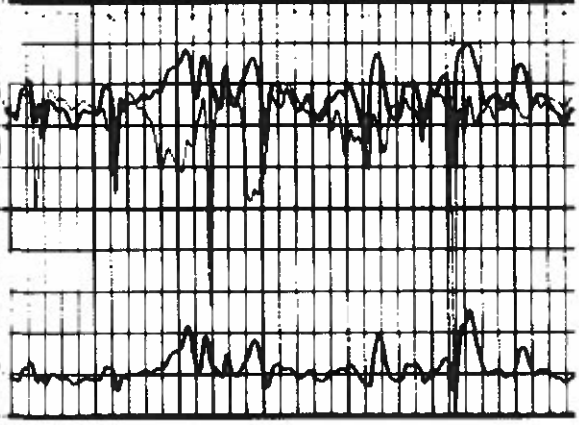
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9700 9600 9500 9400 9300 9200 9100

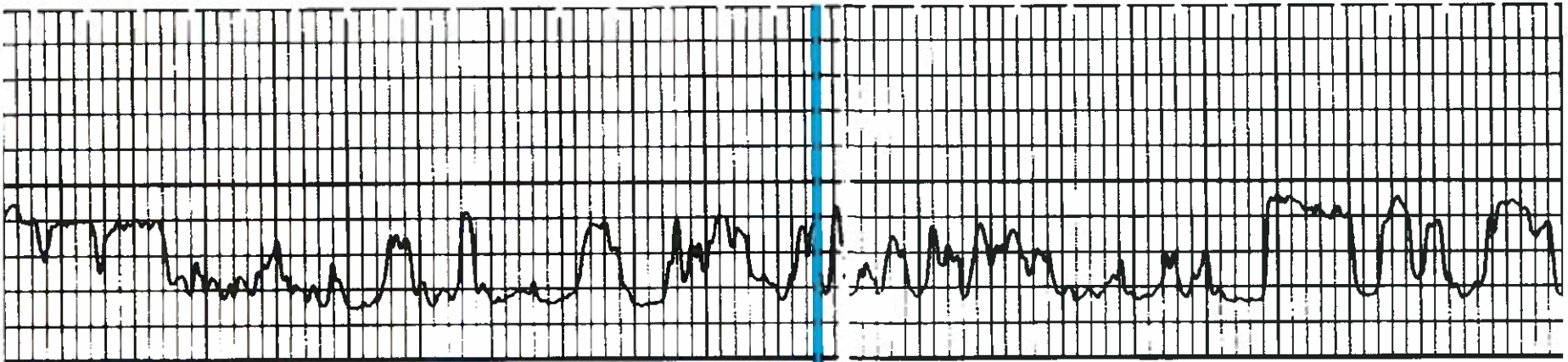


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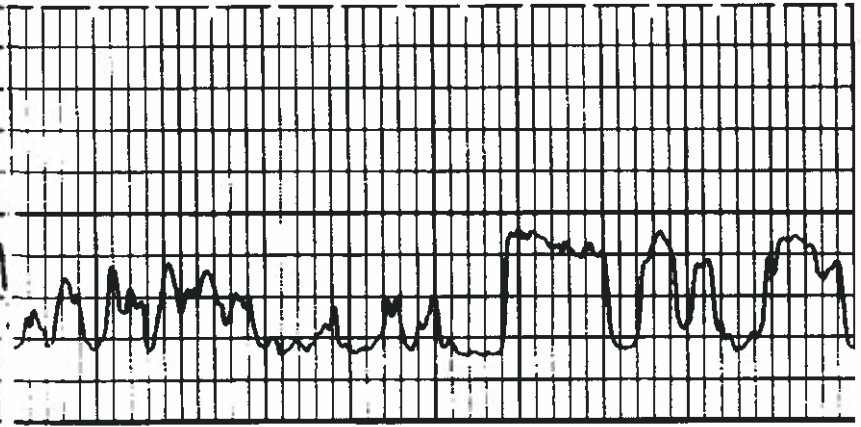


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10800  
10700  
10600  
10500  
10400  
10300



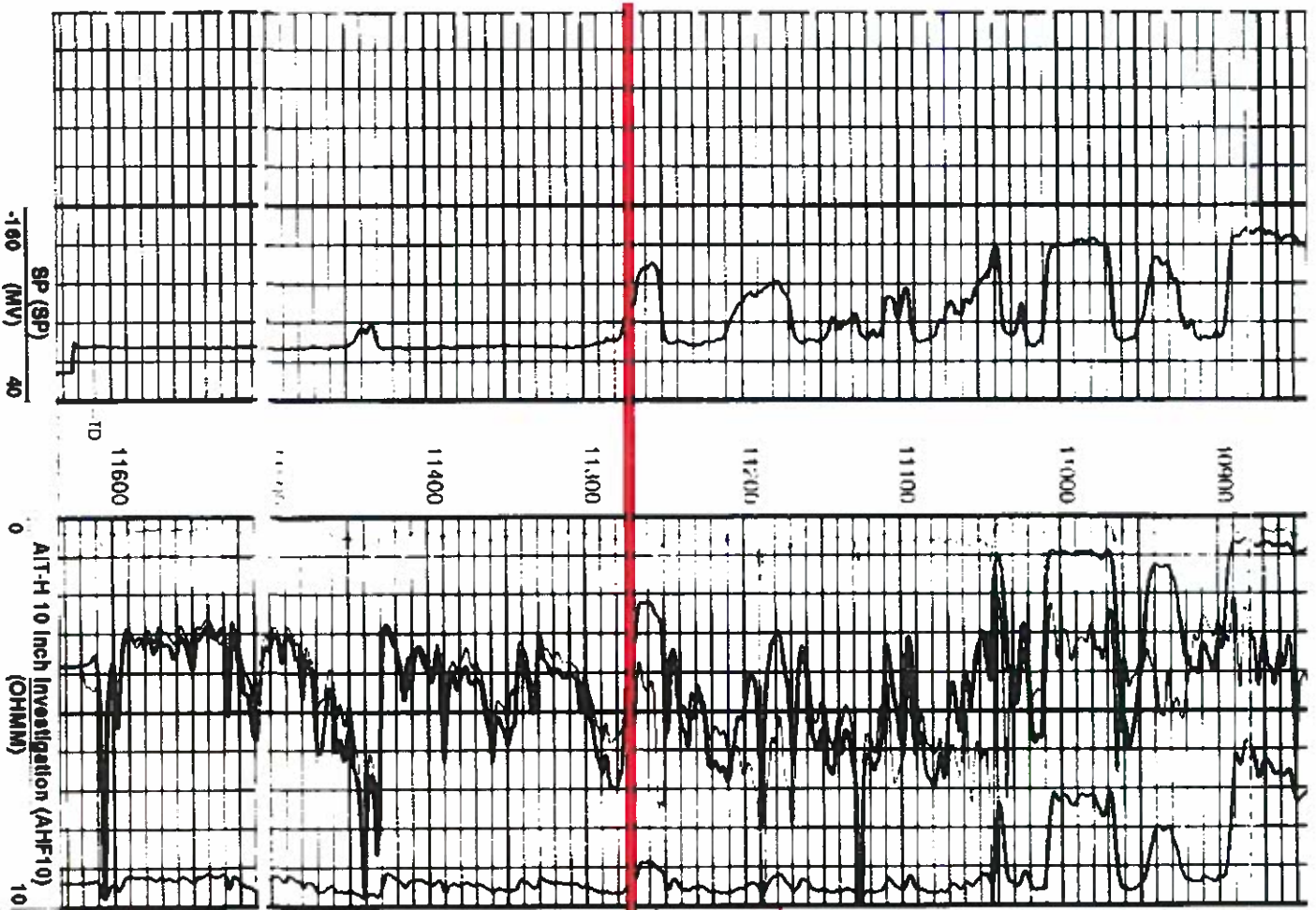
10200  
10100  
10000  
9900  
9800



10,281' MD  
TOP OF LOWER WILLCOX

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**BOTTOM OF ZONE**  
**11,279' MD**

11,279' MD  
TOP OF LOWER WILCOX SHALE BASE.

AIT-H 10 Inch Investigation (AHF10)  
(OHMM) 0 1000

AIT-H 90 Inch Investigation (AHF90)  
(OHMM) 0 10

AIT-H 90 Inch Investigation Conductivity  
(AHFCO90) 0 4000

(MM/M) 0

PIP SUMMARY

Time Mark Every 00.8

AIT-H Answer Product Processing Summary. Data taken with Tool # 201 (AHTNO)  
...Acquired data from HILTI/MAIT  
\*\*\*\* Parabolic Correction \*\*\*\*

OFFICE OF CONSERVATION

JUN 29 2023

044308

INJECTION & MINING DIVISION

**B.7 WORK PROGNOSIS FOR DRILLING, COMPLETING, AND  
TESTING THE WELL**

**DRILLING PLAN FOR 'DRACO IZM #1'**  
**Denbury Carbon Solutions, LLC**

**WELL INFORMATION**

**Well Name:** Draco IZM #1

**Location:** **Lat:** 30° 54' 11.51" N (NAD 27) **Long:** 93° 00' 36.32" W (NAD 27)  
(Section - 8; Township – 2S; Range – 6W; Vernon Parish; Louisiana)

**Elevations:** Ground Level = 195.4' MSL, Drill Floor Height = 20'; KB Elevation = 215'  
*Unless otherwise noted depths in this document are referenced to KB Elevation.*

**Objective:** A vertical stratigraphic test well to acquire site specific data and validate properties of a storage complex to meet requirements of UIC Class VI Site Characterization for the Draco Storage Facility Carbon Sequestration Project.

**Project Sponsor:** Denbury Carbon Solutions, LLC  
5851 Legacy Circle, Suite 1200  
Plano, Texas 75024  
Office: (972) 673-2690

**Land Owner:** Crosby Land & Resources, L.L.C.  
Address 601 Poydras Street, Suite 1720 New Orleans, Louisiana 70130



**GEOLOGICAL PROGNOSIS**

Projected depths were based on a combination of data from 3D seismic and publicly available well datasets from the Louisiana Department of Natural Resources (LDNR).

Formation	Estimated feet (TVD)
Ground Level	0
Base of Underground Source of Drinking Water (USDW, <10,000 mg/l)	3,700
Vicksburg	4,715
Claiborne (Cockfield Sand)	5,517
Cook Mountain	6,500
Sparta	7,108
Cane River	7,454
Upper Wilcox	7,920
Lower Wilcox	10,281
Lower Wilcox Shale Base	11,279

**Cuttings Sample Program (or as directed by Wellsite Geologist)**

- Start 30' samples at 1,000'
- Collect 30' samples to TD or as directed by Wellsite Geologist
- Keep two small dry bags and two large wet bag samples tied in separate 100' bundles (one bundle for LDNR and one for Denbury).
- Gas Detector installed at 1,000' to TD.

**Coring Program**

4" whole core will be collected from the following intervals:

*(Actual intervals to be determined by wellbore conditions and confirmed by Wellsite Geologist).*

- 60' Cane River Formation from ±7,846'-7,906'
- 60' Lower Wilcox Formation from ±10,826'-10,886'

Approximately ~50 sidewall cores will be collected to characterize reservoir properties at various depths throughout the Wilcox Group Sidewall cores may be collected from select shallower strata as desired.

**DRILLING SUMMARY**

INJECTION & MINING DIVISION

A vertical stratigraphic test well to a planned total depth (TD) of approximately 11,616'. Depths in procedure referenced to Kelly Bushing (KB) Elevation (215' MSL).

Notify the Louisiana Department of Natural Resources, Oil and Gas Division, at least 24 hours in advance of cementing casing.

All casing tests will be charted and recorded on LDNR Form CSG-T (Casing Test affidavit). Notify LDNR-Injection and Mining Division (IMD), at least 48 hours in advance of any expected casing tests, in the event that the staff wishes to witness such tests.

**Deviation Surveys**

Vertical Well. Take surveys every connection.

As a minimum, run MWD in 12-1/4" and 8-1/2" hole sections. Max. DLS 2 deg/100'.

**Drilling Fluid**

<u>Depth</u>	<u>Type Mud</u>	<u>Weight, ppg</u>	<u>Viscosity, sec</u>
0' – 4,916'	Fresh water spud mud	8.6 – 9.0	40 - 45
4,916' – 7,736'	Fresh water mud	8.6 – 9.5	50 – 55
7736' – TD	Fresh water mud	8.8 – 10.5	60 – 65
Logging	Fresh water mud	8.8 – 10.5	60 – 65

**Hazard:** Lost circulation is possible during drilling operations. Have plenty of Lost Circulation Material (LCM) products on location. Losses need to be healed to facilitate lifting cement to the surface.

Check and report mud weight and viscosity at regular intervals as operations dictate, post via Pason.

**Drill Cuttings and Waste Drilling Fluid**

A closed loop system will be used to separate drilling fluids from the cuttings. The cuttings and mud waste will be stored, profiled, and hauled off to disposal site as non-hazardous waste.

**Hole & Casing Program**

<u>Bit Diameter</u>	<u>Casing</u>	<u>Type</u>	<u>Depth KB, ft</u>
Driven	20", 94 lb/ft, H-40, Welded	Conductor	0' to ~100'
17-1/2"	13-3/8", 54.5 lb/ft, J-55, BTC	Surface	0' to ~4,916'
12-1/4"	9-5/8", 47 lb/ft, L-80, BTC	Intermediate	0' to ~7,736'
8-1/2"	5-1/2", 23 lb/ft, 22Cr125, VAM TOP Liner Protection		7,336' to ~11,616'

**DRILLING PROCEDURE**

INJECTION & MINING DIVISION

1. Notify contractor to perform underground utility location to digging the cellar and driving the conductor. Coordinate or ensure that Louisiana Department of Natural Resources (LDNR) is notified, and the underground utility inspection is performed before digging the cellar or drilling or auguring the conductor, rathole, or mousehole
2. Rig up and drive 20-inch, 94 lb/ft conductor to refusal, estimated to be at approximately 100 feet below ground level, using a casing hammer. Cut casing 2' above ground level, leave casing remnant on location (minimum 20'). If possible, install mouse hole and if necessary, install rat hole for the drilling rig. Rig down and demobilize conductor equipment.
3. Notify LDNR upon intent to spud the well a minimum of 24 hours before the planned spud time.
4. Weld on a flange, install spool, flow diverter & 21-1/4" 2M annular BOP for drilling surface section. Rig to gas buster and choke manifold. Test BOP's.
5. Contact the cement provider and ensure they have 300 lbs of sugar and 1" tremie line with 100 sacks of excess cement to fill short fall (top off) in cement top.
6. Spud the well, drill 17-1/2" hole to +/-4,916 ft. The 17-1/2" wellbore will be drilled to match the casing length. BHA 2 – 8" drill collars on bottom, ~6-6 1/2" collars for weight, 4 1/2" drill pipe.
7. Circulate the hole clean and make a wiper trip to the surface. Pull out of hole with 17-1/2" BHA.
8. Circulate & condition the hole for logging. Notify LDNR in advance with 24-hour prior notification to log.
9. Rig up wireline logging equipment and run the following open-hole logs from bottom-hole to the surface: Triple Combo, spectral gamma, and dipole sonic. *Note: Cement integrity logs will be run following intermediate section (Sonic Scanner CBL)*

**Surface Open Hole Logging Run: Surface to 4,916'**

Logging Run/ Equipment	Hole Size (inch)	Interval Depth (feet)	Individual Logging Tools	Interval
<b>Run #1:</b> <b>Triple Combo</b> <b>Caliper</b> <b>Spectral GR</b> <b>Dipole</b>	17-1/2	0 – 4,916	Gamma Ray, Resistivity, Density Neutron-Porosity, Spontaneous Potential, and Caliper Logs Spectral Gamma, Dipole Sonic	Surface (Open Hole)

***Note: The open-hole logs will be submitted to LDNR for USDW determination and minimum surface casing setting depth requirement prior to setting the surface casing to ensure adequate isolation and protection of the USDW.***

10. Circulate & condition hole for cementing. Perform wiper trip to conductor.
11. Trip out of hole. Make sure the hole stays full. Strap, clean and drift casing.
12. Hold pre-job safety meeting and fill out JSA. MIRU casing crew and install ~4,916 ft of 13-3/8, 54.5 lb/ft, J-55, BTC casing, float collar and float shoe. **13-3/8" Surface Casing and Cementing Equipment**

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## INJECTION &amp; MINING DIVISION

Item No.	Units	Description
1.	1	13-3/8" BTC Guide/Float Shoe
2.	1	13-3/8", 54.5 lb/ft, J-55, BTC Casing
	2	Steel spring centralizers: 1 - 10 feet above the shoe and 1 - 10 feet below the collar
3.	1	13-3/8" BTC Float Collar
4.	To surface	Steel spring centralizers, 1 on the connections between joints 2 & 3, and then on every 3 <sup>rd</sup> connection to surface beginning with the connection between joints 5&6 (Estimate of 43 total centralizers)

13. Rig down the casing crew and rig up cementers (single stage if no losses, staged job if losses). Pressure test surface lines to 2,000 psi. Cement the 13-3/8" casing to surface in a single stage. The calculated volume plus 100% excess will be pumped. Displace cement using freshwater. The proposed cement slurries are presented below, but the final slurries and volumes will be based on wellbore conditions:

**Slurry Specifications:**

**Lead:** Light weight lead cement with additives

3220 sk Lead Slurry Light Weight cement similar to Halliburton Light with additives

Water requirements: 10.29 gal/sack

Yield: 1.909 ft<sup>3</sup>/sack

Density: 12.7 ppg

**Tail:** 590 sk Class A with additives

Water requirements: 5.21 gal/sack

Yield: 1.179 ft<sup>3</sup>/sack

Density: 15.6 ppg

Displace with plug and bump plug with 500 psi over, not to exceed 80% of burst pressure (~2,184 psi). Hold for 5 minutes, release and test float. If the float leaks, reapply pressure for 10 minutes and hold, and then retest the float.

14. If the cement is not circulated to surface, the tremie method will be used to top up the annulus with Class A cement from the top of cement to surface. If necessary, a temperature survey will be used to locate the top of cement in the annulus.

*Notify LDNR immediately if cement is not circulated to the surface, prior to conducting cement top up.*

15. Nipple down 21-1/4" annular BOP and pick up the 13-5/8" annular.
16. Rig up the BOP tester. RIH with test plug for pressure testing BOP. Function test accumulator, BOP rams and annular, 250 psi low to 2400 psi high. Remove test plug. RIH with wear bushing.
17. Pick up 12-1/4" Roller Cone bit with open jets. Trip in the hole (TIH) with BHA to the top of the 13-3/8" float collar. Drill out cement found on top of the float collar as necessary. Ensure the hole stays full. TOH. Lay down the 12-1/4" roller cone bit BHA.

18. Pressure test the casing to a minimum of 600 psi for 30 minutes.
  - a. **A maximum of 5% pressure loss is allowed over the 30-minute test period.**
  - b. **The pressure test will be charted and recorded on form CSG-T (Casing Test affidavit) and submitted to LDNR.**
  - c. **Notify LDNR-IMD, at least 48 hours prior to conducting the pressure test event, in case a staff wishes to witness the test.**
19. Throughout the entire drilling program, functions test BOPs every 48 hours and blind rams every TOH per LDNR regulations. Record on Pason and in the Daily Drilling Report (DDR).
20. Drill out the float collar, shoe track and float shoe plus at least 10 feet of new formation. Perform a formation integrity tests to either the formation leak-off pressure or to a pressure equivalent to 0.5ppg above the anticipated drilling fluid weight at the setting depth of the next casing string.
21. Continue drilling 12-1/4" hole 12-1/4" hole **SLOWLY** to intermediate hole section TD at approximately  $\pm 7,336'$ . Exact depth to be picked by wellsite geologist.
22. Log well with per the Intermediate Open Hole Logging Program as presented below:

**Intermediate Open Hole Logs & Wellbore Integrity Logs for Surface:**

Logging Run/ Equipment	Hole Size (inch)	Interval Depth (feet)	Individual Logging Tools	Interval
Run #2: Triple Combo Spectral GR	12-1/4	0-7,736	Gamma Ray, Resistivity, Density Neutron-Porosity, Spontaneous Potential, Spectral Gamma	Intermediate (Open Hole)
Run #3: Sonic Scanner Lithoscanner			Sonic Scanner (Gyro/Directional;-XY caliper), Lithoscanner	Intermediate (Open Hole)
Run #3: CBL	17-1/2	0 - 4,916	Sonic Scanner Cement Mode CBL	Surface Casing (cement integrity)

23. Contact the cement provider and ensure they have 300 lbs of sugar and 1" tremie line with 50 sacks of excess cement to fill any short fall in cement top.
24. Run and set 9-5/8", 47 lb/ft, L-80 BTC casing to  $\pm 7,736'$  according to the casing program below. Thread lock will be used for connections on the float shoe, float collar, and cement the 9-5/8" casing in a single

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stage. The threads on these items will be thoroughly cleaned with an appropriate type of degreaser solvent before applying the thread lock material.

### 9-5/8" Intermediate Casing and Cementing Equipment

Item No.	Units	Description
1.	1	9-5/8" BTC Guide/Float Shoe
2.	1	9-5/8", 47 lb/ft, L-80, BTC Casing
	2	Steel spring centralizers: 1 - 10 feet above the shoe and 1 - 10 feet below the collar. Use stop collars above and below each centralizer.
3.	1	9-5/8" BTC Float Collar
4	To Surface	Steel spring centralizers, 1 on the connections between joints 2 & 3, and every joint to surface.

25. Rig up cementers to cement the 9-5/8" casing per the Intermediate Cementing Program. The calculated caliper log volume plus 10-25% excess will be pumped. Set up pump to straw bale corral and pipe to divert excess cement and wash up.

*Note: LDNR utilizes a 50% open-hole washout factor to calculate the volume of excess cement to pump, where caliper logs are not available.*

26. Pressure test lines to 5000 psi.

#### Slurry Specifications:

**Lead:** Light weight lead cement with additives.

1565 sk Lead Slurry Light Weight cement similar to Halliburton Light with additives

Water requirements: 8.96 gal/sack  
Yield: 1.714 ft<sup>3</sup>/sack  
Density: 12.5 ppg

**Tail:** 272 sk Class H with additives

Water requirements: 5.50 gal/sack  
Yield: 1.444 ft<sup>3</sup>/sack  
Density: 16.2 ppg

27. Displace with plug and bump plug with 500 psi over, not to exceed 80% of burst pressure (~5,496 psi). Hold for 5 minutes, release and test float. If the float leaks, reapply pressure for 10 minutes and hold, and then retest the float.
28. Test BOPs using test plug to 250 low to 2,500 psi.
29. Pressure test the casing to a minimum of 1000 psi for 30 minutes.
- A maximum of 5% pressure loss is allowed over the 30 minutes test period.**
  - The pressure test will be charted and recorded on form CSG-T (Casing Test affidavit) and submitted to LDNR.**

c. Notify LDNR-IMD, at least 48 hours prior to conducting the pressure test event, in case a staff wishes to witness the test.

30. Drill out the float collar, shoe track and float shoe plus at least 10 feet of new formation. Perform a formation integrity tests to either the formation leak-off pressure or to a pressure equivalent to 0.5ppg above the anticipated drilling fluid weight at the setting depth of the next casing string.
31. Continue to drill 8-1/2" hole to Cane River Formation core point at ±7,846'. Ream each stand prior to wiping hole for core assembly.
32. Wiper trip to intermediate casing.
33. Circulate bottoms up before tripping out. TOH. Check PDC bit with gauge.
34. Pick up coring 8-1/2" PDC core head per coring procedure. TIH and core Cane River Formation from ±7,846'-7,906'. Note each core point will be picked by the project geologist.
35. POH & lay down core. Grade the core bit.
36. Continue drilling with 8-1/2" PDC bit & BHA; drill to the next core point in the Wilcox formation ± 10,826'.
37. Pick up 60' of 8-1/2" OD core barrel with 8-1/2" PDC core head. TIH and core Wilcox Group from ±10,826 -10,886'.
38. POH & lay down core. Grade the core bit.
39. TIH, safety ream core interval. Drill 8-1/2" hole section to TD ± 11,616'. Circulate until shakers are clean.
40. Log well per Production Open Hole logging program included below:

**Production Open Hole Logs & Intermediate Cased Logs**

Logging Run/ Equipment	Hole Size (inch)	Interval Depth (feet)	Individual Logging Tools	Interval
Run #4: Triple Combo Spectral GR	8-1/2	7,736' – 11,616'	Gamma Ray, Resistivity, Density, Neutron, Spontaneous Potential Spectral GR	Production (Open Hole)
Run #5: Sonic Scanner Lithoscanner			Sonic Scanner (Gyro/Directional;-XY caliper), Lithoscanner	Production
Run #5: CBL	12- 1/4	4,916-7,736'	Sonic Scanner Cement Mode CBL	Intermediate (cement integrity)
Run #6: Sidewall Cores	8-1/2	7,736' – 11,616'	Sidewall Coring Tool	Production





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<b>Run#7:</b> <b>CBL Isolation Scanner</b>	8-1/2	7,736' – 11,616'	Conventional CBL + Isolation Scanner Tool	Production
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41. After open hole logs, Rig down and release the logging company.
42. Run and cement 5-1/2" 23 lb/ft, 22Cr125, Vam Top from  $\pm$  7,436' - 11,616' per casing program presented below:

**5-1/2" Production Casing and Cementing Equipment**

Item No.	Units	Description
1.	1	5-1/2" Guide/Float Shoe
2.	1	5-1/2", 23 lb/ft, 22Cr125, Vam Top Casing
	2	Steel spring centralizers: 1 - 10 feet above the shoe and 1 – 10 feet below the collar
3.	1	5-1/2" Float Collar
4.	To Liner Hanger + Packer	5-1/2", 23 lb/ft, 22Cr125, Vam Top
8.	Top of Liner	Steel spring centralizers, 1 per joint to top of Liner.

43. The 5-1/2" Protection Liner will be cemented in a single stage according to the Cementing Company recommendation.

1295 sk CO<sub>2</sub> Resistant cement with additives

Water requirements: 5.22 gal/sack  
 Yield: 1.204 ft<sup>3</sup>/sack  
 Density: 14.5 ppg

Note: A minimum of 25% excess over the open hole caliper will be used or 50% excess over the theoretical (if no caliper).

Note: The final cement slurry designs and volumes will be based on hole conditions and recommendations from the cementing company.

44. Rig down and move the drilling rig off the well location.
45. Clean up the location.

***(Note the logging Run #7 (CBL & Isolation Scanner) will be captured after the drilling rig has been released).***



## **Formation Testing Program: Draco IZM #1** **Denbury Carbon Solutions, LLC**

### **Rig Up, Drill out Float Collar and Shoe**

1. Mobilize and rig-up workover rig and ancillary equipment.
2. ND tree NU BOP.
3. Pick up 4-3/4" bit and six (6) 3-1/2" drill collars on workstring and trip in the hole breaking circulation every 1,000 ft and circulate a minimum of 10 bbls.
4. Rig up power swivel and continue lowering the drilling assembly to the top of the 5-1/2" float collar at ~ 11,536 feet. Circulate hole clean (2 bottoms up) and displace fresh water with filtered brine.
5. POOH laying down workstring, drill collars, and bit.
6. Pick up bit and scraper for 5-1/2" 23 lb/ft on workstring:
  - a. Run-in hole to plugged back total depth (PBSD) held up depth (~11,596 ft).
  - b. Circulate hole clean, pull out of hole with bit and scraper.
  - c. Displace hole with filtered KCl water.
  - d. POOH.
7. ND BOPE, NU tree.
8. RDMO workover rig.

### **Conduct Cement Bond Log/Temperature Survey Log**

9. RU electric line.
10. Notify LDNR-IMD, at least 48 hours prior to conducting the casing pressure test.  
*NOTE: LDNR-IMD will be contacted to schedule the pressure test of the 5-1/2" long string test in the event the CES or staff wish to witness the casing test.*
11. Pressure test the 5-1/2" Liner to a minimum of 1000 psi for 30 minutes. A maximum of 5% pressure loss is allowed over the 30 minutes test period. *The pressure test will be charted and recorded on form CSG-T (Casing Test Affidavit) and submitted to LDNR.*
12. Run differential temperature survey, isolation scanner, cement bond log (CBL) tools with Gamma Ray and CCL on the electric line, lower in well, and run CBL on the 5-1/2" liner from PBSD to Liner Hanger top.
13. Pull out of hole and lay down. Submit CBL to LDNR-IMD for confirmation of good cement prior to any injection into the well.
  - a. The CBL must show evidence of the minimum required interval of 60% bonded cement in the isolating shale immediately above top of zone.
  - b. If CBL does not show good bond, perform cement squeeze and re-run CBL.

## Perforate Wilcox Group

## INJECTION & MINING DIVISION

14. RIH with RBP on wireline. Set RBP in the 5-1/2" 23# liner 50' below anticipated bottom perforation depth. POOH. Pressure test RBP to 500 psi for 30 minutes.
15. RIH with perforation guns on wireline and perforate a 10 ft interval in the Wilcox per Denbury Geologist in the 5-1/2" liner (**actual perforation interval depths and footages will be determined by the open hole logs of the well itself, but perforations should fall within the 10,913' - 11,113' interval listed on page 2 on the Form UIC-25 STRA TEST**).
16. Run pressure gauge on e-line and record bottom hole pressure.
17. RD and release the logging unit.

## Fluid Sample and BHP measurement of the Wilcox Group

***NOTE: If fluid sample recovery was unsuccessful during the open-hole program due to borehole conditions, a fluid sample will be recovered from the perforated interval***

18. Rig-up workover rig.
19. ND tree NU BOP.
20. RIH with test packer for 5-1/2" 23# liner and a nipple profile below packer on the 3-1/2" workstring.
21. Set Packer 50 feet above the Wilcox top perforation at 10,863'. ***At no point will the packer be set above the minimum required interval of 60% bonded cement in the isolating shale immediately above top of zone or greater than 150' above top of zone.***
22. **Contact LDNR 48 hours prior to perform CES witnessed MIPT.**
23. Collect formation sample and send it off to the lab for analysis.
24. Stimulate formation.

## Testing of the Wilcox Group

25. Rig up e-line and run pressure gauge and record bottom hole pressure in real-time during the Step Rate Test (ISRT) inside the 3-1/2" workstring.
26. Perform ISRT of the Wilcox perforations. The ISRT will consist of 15 minutes steps with identical rate steps. The injection rate step size will be determined, but it is assumed at 0.25 BPM. The test will be continued until the pump limit is reached or the formation fracture pressure is determined.
27. End ISRT and allow the formation pressure to bleed off overnight. Close valve on pump-in sub to isolate well from injection pumps.
28. Begin constant rate injection test at the designed injection rate with filtered fluids. The constant rate injection test will be maintained for 10 hours with an assumed rate of 2 bpm. Filtered brine or fresh water with KCL substitute will be used for the injection fluid.
29. At end of 10 hours injection period, conduct a hard shutdown and begin pressure falloff test. The pressure falloff test duration will be by the formation pressure bleed off, but 36 hours is assumed.
30. Confirm that the well is dead.
31. Release pack-off and POOH with wireline the pressure gauge.
32. Release and POOH the 5-1/2" packers, nipple profile and workstring.
33. Retrieve RBP out of the hole.
34. RD and release the logging unit.

## **Temporarily Abandon Well**

35. RIH with workstring and set a CIBP 50' above Wilcox top perforation. Spot 100 lbs. of sand on top of CIBP. POOH. Pressure test plug to 300 psi for 30 minutes without losing more than 5% pressure.
36. Run 5000' of kill string.
37. Nipple down BOPs and install wellhead tree assembly.
38. Rig down workover rig and equipment and move off location.

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## **B.8 SCHEMATIC 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).

**Three separate wellbore schematics are attached.**

- 1. Schematic as the well will look post drill**
- 2. Schematic as the well will look at the time of injectivity testing**
- 3. Schematic as the well will look once Temporarily Abandoned**

**\*\*The schematics are stamped and signed by a Louisiana-registered Professional Engineer (PE)\*\***

**PROPOSED WELLBORE DIAGRAM**

Location:  
 Latitude: 30° 56' 11.5000"N  
 Longitude: 93° 00' 38.5227"W

FIELD: Draco  
 WELL: Draco IZM #1  
 OPERATOR: Denbury  
 COUNTY: Vernon  
 STATE: LA  
 STATUS: Class V (To be Permitted)  
 PERMIT NO. TBD  
 WELL TYPE: Stratigraphic Test Well

GL ELE: 195  
 DF ELE: 30  
 KB ELE: 210

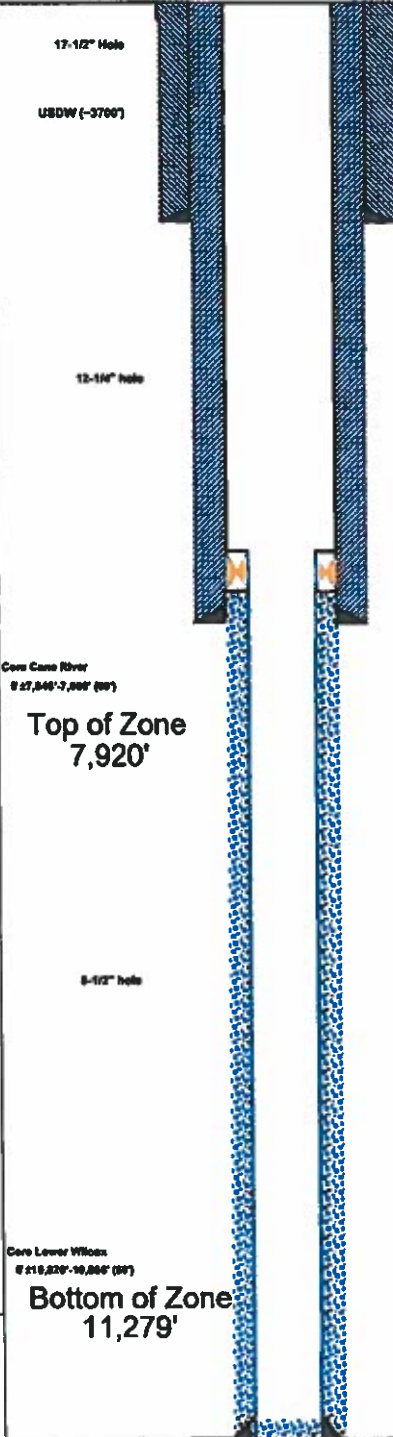


DATE SPUNDED:  
 COMPLETED:

SECTION:  
 TOWNSHIP:  
 RANGE:

(Drawing: Not to scale)

Formation Tops	
Undifferentiated Aquifer Systems	17-1/2" Hole
Vicksburg (4,716')	USDW (-3760')
Claborne (Cockfield Sand) (5,517')	
Cook Mountain (5,589')	12-1/4" hole
Sparta (7,106')	
Cane River (7,484')	Cane River @ 27,840' - 7,800' (90')
Upper Wilcox (7,820')	Top of Zone 7,920'
Lower Wilcox (10,261')	8-1/2" hole
Lower Wilcox Shale Base (11,279')	Cane Lower Wilcox @ ±10,820' - 10,860' (90')
	Bottom of Zone 11,279'



2 1/2", 64 B&R, N-40, Welded set at ± 195'

4-1/2", 64.5 B&R, J-65, BTC set at ± 4,810'  
 Lead - 3220 cc Light Weight 12.7 ppg, yield 1.800 ft<sup>3</sup>/skt + additive  
 Tail - 630 cc ± 15.0 ppg, yield 1.170 ft<sup>3</sup>/skt cement + additive  
 43 Controlzars (10' above shoe, 10 feet below the collar, Jts 2&3,  
 1 every third joint starting with the top of joint 6

9-5/8" X 7" Liner Hanger + Packoff Crossover to 6-1/2" Cog set at ± 7,330'

6-1/2", 475, L-40, BTC cog set at ± 7,730'  
 Lead - 1680 cc 12.5 ppg, yield 1.714 ft<sup>3</sup>/skt HAL NeoCom cement + additive.  
 Tail - 272 cc 18.2 ppg, yield 1.444 ft<sup>3</sup>/skt HAL ThermoCom cement + additive.  
 67 Controlzars (10' above shoe, 10 feet below the collar, Jts 2&3,  
 1 every third joint starting with the top of joint 6

6-1/2", 325, 22Cr125, VAM TOP Liner set at ± 7,430' - 11,615'  
 CO2 Resistant Cement  
 Tail - 1295 cc 14.5 ppg, yield 1.394 ft<sup>3</sup>/skt CO2 Resistant Cement.  
 102 Controlzars (10' above shoe, 10 feet below the collar, Jts 2&3)  
 and then One every joint.



PSTD: ± 11,500'  
 TD: ± 11,615'

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**Draco IZM #1 Post Drilled Schematic**

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**PROPOSED WELLBORE DIAGRAM**

Location:  
 Latitude: 30° 54' 11.5000"N  
 Longitude: 93° 09' 38.3227"W

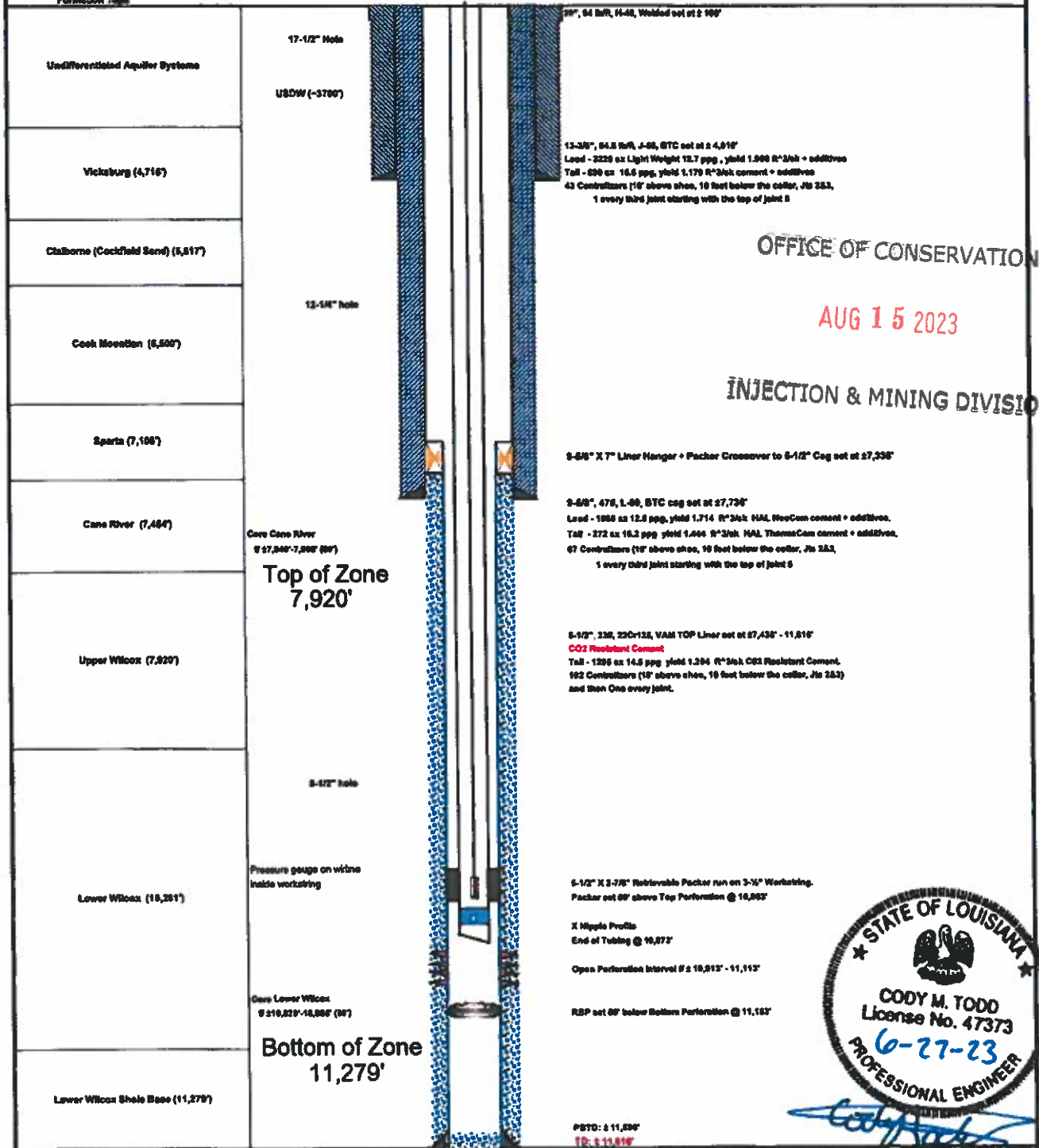
FIELD: Ormeo  
 WELL: Draco IZM #1  
 OPERATOR: Denbury  
 COUNTY: Varner  
 STATE: LA  
 STATUS: Class V (To be Permitted)  
 PERMIT NO. TBD  
 WELL TYPE: Seismographic Test Well  
 SECTION: 8  
 TOWNSHIP: 25  
 RANGE: 09

OL ELE: 195  
 OF ELE: 20  
 KB ELE: 216

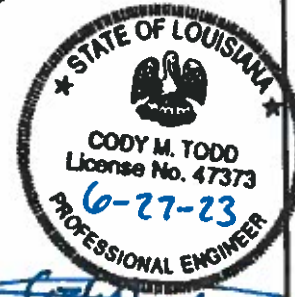


DATE SPUNDED:  
 COMPLETED:

(Drawing: Not to scale)



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**Draco IZM #1 - Fluid Sampling & Testing Schematic**



**PROPOSED WELLBORE DIAGRAM**

**Location:**  
 Latitude: 30° 04' 11.8000"N  
 Longitude: 93° 09' 36.3227"W

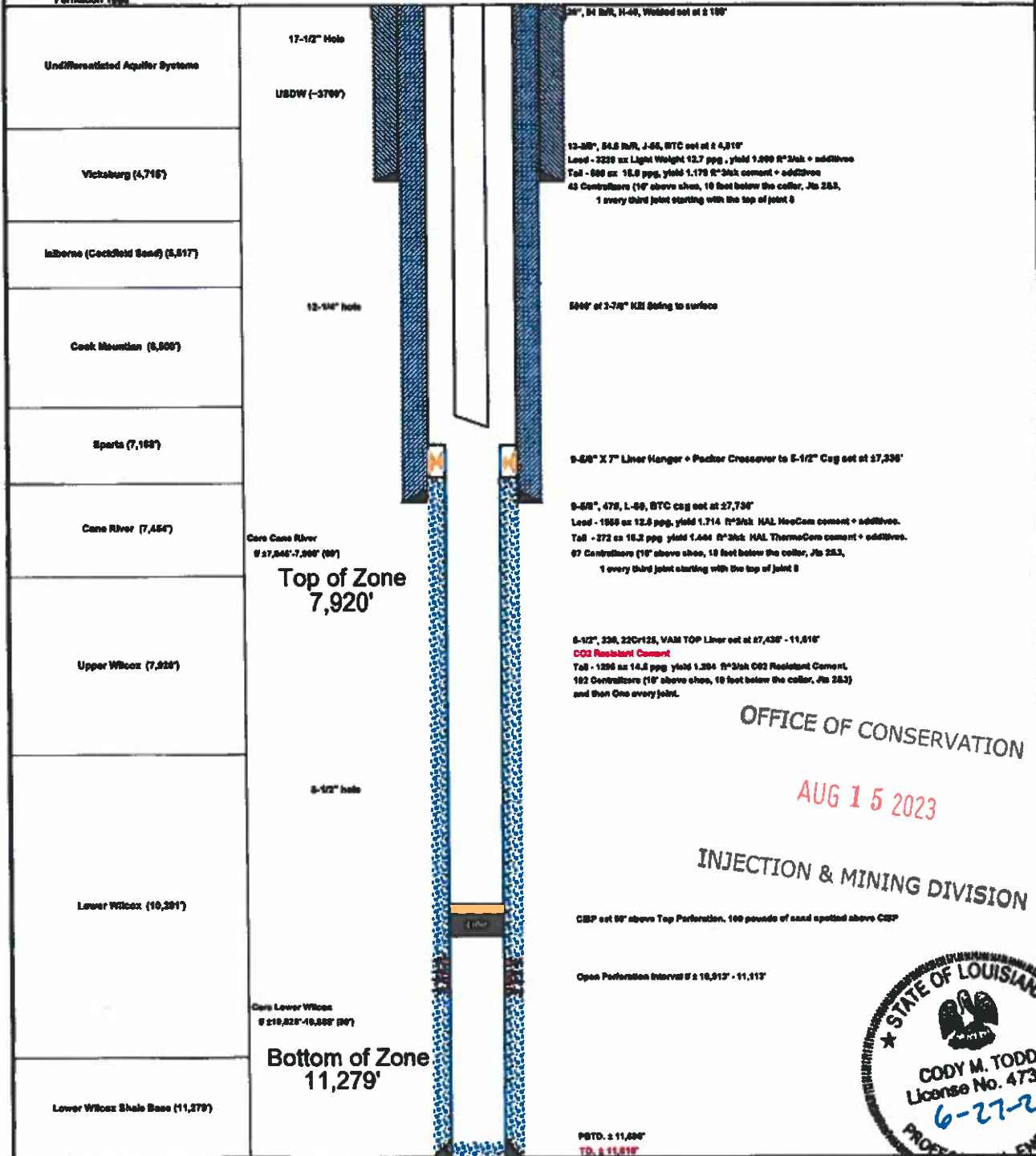
**FIELD:** Draco  
**WELL:** Draco IZM #1  
**OPERATOR:** Denbury  
**COUNTY:** Vernon  
**STATE:** LA  
**STATUS:** Class V (To be Permitted)  
**PERMIT NO.:** TBD  
**WELL TYPE:** Stratigraphic Test Well  
**SECTION:** 8  
**TOWNSHIP:** 28  
**RANGE:** 09

**OL ELEV:** 198  
**OP ELEV:** 20  
**KB ELEV:** 216

**DATE STUDIED:**  
**COMPLETED:**



(Drawing: Not to scale)



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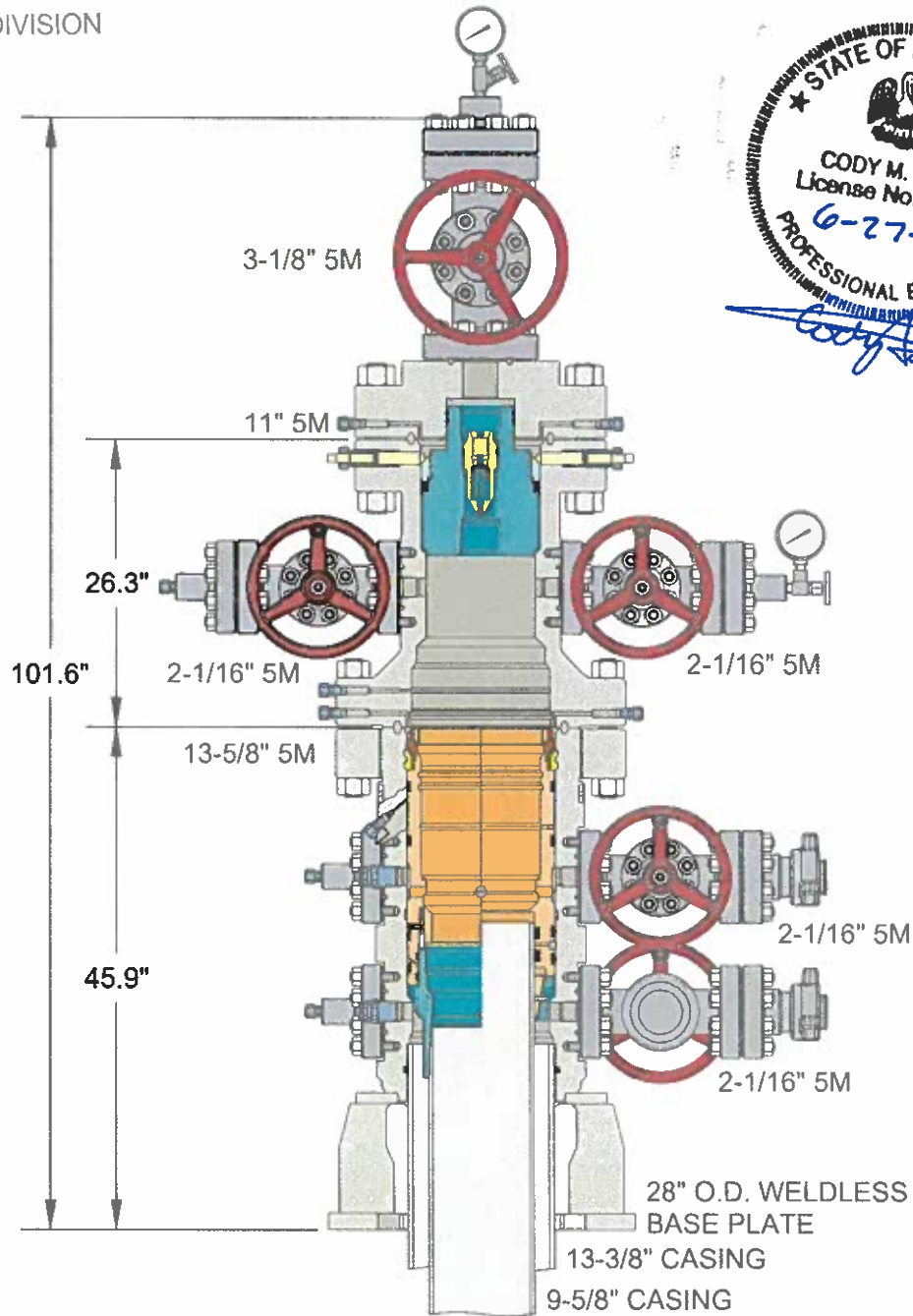
Draco IZM #1 - Temporarily Abandoned Schematic


JUN 29 2023

Draco IZM #1 Wellhead Schematic

044308

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	13-3/8" X 9-5/8" X 5-1/2" 5M RSH-2N WELLHEAD ASSEMBLY, WITH T-EBS-F TUBING HEAD, AND A5PEN ADAPTER FLANGE		
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DRAWN BY: 2/8/2023		DRAWING NO. 1002558	
REVIEWED BY:		Rev. A	Sht. 1 of 1
APPROVED BY:		DATE: 2/	

ALL DIMENSIONS ARE APPROXIMATE, NOT FOR MANUFACTURING USE



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Denbury Carbon Solutions, LLC  
Class V Stratigraphic Test Well Application  
Vernon Parish, LA

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## **ADDITIONAL ATTACHMENTS**

**AOR DETAIL WELL REPORT FOR SN 233064**

**P&A PROCEDURE**

**P&A SCHEMATIC**

**THIRD PARTY P&A ESTIMATE**

**SONRIS/2000**

Report run on: Jun 15, 2023 8:37 AM

**Well Serial Num : 233064**

**Well Num : 001**

**Well Name : CROSBY LAND & RESOURCES SB**  
**Well Status : 29 DRY AND PLUGGED**  
**Classification : Class Type :**

**Distance Between: 652 ft**

**Casing**

Completion Date	Casing Size	Wellbore Size	Casing Weight	Upper Set Depth	Lower Set Depth	Sacks Of Cement	Casing Pulled	CTOC
06/27/2006	14		0	0	85			0
06/27/2006	9.625	12.25	40	0	5080	1505		1300

Cement Plugs	Plug Type	Sacks Of Cement	Slurry Weight	Upper Plug Depth	Lower Plug Depth
<b>Completion Date : 06/27/2006</b>	C	100	15.6	5900	5180
<b>Completion Date : 06/27/2006</b>	C	25	15.6	5	60

**Surface Coordinates**

Received Date	Coordinate Source Code	Coordinate System Code	Lambert X	Lambert Y	Zone	Ground Elevation	Latitude Degrees	Latitude Minutes	Latitude Seconds	Longitude Degrees	Longitude Minutes	Longitude Seconds
03/17/2006	02	01	1473946	817829	S		30	54	17.8	93	0	37.8

**For injectivity testing purposes:**

- Well Serial No. 233064 is the only well within a 1/4 mile of the proposed Draco IZM #1.
- Surface casing is set at 5,080' which is below the ~3,700' USDW & cemented with 1205 sx of 2.55 yield Lead & 300 sx of 1.1 yield tail (CTOC @ surface).
- Well was plugged 6/21/2006 with 100 sx from 4,900' - 5,180' & 25 sx from 5' - 60'
- USDW is fully isolated from proposed injection zone for injectivity tests

**Note: Wellbore sizes with an asterisk symbol ( \* ) next to it are assumed values based on the casing size and these assumed values have been substituted in place of a null (or zero) value everywhere a null (or zero) value previously existed as the wellbore size.**

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 044308

**DENBURY – DRACO IZM #1 – CLASS V PERMIT APPLICATION  
P&A PLAN, CLOSURE PLAN, AND COST ESTIMATE ENGINEERING CERTIFICATE**

I, Russell Bellard, Jr., Licensed Professional Engineer

certify under penalty of the law that the DRACO IZM #1 CLASS V Well Permit Application pages listed below were prepared under my direction in accordance with the Plug & Abandon Rules governed by the State of Louisiana. Based on my inquiry of the person or persons directly responsible for gathering the information, recommendations, and specifications submitted are, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature Russell J. Bellard Jr. Date 08.03.2023

Document pages covered by Engineering Certification include the following:

Pages 3 thru 9 – P&A – Closure Procedure, Proposed P&A Schematic, & P&A-Closure Cost Estimate



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State of Louisiana, Registered Professional Engineer #27640

**Plugging Procedure and Closure Plan**  
**Draco IZM #1**

**WELL INFORMATION**

**Location:**    **Lat:** 30° 54' 11.51" N (NAD 27)                      **Long:** 93° 00' 36.32" W (NAD 27)  
(Section - 8; Township – 2S; Range – 6W; Vernon Parish; Louisiana)

**Elevations:**    Ground Level = 196' MSL, Drill Floor Height = 20'; KB Elevation = 216'  
*Unless otherwise noted depths in this document are referenced to KB Elevation.*

**Objective:**    The primary objective is a stratigraphic test of the Wilcox Group formation as part of Denbury Carbon Solutions, LLC, Vernon Parish Carbon Sequestration project.

**Project Sponsor:**

**Land Owner:**

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**GEOLOGICAL PROGNOSIS**

Projected depths were based on a combination of data from 3D seismic and publicly available well datasets from the Louisiana Department of Natural Resources (LDNR).

<b>Formation</b>	<b>Estimated feet TVD</b>
Ground Level	0
Base of Underground Source of Drinking Water (USDW, <10,000 mg/l)	3,700
Vicksburg	4,715
Claiborne (Cockfield Sand)	5,517
Cook Mountain	6,500
Sparta	7,108
Cane River	7,454
Upper Wilcox	7,920
Lower Wilcox	10,281
Lower Wilcox Shale Base	11,279

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# PART 1: CLOSURE PLAN

## 1.1 DETAILS OF CEMENT PLUG PLACEMENT

The details of the placement plugs used to plug and abandon the well is included in the plugging and abandonment wellbore schematic (Figure 1) and in the detailed Plugging and Abandonment Procedure (Part 2).

A summary of the cement plug materials for the well is provided below:

Plug #	Bottom of Plug (ft)*	Top of Plug (ft)*	Plug Column (ft)	Cement Volume (bbls)	Plug Material	Plug Type
1	11113	10820	293	6	CO2 resistant @ 16.4 ppg	Set CICR and squeeze Cement to cover perforations
2	7786	7636	150	3	Class H @ 16.4 ppg	Balanced plug
3	7336	7236	100	7	CO2 resistant @ 16.4 ppg	Balanced plug
4	4966	4866	100	7	Class H @ 16.4 ppg	Balanced plug +CIBP @ 4.966
5	3750	3650	100	7	Class H @ 16.4 ppg	Balanced plug
6	150	50	100	7	Class H @ 16.4 ppg	Balanced plug
	15	5	10	1	Sacked concrete	Concrete

Table 1: Draco IZM#1 - Cement Plug Materials and Placement

## 1.2 DETAILS OF CASING LEFT IN WELL

At least the top five feet of each casing string will be cut-off during the plugging and abandonment of the well to install the steel plate over the well (Environmental plug/coverage).

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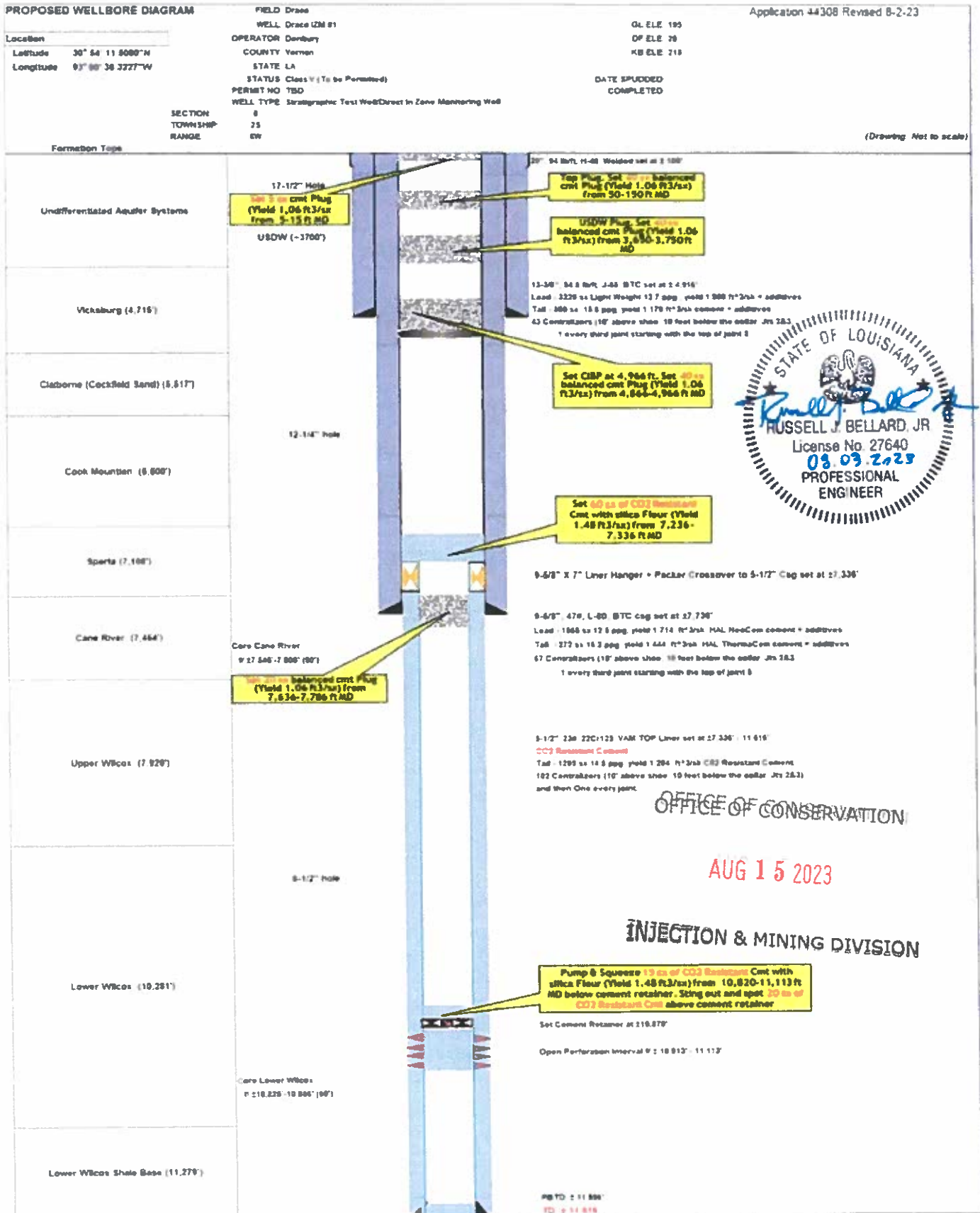


Figure 1: Draco IZM #1 Well - P&A Wellbore Diagram



## **PART 2: PLUGGING AND ABANDONMENT PROCEDURE**

Provide the Office of Conservation a minimum of 60-day notice of intent to plug the well with the final plugging plan sealed with a P.E. certification. Identify any known or anticipated geologic or economic conditions that may affect the plugging and identify any material intended to be left in the well. The plugging plan must be approved by the Office of Conservation prior to implementing any site activity.

The plugging method will utilize a Cast Iron Cement Retainer Plug (CICR) to be run and set inside the 5-1/2" casing about 50 ft from the top of perforation. Afterwards, a cement plug will be positioned and set on top of the CIBP. The well will then be filled to the surface with cement plugs by setting a series of balanced plugs, and each plug will be tagged, and/or pressure tested to 300 psi for 30 minutes before setting the next plug. All casing strings will be cut-off 5 feet below ground level, and a 1/2 inch steel cap will be welded over the outermost casing string with the serial number of the well and the plugging and abandonment date inscribed on the top of the plate.

Below is a workover procedure to plug and abandon Draco IZM #1:

1. Submit a Work Permit Request (Form UIC-17) to the Louisiana Department of Natural Resources, Injection and Mining Division (LDNR) to perform mechanical integrity tests.
2. After receiving a Work Permit Number from LDNR, notify the appropriate Louisiana Office of Conservation Enforcement Specialists at least 48 hours prior to initiating any site activity.
3. Rig up a wireline unit. Move in and rig up the required number of frac tanks to store saturated brine for pressurizing the well to the required surface pressure for mechanical integrity testing. Inject brine into the well until the surface pressure is near the required test pressure. Move in a nitrogen unit and a wireline unit. Rig up digital pressure gauges to the well and initiate a nitrogen/brine mechanical integrity test. At the conclusion of the test, bleed off the nitrogen and brine pressures. Prepare a mechanical integrity report with Well History and Work Resume Report (Form WH-1) and submit to the Louisiana Department of Natural Resources, Injection and Mining Division (LDNR) and wait for final approval to initiate closure activities.
4. After receiving a Work Permit Number from LDNR, notify the appropriate Louisiana Office of Conservation Enforcement Specialist at least at least 48 hours prior to initiating plugging and abandonment field activities.
5. Prepare the well location for a workover rig by removing all wellhead valves, surface facilities piping, and instrumentation connected to the wellhead. Replace all well head valves with blind flanges. Maintain an annular outlet and valve for fluid displacement from the well, if required.
6. Move in and rig up a workover rig and associated equipment.
7. Open well and check for pressures. Bleed off any pressures. Record same.
8. Kill well by bull heading with field salt water (9.5 ppg). Ensure that hole is completely filled at all times.
9. Rig up wireline and lubricators (BOPs). Test BOPs 250 psi low and 5000 psi high.
10. Set Retrievable Bridge plug or back pressure valve.
11. Remove the upper wellhead assembly and install an annular blowout preventer (BOP) to the upper spool. Function test the BOP.
12. Retrieve retrievable bridge plug or back pressure valve.
13. Rig up wireline (E-line) and standard lubricator.
14. Make a 4.5" gauge ring/junk basket run in the 5-1/2" liner to  $\pm$  10,870 feet MD. Pull out of hole.

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15. Pick up a 4.24" CICR, run in hole and set the CICR at  $\pm$  10,870 feet MD.
16. Mix and squeeze cement through the CICR from 10,870 – 11,113 feet MD, mixing and pumping cement from 10,820 – 10,870 feet on top of the cement retainer.
17. Rig down wireline (E-line).
18. Rig up a digital pressure recorder and pressurize the casing to approximately 300 pounds per square inch (psi) and conduct a 30-minute pressure test. Bleed off the pressure and rig down the pressure recorder.  
*(Note: LDNR requires a pressure drop of not more than 5% within the 30 minutes interval for the pressure test to be accepted). If pressure test bleeds off over 5%, contact the Denbury's Operation Engineer immediately.*
19. Run in hole with workstring to the top of cement on the CICR.
20. Circulate and fill wellbore with 9.0 ppg WBM. Establish circulation through the workstring up the protection casing annulus, up to 2 workstring volumes.
21. Pull the workstring to 7,786 feet MD. Mix and pump a 150 feet (20 sacks) 16.4 lb/gal cement of balanced cement plug from 7,636-7,786 feet MD. After allowing enough time for the cement to harden, lower the work string and tag the top of the cement plug. Record results.
22. Rig up a digital pressure recorder and pressurize the casing to approximately 300 pounds per square inch (psi) and conduct a 30-minute pressure test. Bleed off the pressure and rig down the pressure recorder.

*(Note: LDNR requires a pressure drop of not more than 5% within the 30 minutes interval for the pressure test to be accepted). If pressure test bleeds off over 5%, contact the Denbury's Operation Engineer immediately.*

23. Rig up a cementing unit and spot the remainder of the balanced plugs as shown in the wellbore diagram using 16.4 ppg Class H cement. Pull the work string above the estimated cement top and reverse out. Pull two additional stands of the work string and wait for the cement to cure for at least four hours.
24. Tag the top of cement and pressure test the casing to 300 psi for 30 minutes and record the test with a digital pressure gauge.
25. Continue spotting balanced cement plugs up the wellbore until reaching 5 feet to the surface using 16.4 ppg Class H cement on all cement plugs.
26. Tag the top of cement and pressure test the casing to 300 psi for 30 minutes and record the test with a digital pressure gauge.
27. Nipple down the BOP and remove the remaining wellhead equipment.
28. Rig down and move out the workover rig and associated equipment.
29. Excavate around the well and cut-off all casings at least 5 feet below ground level.
30. Top-off the well to 5 feet with concrete.
31. Weld a ½ inch thick steel plate over the 20-inch conductor casing with the following inscriptions welded on the plate: 1) LDNR Serial Number, and 2) P&A Date.
32. Install a survey monument on the top of the ½ inch thick steel plate that extends to the original ground level. Backfill the excavated area around the well. Survey the elevation of the new marker.
33. Restore the location and haul off for disposal any waste material generated from the plugging and abandonment operation.

After plugging and abandonment, Denbury will prepare a Closure Report for submittal to LDNR within 30 days after completing closure operations which includes the following information:

- a) detailed procedures of closure operation;

- b) original copy of LDNR Form UIC-P&A and
- c) any additional information pertinent to the closure activity, including testing and monitoring data.

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## PART 3 CLOSURE AND POST-CLOSURE COST ESTIMATE

Description		Cost Estimate (\$)
Rig Mob/Demob with Trucking	2 @ \$6,500/day	13,000
Workover Rig	5 days @ \$6500/day	26,000
Workstring Rental	5 days @ \$100/day	5,000
Rental Equipment & Tanks	6 days @ \$1,000/day	6,000
Miscellaneous Trucking	5 loads @ \$1,500/load	7,500
Drilling mud	\$19/bbl	5,700
CO2 Resistant Cement	LumpSum	25,000
Class H Cement	\$28/bbl	1,148
Cement Pumping Services	6 jobs @ \$14,000/job	84,000
Wireline Logging	2 @ \$15,000	30,000
Mechanical Integrity Test	1 @ \$25,000	25,000
Welding/Casing Cutting	1 @ \$5,000	5,000
Waste Management/Disposal/Vacuum	1 @ \$15,000	15,000
Surface Restoration/Remediation	5%	14,901
Field Supervision Expenses	6 days@ \$1,500	9,000
Project Management and Report	Job	8,000
	<b>Subtotal</b>	<b>280,249</b>
Project Contingency	10%	28,025
	<b>Project Total</b>	<b>308,274</b>

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Class V Stratigraphic Test Well Application  
Vernon Parish, LA

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## **FINANCIAL SURETY**

Financial Surety in the form of a performance bond covering the third party estimated P&A cost will be submitted to LDNR prior to a permit to construct being issued.

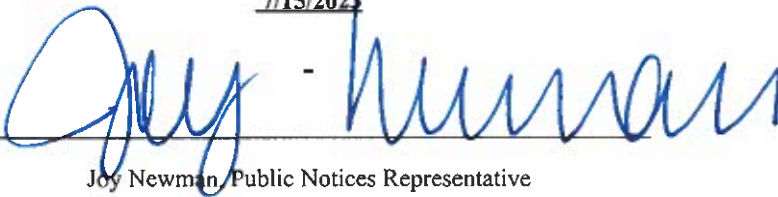
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7/15/2023

  
Joy Newman, Public Notices Representative

Sworn and subscribed before me, by the person whose signature appears above

19 Jul 2023



M. Monic McChristian,

Notary Public ID#88293

State of Louisiana

My Commission Expires: Indefinite



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Ad No: 46636

Cody Todd  
5851 Legacy Circle, Suite 1200  
Plano, TX 75024

PUBLIC NOTICE

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LEGAL NOTICE

Department of Natural  
Resources  
Office of Conservation  
Injection & Mining  
Division

Denbury Carbon  
Solutions, LLC  
Wildcat - So LA Lafayette  
District Field, Vernon  
Parish

Pursuant to LAC 43:XIX,  
Chapter 47 et seq., Den-  
bury Carbon Solutions,  
LLC, 5851 Legacy Circle,  
Suite 1200 Plano, Texas  
75024 has requested ex-  
pedited processing of  
Permit Application No.  
44308 for a Class V strati-  
graphic test well located  
in Wildcat - So LA  
Lafayette District Field in  
Vernon Parish. The expe-  
dited review process  
does not shorten any ex-  
isting time delays for  
public notice, comment  
period, hearing, or in any  
way shorten or impinge  
upon the public partici-  
pation process. In accor-  
dance with the Public  
Records Act, R.S. 44:1 et  
seq., all public records  
concerning this request  
for expedited processing  
are available to the pub-  
lic for inspection and  
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all comments or inquiries  
to:

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Injection and Mining  
Division  
Office of Conservation  
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Attn: Melissa Ashour

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