FACT SHEET

Applicant:	ExxonMobil Low Carbon Solutions Onshore 22777 Springwoods Village Parkway Spring, TX 77389 281-939-3899
Project Proposal:	Permit to drill one Class V Stratigraphic Test Well
Type of Facility:	N/A
Well Names:	Mockingbird IZM No. 001
Project Location:	Section 34, Township 4 South, Range 5 West, of Allen Parish
Facility Local Address:	N/A
Application No.:	45314
Docket No.:	IMD 2025-02

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

The application is for the drilling of one proposed Class V stratigraphic test well. The total depth of the well is at a depth of approximately 7,480 feet below ground level.

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

General Information: ExxonMobil Low Carbon Solutions Onshore proposes to collect geotechnical cores, fluid samples, static pressure measurements, and other applicable information.

The base of the lowermost underground source of drinking water (USDW) is approximately 2,788 feet below ground level. There is one registered water well located within a one mile radius of the proposed well location. The principal regional aquifers in the area comprise of the Chicot, Evangeline, and Jasper Aquifers below.

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

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

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

For information regarding the public hearing or any information concerning the application, refer to the Public Notice for Docket No. IMD 2025-02 or call Scott St. Romain at (225) 342-5517, Monday through Friday, between the hours of 7:00 a.m. to 3:30 p.m.

Comment Period: The public comment period officially commences March 13, 2025 at 8:00 a.m. and concludes, May 1, 2025 at 4:30 p.m. Submit all comments in writing to Scott St. Romain, Louisiana Office of Conservation, Injection and Mining Division, 617 N. 3rd St, Baton Rouge, LA 70802. Comments may also be e-mailed to info@la.gov. Please reference ExxonMobil Low Carbon Solutions Onshore Class V Permit, Application Number 45314, Docket No. IMD 2025-02.

Public Hearing: The public hearing will be held on April 30, 2025 at 6:00 p.m. at the Allen Parish Civic Center at 609 Tiger Lane in Oberlin, Louisiana.

DEPARTMENT OF ENERGY AND NATURAL RESOURCES

March 5, 2025

Cody Todd, P.E.
ExxonMobil Low Carbon Solutions Onshore (E1041)
22777 Springwoods Village Parkway
Spring, TX 77389

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

RE: Stratigraphic Test Well – New Drill
Mockingbird IZM No. 001
Wildcat-SO LA Lafayette Dist. Field
Allen Parish

Application No.45314
Serial No. _____
API No. _____

Dear Mr. Todd:

The application by ExxonMobil Low Carbon Solutions Onshore (ExxonMobil) to drill a Class V stratigraphic test well has met the interim requirements for permitting such a well. The issuance of this Permit to Construct constitutes a final permit decision regarding the construction of this well. You are hereby granted approval to perform the work as described in the application. The approved work must be completed by _____ __, 2026.

ExxonMobil is to notify the Conservation Enforcement Specialist (CES) for Allen Parish, Sarah Hitchcock at (337) 298-8726, Monday through Friday, or by calling the Injection and Mining Division at (225) 342-5515 at least 72 hours prior to commencement of work. At least 48 hours before the casing test of the long string, contact the CES to schedule a witnessed casing test.

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,

Steven M. Giambrone
Office of Conservation

Gavin D. Broussard, Interim Director
Injection and Mining Division

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.	**45314**	Serial No.	
CES Name	**Sarah Hitchcock**	CES Phone No.	**337-298-8726**

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

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

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

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

045314

CLASS V STRAT TEST WELL PERMIT APPLICATION

OFFICE OF CONSERVATION
INJECTION & MINING DIVISION
617 N. Third St., 9th FLOOR
BATON ROUGE, LA 70802

Injection-Mining@la.gov
(225) 342-5515

UIC-25 STRAT TEST | **PLEASE READ APPLICATION INSTRUCTIONS** | **TYPE ONLY**

1. APPLICATION TYPE: (Check One)

☑ DRILL AND COMPLETE NEW CLASS V WELL ☐ CONVERT AN EXISTING WELL TO CLASS V

☐ OTHER (SPECIFY):

2. IDENTIFY WELL USE

Drill a stratigraphic test well to evaluate the feasibility of a potential carbon storage project

3. IDENTIFY FUTURE WELL USE (i.e. Conversion to Class VI, monitor well, P&A, etc.)

Monitor Well

4. OWNER/OPERATOR NAME	**5. OC OPERATOR CODE**
ExxonMobil Low Carbon Solutions Onshore	E1041

6. OWNER/OPERATOR MAILING ADDRESS	**7. CITY, STATE, ZIP CODE**
22777 Springwoods Village Parkway	Spring, TX 77389

8. TELEPHONE NO	**9. E-MAIL ADDRESS**
346-220-7391	cody.todd@exxonmobil.com

10. WELL NAME	**11. WELL NO**	**12. WELL SERIAL NO (Well Conversions Only)**
Mockingbird IZM	1	

13. FIELD NAME	**14. FIELD CODE**
Wildcat - So LA Lafayette District	9727

15. PARISH NAME	**16. SECTION**	**17. TOWNSHIP**	**18. RANGE**
Allen Parish (02)	34	4S	5W

19. LOCATION COORDINATES (GCS, NAD 27)				**20. STATE PLANE COORDINATES (LAMBERT, NAD 27)**	
LATITUDE:	30 °	39 MIN	53.27 SEC	☐ **NORTH ZONE**	☑ **SOUTH ZONE**
LONGITUDE:	92 °	52 MIN	04.34 SEC	**X:** 1,517,511.81	**Y:** 729,859.24

21. LEGAL LOCATION DESCRIPTION (FROM LOCATION PLAT):

Surface location being 2006' from the North Line and 2317' from the West Line of Section 34, located in Section 34, T4S-R5W, Allen Parish, Louisiana.

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OCT 23 2024

INJECTION AND MINING DIVISION

045314

22. LIST PERMITS, LICENSES, OR APPROVALS THE APPLICANT HAS RECEIVED OR APPLIED FOR WHICH SPECIFICALLY AFFECT THE APPLICANT'S LEGAL OR TECHNICAL ABILITY TO CARRY OUT THE PROPOSED ACTIVITY. INCLUDE IDENTIFICATION NUMBER OF APPLICATIONS OR, IF ISSUED, THE IDENTIFICATION NUMBER OF THE PERMIT, LICENSE, OR OTHER APPROVALS.

Regulatory Program or Agency	Permits, Licenses, Construction, Project Approval Identification

23. WELL CASING / CEMENT DATA

CASING SIZE (OD-INCHES)	HOLE DIAMETER (INCHES)	CASING WEIGHT (LB/FT)	CASING GRADE	CASING SETTING DEPTHS TOP	CASING SETTING DEPTHS BOTTOM	TOTAL SACKS	SACKS CEMENT (Lead/Tail)	TYPE (Lead/Tail)	YIELD (CU FT/SACK) (Lead/Tail)	CEMENT TOP
20	26	79	X42	0	100	225	225	A	1.55	surface
9 5/8	12 1/4	47	L-80	0	3,290	1,270	986/284	A/A	1.92/1.17	Surface
5 1/2	8 1/2	17	L-80	0	3,645	See last line	See last line	See last line	See last line	See last line
5 1/2	8 1/2	23	22Cr125	3,645	7,280	See last line	See last line	See last line	See last line	See last line
5 1/2	8 1/2	17	L-80	7,280	7,480	1,354	574/780	A/CO2 COMP.	1.76/1.69	Surface

ALL WELL DEPTHS SHOULD BE GIVEN IN MD

24. BASE OF USDW (FT): 2,788

REFERENCE E-LOG (SERIAL NUMBER): 252477

25. HEIGHT OF KB FOR PROPOSED WELL (FT): 32.5

26. ELEVATION OF GL FOR PROPOSED WELL (FT): 84

27. WELL TOTAL DEPTH (FT):	28. PLUGBACK DEPTH (FT):	29. TUBING SIZE & DEPTH:	30. PACKER SIZE & DEPTH:
7,480	4,950	NA	NA

INJECTIVITY TEST INFORMATION (IF APPLICABLE)

31. INJECTION ZONE DEPTHS

Top: 4,045 **Bottom:** 7,280

32. COMPLETION/PERFORATION DEPTHS

Top: 4,980 **Bottom:** 6,290

33. WELL COMPLETION ☐ OPEN HOLE ☑ PERFORATIONS ☐ SCREEN

34. TEST MATERIAL (e.g. nitrogen, brine, etc):	35. MAXIMUM TEST PRESSURE (psi):	36. TOTAL INJECTION VOLUME (bbls):
Brine ***CO_2 is prohibited as a Class V test material***	4,500	15,000

37. Is the Well Located on Indian Lands or Other Lands Owned by or under the Jurisdiction or Protection of the Federal Government?	☐ YES ☑ NO
38. Is the Well Located on State Water Bottoms or Other Lands Owned by or under the Jurisdiction or Protection of the State of Louisiana?	☐ YES ☑ NO
39. If the proposed well is associated with a potential Class VI geologic sequestration project, does the applicant own the mineral rights at the proposed well location?	☐ YES ☑ NO
40. If no, has written notification been provided to the mineral owner(s)?	☑ YES ☐ NO

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OCT 23 2024

INJECTION & MINING DIVISION

INJECTION & MINING DIVISION

045314

41. AGENT OR CONTACT AUTHORIZED TO ACT ON BEHALF OF THE APPLICANT DURING THE PROCESSING OF THIS APPLICATION

NAME: Cody Todd, P.E.

COMPANY: ExxonMobil Low Carbon Solutions Onshore

MAILING ADDRESS: 22777 Springwoods Village Parkway, Spring, TX 77389

TELEPHONE NUMBER: 346-220-7391

E-MAIL ADDRESS: cody.todd@exxonmobil.com

42. CERTIFICATION BY WELL OWNER/OPERATOR

I certify that as the owner/operator of the injection well, the person identified in Item No. 37 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	**Print Title of Company Official (as applicable)**
Exxon Low Carbon Solutions Onshore	Bruce Chalton - CCS Development Manager

Signature of Well Owner/Operator	**Date**
	10/22/2024

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OCT 28 2024

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TWO ORIGINAL FORM MD-1O-R-A FOR EACH EXISTING WELL TO BE CONVERTED (IF CONVERSION IS PROPOSED)

- Not applicable – New Drill

Attachment 1

ONE ORIGINAL CERTIFIED LOCATION PLAT SHOWING THE LOCATION OF THE CLASS V WELL LOCATION

ExxonMobil

045314

ExxonMobil Low Carbon Solutions Onshore Storage-
Mockingbird IZM No. 1 Well
Surveyed June 11, 2024 as follows:
SURFACE LOCATION being 2006' from the North Line and 2317' from the West Line of Section 34, located in Section 34, T4S-R5W, Allen 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 11, 2024.

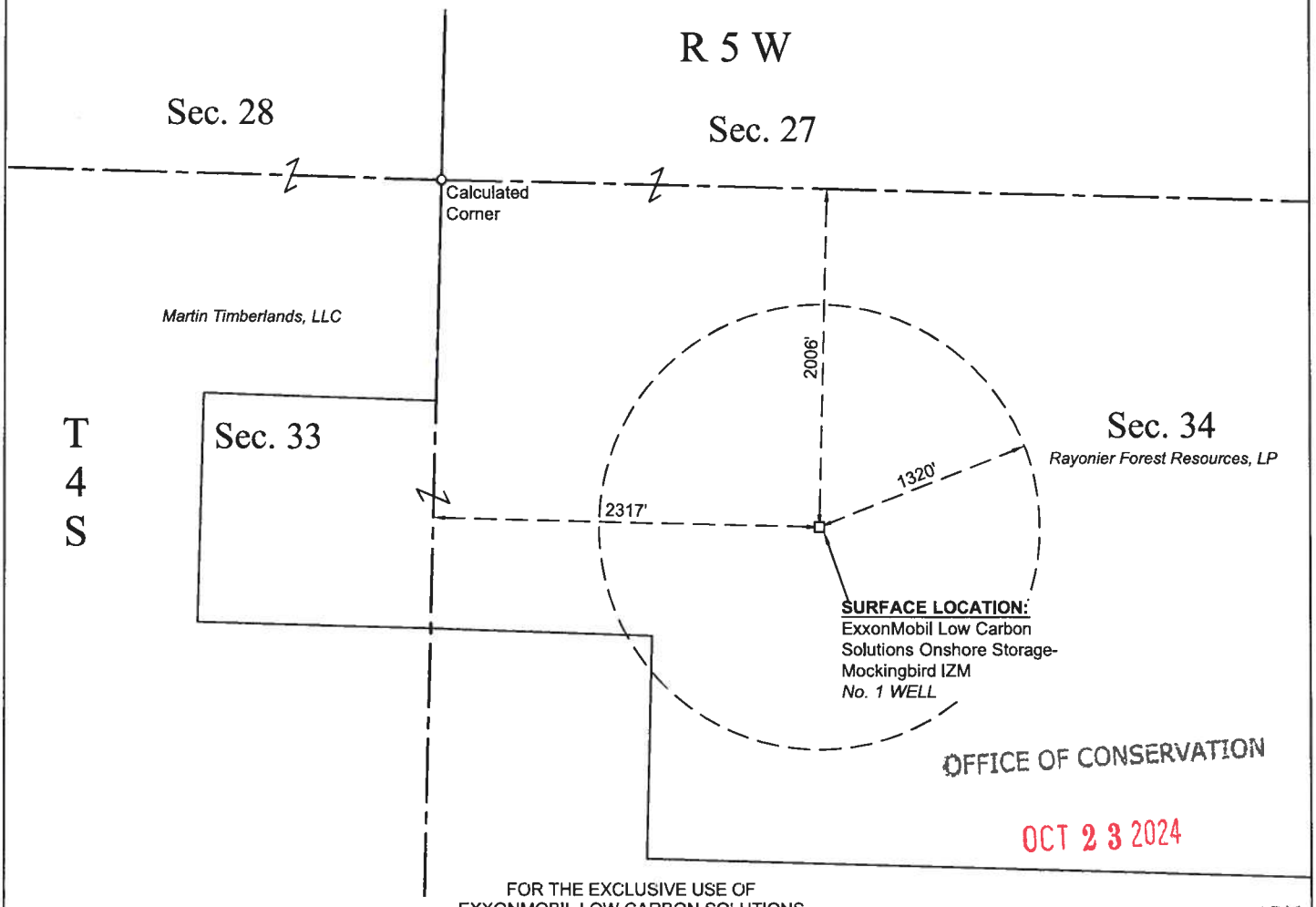
All bearings, distance, areas and coordinates refer to the North American Datum of 1927, Louisiana South Zone, US survey feet. Elevations refer to the North American Vertical Datum of 1988 and are derived from static and kinematic GPS observations unless otherwise note.

Mockingbird IZM NO. 1 WELL
X = 1,517,511.81' (NAD27 La S)
Y = 729,859.24'
LAT. 30° 39' 53.27" N (NAD27)
LONG. 92° 52' 04.34" W
X = 2,798,308.28' (NAD83/2011 La S)
Y = 790,571.97'
LAT. 30° 39' 53.96" N (NAD83/2011)
LONG. 92° 52' 04.89" W
ELEV. 84.0' (NAVD88)

LEGEND
☐ Proposed Well

NAD 27 LA. SOUTH ZONE

SCALE: 1"= 1000'
0' 500' 1000'



OFFICE OF CONSERVATION
OCT 23 2024
INJECTION & MINING DIVISION

FOR THE EXCLUSIVE USE OF EXXONMOBIL LOW CARBON SOLUTIONS ONSHORE STORAGE

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 site adapted to use in this area.

STATE OF LOUISIANA
06/19/2024
DANIELLE B. MCMATH
License No. 5297
PROFESSIONAL LAND SURVEYOR

Danielle B. McMath
Registration No. 5297

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq.
Lafayette, LA 705[illegible]
Ph. 337-237-2[illegible]
Fax. 337-232-3299

REVISIONS	

DRAWN BY:DBM	PROJ. MGR.:DBM
DATE:06/18/2024	
JOB#:2247745.00C	SHEET 1 OF 1

T:\2024\2247745\DWG\AP No.2 Well.dwg

WELL LOCATION PLAT
MOCKINGBIRD IZM
NO. 1 WELL
EXXONMOBIL LOW CARBON SOLUTIONS ONSHORE STORAGE

SITUATED IN
SECTION 34, T4S-R5W
ALLEN PARISH, LOUISIANA

Attachment 2

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 Quatre Minerals LLC #1 – SN 252477

045314

HALLIBURTON

ARRAY COMPENSATED RESISTIVITY

1IN = 100FT MD

COMPANY	PLANET OPERATING, LLC.
WELL	QUATRE MINERAL LLC #1
FIELD/BLOCK	WILDCAT
PARISH	ALLEN
STATE	LOUISIANA

COMPANY PLANET OPERATING, LLC.
WELL QUATRE MINERAL LLC #1
FIELD/BLOCK WILDCAT
PARISH ALLEN STATE LOUISIANA

API No. 17-003-20599
Location Longitude: 092° 50' 47.080" W Latitude: 30° 39' 55.670" N
Other Services: SWC

Sect. 35 Twp. 4S Rge. 5W

Permanent Datum GL Elev. 83.0 ft
Log measured from KB 17.0 ft above perm. Datum
Drilling measured from KB
Elev.: K.B. 100.0 ft D.F. 100.0 ft G.L. 83.0 ft

Date	19-Dec-20			
Run No.	R1D1			
Depth - Driller	5806.0 ft			
Depth - Logger	5824.0 ft			
Bottom Logged Interval	5814.0 ft			
Top - Logged Interval	502.0 ft			
Casing - Driller	8.625 in @ 511.0 ft		@	@
Casing - Logger	502.0 ft			
Bit Size	7.875 in		@	@
Type Fluid in Hole	WBM			
Density / Viscosity	9.5 ppg / 46.00 s/qt			
PH / Fluid Loss	10.50 pH / 4.0 cptm			
Source of Sample	FLOWLINE			
Rm @ Meas. Temperature	1.83 ohmm @ 68.00 degF		@	@
Rmf @ Meas. Temperature	1.71 ohmm @ 75.00 degF		@	@
Rmc @ Meas. Temperature	1.29 ohmm @ 75.00 degF		@	@
Source Rmf / Rmc	MEASURED / MEASURED			
Rm @ BHT	0.98 ohmm @ 140.0 degF		@	@
Time Since Circulation	21:14 hr			
Time on Bottom	19-Dec-20 22:45			
Max. Rec. Temperature	140.00 degF @ 5824.0 ft		@	@
Equipment / Location	10959019 / NEW IBERIA			
Recorded By	J. NICHOLSON			
Witnessed by	M. CHIASSON	C. REED		

Fold here

Service Ticket No.: 903877830 API No.: 17-003-20599

Marked USDW and Injection Zone Well Log

SN 252477 ~6,800' away

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						
Date	Sample No.					
Depth-Driller						
Type Fluid in Hole						
Density	Viscosity					
Ph	Fluid Loss					
Source of Sample						
Rm @ Meas. Temp		@		@		
Rmf @ Meas. Temp.		@		@		
Rmc @ Meas. Temp.		@		@		
Source Rmf	Rmc	CALC	CALC			
Rm @ BHT		0.98 ohmm @ 121 degF		@		
Rmf @ BHT		0.87 ohmm @ 121 degF		@		
Rmc @ BHT		0.66 ohmm @ 121 degF		@		

Type Log			ole
Run No.			er
R1D1	ACRT	NA	ECENTERED
	109333C9		

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	R1D1	Run No.		Run No.	R1D1	Run No.	R1D1
Serial No.	12153201	Serial No.		Serial No.	10E08415	Serial No.	12209140
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	T-102A	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	Cs137	Source Type	AmBe241
Length	8"	LSA [Y/N]		Serial No.	5569GW	Serial No.	DSN 412
Distance to Source	NA	FWDA [Y/N]		Strength	1.78 Ci	Strength	15.5 Ci

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run No.	Depth From	Depth To	Speed ft/min	Scale L	Scale R	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix
R1D1	5824	1502	REC	0	150				60	0	2.65 g/cc	60		SAND

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OCT 23 2024

INJECTION & MINING DIVISION

045314

DIRECTIONAL INFORMATION	
Maximum Deviation @	KOP @

Remarks: GTET-DSNT-SDLT-ACR -RAN IN COMBINATION

MAX TEMP: 140 degF, 140 degF, 140 degF

ANNULAR HOLE VOLUME CALCULATED FOR 5.5" CASING

RIG: GUICHARD #5

CREW: M. EDWARDS, J. MOUTON, J. POLK

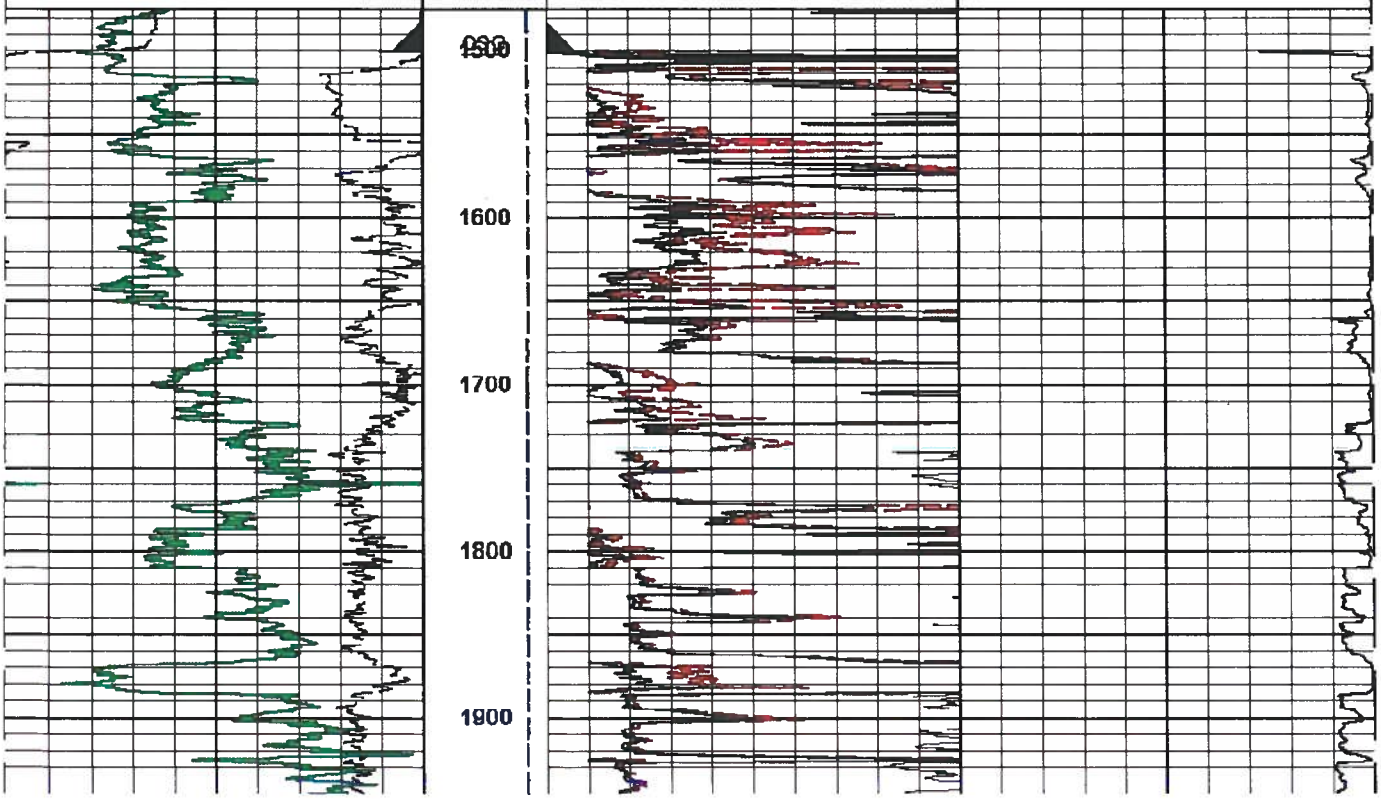
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES – NEW IBERIA, LA – 337.367.9261

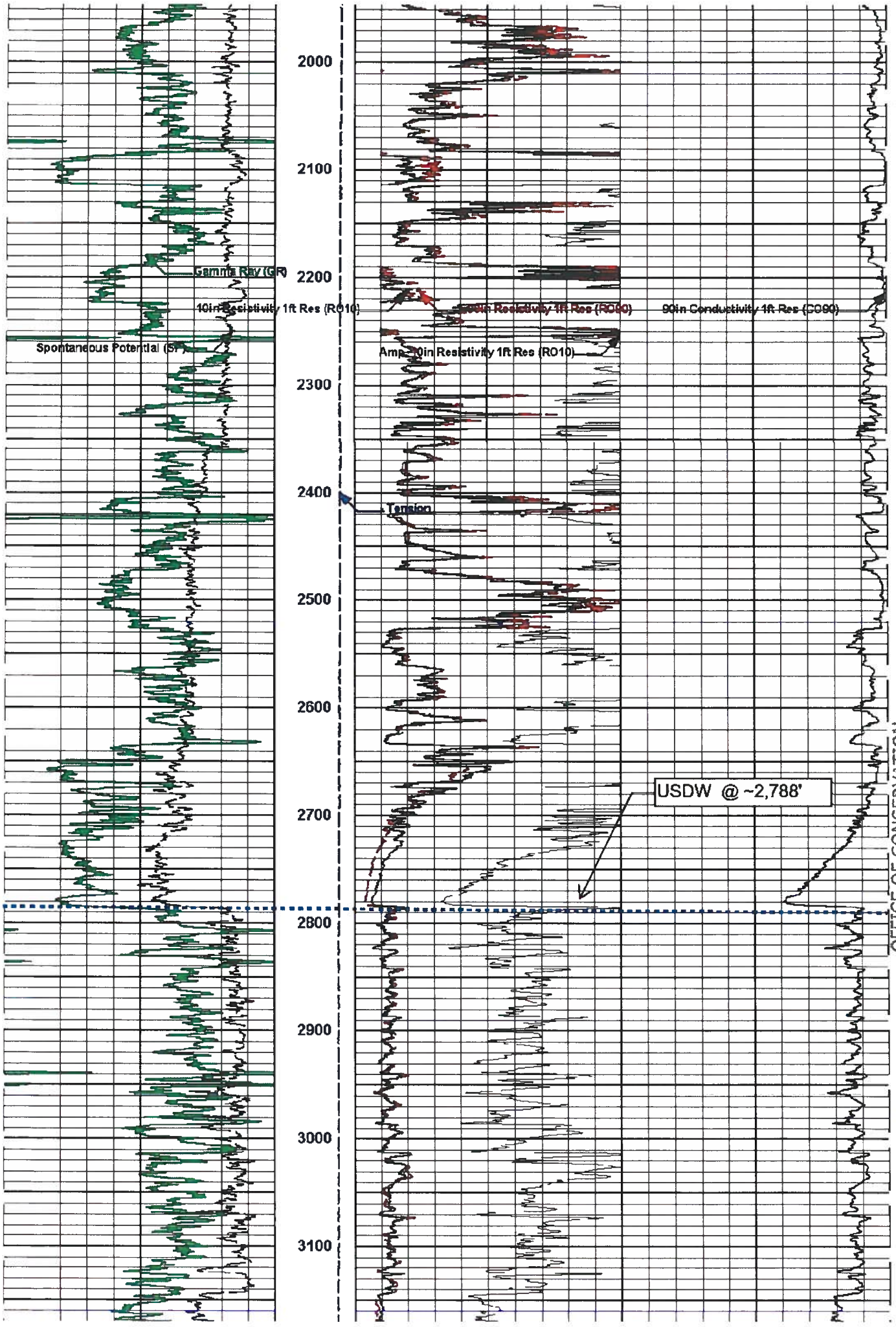
HALLIBURTON

Plot Time: 20-Dec-20 08:55:33
Plot Range: 1475 ft to 5850 ft
Data: 12_19_GUICHARDWell Based\MAIN_DEPTHMATCH
Plot File: \\1MD\Guichard 1INCH ACRT

1IN = 100FT MD
MAIN PASS

Spontaneous Potential (SP)	Tension	90in Resistivity 1ft Res (RO90)	90in Conductivity 1ft Res (CO90)
-]20mV[+	10000 0 pounds	0 10 ohm-metre	
0 Gamma Ray (GR) 150 api	MD 1 : 1200 ft	0 10in Resistivity 1ft Res (RO10) 10 ohm-metre 0 Amp. 10in Resistivity 1ft Res (RO10) 2 ohm-metre	6000 0 mmho per metre





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OCT 23 2024

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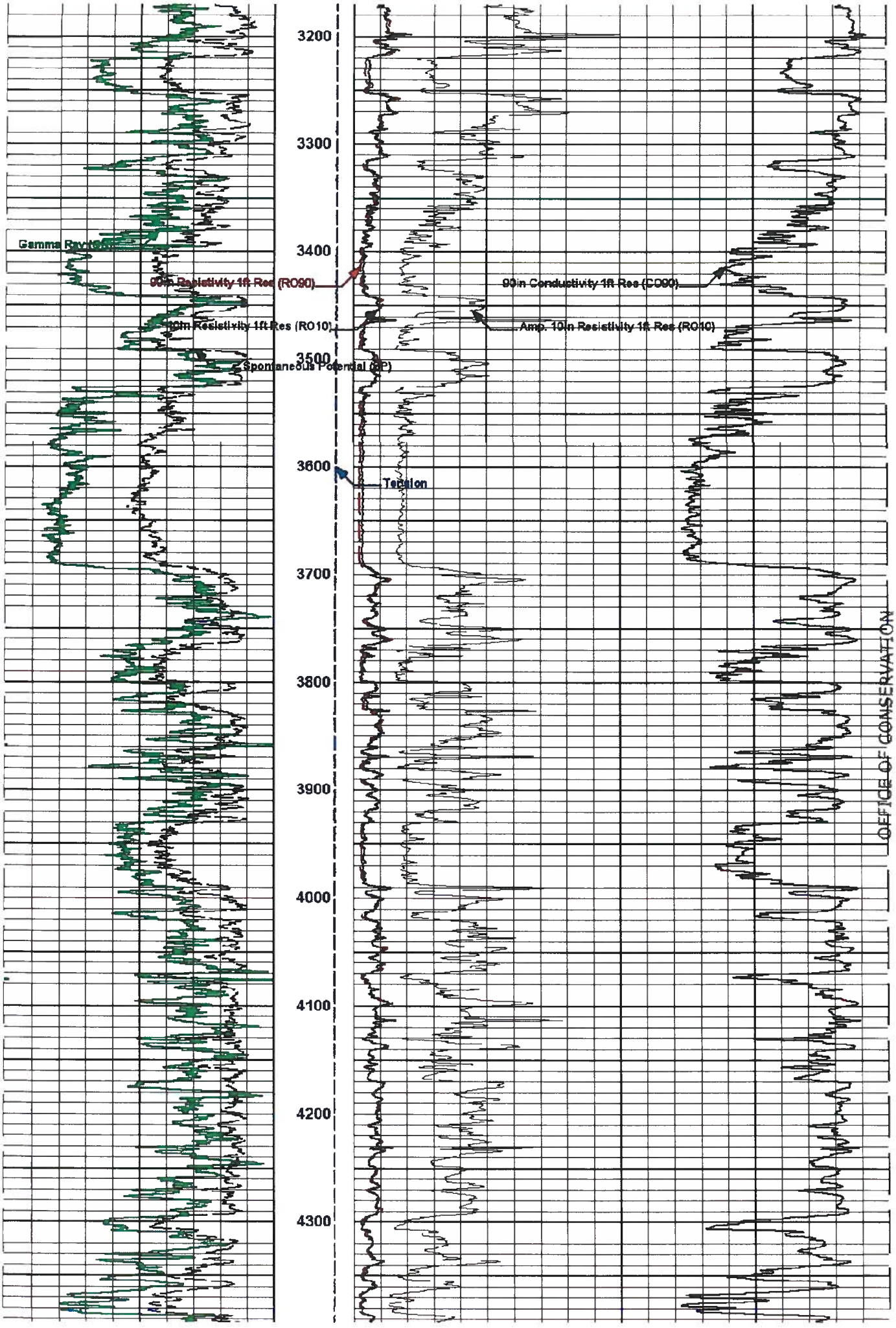

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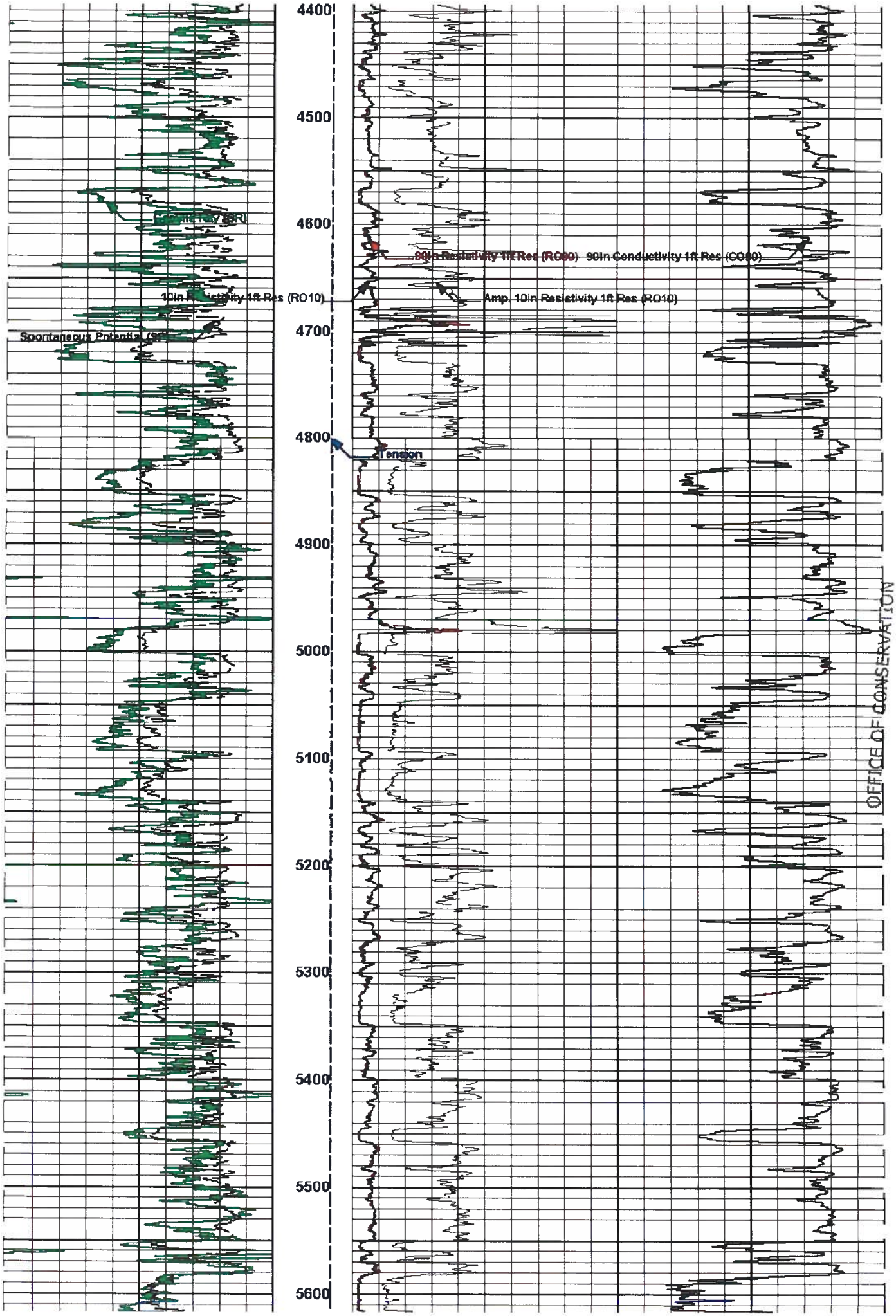
RECEIVED
OCT 23 2024
OFFICE OF CONSERVATION
INJECTION & MINING DIVISION



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OCT 23 2024

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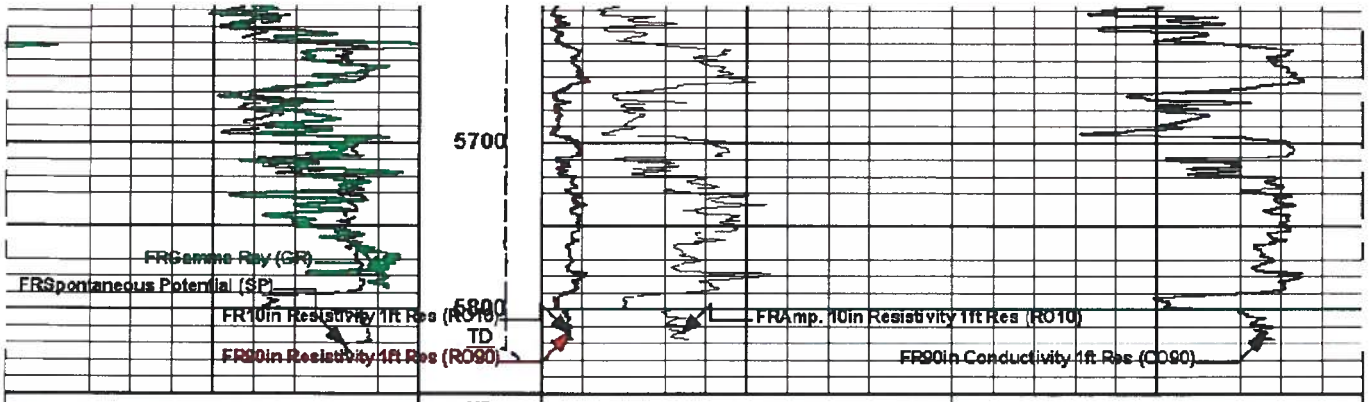
045314



0 Gamma Ray (GR) 160	MD 1 : 1200 ft	0 Amp. 10in Resistivity 1ft Res (RO10) 2	6000 90in Conductivity 1ft Res (CO90) 0	
api		ohm-metre	mmho per metre	
Spontaneous Potential (SP)	Tension 10000 0	0 10in Resistivity 1ft Res (RO10) 10		
-]20mV[+	pounds	ohm-metre		
		0 90in Resistivity 1ft Res (RO90) 10		
		ohm-metre		

HALLIBURTON

Plot Time: 20-Dec-20 08:55:35
Plot Range: 1475 ft to 5950 ft
Data: 12_19_GUICHARD\Well Based\MAIN_DEPTHMATCH\
Plot File: \\1MD\Guichard 1INCH ACRT

1IN = 100FT MD
MAIN PASS

OFFICE OF CONSERVATION

OCT 23 2024

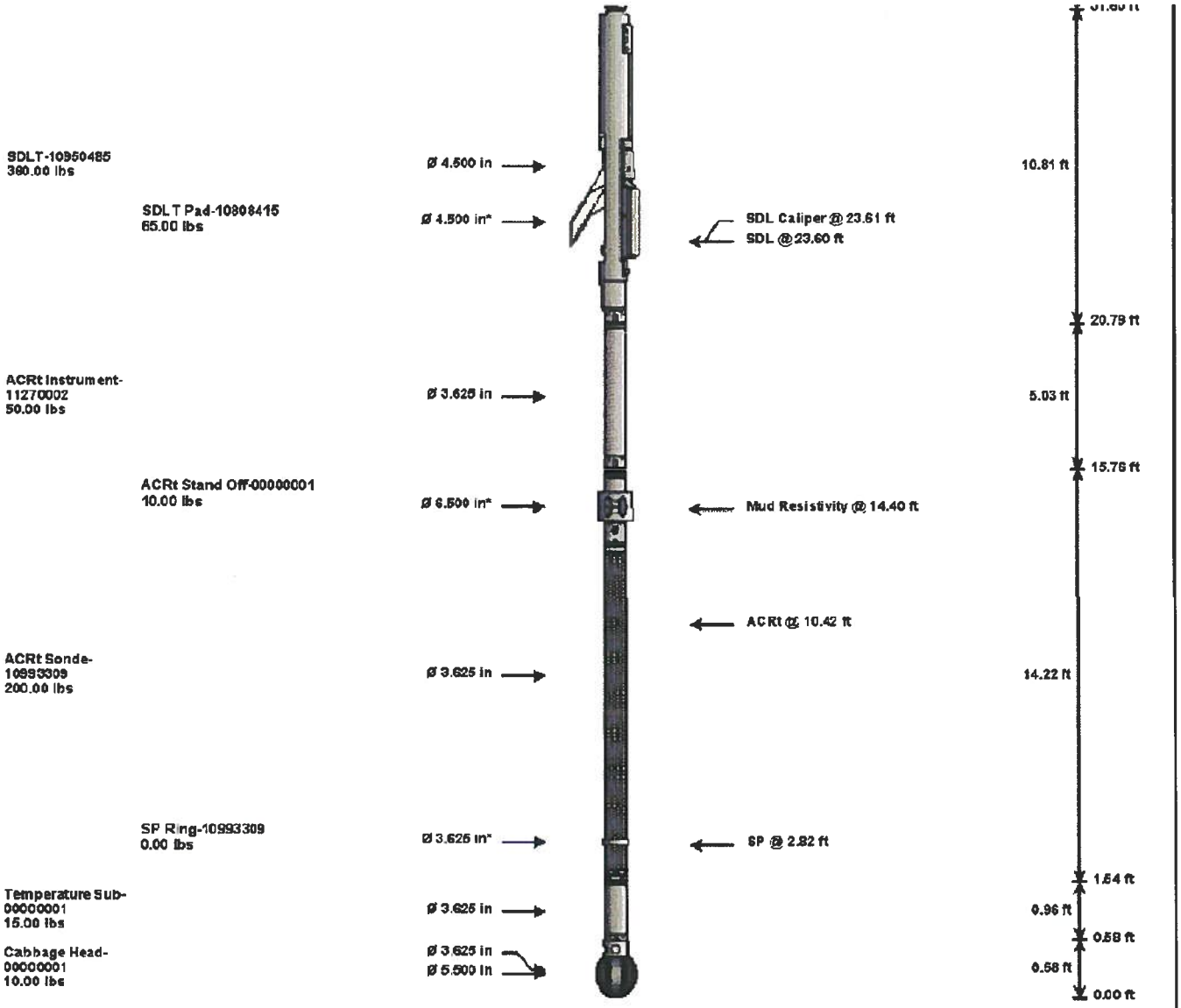
INJECTION & MINING DIVISION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
		Ø 2.310 in		Fishing Neck @ 55.18 ft		55.06 ft
RWCH-12198529 135.00 lbs		Ø 3.625 in		Load Cell @ 52.38 ft BH Temperature @ 51.81 ft	6.25 ft	
	Weak Point 12000 lbs- 00000001 0.01 lbs	Ø 0.010 in*		Z-Accelerometer @ 49.06 ft		49.81 ft
GTET-12156201 165.00 lbs		Ø 3.625 in		GammaRay @ 43.75 ft	8.52 ft	
						41.29 ft
	DSN Decentralizer- 12345678 6.60 lbs	Ø 5.000 in*				
DSNT-12209149 174.00 lbs		Ø 3.625 in		DSN Far @ 34.35 ft DSN Near @ 33.60 ft	9.89 ft	
						31.40 ft

045314



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	12198529	135.00	6.25		49.81	300.00
WP12K	Weak Point 12000 lbs	00000001	0.01	0.01	*	50.61	300.00
GTET	Gamma Telemetry Tool	12156201	165.00	8.52		41.29	60.00
DSNT	Dual Spaced Neutron	12209149	174.00	9.69		31.60	60.00
DCNT	DSN Decentralizer	12345678	6.60	5.13	*	34.93	300.00
SDLT	Spectral Density Tool	10950485	360.00	10.81		20.79	60.00
SDLP	Density Insite Pac	10808415	65.00	2.55	*	23.00	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11270002	50.00	5.03		15.76	120.00
ACRt	Array Compensated True Resistivity Sonde Section	10993309	200.00	14.22		1.54	120.00
SP	SP Ring	10993309	0.00	0.25	*	2.82	300.00
ACRT	ACRT S.O.	00000001	10.00	1.00	*	13.99	100.00
TVAX	Temperature Sub - 3_625 OD	00000001	15.00	0.96		0.58	300.00
CBHD	Cabbage Head	00000001	10.00	0.58		0.00	300.00
Total			**1,190.61**	**56.06**			

* Not included in Total Length and Length Accumulation.

Data: 12_19_GUICHARD\0001 TRIPLE 11003 19-Dec-20 22:44 Up @5915.3f

Date: 20-Dec-20 07:33:28

OFFICE OF CONSERVATION

COMPANY	**PLANET OPERATING, LLC.**		
WELL	**QUATRE MINERAL LLC #1**		
FIELD	**WILDCAT**		
PARISH	**ALLEN**	STATE	**LOUISIANA**

OCT 23 2024

INJECTION & MINING DIVISION

HALLIBURTON	ARRAY COMPENSATED RESISTIVITY 1IN = 100FT MD

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Attachment 3

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 Quatre Parish #1 – SN 59769

ExxonMobil

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SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COUNTY ALLEN
FIELD or LOCATION SIMMONS
WELL SEC. 9-5S-5W
COMPANY QUATRE PARISH NO. 1
SAM J. RECILE

COMPANY SAM J. RECILE
WELL 59769
QUATRE PARISH NO. 1
FIELD SIMMONS PROSPECT
LOCATION SEC. 9-5S-5W COMPOSITE
COUNTY ALLEN
STATE LOUISIANA

Location of Well SW/4 NE/4 Fr SW/Cago N 663' th E 677'

RECEIVED
FEB 16 1956
DEPARTMENT OF MINERALS
LAKE CHARLES

Elevation: D.F.:
K.B.:
or G.L.:

FILING No.

RUN No.	ONE	TWO	THREE	FOUR	FIVE
Date	1-24-56	2-14-56			
First Reading	2150	7985			
Last Reading	250	2150			
Feet Measured	1900	5835			
Csg. Schlum.	250	2146			
Csg. Driller	253	2145			
Depth Reached	2150	7985			
Bottom Driller	2146	7982			
Depth Datum	1' ABV.	ROT. 9'ABV.	B.		
Mud Nat.	GEL	CAUS-QUEB.			
" Density	10.1	10.7			
" Viscosity	43	46			
" Resist.	7.6 @ 60°F	1.5 @ 81 °F	@ °F	@ °F	@ °F
" Res. BHT	- @ °F	.82 @ 155°F	@ °F	@ °F	@ °F
" pH	NA @ °F	7.5 @ °F	@ °F	@ °F	@ °F
" Wtr. Loss	NA CC 30 min.	3.0 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	-100	155			
Bit Size	9-7/8"	6-5/8"			
Spcgs.—AM	16"	16"	16"	16"	16"
AM'	64"	64"	64"	64"	64"
AO	18'8"	18'8"	18'8"	18'8"	18'8"
Opr. Rig Time	2 HRS.	2 HRS.			
Truck & Dist.	2730 L.C.	509 JNGS.			
Recorded By	THOMAS	PETERSON			
Witness By	MINOR	KOLT			

FOLD HERE

REMARKS

*LSN1

Marked Injection Zone Log
SN 59769 ~11,400' away

SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY -ohms. m²/m	RESISTIVITY -ohms. m²/m
− 15 +		0 AM = 16" 10	0 AO = 18'8" 10
		0 AM = 16" 100	0 AO = 18'8" 100
		0 AM' = 64" 10	
		0 AM' = 64" 100	
		0 AMP AM = 16" 2	

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OCT 23 2024
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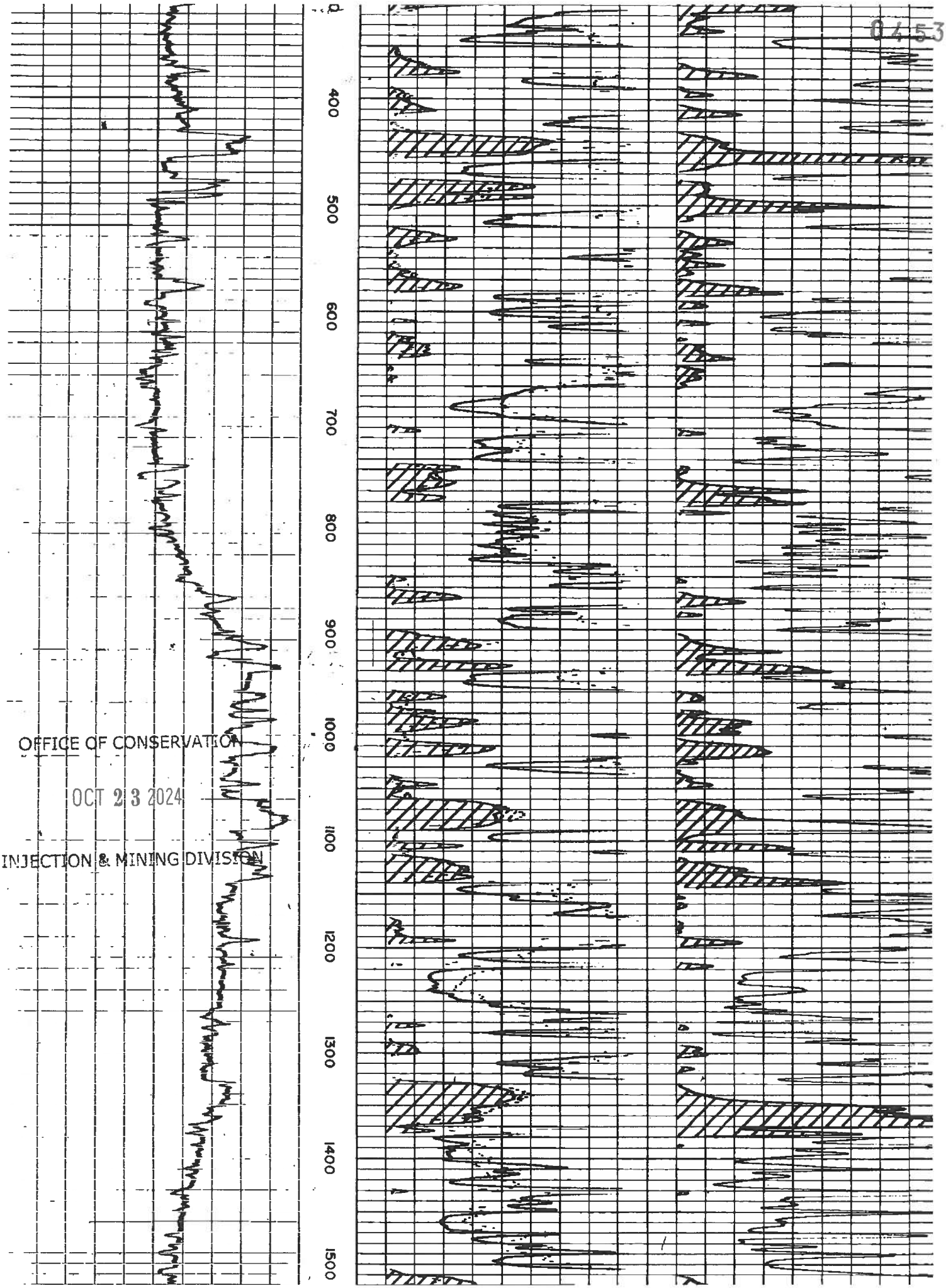
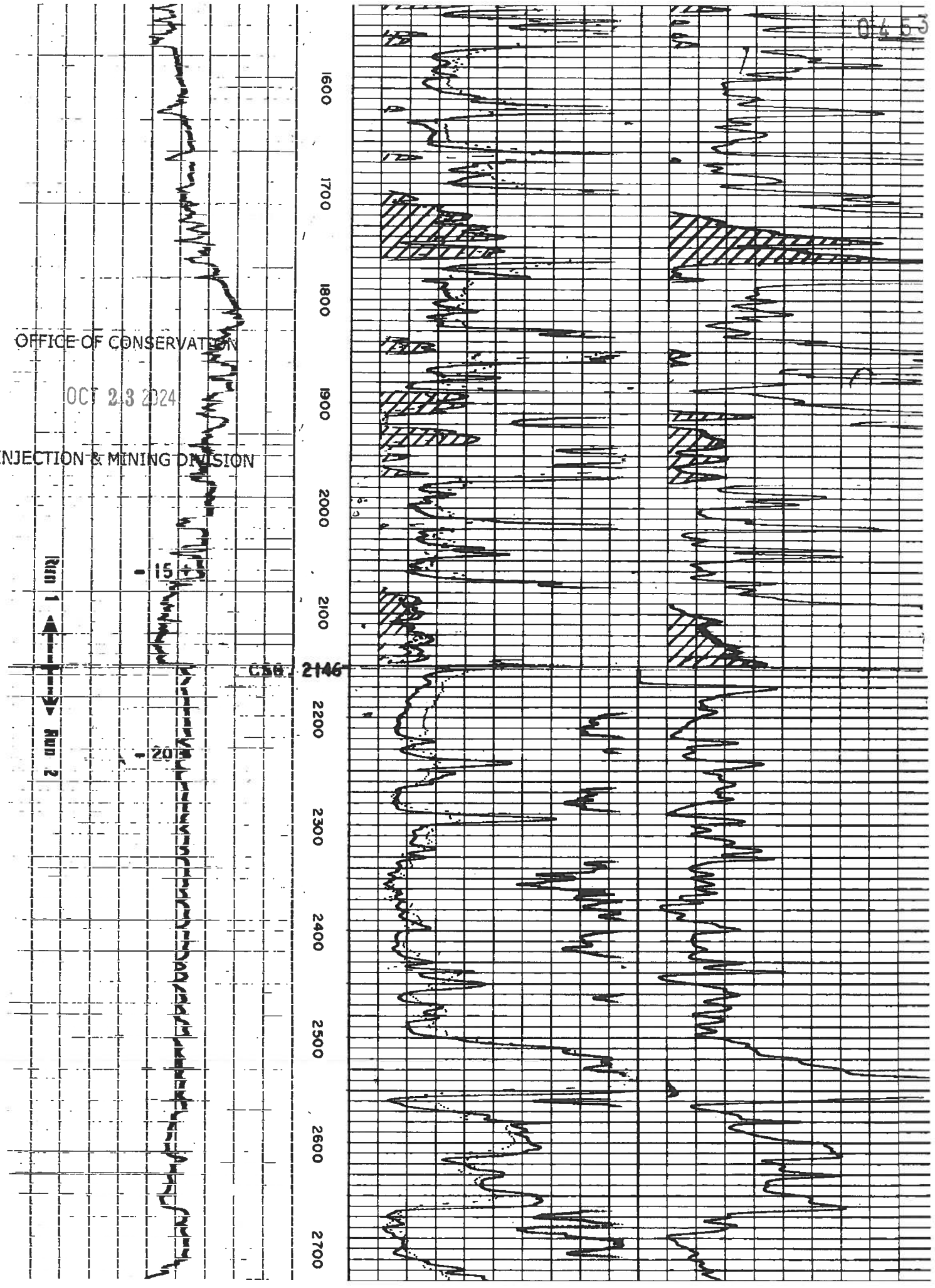
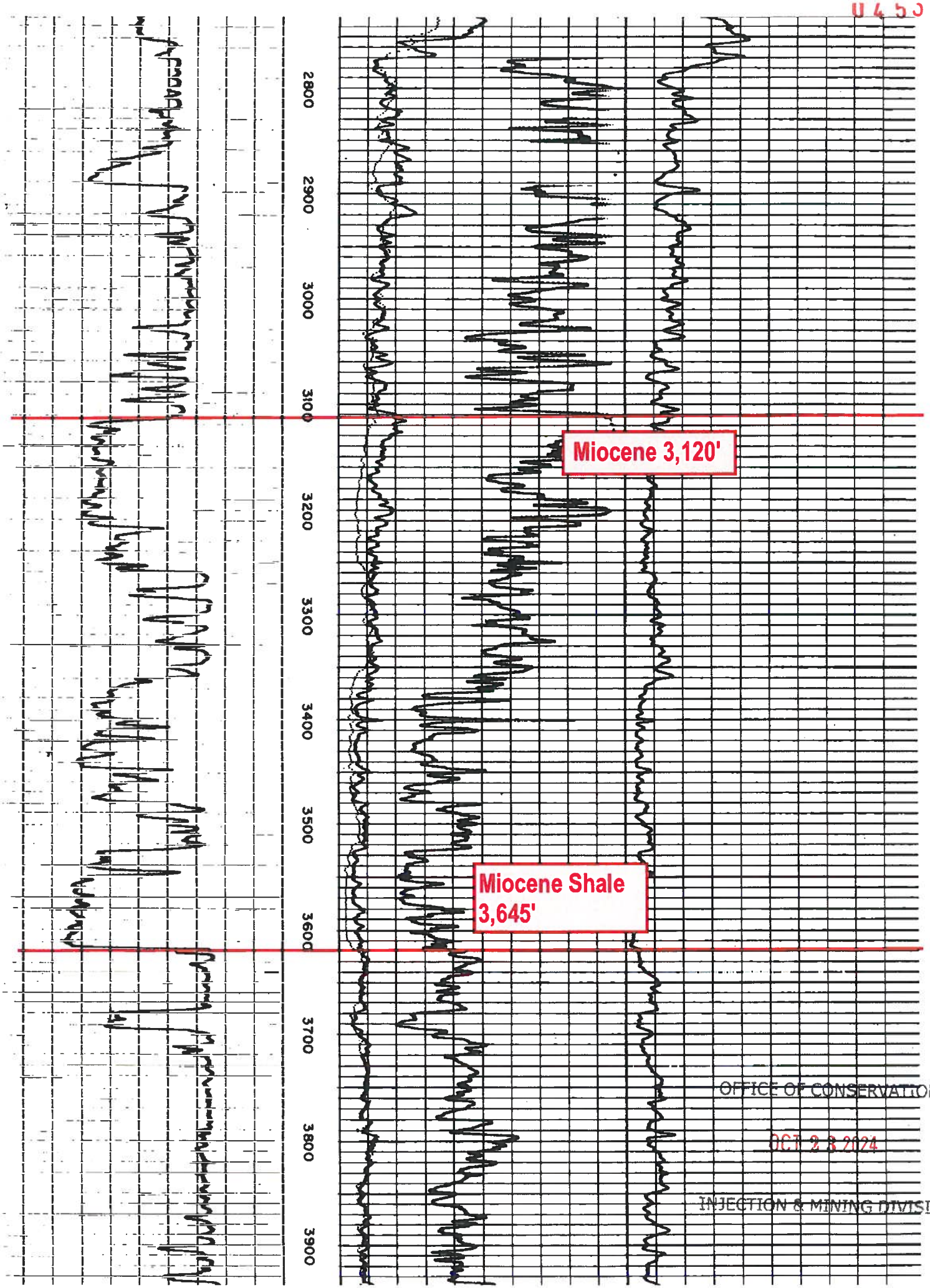
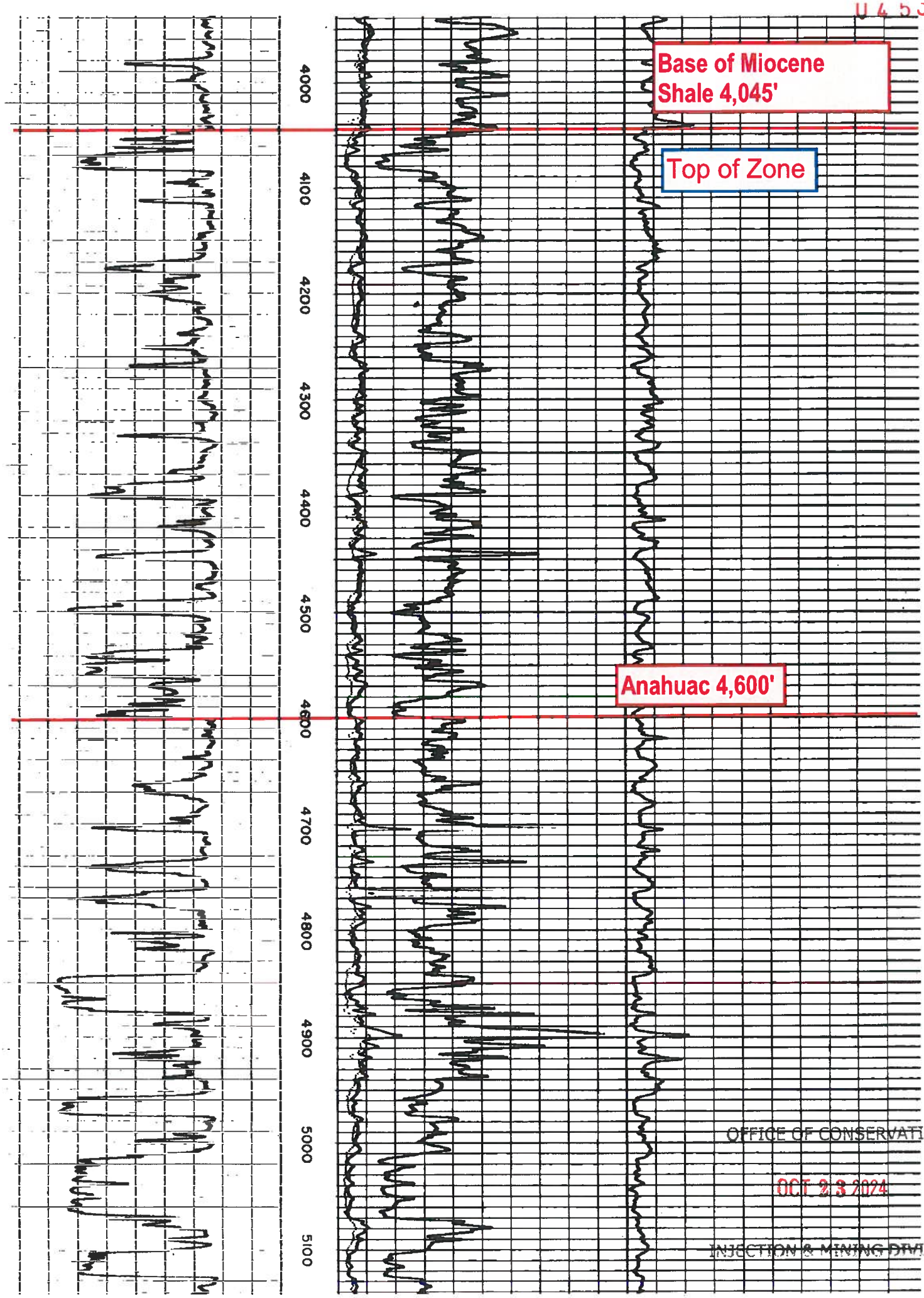
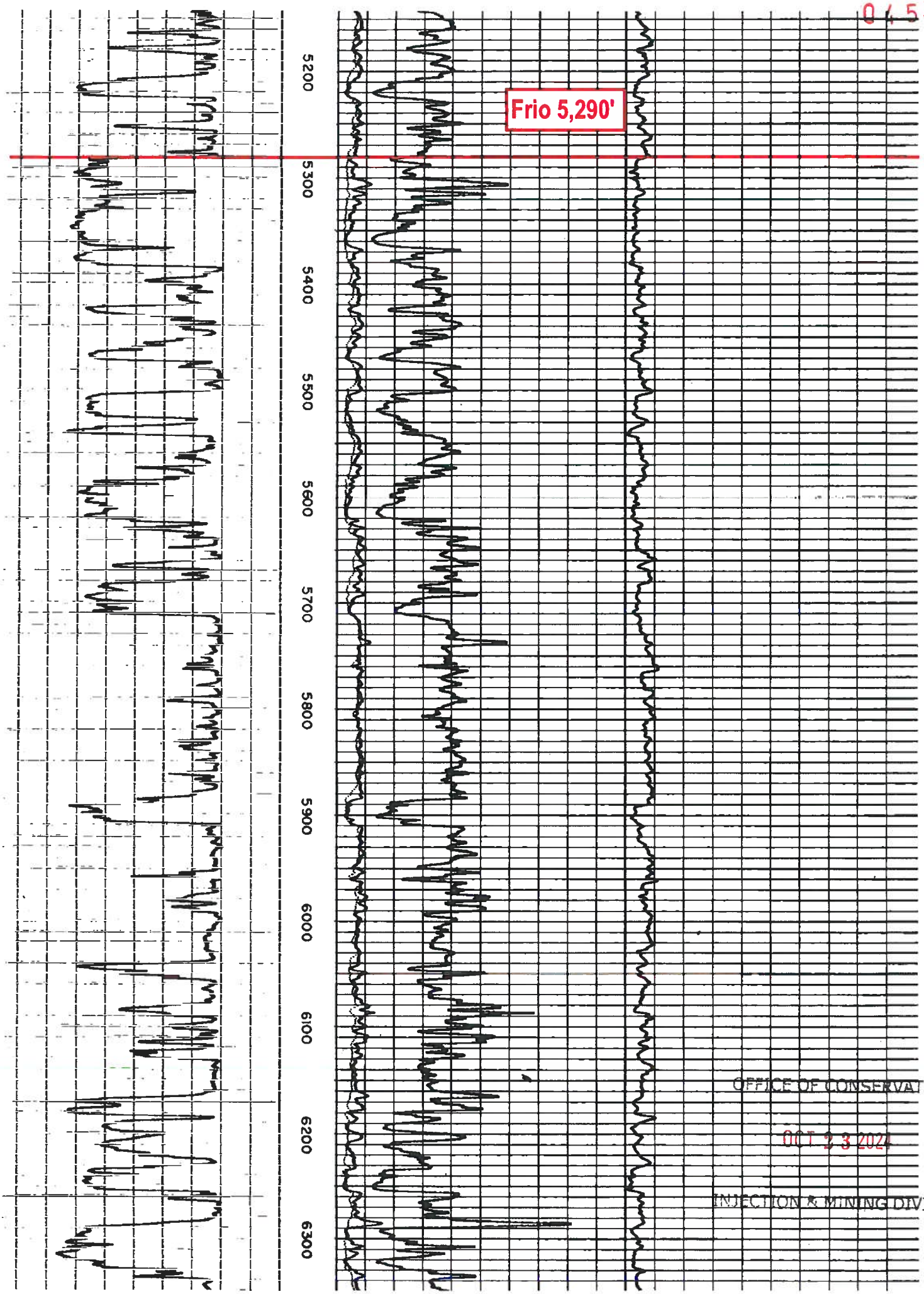
CSG. 250

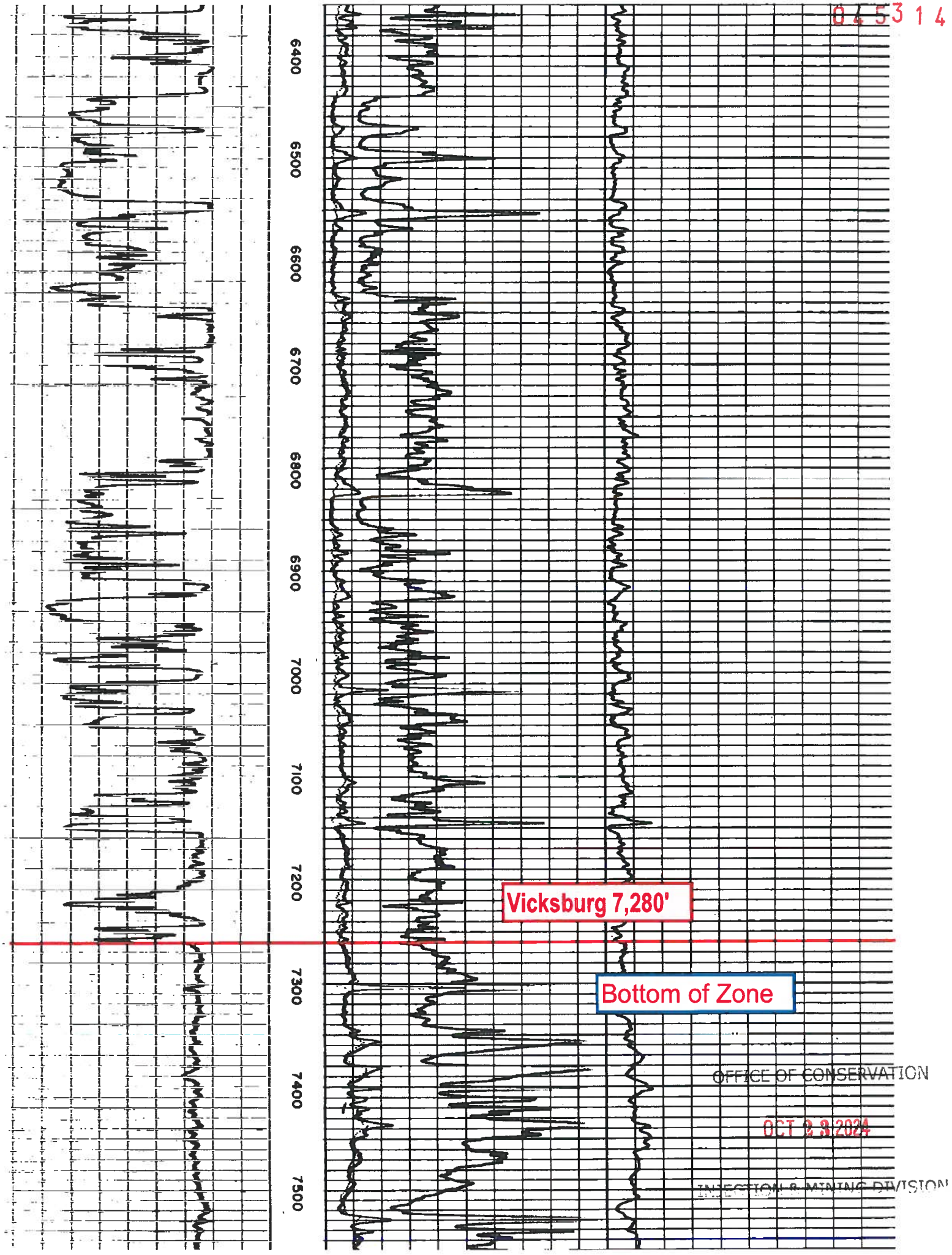











845314
6400
6500
6600
6700
6800
6900
7000
7100
7200
7300
7400
7500
Vicksburg 7,280'
Bottom of Zone
OFFICE OF CONSERVATION
OCT 23 2024
INJECTION & MINING DIVISION

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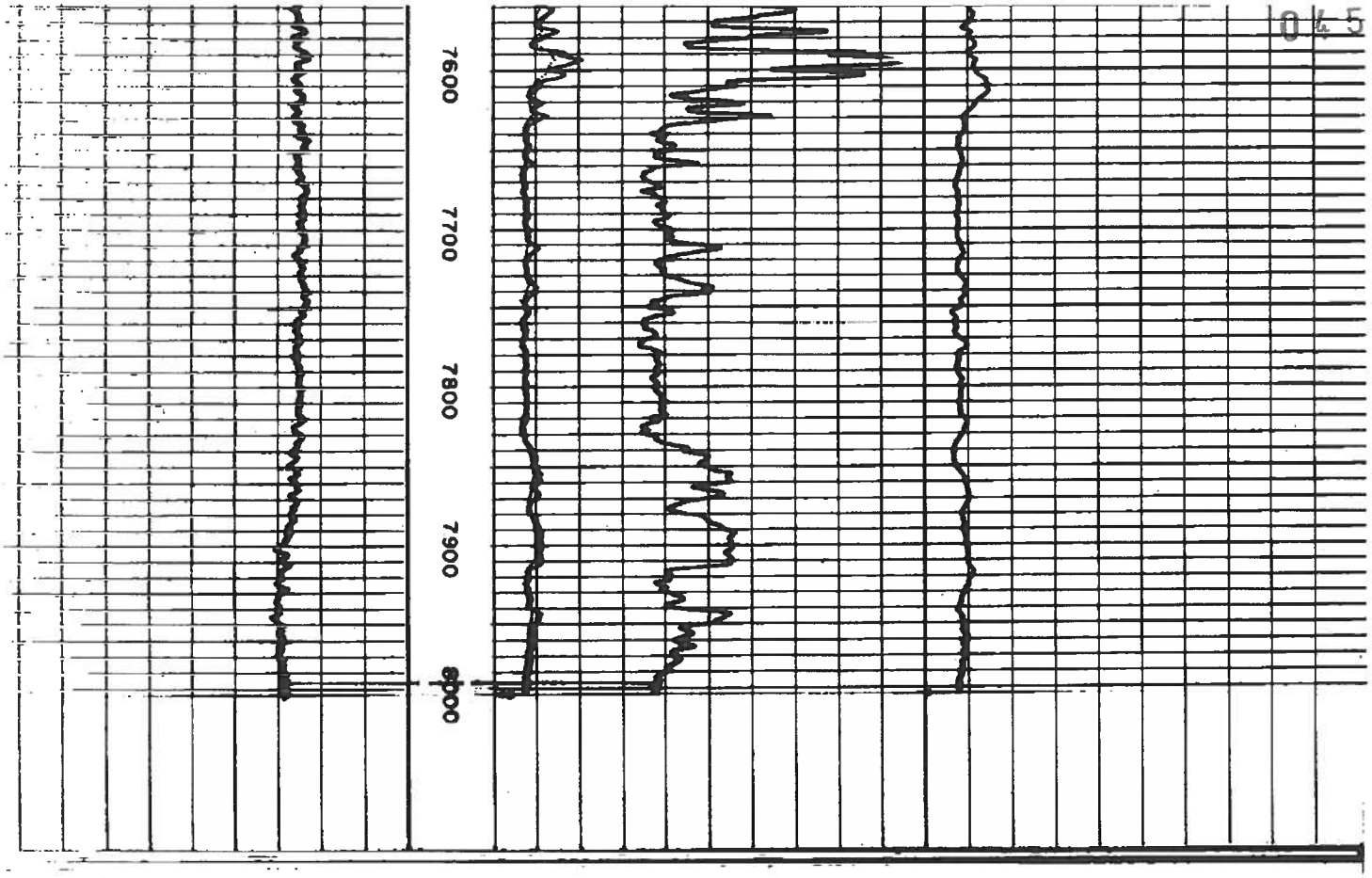


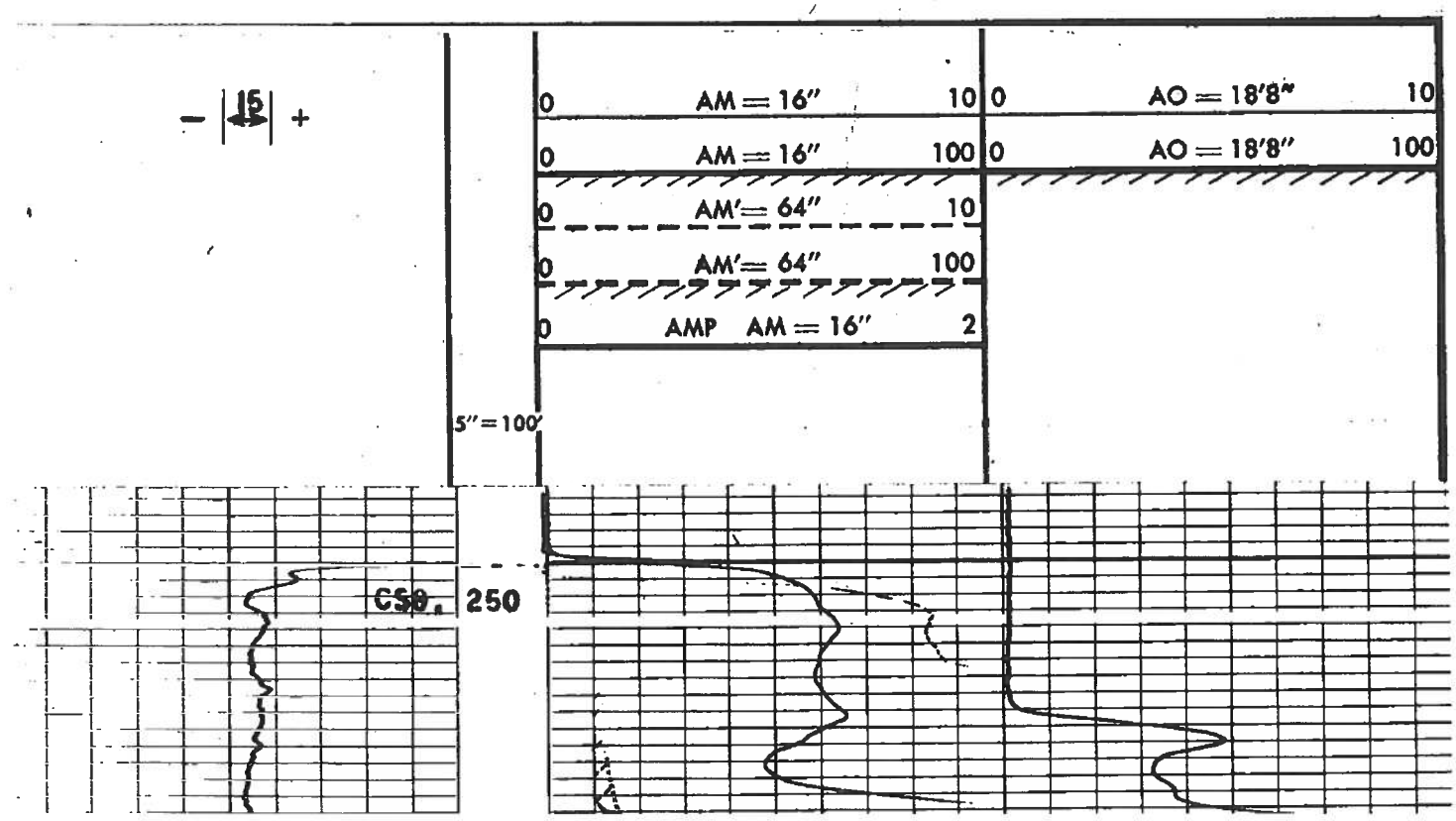
SAM J. RECILE
QUATRE PARISH NO. 1
SIMMONS PROSPECT

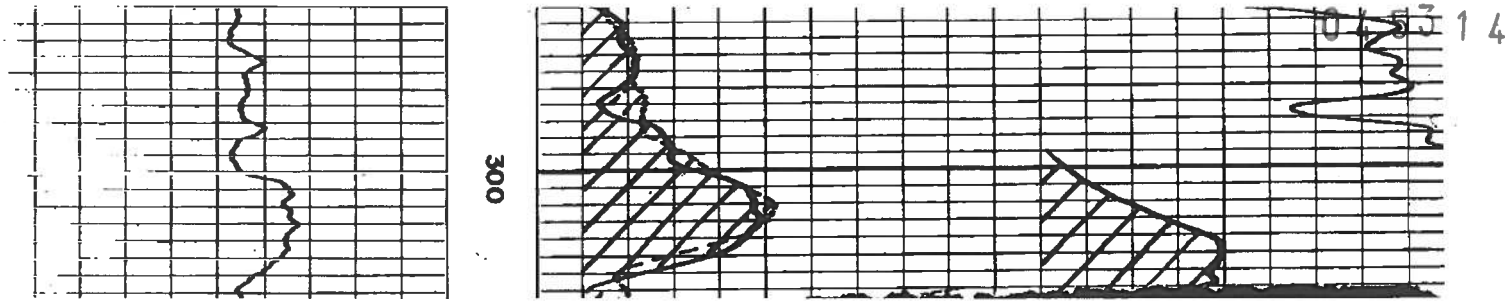
OFFICE OF CONSERVATION

OCT 23 2024

INJECTION & MINING DIVISION

T.D. SCHL. 7985
T.D. DRLR. 7982
COMPOSITE





045314

Attachment 4

SCHEMATIC OF THE CLASS V-WELL SHOWING:

1. Casing diameter, specifications, material (PVC, steel, etc.) and depth,

2 Screen type, length, material, slot or opening size,

3. Injection tubing size inside casing (if any)'

4. Hole diameter (bit size),

5. Amount and type of cement used and depths to top and bottom of cement,

6. Wellhead showing all fittings,

7. Discharge line diameter and connection to wellhead,

8. Well house (if any).

The schematic is stamped and signed by a Louisiana-registered Professional Engineer (PE)

045314

PROPOSED WELLBORE DIAGRAM

FIELD: Wildcat - So LA Lafayette District
WELL: Mockingbird IZM No. 1
OPERATOR: Exxon Low Carbon Solutions Onshore
PARISH: Allen
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well

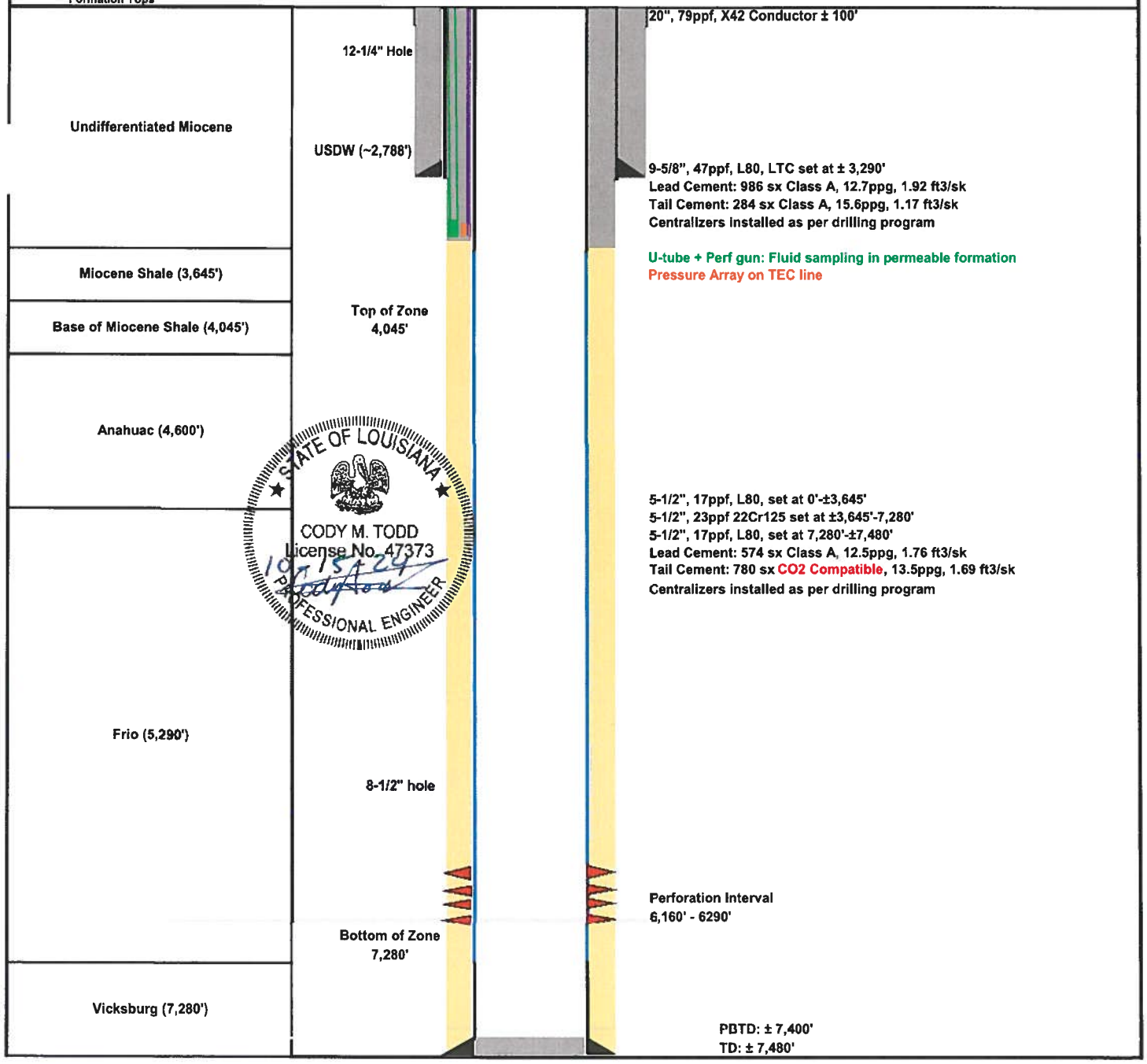
Location:
Latitude (Y): 30°39'53.27"N
Longitude (X): 92°52'04.34"W

SECTION: 34
TOWNSHIP: 4S
RANGE: 5W

Proposed Schematic Test 1

ExxonMobil

(Drawing: Not to scale)



STATE OF LOUISIANA
CODY M. TODD
License No. 47373
10/15/24
PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

OCT 23 2024

INJECTION & MINING DIVISION

045314

PROPOSED WELLBORE DIAGRAM

FIELD: Wildcat - So LA Lafayette District
WELL: Mockingbird IZM No. 1
OPERATOR: Exxon Low Carbon Solutions Onshore
PARISH: Allen
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well

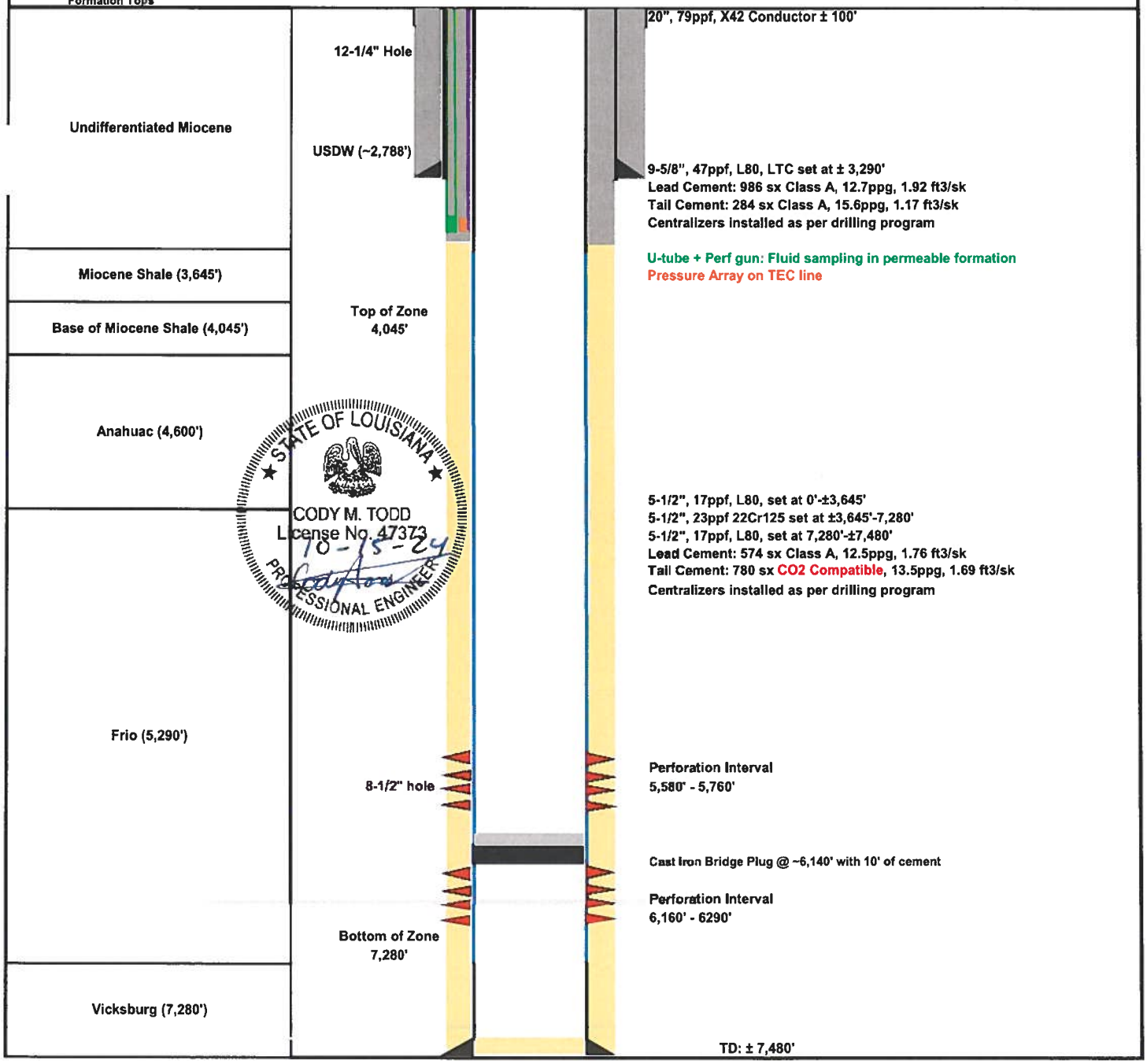
Proposed Schematic Test 2

ExxonMobil

Location:
Latitude (Y): 30°39'53.27"N
Longitude (X): 92°52'04.34"W

SECTION: 34
TOWNSHIP: 4S
RANGE: 5W

(Drawing: Not to scale)



STATE OF LOUISIANA
CODY M. TODD
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PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

OCT 23 2024

INJECTION & MINING DIVISION

045314

PROPOSED WELLBORE DIAGRAM

FIELD: Wildcat - So LA Lafayette District
WELL: Mockingbird IZM No. 1
OPERATOR: Exxon Low Carbon Solutions Onshore
PARISH: Allen
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well

Proposed Schematic Test 3

ExxonMobil

Location:
Latitude (Y): 30°39'53.27"N
Longitude (X): 92°52'04.34"W

SECTION: 34
TOWNSHIP: 4S
RANGE: 5W

(Drawing: Not to scale)

Formation Tops

Undifferentiated Miocene

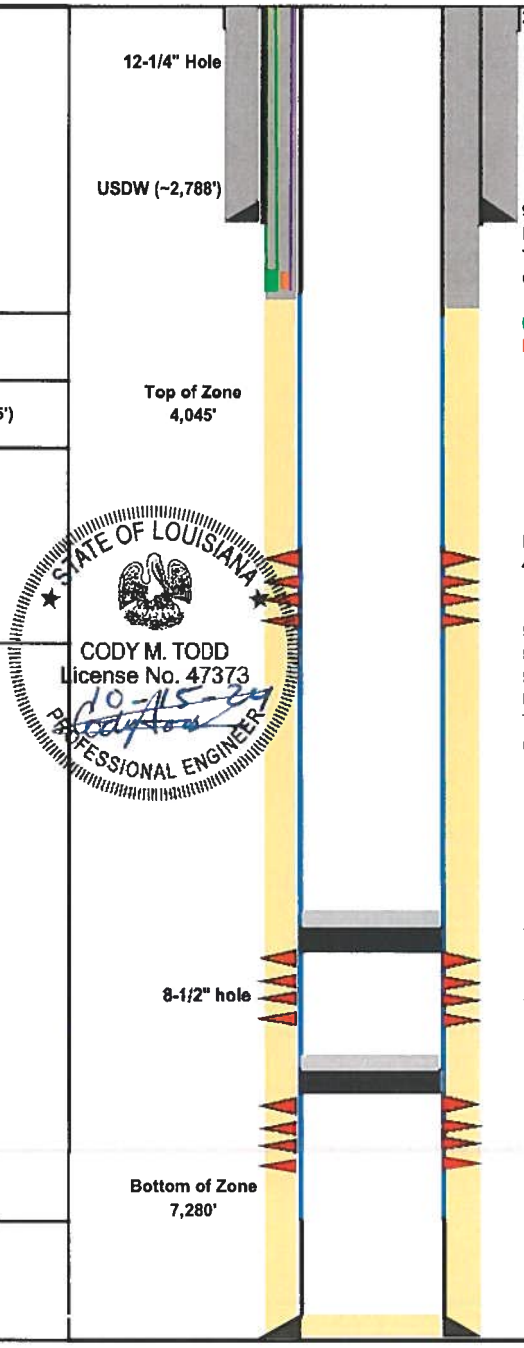
Miocene Shale (3,645')

Base of Miocene Shale (4,045')

Anahuac (4,600')

Frio (5,290')

Vicksburg (7,280')



20", 79ppf, X42 Conductor ± 100'

9-5/8", 47ppf, L80, LTC set at ± 3,290'
Lead Cement: 986 sx Class A, 12.7ppg, 1.92 ft3/sk
Tail Cement: 284 sx Class A, 15.6ppg, 1.17 ft3/sk
Centralizers installed as per drilling program

U-tube + Perf gun: Fluid sampling in permeable formation
Pressure Array on TEC line

Perforation Interval
4,980' - 5,070'

5-1/2", 17ppf, L80, set at 0'-±3,645'
5-1/2", 23ppf 22Cr125 set at ±3,645'-7,280'
5-1/2", 17ppf, L80, set at 7,280'-±7,480'
Lead Cement: 574 sx Class A, 12.5ppg, 1.76 ft3/sk
Tail Cement: 780 sx CO2 Compatible, 13.5ppg, 1.69 ft3/sk
Centralizers installed as per drilling program

Cast Iron Bridge Plug @ ~5,560' with 10' of cement

Perforation Interval
5,580' - 5,760'

Cast Iron Bridge Plug @ ~6,140' with 10' of cement

Perforation Interval
6,160' - 6290'

TD: ± 7,480'

STATE OF LOUISIANA
CODY M. TODD
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OCT 23 2024

INJECTION & MINING DIVISION

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PROPOSED WELLBORE DIAGRAM

Proposed Schematic Post Injectivity Testing

ExxonMobil

FIELD:	Wildcat - So LA Lafayette District
WELL:	Mockingbird IZM No. 1
OPERATOR:	Exxon Low Carbon Solutions Onshore
PARISH:	Allen
STATE:	LA
STATUS:	Class V (To be Permitted)
PERMIT NO.	TBD
WELL TYPE:	Stratigraphic Test Well
SECTION:	34
TOWNSHIP:	4S
RANGE:	5W

Location:
Latitude (Y): 30°39'53.27"N
Longitude (X): 92°52'04.34"W

(Drawing: Not to scale)

Formation Tops

Undifferentiated Miocene

Miocene Shale (3,645')

Base of Miocene Shale (4,045')

Anahuac (4,600')

Frio (5,290')

Vicksburg (7,280')

12-1/4" Hole

USDW (~2,788')

8-1/2" hole

Top of Zone
4,045'

Bottom of Zone
7,280'

20", 79ppf, X42 Conductor ± 100'

9-5/8", 47ppf, L80, LTC set at ± 3,290'
Lead Cement: 986 sx Class A, 12.7ppg, 1.92 ft3/sk
Tail Cement: 284 sx Class A, 15.6ppg, 1.17 ft3/sk
Centralizers installed as per drilling program

U-tube + Perf gun: Fluid sampling in permeable formation
Pressure Array on TEC line

Cast Iron Bridge Plug @ ~4,960' with 10' of cement

Perforation Interval
4,980' - 5,070'

PBTD @ 4,950'

5-1/2", 17ppf, L80, set at 0'-±3,645'
5-1/2", 23ppf 22Cr125 set at ±3,645'-7,280'
5-1/2", 17ppf, L80, set at 7,280'-±7,480'
Lead Cement: 574 sx Class A, 12.5ppg, 1.76 ft3/sk
Tail Cement: 780 sx CO2 Compatible, 13.5ppg, 1.69 ft3/sk
Centralizers installed as per drilling program

Cast Iron Bridge Plug @ ~5,560' with 10' of cement

Perforation Interval
5,580' - 5,760'

Cast Iron Bridge Plug @ ~6,140' with 10' of cement

Perforation Interval
6,160' - 6290'

TD: ± 7,480'

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
10-15-24
PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

OCT 23 2024

INJECTION & MINING DIVISION

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ISOMETRIC VIEW

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
10/14/2024
PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

OCT 23 2024

INJECTION & MINING DIVISION

NOTES:
1: THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.
2: DIGITALLY ENABLED SOLUTIONS, CHOKES AND ESD'S ARE AVAILABLE ON REQUEST.

APPRAISAL WELLS

CONFIDENTIAL

DO NOT SCALE		slb	SURFACE SYSTEMS
DRAWN BY: A. MONISTERE	DATE: 6 Jun 24		
LINE LIABILITY: A. MONISTERE	DATE: 6 Jun 24	EXXONMOBIL ADAPT NST 2S WELLHEAD 20" X 9-5/8" X 5-1/2"	
APPROVED BY: JC GONZALEZ	DATE: 6 Jun 24		
ESTIMATED WEIGHT: 6617.3 LBS 3001.4 KG	SPECIAL USE S/O: 650542950	SHEET: 1 of 2	SD-054562-01-50 REV: 01

Attachment 5

WORK PROGNOSIS FOR DRILLING, COMPLETING, AND TESTING THE WELL

ExxonMobil

ExxonMobil

045314

DRILLING, COMPLETION, & TESTING PLAN

Mockingbird IZM No. 1

ExxonMobil Low Carbon Solutions Onshore

WELL INFORMATION

Location: **Lat:** 30° 39' 53.27" N (NAD 27) **Long:** 92° 52' 04.34" W (NAD 27)
(Section - 34; Township – 4S; Range – 5W; Allen Parish; Louisiana)

Objective: The primary objective is a stratigraphic test of various formations as part of Exxon's Carbon Sequestration project.

Project Sponsor: ExxonMobil Low Carbon Solutions Onshore
22777 Springwoods Village Parkway
Spring, Texas 77389

ExxonMobil

GEOLOGICAL PROGNOSIS

Formation	Estimated Depth, (KB), feet
Base of Underground Source of Drinking Water	Approx. 2,788
Miocene Shale	3,645
Base of Miocene Shale	4,045
Anahuac	4,600
Frio	5,290
Vicksburg	7,280

Coring Program

Whole cores are proposed to be collected in the Miocene, Anahuac, and Frio. Sidewall cores may be collected from selected formations as desired, as part of the data acquisition program.

Logging and Testing Program

Cased Hole / Open Hole	Hole Size (inch)	Interval Depth (feet)	Individual Logging Tools	Interval
Open Hole	12-1/4	0 – 3,290'	Gamma Ray, Resistivity, Spontaneous Potential Logs.	Surface (Open Hole).
Open Hole	8-1/2	3,290' – 7,480'	Gamma Ray, Resistivity, Density Porosity, Dipole Sonic, Spectroscopy, Image Log, Fluid and pressure samples	Production (Open Hole)
Cased Hole	12-1/4	0 – 3,290'	Cement Bond Log, CCL, Gamma Ray	Surface (Cased Hole)
Case Holed	8-1/2	0 – 7,480'	Cement Bond Log, CCL, Gamma Ray	Production (Cased Hole)

Note: *SP Log will be run in open hole surface section but not in remainder of hole due to Oil Based Mud*

Note: *Additional logs may be run for data acquisition purposes*

Drilling Procedure

1. Rig up and spud 26" hole to ~100ft below ground level, run 20" conductor, cementing to surface with 225 sx of Class A, 1.55 ft^3/sack. Cut casing as necessary.
2. **Notify LDENR upon intent to spud the well a minimum of 48 hours before the planned spud time.**
3. Mobilize drilling rig and equipment to drilling pad.
4. Install load ring on conductor and nipple up flowline.
5. Spud and drill hole to ~3,290'.
6. Circulate the hole clean. Pull out of hole with BHA.
7. Run open hole wireline logs per the Logging and Testing Program
   - **Note: The Open-hole logs will be submitted to LDENR for USDW determination and minimum surface casing depth requirement prior to setting the surface casing to ensure adequate isolation and protection of the USDW.**
8. Run 9 5/8 in. surface casing with centralizers to ±3,290ft.
9. Cement 9-5/8 in. casing to surface. The proposed cement slurries are presented below, but the final slurries and volumes will be based on wellbore conditions:

   Slurry Specifications:

   Lead: Class A cement with additives
   Sacks: 986 sacks
   Yield: 1.92 ft^3/sack
   Density: 12.7 ppg

   Tail: Class A cement with additives
   Sacks: 284 sacks
   Yield: 1.17 ft^3/sack
   Density: 15.6 ppg

   - **Note: If the cement is not circulated to surface, cement top off job may be performed. Notify LDENR if cement is not circulated to the surface, prior to conducting cement top up.**
10. Install wellhead and BOPs. Test BOPs.
11. Wait on cement 12 hours prior to testing casing.
12. **Pressure test the casing to a minimum of 500 psi for 30 minutes per LDENR regulations.**
    - **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 LDENR.**
    - **Notify LDENR-IMD at least 48 hours prior to conducting the pressure test in the event staff wishes to witness the test.**
13. Pick up 8-1/2 in. BHA and drill out shoe track, and 10ft of new formation.

14. Perform Formation Integrity Test.
15. Drill 8-1/2 in. hole to TD, taking cores in formations listed in the Coring Program.
16. Run open hole wireline logs per the Logging and Testing Program
17. Run 9-5/8 in. cased hole wireline logs per the Logging and Testing Program
18. Run 5-1/2 in. production casing with centralizers to TD (± 7,840) and with the following equipment installed:
    - Casing mounted perforating guns, U-tube system for fluid sampling, and pressure array installed to ~3,400ft.
19. Cement 5-1/2 in. production casing to surface. The proposed cement slurries are presented below, but the final slurries and volumes will be based on wellbore conditions:

    Slurry Specifications:

    Lead: Class A cement with additives

    Sacks: 574 sacks

    Yield: 1.76 ft^3/sack

    Density: 12.5 ppg

    Tail: CO2 Compatible Cement

    Sacks: 780 sacks

    Yield: 1.69 ft^3/sack

    Density: 13.5 ppg

    - ***Note: If the cement is not circulated to surface, cement top off job may be performed. Notify LDENR if cement is not circulated to the surface, prior to conducting cement top up.***
    - ***Note: If casing packer and stage tool are required, the cement program will be modified to add the equipment.***
    - ***Note: The final cement slurry designs and volumes will be based on as-drilled hole conditions.***
20. Wait on cement 12 hours prior to testing casing.
21. **Pressure test the casing to a minimum of 1,000 psi for 30 minutes per LDENR regulations.**
    - **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 LDENR.**
    - **Notify LDENR-IMD, at least 48 hours prior to conducting the pressure test in the event staff wishes to witness the test.**
22. Nipple down BOP and install dry hole tree.
23. Rig down and move out drilling rig.

Completion Procedure (Rigless Ops)

24. Rig up surface pressure equipment.
25. Rig up wireline unit and PCE.
26. Run cased hole wireline logs per the Logging and Testing program
    - **The CBL will be submitted to LDENR-IMD for confirmation of good cement prior to injection into the well. The CBL must show evidence of the minimum required interval of 60% bonded cement in the isolating shale immediately above the top of zone. If CBL does not show good bond, perform squeeze and re-run CBL.**
27. Pick up guns and RIH.
28. Perforate ~ 6,160' – 6,290' and POOH

    Note: Actual perforation depths are subject to change based on the open hole logs of the well itself
29. RIH with P/T gauge on wireline to perforation interval to take bottomhole P/T reading.
30. Rig up surface iron and pumping equipment.
31. Perform step rate fall off test
    - The ISRT will consist of 5 to 10 minutes steps with each step holding a constant injection rate. The actual injection rates and step duration will be determined based on the downhole pressure response recorded real time, and the max rate is currently assumed to be below 25 bpm.
    - The IFT will consist of a dual ramp-up followed by hard shut-ins with the second shut-in duration extending to 24 hours. The rates will be increased in 15 min increments until the max designed rate in the schedule is reached (assumed to be below 25 bpm).

    Note: The fluid source for the injectivity test(s) will be a water source well drilled on location treated as needed with KCl, NaCl, and/or other additives to ensure adequate density and formation compatibility. A fluid source analysis from a LELAP accredited laboratory will be provided to the Injection & Mining Division (IMD) prior to any injection.
32. POOH with P/T gauge.
33. Pick up 5-1/2" cast iron bridge plug and set at ~6,140' (~20' above perf interval). Pressure Test plug to minimum of 300 psi for 30 minutes without losing more than 5% pressure.
34. RIH wireline cement bailer and spot 10' of cement on top of CIBP
35. Pick up guns and RIH
36. Perforate 5,580' – 5,760' and POOH

    Note: Actual perforation depths are subject to change based on the open hole logs of the well itself
37. RIH with P/T gauge on wireline to perforation interval.
38. Perform step rate fall off test

- The ISRT will consist of 5 to 10 minutes steps with each step holding a constant injection rate. The actual injection rates and step duration will be determined based on the downhole pressure response recorded real time, and the max rate is currently assumed to be below 25 bpm.
- The IFT will consist of a dual ramp-up followed by hard shut-ins with the second shut-in duration extending to 24 hours. The rates will be increased in 15 min increments until the max designed rate in the schedule is reached (assumed to be below 25 bpm).

39. POOH with P/T gauge.
40. Pick up 5-1/2" cast iron bridge plug and set at ~5,560' (~20' above perf interval). Pressure Test plug to minimum of 300 psi for 30 minutes without losing more than 5% pressure.
41. RIH wireline cement bailer and spot 10' of cement on top of CIBP
42. Pick up guns and RIH
43. Perforate 4,980' – 5,070' and POOH

    Note: Actual perforation depths are subject to change based on the open hole logs of the well itself

44. RIH with P/T gauge on wireline to perforation interval.
45. Perform step rate fall off test
    - The ISRT will consist of 5 to 10 minutes steps with each step holding a constant injection rate. The actual injection rates and step duration will be determined based on the downhole pressure response recorded real time, and the max rate is currently assumed to be below 25 bpm.
    - The IFT will consist of a dual ramp-up followed by hard shut-ins with the second shut-in duration extending to 24 hours. The rates will be increased in 15 min increments until the max designed rate in the schedule is reached (assumed to be below 25 bpm).
46. POOH with P/T gauge.
47. Pick up 5-1/2" cast iron bridge plug and set at ~4,960' (~20' above perf interval). Pressure Test plug to minimum of 300 psi for 30 minutes without losing more than 5% pressure.
    - **Notify LDENR-IMD CES at least 48 hours prior to conducting the final pressure test which will serve as the well's MIT.**
48. RIH wireline cement bailer and spot 10' of cement on top of CIBP for a final PBTD of 4,950'.
49. Rig down wireline unit.
50. Install the TA plug in the wellhead.
51. Demob equipment from location.

Attachment 6

FINANCIAL SURETY

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

ExxonMobil

ExxonMobil Low Carbon Solutions Onshore Storage
Class V Stratigraphic Test Well Application
Mockingbird IZM No. 1
Allen Parish, LA

THIRD PARTY P&A PROCEDURE, SCHEMATIC, AND COST ESTIMATE

ExxonMobil

045314

Plugging Procedure, Schematic, & Cost Estimate
Mockingbird IZM #1
ExxonMobil Low Carbon Solutions Onshore

WELL INFORMATION

Location: **Lat:** 30° 39' 53.27" N (NAD 27) **Long:** 92° 52' 04.34" W (NAD 27)

(Section - 34; Township – 4S; Range – 5W; Allen Parish; Louisiana)

Objective: The primary objective is a stratigraphic test of various formations as part of ExxonMobil's Carbon Sequestration project.

Project Sponsor: ExxonMobil Low Carbon Solutions Onshore

22777 Springwoods Village Parkway

Spring, Texas 77389

Plugging and Abandonment Work Prognosis:

1. Submit a UIC-17 to P&A the well and await work permit number.
2. Provide 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.
3. Provide 48 hour notice prior to initiating any site activity or beginning P&A procedure.
4. Move in and rig up workover rig.
5. Nipple down tree.
6. Rig up BOP and pressure test.
7. Run in hole with workstring to 2,988 (~200ft below base of USDW plug).
8. Circulate with 9ppg WBM or inhibited brine.
9. Pump viscous pill as a base for balanced cement plug.
10. Pull out of hole to top of viscous pill.
11. Pump balanced cement plug from 2,738 ft to 2,838 ft.
    a. The proposed cement slurries are presented below, but the slurries, depths, and volumes will be based on as drilled logs for bottom of the plug starting in a confining shale formation below the USDW extending to a minimum of 50 ft above the base of the USDW. Plug will be a minimum of 100' extending at least 50' below the base of the USDW and 50' above.

    Slurry Specifications:

    Class H with additives
    Sacks: 15 sacks
    Yield: 1.06 ft3/sack
    Density: 16.4 ppg
12. Wait on cement.
13. Tag cement for top of plug verification and pressure test to minimum of 300 psi for 30 minutes without losing more than 5%.
14. Pull out of hole to base of surface cement plug.
15. Pump balanced cement plug from 6ft to 36ft BGL.
    The proposed cement slurries are presented below but the slurries, depths, and volumes will ensure that the surface plug is 30ft or greater and allows for the casing to be cut at least 5ft below ground level.
    Slurry Specifications:

    Class H with additives
    Sacks: 5 sacks
    Yield: 1.06 ft3/sack
    Density: 16.4 ppg
16. Rig down BOP.
17. Cut wellhead at least 5 ft below ground level.
18. Weld 1/2in steel plate across all annuli and include well serial number and P&A date.
19. Within 30 days after plugging, a plugging report (Form UIC-P&A) shall be submitted to LDENR.

045314

PROPOSED WELLBORE DIAGRAM

Proposed P&A Third Party

FIELD:	Wildcat - So LA Lafayette District
WELL:	Mockingbird IZM No. 1
OPERATOR:	Exxon Low Carbon Solutions Onshore
PARISH:	Allen
STATE:	LA
STATUS:	Class V (To be Permitted)
PERMIT NO.	TBD
WELL TYPE:	Stratigraphic Test Well
SECTION:	34
TOWNSHIP.	4S
RANGE:	5W

Location:
Latitude (Y): 30°39'53.27"N
Longitude (X): 92°52'04.34"W

(Drawing: Not to scale)

Formation Tops

- Undifferentiated Miocene
- USDW (~2,788')
- Miocene Shale (3,645')
- Base of Miocene Shale (4,045')
- Top of Zone 4,045'
- Anahuac (4,600')
- Frio (5,290')
- 12-1/4" Hole
- 8-1/2" hole
- Bottom of Zone 7,280'
- Vicksburg (7,280')

20", 79ppf, X42 Conductor ± 100'
Casing cut 5ft BGL
Surface Plug: 5 sx Class H, 16.4ppg, 1.06 ft3/sk, 6'-36'

USDW Plug: 15 sx Class H, 16.4ppg, 1.06 ft3/sk, 2,738'-2,838'

9-5/8", 47ppf, L80, LTC set at ± 3,290'
Lead Cement: 986 sx Class A, 12.7ppg, 1.92 ft3/sk
Tail Cement: 284 sx Class A, 15.6ppg, 1.17 ft3/sk
Centralizers installed as per drilling program

U-tube + Perf gun: Fluid sampling in permeable formation
Pressure Array on TEC line

9ppg minimum mud or inhibited brine circulated between plugs

Cast Iron Bridge Plug @ ~4,960' with 10' of cement

Perforation Interval
4,980' - 5,070'

5-1/2", 17ppf, L80, set at 0'-±3,645'
5-1/2", 23ppf 22Cr125 set at ±3,645'-7,280'
5-1/2", 17ppf, L80, set at 7,280'-±7,480'
Lead Cement: 574 sx Class A, 12.5ppg, 1.76 ft3/sk
Tail Cement: 780 sx CO2 Compatible, 13.5ppg, 1.69 ft3/sk
Centralizers installed as per drilling program

Cast Iron Bridge Plug @ ~5,560' with 10' of cement

Perforation Interval
5,580' - 5,760'

Cast Iron Bridge Plug @ ~6,140' with 10' of cement

Perforation Interval
6,160' - 6290'

TD: ± 7,480'

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
10-15-24
PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

OCT 23 2024

INJECTION & MINING DIVISION

045314

P&A Cost Estimate

Item	Days/# of Jobs	Rate	Cost Estimate
Rig Mob/Demob	2	$ 6,500	$ 13,000
Rig	3	$ 6,500	$ 19,500
Workstring Cost	3	$ 4,200	$ 12,600
Equipment Rentals	3	$ 1,000	$ 3,000
Trucking Loads	2	$ 1,500	$ 3,000
P&A Disposal	1	$ 14,000	$ 14,000
Cement	1	$ 1,750	$ 1,750
Cement Pumping Services	2	$ 5,000	$ 10,000
Forklift Rental Costs	1	$ 3,250	$ 3,250
Pipe Rack Costs	1	$ 2,500	$ 2,500
Welding and Casing Cutting	1	$ 5,000	$ 5,000
Waste Management/Disposal/Vaccuum Trucks	1	$ 4,500	$ 4,500
Surface Restoration & Remediation	1	$ 4,605	$ 4,605
Supervision Expenses	3	$ 1,500	$ 4,500
PM Costs and Reports	1	$ 4,000	$ 4,000
Subtotal			$ 105,205
10% Project Contingency			$ 10,521
Project Total			**$ 115,726**

Professional Engineering Certification

Lonquist Sequestration, LLC is submitting this Plug and Abandonment Cost Estimate in support of the Mockingbird IZM No. 1 Class V permit application. I, William H. George, P.E., hereby certify that I have reviewed and prepared the cost estimate provided above for plug and abandonment of the Mockingbird IZM No. 1 stratigraphic test well.

Certified By:
Lonquist Sequestration, LLC
Louisiana Firm License EF-7423

William H. George, P.E. - Vice President / Principal Engineer
Louisiana License PE-45286
(512) 787-7478
will@lonquist.com

Date Signed: October 21, 2024
Austin, Texas

Attachment 7

IT QUESTIONS DOCUMENTATION

ExxonMobil

1. **Have the potential and real adverse environmental effects of the proposed project been avoided to the maximum extent possible?**

The potential and real adverse environmental effects of the proposed Class V Stratigraphic Test Well (Well) have been minimized or avoided to the maximum extent practicable. The potential and real adverse environmental impacts that may occur are in relation to underground sources of drinking water (USDW) and to the surface environment. Preservation, avoidance, and minimization of the potential effects caused by the proposed activity is described below.

Standard USDW Protections

a) Well design, drilling, installation, and testing will conform with all applicable standards.

b) Ensure the USDW is protected by setting surface casing below the lowermost USDW formation and cementing the casing to surface in accordance with applicable standards.

c) The surface cased section will be drilled vertically which minimizes the length of casing passing through any USDW at the site and minimizes complications of cementing.

d) Pressure testing of the surface casing will be conducted to ensure no leaks or potential for migration of fluids to the USDW.

e) Production casing will be cemented from the surface to the total depth of the well to seal off the formations and prevent migration of fluids outside of the injection zone.

f) A cement bond log (CBL) will be run to confirm the integrity of the cement (i.e., assurance that there are no channels adjacent to the casing which would permit migration of fluids up the wellbore from the injection zone).

g) Permanent monitors may be installed in the well and surrounding locations for both seismic and USDW monitoring.

h) Should it be required, the well will be plugged and abandoned in accordance with all applicable regulations.

Standard Environmental Protections

The construction of the proposed Well will incorporate best management practices (BMPs), engineering practices, and regulatory requirements to help ensure that any potential and real adverse environmental effects occurring as the result of proposed Well are avoided to the maximum extent possible. The following BMPs, engineering practices, and regulatory requirements will be utilized as applicable for the proposed Well.

a) Ensure all work sites and equipment access routes return to a clean and safe condition when the work is completed.

b) Contractors will be required to develop and implement a Stormwater Prevention Pollution Plan (SWPPP) to minimize runoff of stormwater and runoff of any fill materials into adjacent waterways during construction.

c) Solid and/or hazardous waste generated during construction shall be temporarily stored on-site in accordance with applicable local, state, and federal regulations prior to off-site transport and shall be disposed of at an authorized state/federally approved treatment, storage, or disposal facility.

d) Air emissions generated from the proposed facilities are expected to be minor and only last during construction activities.

e) Any temporary noise impacts from the project are expected to be minor, and no noise mitigation is expected to be necessary.

f) There are no anticipated wetland impacts associated with this Well.

g) There are no anticipated impacts to threatened and endangered species or critical habitats associated with this Well. The U.S. Fish and Wildlife Information for Planning and Consultation (IPaC) Tool was used, and the species identified as endangered or threatened were the red-cockaded woodpecker, whooping crane and the American Chaffseed. Other species were identified as proposed or candidate species and were considered. However, this Well is located in a timber stand that undergoes regular maintenance using industry standard practices and was not identified to contain the aforementioned species.

h) Cultural resources consultations will occur prior to initiation of construction.

2. **Does a cost benefit analyses of the environmental impact costs versus the social and economic benefits of the proposed project demonstrate that the latter outweighs the former?**

Yes, the potential social and economic benefits of the proposed project outweigh the potential environmental impact costs. The data gathered from the proposed Well may be used in support of developing a site for the geological sequestration of carbon dioxide (CO_2), if the subsurface data gathered from the Well is favorable. If the subsurface is favorable and a geological CO_2 sequestration site were to be developed it would provide significant economic and social benefits to the region.

Further, CO_2 sequestration is a type of project that the Louisiana Legislature has determined to be favored as a matter of Louisiana public policy. Specifically, the Louisiana Legislature has recognized the many benefits offered by carbon capture and sequestration (CCS) projects, stating that "[i]t is declared to be in the public interest for a public purpose and the policy of Louisiana that . . . [t]he geologic storage of carbon dioxide will benefit the citizens of the state and the state's environment by reducing greenhouse gas emissions." See La. R.S.

30:1 102(A). The Center for Climate and Energy Solution states that in 2022, the United States (U.S.) emitted nearly 6 billion metric tons of greenhouse gases and CO_2 accounted for 79% of all the greenhouse gases released. Per Louisiana's 2021 Greenhouse Gas Inventory, over 92% of all Louisiana greenhouse gas emissions (as of 2018) were CO_2. Per Louisiana's Climate Action Plan, Louisiana has an objective of net zero CO_2 emissions by 2050. A CCS Project specifically aids Louisiana in achieving the net zero CO_2 emission goal set forth in Louisiana's Climate Action Plan and can address the primary sector (industry) cited as the dominant source of CO_2 emissions per Louisiana's 2021 Greenhouse Gas Inventory Report.

3. **Are there alternative projects which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits?**

There are no alternative projects that would offer more protection to the environmental than the proposed project without unduly curtailing non-environmental benefits and meet the objectives of the Project. Site-specific information and data concerning the suitability of this Area of Interest (AOI) for the possible future sequestration and storage of CO_2 is not currently available. Such information, including core samples, fluid samples, and static pressure measurements, is required to support any future application to construct and operate a Class VI well. *E.g.*, LAC 43:XVII.3607.C.2; 40 C.F.R. 146.82. The necessary site-specific subsurface data cannot be obtained through means other than drilling a test well to collect the data within the AOI. Accordingly, there is no alternative project that would provide greater environmental protection without unduly curtailing the non-environmental benefits and objectives of the proposed project.

4. **Are there alternative sites which would offer more protection to the environment than the proposed site without unduly curtailing non-environmental benefits?**

There are no alternative sites which would offer more protection to the environment than the proposed site without unduly curtailing non-environmental benefits and meet the objectives of the Project. This Well is uniquely positioned in the AOI to evaluate the feasibility of developing a geological CO_2 sequestration project within a particular subsurface geology. As outlined in the application, this Well is to serve as a future monitoring well and is therefore also uniquely positioned at a suitable monitoring location. Since the Well is needed to collect data concerning the feasibility of the AOI for potential future geological CO_2 sequestration, the Project only considered alternative sites within the AOI. Sites outside the AOI would frustrate the purpose of the Project because data collected from outside the AOI could not be used to evaluate the AOI for potential geological CO_2 sequestration. Nor would data collected from outside the AOI be responsive to the regulatory requirements associated with an application to construct and operate a Class VI well. In addition, as discussed above, the AOI was screened for environmental and cultural sensitivities, which were to be avoided to the maximum extent practical. The construction of the Well along with all access roads has been designed to the minimal practical footprint to safely construct, operate, maintain, and close the Well.

Within the AOI, the proposed Well site was selected due to the following metrics: proximity to existing access roads, proximity to the Greenline, wetland avoidance, suitable monitoring location, and to maximizing data collection.

5. **Are there mitigating measures which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits?**

No, there are currently no other mitigating measures which would offer more protection to the environment without unduly curtailing non-environmental benefits. Not drilling an appraisal well will limit the ability to evaluate the AOI for potential for CO_2 sequestration, which assists in meeting the state and national objectives of reducing greenhouse gases in the atmosphere. As discussed in the response to Question 1, the proposed Well will be designed and constructed as per applicable regulations and guidance from the Louisiana Office of Conservation (Injection & Mining Division). Surface activities shall comply with Louisiana Department of Energy & Natural Resources (LDENR), Louisiana Department of Environmental Quality, and all other applicable agency regulations.

All efforts will be made to avoid and/or mitigate any impacts to the USDW and any surface impacts associated with the Well. To the extent necessary, the Project will prepare a SWPPP and apply for coverage under the appropriate Storm Water General Permit for the construction activities associated with the Well. Moreover, the Project will mitigate any unavoidable impacts to wetlands by purchasing the appropriate wetland mitigation credits from an authorized Mitigation Bank in accordance with the US Army Corps of Engineers, the Office of Coastal Management, and/or LDENR.

Air and noise emissions associated with construction of the Well will be temporary, and they are not expected to exceed regulatory thresholds or impact local communities. The Project will use BMPs to mitigate any air or noise impacts associated with such construction.

The Project will comply with all applicable regulations and standards and implement any additional measures necessary to ensure compliance while ensuring safe and protective operation during the life of the Well.

Attachment 8

LABORATORY ANALYSIS OF INJECTION TEST FLUID

- The fluid source for the injectivity test(s) will be a water source well drilled on location treated as needed with KCl, NaCl, and/or other additives to ensure adequate density and formation compatibility. A fluid source analysis from a LELAP accredited laboratory will be provided to the Injection & Mining Division (IMD) prior to any injection.

¼ MILE AOR DETAIL WELL REPORT

ExxonMobil

Louisiana Department of Energy and Natural Resources (DENR)

SONRIS/2000

Report run on: Jun 13, 2024 1:32 PM

SRCN4188_WELLS -- WELLS IN AREA OF REVIEW (AOR)

Centerpoint: X - 1,517,512, Y - 729,859 (NAD 27 S)

No Oil and Gas wells within 1/4 mile AoR

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.