TYLER PATRICK GRAY
SECRETARY

DUSTIN H. DAVIDSON
DEPUTY SECRETARY

KEITH O. LOVELL
ASSISTANT SECRETARY
COASTAL MANAGEMENT

AMANDA MCCLINTON
ASSISTANT SECRETARY
ENERGY

MARK NORMAND, JR.
UNDERSECRETARY

MANNY ACOSTA
OIL SPILL COORDINATOR

ANDREW B. YOUNG
ASSISTANT SECRETARY
MINERAL RESOURCES

STEVEN M. GIAMBRONE
INTERIM DIRECTOR
CONSERVATION

# DEPARTMENT OF ENERGY AND NATURAL RESOURCES

July 8, 2025

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

RE: Stratigraphic Test Well – New Drill
Nighthawk Strat Test Well No. 001
Wildcat-SO LA Lafayette Dist. Field, St. Landry Parish
Application No. 45964
Docket No. IMD 2025-09

Dear Mr. Todd:

This Office has completed its review of the above-referenced Class V stratigraphic test well permit application and has found it to be administratively complete. Accordingly, the attached draft permit and fact sheet have been prepared. Incomplete portions of these documents will be completed when the information becomes available. Study the enclosed documents for inaccuracies and inconsistencies.

A public hearing will be held at the in the LaBelle Room, on the 1st floor of the LaSalle Building, 617 North 3rd Street, Baton Rouge, LA 70802 at 9:00 am on August 12, 2025. A link to the draft permit may be accessed on the Department of Energy and Natural Resources, Class VI Carbon Sequestration website beginning on July 9, 2025. If through the public review process additional information is required, such matters must be resolved before issuance of the final permit.

A public hearing fee of $755.00 is being assessed per the requirements of Statewide Order No. 29-R-19/20, (LAC 43:XIX.703.A) and must be submitted to this Office by August 12, 2025. Refer to the invoice for payment options. Please indicate the application number and docket number referenced above when submitting the fee.

Yours very truly,

Gavin D. Broussard, Interim Director
Injection and Mining Division

# FACT SHEET

| | |
|---|---|
| Applicant: | ExxonMobil Low Carbon Solutions Onshore<br>22777 Springwoods Village Parkway<br>Spring, TX 77389<br>281-939-3899 |
| Project Proposal: | Permit to drill one Class V Stratigraphic Test Well |
| Type of Facility: | N/A |
| Well Names: | Nighthawk Strat Test Well No. 001 |
| Project Location: | Section 26, Township 5 South, Range 6 East, of St. Landry Parish |
| Facility Local Address: | N/A |
| Application No.: | 45964 |
| Docket No.: | IMD 2025-09 |

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 St. Landry 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 9,385 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 1,680 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 Alluvial Aquifer below.

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

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

Application Locations: An application package is available for inspection at the Louisiana Office of Conservation, Injection and Mining Division, LaSalle Building, 617 North Third Street, Room 817, Baton Rouge, LA 70802 from 8:00 am until 4:30 pm, Monday through Friday. To view, please ask for the 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 2025-09 or call Holton Hinchliffe at (225) 342-8936, Monday through Thursday, between the hours of 7:30 a.m. to 5:00 p.m.

Comment Period: The public comment period officially commences July 9, 2025 at 8:00 a.m. and concludes, August 13, 2025 at 4:30 p.m. Submit all comments in writing to Holton Hinchliffe, Louisiana Office of Conservation, Injection and Mining Division, 617 N. 3rd St, Baton Rouge, LA 70802. Comments may also be e-mailed to info@la.gov. Please reference ExxonMobil Low Carbon Solutions Onshore Class V Permit, Application Number 45964, Docket No. IMD 2025-09.

Public Hearing: The public hearing will be held on LaBelle Room, on the 1st floor of the LaSalle Building, 617 North 3rd Street, Baton Rouge, LA 70802 at 9:00 am on August 12, 2025.

Tyler Patrick Gray
SECRETARY

Dustin H. Davidson
DEPUTY SECRETARY

Keith O. Lovell
ASSISTANT SECRETARY
COASTAL MANAGEMENT

Amanda McClinton
ASSISTANT SECRETARY
ENERGY

Mark Normand, Jr.
UNDERSECRETARY

Manny Acosta
OIL SPILL COORDINATOR

Andrew B. Young
ASSISTANT SECRETARY
MINERAL RESOURCES

Steven M. Giambrone
INTERIM DIRECTOR
CONSERVATION

# DEPARTMENT OF ENERGY AND NATURAL RESOURCES

_____ ____, 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
Nighthawk Strat Test Well No. 001
Wildcat-SO LA Lafayette Dist. Field
St. Landry Parish

Application No. 45964
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 St. Landry 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

DRAFT

# 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. | **45964** | 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

DRAFT

045964

ExxonMobil

March 26, 2025

Holton Hinchliffe, P.E.
Louisiana Department of Energy and Natural Resources
Office of Conservation, Injection & Mining Division
617 North Third Street
Baton Rouge, LA 70802

RE: Class V Stratigraphic Test Well
Well Name: Nighthawk Strat Test
Well No: 1
Section 26, T-5S, R-6E
St. Landry Parish, LA

Dear Mr. Hinchliffe,

ExxonMobil Low Carbon Solutions Onshore ("EMLCS") respectfully submits the attached UIC-25 Stratigraphic Test Class V Well permit application as well as the Form IMD-1 Request for Expedited Review. 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 log(s) of the nearest offset well(s) showing the depths of the USDW and injection zone(s)
- Work prognosis for drilling, completing, and testing the well
- Wellbore and wellhead schematics
- P&A procedure, schematic, and a third-party estimate
- Responses to the "IT Questions"

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.

EMLCS 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 (346) 220-7391 or by email at cody.todd@exxonmobil.com if you have any questions regarding this application.

Best Regards,

Cody Todd, P.E.
**UIC Lead**

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

# ATTACHMENTS

- Application Fee
- Form UIC-25 STRAT TEST
- Two original Form MD-10-R-A (Not Applicable)
- Attachment 1: Certified Location Plat
- Attachment 2: Annotated USDW Log
- Attachment 3: Annotated Zone Log
- Attachment 4: Schematic
- Attachment 5: Work Prognosis
- Attachment 6: Financial Surety
- Attachment 7: IT Questions Documentation
- Attachment 8: LELAP Laboratory Analysis
- Third Party P&A Procedure, Schematic, and Cost Estimate
- ¼ mile AoR Detailed Well Report

OFFICE OF CONSERVAT

MAR 31 2025

INJECTION & MINING DIVI

ExxonMobil

045964

ExxonMobil Low Carbon Solutions Onshore
Class V Stratigraphic Test Well Application
Nighthawk Strat Test
St. Landry Parish, LA

## ONE FORM UIC-25 STRAT TEST WITH ORIGINAL SIGNATURE

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

045964

# 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**

Stratigraphic Test Well

**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)** |
|---|---|---|
| Nighthawk Strat Test | 1 | |

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

| **15. PARISH NAME** | **16. SECTION** | **17. TOWNSHIP** | **18. RANGE** |
|---|---|---|---|
| St. Landry | 26 | 5S | 6E |

**19. LOCATION COORDINATES (GCS, NAD 27)**

| | | | |
|---|---|---|---|
| **LATITUDE:** | 30° | 35 MIN | 14.61 SEC |
| **LONGITUDE:** | 91° | 49 MIN | 54.61 SEC |

**20. STATE PLANE COORDINATES (LAMBERT, NAD 27)**

☐ NORTH ZONE ☑ SOUTH ZONE

X: 1,843,135 Y: 698,817

**21. LEGAL LOCATION DESCRIPTION (FROM LOCATION PLAT):**

SURFACE LOCATION being N 34°55'06"E 17,436.99' from USC&GS Monument "Darbonne RM A 1965", located in Section 26, located in Section 26, T5S-R6E, St. Landry Parish, Louisiana.

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

045964

**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 | 20 | 79 | X42 | 0 | 100 | 225 | | H | 1.55 | surface |
| 9 5/8 | 12 1/4 | 47 | L80 | 0 | 2,500 | 936 | 665/271 | A/A | 2.35/1.28 | surface |
| 5 1/2 | 8 1/2 | 17 | L80 | 0 | 9,385 | 1,721 | 853/868 | A/H | 1.66/1.42 | surface |
| | | | | | | | | | | |
| | | | | | | | | | | |

***ALL WELL DEPTHS SHOULD BE GIVEN IN MD***

**24. BASE OF USDW (FT):** 1,680

**25. REFERENCE E-LOG FOR USDW (SERIAL NUMBER):** 24126

**26. WELL TOTAL DEPTH (FT):** 9,385

**27. PLUGBACK DEPTH (FT):** 5,352

**28. TUBING SIZE & DEPTH:** NA

**29. PACKER SIZE & DEPTH:** NA

**INJECTIVITY TEST INFORMATION (IF APPLICABLE)**

**30. INJECTION ZONE DEPTHS**

**Top:** 5,305 **Bottom:** 8,985

**31. COMPLETION/PERFORATION DEPTHS**

**Top:** 5,382 **Bottom:** 8,020

**32. REFERENCE E-LOG FOR INJECTION ZONE INFO (SERIAL NUMBER):** 115606

**33. WELL COMPLETION** ☐ OPEN HOLE ☑ PERFORATIONS ☐ SCREEN

**34. TEST MATERIAL (e.g. nitrogen, brine, etc):** Brine

******$CO_2$ is prohibited as a Class V test material******

**35. MAXIMUM TEST PRESSURE (psi):** 4,750

**36. TOTAL INJECTION VOLUME (bbls):** 20,000

| | |
|---|---|
| **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 locations? | ☐ YES ☑ NO |
| **40.** If no, has written notification been provided to the mineral owner(s)? | ☑ YES ☐ NO |

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

045964

**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

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

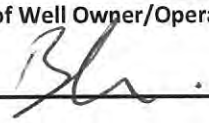
**TELEPHONE NUMBER:** 346-220-7391

**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) |
|---|---|
| Bruce Chalton | Vice President |

| Signature of Well Owner/Operator | Date |
|---|---|
|  | 3/26/25 |

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

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

- Not applicable – New Drill

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

045964



## Attachment 1

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

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

045964

ExxonMobil Low Carbon Solutions Onshore-
Nighthawk Strat Test No. 1 Well
Surveyed March 5, 2025 as follows:
SURFACE LOCATION being N 34°55'06"E 17,436.99' from USC&GS Monument "Darbonne RM A 1965", located in Section 26, located in Section 26, T5S-R6E, St. Landry 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 March 6, 2025.

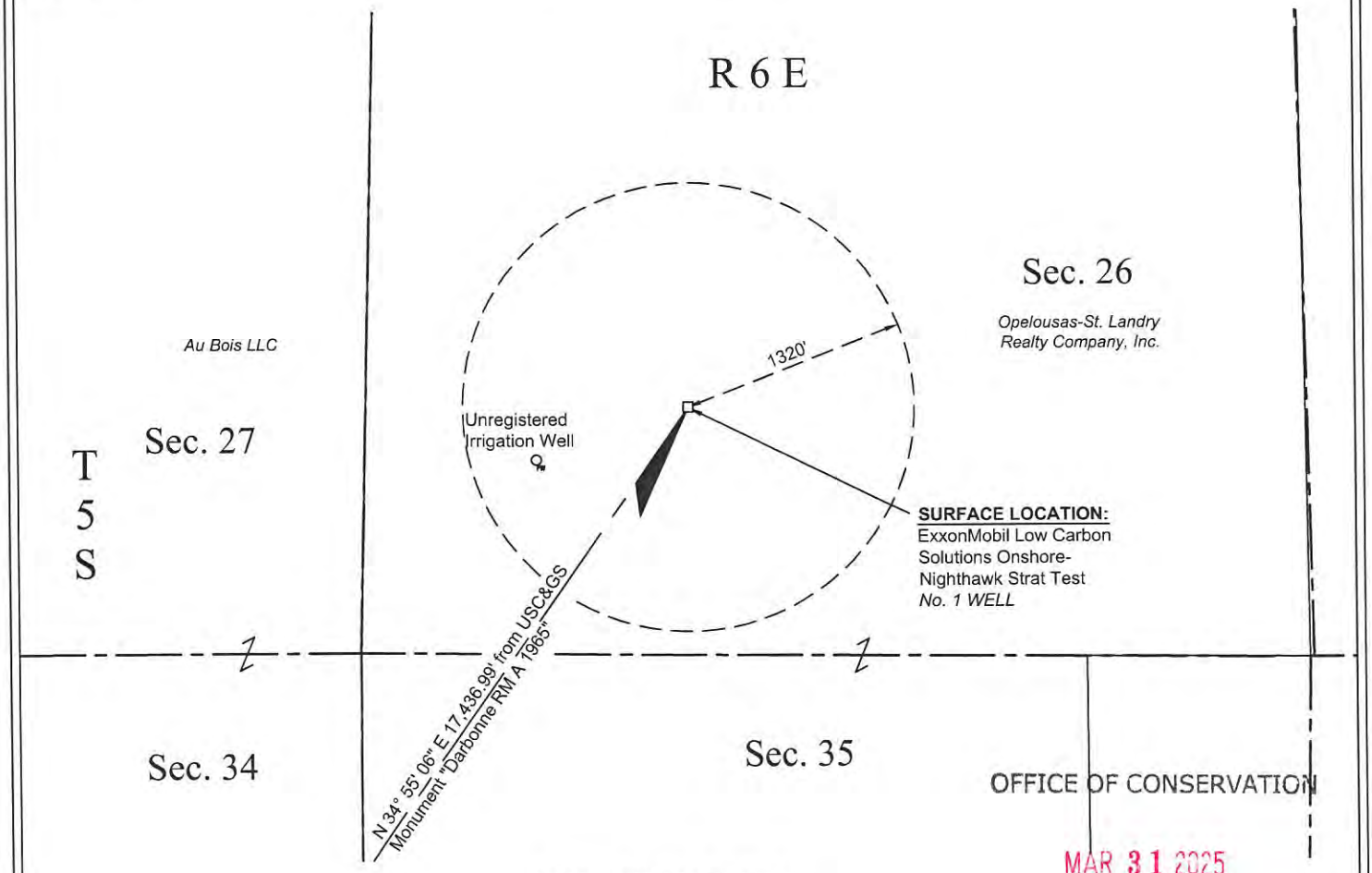
All bearings, distance, areas and coordinates refer to the North American Datum of 1927, Louisiana South Zone, US survey feet. Elevations refer to the North American Vertical Datum of 1988 and are derived from static and kinematic GPS observations unless otherwise note.

***Nighthawk Strat Test No. 1 Well***
X = 1,843,134.88' (NAD27 La S)
Y = 698,816.80'
LAT. 30° 35' 14.61" N (NAD27)
LONG. 91° 49' 54.61" W
X = 3,123,934.87' (NAD83/2011 La S)
Y = 759,526.31'
LAT. 30° 35' 15.28" N (NAD83/2011)
LONG. 91° 49' 55.03" W
ELEV. 19.0' (NAVD88)

| LEGEND |
|---|
| □ Proposed Well |
| Water Well |

NAD 27 LA. SOUTH ZONE

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




OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

FOR THE EXCLUSIVE USE OF EXXONMOBIL LOW CARBON SOLUTIONS ONSHORE

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
03/20/2025
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 Square
Lafayette, LA 70508
Ph. 337-237-2200
Fax. 337-232-3299


| REVISIONS | |
|---|---|
| 03/20/2025 | Revised well name |
| | |
| | |
| | |
| DRAWN BY:DBM | PROJ. MGR.:DBM |
| DATE:03/06/2025 | |
| JOB#:2258672.00C | SHEET 1 OF 1 |

## *WELL LOCATION PLAT NIGHTHAWK STRAT TEST NO. 1 WELL*

**EXXONMOBIL LOW CARBON SOLUTIONS ONSHORE**

SITUATED IN
SECTION 26, T5S-R6E
ST. LANDRY PARISH, LOUISIANA

045964



## 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 Murphy Heirs No. 1 – SN 24126

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

045964

**Marked USDW Log**
**Murphy Heirs No. 1 - Serial No. 24126**
**~8,063' away**

SCHLUMBERGER

Location of Well

Ctr. of NE¼ SW¼ NE¼ Sec. 22, or

991.5' N & 997.5' E of Ctr. of Sec. 22

Elevation:

COMPANY: STANLEY A. THOMPSON

WELL: MURPHY HEIRS #1

RUN NO.: ONE

FIELD: WILD-CAT N OF PORT BARRE FIELD

SURVEY: SEC. 22- 5S- 6E

COUNTY: ST. LANDRY

STATE: LOUISIANA

FILING No. [illegible]

COUNTY: St. Landry
FIELD OR SURVEY: Wild-Cat Sec. 22- 5S- 6E
WELL: Murphy Heirs #1 Run 1
COMPANY: Stanley A. Thompson

| | | |
|---|---|---|
| First Reading | | : 7562 ft. |
| Last Reading | | : 1184 ft. |
| Footage Measured | | : 6378 ft. |
| Casing Shoe Depth: | DRILLER | : 11888 ft. |
| | SCHLUMBERGER | : 1184 ft. |
| Bottom Depth | DRILLER | : 7547 ft. |
| Max. depth reached | | : 7562 ft. |

DIAMETER OF HOLE

MUD CHARACTERISTICS

OFFICE OF CONSERVATION
MAR 31 2025
INJECTION & MINING DIVISION

045964

from Cag to 7547 : 9 7/8"
from ____ to ____ :
from ____ to ____ :
Bottom Temperature: 168 °F

Nature: Natural- chemically treated
Weight: 10.2
Viscosity: 38-40"
Resistivity: 3.6 @85 °F

## REMARKS

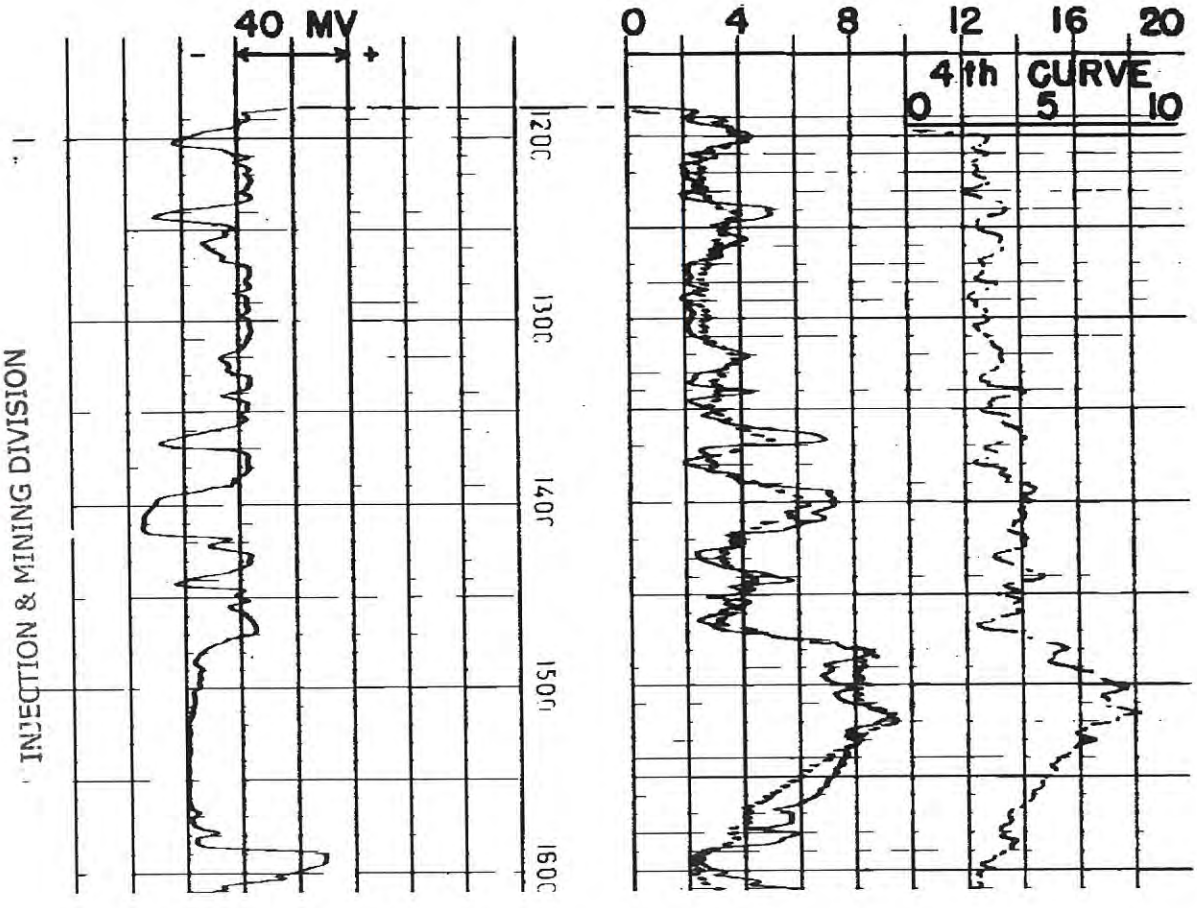
Depth measured 1' above rotary table.

*1SN17460800000024126*

DATE May 22, 1940 OBSERVERS F. H. Yeargers

| SELF-POTENTIAL millivolts | DEPTHS | RESISTIVITY -ohms. m²m. |
|---|---|---|
| | | NORMAL CURVE ——— THIRD CURVE —·— FOURTH CURVE |

Casing 1184




INJECTION & MINING DIVISION

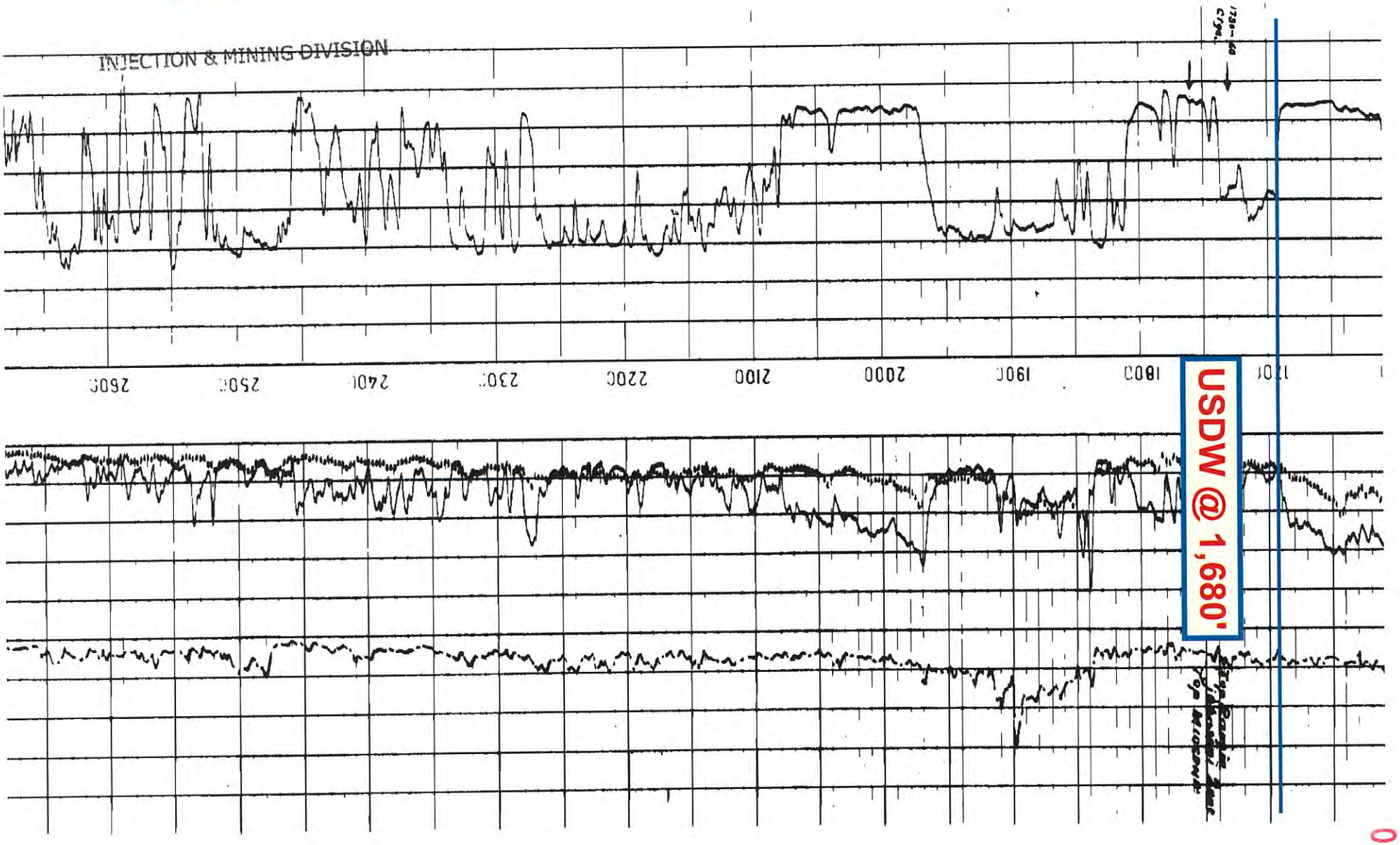
MAR 31 2025

OFFICE OF CONSERVATION

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

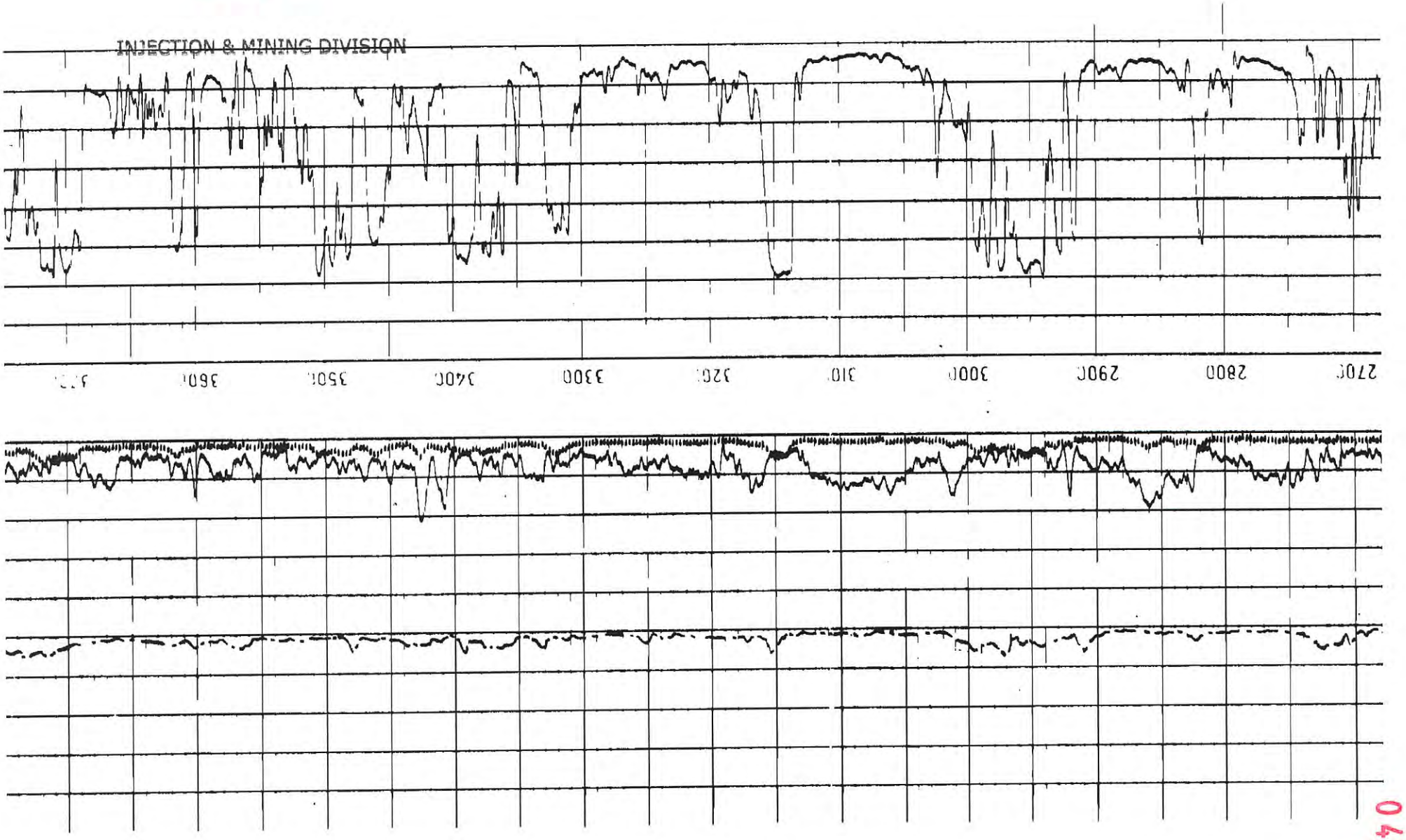



04596

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

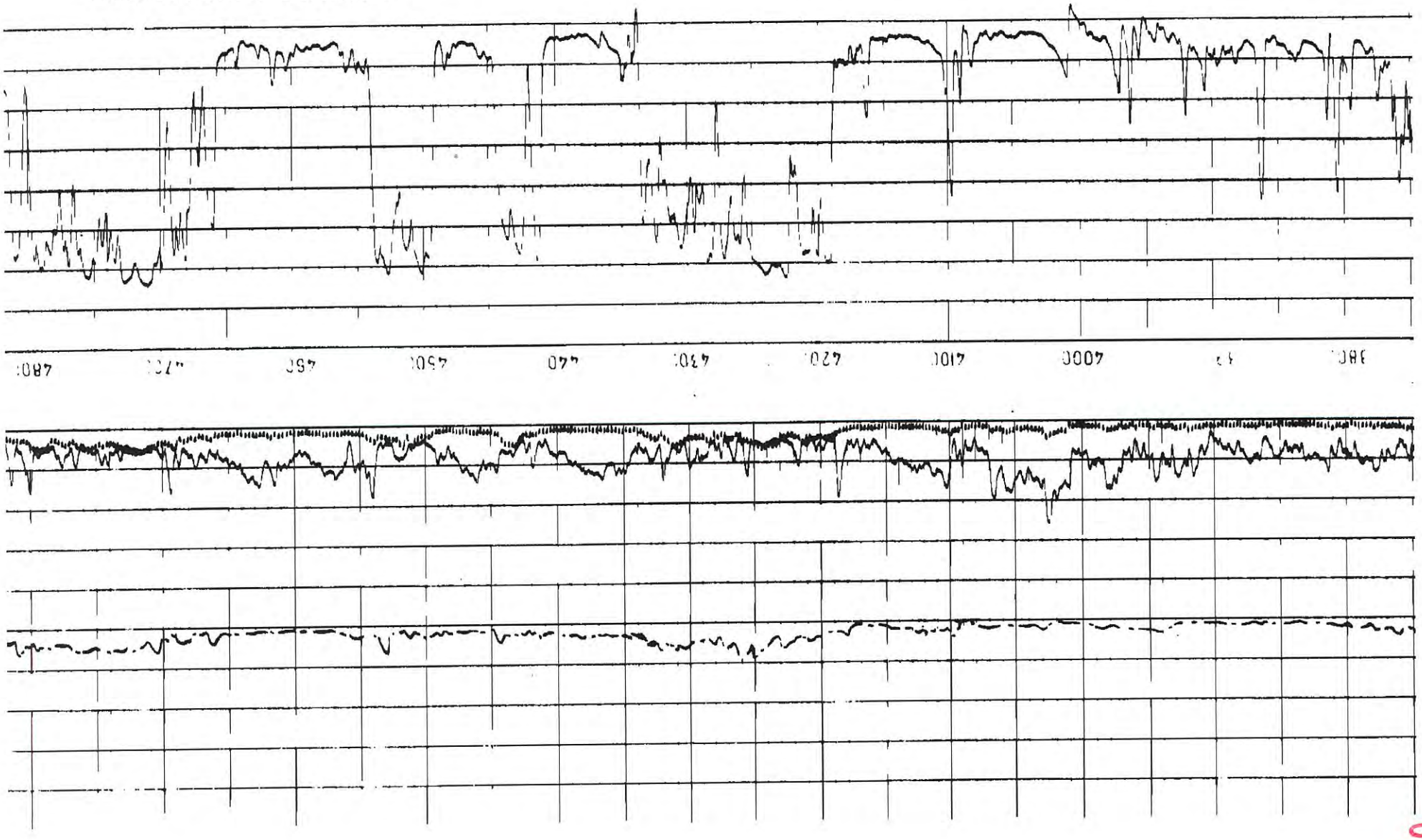



04596

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

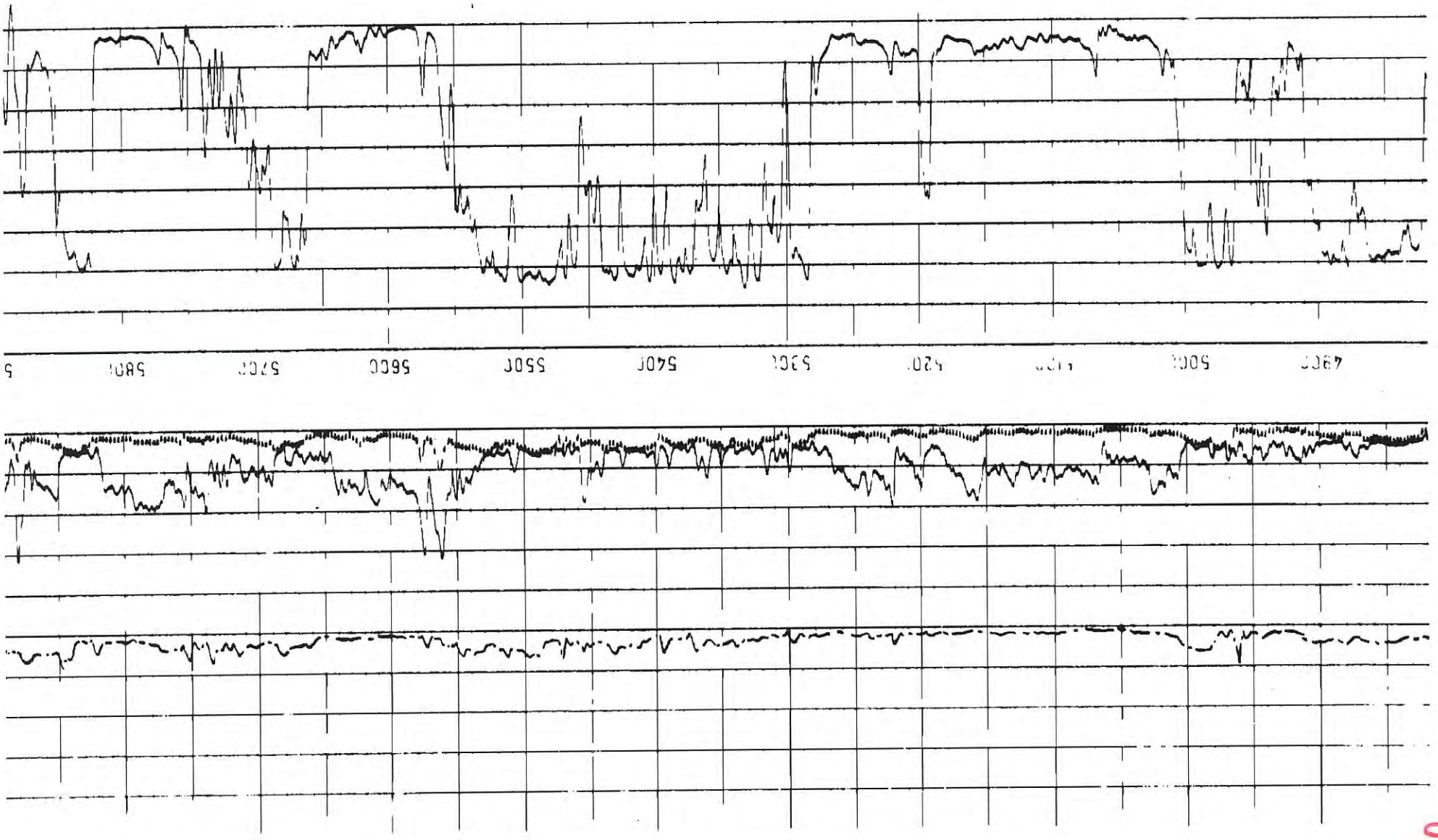


045964

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

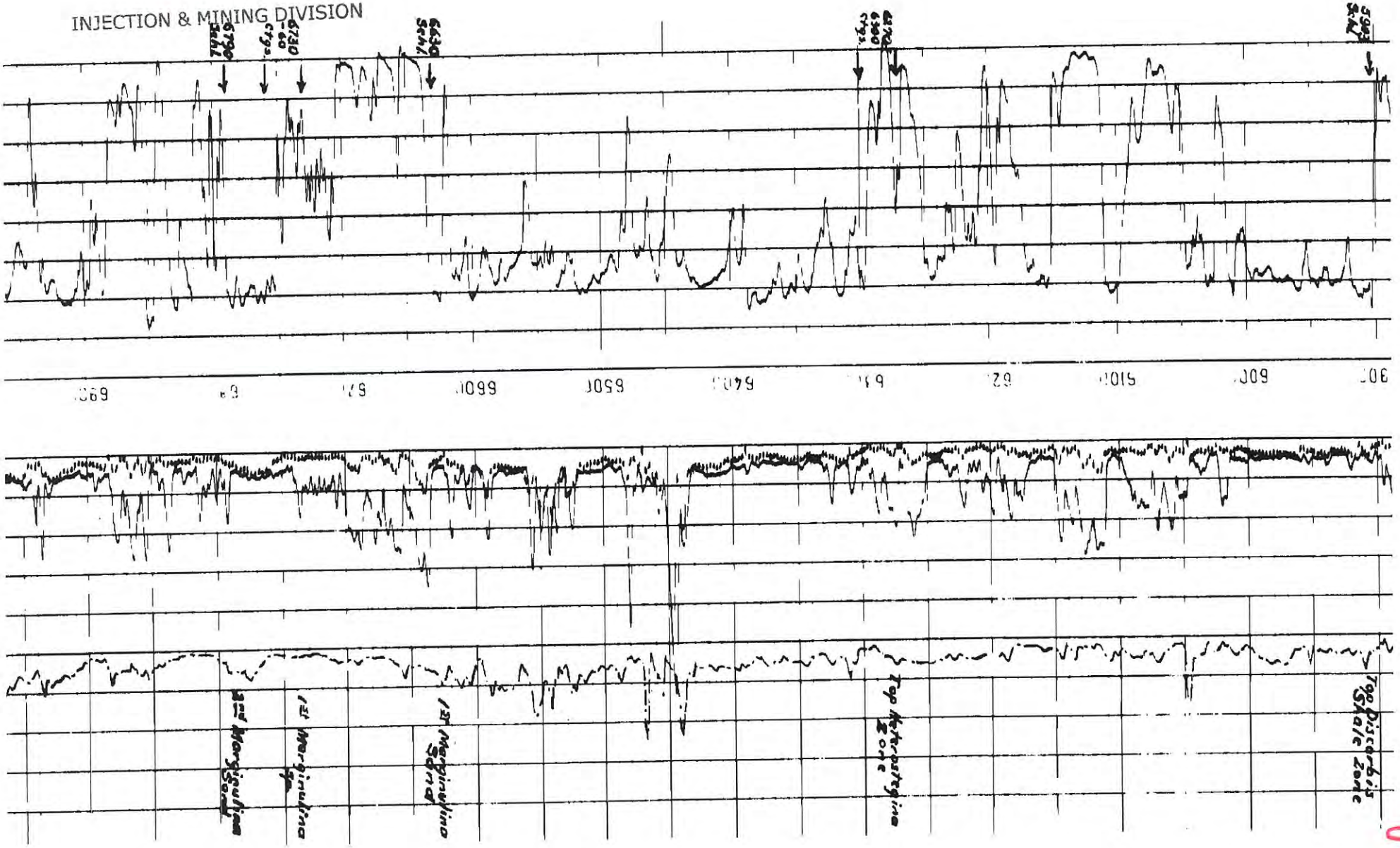


04596

OFFICE OF CONSERVATION

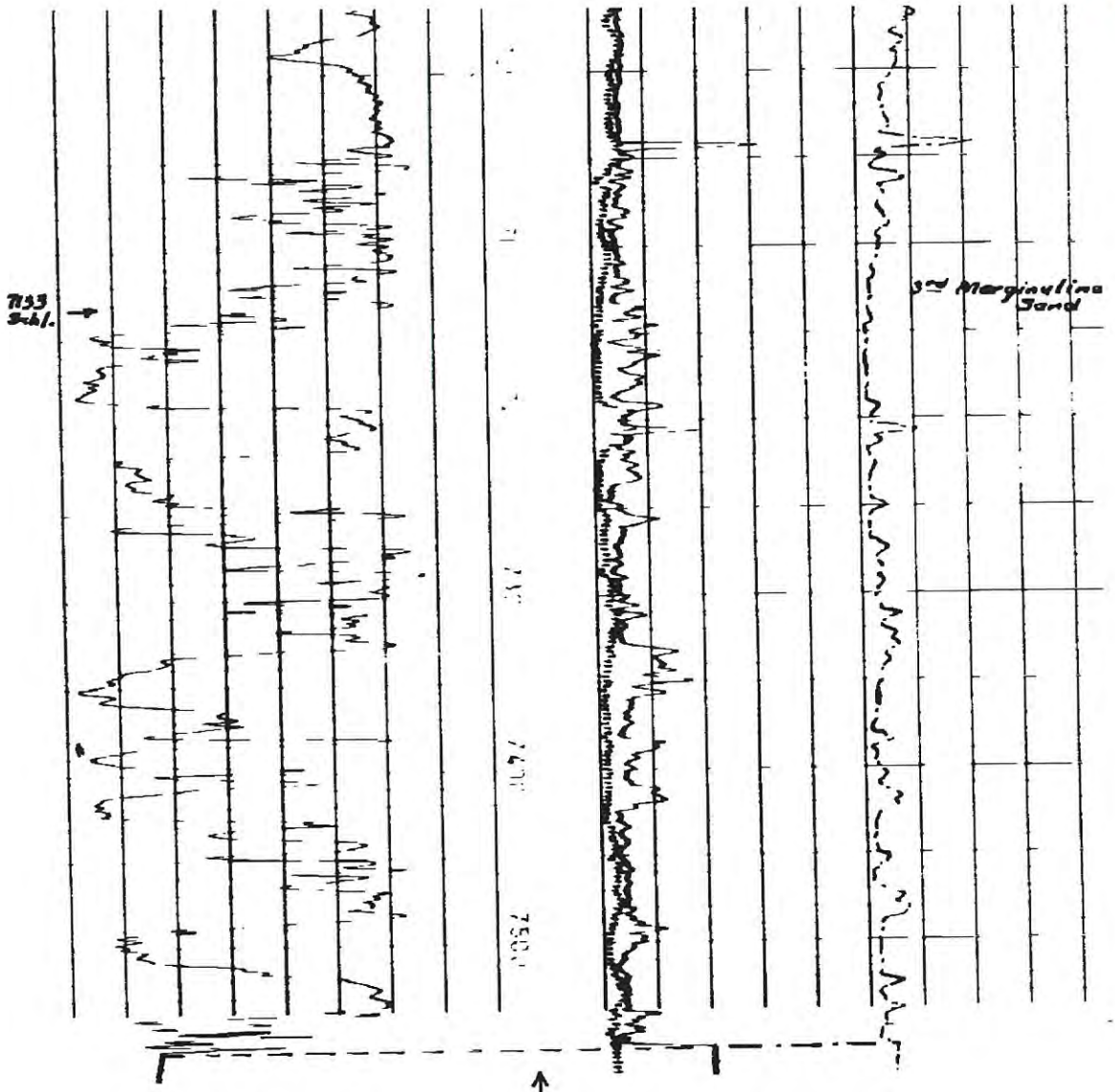
MAR 31 2025

INJECTION & MINING DIVISION




045964

04596




S.A.THOMPSON

Murphy Heirs 1

Wild-cat

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

# 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 Elder Realty Co Inc. No. 1 – SN 115606

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

045964

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

**Marked Injection Zone Log**
**Elder Realty Co Inc No. 1 - Serial No. 115606**
**~14,142' away**

PAN GEO ATLAS CORP.

PGAC *Induction-Electrical Log*

FILE NO.

COMPANY GENERAL AMERICAN OIL COMPANY

WELL ELDER REALTY CO; INC. #1

FIELD WILDCAT #115606

COUNTY ST. LANDRY STATE LOUISIANA

LOCATION: 330' FNL & 330' FEL OF

SEC 15 TWP 5-S RGE 6-E

Other Services: SWS MS

Elevations: KB * DF * GL *

Permanent Datum E.H.F. Elev. *

Log Measured from 1' AB RT 19.0 Ft. Above Permanent Datum

Drilling Measured from 1' AB RT

| | | | | |
|---|---|---|---|---|
| Date | 12-29-66 | | | |
| Run No. | ONE | | | |
| Depth—Driller | 10500 | | | |
| Depth—Logger | 10490 | | | |
| Bottom Logged Interval | 10484 | | | |
| Top Logged Interval | 1899 | | | |
| Casing—Driller | 10 3/4 @ 1900 | @ | @ | |
| Casing—Logger | 1899 | @ | @ | |
| Bit Size | 9 7/8 | | | |
| Type Fluid in Hole | LIGNOSULFONATE | | | |
| | -- | | | |
| Density and Viscosity | 10.1 43 | | | |
| pH and Fluid Loss | 9.0 5.4 cc | cc | cc | cc |
| Source of Sample | PIT | | | |
| Rm @ Meas. Temp. | 1.85 @ 60 °F | @ °F | @ °F | @ °F |
| Rmf @ Meas. Temp. | 1.65 @ 75 °F | @ °F | @ °F | @ °F |
| Rmc @ Meas. Temp. | 2.50 @ 75 °F | @ °F | @ °F | @ °F |
| Source of Rmf and Rmc | M M | | | |
| Rm @ BHT | 0.62 @ 180 °F | @ °F | @ °F | @ °F |
| Time Since Circ. | 4 HOURS | | | |
| Max. Rec. Temp. Deg. F. | 180° °F | | | |
| Equip. No. and Location | ES109 LAF. | | | |
| Recorded By | HOLCOMB | | | |
| Witnessed By | MARQUARDT-WILLBORN-ODELL | | | |

JAN 1 1967 CONSERVATION LAFAYETTE, LOUISIANA

FOLD HERE ↓

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP-31

REMARKS

1,796 115606 4

*LSN17960400000115606*

*INFORMATION NOT AVAILABLE

| Changes in Mud Type or Additional Samples | | | | | Scale Changes | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Sample No. | | | | Type Log | Depth | Scale Up Hole | Scale Down Hole |
| Depth-Driller | | | | | | | | |
| Type Fluid in Hole | | | | | | | | |
| Dens. | Visc. | | | | | | | |

045964

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| pH \| Fluid Loss | | cc | | cc | | | | | | |
| Source of Sample | | | | | Equipment Data | | | | | |
| Rm @ Meas. Temp. | @ | °F | @ | °F | Run No. | Tool Type | Pad Type | Tool Position | Panel | Sonde | Cart. |
| Rmf @ Meas. Temp. | @ | °F | @ | °F | ONE | SDT-60 | -- | FREE | 3851 | 5 | 5 |
| Rmc @ Meas. Temp. | @ | °F | @ | °F | | | | | | | |
| Source Rmf \| Rmc | | | | | | | | | | | |
| Rm @ BHT | @ | °F | @ | °F | | | | | | | |
| Rmf @ BHT | @ | °F | @ | °F | | | | | | | |
| Rmc @ BHT | @ | °F | @ | °F | | | | | | | |

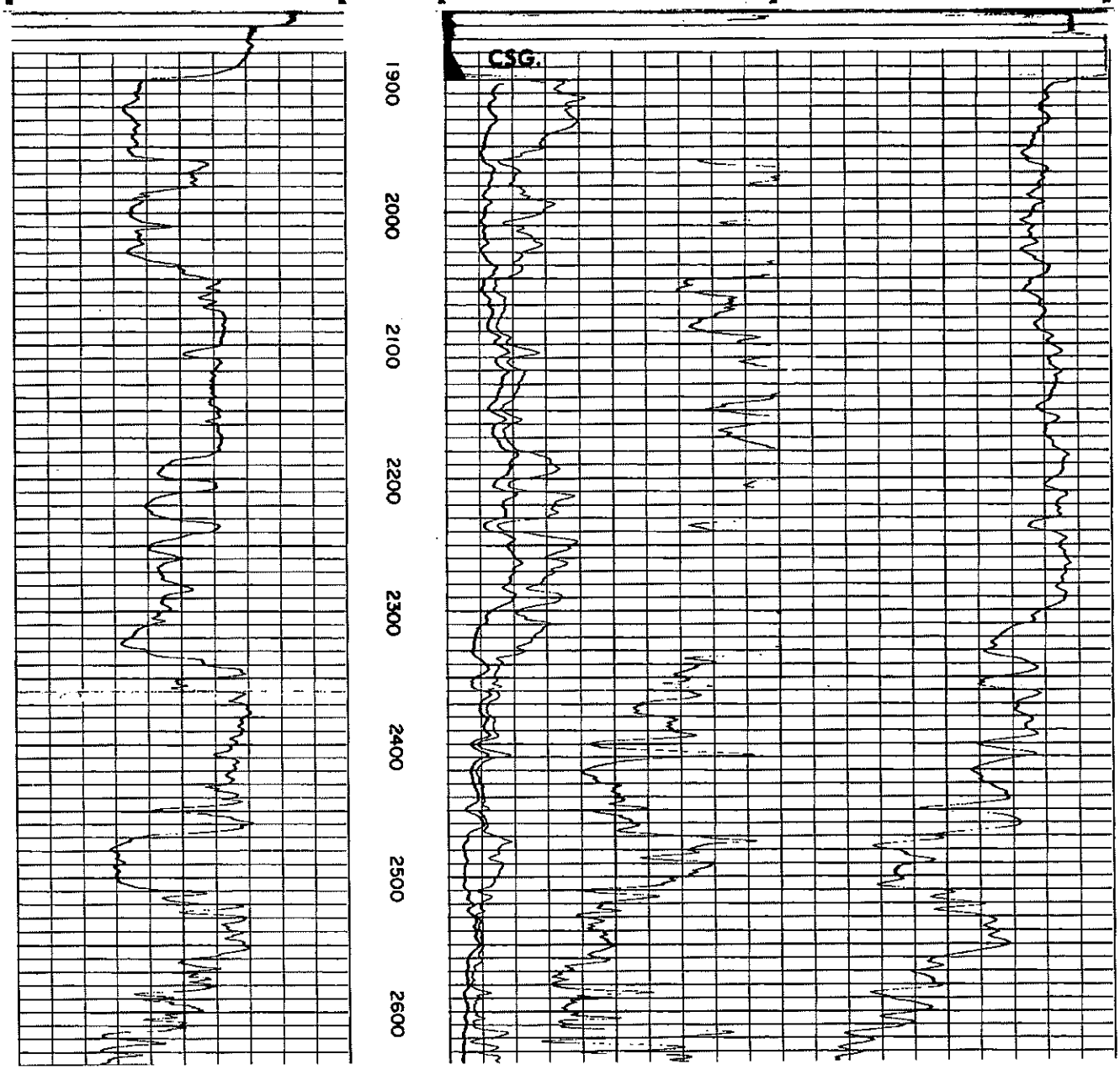
A-2005 MISM

| SPONTANEOUS-POTENTIAL millivolts | DEPTHS | RESISTIVITY ohms. $m^2/m$ | CONDUCTIVITY ohms. $m^2/m = \frac{1000}{\text{millimhos/m}}$ |
|---|---|---|---|
| 20 (− ↔ +) | | 0 AMP.SHORT NORMAL 16" 2 | 4000 INDUCTION 0 |
| | | 0 SHORT NORMAL 16" A-16" M-19' N-∞B 10 | 8000 SECOND SCALE INDUCTION 4000 |
| | | 0 OFF SCALE 100 | |
| | | 0 RECIPROCATED INDUCTION 10 | |
| | | 0 OFF SCALE 100 | |

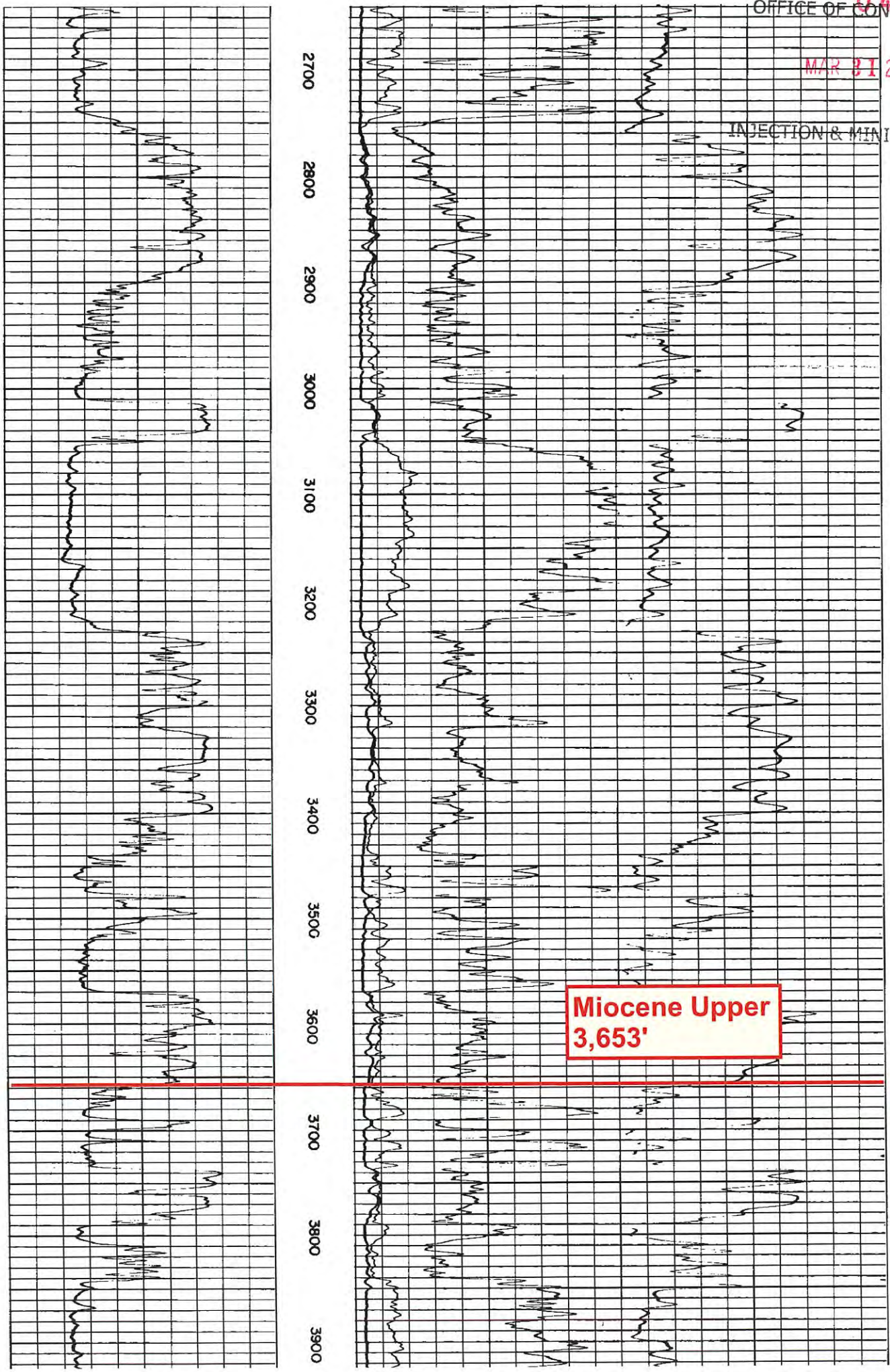
OFFICE OF CONSERVATION

MAR 31 2025

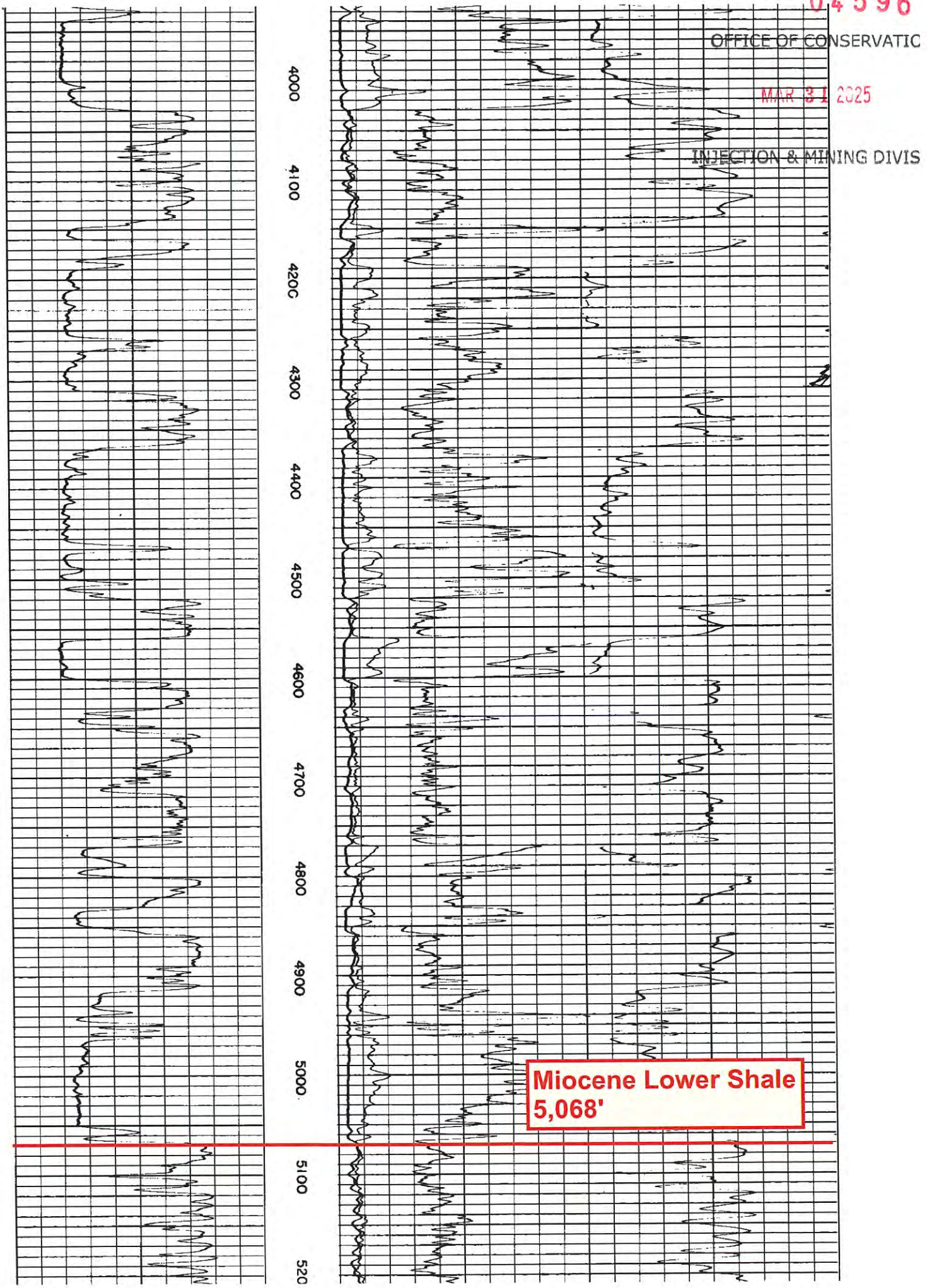
INJECTION & MINING DIVISION



OFFICE OF CONSERVATIO
045964
MAR 31 2025
INJECTION & MINING DIVISI



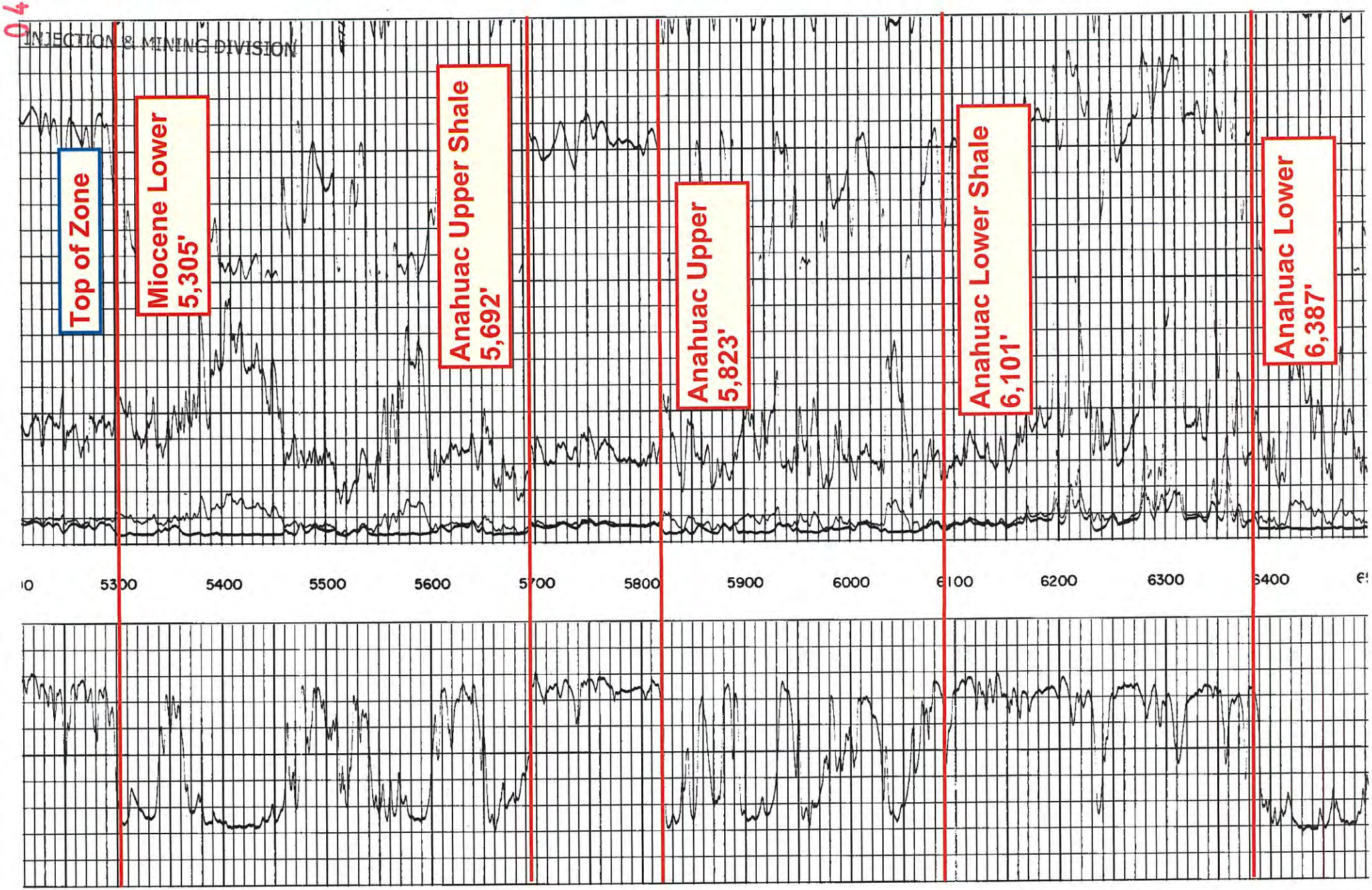
04596
OFFICE OF CONSERVATIC
MAR 31 2025
INJECTION & MINING DIVIS



OFFICE OF CONSERVATION

MAR 31 2025

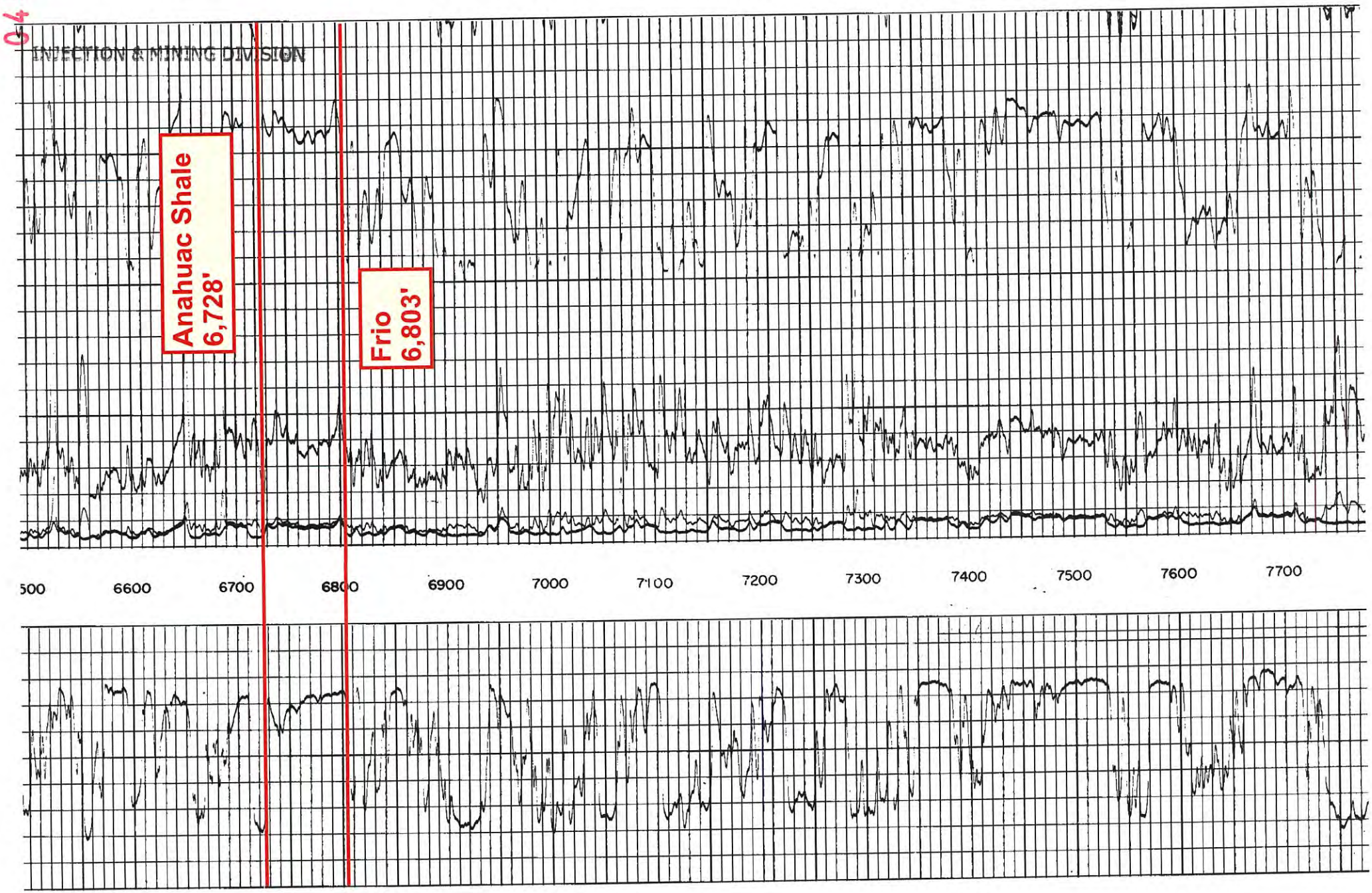
INJECTION & MINING DIVISION



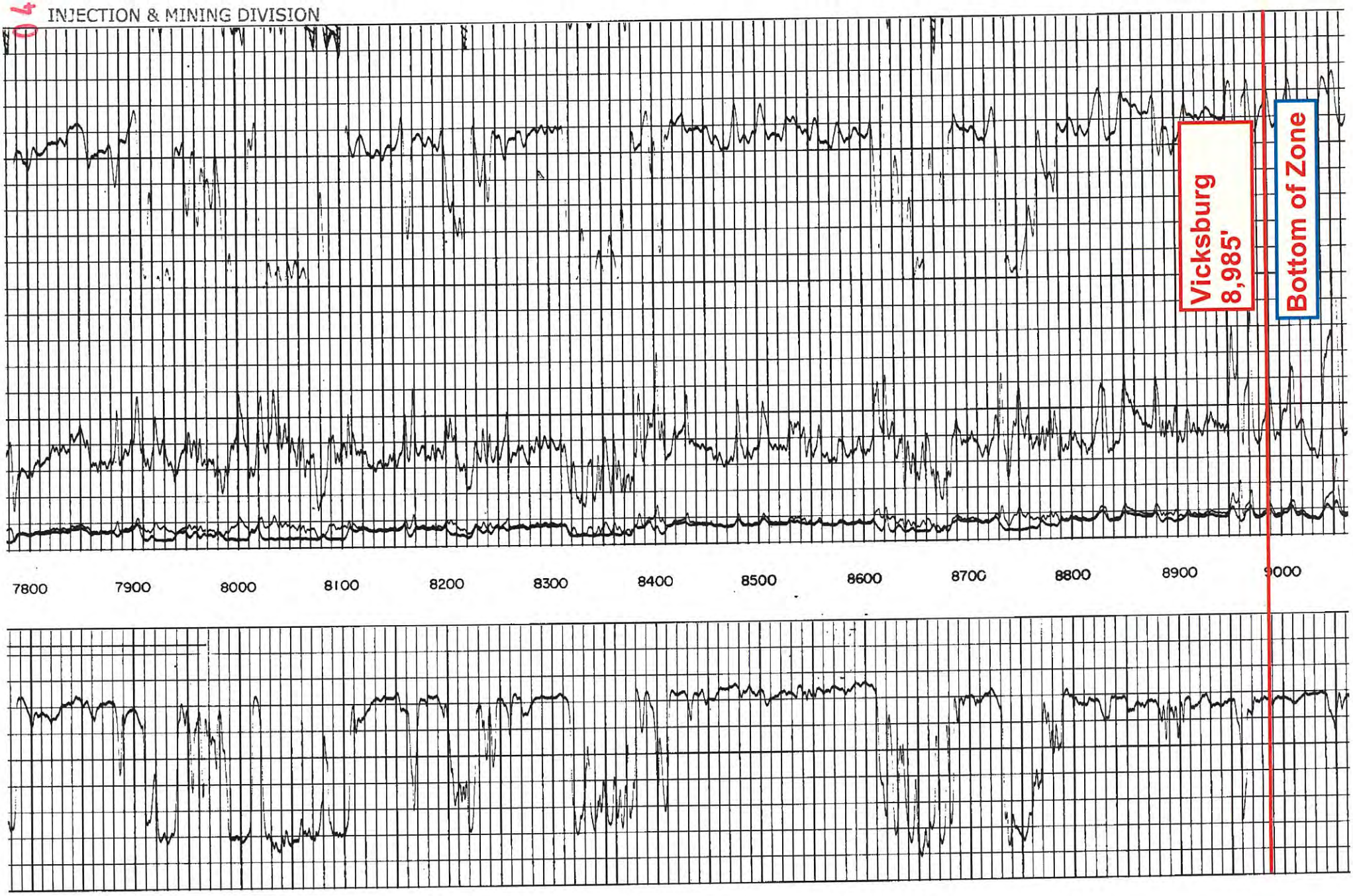
OFFICE OF CONSERVATION

MAR 31 2025

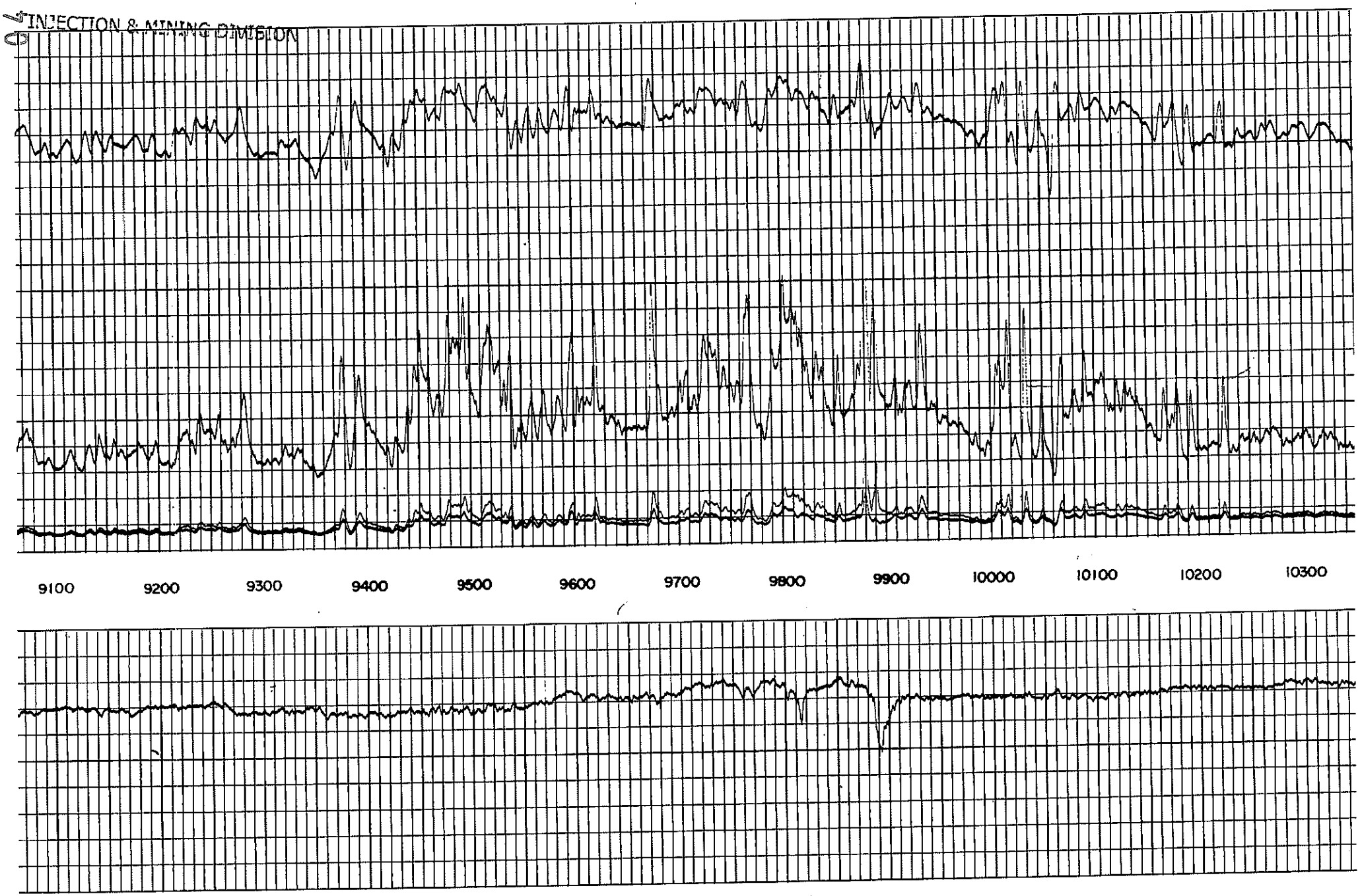
INJECTION & MINING DIVISION



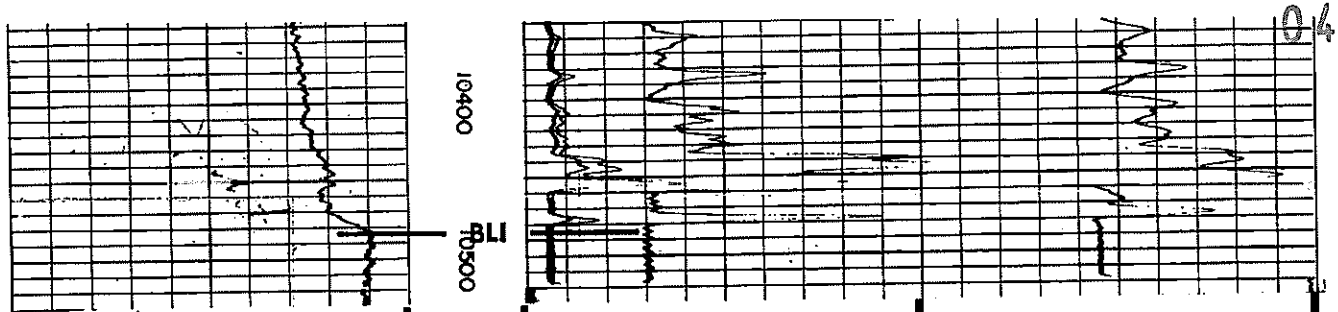
MAR 31 2025
INJECTION & MINING DIVISION
045996



MAR 31 2025
INJECTION & MINING DIVISION



04596




| SPONTANEOUS-POTENTIAL millivolts | DEPTHS | RESISTIVITY ohms. m²/m | CONDUCTIVITY |
|---|---|---|---|
| 20 (− ↔ +) | | 0 AMP.SHORT NORMAL 16" 2<br>0 SHORT NORMAL 16" A-16" M-19' N-∞B 10<br>0 OFF SCALE 100<br>0 RECIPROCATED INDUCTION 10<br>0 OFF SCALE 100 | 4000 INDUCTION 0<br>8000 SECOND SCALE INDUCTION 4000 |

OIL CONSERVATION
MAR 31 2025
INJECTION & MINING DIVISION

COMPANY GENERAL AMERICAN OIL COMPANY

WELL ELDER REALTY CO;INC. #1

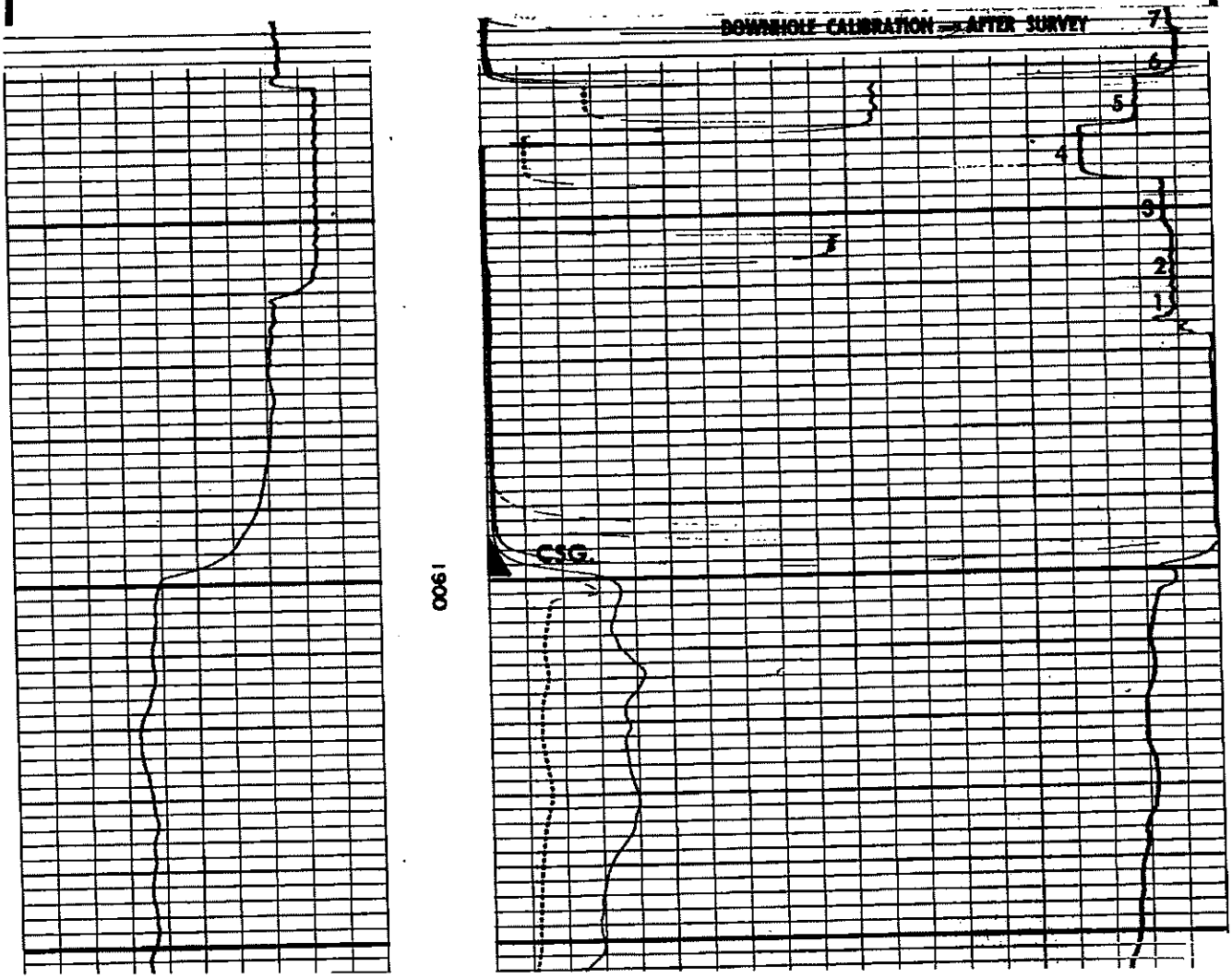
FIELD WILDCAT

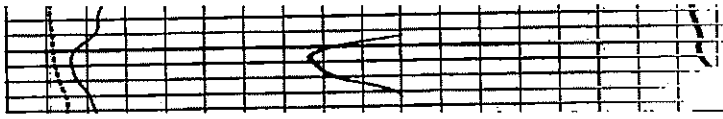
COUNTY ST.LANDRY, LOUISIANA

DEPTH DRLR 10500

DEPTH P G A C 10490

BTM LOG INTERVAL 10484





04596

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

# 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)**

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

045964

**PROPOSED WELLBORE DIAGRAM**

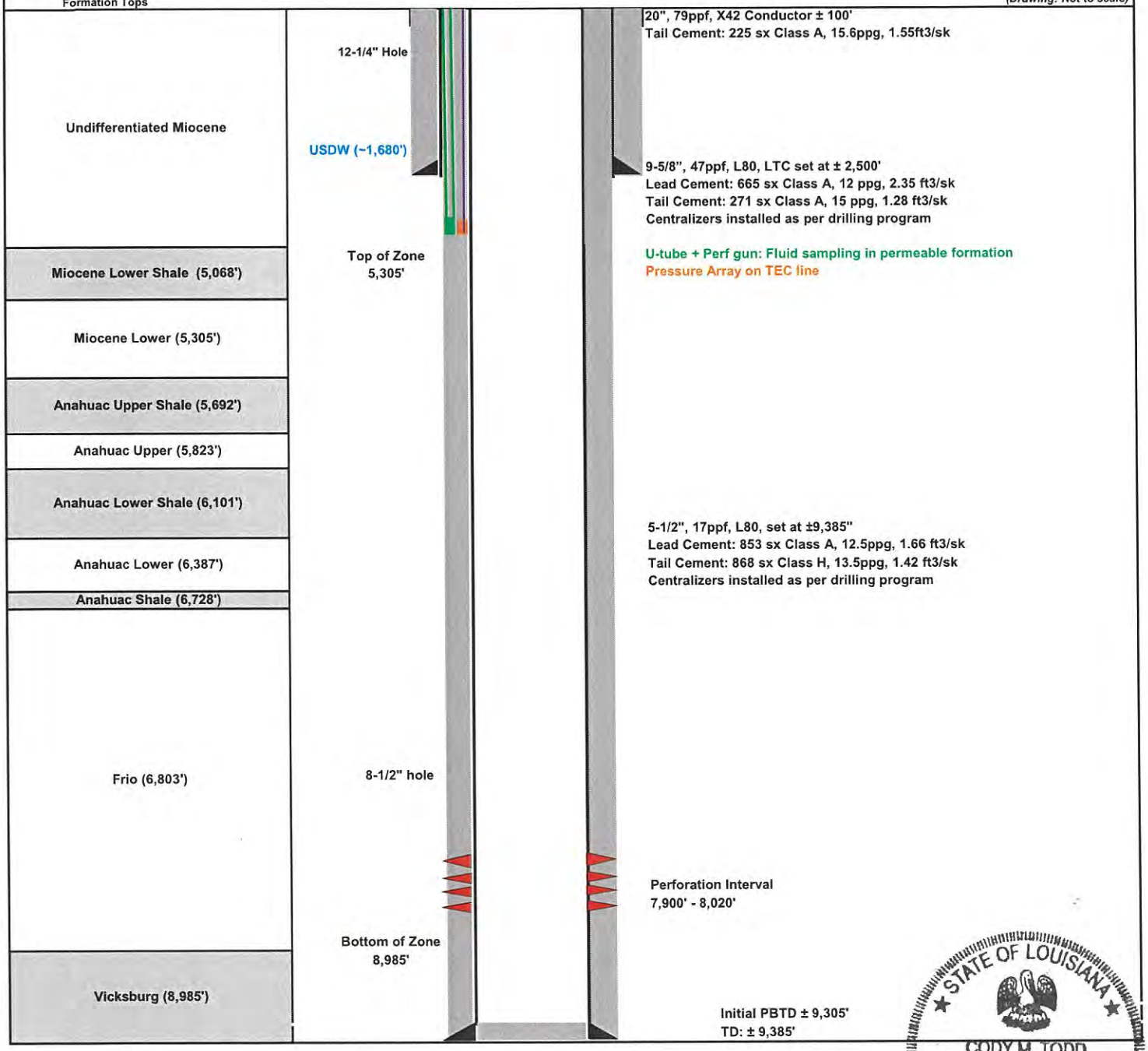
Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well
SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

Proposed Schematic Test 1

ExxonMobil

*(Drawing: Not to scale)*




STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

045964

# PROPOSED WELLBORE DIAGRAM

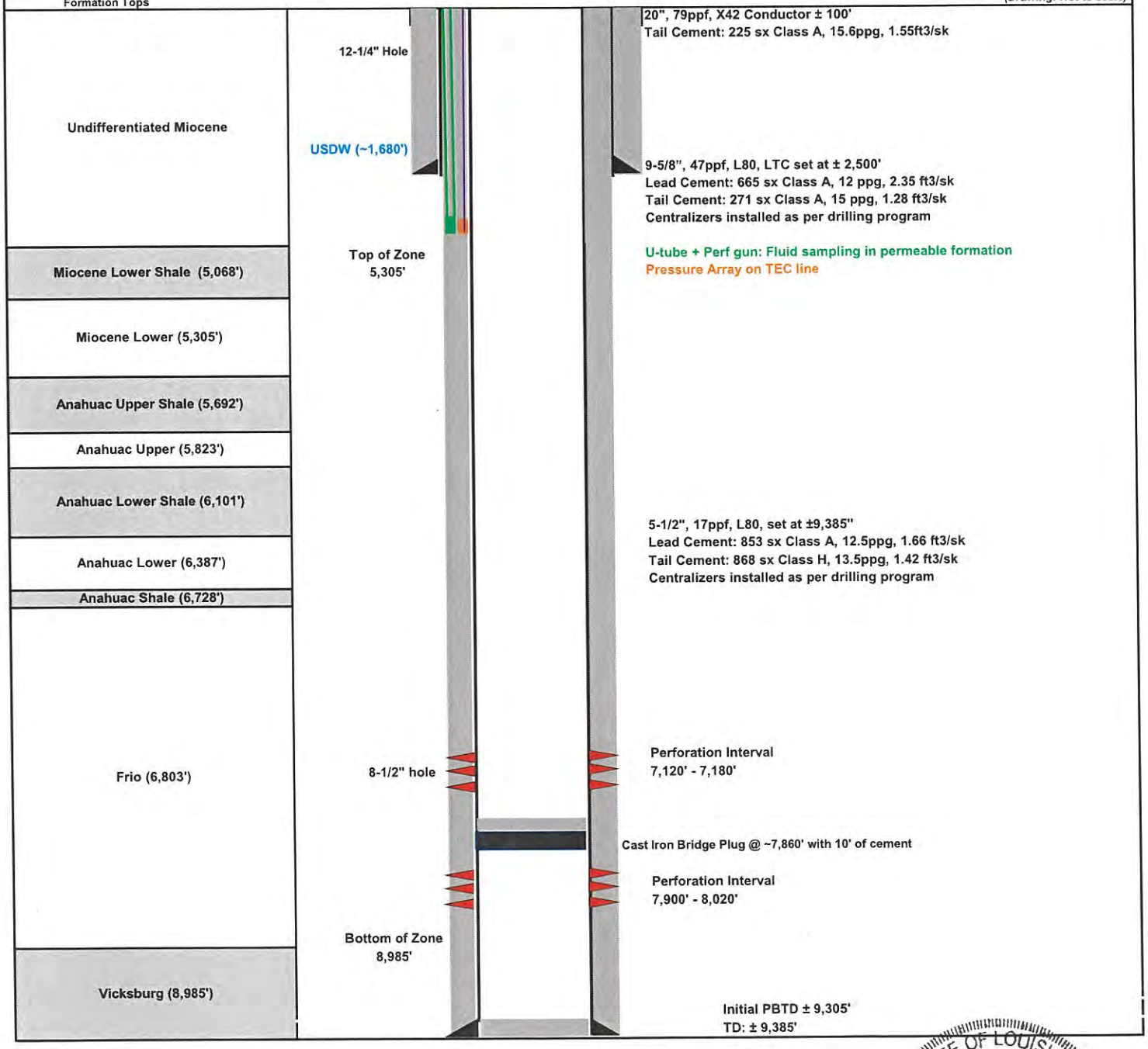
Proposed Schematic Test 2

ExxonMobil

Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well
SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

*(Drawing: Not to scale)*




OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

045964

**PROPOSED WELLBORE DIAGRAM**

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well

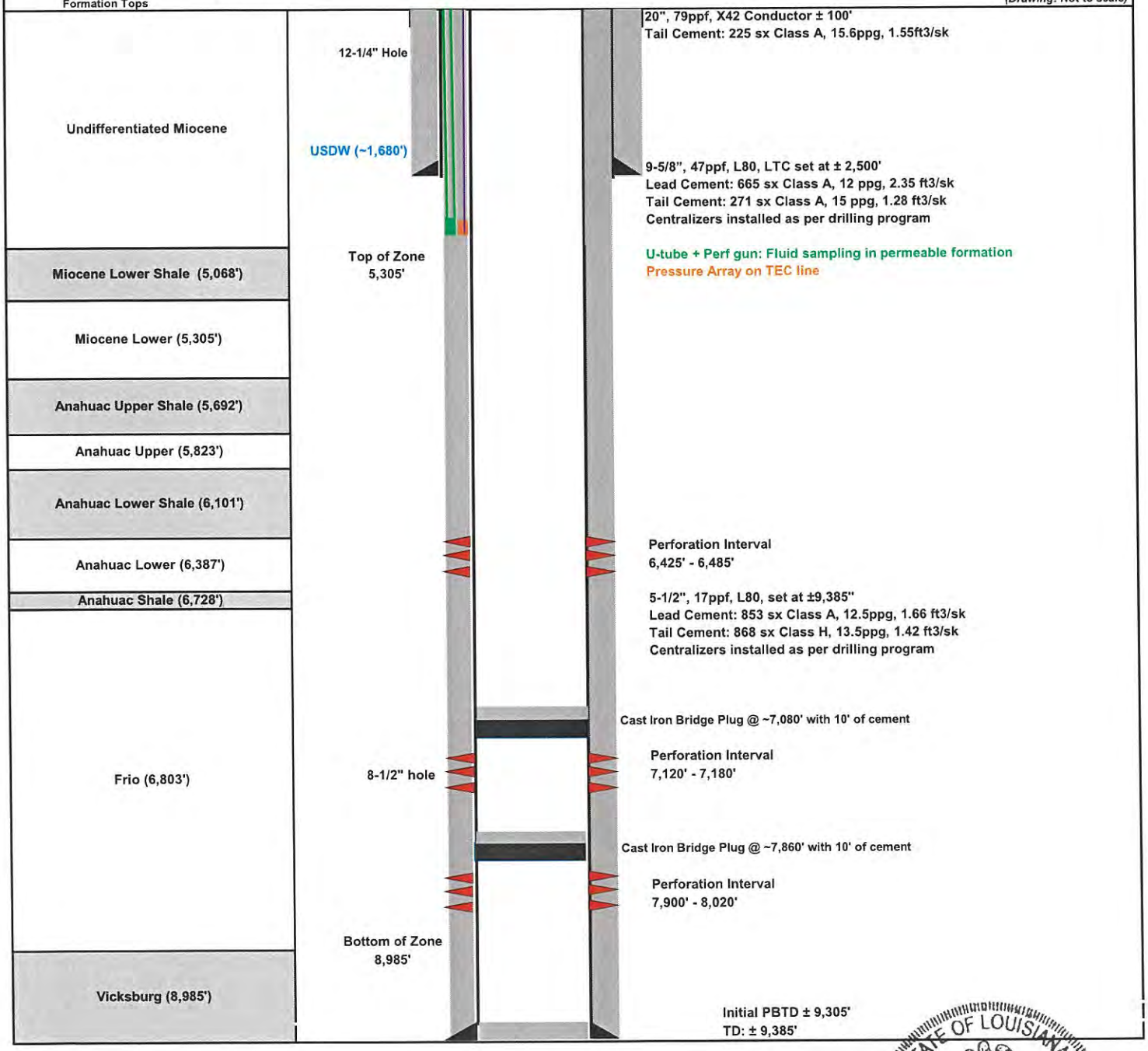
Proposed Schematic Test 3

ExxonMobil

Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

*(Drawing: Not to scale)*




OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

045964

**PROPOSED WELLBORE DIAGRAM**

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well

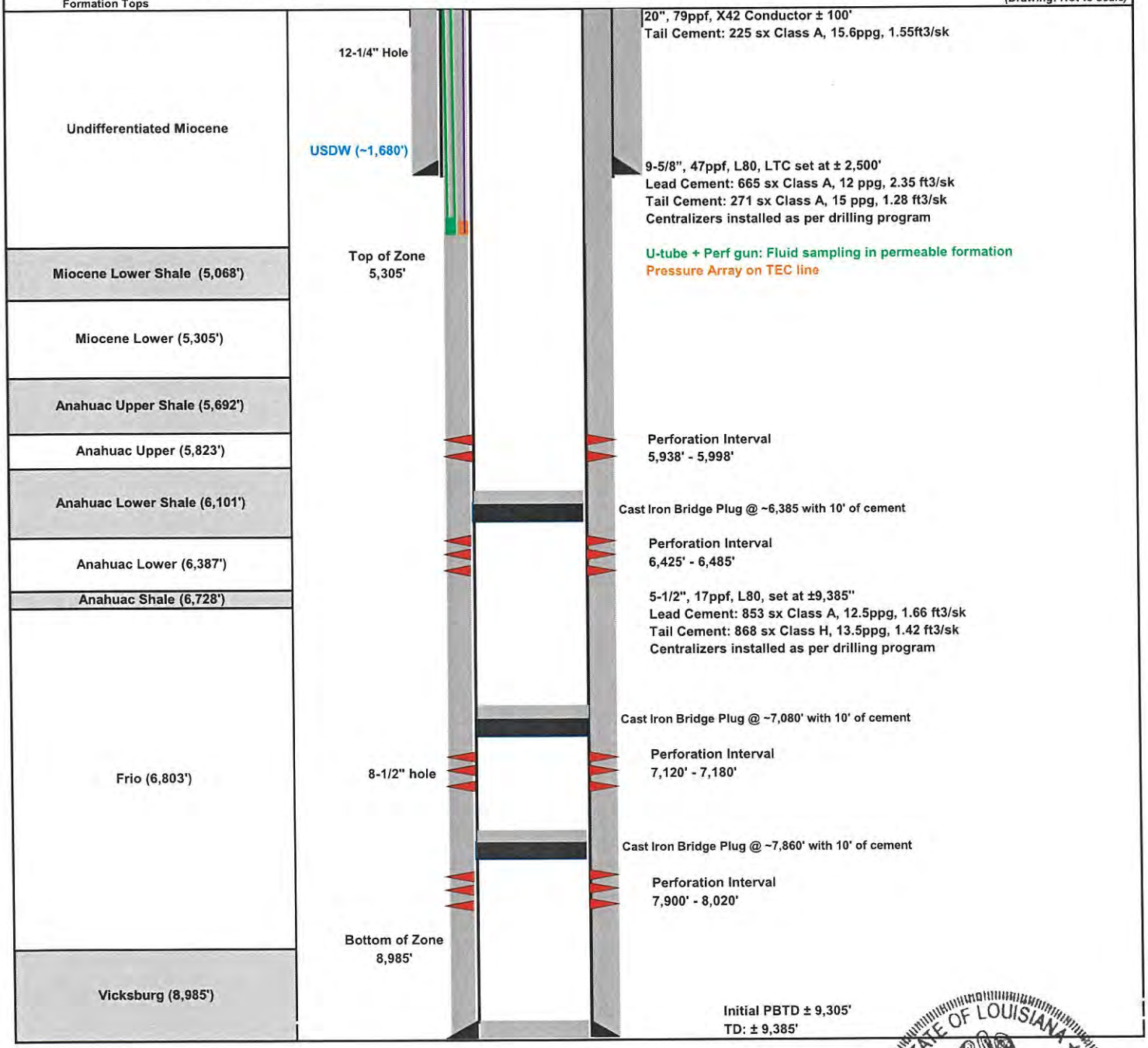
Proposed Schematic Test 4

ExxonMobil

Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

*(Drawing: Not to scale)*




OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

045964

PROPOSED WELLBORE DIAGRAM

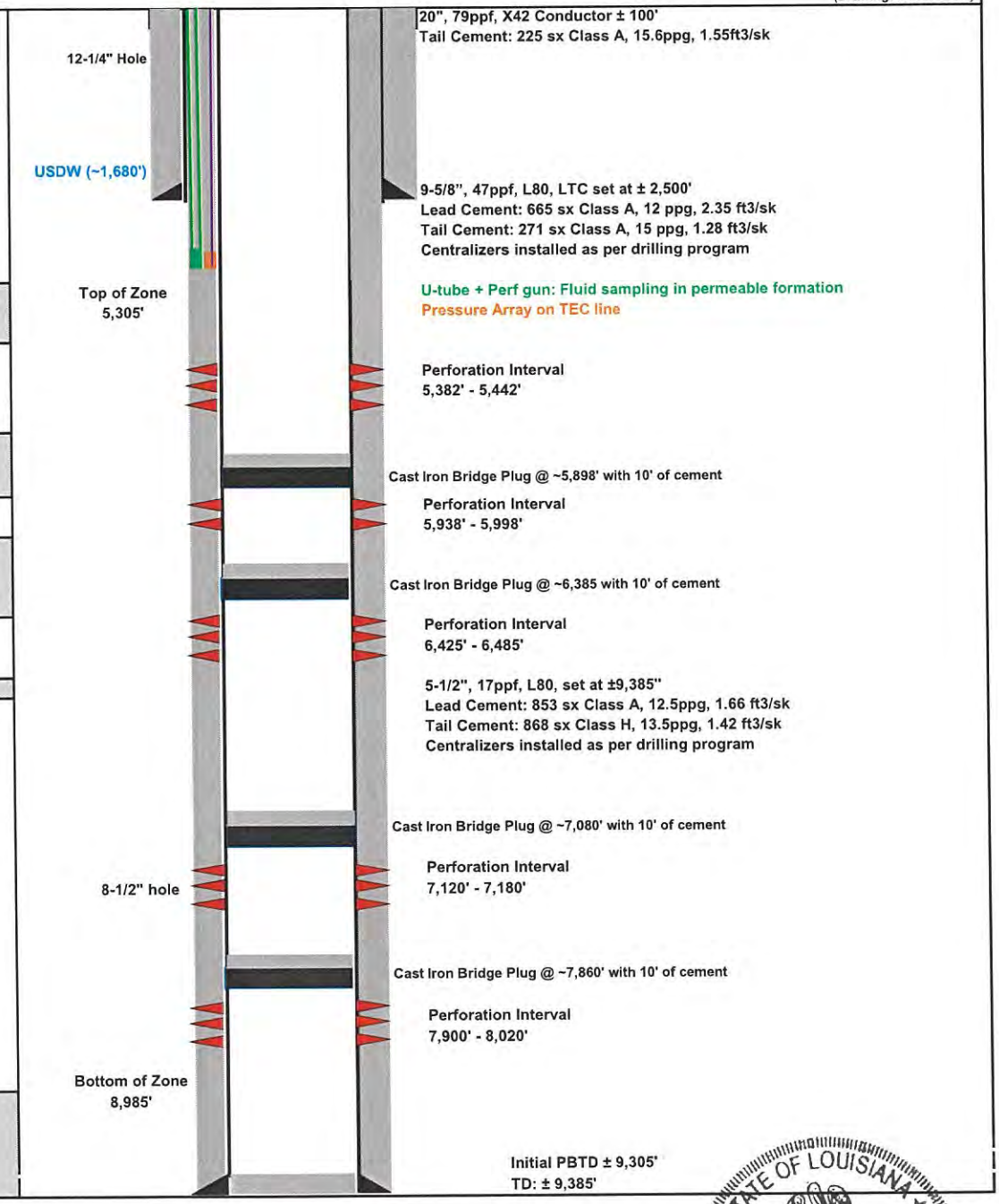
Proposed Schematic Test 5

ExxonMobil

Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well
SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

*(Drawing: Not to scale)*




STATE OF LOUISIANA
CODY M. TODD
License No. 47373
326-25
PROFESSIONAL ENGINEER

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

04596

PROPOSED WELLBORE DIAGRAM

Proposed Schematic TA

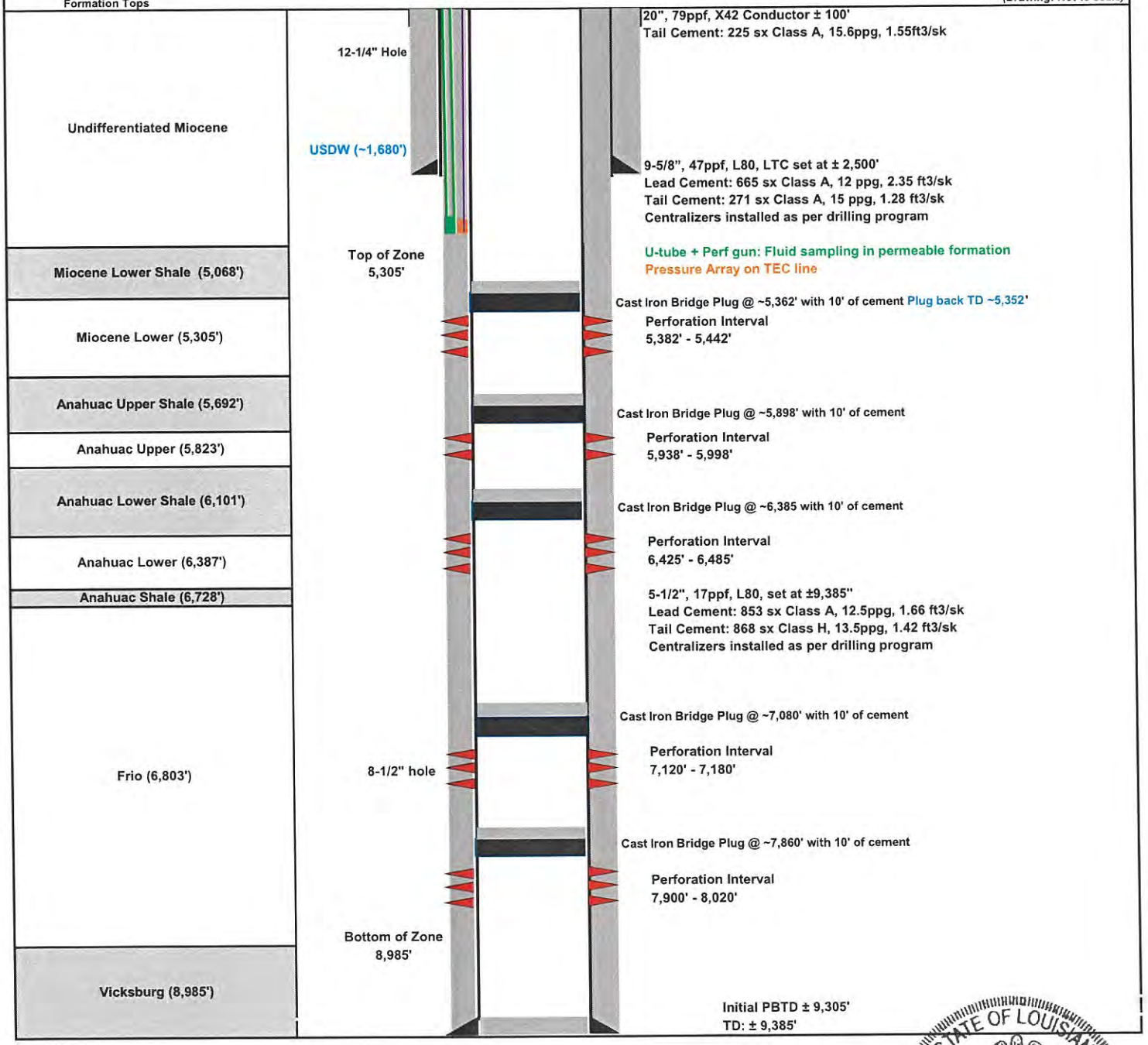
ExxonMobil

Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well
SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

*(Drawing: Not to scale)*

Formation Tops



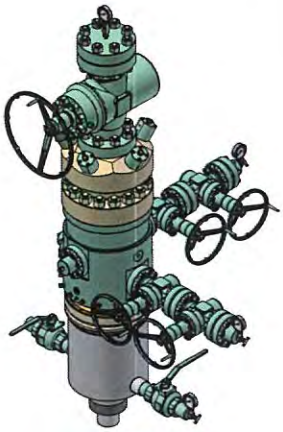

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

045964



ISOMETRIC VIEW




OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

**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

| | | | | |
|---|---|---|---|---|
| SURFACE TREATMENT | DO NOT SCALE | | slb | SURFACE SYSTEMS |
| | DRAWN BY: A. MONISTERE | DATE: 6 Jun 24 | | |
| MATERIAL & HEAT TREAT | CHECKED BY: 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 | 5617.3 LBS 2681.4 KG | INITIAL USE S/N: 550642560 | SHEET 1 of 2 | SD-054562-01-50 REV. 01 |

# Attachment 5

## WORK PROGNOSIS FOR DRILLING, COMPLETING, AND TESTING THE WELL

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

045964

ExxonMobil

# DRILLING, COMPLETION, & TESTING PLAN

## Nighthawk Strat Test No. 1

## ExxonMobil Low Carbon Solutions Onshore Storage LLC

## WELL INFORMATION

**Location:** **Lat:** 30° 35' 14.61" N (NAD 27) **Long:** 91° 49' 54.61" W (NAD 27)

(Section - 26; Township – 5S; Range – 6E; St. Landry Parish; Louisiana)

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

**Operator:** ExxonMobil Low Carbon Solutions Onshore
22777 Springwoods Village Parkway
Spring, Texas 77389

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

# GEOLOGICAL PROGNOSIS

| Formation | Estimated Depth, (KB), feet |
|---|---|
| Base of Underground Source of Drinking Water | Approx. 1,680 |
| Miocene Lower Shale | 5,068' |
| Miocene Lower | 5,305' |
| Anahuac Upper Shale | 5,692' |
| Anahuac Upper | 5,823' |
| Anahuac Lower Shale | 6,101' |
| Anahuac Lower | 6,387' |
| Anahuac Shale | 6,728' |
| Frio | 6,803' |
| Vicksburg | 8,985 |

## Coring Program

Sidewall cores are proposed to be collected from selected formations as desired. Additional whole cores may be collected in select formations.

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

## Logging and Testing Program

| Cased Hole / Open Hole | Hole Size (inch) | Interval Depth (feet) | Individual Logging Tools | Interval |
|---|---|---|---|---|
| **Open Hole** | 12-1/4 | 0 – 2,500' | Gamma Ray, Resistivity, Spontaneous Potential Logs. | Surface (Open Hole). |
| **Open Hole** | 8-1/2 | 2,500' – 9,385' | Gamma Ray, Resistivity, Density Porosity, Dipole Sonic, Spectroscopy, Image Log, Fluid and pressure samples | Production (Open Hole) |
| **Cased Hole** | 12-1/4 | 0 – 2,500' | Cement Bond Log, CCL, Gamma Ray | Surface (Cased Hole) |
| **Case Holed** | 8-1/2 | 0 – 9,385' | 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*

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

## Drilling Procedure

1. Pre-install 20" conductor at approximately ~100ft below ground level, 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 and rig up drilling rig and equipment.
4. Install load ring on conductor and nipple up flowline.
5. Spud and drill hole to ~2,500'.
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 ±2,500ft.
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: 665 sacks
   Yield: 2.35 $ft^3$/sack
   Density: 12 ppg

   Tail: Class A cement with additives
   Sacks: 271 sacks
   Yield: 1.28$ft^3$/sack
   Density: 15 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 600 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.**

OFFICE OF CONSERVATION
MAR 31 2025
INJECTION & MINING DIVISION

ExxonMobil

- **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 select formations as desired.
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 (± 9,385) and with the following equipment installed:
    - Casing mounted perforating guns, U-tube system for fluid sampling, and pressure array installed to ~3,200 ft.
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: 853 sacks
    Yield: 1.66 $ft^3$/sack
    Density: 12.5 ppg

    Tail: Class H cement with additives
    Sacks: 868 sacks
    Yield: 1.42 $ft^3$/sack
    Density: 13.5 ppg

OFFICE OF CONSERVATION
MAR 31 2025
INJECTION & MINING DIVISION

- ***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.

ExxonMobil

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

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 ~ 7,900' – 8,020' 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.***

    ***Note: A detailed step rate fall off test procedure for all tests will be provided to IMD along with the Fluid Source Analysis prior to injection***
32. POOH with P/T gauge.
33. Pick up 5-1/2" cast iron bridge plug and set at ~7,860' (~20 - 40' 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 ~7,120' – 7,180' and POOH

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

ExxonMobil

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

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 ~7,080' (~20 - 40' 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 ~6,425' – 6,485' 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 ~6,385' (~20' – 40' above perf interval). Pressure Test plug to minimum of 300 psi for 30 minutes without losing more than 5% pressure.
48. RIH wireline cement bailer and spot 10' of cement on top of CIBP.
49. Pick up guns and RIH
50. Perforate 5,938' – 5,998' and POOH

    ***Note: Actual perforation depths are subject to change based on the open hole logs of the well itself***
51. RIH with P/T gauge on wireline to perforation interval.
52. 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.

ExxonMobil

- 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).

53. POOH with P/T gauge.
54. Pick up 5-1/2" cast iron bridge plug and set at ~5,898' (~20'- 40' 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**
55. RIH wireline cement bailer and spot 10' of cement on top of CIBP
56. Pick up guns and RIH
57. Perforate ~5,382' – 5,442' and POOH

    ***Note: Actual perforation depths are subject to change based on the open hole logs of the well itself***
58. RIH with P/T gauge on wireline to perforation interval.
59. 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).
60. POOH with P/T gauge.
61. Pick up 5-1/2" cast iron bridge plug and set at ~5,362' (~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**
62. RIH wireline cement bailer and spot 10' of cement on top of CIBP for a final PBTD of 5,352'
63. Rig down wireline unit.
64. Install the TA plug in the wellhead.
65. Demob equipment from location.

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

# 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.

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

# Attachment 7

## IT QUESTIONS DOCUMENTATION

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

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 proposed well was specifically located in an agricultural field and the access road is existing. 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:

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

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 is no anticipated wetland impacts associated with this Well as it is in an existing agricultural field. A routine wetland was conducted by a third party on March 10, 2025, on the proposed well pad and access road. The conclusion is the well pad and access road as proposed will not have impacts to any WOTUS features.

g) An U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) report was run and identified no threatened and endangered species, three (3) proposed listed species, no critical habitats, the potential presence of bald eagles and/or golden eagles, and migratory birds. As a result, a biological assessment was conducted and concluded that for the three (3) proposed species the area did not contain suitable/substantial foraging or habitat are or will have no impact on the species. No bald eagles or nests were observed within the vicinity of the project areas during the field survey. Suitable habitat or rookeries for wading birds were not observed.

h) The Louisiana Office of Cultural Development's Louisiana cultural resources mapper tool did not identify any cultural resources for this well or access road location as of March 19, 2025. . Moreover, no recorded archaeological sites, historic cemeteries, state historical markers, Louisiana Historic Resource Inventory (LHRI) properties, or listed National Register of Historic Places (NRHP) properties were identified within one (1) mile of the project area.

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

OFFICE OF CONSERVATION



MAR 31 2025

INJECTION & MINING DIVISION

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

OFFICE OF CONSERVATION



MAR 31 2025

INJECTION & MINING DIVISION

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 roads, proximity to the existing CCS pipeline network, suitable monitoring location, and to maximize data collection. Wetlands were avoided as the Well was positioned within an agricultural field.

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.

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

# 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.

OFFICE OF CONSERVATION
MAR 31 2025
INJECTION & MINING DIVISION

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

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

ExxonMobil

## 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 1,900 (~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 1,730 ft to 1,630 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.
    b. 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.

    *Note: The bottom plug immediately above top perfs will have been set and tested to 300 psi for 30 minutes without losing more than 5% pressure under the Permit to Construct.*
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.

    a. 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.

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

045964

**PROPOSED WELLBORE DIAGRAM**

Proposed P&A for Third Party Cost Estimate

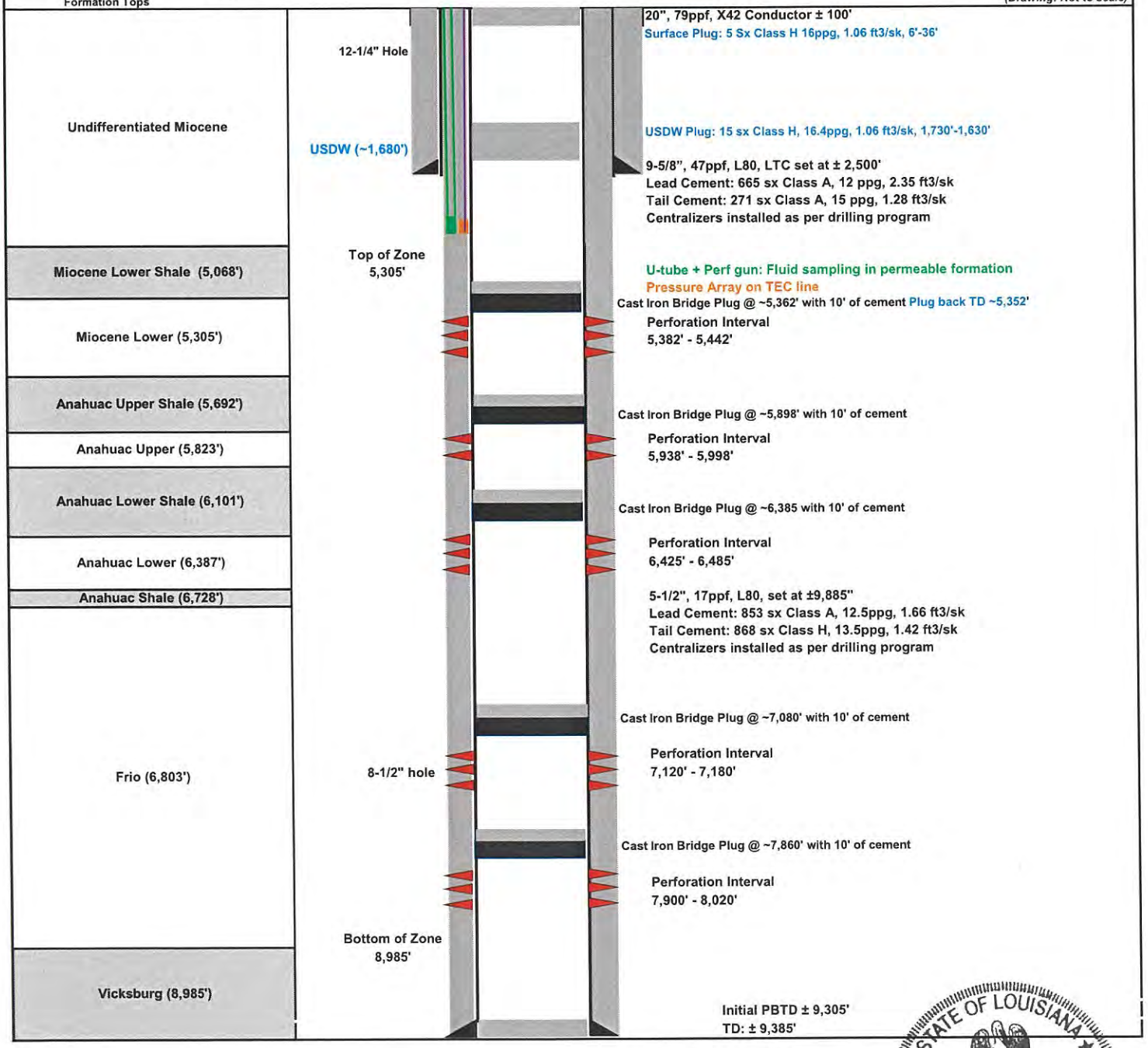
ExxonMobil

FIELD: Wildcat - LA So Lafayette District
WELL: Nighthawk Strat Test No. 1 Well
OPERATOR: ExxonMobil Low Carbon Solutions Onshore
PARISH: St. Landry
STATE: LA
STATUS: Class V (To be Permitted)
PERMIT NO. TBD
WELL TYPE: Stratigraphic Test Well

Location:
Latitude (Y): 30°35'14.61"N
Longitude (X): 91°49'54.61"W

SECTION: 26
TOWNSHIP: 5S
RANGE: 6E

*(Drawing: Not to scale)*




OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

STATE OF LOUISIANA
CODY M. TODD
License No. 47373
3-26-25
PROFESSIONAL ENGINEER

045964

LONQUIST

March 26, 2025

**Re: P&A Cost Verification**

Please find attached the estimated cost to P&A the Nighthawk Strat Test No. 1 Well as per the attached procedure. Lonquist has verified this cost estimate.

## 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/Vacuum 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** |

**Andy Ellis**
Sr. Vice President
Office: 713-559-9954
1415 Louisiana St., Suite 3800, Houston, Texas, 77002
andy@lonquist.com · www.lonquist.com

OFFICE OF CONSERVATIO
MAR 31 2025
INJECTION & MINING DIVISI

045964

ExxonMobil Low Carbon Solutions Onshore
Class V Stratigraphic Test Well Application
Nighthawk Strat Test
St. Landry Parish, LA

# ¼ MILE AOR DETAIL WELL REPORT

OFFICE OF CONSERVATION

MAR 31 2025

INJECTION & MINING DIVISION

ExxonMobil

**Louisiana Department of Energy and Natural Resources (DENR)**

**SONRIS/2000**

**SRCN4188_WELLS -- WELLS IN AREA OF REVIEW (AOR)**

Report run on: Mar 25, 2025 11:00 AM

Centerpoint - X: 1,843,135, Y: 698,817 (NAD 27 S)

No oil and gas wells within 1/4 mile AOR

INJECTION & MINING DIVISION
OFFICE OF CONSERVATION
MAR 31 2025

**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.**



045964