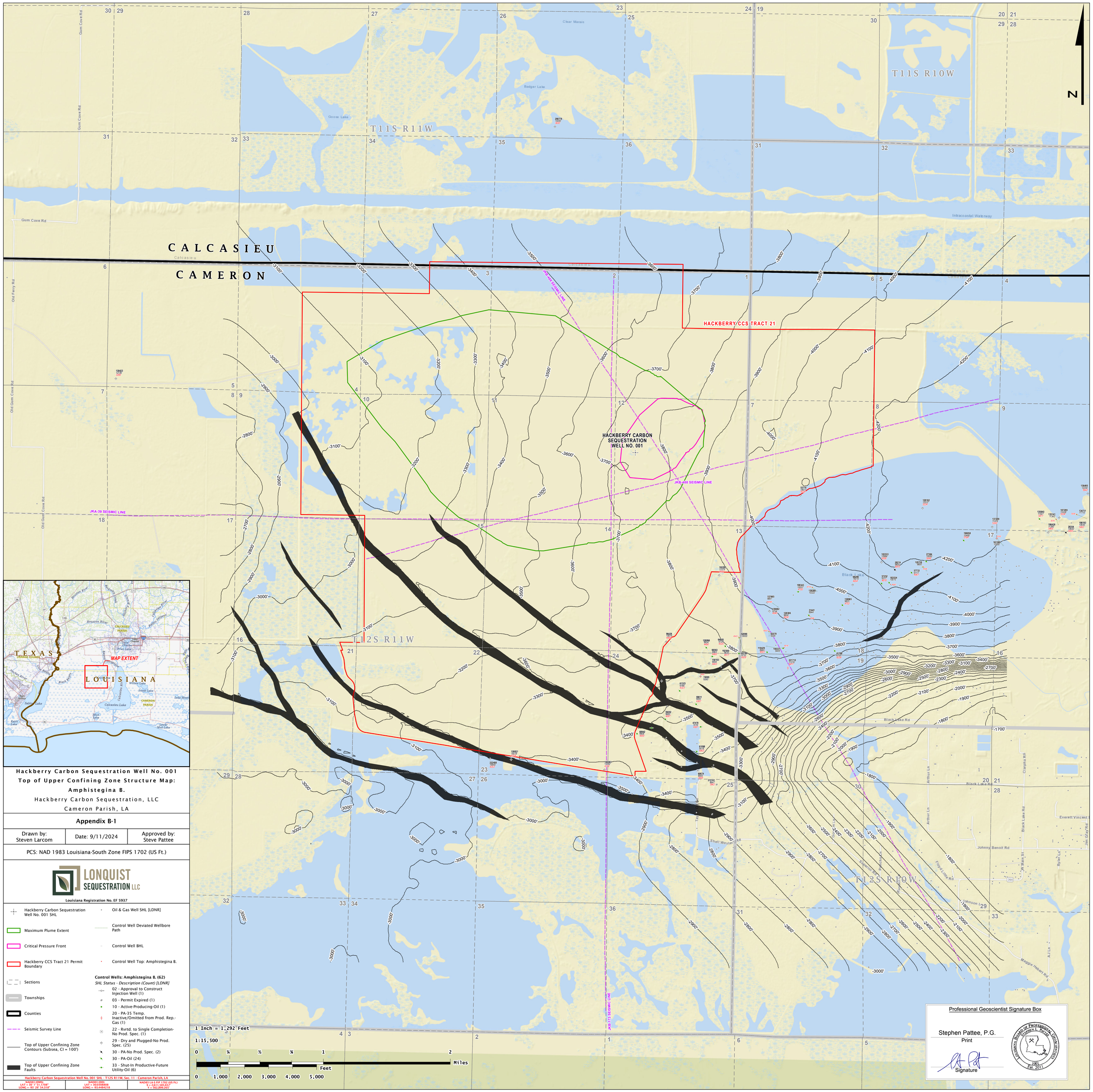

Hackberry Carbon Sequestration Well No. 001
Top of Upper Confining Zone Structure Map:
Amphistegina B.
Hackberry Carbon Sequestration, LLC
Cameron Parish, LA

Appendix B-1

Drawn by: Steven Larcom	Date: 9/11/2024	Approved by: Steve Pattee

PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)

LONQUIST SEQUESTRATION LLC
Louisiana Registration No. EF 5937

- Hackberry Carbon Sequestration Well No. 001 SHL
- Maximum Plume Extent
- Critical Pressure Front
- Hackberry CCS Tract 21 Permit Boundary
- Sections
- Townships
- Counties
- Seismic Survey Line
- Top of Upper Confining Zone Contours (Subsea, CI = 100')
- Top of Upper Confining Zone Faults
- Oil & Gas Well SHL [LDNR]
- Control Well Deviated Wellbore Path
- Control Well BHL
- Control Well Top: Amphistegina B.

Control Wells: Amphistegina B. (62)
SHL Status - Description (Count) [LDNR]
- 02 - Approval to Construct Injection Well (1)
- 03 - Permit Expired (1)
- 10 - Active-Producing-Oil (1)
- 20 - PA-35 Temp. Inactive/Omitted from Prod. Rep.-Gas (1)
- 22 - Rvrtd. to Single Completion-No Prod. Spec. (1)
- 29 - Dry and Plugged-No Prod. Spec. (25)
- 30 - PA-No Prod. Spec. (2)
- 30 - PA-Oil (24)
- 33 - Shut-In Productive-Future Utility-Oil (6)

Hackberry Carbon Sequestration Well No. 001 SHL - T12S R11W, Sec. 11 - Cameron Parish, LA

NAD83 (DMS)	NAD83 (DD)	NAD83 LA S FIP 1702 (US Ft)
LAT = 30° 1' 51.1708" LONG = -93° 26' 54.318"	LAT = 30.0308808 LONG = -93.4484218	X = 2,611,585.657' Y = 562,899.265'

Professional Geoscientist Signature Box

Stephen Pattee, P.G.
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Signature

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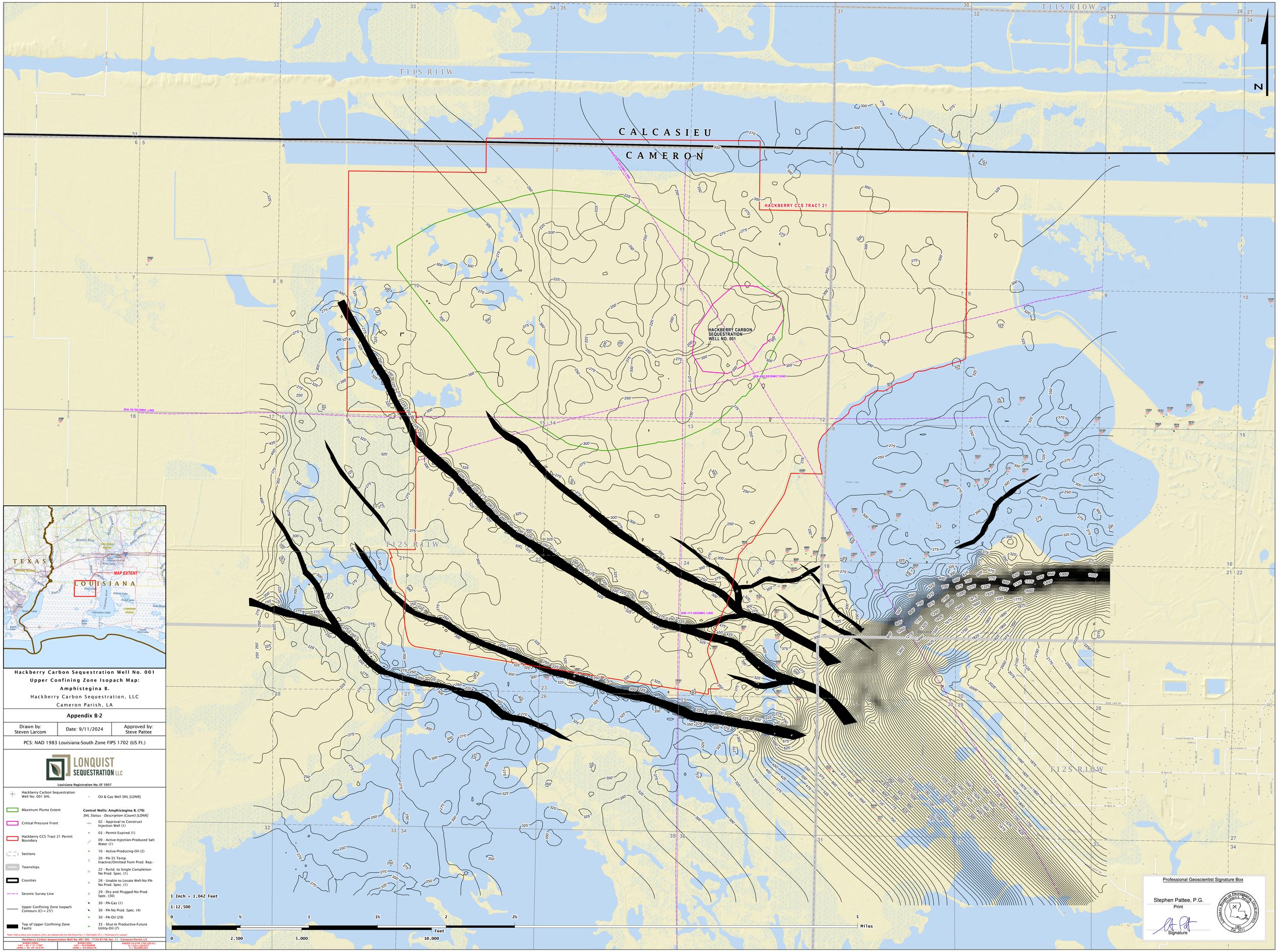

Hackberry Carbon Sequestration Well No. 001
Upper Confining Zone Isopach Map:
Amphistegina B.
Hackberry Carbon Sequestration, LLC
Cameron Parish, LA

Appendix B-2

Drawn by: Steven Larcom	Date: 9/11/2024	Approved by: Steve Pattee

PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)

LONQUIST SEQUESTRATION LLC

Louisiana Registration No. EF 5937

- Hackberry Carbon Sequestration Well No. 001 SHL
- Maximum Plume Extent
- Critical Pressure Front
- Hackberry CCS Tract 21 Permit Boundary
- Sections
- Townships
- Counties
- Seismic Survey Line
- Upper Confining Zone Isopach Contours (CI = 25')
- Top of Upper Confining Zone Faults
- Oil & Gas Well SHL [LDNR]

Control Wells: Amphistegina B. (79)
SHL Status - Description (Count) [LDNR]

- 02 - Approval to Construct Injection Well (1)
- 03 - Permit Expired (1)
- 09 - Active-Injection-Produced Salt Water (1)
- 10 - Active-Producing-Oil (2)
- 20 - PA-35 Temp. Inactive/Omitted from Prod. Rep.-
- 22 - Rvrtd. to Single Completion-No Prod. Spec. (1)
- 28 - Unable to Locate Well-No PA-No Prod. Spec. (1)
- 29 - Dry and Plugged-No Prod. Spec. (30)
- 30 - PA-Gas (1)
- 30 - PA-No Prod. Spec. (4)
- 30 - PA-Oil (29)
- 33 - Shut-In Productive-Future Utility-Oil (7)

Note: Well surface hole locations (SHL) are labeled with the SN (Serial No.) + Total Depth (Ft.) + Thickness (Ft.) values.

Hackberry Carbon Sequestration Well No. 001 SHL - T12S R11W, Sec. 11 - Cameron Parish, LA

NAD83 (DMS)	NAD83 (DD)	NAD83 SPCS (US)
LAT = 30° 1' 51.1790"	LAT = 30.0308808	X = 2,611,585.017'
LONG = -93° 20' 54.118"	LONG = -93.4484219	Y = 501,099.265'

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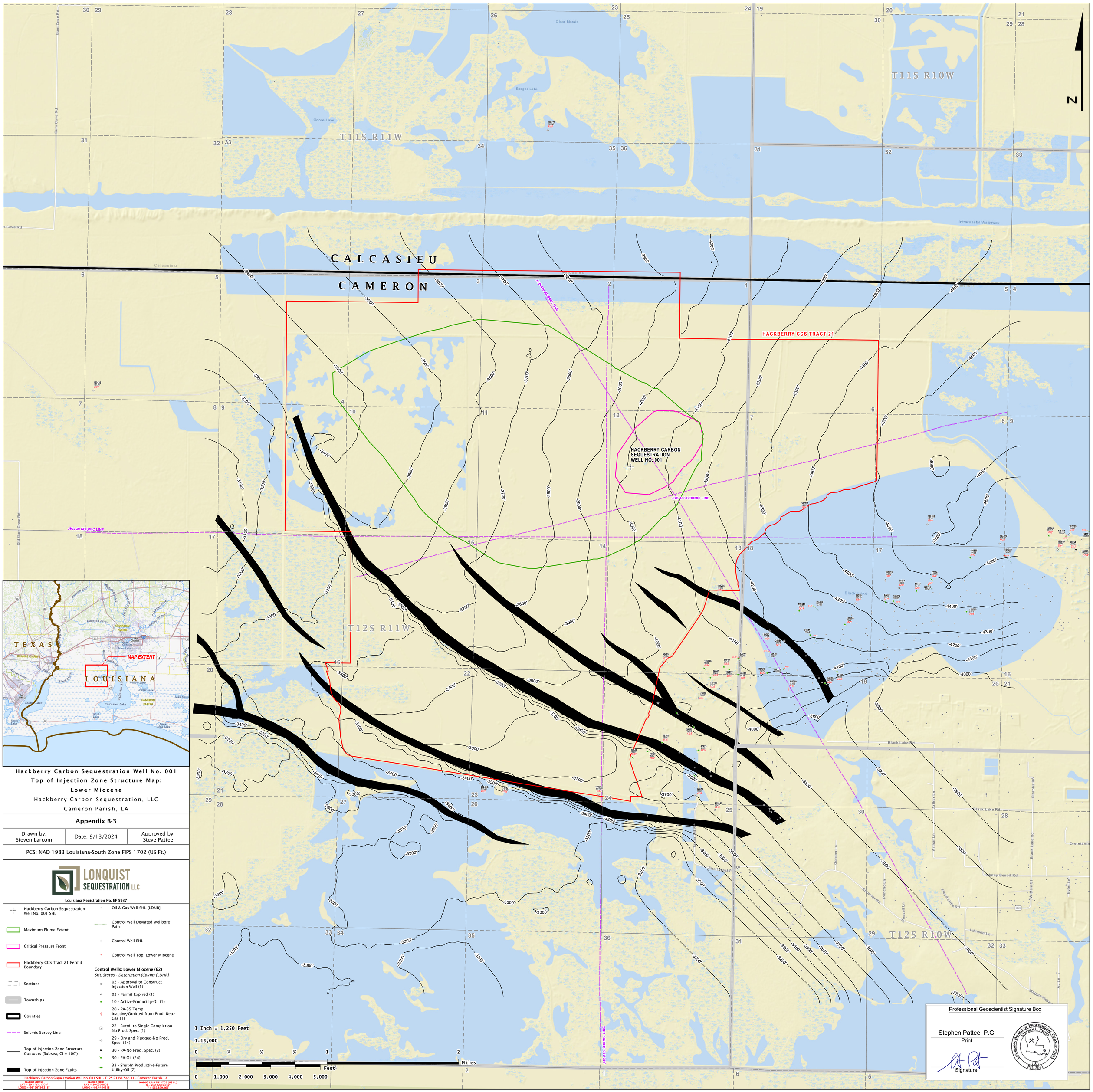


Hackberry Carbon Sequestration Well No. 001
Top of Injection Zone Structure Map:
Lower Miocene
Hackberry Carbon Sequestration, LLC
Cameron Parish, LA

Appendix B-3

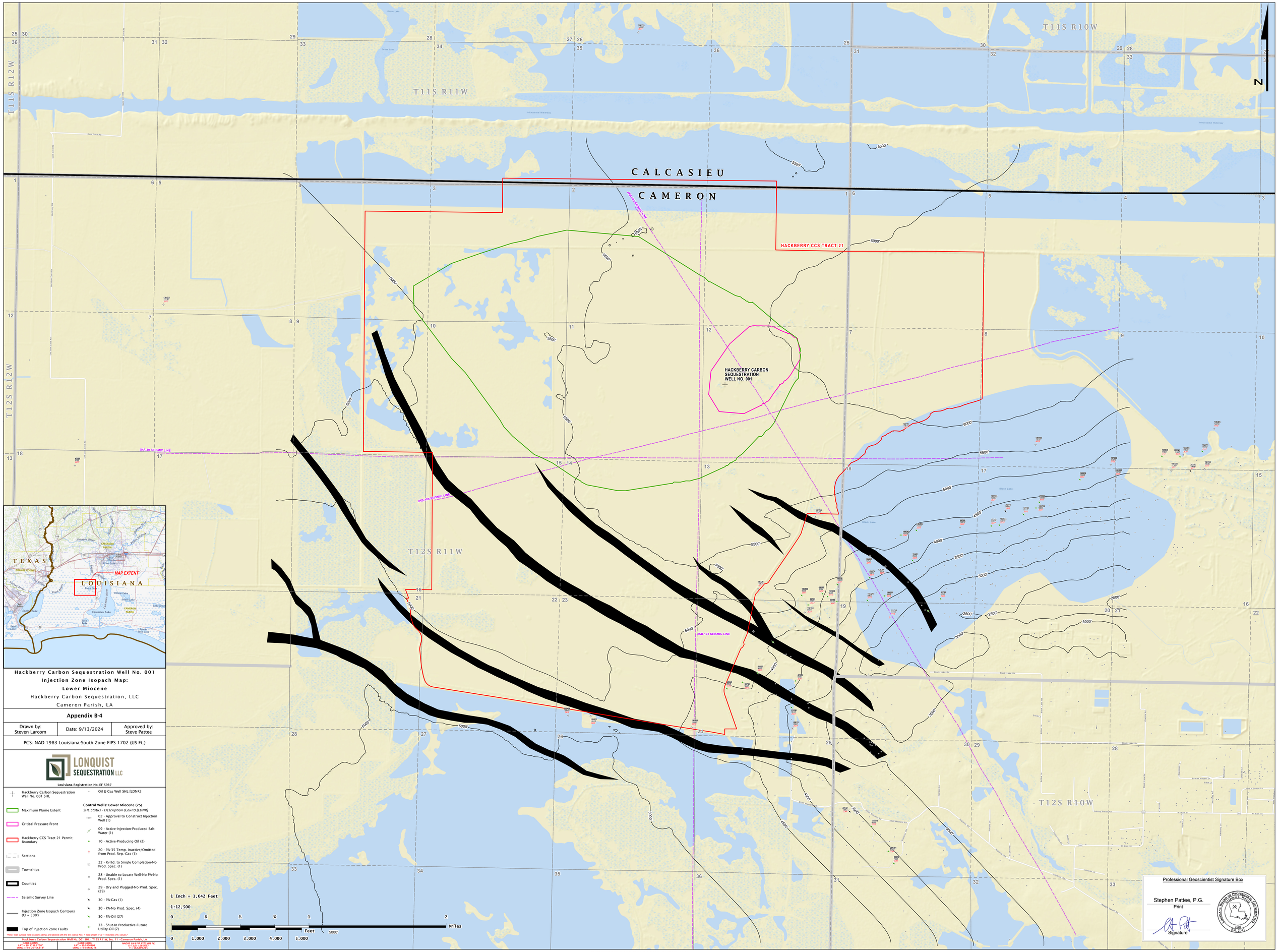
Drawn by: Steven Larcom	Date: 9/13/2024	Approved by: Steve Pattee

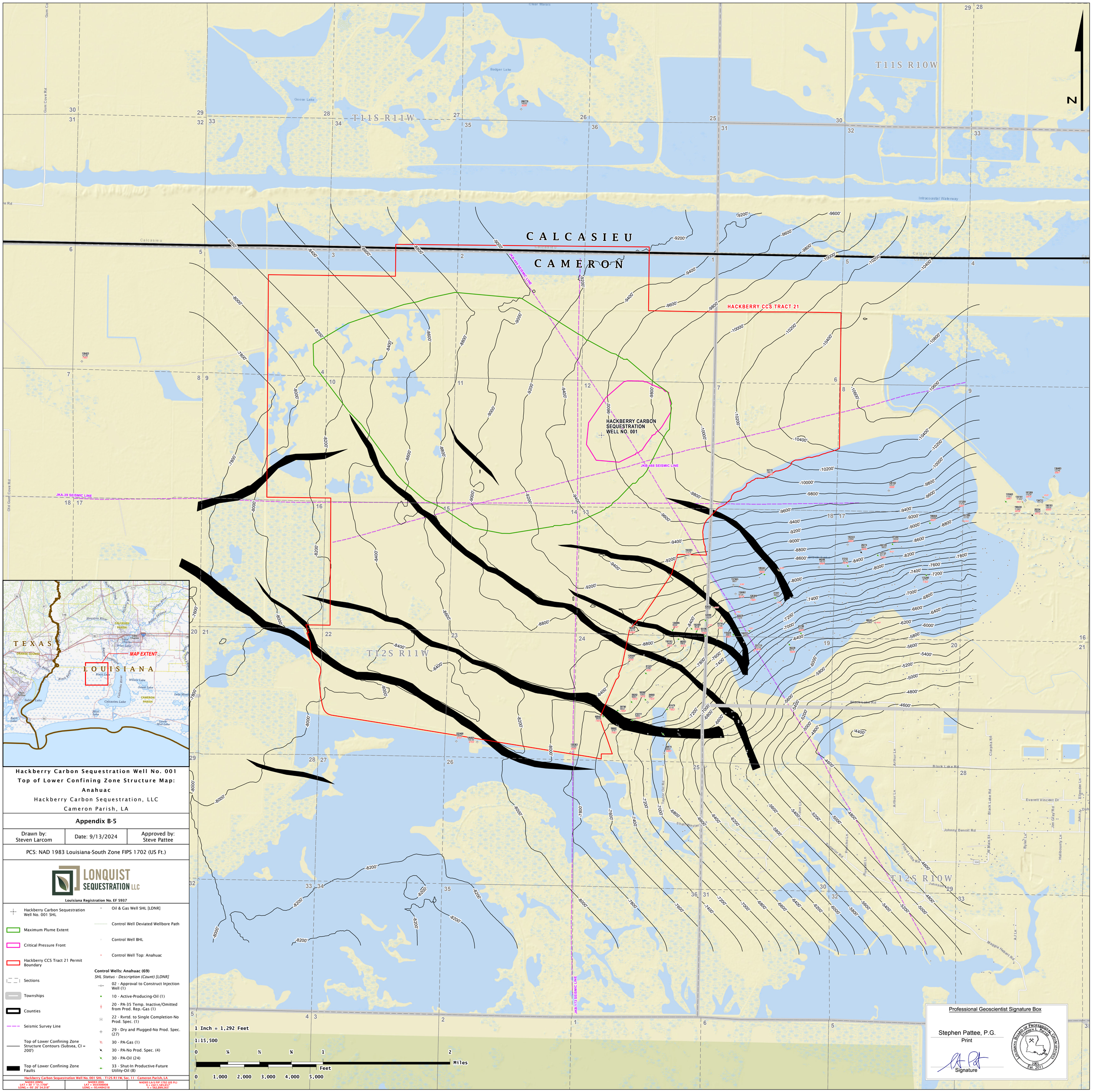
PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)

LONQUIST SEQUESTRATION LLC
Louisiana Registration No. EF 5937

Hackberry Carbon Sequestration Well No. 001 - T12S R11W, Sec. 11 - Cameron Parish, LA

NAD83 (DMS)	NAD83 (DD)	NAD83 LA-S FIP 1702 (US Ft.)
LAT = 30° 1' 51.3708"	LAT = 30.0308808	X = 2,611,585.657'
LONG = -93° 26' 54.318"	LONG = -93.4484218	Y = 562,899.265'


T11S R12W
T11S R11W
T11S R10W
T12S R12W
T12S R11W
T12S R10W
CALCASIEU
CAMERON
HACKBERRY CCS TRACT 21
HACKBERRY CARBON SEQUESTRATION WELL NO. 001
JKA-39 SEISMIC LINE
JKB-68 SEISMIC LINE
JKB-173 SEISMIC LINE
MAP EXTENT
TEXAS
LOUISIANA
N
1 Inch = 1,042 Feet
1:12,500
Miles
Feet
Hackberry Carbon Sequestration Well No. 001
Injection Zone Isopach Map:
Lower Miocene
Hackberry Carbon Sequestration, LLC
Cameron Parish, LA
Appendix B-4
Drawn by: Steven Larcom
Date: 9/13/2024
Approved by: Steve Pattee
PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)
LONQUIST SEQUESTRATION LLC
Louisiana Registration No. EF 5937
Hackberry Carbon Sequestration Well No. 001 SHL
Maximum Plume Extent
Critical Pressure Front
Hackberry CCS Tract 21 Permit Boundary
Sections
Townships
Counties
Seismic Survey Line
Injection Zone Isopach Contours (CI = 500')
Top of Injection Zone Faults
Oil & Gas Well SHL [LDNR]
Control Wells: Lower Miocene (75)
SHL Status - Description (Count) [LDNR]
02 - Approval to Construct Injection Well (1)
09 - Active-Injection-Produced Salt Water (1)
10 - Active-Producing-Oil (2)
20 - PA-35 Temp. Inactive/Omitted from Prod. Rep.-Gas (1)
22 - Rvrtd. to Single Completion-No Prod. Spec. (1)
28 - Unable to Locate Well-No PA-No Prod. Spec. (1)
29 - Dry and Plugged-No Prod. Spec. (29)
30 - PA-Gas (1)
30 - PA-No Prod. Spec. (4)
30 - PA-Oil (27)
33 - Shut-In Productive-Future Utility-Oil (7)
*Note: Well surface hole locations (SHL) are labeled with the SN (Serial No.) * Total Depth (FL) * Thickness (FL) values.*
Hackberry Carbon Sequestration Well No. 001 SHL - T12S R11W, Sec. 11 - Cameron Parish, LA
NAD83 UTM: LAT = 30°13'15.1746" LONG = 93° 28' 54.519"
NAD83 LCS: LAT = 29.8708888 LONG = -93.4848219
NAD83 LA-S FIP 1702 (US Ft.): X = 1,000,000.000 Y = 561,000.000
Professional Geoscientist Signature Box
Stephen Pattee, P.G.
Print
Signature
Louisiana Board of Professional Geoscientists
Seal
001
Est. 2011



Hackberry Carbon Sequestration Well No. 001
Top of Lower Confining Zone Structure Map:
Anahuac
Hackberry Carbon Sequestration, LLC
Cameron Parish, LA

Appendix B-5

Drawn by: Steven Larcom	Date: 9/13/2024	Approved by: Steve Pattee

PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)

LONQUIST SEQUESTRATION LLC

Louisiana Registration No. EF 5937

- Hackberry Carbon Sequestration Well No. 001 SHL
- Maximum Plume Extent
- Critical Pressure Front
- Hackberry CCS Tract 21 Permit Boundary
- Sections
- Townships
- Counties
- Seismic Survey Line
- Top of Lower Confining Zone Structure Contours (Subsea, CI = 200')
- Top of Lower Confining Zone Faults
- Oil & Gas Well SHL [LDNR]
- Control Well Deviated Wellbore Path
- Control Well BHL
- Control Well Top: Anahuac

Control Wells: Anahuac (69)
SHL Status - Description (Count) [LDNR]
- 02 - Approval to Construct Injection Well (1)
- 10 - Active-Producing-Oil (1)
- 20 - PA-35 Temp. Inactive/Omitted from Prod. Rep.-Gas (1)
- 22 - Rvrtd. to Single Completion-No Prod. Spec. (1)
- 29 - Dry and Plugged-No Prod. Spec. (27)
- 30 - PA-Gas (1)
- 30 - PA-No Prod. Spec. (4)
- 30 - PA-Oil (24)
- 33 - Shut-In Productive-Future Utility-Oil (8)

Hackberry Carbon Sequestration Well No. 001 SHL · T12S R11W, Sec. 11 · Cameron Parish, LA

NAD83 (DMS)	NAD83 (DD)	NAD83 LA-S FIP 1702 (US FT)
LAT = 30° 1' 51.3708"	LAT = 30.0308808	X = 2,611,585.657
LONG = -93° 26' 54.318"	LONG = -93.4484218	Y = 562,899.265

Professional Geoscientist Signature Box

Stephen Pattee, P.G.
Print

Signature

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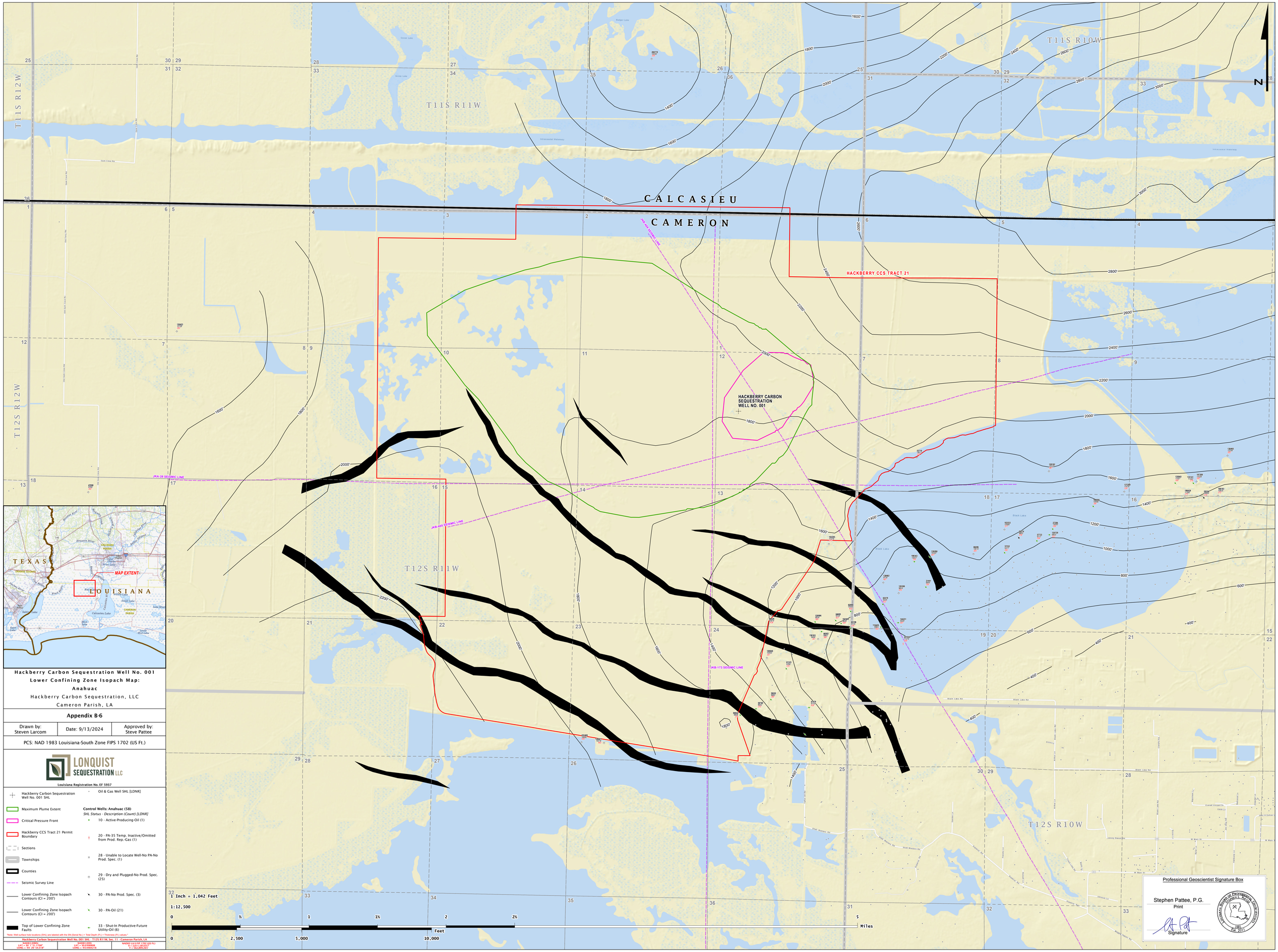


Hackberry Carbon Sequestration Well No. 001
Lower Confining Zone Isopach Map:
Anahuac
Hackberry Carbon Sequestration, LLC
Cameron Parish, LA

Appendix B-6

Drawn by: Steven Larcom	Date: 9/13/2024	Approved by: Steve Pattee

PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)

LONQUIST SEQUESTRATION LLC

Louisiana Registration No. EF 5937

- Hackberry Carbon Sequestration Well No. 001 SHL
- Maximum Plume Extent
- Critical Pressure Front
- Hackberry CCS Tract 21 Permit Boundary
- Sections
- Townships
- Counties
- Seismic Survey Line
- Lower Confining Zone Isopach Contours (CI = 200')
- Lower Confining Zone Isopach Contours (CI = 200')
- Top of Lower Confining Zone Faults
- Oil & Gas Well SHL [LDNR]

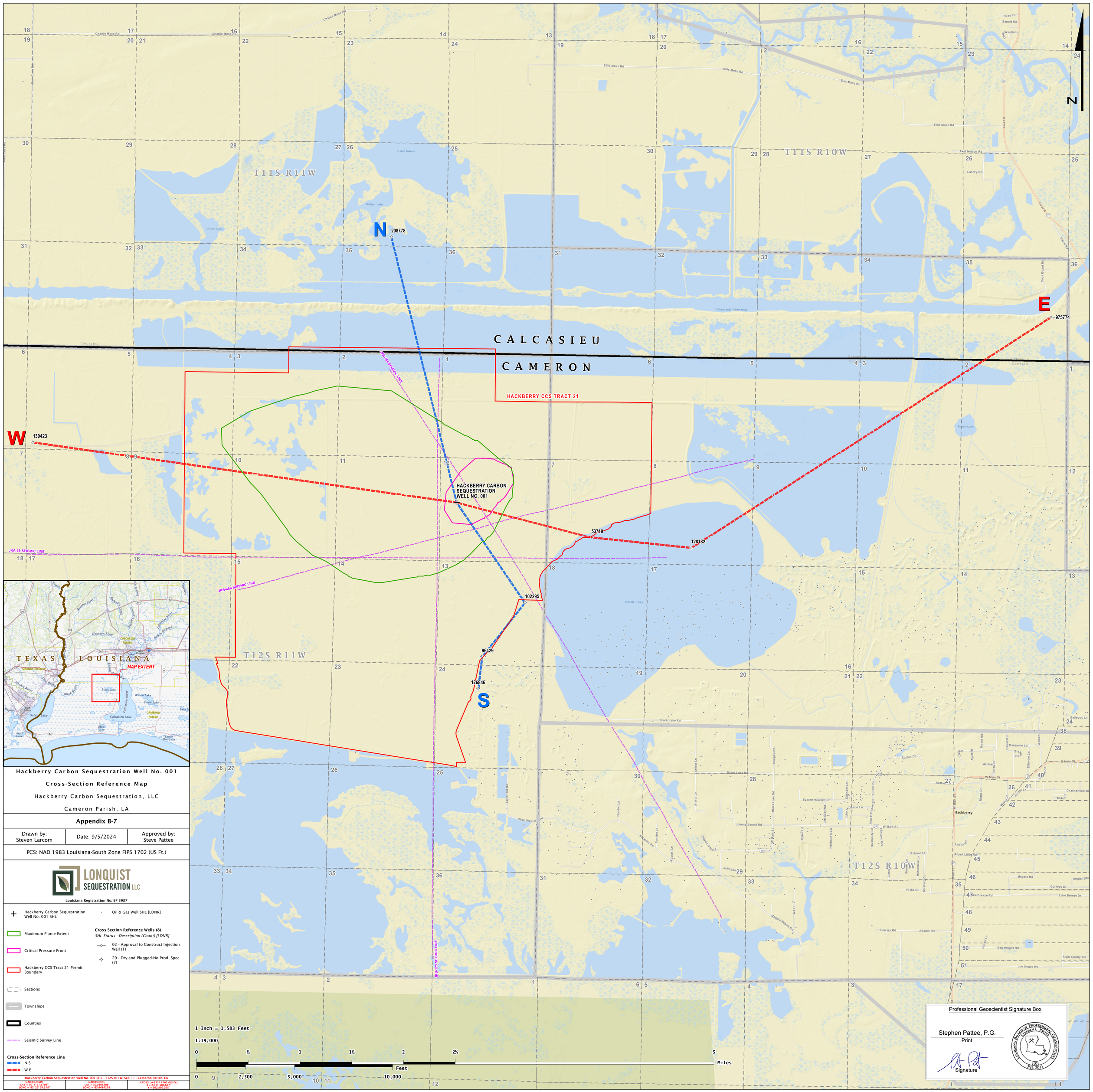
Control Wells: Anahuac (58)
SHL Status - Description (Count) [LDNR]

- 10 - Active-Producing-Oil (1)
- 20 - PA-35 Temp. Inactive/Omitted from Prod. Rep.-Gas (1)
- 28 - Unable to Locate Well-No PA-No Prod. Spec. (1)
- 29 - Dry and Plugged-No Prod. Spec. (25)
- 30 - PA-No Prod. Spec. (3)
- 30 - PA-Oil (21)
- 33 - Shut-In Productive-Future Utility-Oil (6)

Note: Well surface hole locations (SHL) are labeled with the SN (Serial No.) + Total Depth (FL) + Thickness (FL) values.

Hackberry Carbon Sequestration Well No. 001 SHL - T12S R11W, Sec. 11 - Cameron Parish, LA

NAD83 (LDNR)	NAD83 (GCS)	NAD83 (LA S ZN 1702 US FL)
LAT = 30° 1' 51.1798"	LAT = 30.0308888	X = 2,211,145.25
LONG = 93° 26' 54.518"	LONG = -93.4484218	Y = 561,899.265'



Hackberry Carbon Sequestration Well No. 001

Cross-Section Reference Map

Hackberry Carbon Sequestration, LLC

Cameron Parish, LA

Appendix B-7

Drawn by: Steven Larcom	Date: 9/5/2024	Approved by: Steve Pattee

PCS: NAD 1983 Louisiana-South Zone FIPS 1702 (US Ft.)

LONQUIST SEQUESTRATION LLC

Louisiana Registration No. EF 5937

- Hackberry Carbon Sequestration Well No. 001 SHL
- Oil & Gas Well SHL [LDNR]
- Maximum Plume Extent
- Critical Pressure Front
- Hackberry CCS Tract 21 Permit Boundary
- Sections
- Townships
- Counties
- Seismic Survey Line

Cross-Section Reference Wells (8)
SHL Status - Description (Count) [LDNR]

- 02 - Approval to Construct Injection Well (1)
- 29 - Dry and Plugged-No Prod. Spec. (7)

Cross-Section Reference Line

- N-S
- W-E

Hackberry Carbon Sequestration Well No. 001 SHL - T12S R11W, Sec. 11 - Cameron Parish, LA

NAD83 (DMS)	NAD83 (DD)	NAD83 LA-S FIP 1702 (US Ft.)
LAT = 30° 1' 51.1708"	LAT = 30.0308808	X = 2,611,585.657'
LONG = -93° 26' 54.318"	LONG = -93.4484218	Y = 562,899.265'

Professional Geoscientist Signature Box

Stephen Pattee, P.G.
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Signature

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STEPHEN L. PATTEE
1001
Est. 2011

LONQUIST SEQUESTRATION LLC

Hackberry Carbon Sequestration, LLC

Hackberry Carbon Sequestration Well No. 001

N-S Stratigraphic Cross Section

Horizontal Scale = 140.1
Vertical Scale = 100.0
Vertical Exaggeration = 1.4x

Well Header Info

- UWI
- Well Name
- Well Number
- Operator
- Well - Serial Number
- Well - TD
- Well - Elevation KB
- Well - Status Code

Legend

- Formation Tops/Bottoms
- Fault
- Confining Zones
- Perforated Intervals
- CO_2 Plume Boundary
- Critical Pressure Boundary

Well Symbols

- Proposed Injection Well
- Dry and Plugged

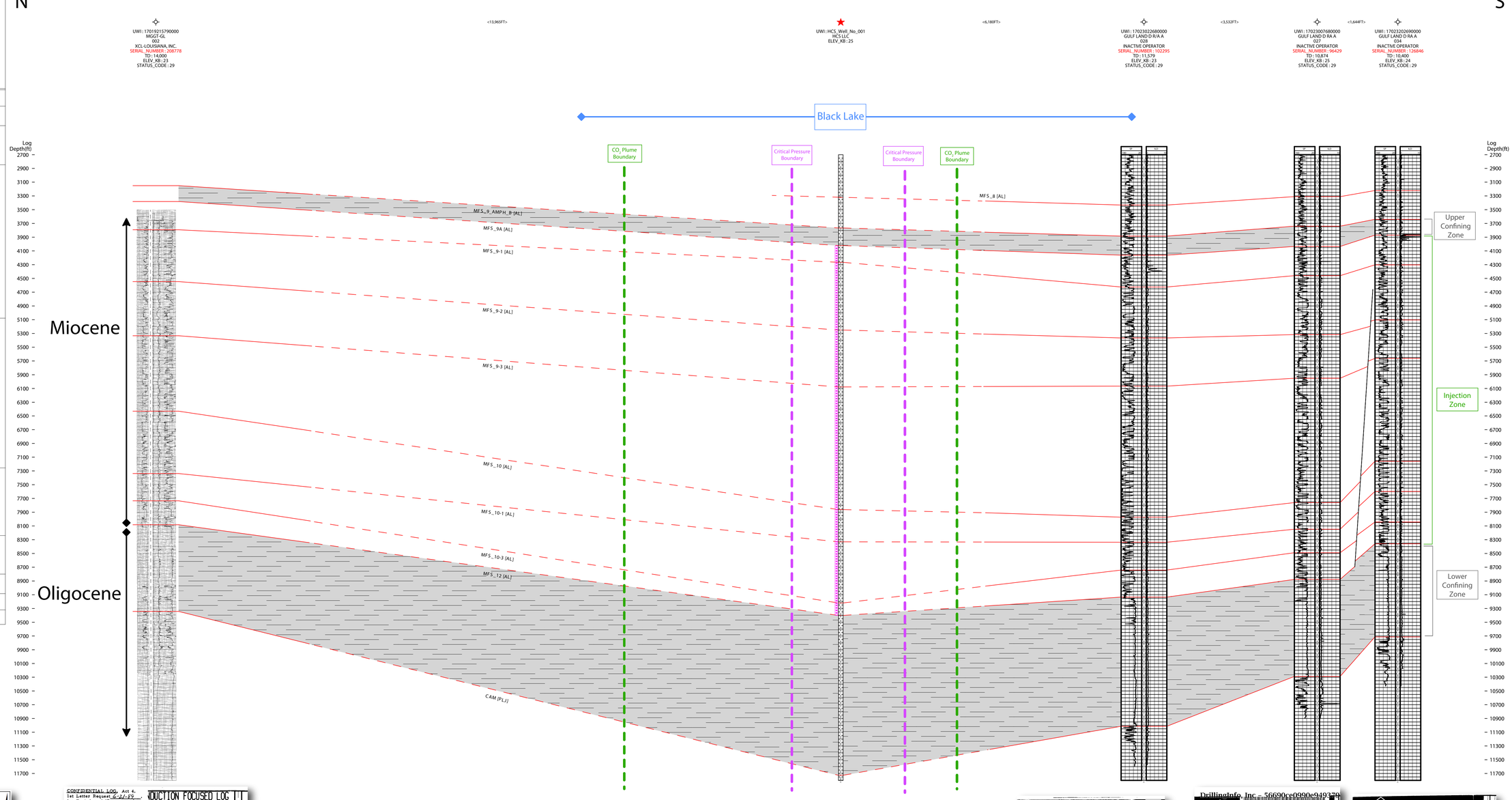
Horizontal Scale

0' 700' 1,400'

Note: Dashed lines are inferred

By: Parker Jessee

January 29,2025 5:25 PM



Professional Geoscientist Signature Box

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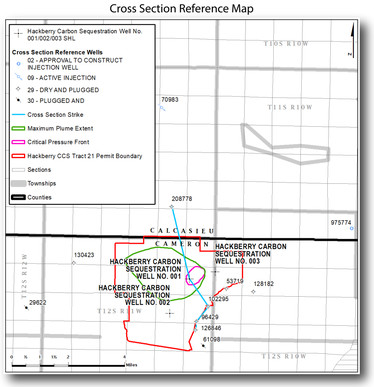
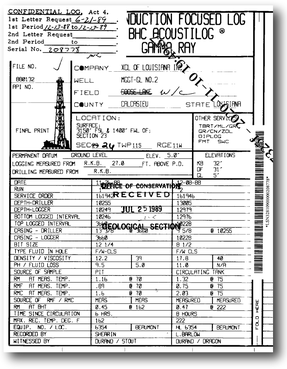
Signature Date: 1/30/2025

Cross Section Reference Map

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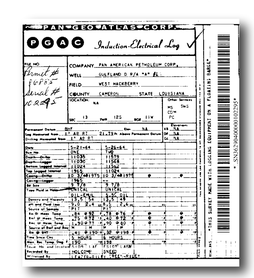
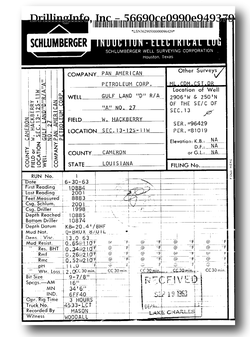
1st Letter Request 6-21-89
1st Period 10-21-89 to 12-21-89
2nd Letter Request
2nd Period to
Serial No. 208778

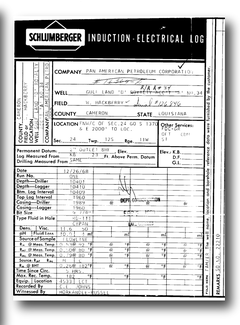
INDUCTION FOCUSED LOG
BHC ACOUSTILOG ®
GAMMA RAY

FILE NO.
API NO.
COMPANY XCL OF LOUISIANA
WELL MGGT-GL NO.2
FIELD WILDCAT
COUNTY CALCASIEU STATE LOUISIANA
LOCATION: SURVEY: SCHF 7L & 140W' FAL OF: SECTION 23
SEC 23 TwP 11S RGE 11W
OTHER SERVICES: TDWT,FN,GGL, GR-CN/CNL-DIL, DIL/GG, PHT SwC
PERMANENT DATUM GROUND LEVEL ELEV. 5.0'
LOGGING MEASURED FROM R.K.B. 27.0 FT. ABOVE P.D.
DRILLING MEASURED FROM R.K.B.
ELEVATIONS KB 32' DF 31' GL 5'
DATE 6-20-89
RUN ONE
SERVICE ORDER 107446
DEPTH—DRILLER 10050
DEPTH—LOGGER 10049
BOTTOM LOGGED INTERVAL 10046
TOP LOGGED INTERVAL 9800
CASING - DRILLER 9.5/8 @ 9800
CASING - LOGGER 9.5/8 @ 9800
BIT SIZE 7 7/8
TYPE FLUID IN HOLE FW-GLS
DENSITY / VISCOSITY 12.2 51
PH / FLUID LOSS 9.5 5.8
SOURCE OF SAMPLE PIT
RM @ MEAS. TEMP. 1.16 @ 78
RMF @ MEAS. TEMP. .81 @ 78
RMC @ MEAS. TEMP. 1.5 @ 78
SOURCE OF RMF / RMC MPS MPS
RM @ BHT 0.45 @ 152
TIME SINCE CIRCULATION 6 HRS.
MAX. REC. TEMP. DEG. F 152
EQUIP. NO. / LOC. 6,754 DEPUMPT
RECORDED BY SWEMIN
WITNESSED BY DURNO / START
7,954 DEPUMPT
L.BRAGAN
DURNO / BRADEN
OFFICE OF CONSERVATION
RECEIVED
JUL 25 1989
GEOLOGICAL SECTION


PANAGRAPH CORP.
Induction-Electrical Log
COMPANY PAN AMERICAN PETROLEUM CORP.
WELL GULF LAND D R/A "A" #2
FIELD WILD CAT
COUNTY CAMERON STATE LOUISIANA
LOCATION N.A.
Other Services: DIL, SNP, FDC
Permanent Datum: Ground Level Elev.: 5.0
Log Measured From: KB 27.0 Ft. Above Perm. Datum
Drilling Measured From: KB
Elevations: KB 32 DF 31 GL 5
Date 12/26/68
Run Number ONE
Depth-Driller 10050
Depth-Logger 10070
Bottom Logged Interval 10066
Top Log Interval 9800
Casing-Driller 9 5/8 @ 9800
Casing-Logger 9 5/8 @ 9800
Bit Size 7 7/8
Type Fluid in Hole FW-GLS
Dens. Visc. 12.0 51
PH Fluid Loss 10.5 5.8
Source of Sample PIT
RM @ Meas. Temp. 1.16 @ 78
RMF @ Meas. Temp. .81 @ 78
RMC @ Meas. Temp. 1.5 @ 78
Source RMF RMC MPS MPS
RM @ Bht .45 @ 152
Time Since Circ. 6 HRS.
Max. Rec. Temp. 152
Equip. Location 6,754 7,954
Recorded By SWEMIN
Witnessed By DURNO / BRADEN
RECEIVED
JUL 25 1989
GEOLOGICAL SECTION



SCHLUMBERGER INDUCTION-ELECTRICAL LOG
SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas
COMPANY PAN AMERICAN PETROLEUM CORP.
WELL GULF LAND "D" R/A "AT" NO. 27
FIELD W. HACKBERRY
LOCATION SEC. 13-12S-11W
COUNTY CAMERON
STATE LOUISIANA
Other Services: DIL, SNP, FDC, GR
Location of Well 2906'N & 2907'W OF THE SE/C OF SEC. 13
SER. #96429
PER. #81019
Elevation: K.B. N.A. D.F. N.A. G.L. N.A.
Permanent Datum: Ground Level Elev.: K.B.
Log Measured From: KB 27 Ft. Above Perm. Datum D.F.
Drilling Measured From: KB G.L.
Run No. ONE
Date 6-20-63
Depth-Driller 10084
Depth-Logger 10080
Bottom Logged Interval 10076
Top Log Interval 9800
Casing-Driller 9 5/8 @ 9800
Casing-Logger 9 5/8 @ 9800
Bit Size 7 7/8
Type Fluid in Hole FW-GLS
Dens. Visc. 11.6 51
Ph Fluid Loss 10.5 5.8
Source of Sample PIT
RM @ Meas. Temp. 1.08 @ 78
RMF @ Meas. Temp. .72 @ 78
RMC @ Meas. Temp. 1.4 @ 78
Source RMF RMC MPS MPS
RM @ Bht .42 @ 152
Time Since Circ. 6 HRS.
Max. Rec. Temp. 152
Equip. Location 6,533 7,954
Recorded By SWEMIN
Witnessed By DURNO / BRADEN
RECEIVED
JUL 25 1989
GEOLOGICAL SECTION
LAKE CHARLES


SCHLUMBERGER INDUCTION-ELECTRICAL LOG
COMPANY PAN AMERICAN PETROLEUM CORPORATION
WELL GULF LAND "D" RA A "AT" NO. 27
FIELD W. HACKBERRY
COUNTY CAMERON
STATE LOUISIANA
LOCATION 2906' N & 2907' W OF THE SE/C OF SEC. 13
Other Services: DIL, SNP, FDC, GR
Permanent Datum: Ground Level Elev.: K.B.
Log Measured From: KB 27 Ft. Above Perm. Datum D.F.
Drilling Measured From: KB G.L.
Date 12/26/68
Run Number ONE
Depth-Driller 10050
Depth-Logger 10070
Bottom Logged Interval 10066
Top Log Interval 9800
Casing-Driller 9 5/8 @ 9800
Casing-Logger 9 5/8 @ 9800
Bit Size 7 7/8
Type Fluid in Hole FW-GLS
Dens. Visc. 12.0 51
Ph Fluid Loss 10.5 5.8
Source of Sample PIT
RM @ Meas. Temp. 1.16 @ 78
RMF @ Meas. Temp. .81 @ 78
RMC @ Meas. Temp. 1.5 @ 78
Source RMF RMC MPS MPS
RM @ Bht .45 @ 152
Time Since Circ. 6 HRS.
Max. Rec. Temp. 152
Equip. Location 6,533 7,954
Recorded By SWEMIN
Witnessed By DURNO / BRADEN
REMARKS: RUN ONE: DIL, SNP, FDC, GR

LONQUIST SEQUESTRATION LLC

Hackberry Carbon Sequestration, LLC

Hackberry Carbon Sequestration Well No. 001

W-E Structural Cross Section

Horizontal Scale = 309.1
Vertical Scale = 100.0
Vertical Exaggeration = 3.1x

Well Header Info

UWI
Well Name
Well Number
Operator
Well - Serial Number
Well - TD
Well - Elevation KB
Well - Status Code

Legend

- Formation Tops/Bottoms
- Fault
- Confining Zones
- Perforated Intervals
- CO_2 Plume Boundary
- Critical Pressure Boundary

Well Symbols

- Proposed Injection Well
- Dry and Plugged
- Injection Well

Horizontal Scale

0' 1,545' 3,090'

Note: Dashed lines are inferred

By: Parker Jessee

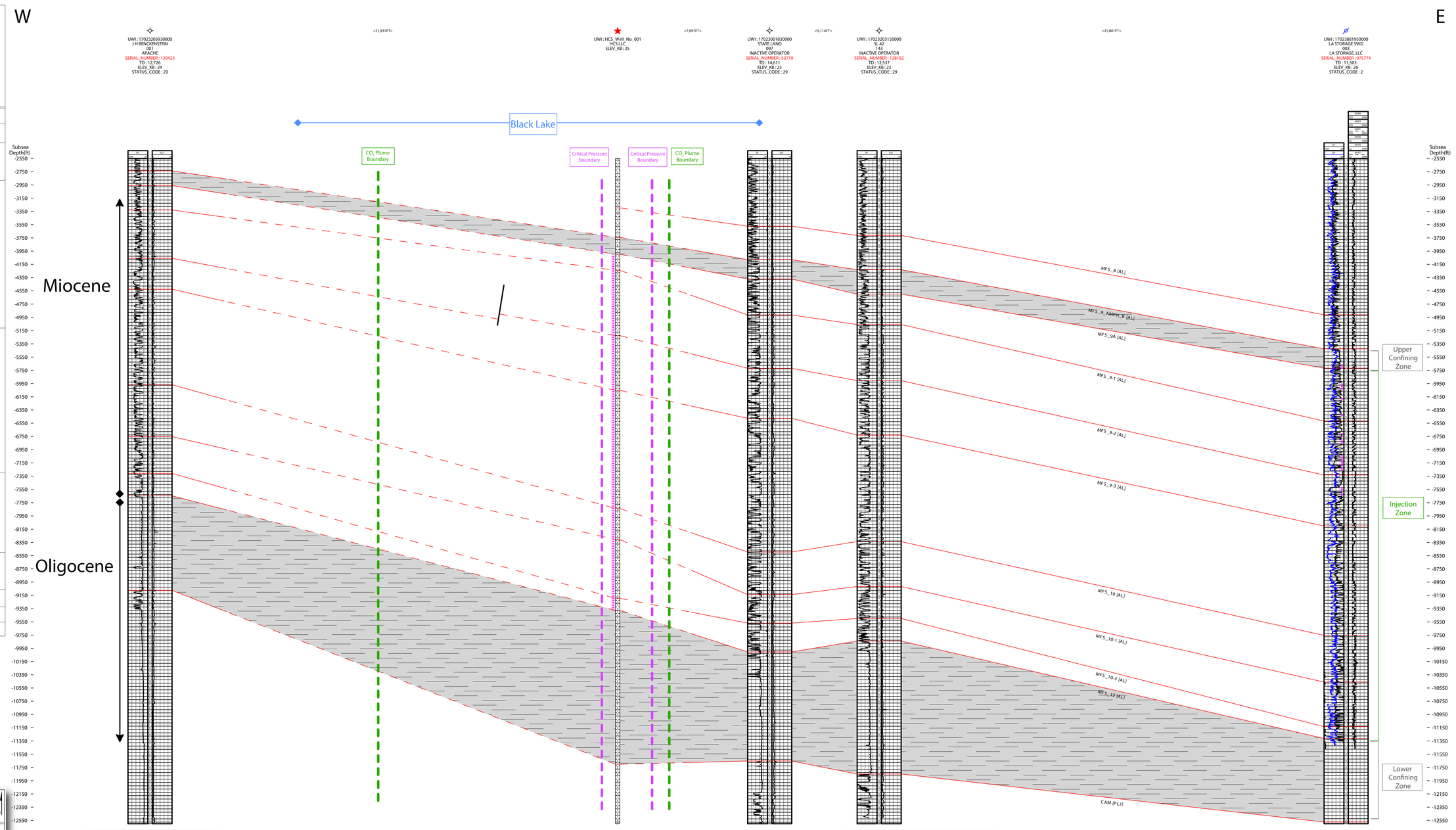
January 29,2025 5:15 PM

Professional Geoscientist Signature Box

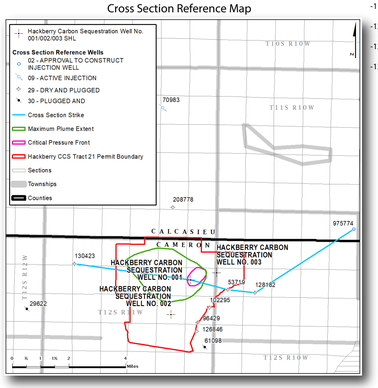
Stephen Pattee, P.G.
Print

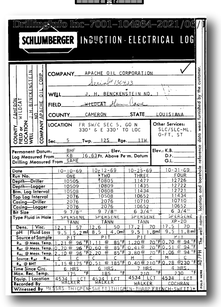
Signature Date: 1/30/2025

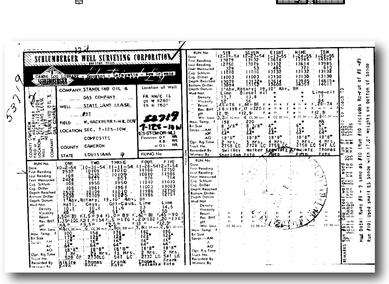
STATE OF TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS STEPHEN PATTEE 10011 LICENSED

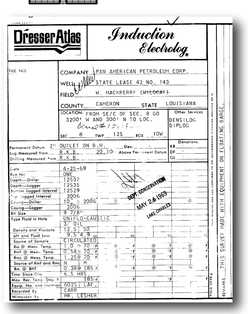


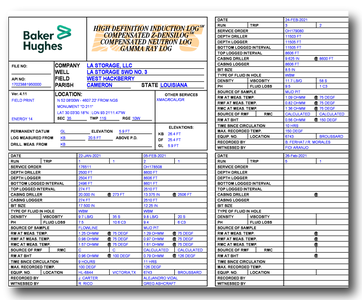
Cross Section Reference Map











LONQUIST SEQUESTRATION LLC

Hackberry Carbon Sequestration, LLC

Hackberry Carbon Sequestration Well No. 001

N-S Stratigraphic Cross Section

Horizontal Scale = 140.1
Vertical Scale = 100.0
Vertical Exaggeration = 1.4x

Well Header Info

- UWI
- Well Name
- Well Number
- Operator
- Well - Serial Number
- Well - TD
- Well - Elevation KB
- Well - Status Code

Legend

- Formation Tops/Bottoms
- Fault
- Confining Zones
- Perforated Intervals
- CO_2 Plume Boundary
- Critical Pressure Boundary

Well Symbols

- Proposed Injection Well
- Dry and Plugged

Horizontal Scale

0' 700' 1,400'

Note: Dashed lines are inferred

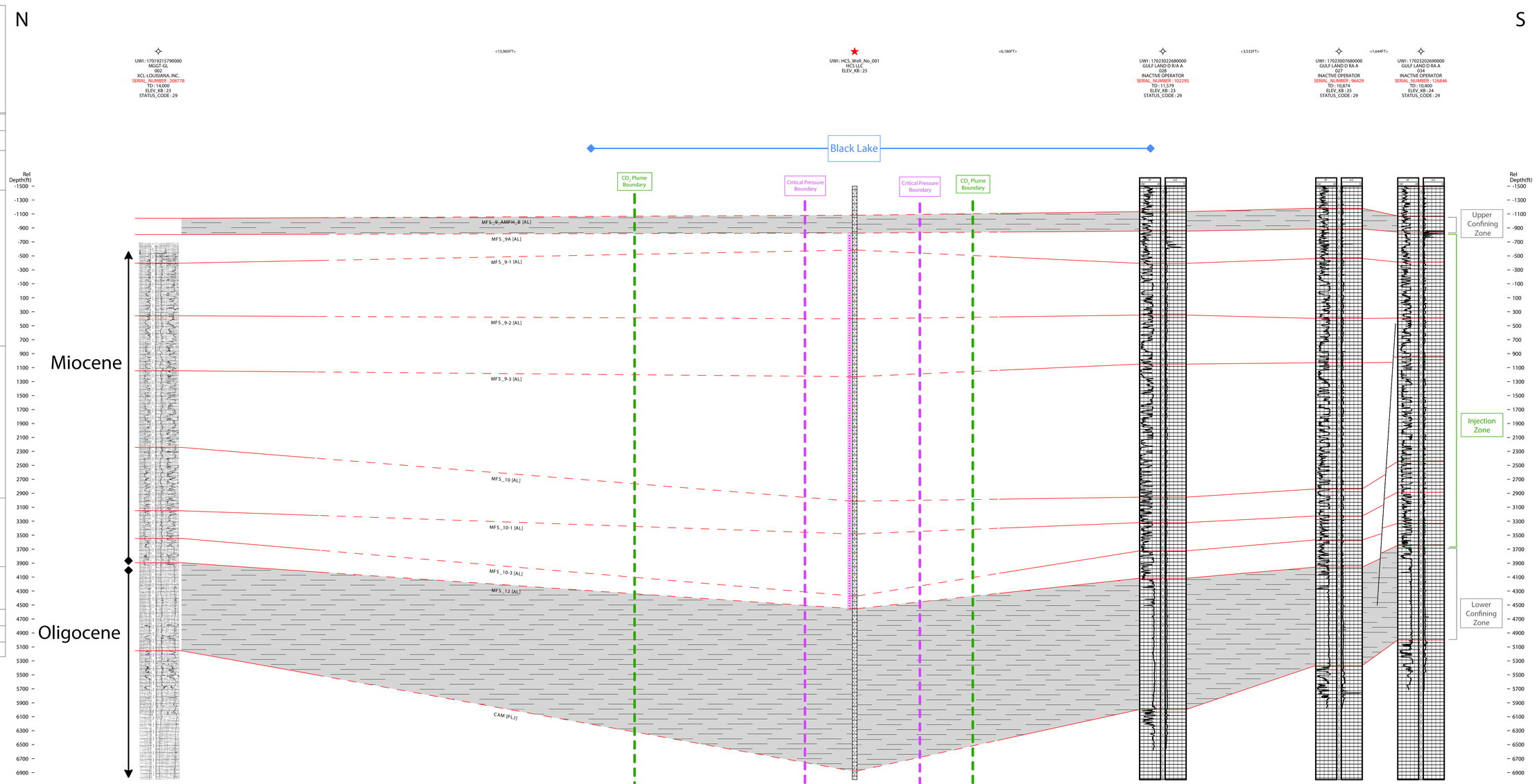
By: Parker Jessee

January 29,2025 5:26 PM

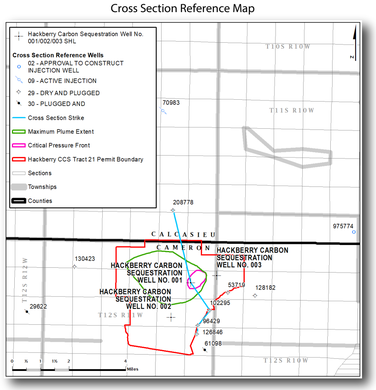
Professional Geoscientist Signature Box

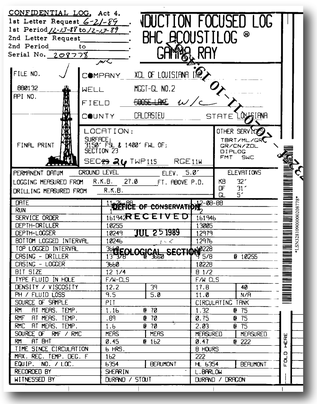
Stephen Pattee, P.G.
Print

Signature Date: 1/30/2025



Cross Section Reference Map



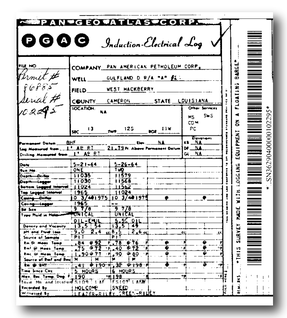

CONFIDENTIAL LOG, Act 4.
1st Letter Request 6-26-89
1st Period 11-27-89 to 12-27-89
2nd Letter Request
2nd Period to
Serial No. 209775

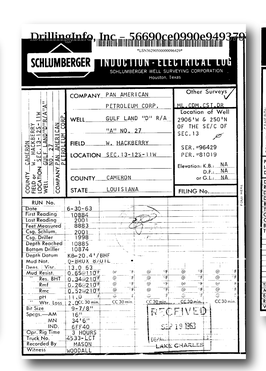
INDUCTION FOCUSED LOG
BHC ACOUSTILOG ®
GAMMA RAY

FILE NO. 1
API NO. 17-019-20107
COMPANY KOI OF LOUISIANA
WELL MGGT-G. NO.2
FIELD ~~FOOSE LAKE~~ W/C
COUNTY CALCASIEU STATE LOUISIANA
LOCATION: SURFACE 1400' FNL & 1400' FWL OF SECTION 21 TWP 11S RGE 11W
OTHER SERVICES TBRT/ML/GR GR/CN/CDL DIPLOG FMT - SWC
FINAL PRINT
PERMANENT DATUM GROUND LEVEL ELEV. 5.0' ELEVATIONS
LOGGING MEASURED FROM R.K.B. 27.0 FT. ABOVE P.D. KB 32' DF 31' GL 5'
DRILLING MEASURED FROM R.K.B.

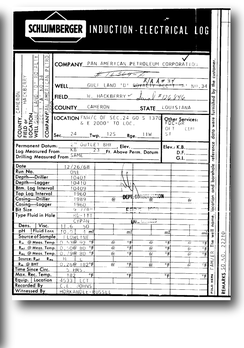
DATE	1-28-89		1-30-89
RUN	ONE		TWO
SERVICE ORDER	117446		117446
DEPTH-DRILLER	16255		13085
DEPTH-LOGGER	16249		12979
BOTTOM LOGGED INTERVAL	16246		12976
TOP LOGGED INTERVAL	3600		10200
CASING - DRILLER	13 3/8 @ 3598		9 5/8 @ 10255
CASING - LOGGER	3598		10255
BIT SIZE	12 1/4		8 1/2
TYPE FLUID IN HOLE	FW-CLS		FW CLS
DENSITY / VISCOSITY	12.2		11.8
PH / FLUID LOSS	9.5	5.0	11.8 N/A
SOURCE OF SAMPLE	PIT		CIRCULATING TANK
RM @ MEAS. TEMP.	1.16 @ 78		1.32 @ 75
RMF @ MEAS. TEMP.	.89 @ 78		0.75 @ 75
RMC @ MEAS. TEMP.	1.5 @ 78		2.83 @ 75
SOURCE OF RM / RMC	MEAS.	MEAS.	MEASURED MEASURED
RM @ BHT	0.45 @ 152		0.41 @ 222
TIME SINCE CIRCULATION	6 HRS.		8 HOURS
MAX. REC. TEMP. DEG. F	152		222
EQUIP. NO. / LOC.	6754	BEAUMONT	M4 6754 BEAUMONT
RECORDED BY	SHERWIN		L. BRACKM
WITNESSED BY	DURAND / STOUT		DURAND / DRIGGS

DEPARTMENT OF CONSERVATION
RECEIVED
JUL 25 1989
GEOLOGICAL SECTION


PAN GEO ATLAS CORP.
PGAC Induction-Electrical Log
COMPANY PAN AMERICAN PETROLEUM CORP.
WELL GULFLAND D R/A "A" #2
FIELD WEST HACKBERRY
COUNTY CAMERON STATE LOUISIANA
LOCATION N.A.
Permanent Datum: Sea Level Elev.: N.A.
Log Measured from: 17.40 Ft. Above Permanent Datum
Drilling Measured from: K.B.
Date 6-30-63
Run No. One
Depth-Driller 10500
Depth-Logger 10500
Bottom Logged Interval 10502
Top Log Interval 7960
Casing-Driller 9 5/8 @ 7960
Casing-Logger 7960
Bit Size 8 1/2
Type Fluid in Hole Salt Water
Dens. Visc. 10.0 53
Max. Recorded Temp. 152 deg. F
Equipment No. 6754
Location BEAUMONT
Recorded By SHERWIN
Witnessed By DURAND / STOUT
THIS SURVEY MADE WITH LOGGING EQUIPMENT ON A FLOATING SURFACE



SCHLUMBERGER INDUCTION-ELECTRICAL LOG
SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas
COMPANY PAN AMERICAN PETROLEUM CORP.
WELL GULF LAND "D" "A" NO. 27
FIELD N. HACKBERRY
LOCATION SEC. 13-12S-11W
COUNTY CAMERON STATE LOUISIANA
Other Services: Location of Well 2906'N & 250'W OF THE SE/C OF SEC. 13 SER. #96429 PER. #81019
Elevation: K.B. NA D.F. NA G.L. NA
FILING No.
Permanent Datum: Sea Level Elev.: 0
Log Measured From: 14 Ft. Above Perm. Datum
Drilling Measured From: GRD
Date 12/26/68
Run No. ONE
Depth-Driller 10410
Depth-Logger 10410
Bottom Logged Interval 10402
Top Log Interval 7960
Casing-Driller 9 5/8 @ 7960
Casing-Logger 7960
Bit Size 8 1/2
Type Fluid in Hole LIG. LIG
Dens. Visc. 10.0 53
Max. Rec. Temp. 152 deg. F
Equipment No. 6754
Location BEAUMONT
Recorded By PICE
Witnessed By MORRISSEY / BRUNER
RECEIVED SEP 19 1969 LAKE CHARLES


SCHLUMBERGER INDUCTION-ELECTRICAL LOG
COMPANY PAN AMERICAN PETROLEUM CORPORATION
WELL GULF LAND "D" "A" NO. 2
FIELD N. HACKBERRY
COUNTY CAMERON STATE LOUISIANA
LOCATION: 2906' FNL & 250' FWL OF SEC. 13-12S-11W
Permanent Datum: Sea Level Elev.: 0
Log Measured From: 14 Ft. Above Perm. Datum
Drilling Measured From: GRD
Date 12/26/68
Run No. ONE
Depth-Driller 10410
Depth-Logger 10410
Bottom Logged Interval 10402
Top Log Interval 7960
Casing-Driller 9 5/8 @ 7960
Casing-Logger 7960
Bit Size 8 1/2
Type Fluid in Hole LIG. LIG
Dens. Visc. 10.0 53
Max. Rec. Temp. 152 deg. F
Equipment No. 6754
Location BEAUMONT
Recorded By PICE
Witnessed By MORRISSEY / BRUNER
PRINTED BY SCHLUMBERGER

LONQUIST SEQUESTRATION LLC

Hackberry Carbon Sequestration, LLC

Hackberry Carbon Sequestration Well No. 001

W-E Stratigraphic Cross Section

Horizontal Scale = 309.1
Vertical Scale = 100.0
Vertical Exaggeration = 3.1x

Well Header Info

- UWI
- Well Name
- Well Number
- Operator
- Well - Serial Number
- Well - TD
- Well - Elevation KB
- Well - Status Code

Legend

- Formation Tops/Bottoms
- Fault
- Confining Zones
- Perforated Intervals
- CO_2 Plume Boundary
- Critical Pressure Boundary

Well Symbols

- Proposed Injection Well
- Dry and Plugged
- Injection Well

Horizontal Scale

0' 1,545' 3,090'

Note: Dashed lines are inferred

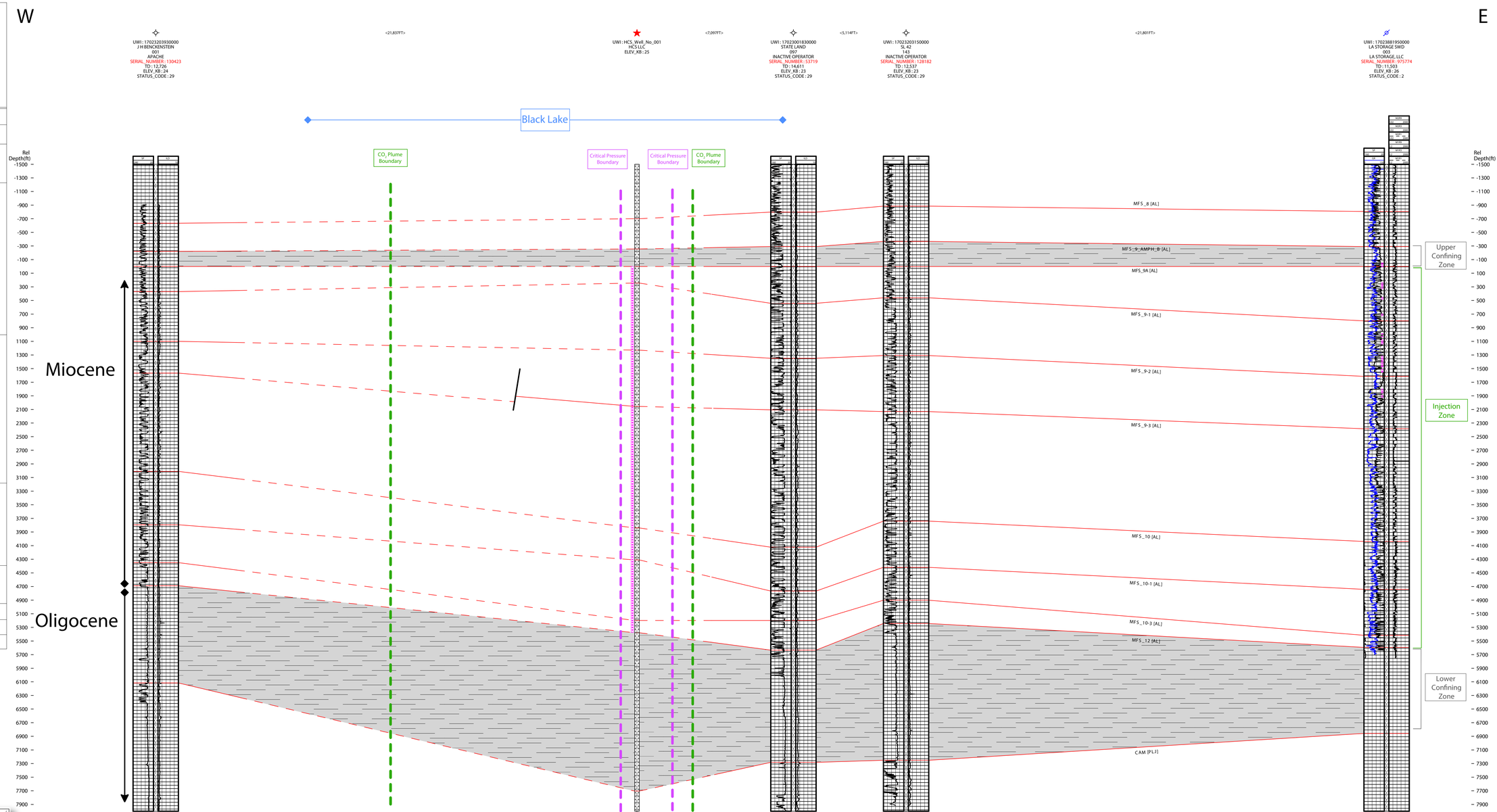
By: Parker Jessee

January 29,2025 5:30 PM

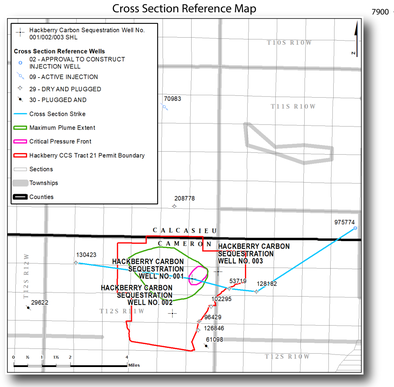
Professional Geoscientist Signature Box

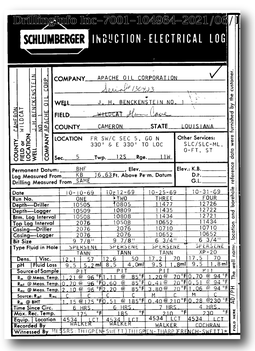
Stephen Pattee, P.G.
Print

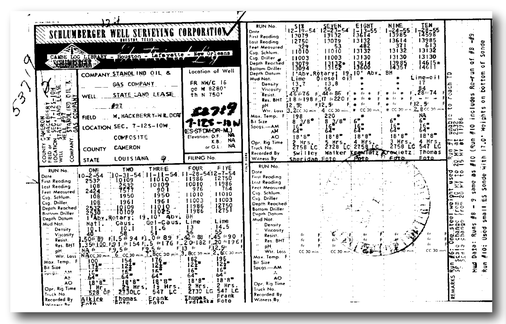
Signature Date: 1/30/2025

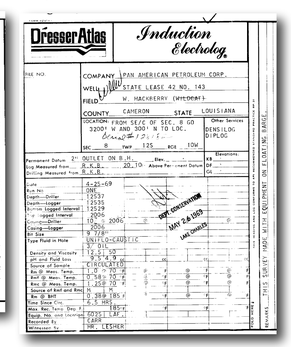


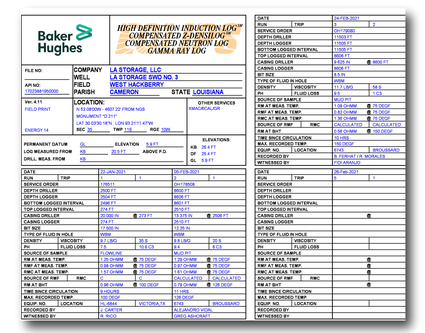
Cross Section Reference Map











APPENDIX B-18 : FORMATION TOP CONTROL WELLS

UWI/API	Serial Number	WELL ELEV_KB	SURFLAT	SURFLON	BOTLAT	BOTLON	USDW [PLJ] (TVD)	AMPHISTEGINA_B (TVD)	LOWER_MIOCENE (TVD)	LOWER_MIO_2_TOP (TVD)	LOWER_MIO_2_BASE (TVD)	LOWER_MIO_3_TOP (TVD)	LOWER_MIO_3_BASE (TVD)	LOWER_MIO_4_TOP (TVD)	LOWER_MIO_4_BASE (TVD)	TOP_OF_ANAHUAC (TVD)
17019215790000	208778	23	30.067993	-93.459768	0	0		3831	4188	4863	5592	5808	6067	6149	7851	8119
17023001830000	53719	23	30.026324	-93.426614	0	0	1110	5024	5356	6039	6792	7067	7463	7660	9558	10139
17023006860000	28354	17	30.022624	-93.391612	0	0		5495	5712	6300						8789
17023007030000	68243	23	30.010025	-93.412013	30.009247	-93.411534	1000									4721
17023007040000	27384	23	30.019024	-93.409913	0	0		5049	5348	6064	6540	6617	6839	6997		8436
17023007100000	57733	23	30.017725	-93.411813	0	0		4967	5261	5946	6386	6423	6588	6815		7904
17023007110000	28274	23	30.018024	-93.414013	0	0		4973	5251	5957	6386	6491	6669	6947		8209
17023007120000	57252	23	30.016424	-93.415713	0	0		4878	5177	5856	6247	6313	6660	6725		7837
17023007350000	55791	23	30.009925	-93.432214	0	0										7965
17023007360000	62090	23	30.009925	-93.434314	30.008482	-93.433717		4543	4948	5605						8218
17023007370000	63452	23	30.011425	-93.433314	30.010273	-93.432899										8091
17023007400000	31441	23	30.012625	-93.425213	30.011743	-93.42417		4586	4942	5575						7780
17023007440000	63579	23	30.010725	-93.430413	30.010185	-93.430375		4593	5015	5689	6077	6199	6537	6566		7816
17023007480000	68289	23	30.016225	-93.419513	0	0		4954	5259	5830	6392	6645	6963	7035		8507
17023007500000	65196	23	30.008125	-93.434314	0	0		4509	4886	5506	6108	6319	6660	6823		7981
17023007550000	118429	23	30.008325	-93.430614	0	0		4503	4905	5534	6114	6235	6446	6512		7480
17023007560000	41788	23	30.008625	-93.421713	30.008751	-93.421554	964	4254	4598	5192						5950
17023007570000	95239	23	30.007325	-93.423213	0	0	970	4029	4341	4944						5632
17023007670000	64685	23	30.008925	-93.436114	0	0		4529	4955	5551	6156	6402	6761	6911		8174
17023007680000	96429	24.59	30.009325	-93.443914	0	0		4484	4922	5572	6333	6541	6866	6988	8504	8992
17023007690000	74060	23	30.005425	-93.439314	30.005909	-93.439241		4460	4874	5430						
17023007710000	66563	19	30.007725	-93.437814	0	0		4460	4849	5507	6115	6405	6745	6859		8392
17023007720000	61323	23.8	30.003725	-93.442014	0	0		4323	4701	5318	5784	5993	6294	6519		8345
17023007740000	59011	23	30.002224	-93.439815	0	0		4381	4753	5270				6461		
17023014300000	61098	23	29.996826	-93.439614	0	0	970	4063	4459	4941		5633	6014	6143		7050
17023014320000	61454	23	29.996826	-93.437514	0	0	902.4			4828	5321					6789
17023014360000	218111	23	29.998348	-93.443671	29.998348	-93.443671				5348						7630
17023014370000	59202	23	30.000426	-93.443814	0	0		4087	4476	5097	5725	5946	6297	6510		7938
17023014440000	58682	24.11	29.997726	-93.445614	0	0				5089				6133	7301	7707
17023014450000	59790	23.19	29.999426	-93.445614	0	0		4087	4462	5078						7804
17023014460000	60942	23	29.998726	-93.447514	0	0		4069	4446	5086						7828
17023014490000	47479	23.77	29.999667	-93.439167	0	0		4381	4809	5236	5626	5923	6261	6427		7826
17023014520000	54905	24.3	30.000426	-93.441714	0	0				5167	5633	5920	6262	6496		7959
17023014540000	60674	26.16	29.994626	-93.439414	0	0		3998	4359	4954		5492	5941			6876
17023022320000	56569	23	30.000725	-93.442014	0	0				5195	5640	5935	6291	6517		7999
17023022680000	102295	23.08	30.017024	-93.437114	0	0		4641	5017	5640	6383	6631	6971	7143	8831	9272
17023200950000	120728	23	30.018424	-93.410313	30.017989	-93.409849		5004	5327	6025						8254
17023201190000	121711	23	30.025924	-93.380912	0	0				6495						9931
17023201980000	124348	23	30.036024	-93.380012	0	0		5757	6064	6801						11357
17023202670000	126821	23.37	29.995526	-93.464015	0	0		4314	4754	5344	5951	6146		6468	7747	8193
17023202690000	126846	23.65	30.004825	-93.444415	0	0		4322	4713	5360	5796	6051	6373	6583	8096	8540
17023202770000	126996	23.94	30.008725	-93.438614	0	0		4496	4884	5565	6227	6488	6846	7011		8771
17023203150000	128182	23	30.025124	-93.410513	0	0		5234	5580	6249	6964	7296	7586	7717	9592	10019
17023203170000	128240	23	30.038223	-93.363711	0	0		5754	6082	6810						11380
17023203200000	128386	23	30.011925	-93.428513	0	0		4536	5012	5485	6015	6228	6518	6570		7918
17023203900000	130383	23	29.994526	-93.451714	0	0		4178	4543	5069	5697	5877	6203	6301	7602	8067
17023203930000	130423	23.52	30.038223	-93.516917	0	0		3286	3708	4217	5057	5184	5394	5443	7018	7684
17023205110000	134711	23	30.024724	-93.390212	30.024283	-93.388911		5556	5818	6448						9551
17023205240000	135141	23.53	30.024124	-93.392912	30.023526	-93.392628		5516	5795	6400						9446
17023205430000	135845	23	30.024124	-93.395112	0	0		5471	5738	6405						9470
17023205600000	136485	23.47	30.027124	-93.388812	0	0		5642	5905	6540						10020
17023205810000	137209	23	30.023124	-93.401312	0	0		5356	5578	6345	6849	7180	7506	7597		9304
17023206140000	138266	23	30.033324	-93.379912	0	0				6722						11050
17023206420000	138965	23	30.013867	-93.420823	0	0		4752	5145	5709	6247	6471	6757	6806		
17023206460000	139082	23	30.013025	-93.430413	0	0		4540	5027	5533	6075	6296	6615	6711		8237
17023206510000	139286	23	30.015825	-93.424814	30.015416	-93.424225		4714	5121	5719						8349
17023207890000	144231	23	30.008825	-93.428513	30.009004	-93.430701		4514	4961	5570	6077					7274
17023209680000	150163	23.54	30.006925	-93.438214	0	0		4443	4833	5461	6069	6341	6637	6747		8356
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17023213480000	161380	23	30.021822	-93.400682	30.021037	-93.39983		5316	5544	6256						8806
17023215250000	215141	23	29.993087	-93.436926	29.9931	-93.436929		3962	4294							

UWI/API	Serial Number	WELL ELEV_KB	SURFLAT	SURFLON	BOTLAT	BOTLON	USDW [PLJ] (TVD)	AMPHISTEGINA_B (TVD)	LOWER_MIOCENE (TVD)	LOWER_MIO_2_TOP (TVD)	LOWER_MIO_2_BASE (TVD)	LOWER_MIO_3_TOP (TVD)	LOWER_MIO_3_BASE (TVD)	LOWER_MIO_4_TOP (TVD)	LOWER_MIO_4_BASE (TVD)	TOP_OF_ANAHUAC (TVD)
17023216560000	175290	24	30.015545	-93.405396	0	0			5258	5885	6335			6517		7376
17023218500000	183533	23	30.018862	-93.41579	0	0		5058	5375	6108	6569	6684	6916	7245		8906
17023218510000	183534	23	30.016541	-93.41473	30.01609	-93.41381		4943	5237	5936	6370	6432	6712	6787		8176
17023219390000	187289	26.82	30.024316	-93.392515	0	0		5534	5816	6431						9446
17023220480000	192500	23	30.008648	-93.435453	0	0		4517	4950	5524	6148	6379	6745	6903		8066
17023221410000	198193	23.18	30.022872	-93.389894	0	0		5482	5754	6343						8979
17023221490000	198438	21	30.022616	-93.393934	0	0		5469	5744	6335						9055
17023221590000	198858	23	30.021507	-93.405036	0	0		5184	5490	6227	6713.0	7017	7317	7558		8950
17023221700000	199343	23	30.015306	-93.426682	0	0		4700	5039	5693	6266	6520	6846	6956		8582
17023227230000	221710	25	30.006585	-93.427854	0	0		4411	4720	5373	6083.3					6439
17023227530000	222408	24	29.995544	-93.466755	0	0		4353	4792	5390					7766	8211
17023881950000	975774	26.4	30.058382	-93.353185	0	0	1190	5477	5774	6531	7299	7541	7880	8193	10682	11381

APPENDIX B-19 :

Fluid Pump-out Analysis

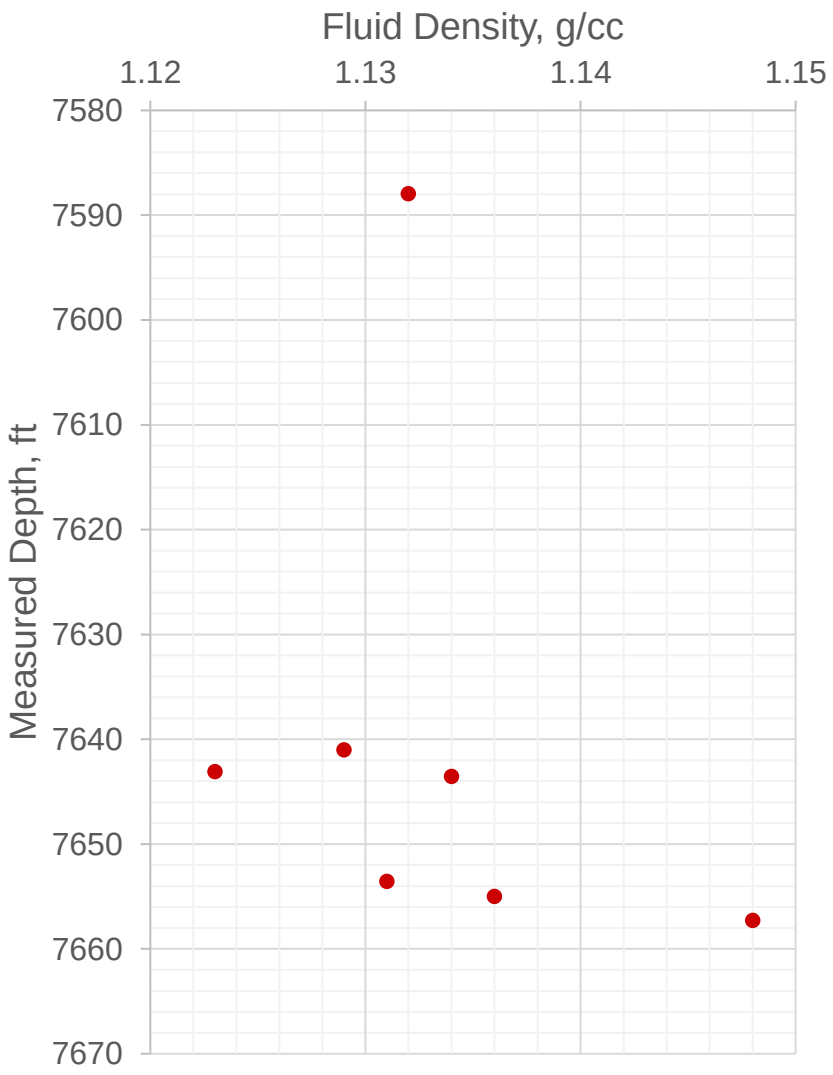
HALLIBURTON

Sampling Summary

FIELD SAMPLE SUMMARY													
Sample No.	Date	Depth (MD) ft.	Depth (TVD) ft.	HYD Pressure psi	FORMATION PRESSURE psi	MCS # / POS.	Cylinder SN	Cylinder Type	Expected Fluid	Sample Volume cc	Sealing Pressure (Downhole) psi.	Total Volume Pumped cc	Sample Temperature F
1	7-Feb-21	7,653.50	7,653.50	4024.97	3493.92	2 / 1	1611	STD	Water	1000	9,750	26000	131.8
2	7-Feb-21	7,653.50	7,653.50	4024.97	3493.92	2 / 2	0890	STD	Water	1000	9,650	26000	132.7
3	7-Feb-21	7,641.00	7,641.00	4015.76	3489.96	2 / 3	0899	STD	Water	1000	9,770	100000	133.1
4	7-Feb-21	7,643.00	7,643.00	4005.45	3489.58	1 / 2	1858	STD	Water	1000	9,585	17000	133
5	7-Feb-21	7,588.00	7,588.00	3983.3	3,463.00	1 / 1	0921	STD	Water	1000	8,860	40600	133
6	7-Feb-21	7,588.00	7,588.00	3983..	3,463.00	1 / 3	1780	STD	Water	1000	9,280	15400	132

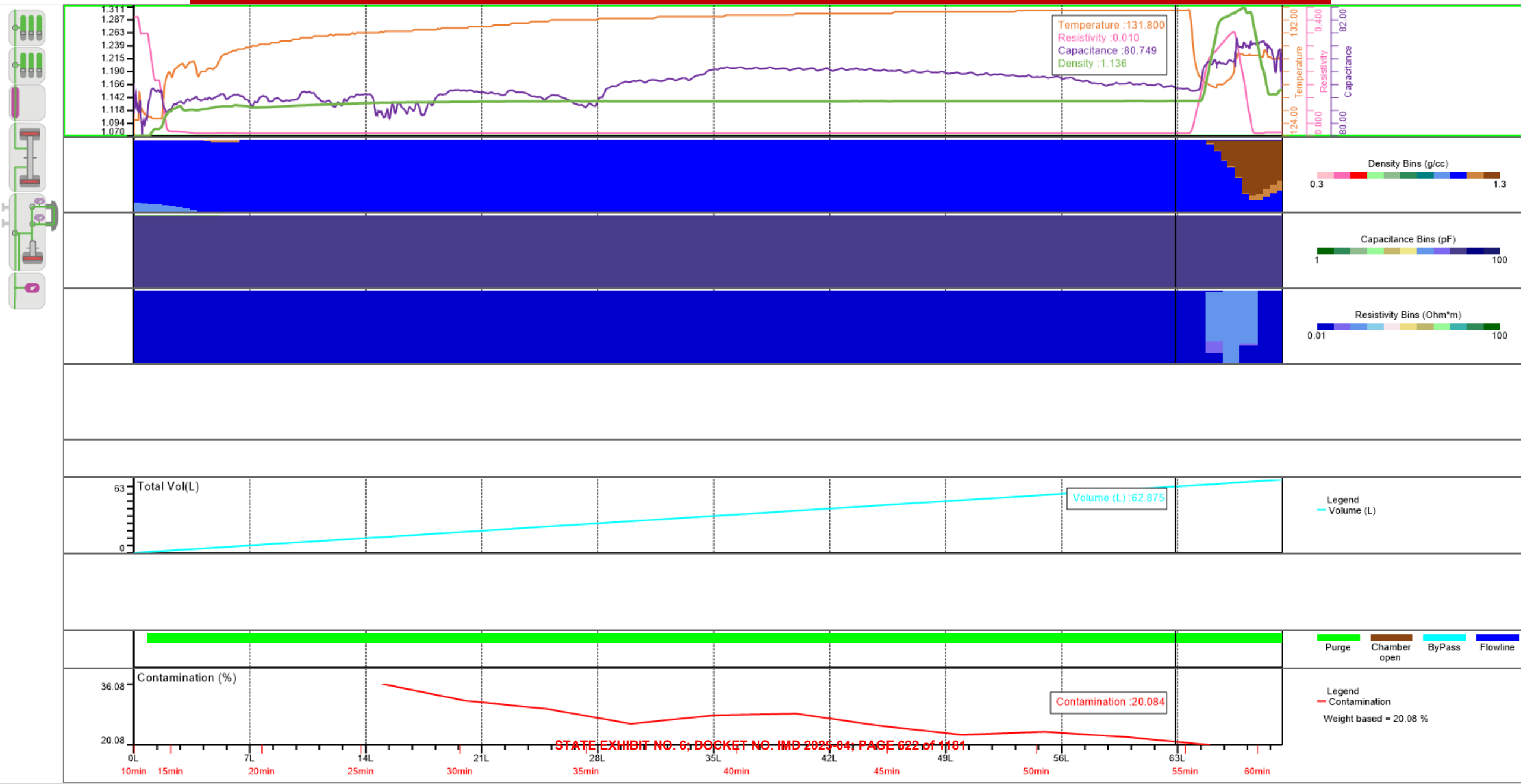
Sampling Summary

File	Measured Depth, ft	Fluid Density, g/cc	Volume, liter
002-020	7587.94	1.132	55
002-014	7640.99	1.129	100
002-017	7643.08	1.123	16
002-016	7643.54	1.134	51
002-011	7653.54	1.131	52
002-007	7654.97	1.136	63
002-010	7657.27	1.148	36

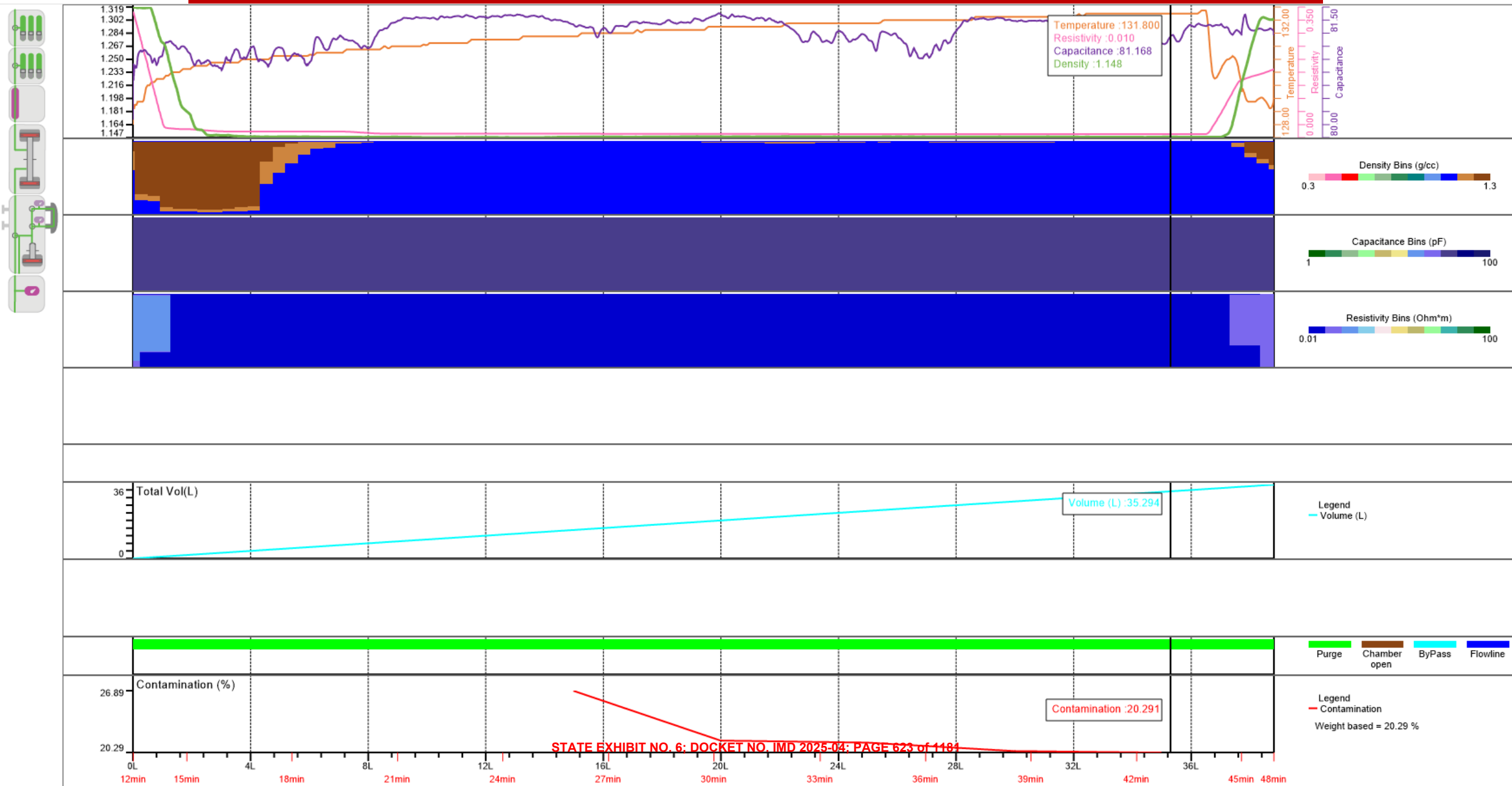


HALLIBURTON

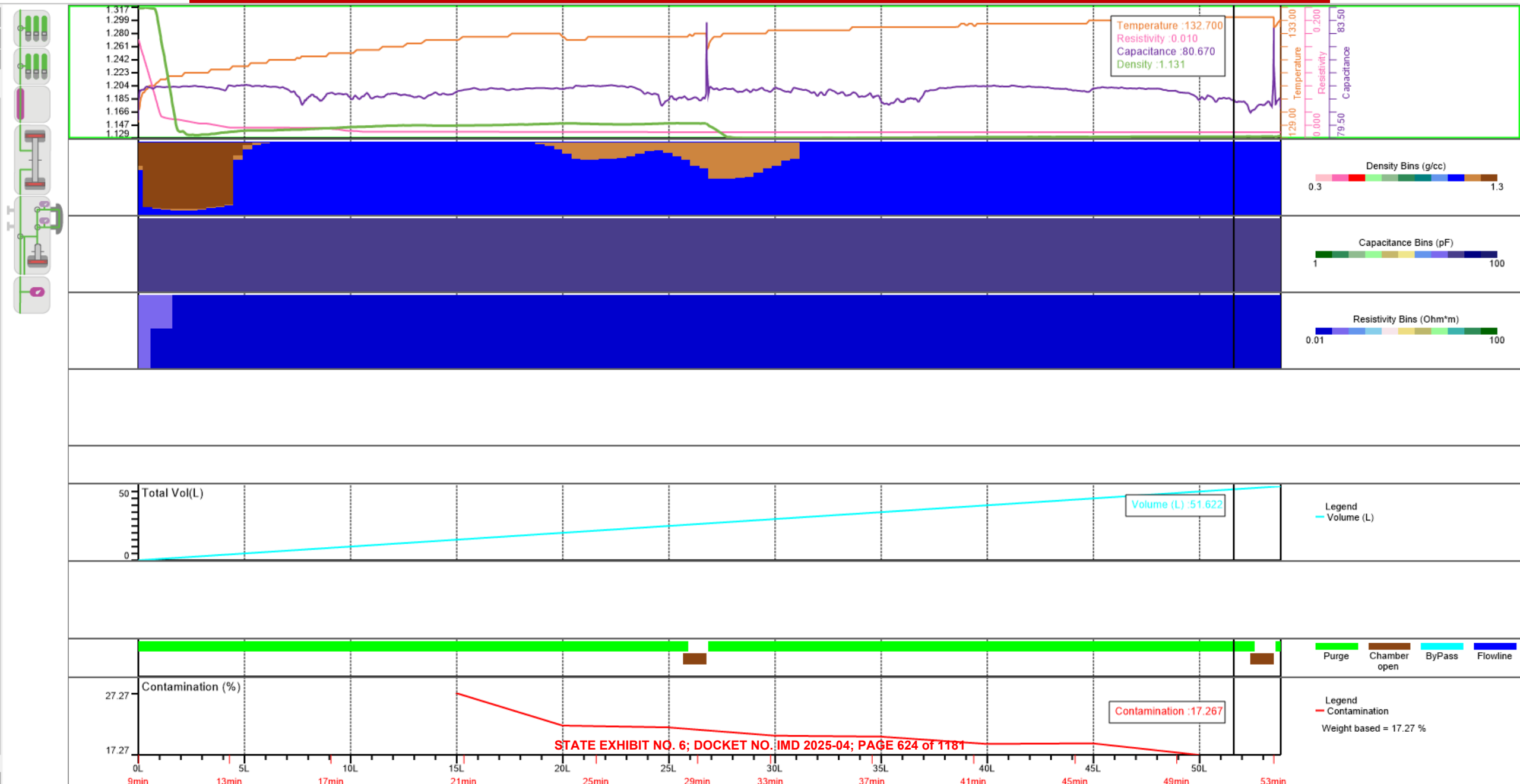
Pump-out at 7655 ft (2-07)



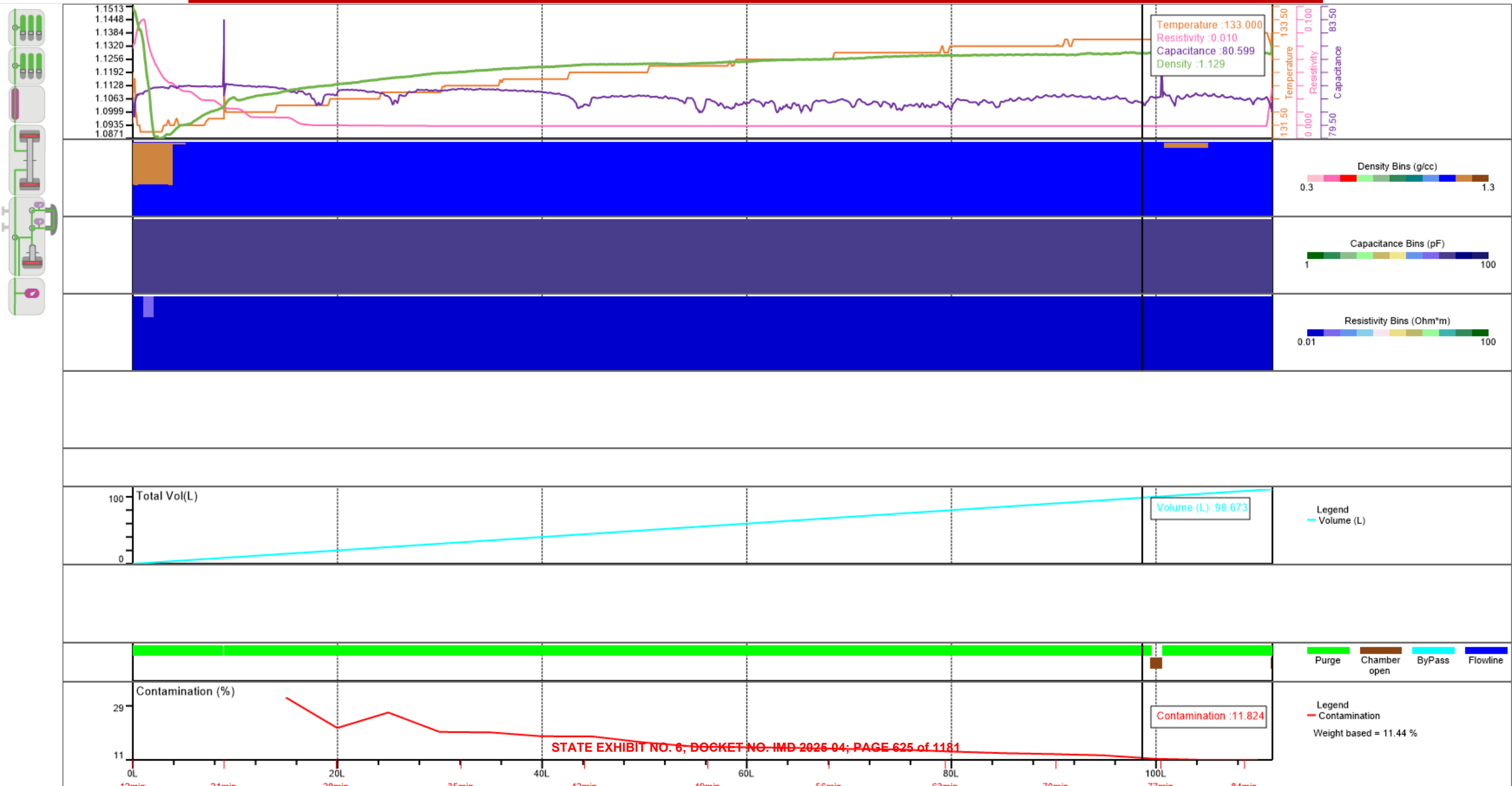
Pump-out at 7657.3 ft (2-10)



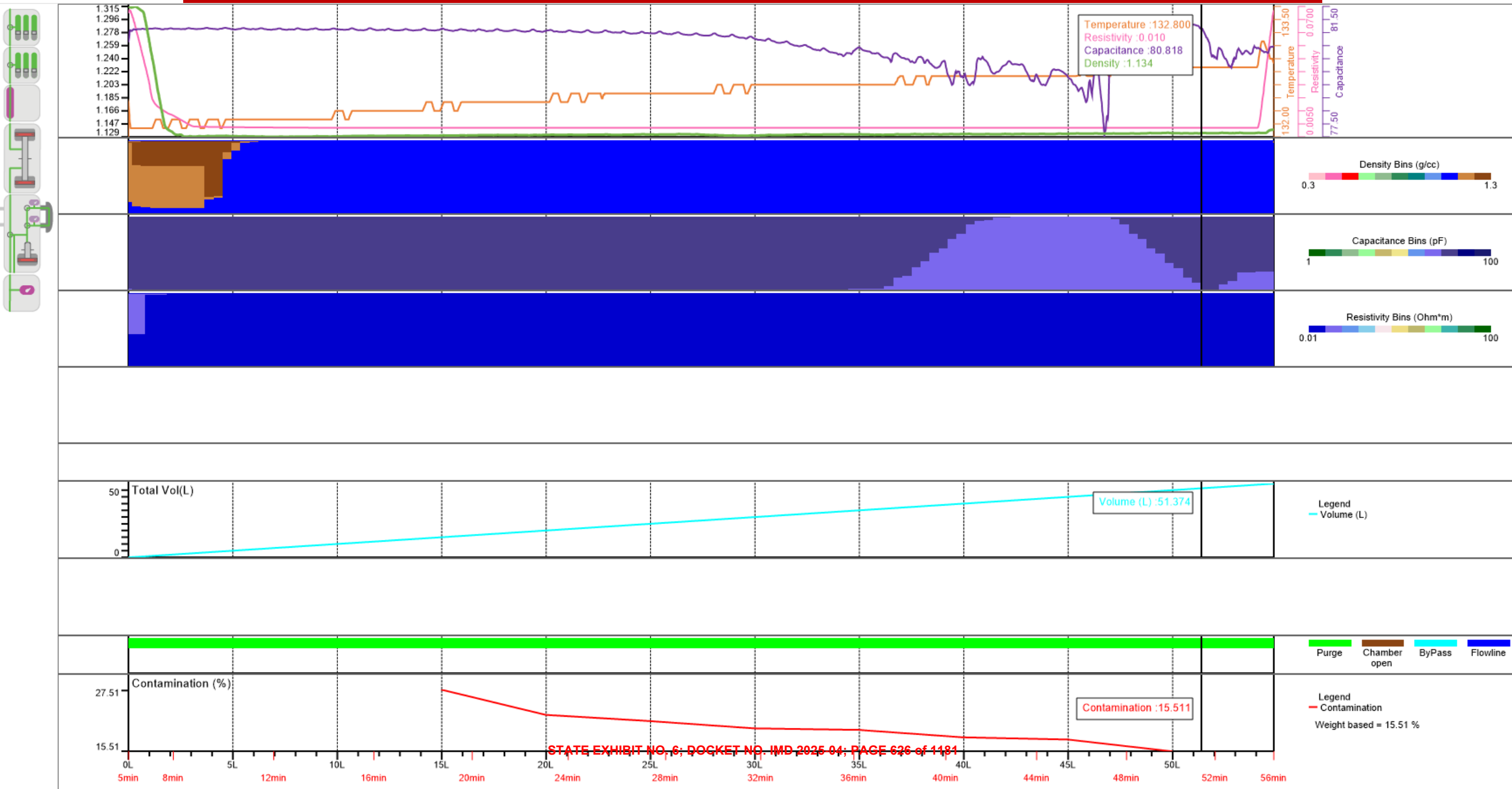
Pump-out at 7653.5 ft (2-11)



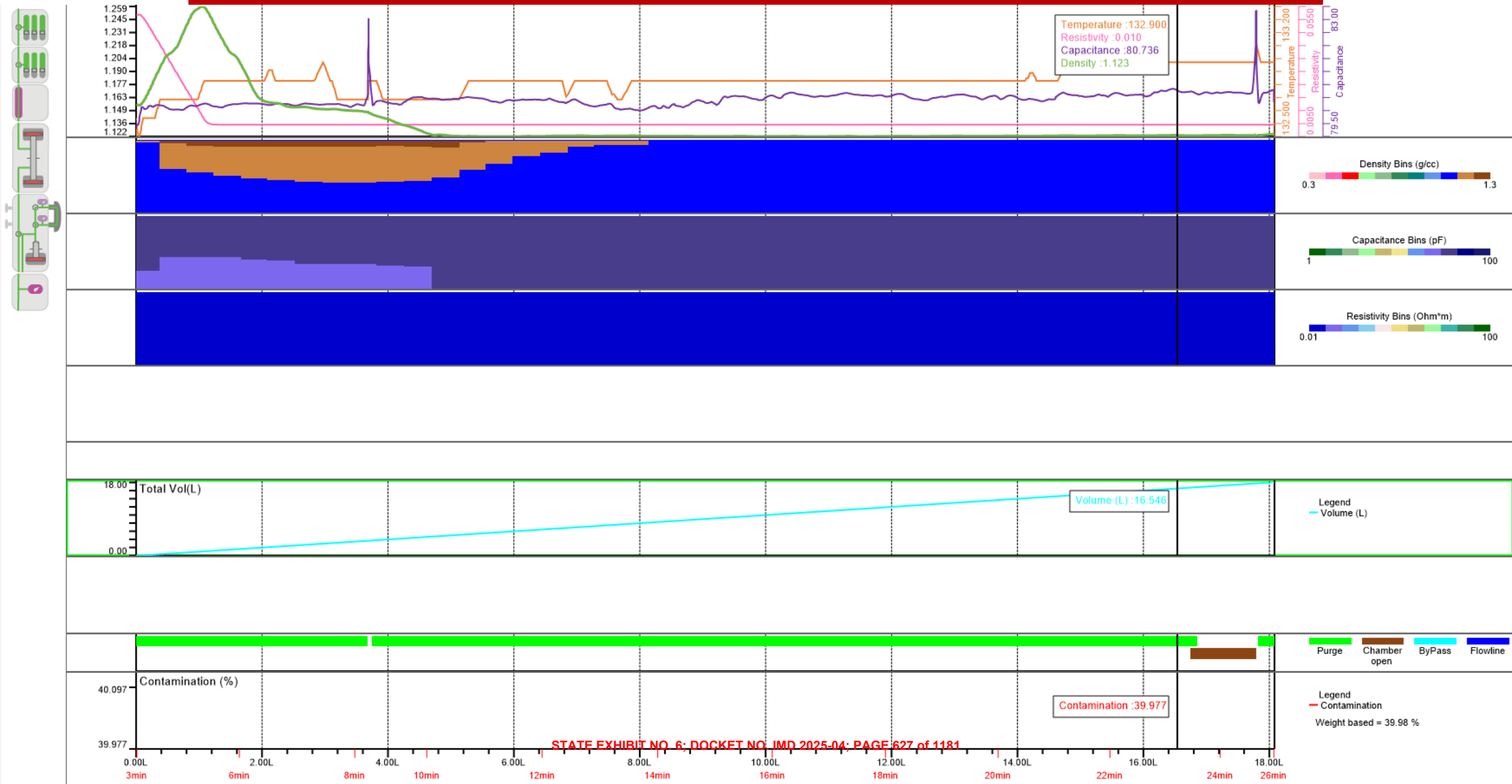
Pump-out at 7641.0 ft (2-14)



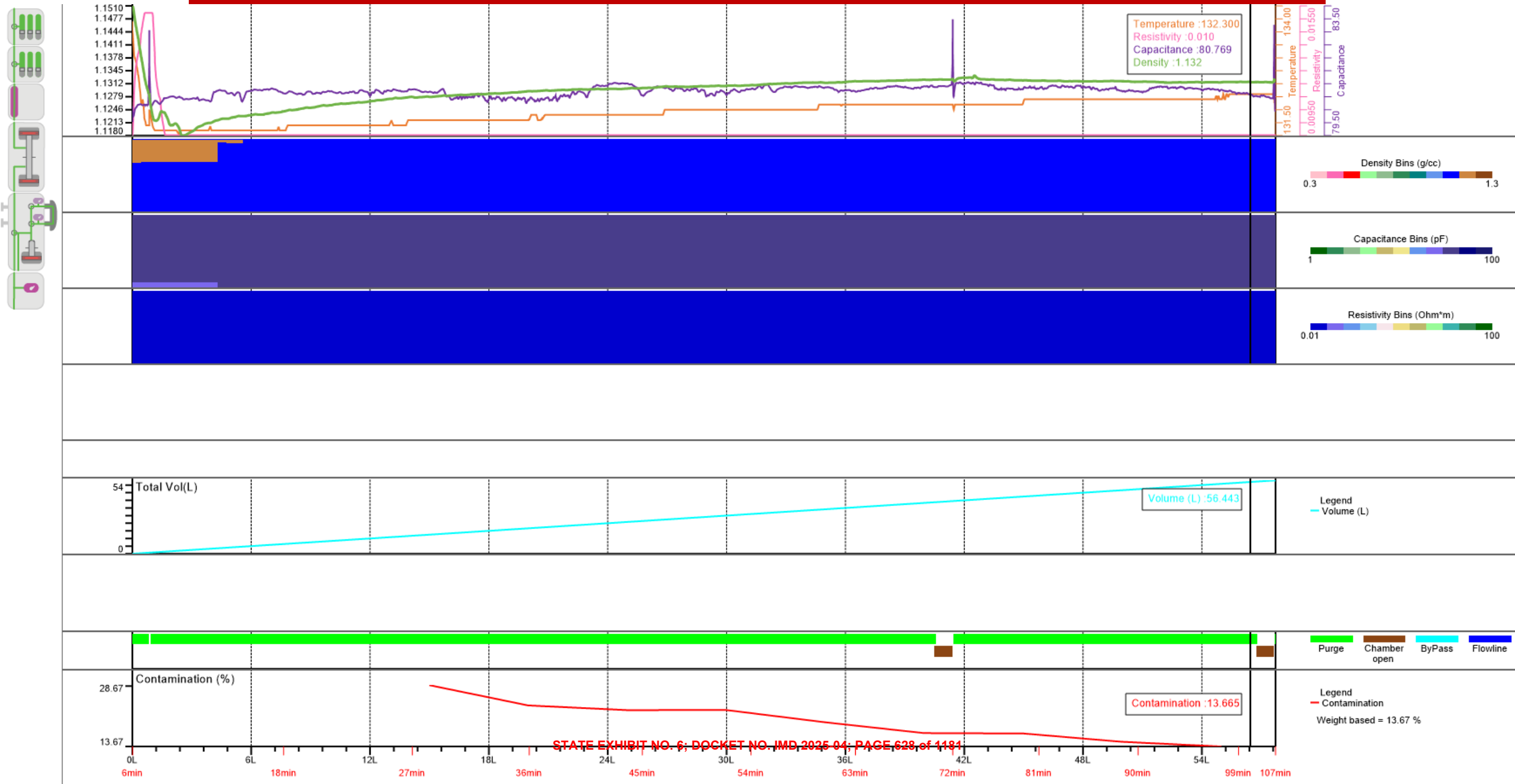
Pump-out at 7643.5 ft (2-16)



Pump-out at 7643.1 ft (2-17)



Pump-out at 7587.9 ft (2-20)



Who to Contact, Where to get more information

Farrukh Hamza
Reservoir Engineer, Formation Evaluation & Reservoir Solutions

Farrukh.Hamza@halliburton.com

Phone: 281.871.3048
Cell: 512.565.4978

Thank You

HALLIBURTON

APPENDIX B-21

Core Lab™
RESERVOIR OPTIMIZATION

Water Analyses
for
Lonquist Field Service, LLC

LA Storage SWD No. 3
Multiple Sample Depths
Louisiana
Report No: 202100683-5021038350

Standard Conditions:
15.025 psia at 60 °F

Petroleum Services Division
Reservoir Fluid Services
RFS.info@corelab.com

5820 Hwy. 90 East, Broussard, Louisiana, 70518
Tel: (337) 839-9060 · Fax: (337) 839-9070 Web: http://www.corelab.com

Petroleum Services Division
Reservoir Fluid Services
5820 Highway 90 East
Broussard, Louisiana 70518
Tel: (337) 839-9060
Fax: (337) 839-9070
Web: http://www.corelab.com

March 22, 2021

Lonquist Field Service, LLC
1415 Louisiana Street
Suite 3800
Houston, Texas 77002

Attention: Mr. Ruben Rico

Subject: Water Analyses
LA Storage SWD No. 3
Multiple Sample Depths
Louisiana

Report No.: 202100683-5021038350

Dear Mr. Rico:

Reservoir fluid samples were collected from the subject well utlilizing Halliburton sampling tools on February 6, 2021. Six reservoir fluid samples were received at our Broussard, Louisiana facility on February 8, 2021. Two reservoir fluid samples were selected for displacement with the residual water collected for water analyses at the instruction of Lonquist Field Service, LLC. Attached are the results of the water analyses performed.

RFS is very pleased to have been of service to you in this work. Should any questions arise concerning the data presented in this report, or if we may be of assistance in any other matter, please do not hesitate to contact us.

Yours sincerely,

Ross J. Huval
Project Manager

Sample History and Information

Sample Inventory and History

RFS ID No.	Sample Depth (Ft. MD)	Sample Source	Reservoir Condition (psia / °F)	Sample Date	Sample Type	Opening Condition (psig / °F)	Restoration Time (Hours)	Restoration Condition (psia / °F)	Transfer Date	Original Sample Volume (cc)
202100683-01	7,588	RDT 0921	3,463 / 133	2/6/2021	Reservoir Fluid (Water)	< 500 / 68	N/P	N/P	N/P	~1,000
202100683-02	7,588	RDT 1780	3,463 / 132	2/6/2021	Reservoir Fluid (Water)	N/P	N/P	N/P	N/P	N/P
202100683-03	7,641	RDT 0899	3,489.9 / 133	2/6/2021	Reservoir Fluid (Water)	N/P	N/P	N/P	N/P	N/P
202100683-04	7,643	RDT 1858	3,489.5 / 133	2/6/2021	Reservoir Fluid (Water)	N/P	N/P	N/P	N/P	N/P
202100683-05	7,653.5	RDT 1611	3,493.9 / 132	2/6/2021	Reservoir Fluid (Water)	N/P	N/P	N/P	N/P	N/P
202100683-06	7,653.5	RDT 0890	3,493.9 / 132	2/6/2021	Reservoir Fluid (Water)	< 500 / 68	N/P	N/P	N/P	~1,000

Sample Validation Data

RFS ID No.	Laboratory Opening Pressure (psia / °F)	Saturation Pressure (psia / °F)	Laboratory Analyses: G / O Ratio (scf / stb)	API Gravity (API)	Specific Gravity 60 / 60 °F	Drilling Fluid (wt % STO)	Gas Gravity (Air = 1.000)	Corrected GOR (scf / stb)	Corrected API (API)	Drilling Fluid (wt % Res)	ASTM Tests	Water	Remaining Atmospheric Sample (cc)
202100683-01-01												x	120
202100683-06-01												x	60

Custom Water Analysis

RFS ID No. 202100683-01

Sample date: February 6, 2021

LA Storage SWD No. 3 - RDT 0921 - 7,588 Ft. MD

Cations		**Test Method**	**(mg/l)**	**MW**	**Valence**	**Meq/l**
Calcium	Ca^{+2}	ICP	N/M	N/M	N/M	N/M
Iron (dissolved)	Fe^{+2}	ICP	N/M	N/M	N/M	N/M
Magnesium	Mg^{+2}	ICP	N/M	N/M	N/M	N/M
Sodium	Na^{+}	ICP	N/M	N/M	N/M	N/M

Anions		**Test Method**	**(mg/l)**	**MW**	**Valence**	**Meq/l**
Alkalinity (as Bicarbonate)	HCO_3^{-}	Titration	N/M	N/M	N/M	N/M
Carbonate	CO_3^{-2}	Titration	N/M	N/M	N/M	N/M
Chloride	Cl^{-}	Titration / IC	65,000	35.45	1.0	1,833.41
Sulfate	SO_4^{-2}	IC	N/M	N/M	N/M	N/M

Total Cation Meq's	N/M
Total Anion Meq's	N/M
TDS (mg/l)	114,399
TDS (ppm)	106,328
Ion Balance	N/M

pH	N/M
Resistivity (Ohm-Meter) at 77 °F	N/M
Conductivity, microSiemens/cm	N/M
Specific Gravity 60 / 60 °F	N/M

Stability Index at 100 °F	N/M
Stability Index at 200 °F	N/M

% Deviation in Meq. Bal.	N/M
% Deviation in TDS	N/M

QA/QC Run ID's

ICP	N/A
IC - Anions	N/A
IC - Organic Acids	N/A
Titration - Bicarbonates and Chloride	N/A

Complete Water Analysis with All Metals / Acid digestion

RFS ID No. 202100683-06

Sample date : February 6, 2021

LA Storage SWD No. 3 - RDT 0890 - 7,653.5 Ft. MD

Cations		Test Method	(mg/l)	MW	Valence	Meq/l
Barium	Ba^{+2}	ICP	69	137.34	2.0	1.01
Cadmium	Cd^{+2}	ICP	<0.006	112.40	2.0	0.00
Calcium	Ca^{+2}	ICP	1,910	40.08	2.0	95.36
Chromium	Cr^{+3}	ICP	0.03	51.99	3.0	0.00
Cobalt	Co^{+2}	ICP	0.08	58.93	2.0	0.00
Copper	Cu^{+2}	ICP	0.49	63.55	2.0	0.02
Iron (dissolved)	Fe^{+2}	ICP	0.98	55.85	2.0	0.04
Iron (total)	Fe^{+2}	ICP	19	55.85	2.0	0.69
Lead	Pb^{+2}	ICP	<2.2	207.20	2.0	0.00
Lithium	Li^{+}	ICP	3.7	6.94	1.0	0.54
Magnesium	Mg^{+2}	ICP	665	24.31	2.0	54.64
Manganese	Mn^{+2}	ICP	0.54	54.94	2.0	0.02
Molybdenum	Mo^{+6}	ICP	<0.044	95.94	6.0	0.00
Nickel	Ni^{+2}	ICP	1.5	58.69	2.0	0.05
Phosphorus	P^{+3}	ICP	<0.17	30.97	3.0	0.00
Potassium	K^{+}	ICP	110	39.10	1.0	2.87
Silicon	Si^{+4}	ICP	9.1	28.09	4.0	1.30
Sodium	Na^{+}	ICP	38,700	22.99	1.0	1,683.36
Strontium	Sr^{+2}	ICP	115	87.62	2.0	2.65
Vanadium	V^{+2}	ICP	<0.01	50.94	2.0	0.00
Zinc	Zn^{+2}	ICP	0.04	65.39	2.0	0.00

Anions		Test Method	(mg/l)	MW	Valence	Meq/l
Alkalinity (as Bicarbonate)	HCO_3^-	Titration	195	61.02	1.0	3.21
Borate	$B(OH)_4^-$	ICP	16	78.84	1.0	0.20
Bromide	Br^-	Titration / IC	74	79.90	1.0	0.93
Carbonate	CO_3^{-2}	Titration	0.0	60.01	2.0	0.00
Chloride	Cl^-	Titration / IC	64,940	35.45	1.0	1,831.75
Fluoride	F^-	IC	<10	19.00	1.0	0.00
Iodide	I^-	Titration / IC	<10	126.90	1.0	0.00
Nitrate	NO_3^{-2}	IC	<10	62.00	2.0	0.00
Nitrite	NO_2^-	IC	<10	46.01	1.0	0.00
Phosphate	PO_4^{-3}	IC	<10	94.97	3.0	0.00
Sulfate	SO_4^{-2}	IC	37	96.06	2.0	0.77
Sulfide	S^{-2}	IC	0.0	32.06	2.0	0.00

Total Cation Meq's	1,842
Total Anion Meq's	1,837
TDS (mg/l)	106,866
TDS (ppm)	99,781
Ion Balance	0.002

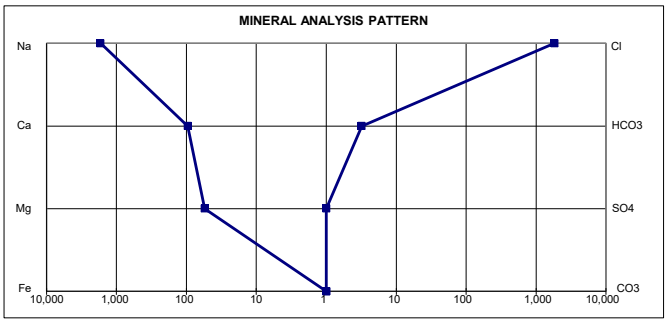
Stability Index at 100 °F	-1.11
Stability Index at 200 °F	0.76

% Deviation in Meq. Bal.	0.15
% Deviation in TDS	0.06

pH	7.06
Resistivity (Ohm-Meter) at 77 °F	0.07
Conductivity, microSiemens/cm	141,000
Specific Gravity 60 / 60 °F	1.0721

QA/QC Run ID's

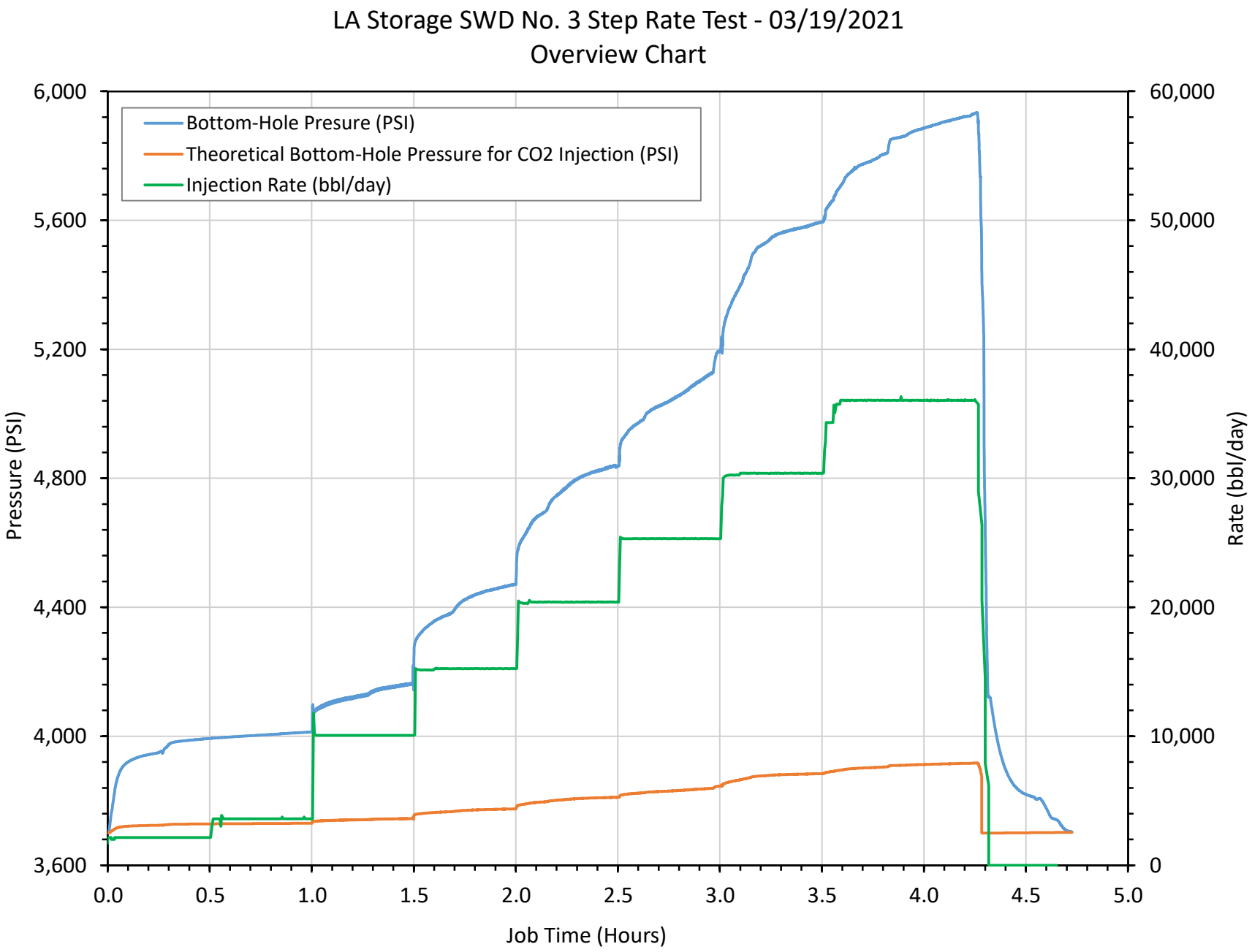
ICP	3172021
IC - Anions	3172021
IC - Organic Acids	NA
Titration - Bicarbonates and Chloride	3172021



APPENDIX B-21 : INJECTIVITY TEST RESULTS

Step No.	Duration (hours)	Elapsed Time (Hours)	Injection Rate (BPM)	Injection Rate (BPD)	Cumulative Injection (BBL)
1	0.5	0.5	1.5	2,160	45
2	0.5	1.0	3.5	5,040	150
3	0.5	1.5	7.0	10,080	360
4	0.5	2.0	10.5	15,120	675
5	0.5	2.5	14.0	20,160	1,095
6	0.5	3.0	17.5	25,200	1,620
7	0.5	3.5	21.0	30,240	2,250
8	0.5	4.0	24.5	35,280	2,985
9	0.5	4.5	28.0	40,320	3,825

Appendix B-22: Step Rate Test for LA Storage SWD No. 3



Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 1

Job # : **202100406**

5,692.00 | 5,695.00 | 5,698.00 | 5,701.00

Lonquist & Co. LLC

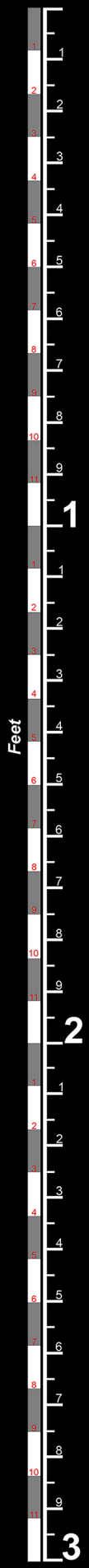
LA Storage SWD #3

Cameron Parish, Louisiana

Core 1

Job # : **202100406**

5,704.00



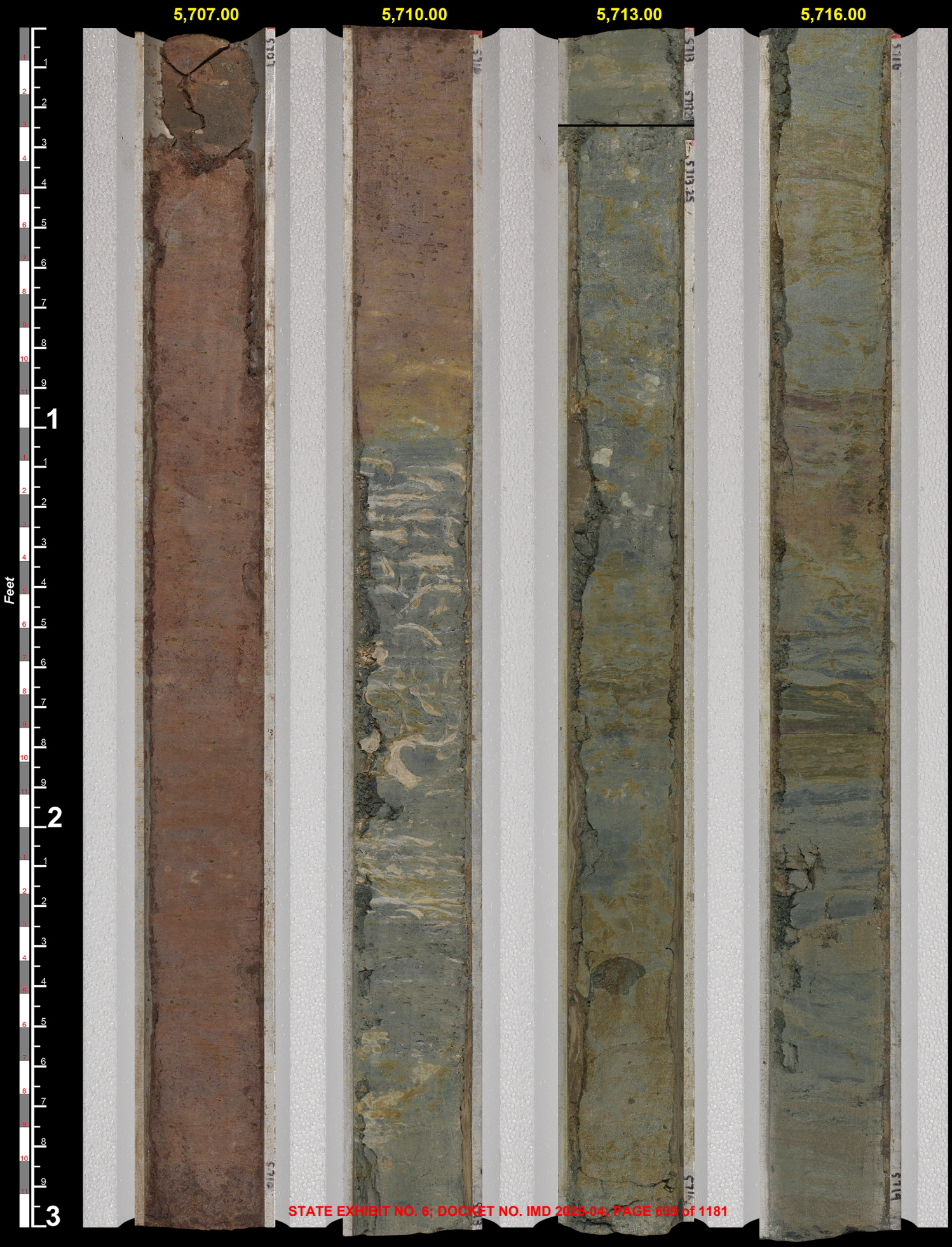
Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 2

Job # : **202100406**



Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 2

Job # : 202100406

5,719.00 | 5,722.00 | 5,725.00 | 5,728.00

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 2

Job # : 202100406

5,731.00 | 5,734.00 | 5,737.00 | 5,740.00

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 2

Job # : **202100406**

5,743.00

Feet

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 3

Job # : 202100406

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 3

Job # : **202100406**

7,612.00 **7,613.70**

Feet

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 4

Job # : **202100406**

7,615.00 **7,618.00** **7,621.00** **7,624.00**

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 4

Job # : **202100406**

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 4

Job # : **202100406**

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 4

Job # : **202100406**

Lonquist & Co. LLC

LA Storage SWD #3

Cameron Parish, Louisiana

Core 5

Job # : **202100406**

11,487.00

Feet