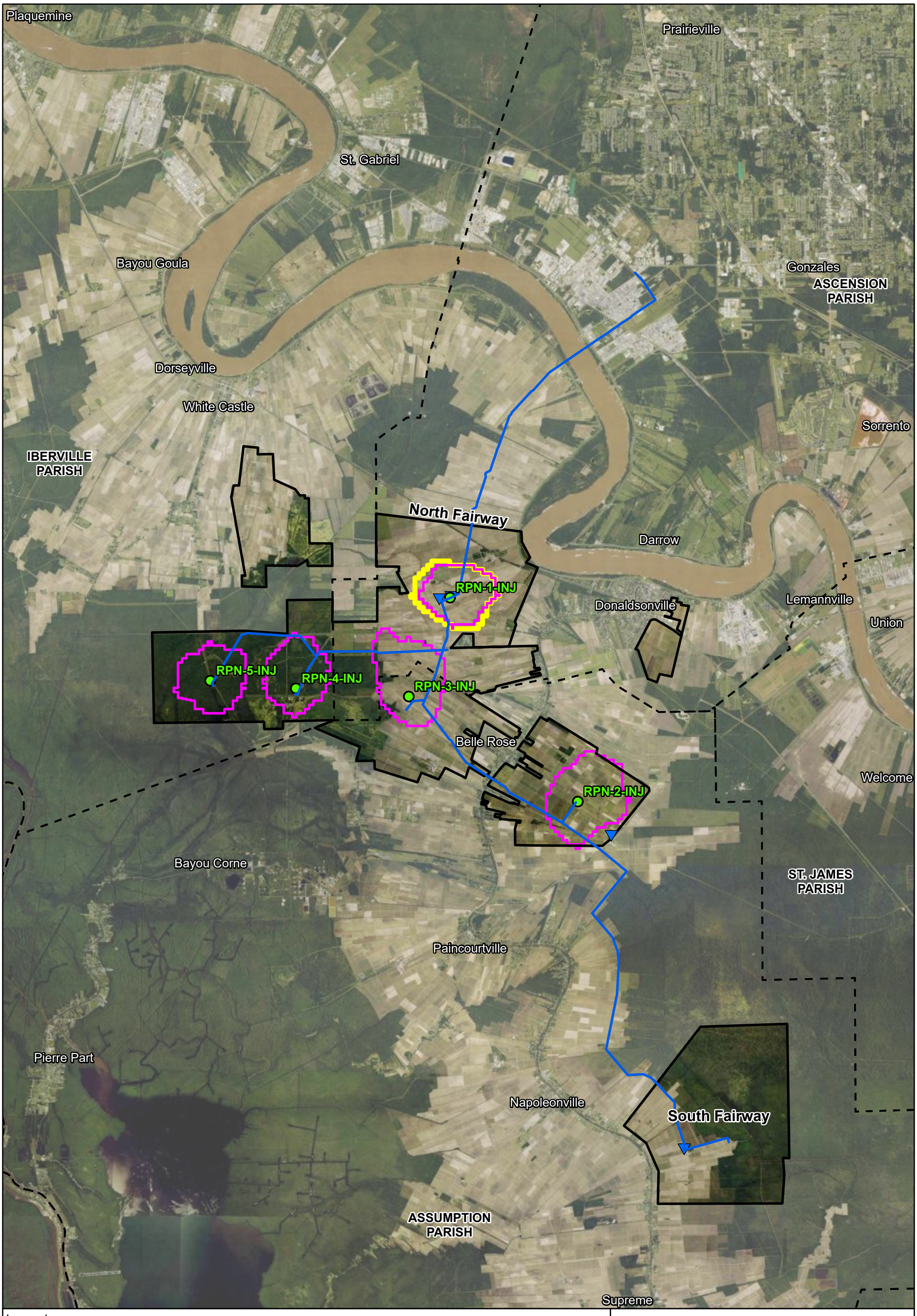


Legend

- Proposed Injection Well
- Pump Station
- RPS Pipeline System
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary

N

Basemap Source: NAIP Imagery Hybrid

0 2 Miles

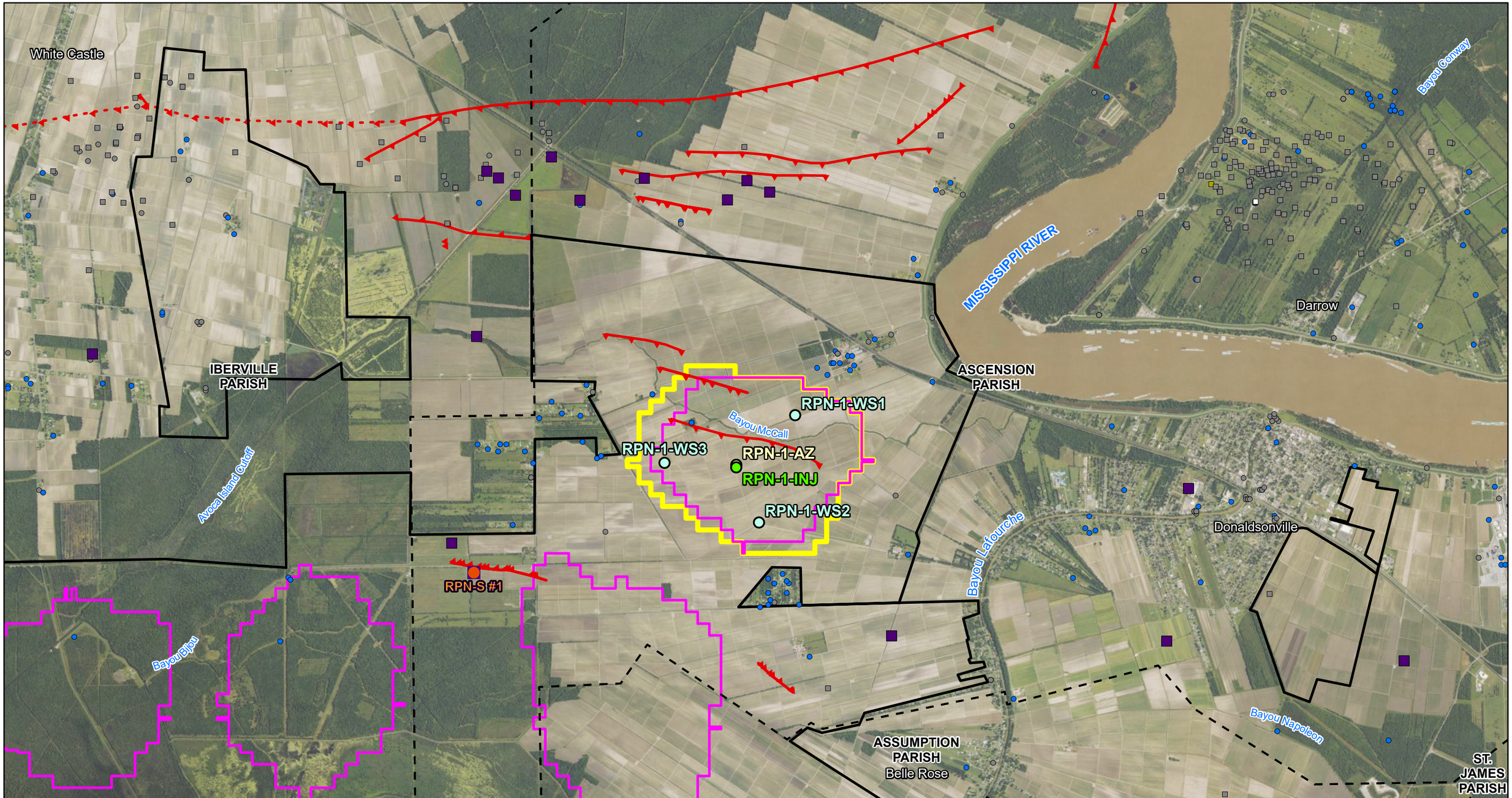
RPS Storage Fairways

Ascension, Assumption, Iberville and St. James Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | November 2025

Figure 1.2-1



Legend

Proposed Well Locations
- Injection Well
- Above Zone Monitoring
- Shallow Water Well Monitoring

Basemap Source: NAIP Imagery

- Well Used for Petrophysical Analysis
- Stratigraphic Test Well (Palo Alto RPN-S #1)
- Active Producing Oil & Gas Well
- Plugged and Abandoned/ Inactive/Dry Oil & Gas Well
- Other Oil & Gas Well
- Active USDW Well
- Plugged and Abandoned/ Inactive/Destroyed USDW Well
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Fault section interpolated between seismic lines and outside of well control

Note:
There are no state- or EPA-approved subsurface cleanup sites; springs; mines (surface and subsurface); quarries; or state, territorial, or tribal boundaries in the AoR.

N

0 0.75 Miles

Map of the Area

Assumption Parish
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 1.2-2

	Year										
Wells	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RPN-1-INJ											
RPN-2-INJ											
RPN-3-INJ											
RPN-4-INJ											
RPN-5-INJ											
RPS-1-INJ											
RPS-2-INJ											

Legend:

Construction

Operations

RPS Project Schedule

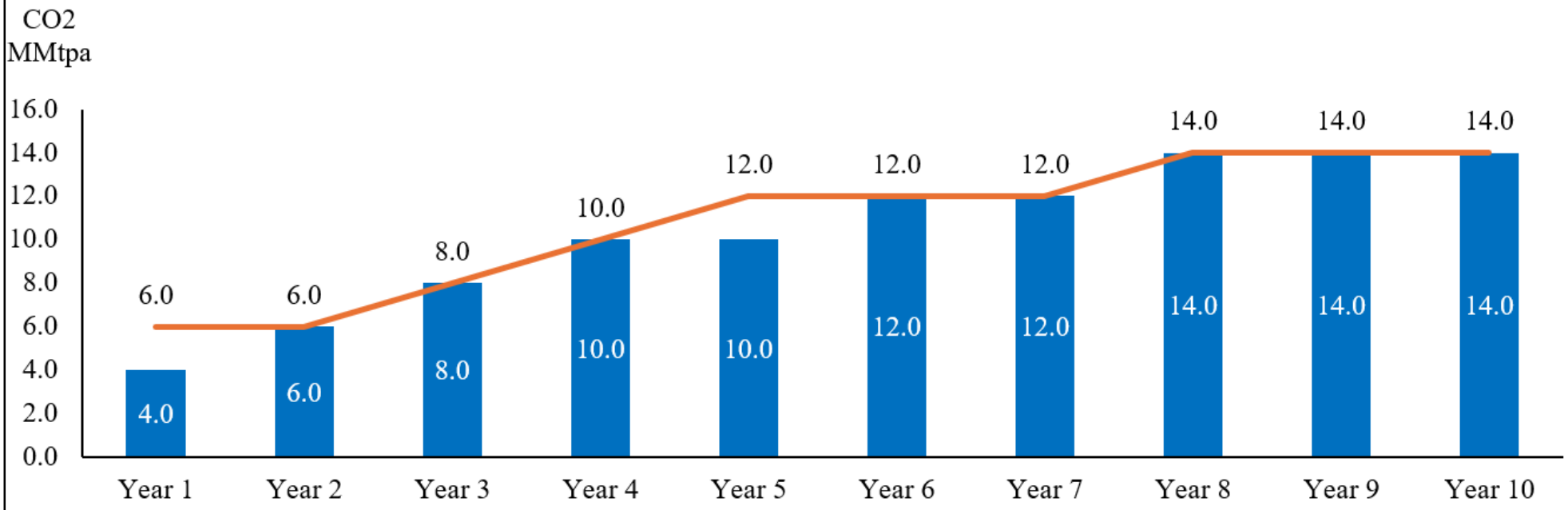
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure

1.5-1

RPS Project | July 2025



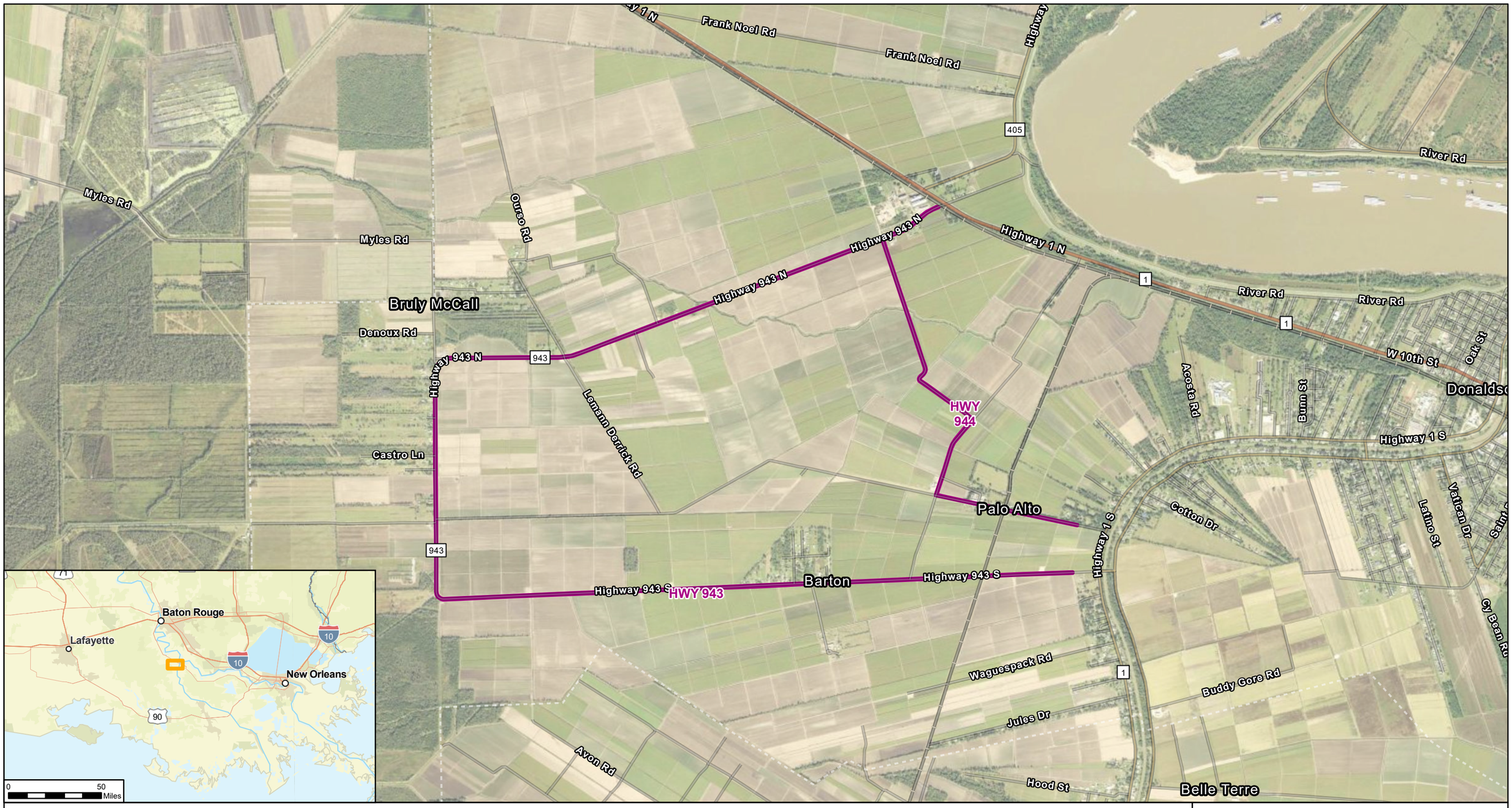
Notes:
MMtpa - million metric tonnes per annum
CO_2 - carbon dioxide
Volume
Capacity

RPS Project Storage Build-Up

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	July 2025	**Figure 1.5-2**



Legend

- Hwy 943 and Hwy 944
- Adjacent Property Boundaries

N

Basemap Source:
NAIP Imagery Hybrid

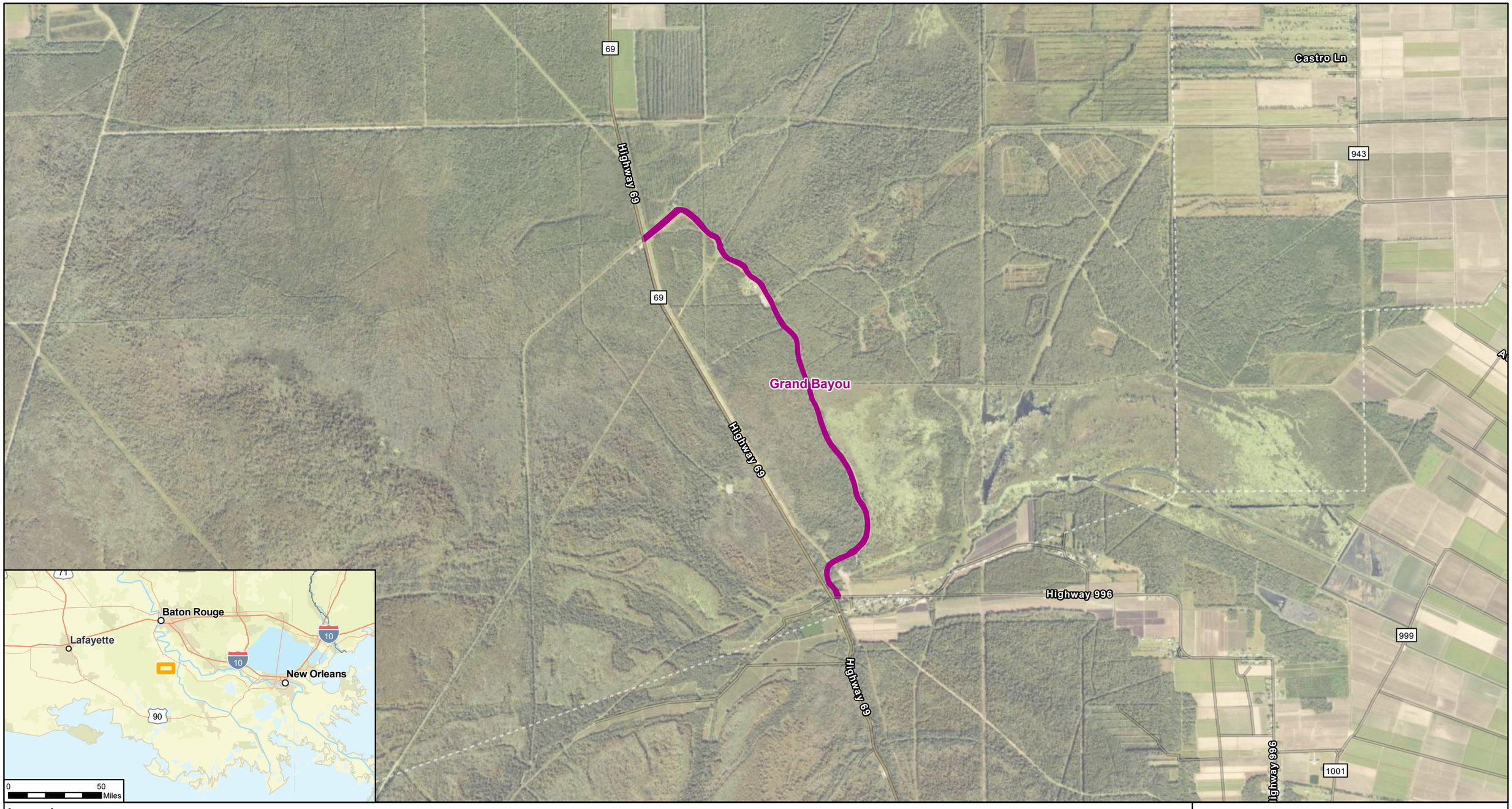
0 0.5 Miles

State Owned Lands in RPS Project Area Underlying LA-943 and LA-944

Ascension Parish, Louisiana

RIVER PARISH

RPS Project	May 2024	**Figure 1.8-1**



Legend

- Grand Bayou
- Adjacent Property Boundaries

N

Basemap Source:
NAIP Imagery Hybrid

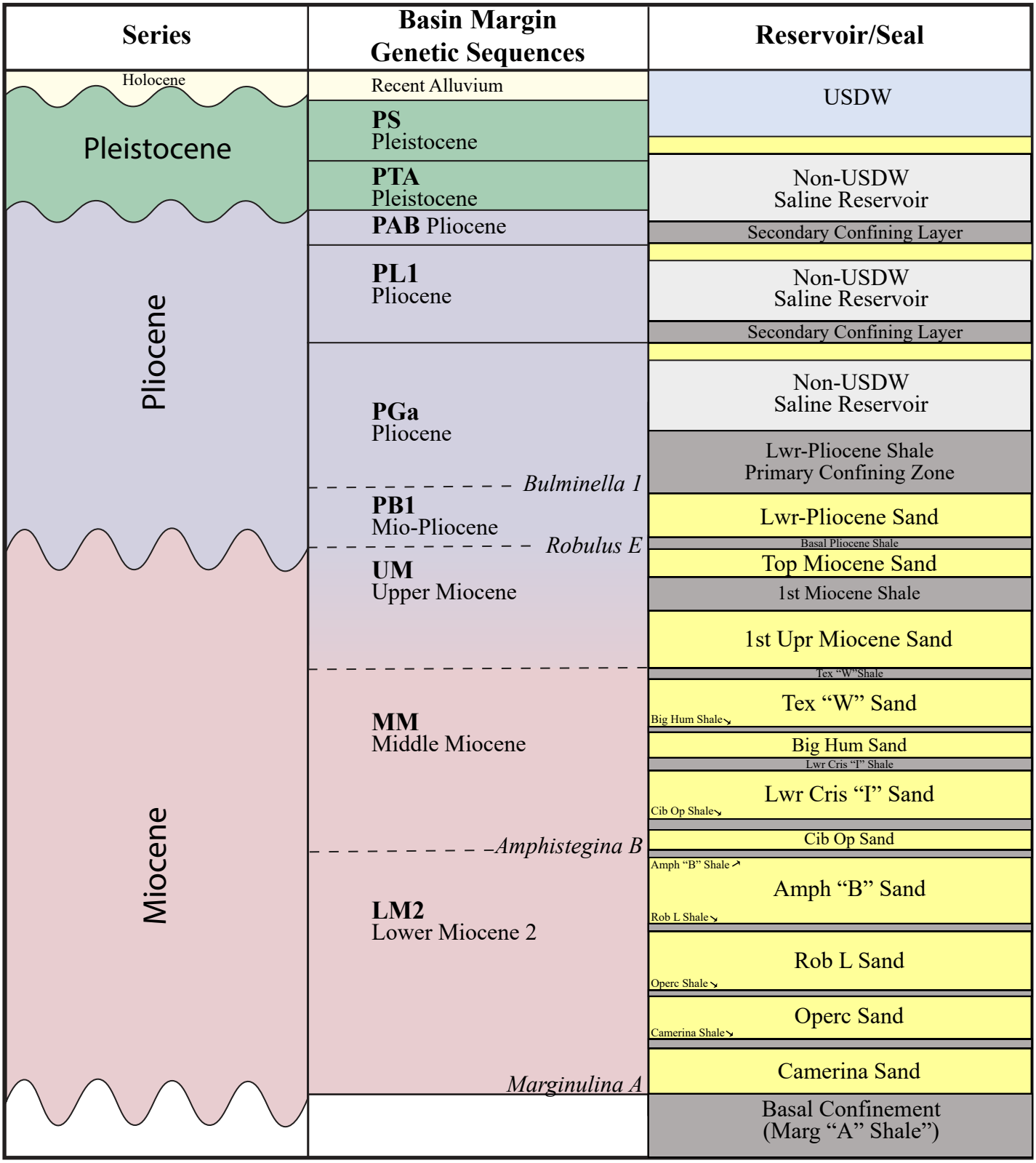
0 0.5 Miles

State Owned Lands in RPS Project Area Underlying Grand Bayou

Iberville Parish, Louisiana

RIVER PARISH

RPS Project	May 2024	**Figure 1.8-2**



Legend

Unconformity

Explanation

USDW = Underground Source of Drinking Water

Notes

Stratigraphic column modified from Galloway et al. 2000 & LSU Tertiary Stratigraphic column.

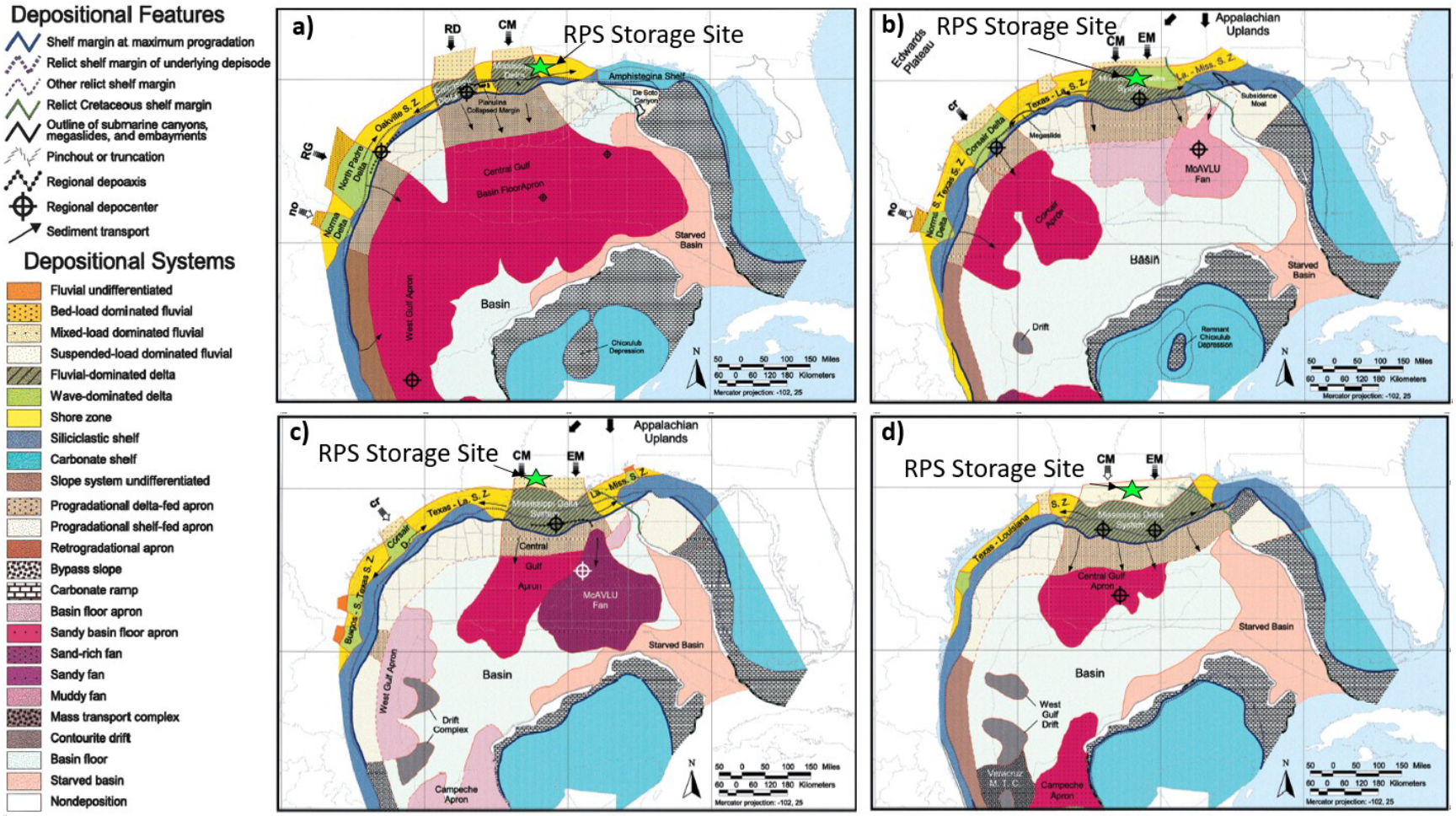
Site Stratigraphic Column

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024

Figure 2.1-1



Explanation:
Paleogeography interpretation of the gulf coast for the a) first early Miocene (LM1-G, 25-18 Ma) depositional episode, b) middle Miocene (MM-1, 15.6-12 Ma) depisode, c) late Miocene (UM-K, 12-6.4 Ma) depisode, d) early Pliocene Bulliminella 1 (PB1-L, 6.4-4.2 Ma) depisode (modified from Galloway et al. 2000).

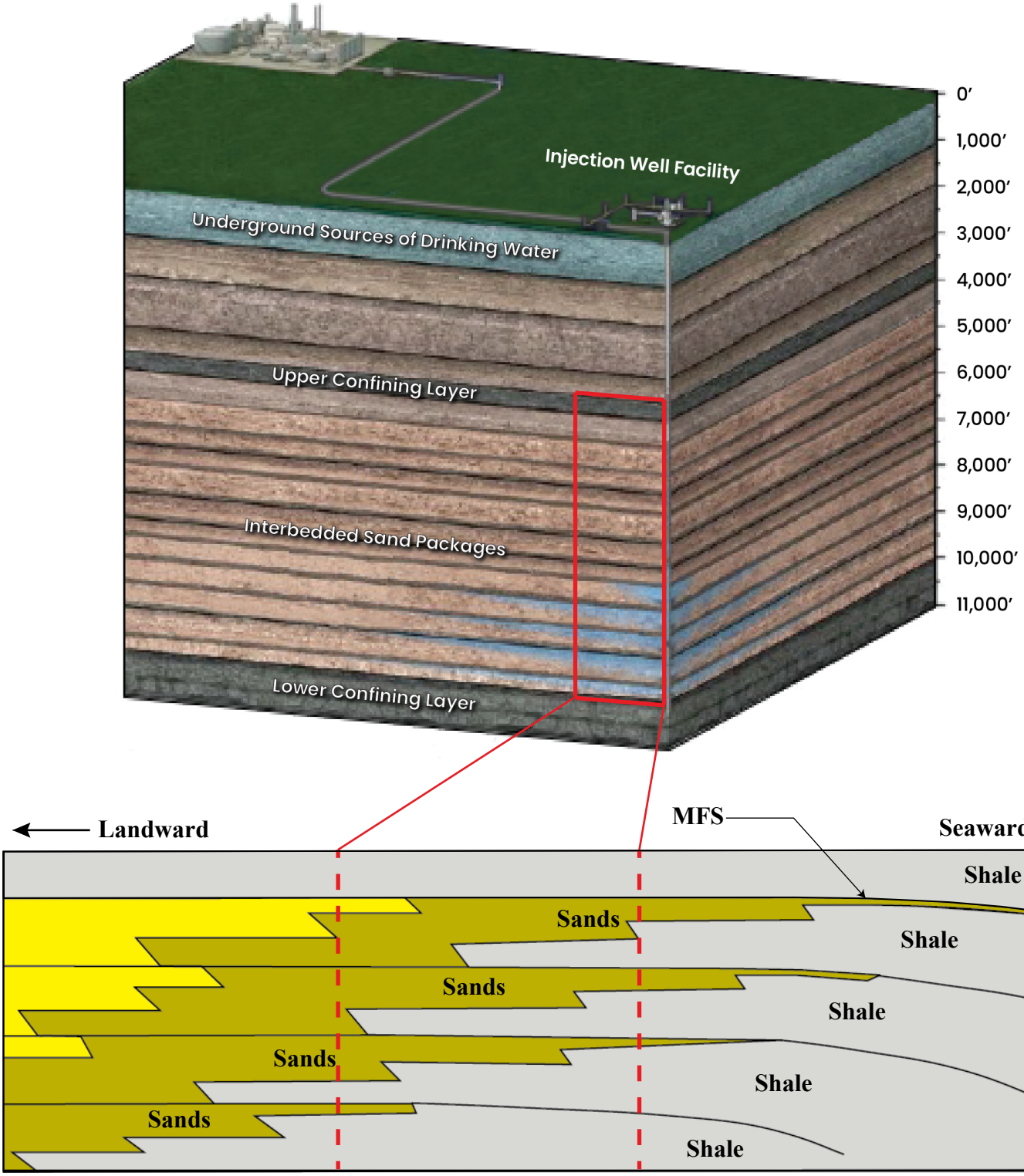
Paleogeography Map

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.1-2

RPS Project | April 2023



Note: Simplified environment of deposition diagram showing a progradational sequence capped by a flooding surface, similar to the interbedded deltaic and fluvial sands with interbedded shale layers at the site.

Explanation:
MFS - Maximum Flooding Surface

Notes:
Environment of deposition diagram schematic adapted and edited from Van Wagoner er al. (1990)

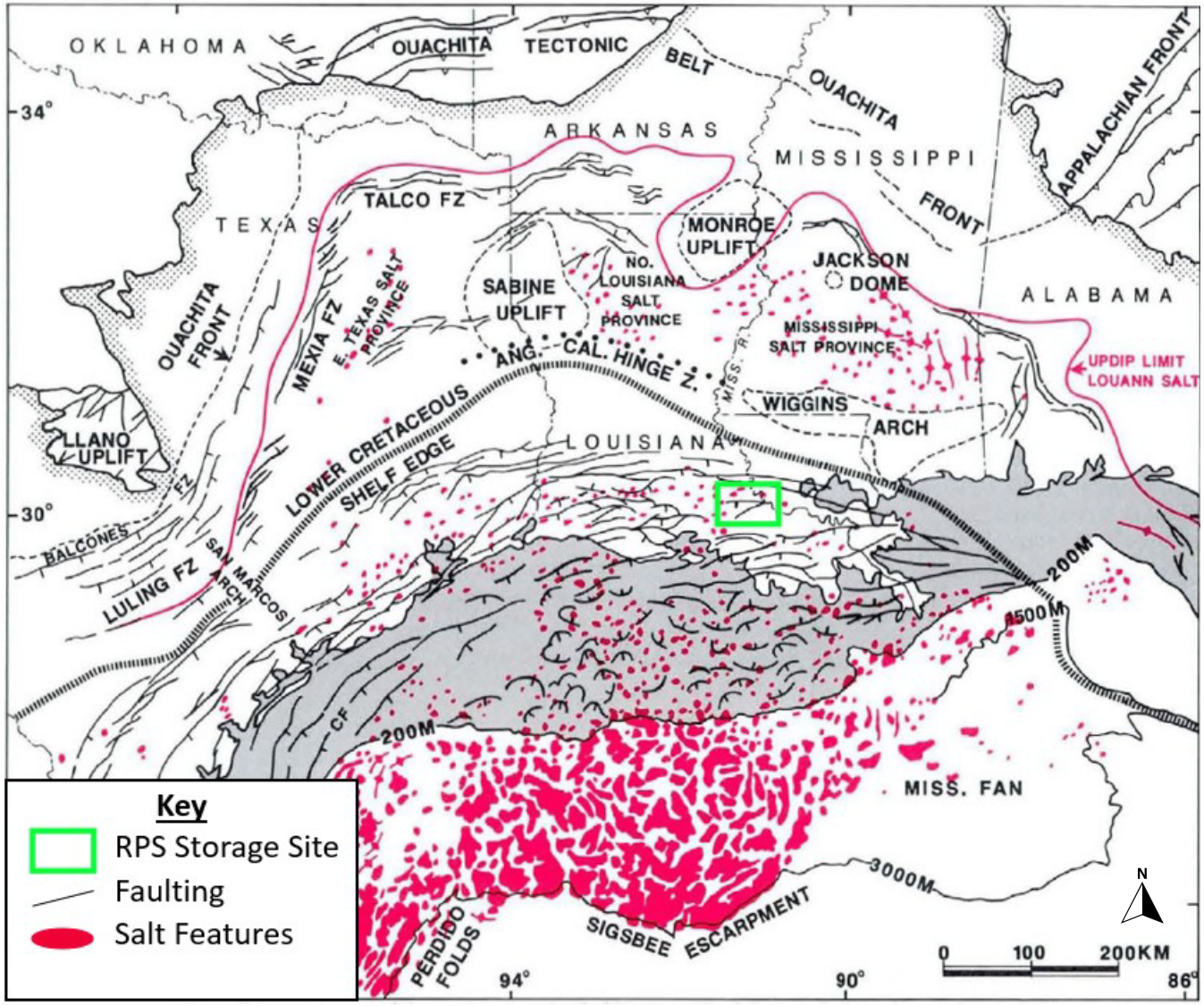
Environment of Deposition Diagram

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2024

Figure 2.1-3



Explanation:

KM - kilometers

M - meters

° - Degree

Notes:

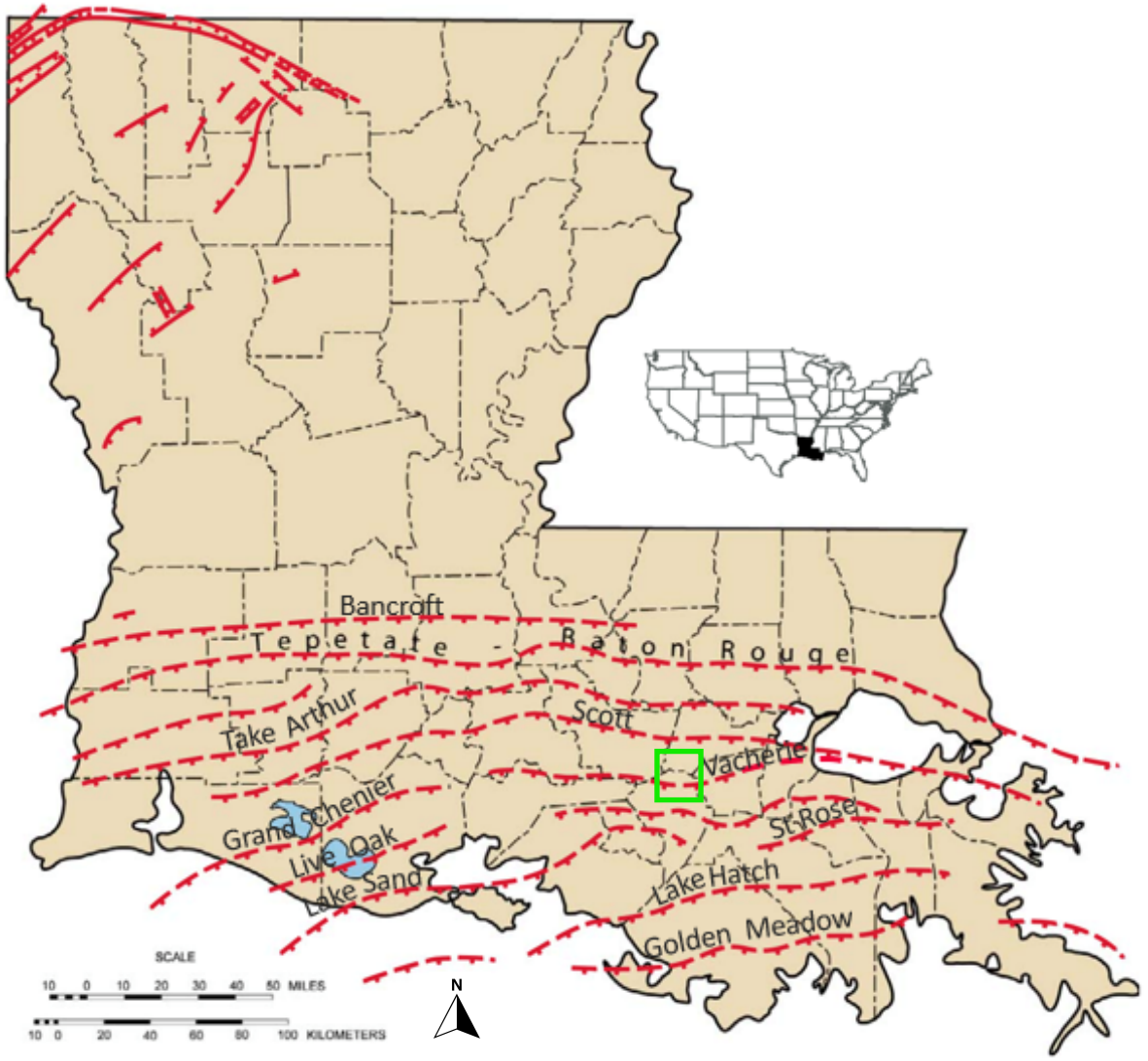
Tectonic map for the northwest Gulf of Mexico and western Gulf Coast displaying relative position of RPS Storage Site within the Gulf Coast Basin tectonic provinvce. Adapted from Worall and Snelson, 1989 (Worrall, D. M., and Snelson, S., 1989, Evolution of the northern Gulf of Mexico, with emphasis on Cenozoic growth faulting and the role of salt, in Bally, A. W., and Palmer, A. R., eds., The Geology of North America- An overview: Boulder, Colorado, Geological Society of America, The Geology of North America, v. A.)

Tectonic Map

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2024	Figure 2.1-4



Legend:

RPS Storage Site

Notes:

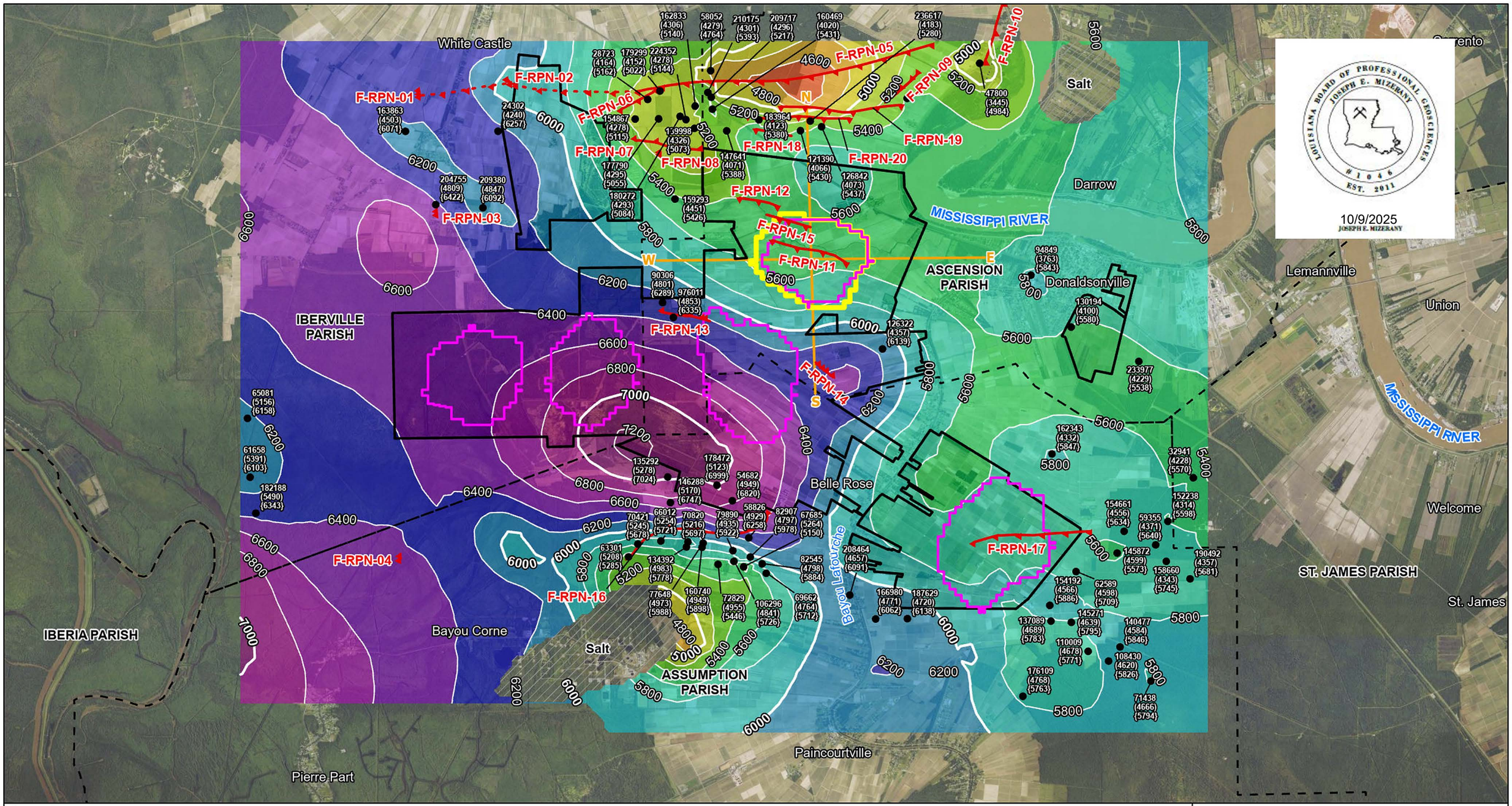
Regional map depicting occurance, orientation, and approximate location of large scale fault systems in Southern Louisiana. Modified from (McCulloh and Heinrich, 2012), Heinrich (2013); and (McLindon, 2021).

Regional Fault Map

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2024	Figure 2.1-5



Legend

True Vertical Thickness (TVT)

- 4,400 to 4,600 ft
- 4,600 to 4,800 ft
- 4,800 to 5,000 ft
- 5,000 to 5,200 ft
- 5,200 to 5,400 ft
- 5,400 to 5,600 ft
- 5,600 to 5,800 ft
- 5,800 to 6,000 ft
- 6,000 to 6,200 ft
- 6,200 to 6,400 ft
- 6,400 to 6,600 ft
- 6,600 to 6,800 ft
- 6,800 to 7,000 ft
- 7,000 to 7,200 ft

Interpreted faults projected from midpoint of the fault plane. Faults do not necessarily extend across displayed zone.

Fault section interpolated between seismic lines and outside of well control

Wells used to generate surface:
State serial number
(Total Depth - MD)
{TVT - feet}

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Seismic Section Lines
- Salt

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Top of Lower Pliocene Sand to top of Marg A Shale

MD - Measured Depth (feet)

Additional well details in Table 2.1-1

N

0 1.5 Miles

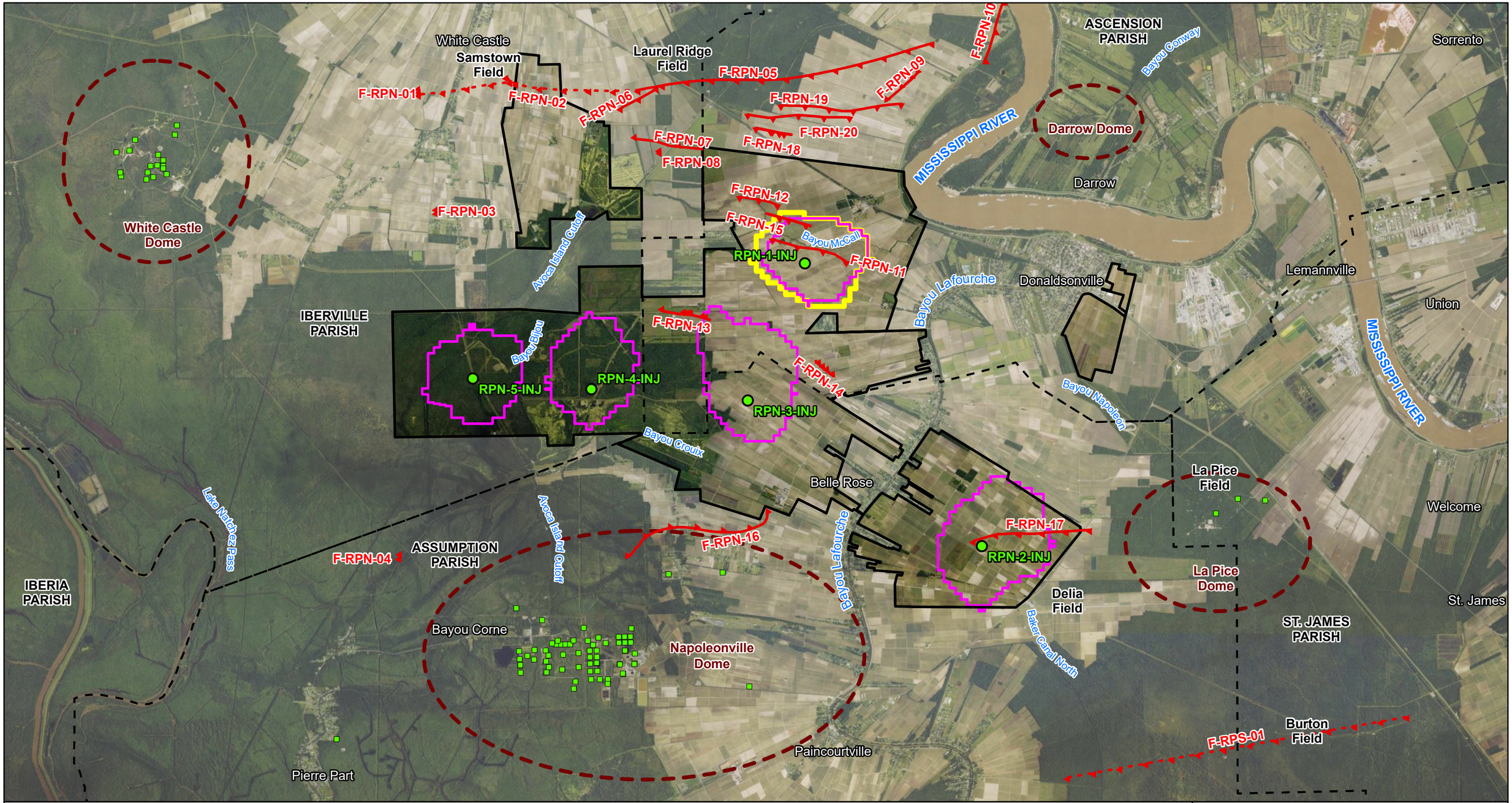
Gross Injection Zone Isopach

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.1-6



Legend

- Proposed Injection Well
- Active Injection Well
- Approximate Salt Dome Structure
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Fault section interpolated between seismic lines, outside of well control, or inferred from regional knowledge
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary

Notes:
- Both projected and interpolated faults are modeled to intersect different stratigraphic horizons – those details are presented in subsequent figures.
- Top of salt domes constrained from publications.
- The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain radial faulting.

N

Basemap Source: NAIP Imagery Hybrid

0 1.5 Miles

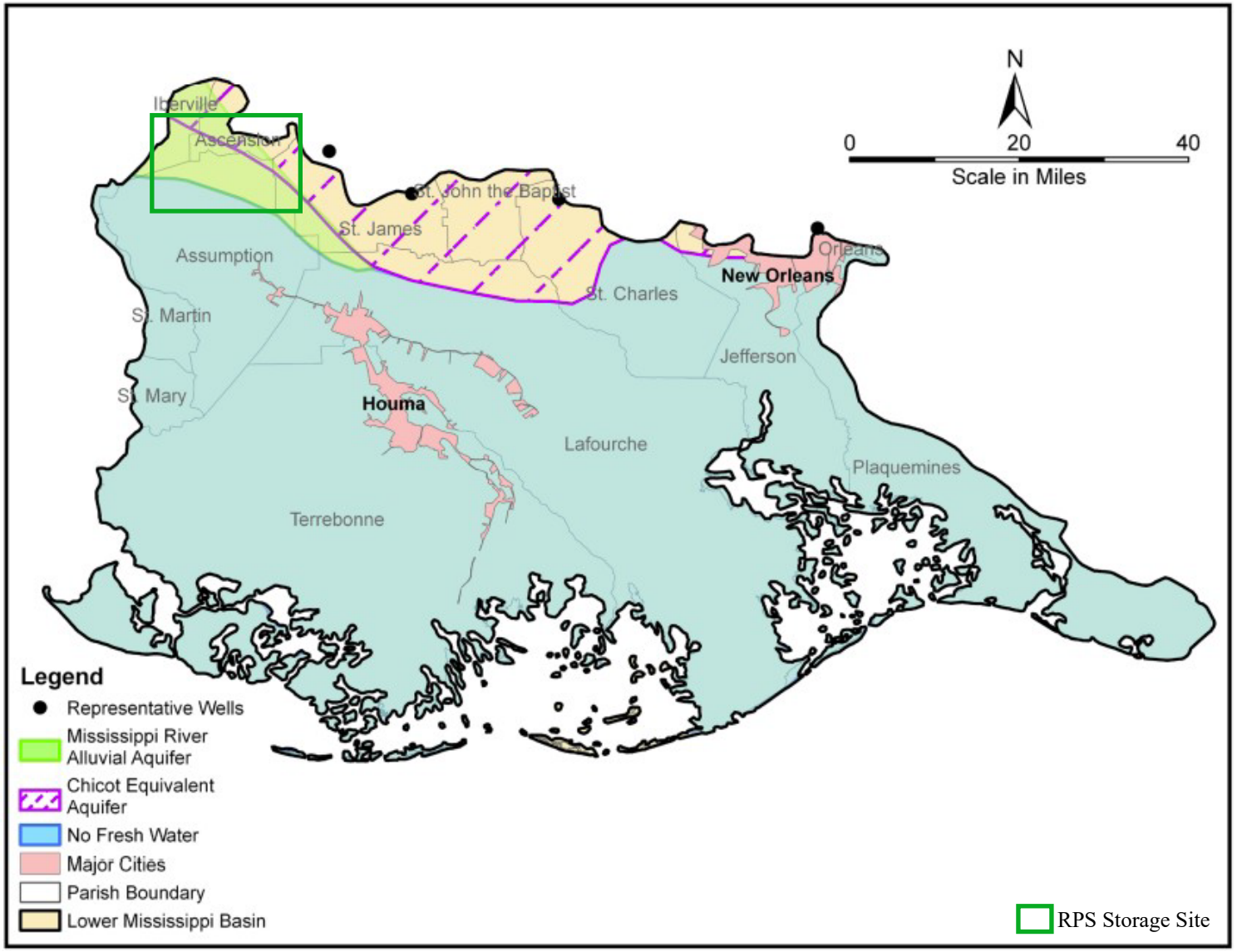
Interpreted Faults in the Vicinity of RPS North Fairway

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.1-7

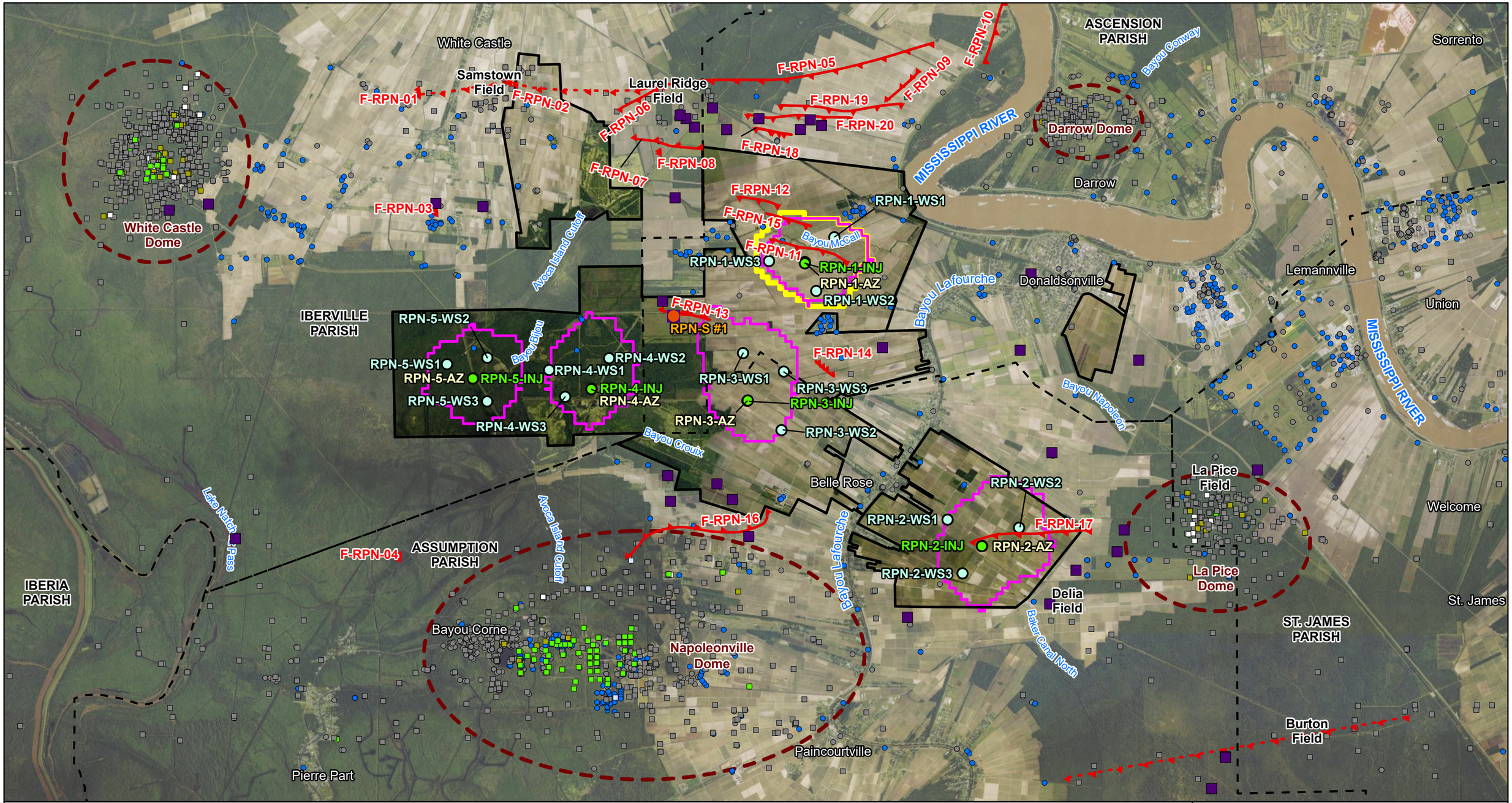


Explanation:
Areal extent of the Mississippi River Alluvial and Chicot Equivalent Aquifers (modified from Louisiana State Reservoir Priority and Development Program, 2009 Mississippi River Delta Basin: Characterization Report).

Areal Extent of the Mississippi River Alluvial Aquifer and Chicot Equivalent Aquifer System
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2023	**Figure 2.1-8**



Legend

Proposed Well Locations
- Injection Well
- Above Zone Monitoring
- Shallow Water Well Monitoring

- Active Injection Well
- Active Producing Oil & Gas Well
- Plugged and Abandoned/ Inactive/Dry Oil & Gas Well
- Orphan Oil & Gas Well
- Other Oil & Gas Well

- Active USDW Well
- Plugged and Abandoned/ Inactive/Destroyed USDW Well
- Stratigraphic Test Well (Palo Alto RPN-S #1)
- Wells Used for Petrophysical Analysis

- Approximate Salt Dome Structure
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Fault section interpolated between seismic lines, outside of well control, or inferred from regional knowledge
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary

N

0 1.5 Miles

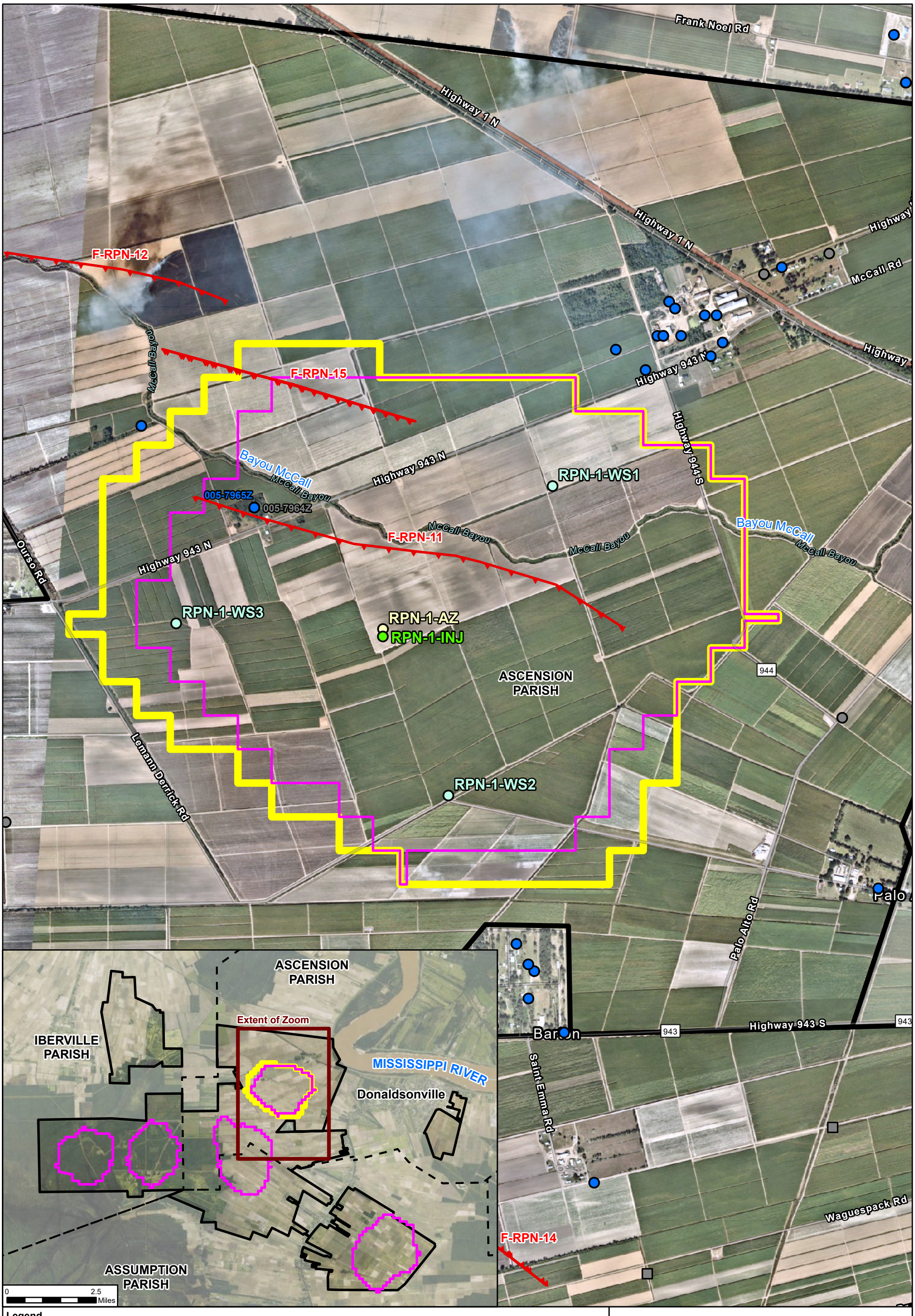
Modeled CO_2 Plume Extent

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.2-1



Legend

Proposed Well Locations
- Injection Well
- Above Zone Monitoring
- Shallow Water Well Monitoring

- Plugged and Abandoned/ Inactive/Dry Oil & Gas Well
- Active USDW Well
- Plugged and Abandoned/ Inactive/Destroyed USDW Well
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish

Basemap Source:
NearMap, 2022-10-19

N

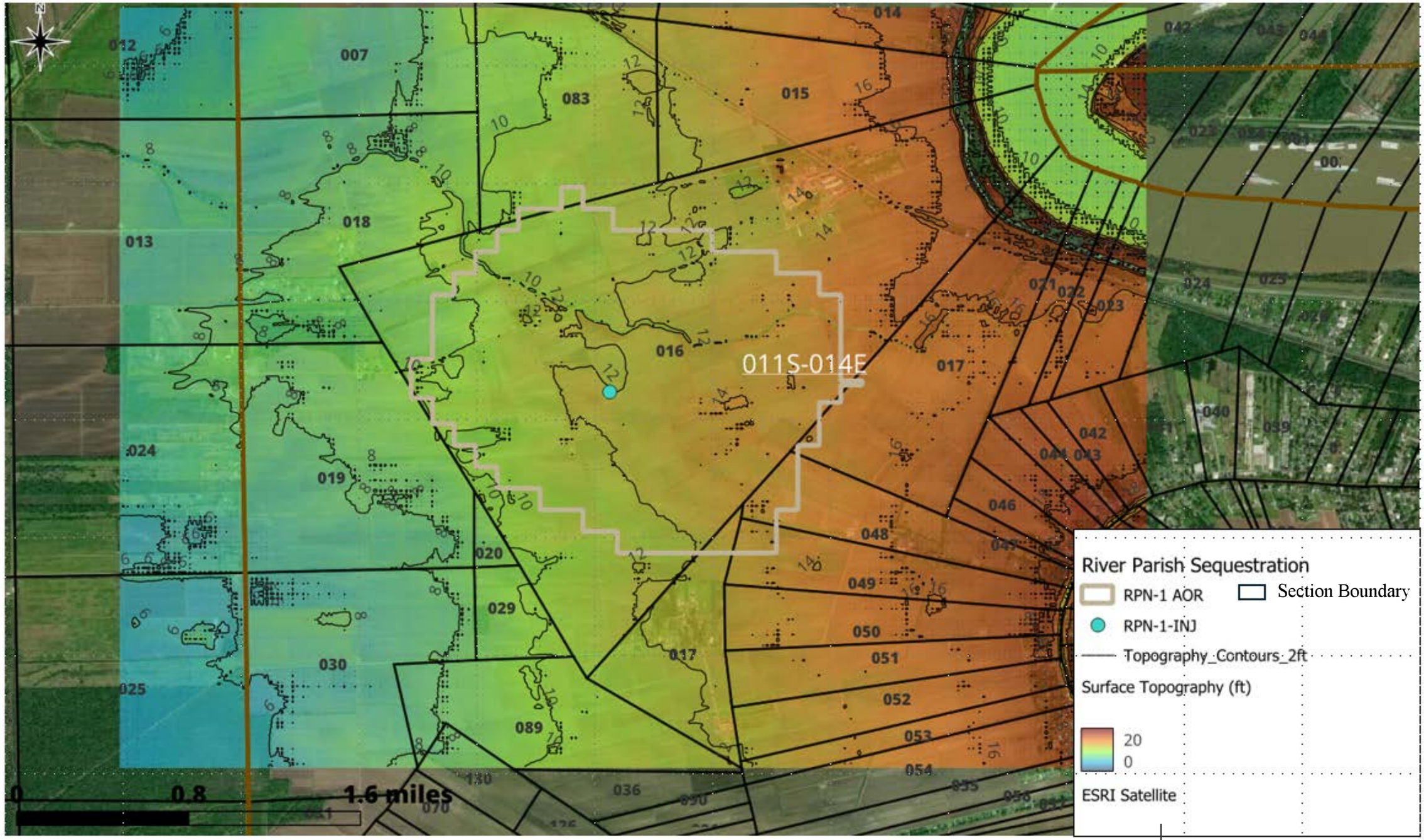
0 0.25 Miles

Area of Review Around RPN-1

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project	October 2025	**Figure 2.2-2**

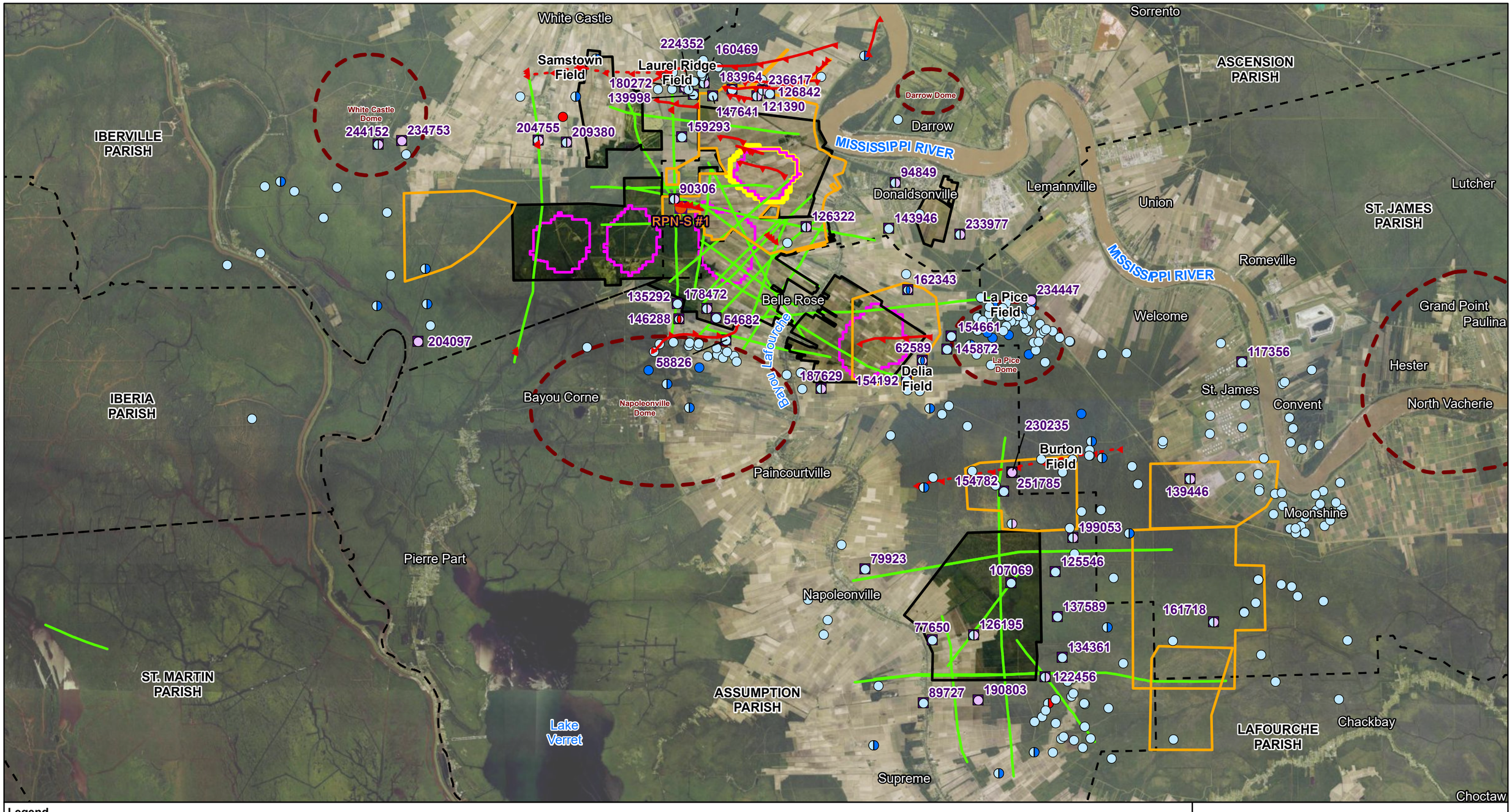


Topographic Map of the Proposed Sequestration Site

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project	Novemberr 2025	**Figure 2.2-2b**



Legend

- Well Interpreted with Raster Logs
- Well Interpreted with Digital Logs
- Well with Logs over USDW
- Well with Time-Depth Data
- Wells Used for Petrophysical Analysis (state serial number)
- Stratigraphic Test Well (Palo Alto RPN-S #1)
- 2D Seismic Lines
- 3D Seismic Coverage
- Approximate Salt Dome Structure
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Interpreted faults projected from the midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Fault section interpolated between seismic lines, outside of well control, or inferred from regional knowledge

N

Basemap Source: NAIP Imagery Hybrid

0 2.5 Miles

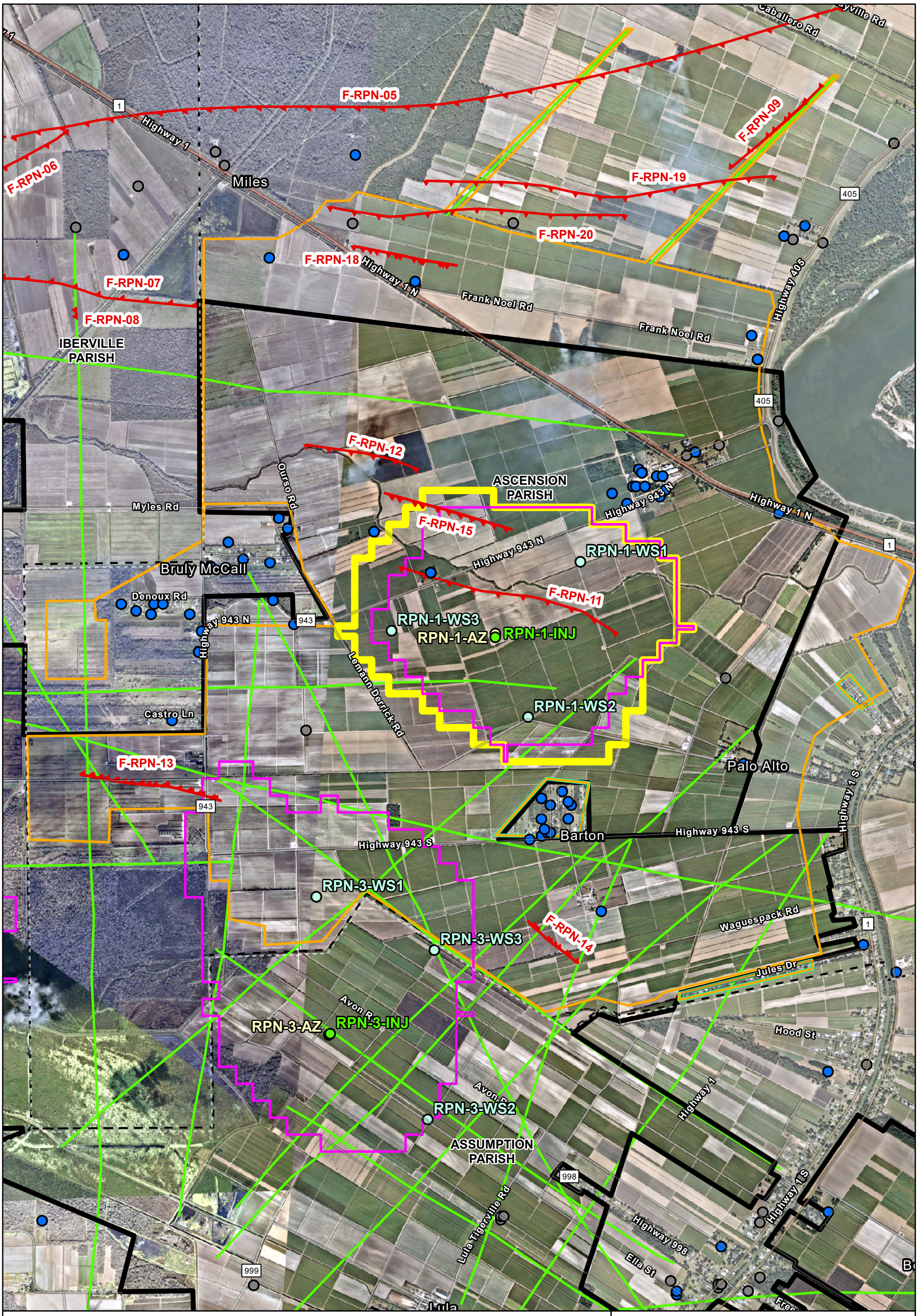
Map of the RPS Storage Site with Existing Wells and Seismic Data

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.2-3



Legend

- Injection Well
- Above Zone Monitoring
- Shallow Water Well Monitoring
- Active USDW Well
- Plugged and Abandoned/Inactive/ Destroyed USDW Well
- No Permit
- 2D Seismic Lines
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Smoke Bend 3D Seismic Survey

N

0 0.5 Miles

Basemap Source: NearMap, 2022-10-19

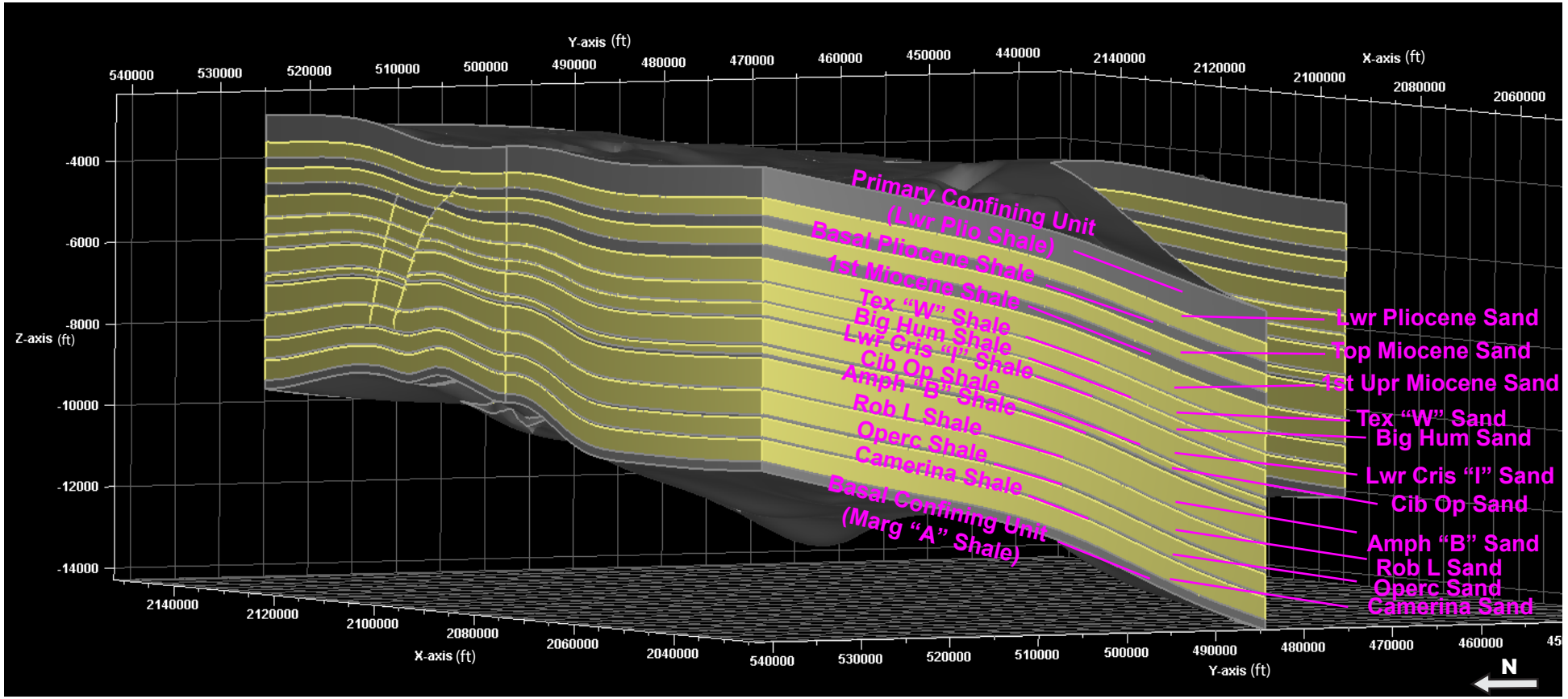
Map of Smoke Bend 3D Seismic Acquisition

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project	October 2025

Figure 2.2-4



Legend:

- Sand-Prone Zone
- Shale-Prone Zone

Notes:

ft = feet

4x Vertical Exaggeration

3D Structural Framework

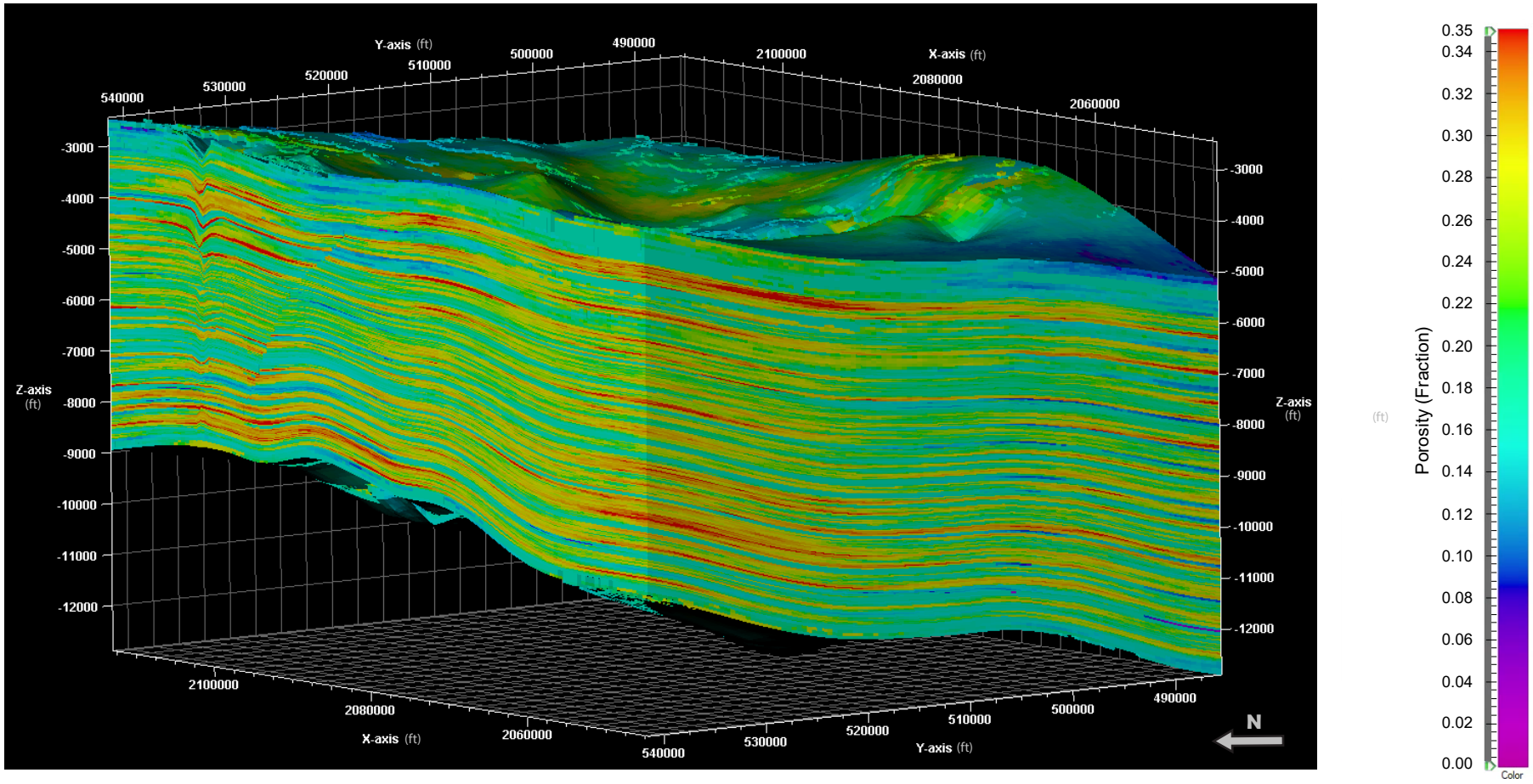
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.2-5

RPS Project	October 2025

Geosyntec\SB Geoscience - Projects\Blue Sky\Louisiana\2025 LDENR NOD\RPN1 Illustrator



Explanation:
ft = feet

Notes:
- Geocellular model interpolated on a 500 feet x 500 feet grid. Each sand-prone zone was split into layers to accommodate modeled zone thickness of <50 feet. Porosity is being displayed as an example of a property populated into the grid.
- Image is 4x Vertical Exaggeration

3D Geocellular Grid

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	**Figure 2.2-7**

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#1046
EST. 2011

10/9/2025
JOSEPH E. MIZERANY

White Castle
Sorrento
Darrow
Donaldsonville
Lemannville
Union
Belle Rose
Bayou Corne
Salt
Paincourtville
Pierre Part
Welcome
St. James

IBERVILLE PARISH
ASCENSION PARISH
ASSUMPTION PARISH
ST. JAMES PARISH
IBERIA PARISH

MISSISSIPPI RIVER
MISSISSIPPI RNER
Bayou Lafourche

F-RPN-1
F-RPN-4
F-RPN-9
W
E
N
S

Legend

True Vertical Depth subsea (TVDss)
2300 ft
5800 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Seismic Section Lines
- Salt

- Fault Projected from Top of Primary Confining Unit
- Wells used to generate surface:
- State serial number
- (Total Depth - MD)
- {Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 100 feet
MD - Measured Depth (feet)
TVDss - True Vertical Depth subsea (feet)
Additional well details in Table 2.1-1

N

0 1.5 Miles

Depth Structure Map of the Top of the Upper Confining Zone

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.2-8

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White Castle
Sorrento
Lemannville
Union
Belle Rose
Donaldsonville
Darrow
Paincourtville
Pierre Part
Bayou Corne
Salt
St. James
Welcome

ASCENSION PARISH
IBERVILLE PARISH
ASSUMPTION PARISH
ST. JAMES PARISH
IBERIA PARISH

MISSISSIPPI RIVER
MISSISSIPPI RNER
Bayou Lafourche

F-RPN-1
F-RPN-4
F-RPN-9

N
W
E
S

3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 6000

22477 (4283) {4247}
24302 (4240) {4204}
28723 (4164) {4131}
179299 (4152) {4119}
210175 (4301) {4270}
58052 (4279) {4249}
209717 (4296) {4265}
162833 (4306) {4277}
54075 (4313) {4284}
155722 (4313) {4277}
160469 (4020) {3990}
126842 (4073) {4073}
48913 (3539) {3509}
47800 (3445) {3413}
154867 (4278) {4246}
163863 (4503) {4467}
177790 (4295) {4264}
180272 (4293) {4263}
224352 (4278) {4253}
147641 (4071) {4071}
121390 (4066) {4030}
183964 (4123) {4123}
236617 (4183) {4147}
139998 (4326) {4297}
204755 (4809) {4777}
209380 (4847) {4815}
159293 (4451) {4451}
94849 (3763) {3720}
90306 (4801) {4771}
976011 (4853) {4823}
126322 (4357) {4318}
130194 (4100) {4064}
233977 (4229) {4194}
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54682 (4949) {4949}
58826 (4929) {4893}
66012 (5254) {5224}
134392 (4983) {4960}
79890 (4935) {4899}
82907 (4797) {4761}
70421 (5245) {5217}
31152 (5357) {5331}
63301 (5208) {5181}
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69662 (4764) {4731}
67685 (5264) {5228}
208464 (4657) {4614}
187629 (4720) {4684}
166980 (4771) {4732}
82545 (4798) {4762}
160740 (4949) {4916}
72829 (4955) {4922}
106296 (4841) {4804}
36938 (5164) {5134}
65081 (5156) {5131}
61658 (5391) {5365}
182188 (5490) {5464}
162343 (4332) {4294}
95322 (4250) {4220}
101274 (4307) {4277}
154661 (4556) {4556}
59355 (4371) {4342}
152238 (4314) {4285}
32180 (4236) {4205}
30860 (4285) {4257}
57866 (4214) {4185}
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145872 (4599) {4599}
158660 (4343) {4313}
154192 (4566) {4566}
145271 (4639) {4606}
190492 (4357) {4327}
137089 (4689) {4657}
140477 (4584) {4558}
110009 (4678) {4649}
71438 (4666) {4640}
176109 (4768) {4739}
108430 (4620) {4591}

Legend

True Vertical Depth subsea (TVDss)
3000 ft
5800 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Seismic Section Lines
- Parish Boundary
- Salt
- Projected Fault from Lower Pliocene Sand

Wells used to generate surface:
- State serial number
(Total Depth - MD)
{Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 100 feet
MD - Measured Depth (feet)
TVDss - True Vertical Depth subsea (feet)
Additional well details in Table 2.1-1

N
0 1.5 Miles

Depth Structure Map of the Top of the Upper Injection Zone

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

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Figure 2.2-9

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Donaldsonville
Lemannville
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Darrow
Welcome
St. James
Bayou Corne
Salt
Paincourtville
Pierre Part
Bayou Lafourche

IBERVILLE PARISH
ASCENSION PARISH
ASSUMPTION PARISH
ST. JAMES PARISH
IBERIA PARISH

MISSISSIPPI RIVER
MISSISSIPPI RNER

F-RPN-3
F-RPN-5
F-RPN-8
F-RPN-10
F-RPN-11
F-RPN-12
F-RPN-16
F-RPN-17
F-RPN-19

N
S
E
W

Legend

True Vertical Depth subsea (TVDss)
8300 ft
12700 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Seismic Section Lines
- Parish Boundary
- Salt
- Fault Projected from Top of Basal Confining Unit
- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 200 feet
MD - Measured Depth (feet)
TVDss - True Vertical Depth subsea (feet)
Additional well details in Table 2.1-1

N

0 1.5 Miles

Depth Structure Map of the Top of the Basal Confining Zone

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

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Figure 2.2-10

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Belle Rose
Welcome
St. James
Bayou Corne
Salt
Paincourtville
Pierre Part
MISSISSIPPI RIVER
MISSISSIPPI RNER
Bayou Lafourche

N
S
W
E

24302 (11501) {2459}
28723 (11758) {2577}
47800 (11300) {2422}
976011 (11425) {2512}
65081 (12725) {2452}
111864 (13207) {2451}
61658 (15081) {2458}
162343 (14858) {2746}
32941 (10547) {2920}
26628 (11851) {2867}
59355 (12644) {2649}
62589 (12751) {2796}
30860 (6988) {2966}
32713 (5248) {2626}
36938 (7063) {2902}
110009 (11132) {2999}
37629 (11450) {3266}
60377 (12468) {3323}
132422 (12100) {3415}

2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300

Legend

True Vertical Depth subsea (TVDss)
2250 ft
3800 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Seismic Section Lines
- Salt

- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 50 feet
MD - Measured Depth (feet)
TVDss - True Vertical Depth subsea (feet)
Additional well details in Table 2.1-1

N
0 1.5 Miles

Depth Structure Map of the Top of 2nd Upper Confinement 1

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

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Figure 2.2-11

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28723 (11758) {1519}
24302 (11501) {1378}
47800 (11300) {1549}
N
W
E
S
ASCENSION PARISH
Darrow
MISSISSIPPI RIVER
IBERVILLE PARISH
976011 (11425) {1613}
Donaldsonville
Lemannville
Union
65081 (12725) {1760}
111864 (13207) {1778}
61658 (15081) {1735}
162343 (14858) {2065}
32941 (10547) {1654}
26628 (11851) {1776}
MISSISSIPPI RIVER
Belle Rose
59355 (12644) {2056}
ST. JAMES PARISH
Welcome
62589 (12751) {2155}
32713 (5248) {2089}
ASSUMPTION PARISH
Bayou Lafourche
30860 (6988) {1909}
IBERIA PARISH
Bayou Corne
Salt
110009 (11132) {2039}
St. James
36938 (7063) {1918}
37629 (11450) {1830}
60377 (12468) {1798}
Paincourtville
132422 (12100) {2273}
Pierre Part

Legend

True Vertical Depth subsea (TVDss)
1250 ft
2550 ft

- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Area of Review
- Seismic Section Lines
- Salt

- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 50 feet
MD - Measured Depth (feet)
TVDss - True Vertical Depth subsea (feet)
Additional well details in Table 2.1-1

N

0 1.5 Miles

Depth Structure Map of the Top of the 2nd Upper Confinement 2

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

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Figure 2.2-12

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North

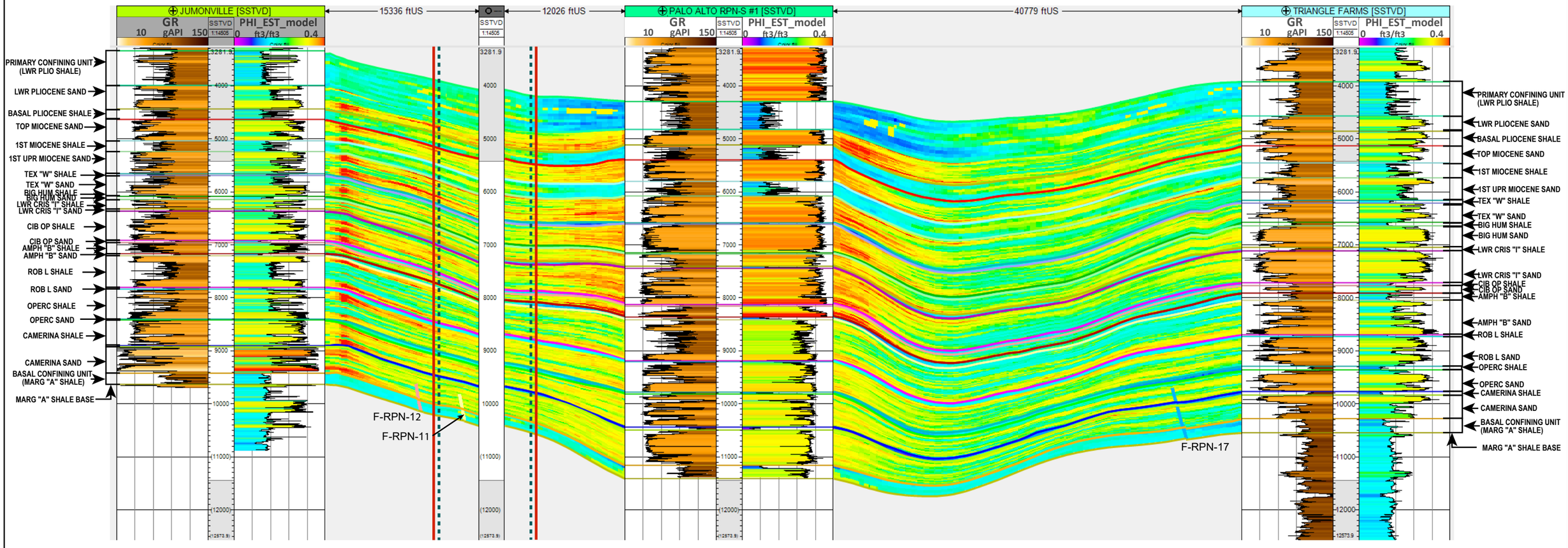
South

SN: 160469

RPN-1-INJ

SN: 976011

SN: 62589



Legend:

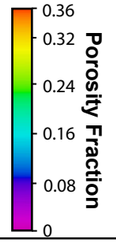
- RPS Storage Site
- Modeled CO2 plume boundaries
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent

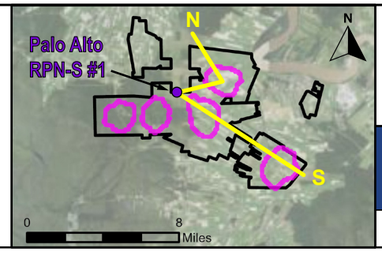
Explanation:

ft = feet
SSTVD = Sub Sea True Vertical Depth
GR = Gamma Ray
gAPI = API gamma ray unit
PHI_EST_model = Estimated Porosity
ft^3 = cubic feet
SN = Serial Number
F-RPN-X = Interpreted fault

Notes:

1 - Porosity interpolation extracted from Petrel geocellular model
2 - Additional well information is provided in Table 2.1-1
3 - Faults are truncated at the base of the model but may extend deeper into unmodeled underburden





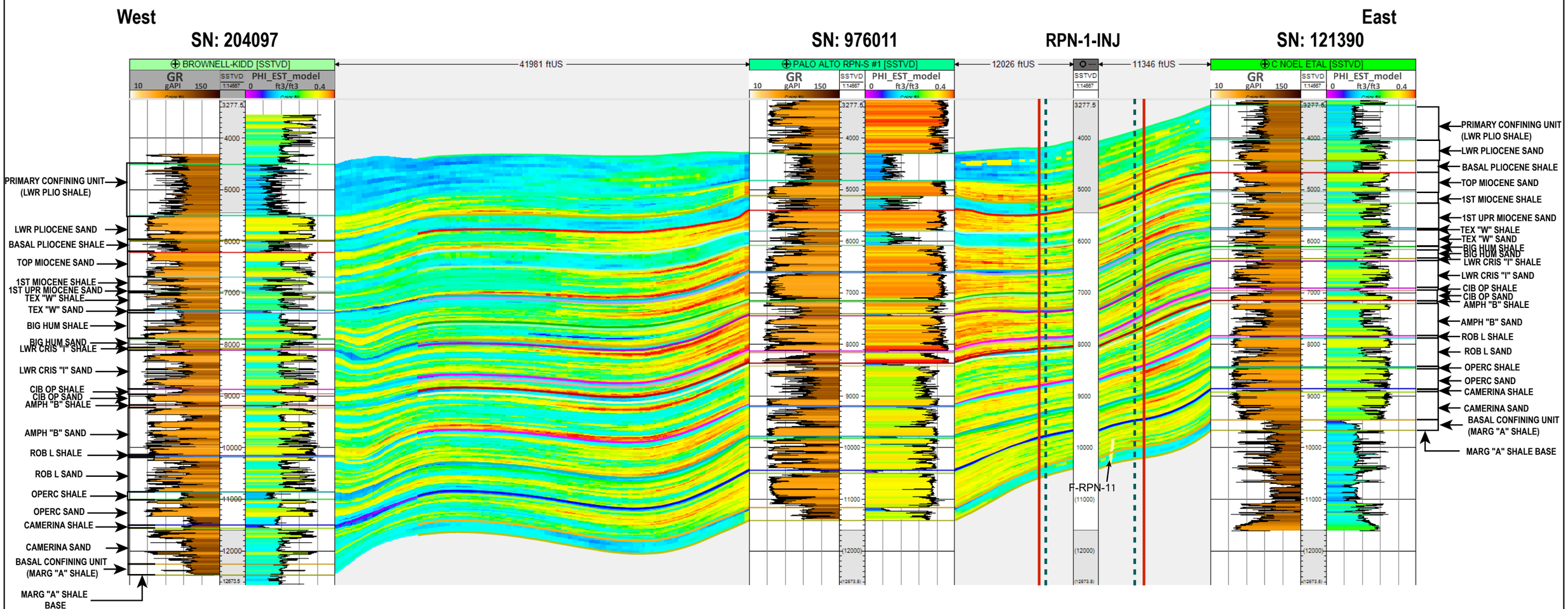
North-South Regional Geology

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project	October 2025

Figure 2.2-13



Legend:

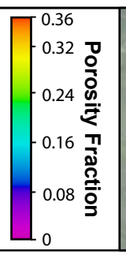
- RPS Storage Site
- Modeled AoR boundaries
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent

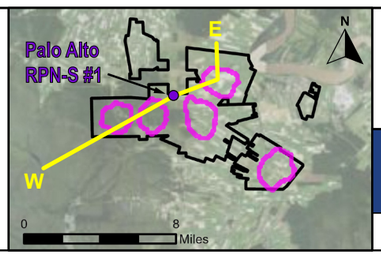
Explanation:

ft = feet
SSTVD = Sub Sea True Vertical Depth
GR = Gamma Ray
gAPI = API gamma ray unit
PHI_EST_model = Estimated Porosity
ft^3 = cubic feet
SN = Serial Number
F-RPN-X = Interpreted fault

Notes:

1 - Porosity interpolation extracted from Petrel geocellular model
2 - Additional well information is provided in Table 2.1-1
3 - Faults are truncated at the base of the model but may extend deeper into unmodeled underburdern





West-East Regional Geology

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-14

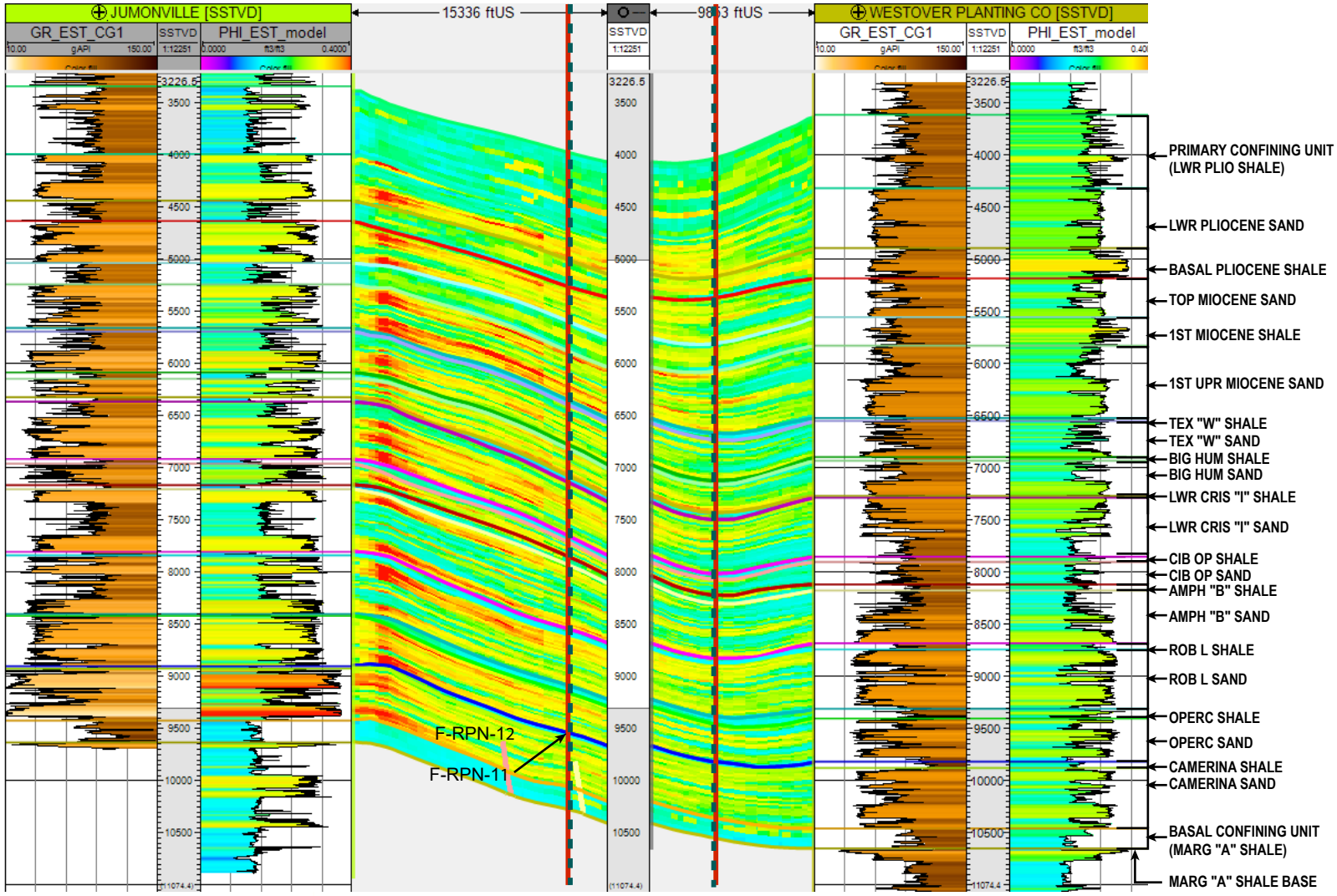
North

South

SN: 160469

RPN-1-INJ

SN: 126322



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Legend:

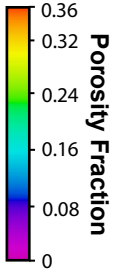
- RPS Storage Site
- Modeled CO2 plume boundaries
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent

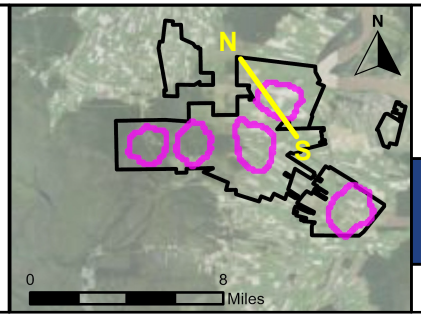
Notes:

1 - Porosity interpolation extracted from Petrel geocellular model
2 - Additional well information is provided in Table 2.1-1
3 - Faults are truncated at the base of the model but may extend deeper into unmodeled underburden

Explanation:

ft = feet
SSTVD = Sub Sea True Vertical Depth
GR = Gamma Ray
gAPI = API gamma ray unit
PHI_EST_model = Estimated Porosity
ft^3 = cubic feet
SN = Serial Number
F-RPN-X = Interpreted fault





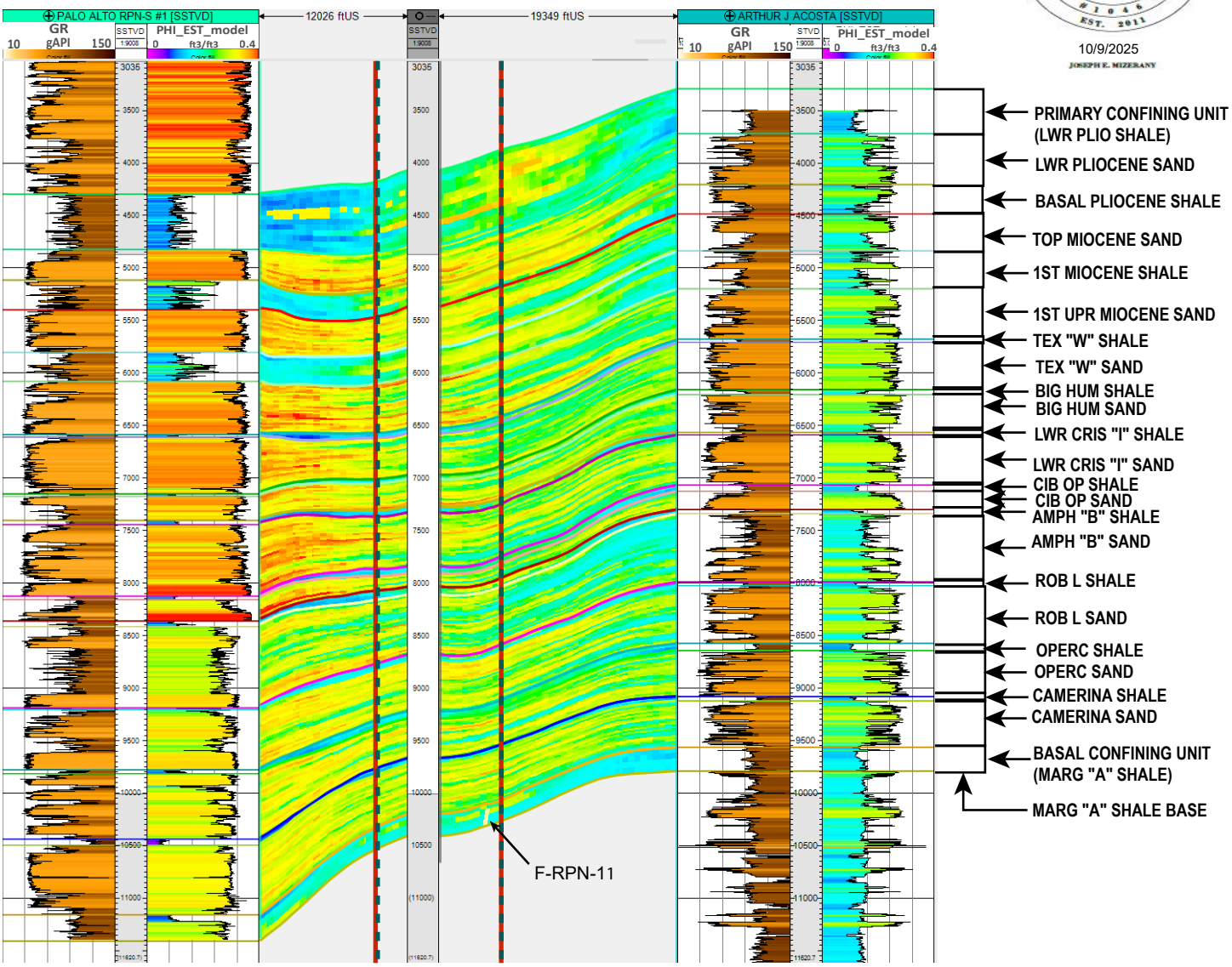
North-South RPN Geology

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.2-15



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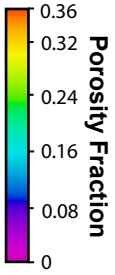
Legend:

- RPS Storage Site
- Modeled CO2 plume boundaries
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent

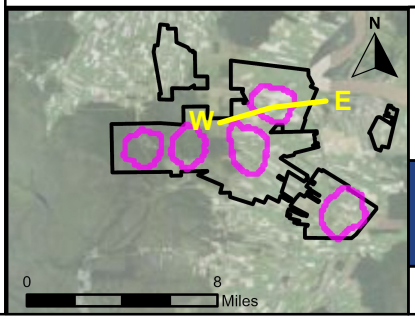


Explanation:

ft = feet
SSTVD = Sub Sea True Vertical Depth
GR = Gamma Ray
gAPI = API gamma ray unit
PHI_EST_model = Estimated Porosity
ft^3 = cubic feet
SN = Serial Number
F-RPN-X = Interpreted fault

Notes:

1 - Porosity interpolation extracted from Petrel geocellular model
2 - Additional well information is provided in Table 2.1-1
3 - Faults are truncated at the base of the model but may extend deeper into unmodeled underburdern



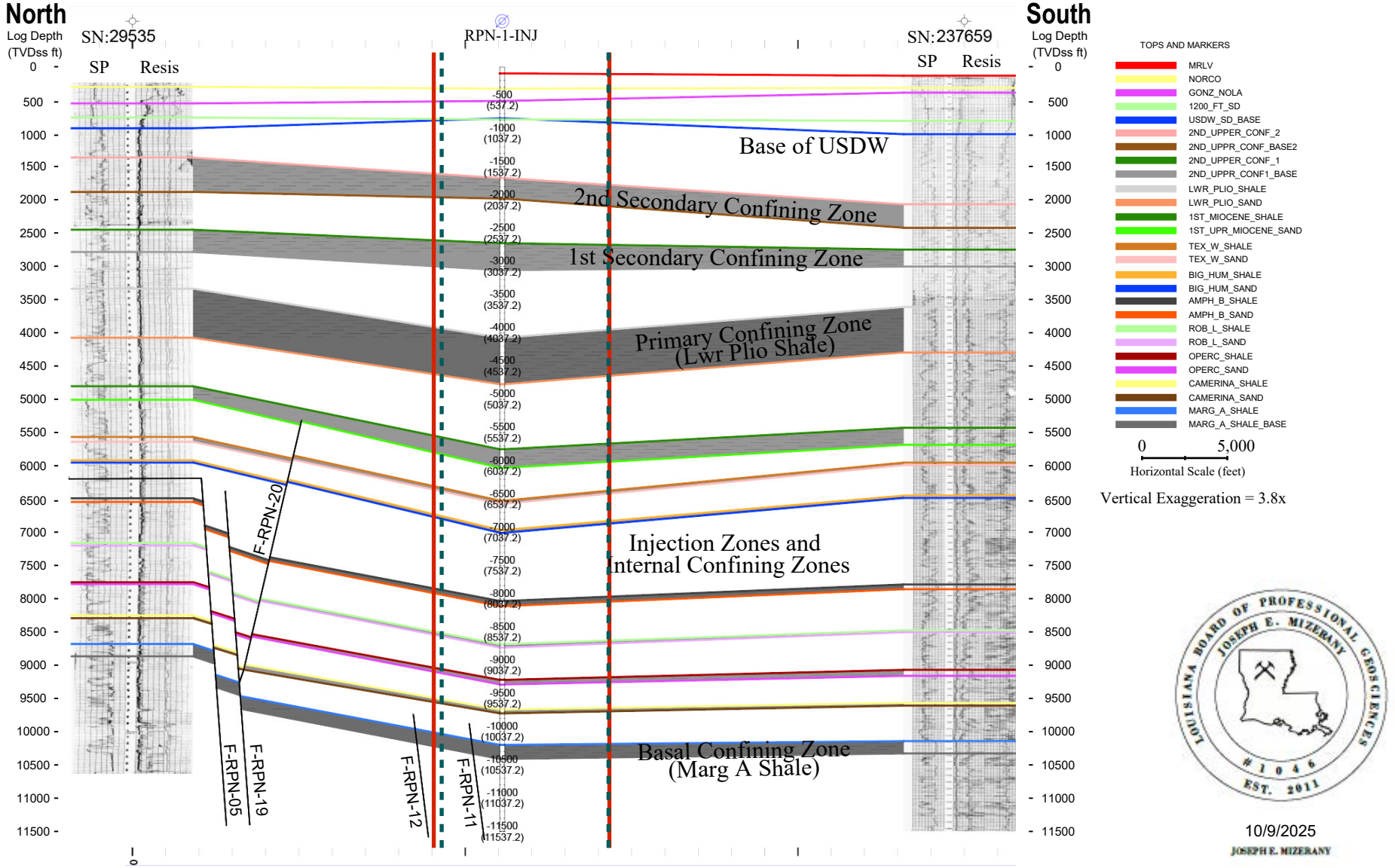
West-East RPN Geology

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project	October 2025

Figure 2.2-16



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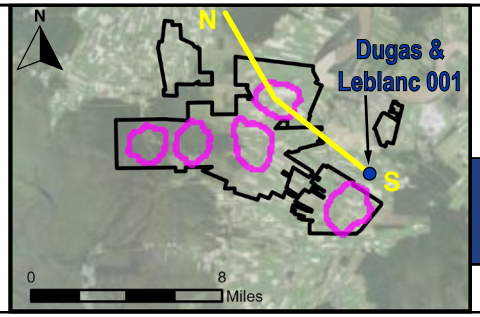
Legend:
- RPS Storage Site
- Modeled AoR boundaries
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent
- Interpreted fault trace

Notes:
ft = feet
TVDss = True Vertical Depth sub sea
Resis = resistivity
SP = spontaneous potential
SN = serial number
F-RPN-X = Interpreted fault
Additional well information is provided in Table 2.1-1

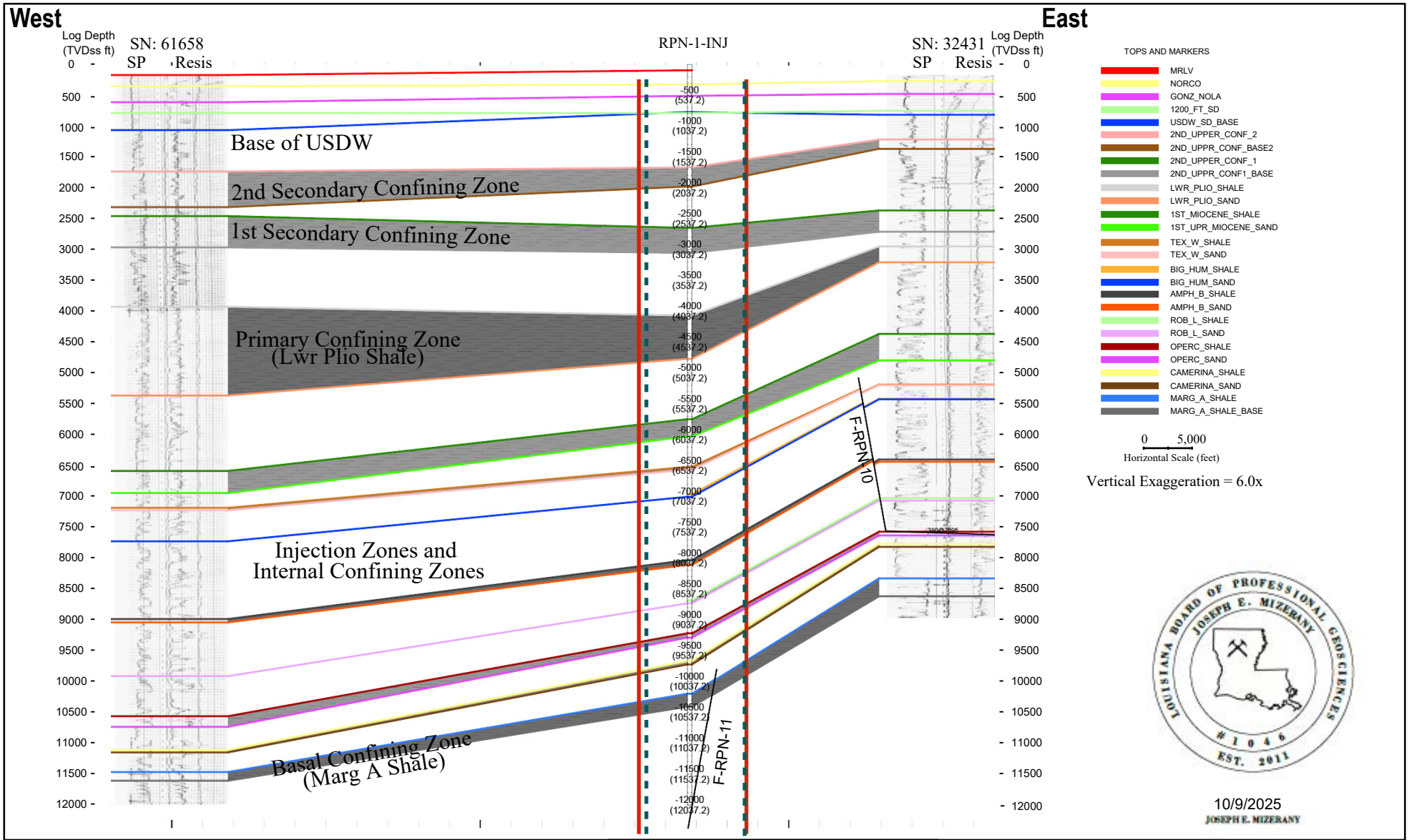


Hydrogeologic Cross Section North to South

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-17



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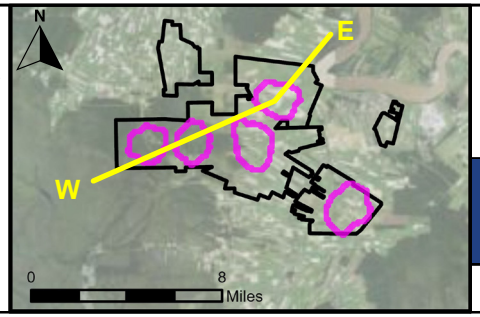
Legend:
- RPS Storage Site
- Modeled AoR boundaries
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent
- Interpreted fault trace

Notes:
ft = feet
TVDss = True Vertical Depth sub sea
Resis = resistivity
SP = spontaneous potential
SN = serial number
F-RPN-X = Interpreted fault
Additional well information is provided in Table 2.1-1



Hydrogeologic Cross Section West to East

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-18

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Welcome
St. James
Bayou Corne
Salt
Paincourtville
Pierre Part

ASCENSION PARISH
IBERVILLE PARISH
ASSUMPTION PARISH
ST. JAMES PARISH
IBERIA PARISH

MISSISSIPPI RIVER
MISSISSIPPI RNER
Bayou Lafourche

47800 (11300) 2361
28723 (11758) 2708
24302 (11501) 2695
976011 (11425) 3737
65081 (12725) 2787
61658 (15081) 2861
162343 (14858) 2601
62589 (12751) 2881
110009 (11132) 2833

Legend

True Vertical Thickness (TVT)
1,800 ft
4,200 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Salt

- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {TVT - feet}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 100 feet
MD - Measured Depth (feet)
Additional well details in Table 2.1-1

N

0 1.5 Miles

Above Primary Confinement Gross Isopach

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

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Figure 2.2-19

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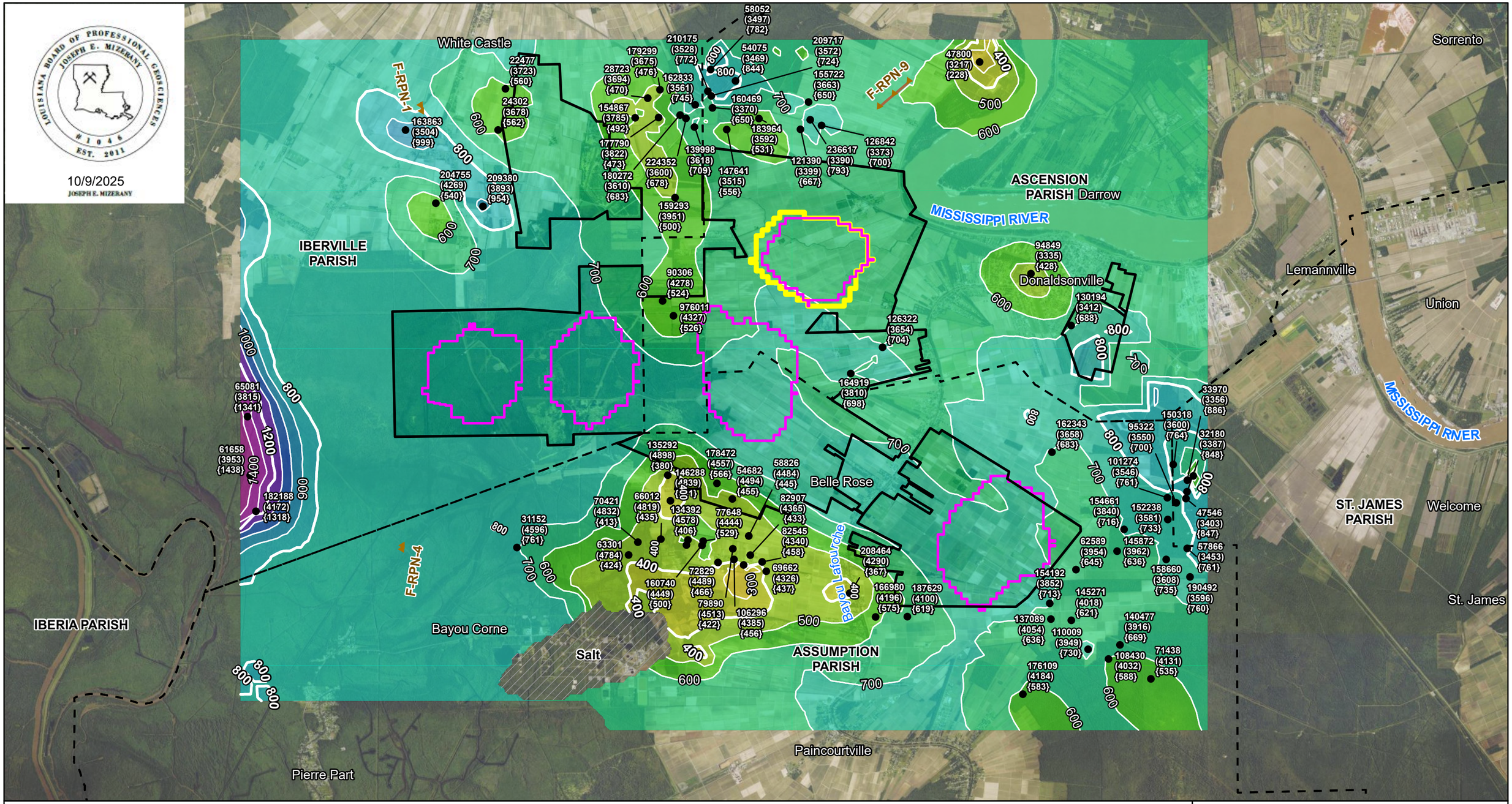

Legend

True Vertical Thickness (TVT)
- 300 to 400 ft
- 400 to 500 ft
- 500 to 600 ft
- 600 to 700 ft
- 700 to 800 ft
- 800 to 900 ft
- 900 to 1,000 ft
- 1,000 to 1,100 ft
- 1,100 to 1,200 ft
- 1,200 to 1,300 ft
- 1,300 to 1,400 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Fault Projected from Top of Primary Confining Unit
- Salt

- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {TVT - feet}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 100 feet

MD - Measured Depth (feet)

Additional well details in Table 2.1-1

N

0 1.5 Miles

Primary Confinement Isopach

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

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Figure 2.2-20

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29535 (10710) {335}
44399 (10695) {290}
162343 (9626) {345}
47800 (11300) {274}
24302 (11501) {459}
28723 (11758) {491}
976011 (11425) {507}
65081 (12725) {468}
61658 (15081) {507}
111864 (13207) {423}
32713 (5248) {729}
36938 (7063) {748}
162343 (14858) {255}
32941 (10547) {329}
26628 (11851) {371}
59355 (12644) {454}
62589 (12751) {325}
30860 (6988) {360}
110009 (11132) {587}
37629 (11450) {288}
60377 (12468) {289}
132422 (12100) {510}

IBERVILLE PARISH
ASCENSION PARISH
ASSUMPTION PARISH
ST. JAMES PARISH
IBERIA PARISH
MISSISSIPPI RIVER
Bayou Lafourche
Bayou Corne
Salt
Belle Rose
Paincourtville
Donaldsonville
Darrow
Sorrento
Lemannville
Union
Welcome
St. James
Pierre Part

Legend

True Vertical Thickness (TVT)
150 ft – 800 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Salt

Wells used to generate surface:
State serial number
(Total Depth - MD)
{TVT - feet}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 50 feet
MD - Measured Depth (feet)
Additional well details in Table 2.1-1

N
0 1.5 Miles

Secondary Upper Confining Layer 1 Isopach

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

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Figure 2.2-21

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970114 (2370) {355}
44399 (10695) {320}
162343 (9626) {152}
22477 (10823) {365}
28723 (11758) {274}
29535 (10710) {516}
47800 (11300) {103}
24302 (11501) {335}
MISSISSIPPI RIVER
976011 (11425) {356}
65081 (12725) {629}
111864 (13207) {610}
61658 (15081) {578}
162343 (14858) {353}
32941 (10547) {744}
26628 (11851) {754}
MISSISSIPPI RNER
59355 (12644) {349}
30860 (6988) {557}
62589 (12751) {354}
32713 (5248) {366}
Bayou Lafourche
36938 (7063) {707}
Salt
110009 (11132) {713}
60377 (12468) {632}
37629 (11450) {722}
132422 (12100) {567}

Legend

True Vertical Thickness (TVT)
100 ft
750 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Salt

- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {TVT - feet}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 50 feet

MD - Measured Depth (feet)

Additional well details in Table 2.1-1

N

0 1.5 Miles

Secondary Upper Confining Layer 2 Isopach

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

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Figure 2.2-22

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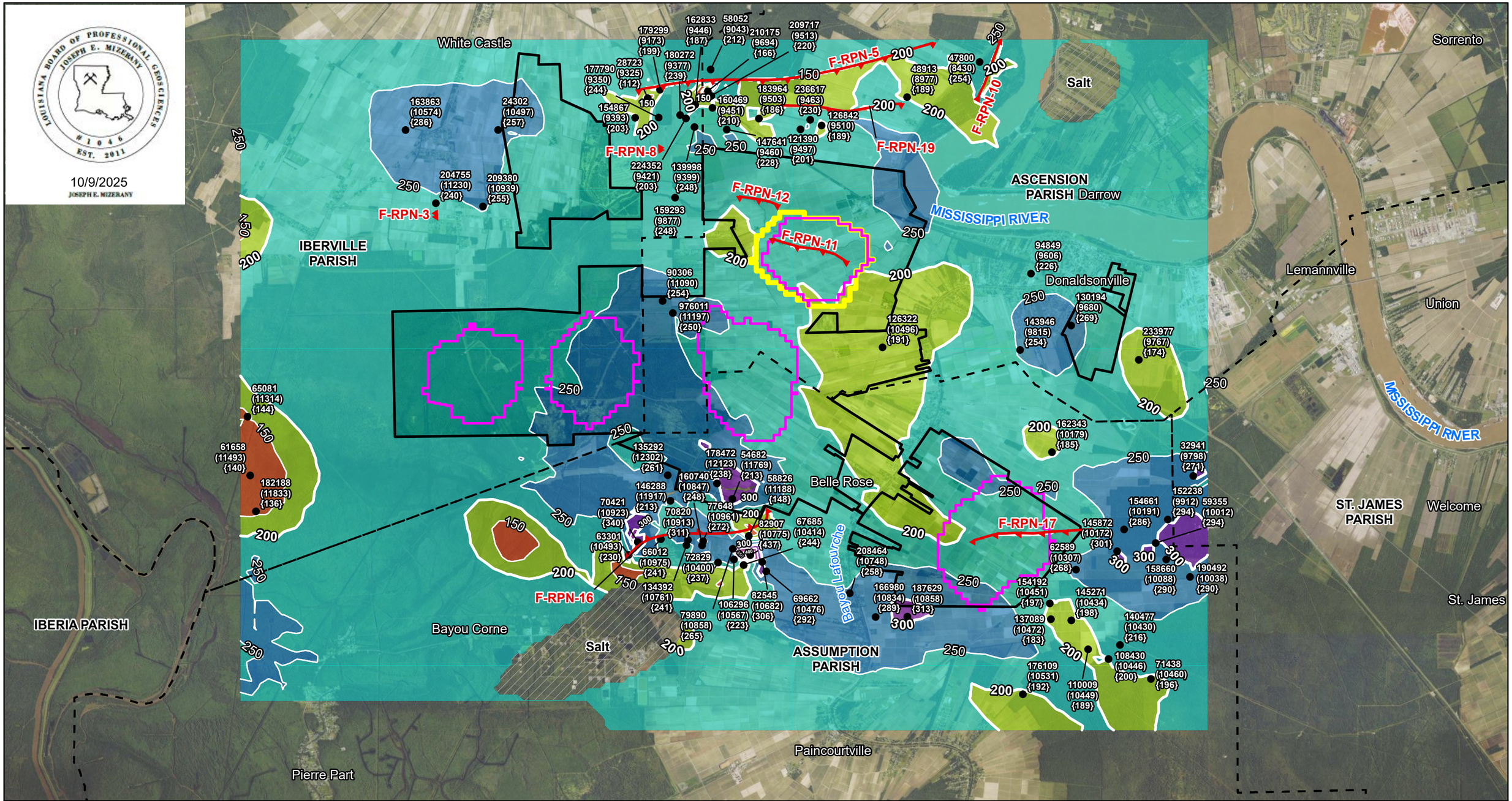
Darrow
MISSISSIPPI RIVER
IBERVILLE PARISH
Donaldsonville
Lemannville
Union
Belle Rose
ST. JAMES PARISH
Welcome
St. James
IBERIA PARISH
Bayou Corne
Salt
ASSUMPTION PARISH
Bayou Lafourche
Paincourtville
Pierre Part

F-RPN-3
F-RPN-8
F-RPN-5
F-RPN-10
F-RPN-19
F-RPN-12
F-RPN-11
F-RPN-16
F-RPN-17



Legend

True Vertical Thickness (TVT)
- 100 to 150 ft
- 150 to 200 ft
- 200 to 250 ft
- 250 to 300 ft
- 300 to 350 ft
- 350 to 400 ft
- 400 to 450 ft

- Modeled CO_2 Plume Extent
- Area of Review
- RPS Storage Site
- Parish Boundary
- Salt

- Fault interpretation projected from basal confinement interval
- Wells used to generate surface:
  State serial number
  (Total Depth - MD)
  {TVT - feet}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 50 feet

MD - Measured Depth (feet)

Additional well details in Table 2.1-1

N

0 1.5 Miles

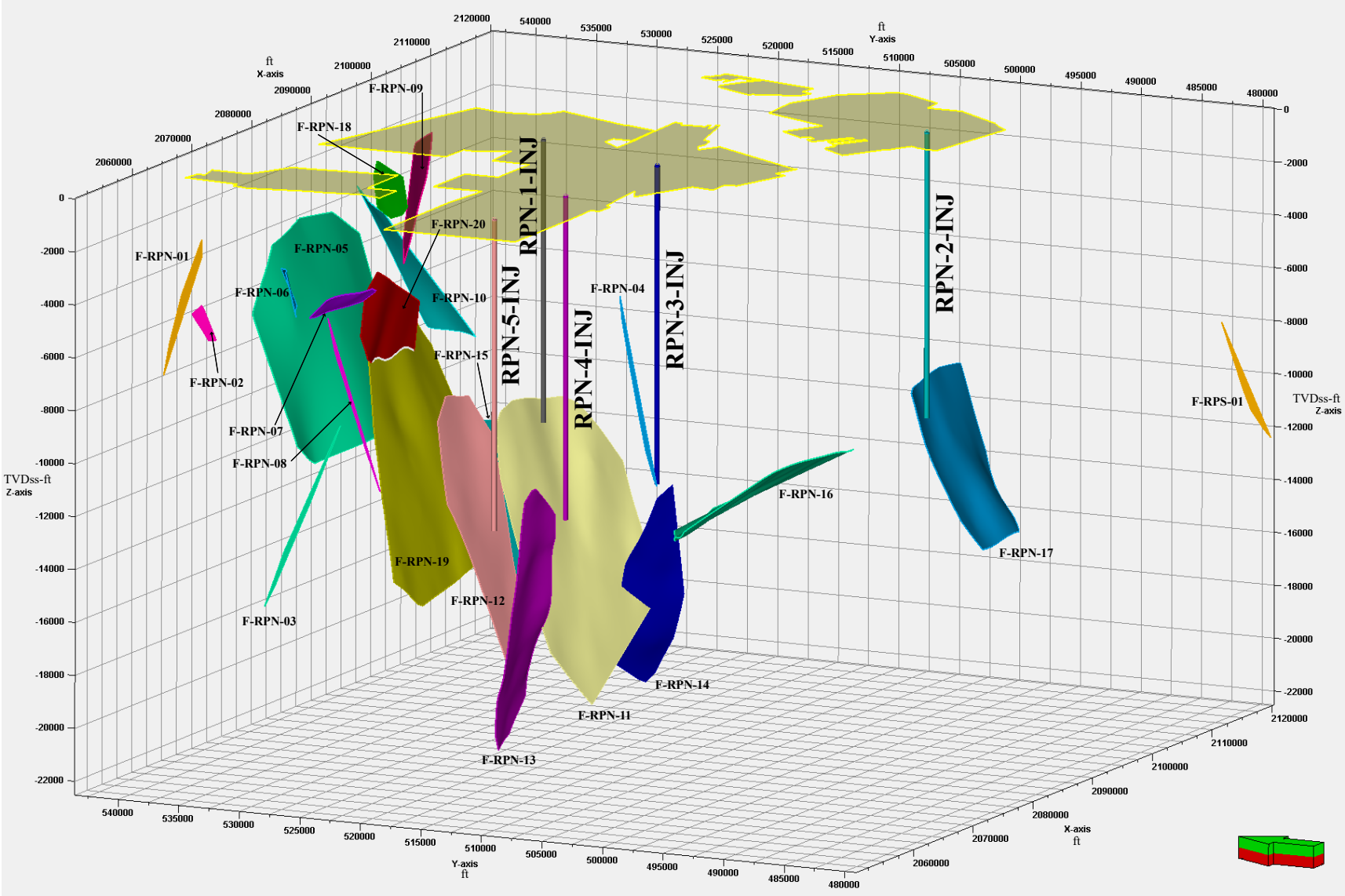
Basal Confining Isopach

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.2-23



Explanation:

Yellow boundary = RPS Storage Site
TVDss = True vertical depth sub sea
ft = feet

Notes:

Image is 2x Vertical Exaggeration

3D Fault Map

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	August 2025

Figure 2.2-24

F-RPN-20
F-RPN-19
F-RPN-18
Highway 1 N
Frank Noel Rd
Highway 405
Frank Noel Rd
1
405
F-RPN-12
Ourso Rd
F-RPN-15
Highway 943 N
Highway 1 N
944
Highway 943 N
Bayou McCall
ASCENSION PARISH
F-RPN-11
943
RPN-1-INJ
Lemann Derrick Rd
944
Palo Alto
Barton
Highway 943 S
Highway 943 S
Waguespack Rd
F-RPN-14
Jules Dr
ASSUMPTION PARISH
Avon Rd

Legend

- Proposed Injection Well
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary

N

0 0.5 Miles

Basemap Source: NearMap, 2022-10-19

Zoom Interpreted Faults in Vicinity of RPN-1

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

Figure 2.2-25

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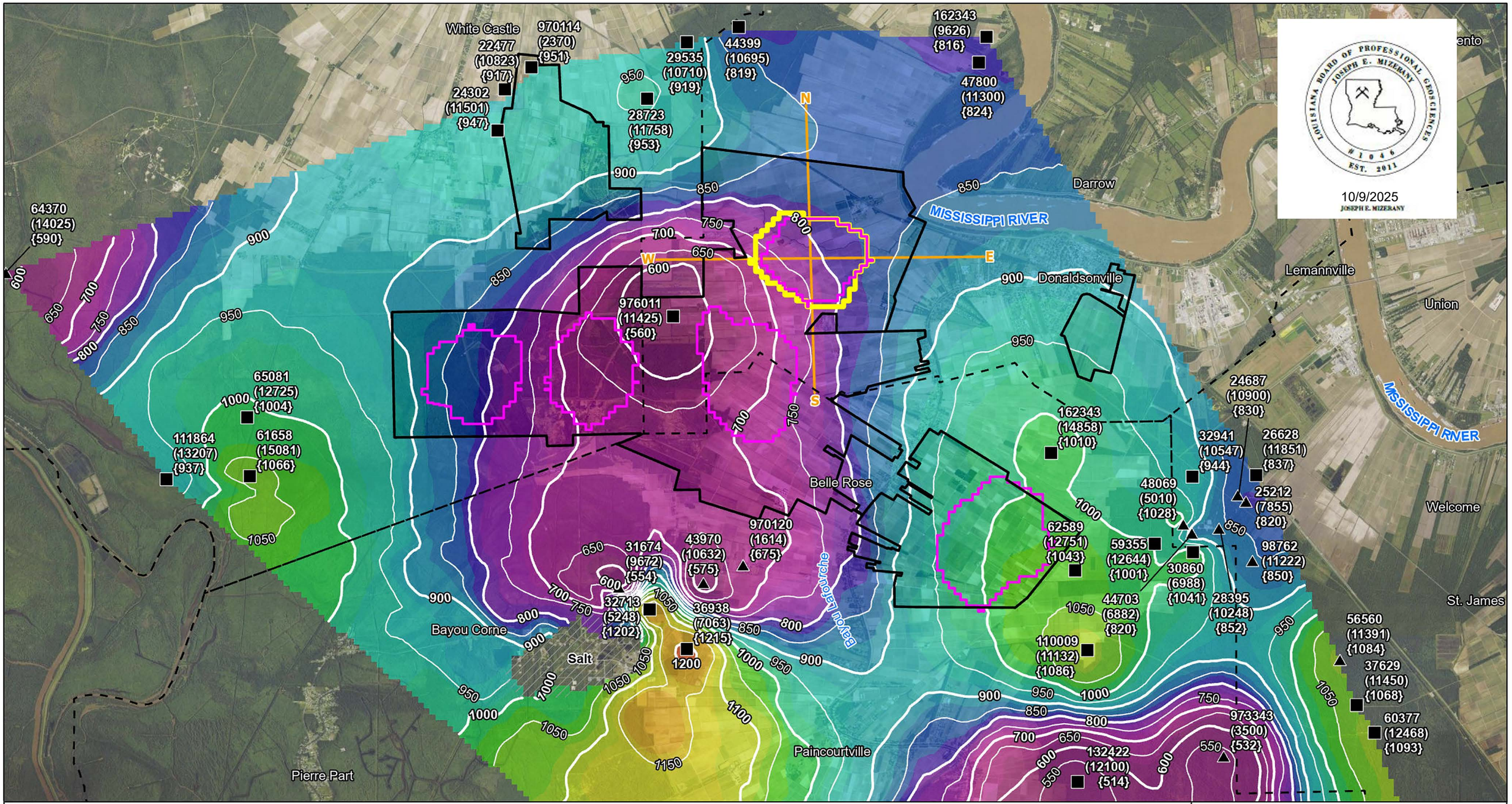


Legend

Depth to Base USDW

550 ft

1,250 ft

- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Seismic Section Lines
- Salt

Well Used to Generate Contours

- ▲ Groundwater Elevation Catalogued by the Louisiana Department of Natural Resources:
  State serial number
  (Total Depth - MD)
  {Well top depth - TVDss}
- ■ Groundwater Elevation Interpreted from Resistivity Logs:
  State serial number
  (Total Depth - MD)
  {Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 50 feet

MD - Measured Depth (feet)

TVDss - true vertical depth subsea

Additional well details in Table 2.1-1

N

0 1.5 Miles

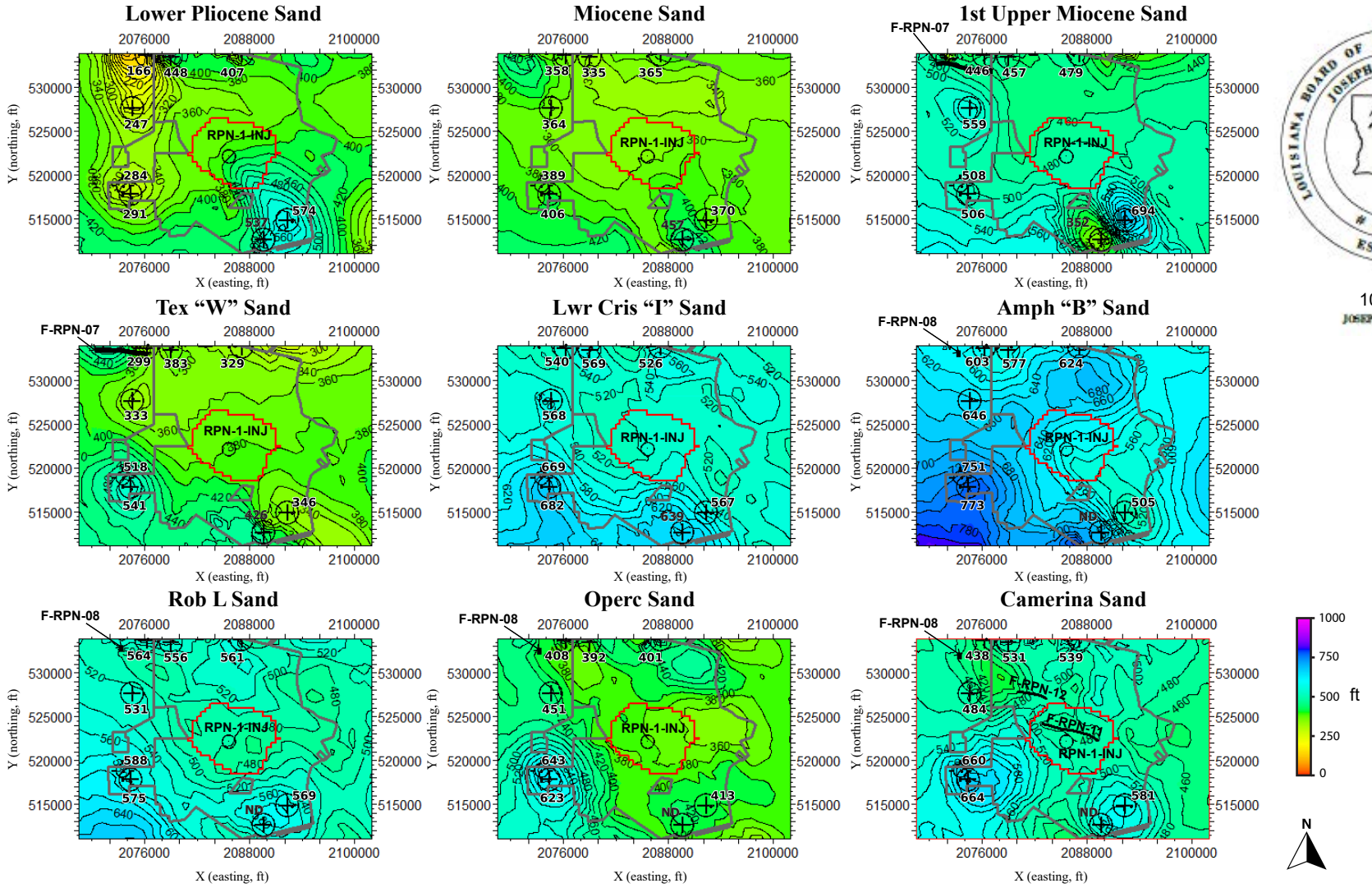
Depth Structure Map of Base of the USDW

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.2-26



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Legend:

- ⊕ Wells used to generate thickness
- XXX Thickness from well tops
- Area of Review boundary
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)

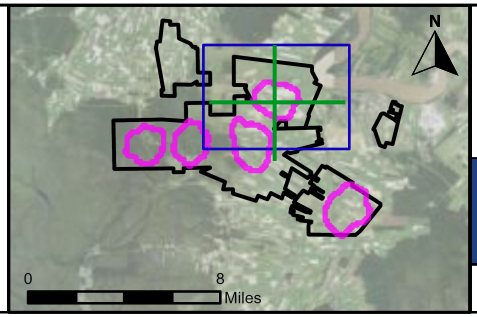
Explanation:

ft - feet

ND - not defined (well didn't penetrate formation top)

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 20 ft

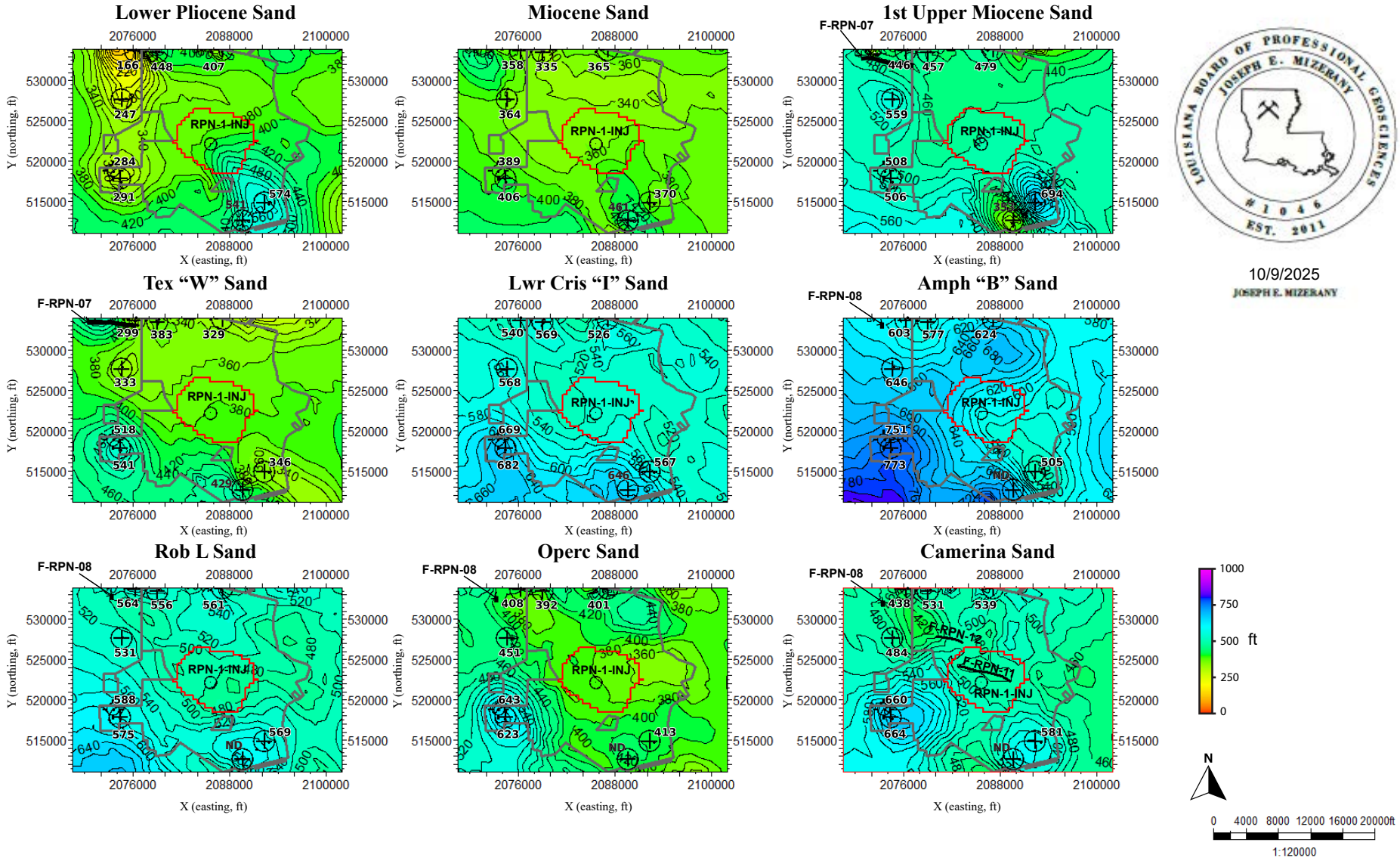


Key Injection Zone True Stratigraphic Thickness Maps at RPN-1

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-27



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Legend:

- Wells used to generate thickness
- XXX Thickness from well tops
- Area of Review boundary
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)

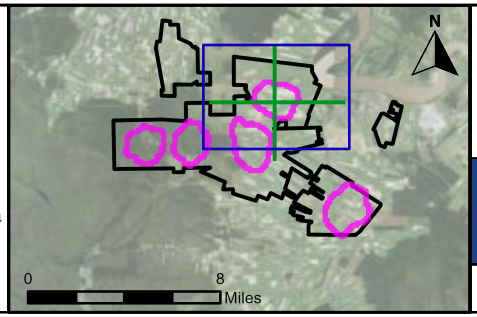
Explanation:

ft - feet

ND - not defined (well did not penetrate formation top)

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 20 ft

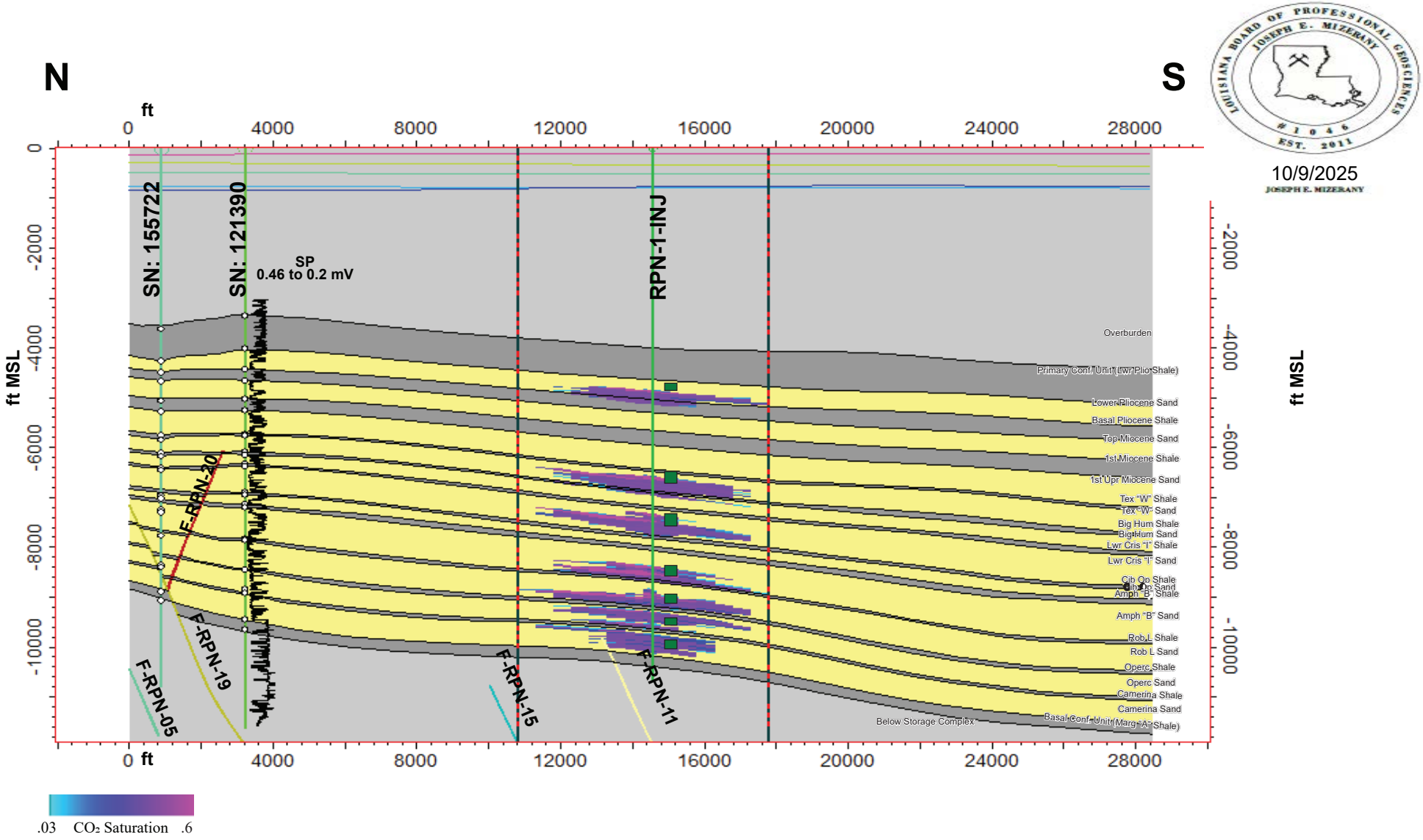


Key Injection Zone True Vertical Thickness Maps at RPN-1

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-28



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Legend:

- RPS Storage Site
- Modeled AoR boundaries
- Sand-prone zone
- Shale-prone zone
- Unmodeled interval

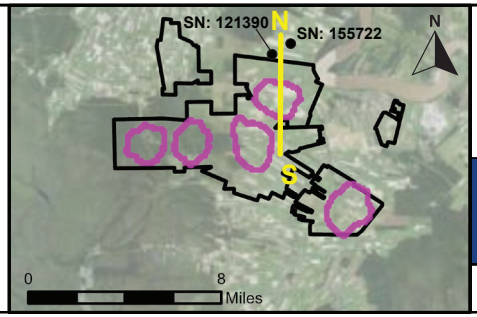
Notes:

SN = Serial Number
mV = milli volt
MSL - Mean Sea Level
AoR = Area of Review
USDW = Underground Source of Drinking Water
Vertical Exaggeration = 1.5x
sP = Spontaneous Potential
ft = feet
F-RPN-X = Interpreted fault

- Vertical AoR boundary
- Vertical modeled CO_2 plume extent
- Well top used to generate geologic model
- Perforation interval
- Mississippi River Alluvial Aquifer Horizon
- Top Norco Aquifer Horizon
- Gonzalez-New Orleans Aquifer
- 1,200 - Foot Sand Aquifer
- Interpreted Base USDW

Explanation:

1. Well 155722 did not have electronic logs. Well tops were picked on raster logs.
2. Wells are projected up to 500 feet from section line.
3. Additional well information is provided in Table 2.1-1

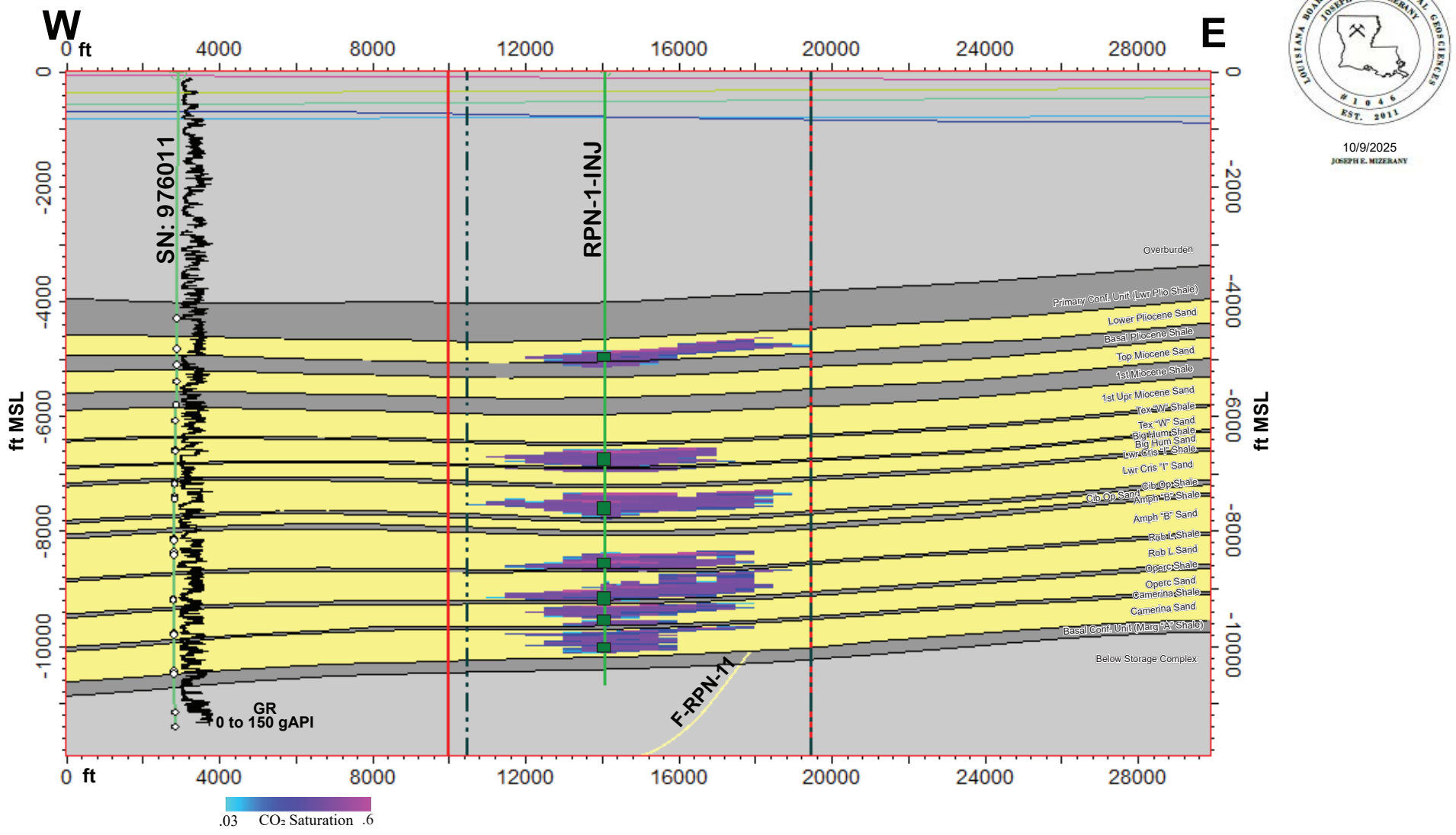


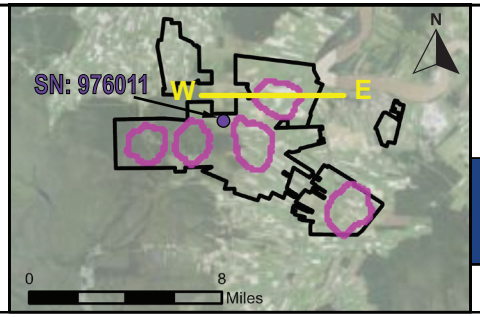
Regional Geologic Model North-South

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-29





Legend:

- RPS Storage Site
- Modeled AoR boundaries
- Sand-prone zone
- Shale-prone zone
- Unmodeled interval
- Vertical AoR boundary
- Vertical modeled CO_2 plume extent
- Well top used to generate geologic model
- Perforation interval
- Mississippi River Alluvial Aquifer Horizon
- Top Norco Aquifer Horizon
- Gonzalez-New Orleans Aquifer
- 1,200 - Foot Sand Aquifer
- Interpreted Base USDW

Notes:

SN = Serial Number
GR = Gammar Ray
MSL - Mean Sea Level
AoR = Area of Review
USDW = Underground Source of Drinking Water
gAPI = Gamma Ray American Petroleum Industry units
Vertical Exaggeration = 1.5x
ft = feet
F-RPN-X = Interpreted fault

Explanation:

1. Palo Alto RPN-S #1 (976011) is projected ~4,400 ft from the section line.
2. Additional well information is provided in Table 2.1-1

Regional Geologic Model West-East

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.2-30

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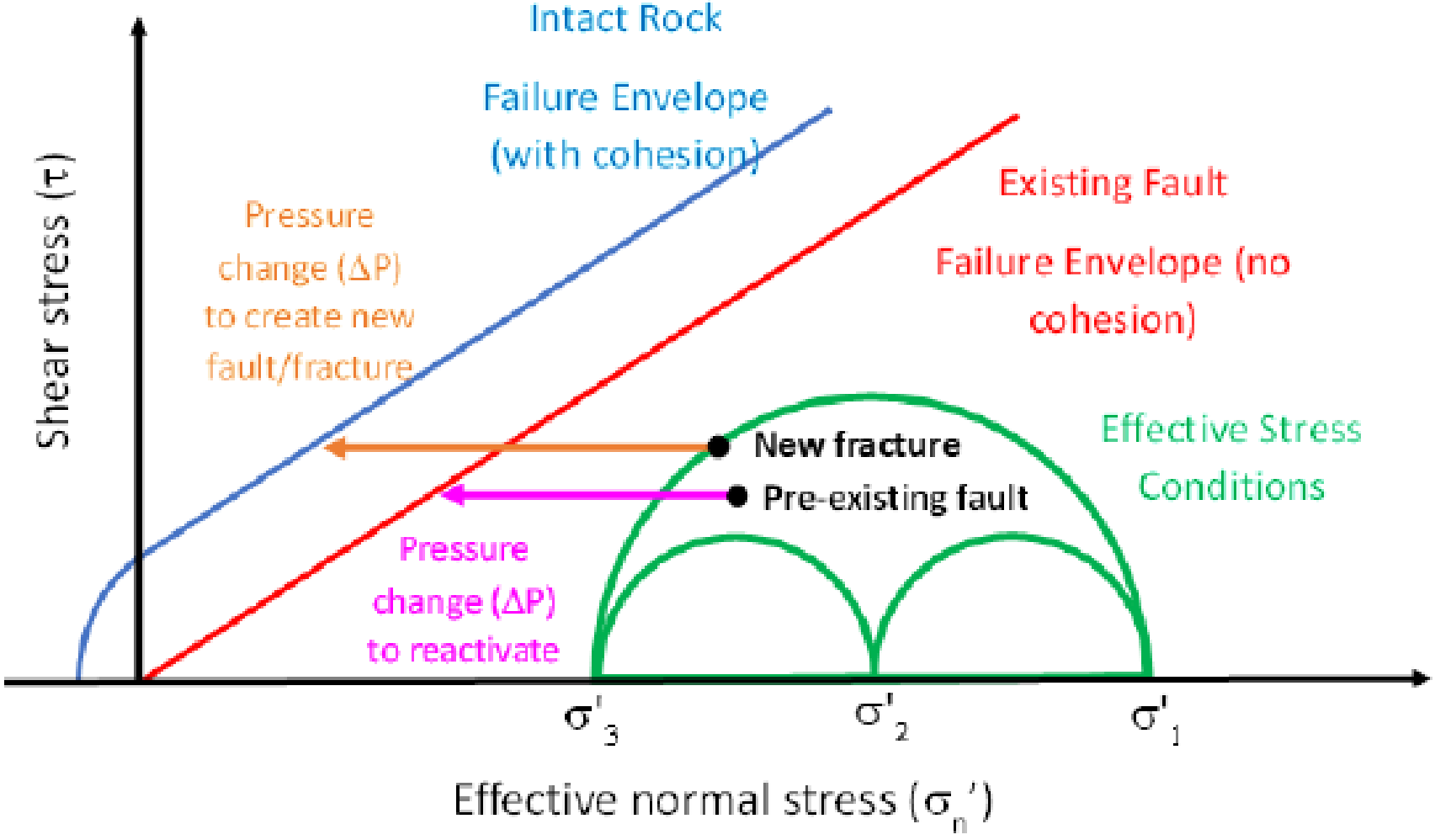


Legend

σ'₁ - Maximum stress

σ'₂ - Intermediate stress

σ'₃ - Minimum stress

Explanation

N

0 1,000 Feet

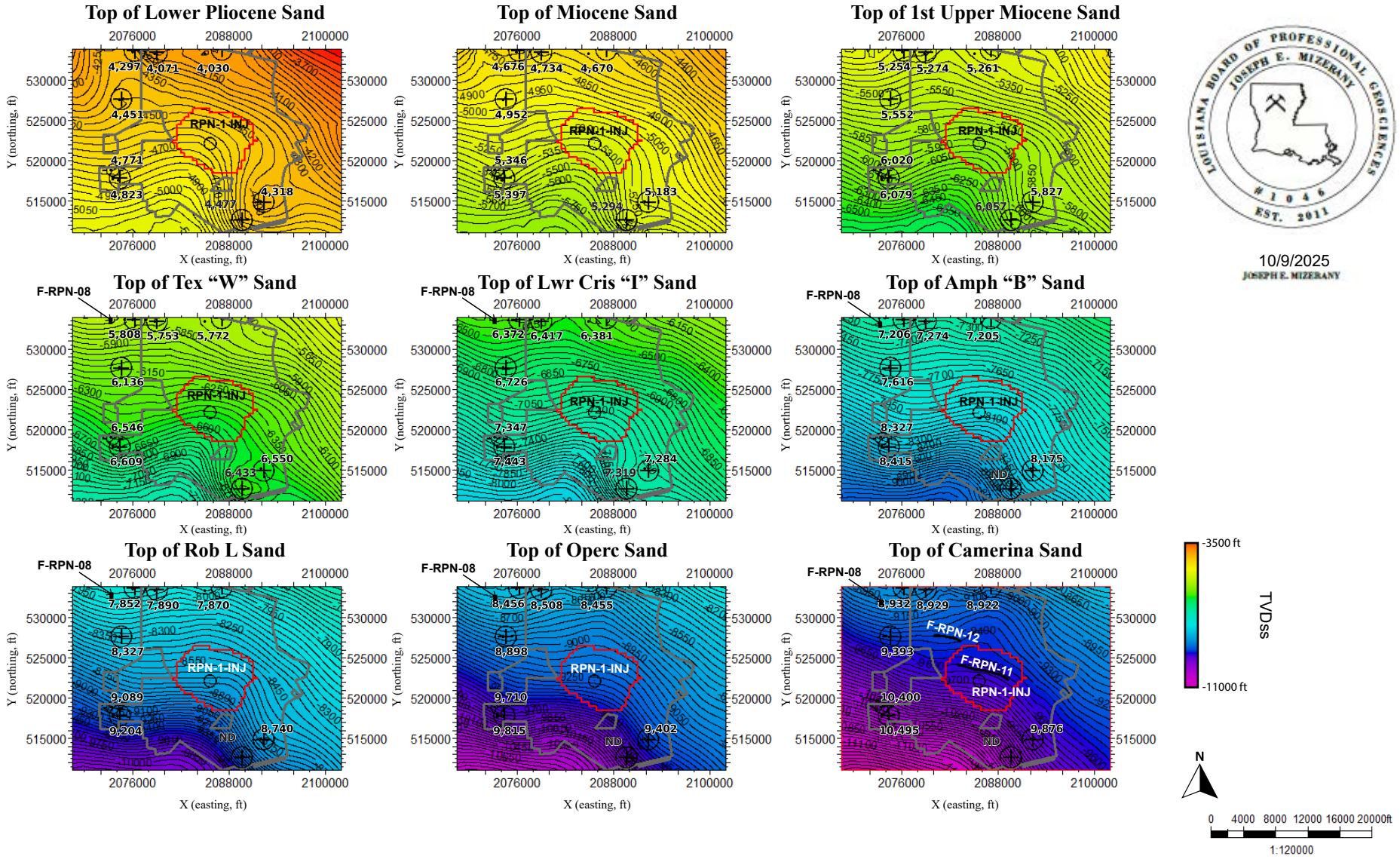
Fault Slip Potential

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project | May 2024

Figure 2.3-1



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Legend:

- ⊕ Wells used to generate surface
- X,XXX TVDss well tops
- Area of Review boundary
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)

Explanation:

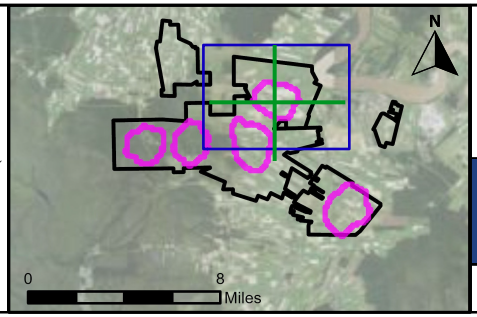
ft - feet

ND - not defined (well did not penetrate formation top)

TVDss - True Vertical Depth Sub Sea

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 50 ft
3. Contour elevations in TVDss

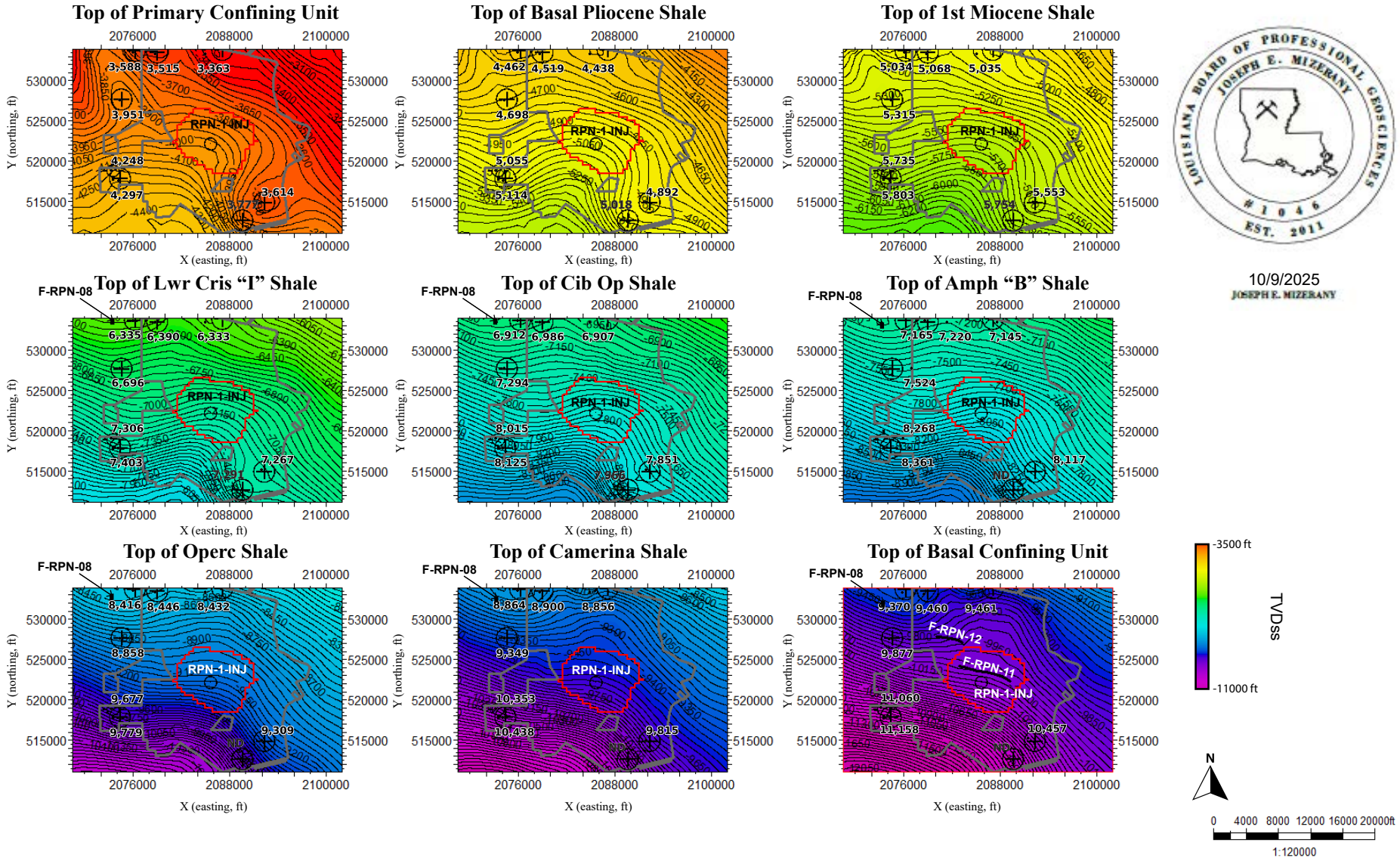


Key Injection Zone Depth Structure Maps at RPN-1

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-1



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Legend:

- ⊕ Wells used to generate surface X,XXX TVDss well tops
- Area of Review boundary
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)

Explanation:

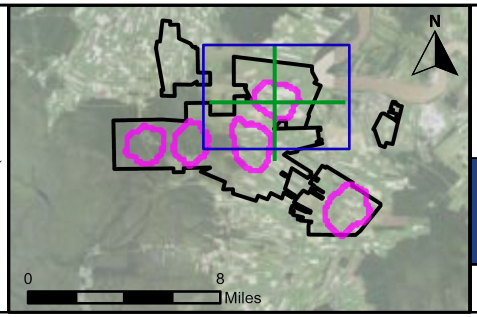
ft - feet

ND - not defined (well did not penetrate formation top)

TVDss - True Vertical Depth Sub Sea

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 50 ft
3. Contour elevations in TVDss

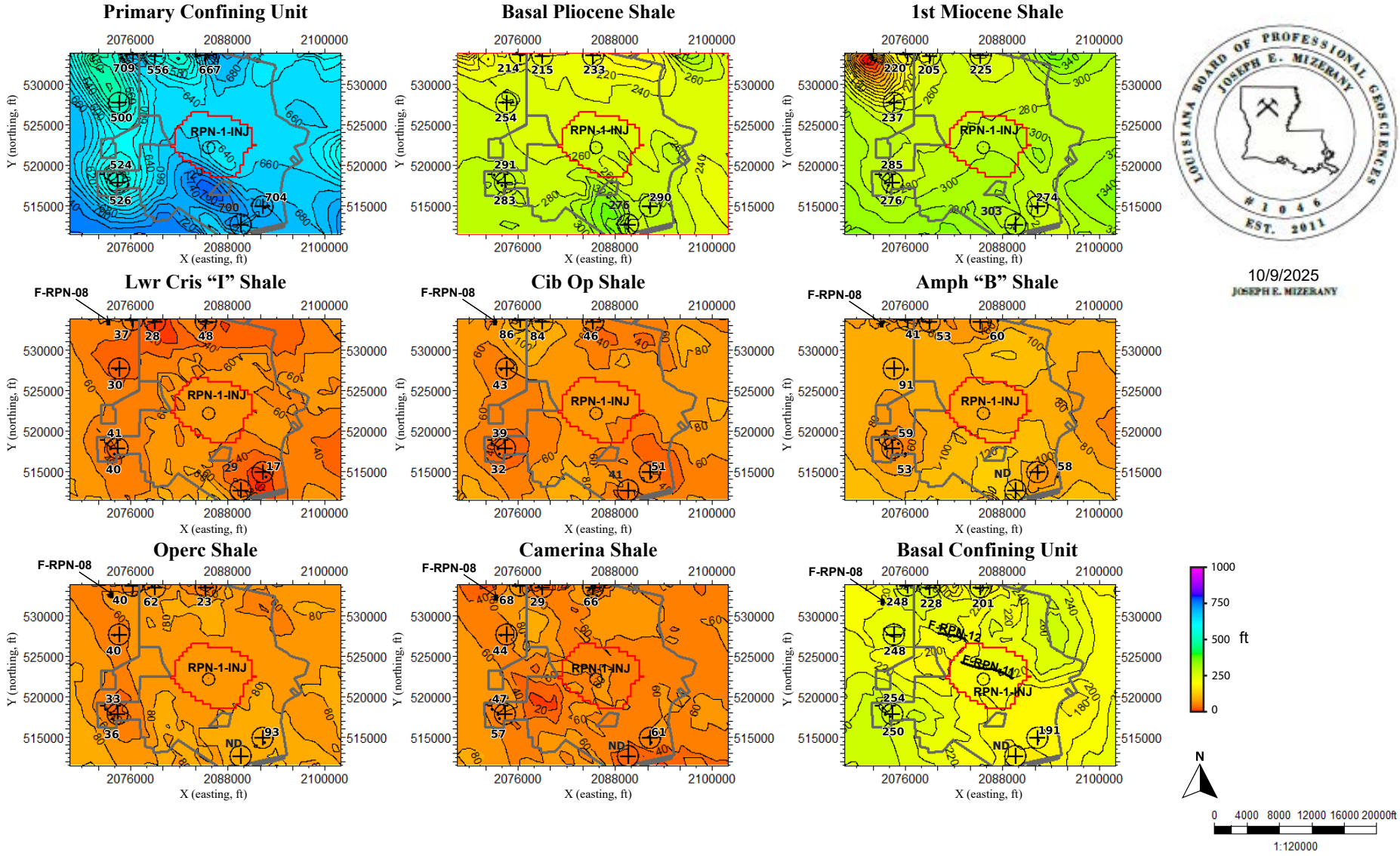


Key Confining Zone Depth Structure Maps at RPN-1

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-2



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Legend:

- ⊕ Wells used to generate thickness
- XXX Thickness from well tops
- Area of Review boundary
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)

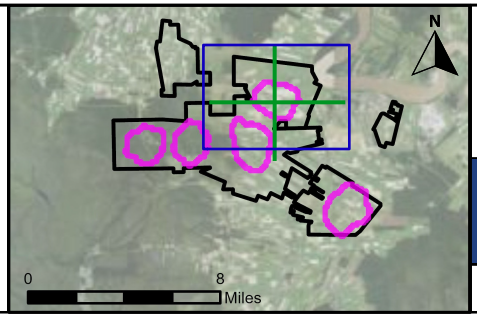
Explanation:

ft - feet

ND - not defined (well did not penetrate formation top)

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 20 ft

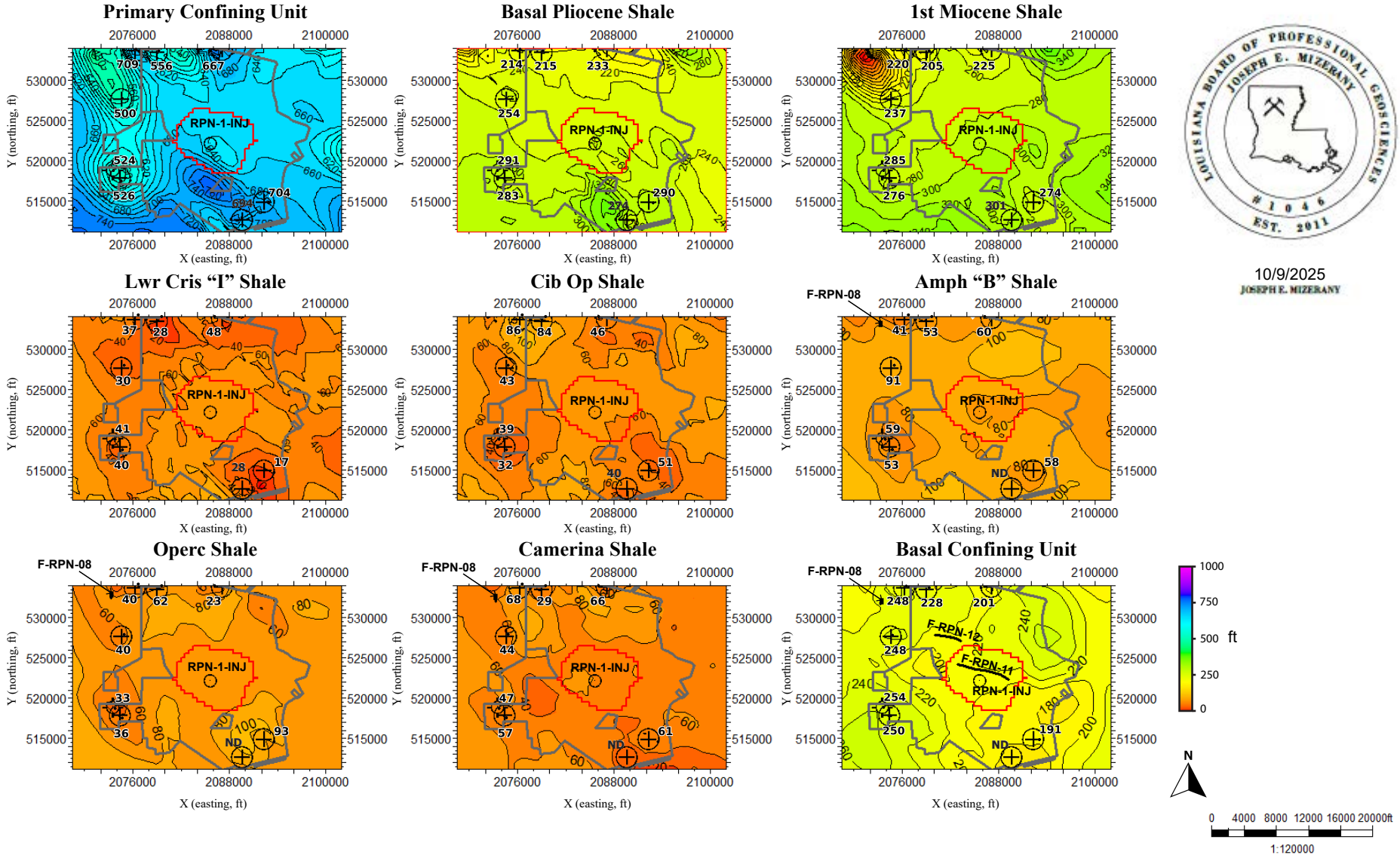


Key Confining Zone True Vertical Thickness Maps at RPN-1

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-3



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Legend:

- ⊕ Wells used to generate thickness
- XXX Thickness from well tops
- Area of Review boundary
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)

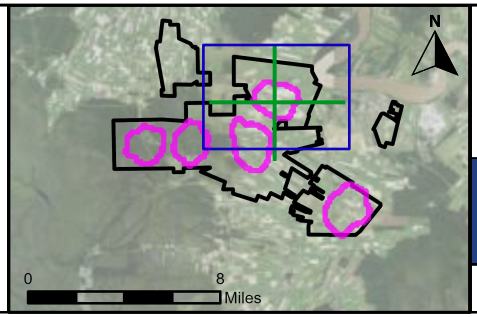
Explanation:

ft - feet

ND - not defined (well did not penetrate formation top)

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 20 ft



Key Confining Zone True Stratigraphic Thickness Maps at RPN-1

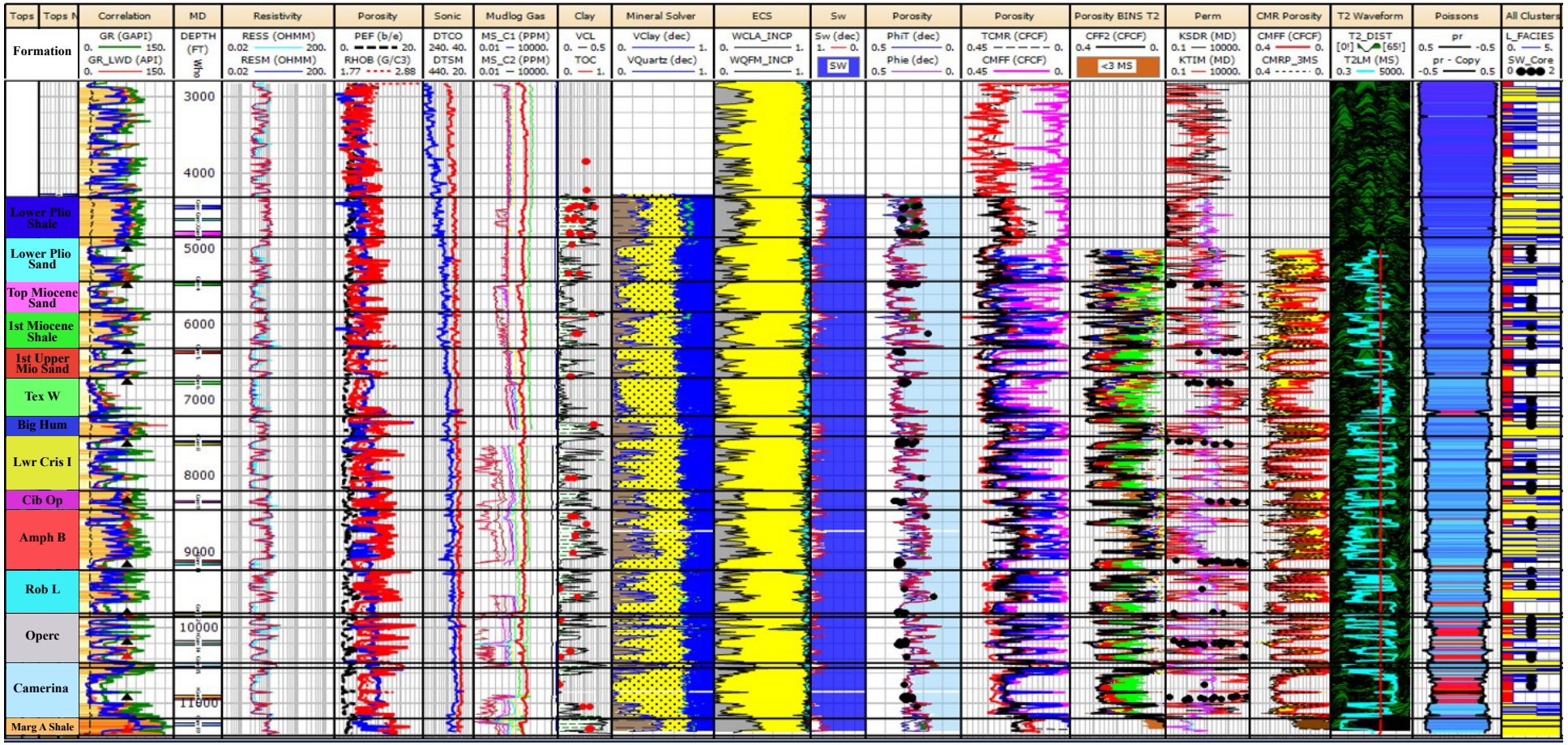
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-4

Petrophysical Analysis Pilot Well

SN: 976011
UWI: 17005880630000 Palo Alto RPN-S No. 1 Logging Runs



Legend:

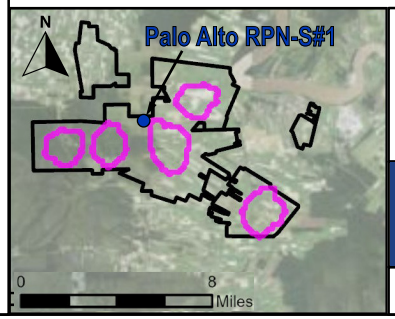
- RPS Storage Site
- Modeled CO2 plume boundaries
- Core measurement

SN = serial number
ft = feet
MD = measured depth
Sw = water saturation
Perm = permeability
GR = gamma ray
RESS = shallow resistivity
RESM = medium resistivity
PEF = effective porosity
RHOB = bulk density

UWI = unique well identifier
ECS = elemental capture spectrospcopy
Ohmm = ohm-meters
T2 = transverse relaxation time
CMR = combinable magnetic resonance
API = American Petroleum Institute units
MS CX = mesaured gas component
VCL/VClay = clay volume
TOC = total organic carbon
VQuartz = quartz volume
PhiT = total porosity
Phie = effective porosity
pr = poissons ratio
SW core = side-wall core
CMFF (CFCF) = free fluid porosity
CFF2 (CFCF) = CMR free fluid for T2 cutoff 2

Notes:

DTCO = compressional sonic
DTSM = shear sonic
LWD = logging while drilling
KSDR = Schlumberger Doll Research permeability model
KTIM = Timur-Coates permeability model
TCMR (CFCF) = total porosity (Combinable Magentic Resonsance)
CMRP_3MS = CMR porosity with T2 values greater than 3 ms
WCLA INCP = dry weight clay from inelastic-capture processing
WQFM INCP = dry weight quartz + feldspar + mica (QFM) from inelastic-capture processing

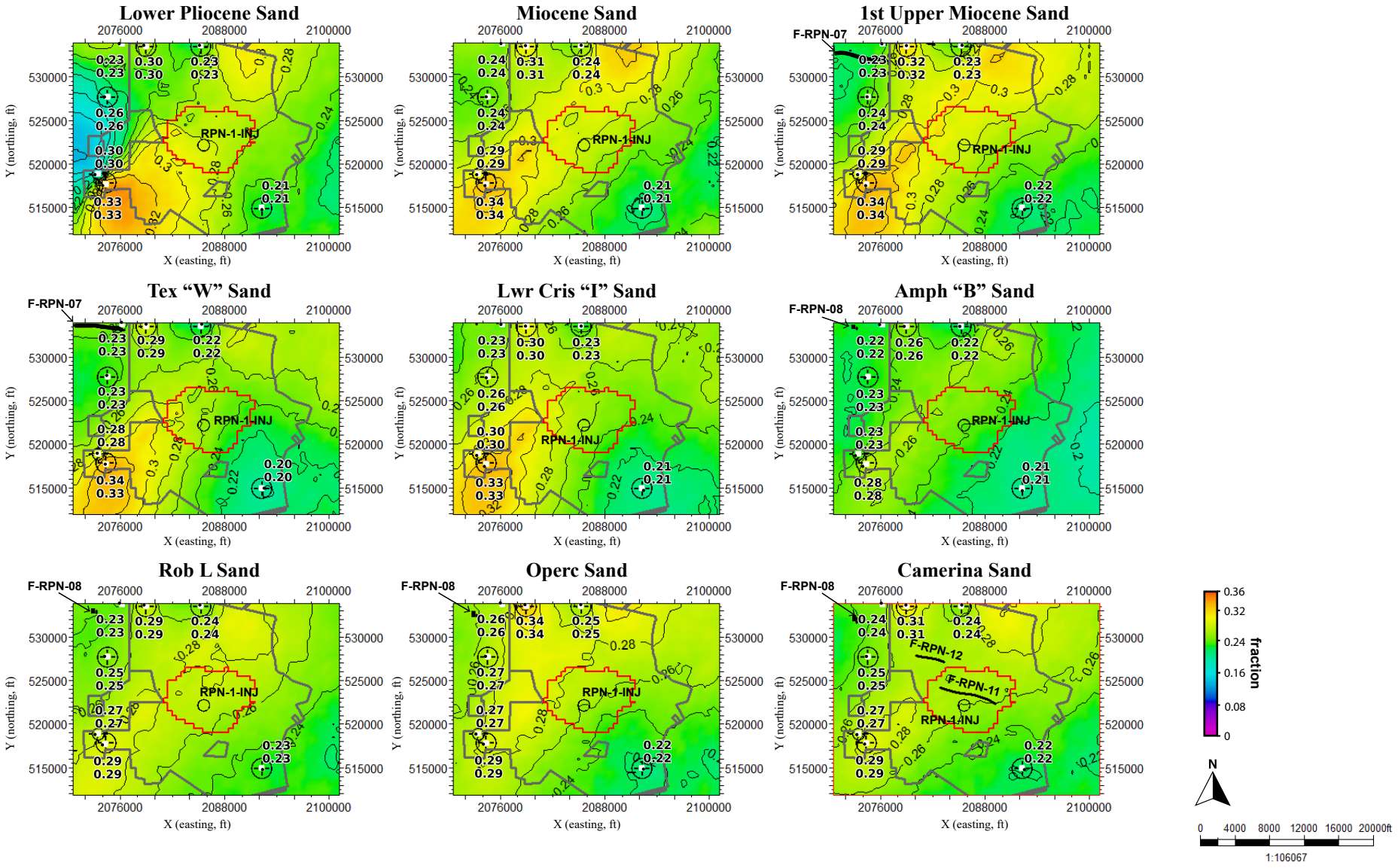


Petrophysical Model Output

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	August 2025	Figure 2.4-5



Legend:

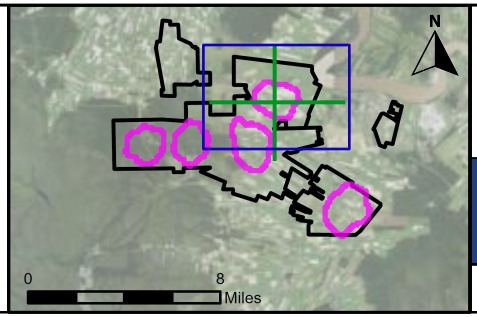
- ⊕ Wells used to generate property
- X.XX Well log average value
- X.XX Upscaled log average value
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)
- Area of Review boundary

Explanation:

ft - feet

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 0.02

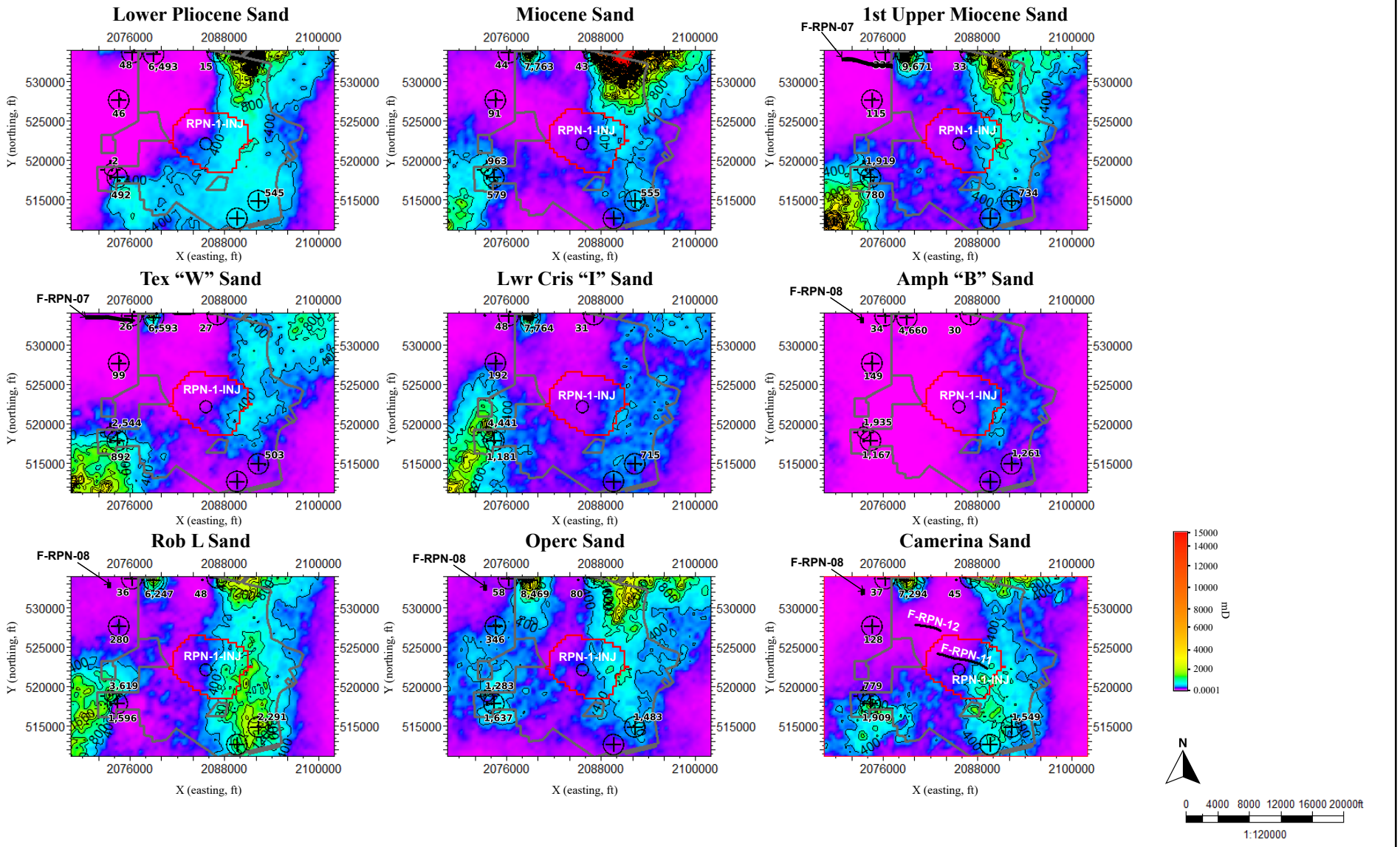


Key Injection Zone Average Porosity Maps at RPN-1

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-6



Legend:

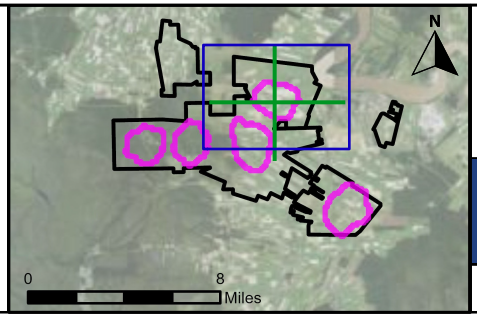
- ⊕ Wells used to generate property
- X.XX Upscaled log median value
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)
- Area of Review boundary

Explanation:

ft - feet mD - millidarcies

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 400 mD

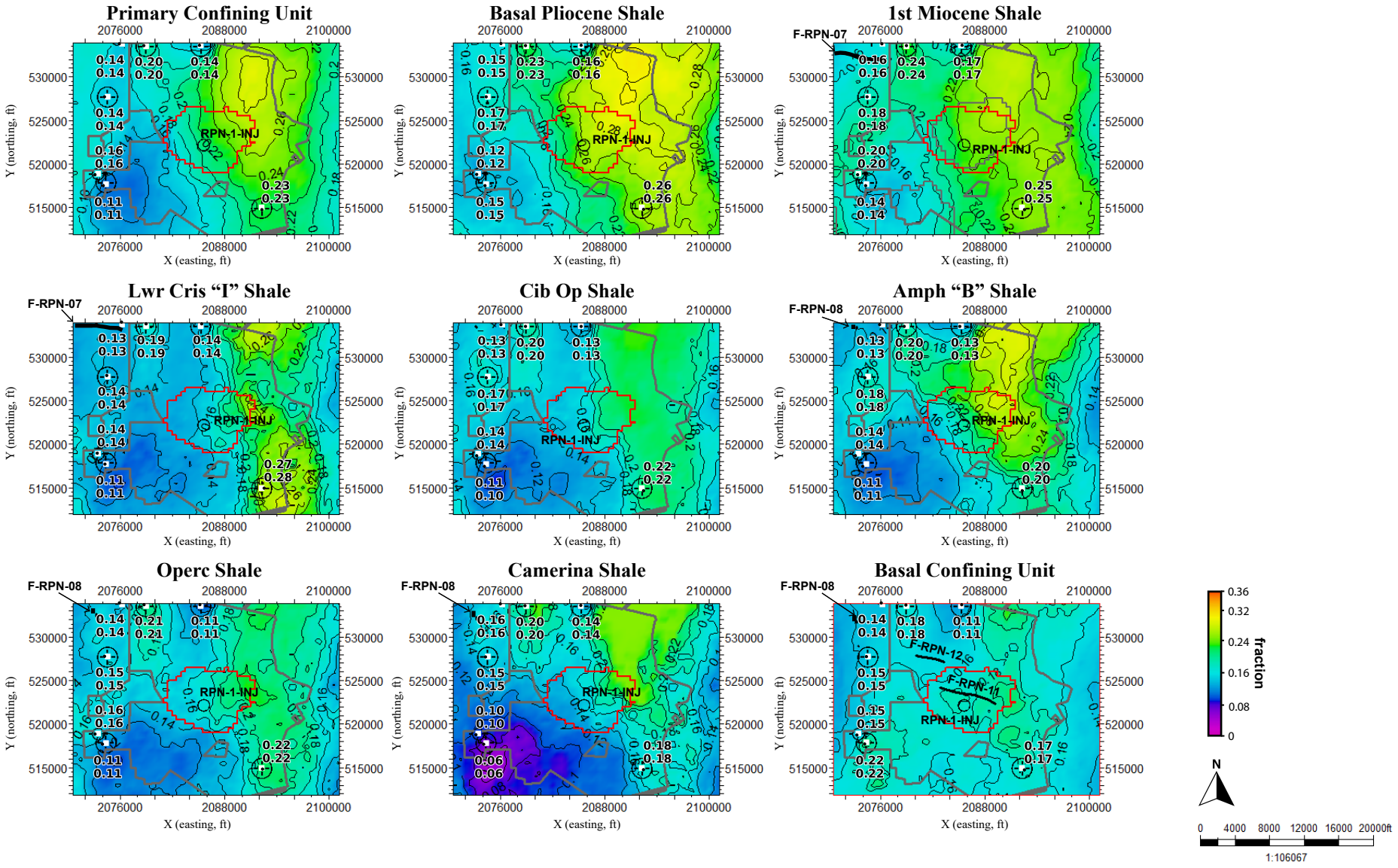


Key Injection Zone Median Permeability Maps at RPN-1

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-7



Legend:

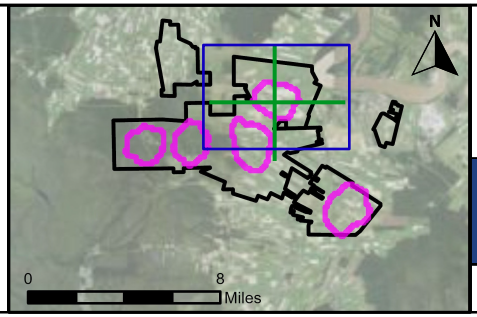
- ⊕ Wells used to generate property
- X.XX Well log average value
- X.XX Upscaled log average value
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)
- Area of Review boundary

Explanation:

ft - feet

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 0.02

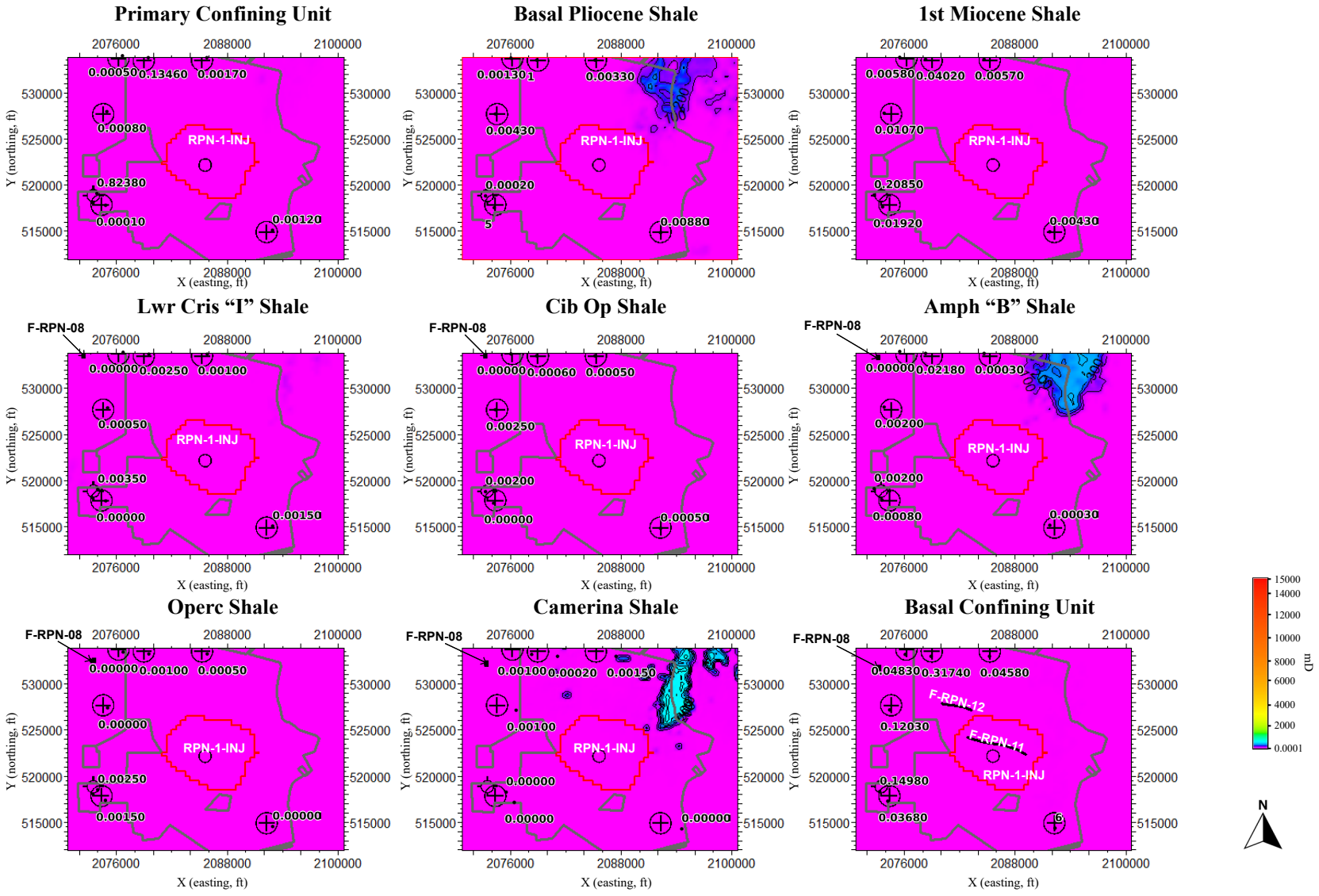


Key Confining Zone Average Porosity Maps at RPN-1

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-9



Legend:

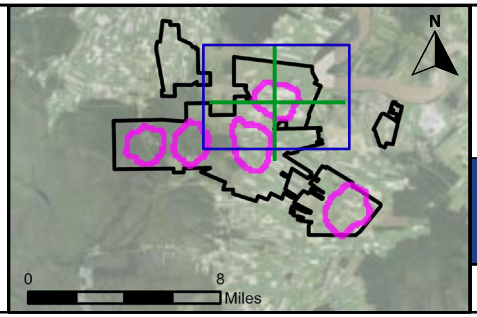
- Wells used to generate property
- X.XX Upscaled log median value
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)
- Area of Review boundary

Explanation:

ft - feet mD - millidarcies

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 100 mD

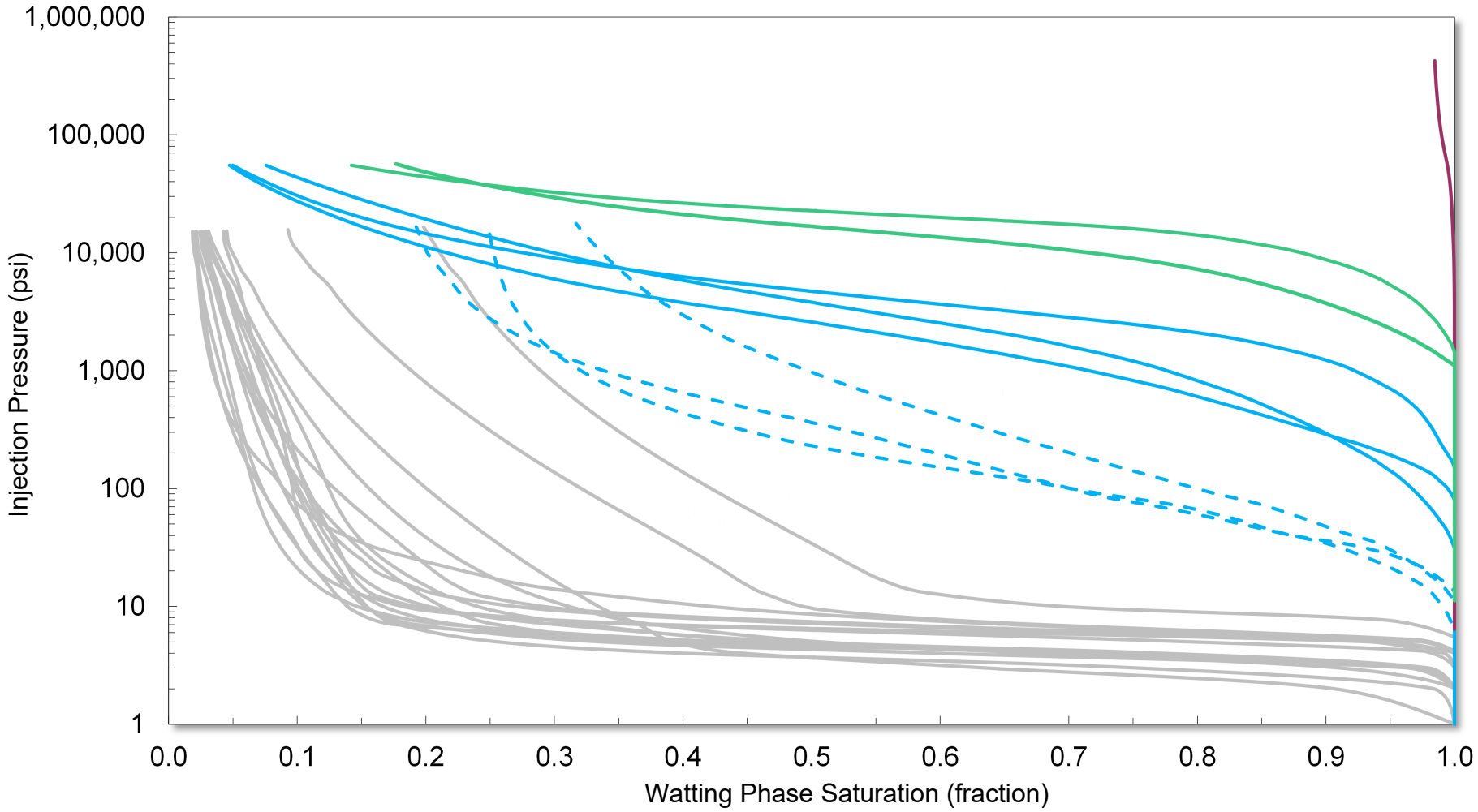


Key Confining Zone Median Permeability Maps at RPN-1

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-10



Legend:

- Upper Confining Zone, HPMI
- Upper Confining Zone, argillaceous sandstone AOBMI
- Injection Zone, AOBMI
- Shale in Injection Zone, HPMI
- Lower Confining Zone, HPMI

Notes:

AOBMI – advanced overburden mercury injection

HPMI – high pressure mercury injection

psi – pounds per square inch

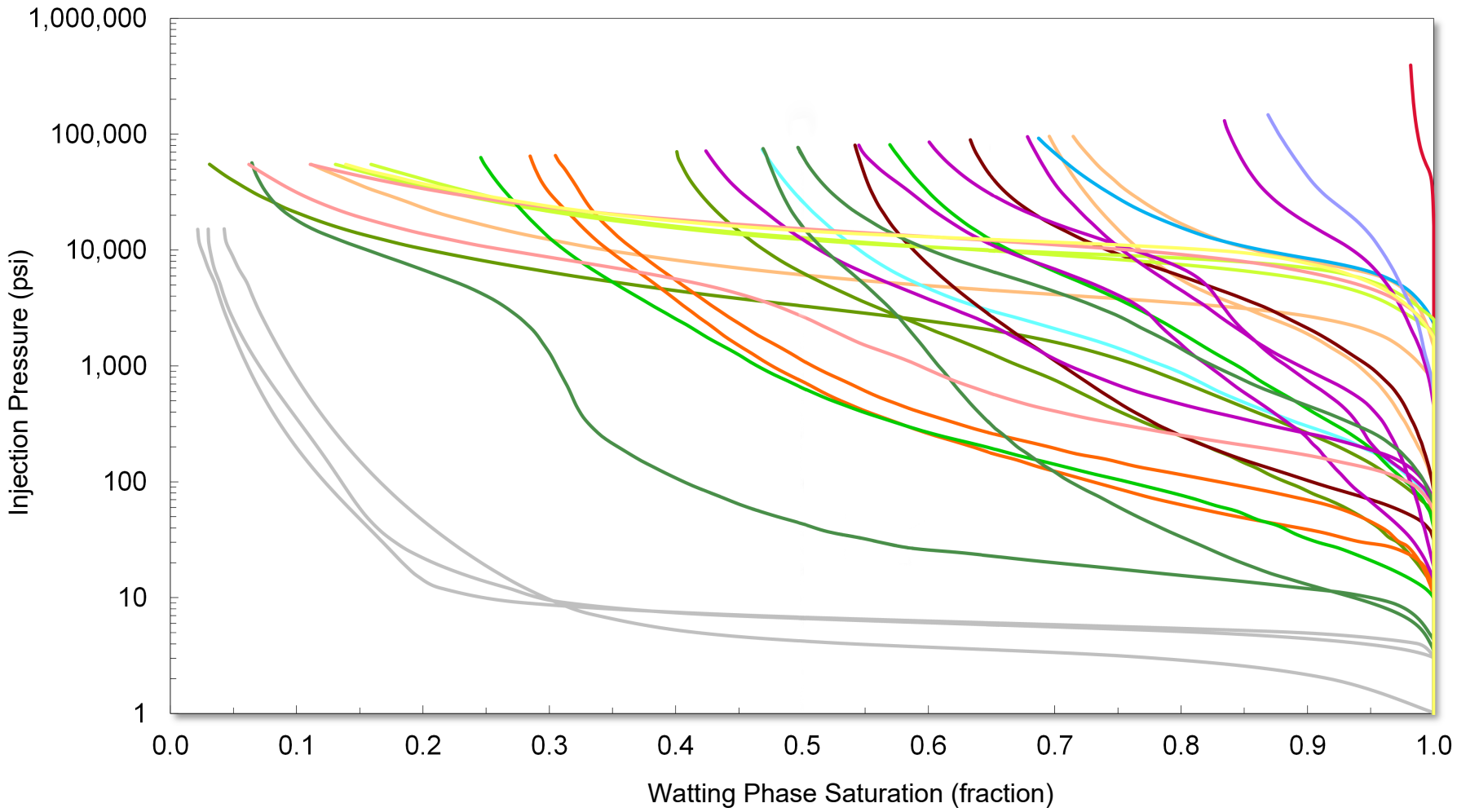
Mercury Injection Capillary Pressure from Core

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

Carbon Dioxide Reservoir Evaluation CO2re

RPS Project | May 2024

Figure 2.4-11



Legend:

Shale in Injection Zone, HPMI (by increasing depth)

Shale in Pliocene Overburden, HPMI

Upper Confining Zone, HPMI

Injection Zone, AOBMI

Lower Confining Zone, HPMI

Notes:

AOBMI – advanced overburden mercury injection

HPMI – high pressure mercury injection

psi – pounds per square inch

RSWC – rotary sidewall core

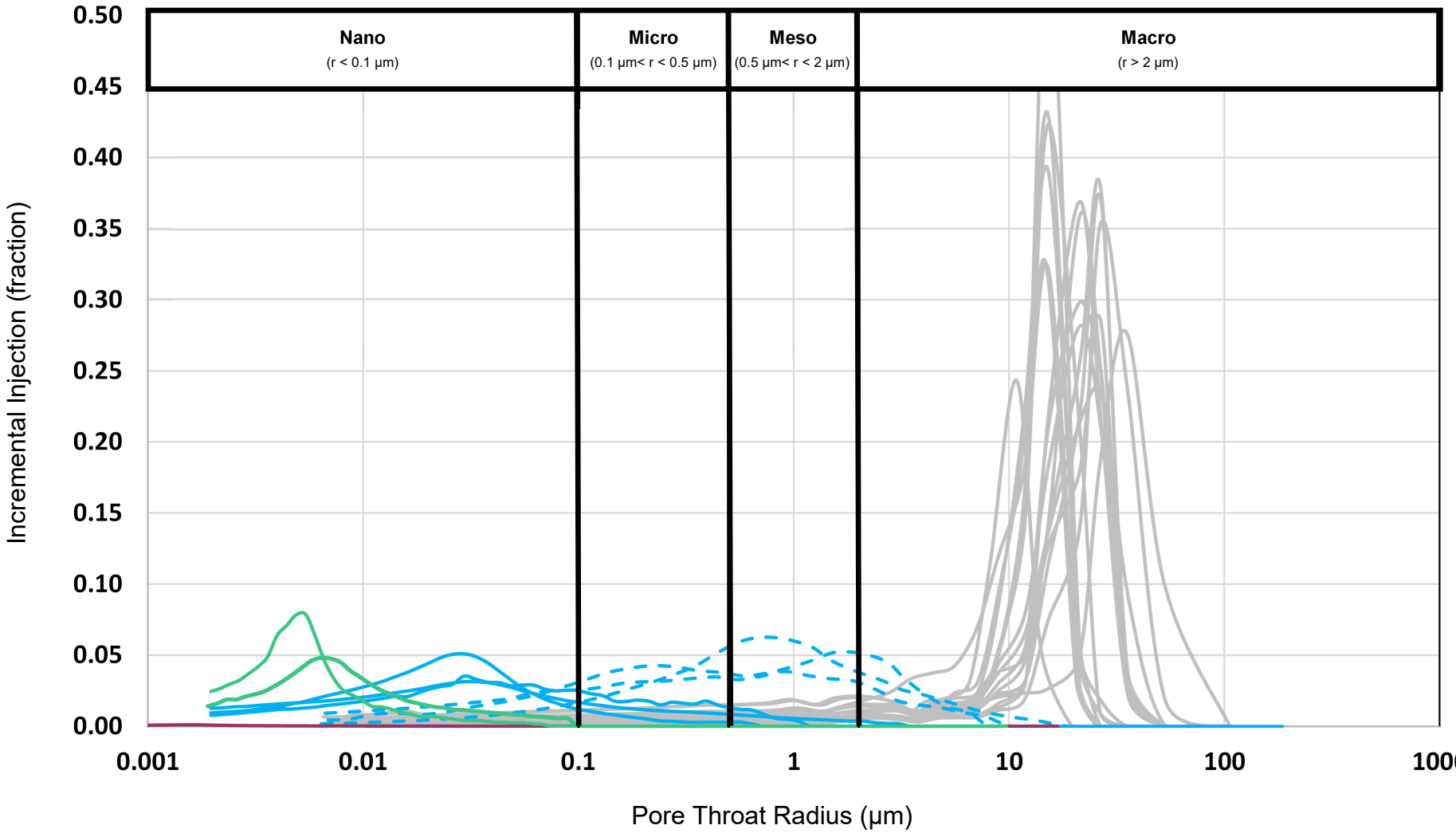
Mercury Injection Capillary Pressure from RSWC

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

Carbon Dioxide Reservoir Evaluation CO2re

Figure 2.4-12

RPS Project | May 2024



Legend:

- Upper Confining Zone, HPMI
- Upper Confining Zone, argillaceous sandstone AOBMI
- Injection Zone, AOBMI
- Shale in Injection Zone, HPMI
- Lower Confining Zone, HPMI

Notes:

AOBMI – advanced overburden mercury injection

HPMI – high pressure mercury injection

µm - micrometer

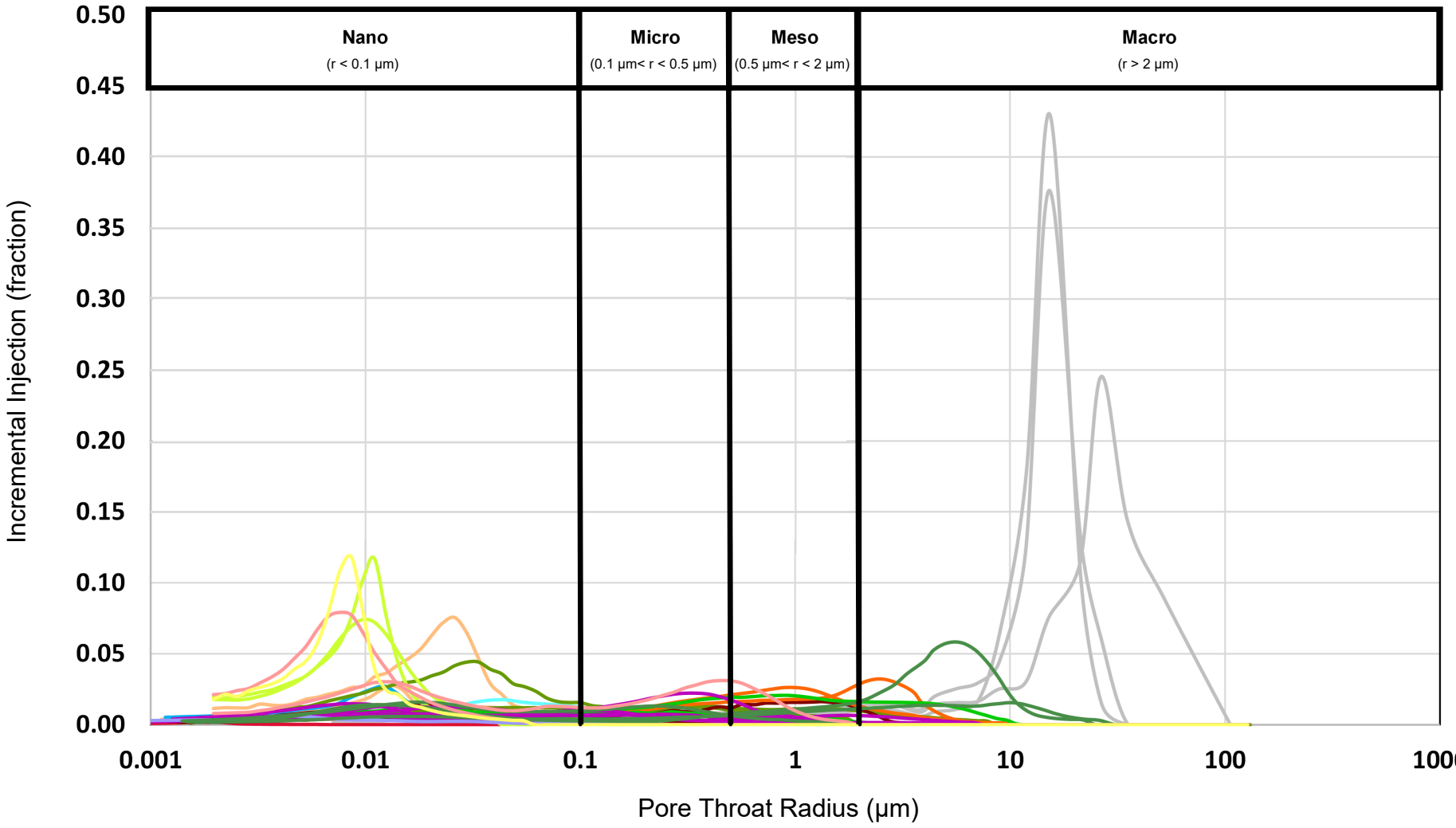
Pore Size Distribution from Core

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

Carbon Dioxide Reservoir Evaluation CO2re

RPS Project | May 2024

Figure 2.4-13



Legend:

Shale in Injection Zone, HPMI (by increasing depth)

Shale in Pliocene Overburden, HPMI

Upper Confining Zone, HPMI

Injection Zone, AOBMI

Lower Confining Zone, HPMI

Notes:

AOBMI – advanced overburden mercury injection

HPMI – high pressure mercury injection

µm - micrometer

RSWC – rotary sidewall core

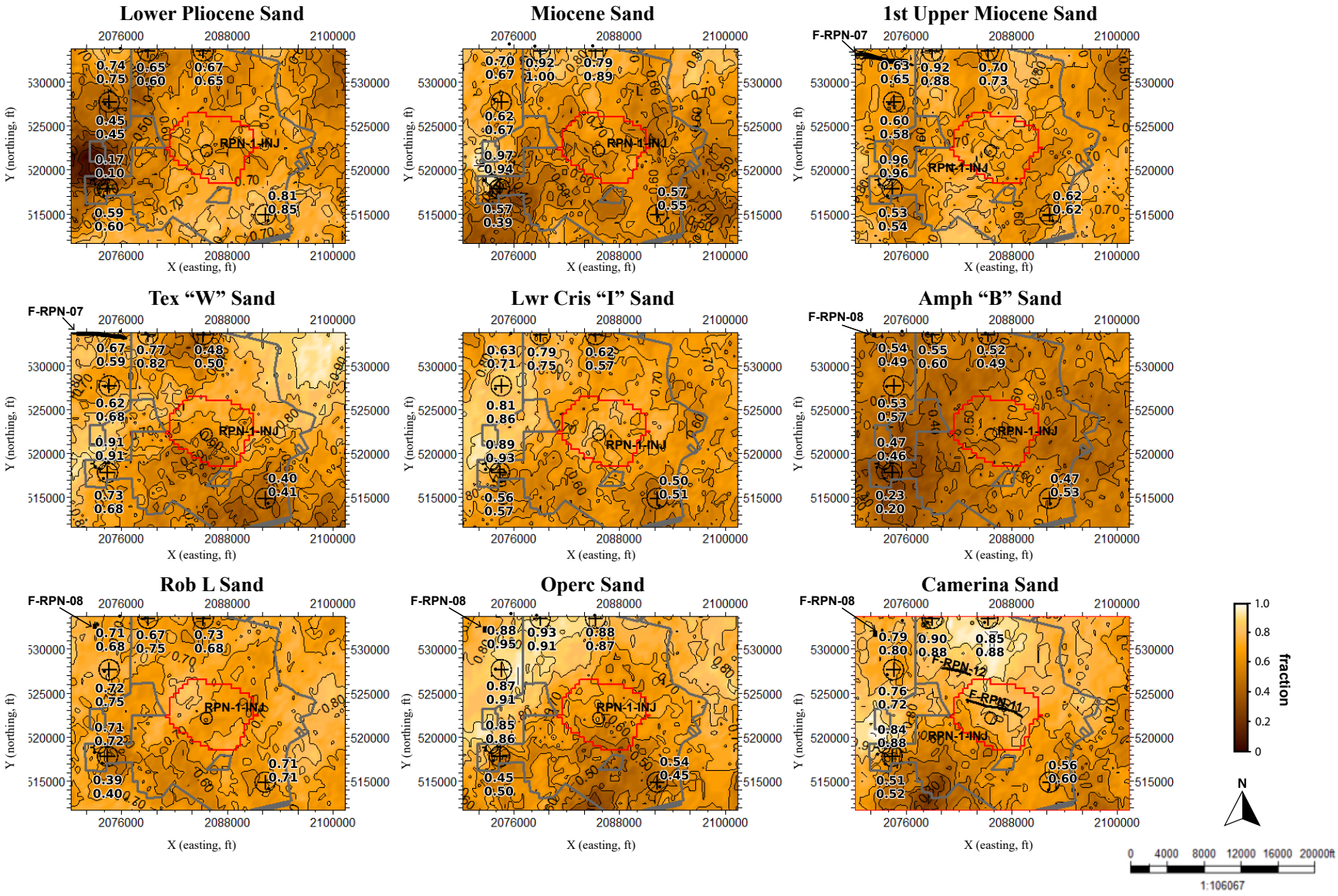
Pore Size Distribution from RSWC

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

Carbon Dioxide Reservoir Evaluation CO2re

RPS Project | May 2024

Figure 2.4-14



Legend:

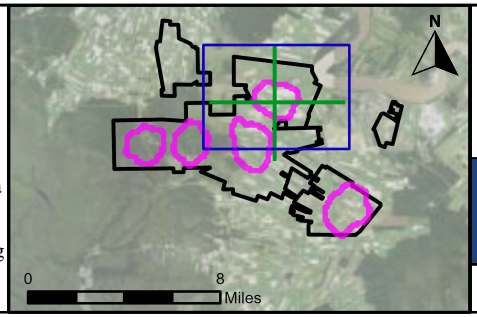
- Wells used to generate property
- X.XX Well log average value
- X.XX Upscaled log average value
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)
- Area of Review boundary

Explanation:

ft - feet

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 0.1
3. Net-to-gross deviations driven by gridding methodology and interpolation of sparse facies characterization.



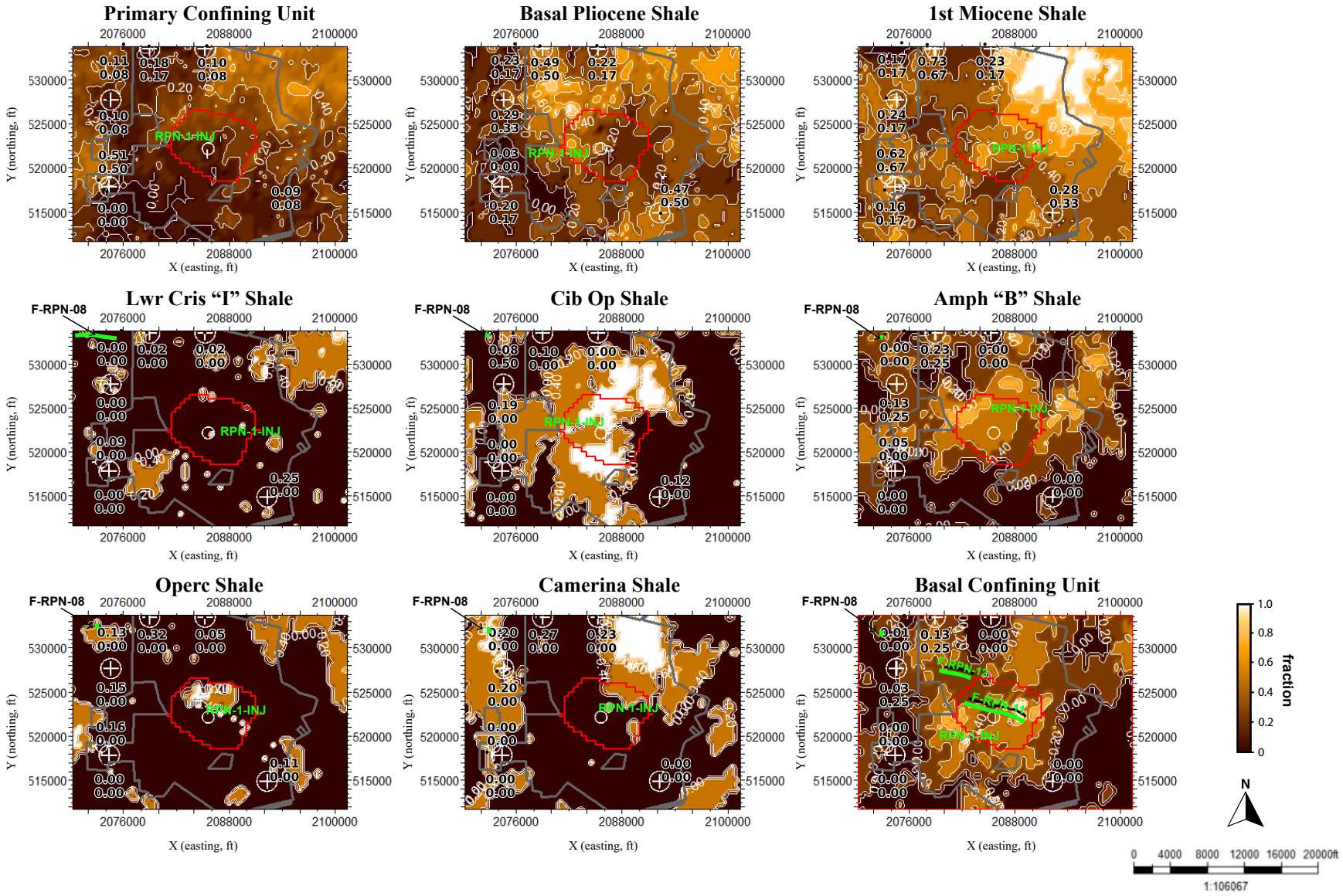
Key Injection Zone Average Net-to-Gross Maps at RPN-1

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025

Figure 2.4-15



Legend:

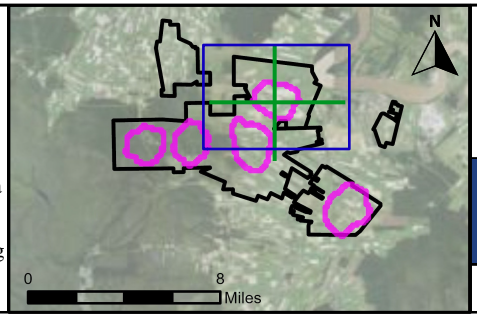
- ⊕ Wells used to generate property
- X.XX Well log average value
- X.XX Upscaled log average value
- Fault trace
- 3D seismic
- Lease boundary
- Modeled AoR boundary
- Seismic cross-sections (Figures 2.2-31, 2.2-32)
- Area of Review boundary

Explanation:

ft - feet

Notes:

1. X and Y coordinates in NAD27 Louisiana State Plane, Southern Zone, US Foot
2. Contour interval = 0.2
3. Net-to-gross deviations driven by gridding methodology and interpolation of sparse facies characterization.

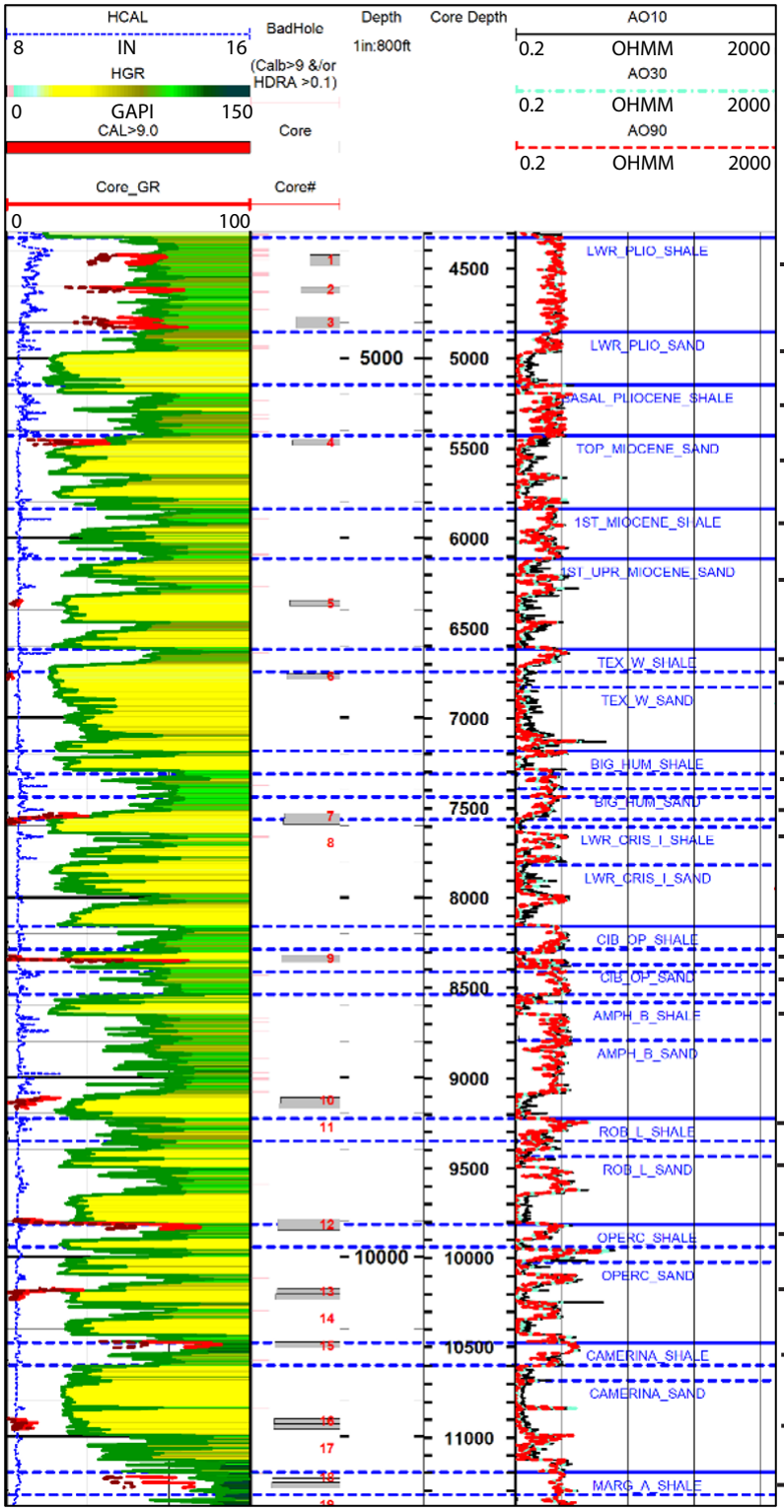


Key Confining Zone Average Net-to-Gross Maps at RPN-1

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025	Figure 2.4-16

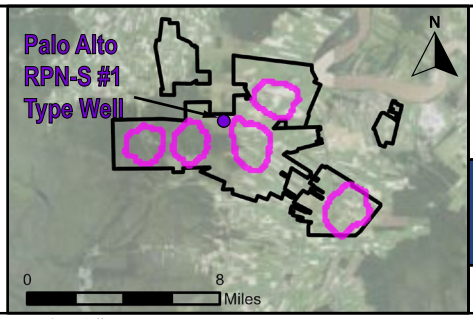


→ Primary Confining Unit (Lwr Plio Shale)
→ Lwr Pliocene Sand
→ Basal Pliocene Shale
→ Top Miocene Sand
→ 1st Miocene Shale
→ 1st Upr Miocene Sand
→ Tex "W" Shale
→ Tex "W" Sand
→ Big Hum Shale
→ Big Hum Sand
→ Lwr Cris "I" Shale
→ Lwr Cris "I" Sand
→ Cib Op Shale
→ Cib Op Sand
→ Amph "B" Shale
→ Amph "B" Sand
→ Rob L Shale
→ Rob L Sand
→ Operc Shale
→ Operc Sand
→ Camerina Shale
→ Camerina Sand
→ Basal Confining Unit (Marg "A" Shale)

Explanation: Palo Alto RPN-S #1 type well; input for North Fairway model construction. Key formation tops used to constrain genetically related sediment packages. Regional flooding surfaces were also identified that will act as secondary confining units within the reservoir.

Legend:
Cored Interval

Notes:
Depths are feet below ground surface.
IN - inch
OHMM - Ohm-meter (unit of resistivity)
HCAL - Caliper; HGR - Gamma Ray
AO10 - Shallow Resistivity
AO30 - Medium Resistivity
AO90 - Deep Resistivity



Palo Alto RPN-S #1 Cored Intervals

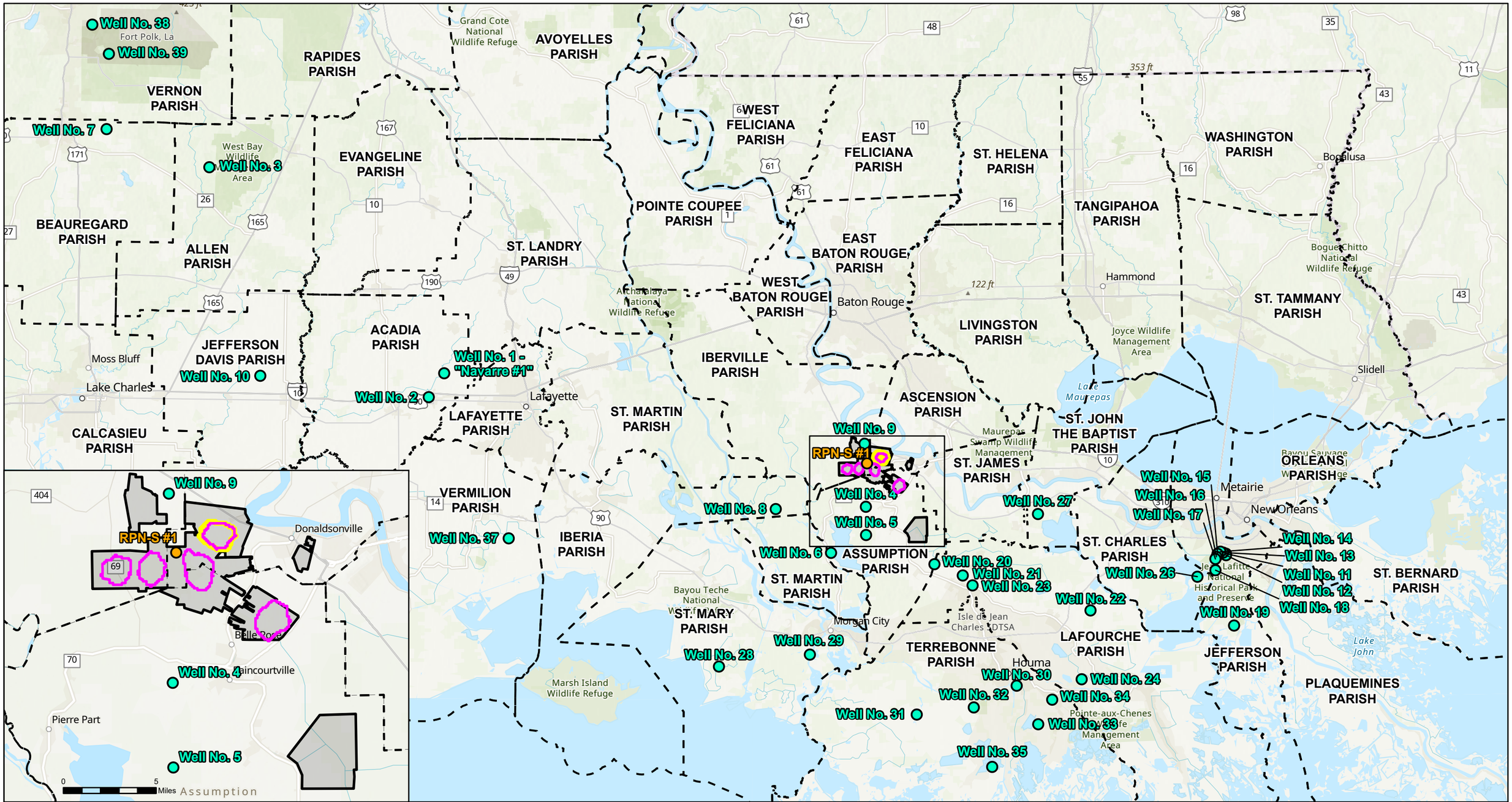
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.4-17

Geosyntec\SB Geoscience - Projects\Blue Sky\Louisiana\2025 LDENR NOD\RPN1 Illustrator



Legend

- Core and Cutting Sample Location (Watson 1965)
- Modeled CO_2 Plume Extent
- Area of Review
- RPS Storage Site
- Parish Boundary
- Stratigraphic Test Well (Palo Alto RPN-S #1)

Note:
Navarre #1 - source of thin sections

Basemap Source:
Esri Topographic

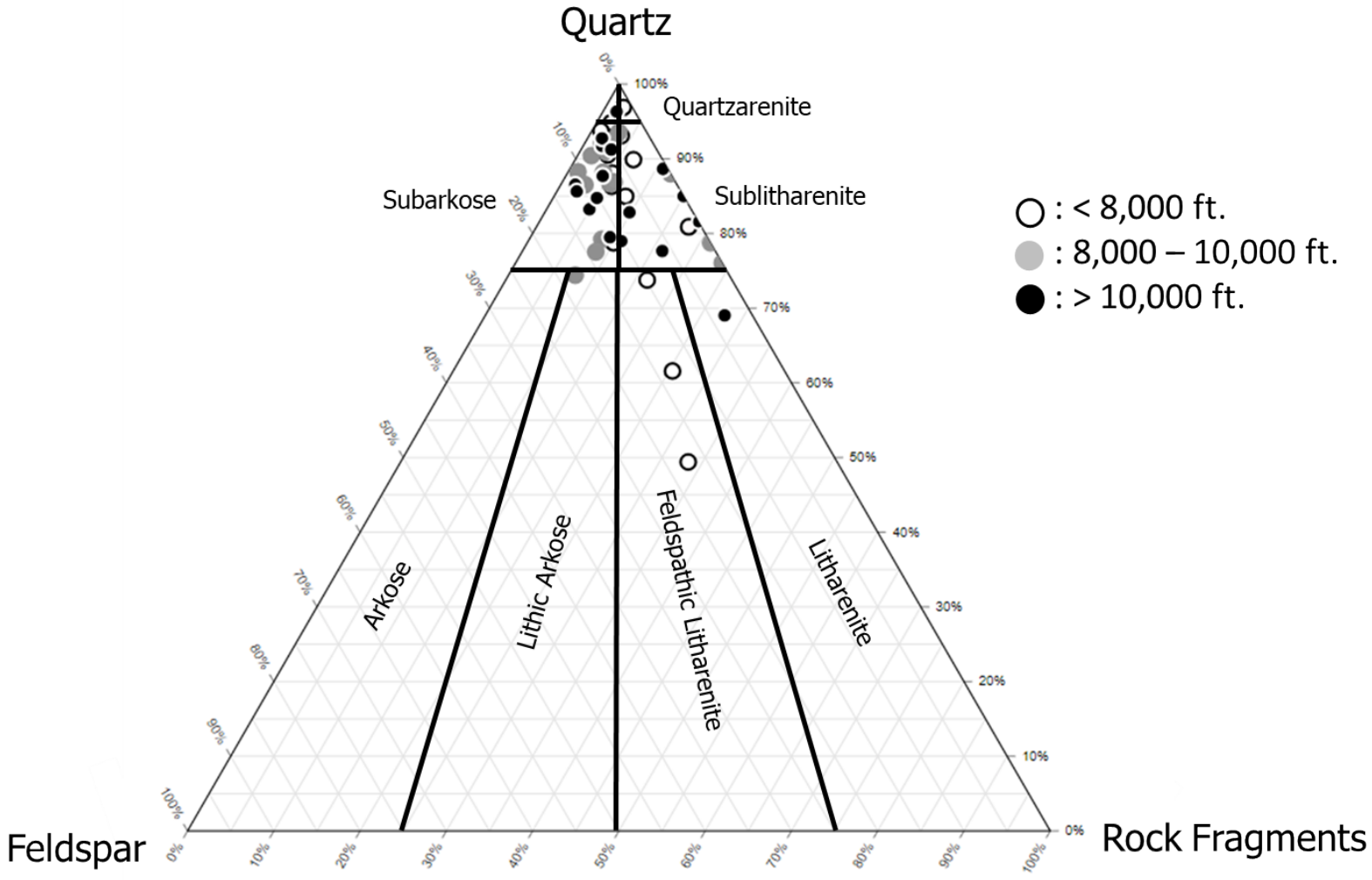
Regional Core and Cutting Samples

Southern Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.4-18



Notes:
Injection zone samples are plotted on the ternary diagram and grouped by the measured depth (MD) of the sample in feet (ft.). Lithological classifications are after Folk (1974).

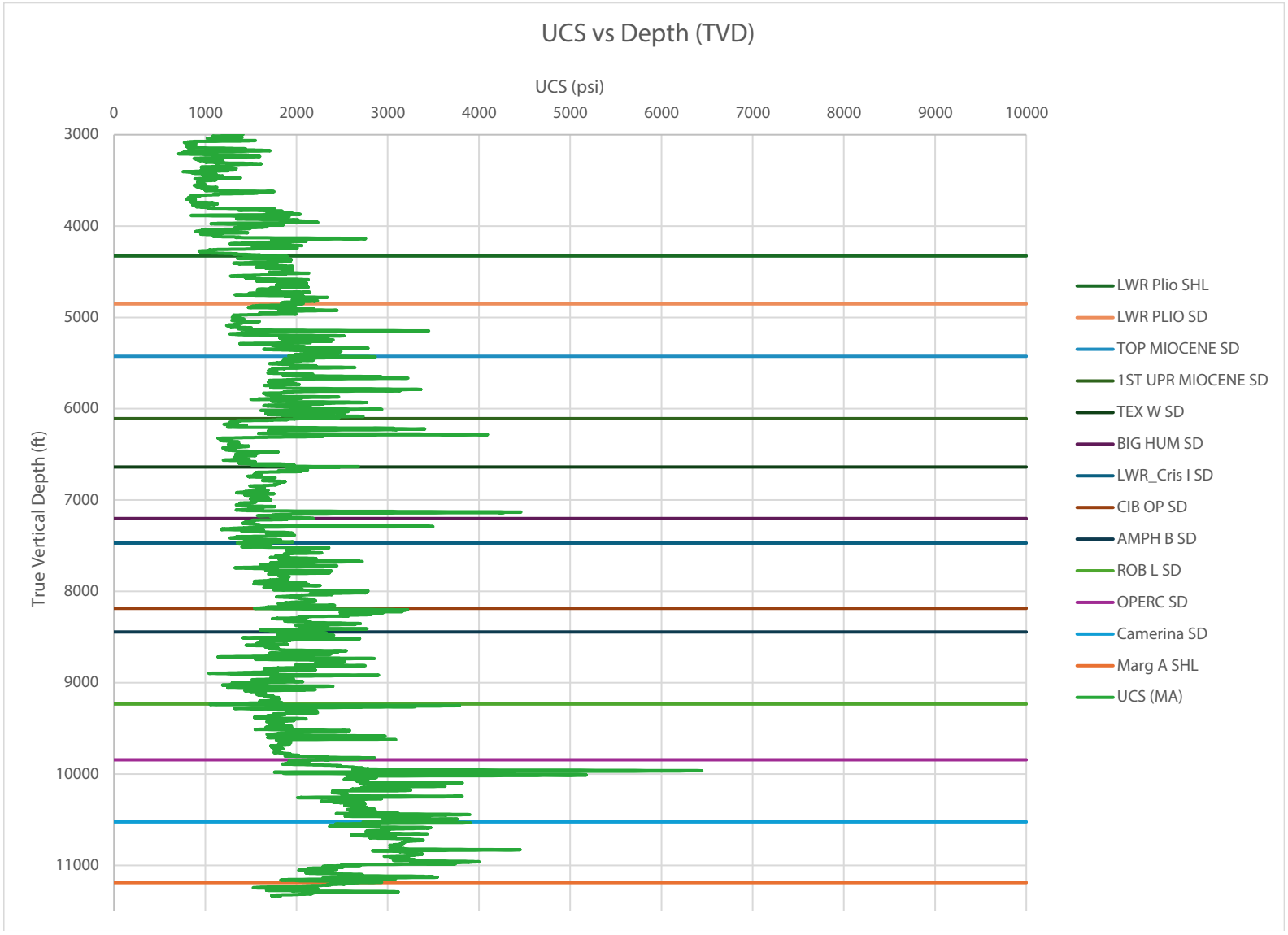
Injection Zone Sandstone Classification QFR Ternary Diagram

River Parish Sequence

RIVER PARISH

RPS Project	May 2024

Figure 2.4-19



Legend

- Lwr Pliocene Shale
- Lwr Pliocene Sand
- Top Miocene Sand
- 1st Upr Miocene Sand
- TEX W Sand
- Big Hum Sand
- Lwr Cris I Sand
- Cib Op Sand
- Amph B Sand
- Rob L Sand
- Operc Sand
- Camerina Sand
- Marg A Shale
- UCS (MA)

Explanation

Lwr - Lower
Upr - Upper
SD - Sand
Shl - Shale
UCS - unconfined compressive strength
MA - moving average
TVD - true vertical depth
ft - feet

Note

1- 10 point moving average applied to smooth curves

N

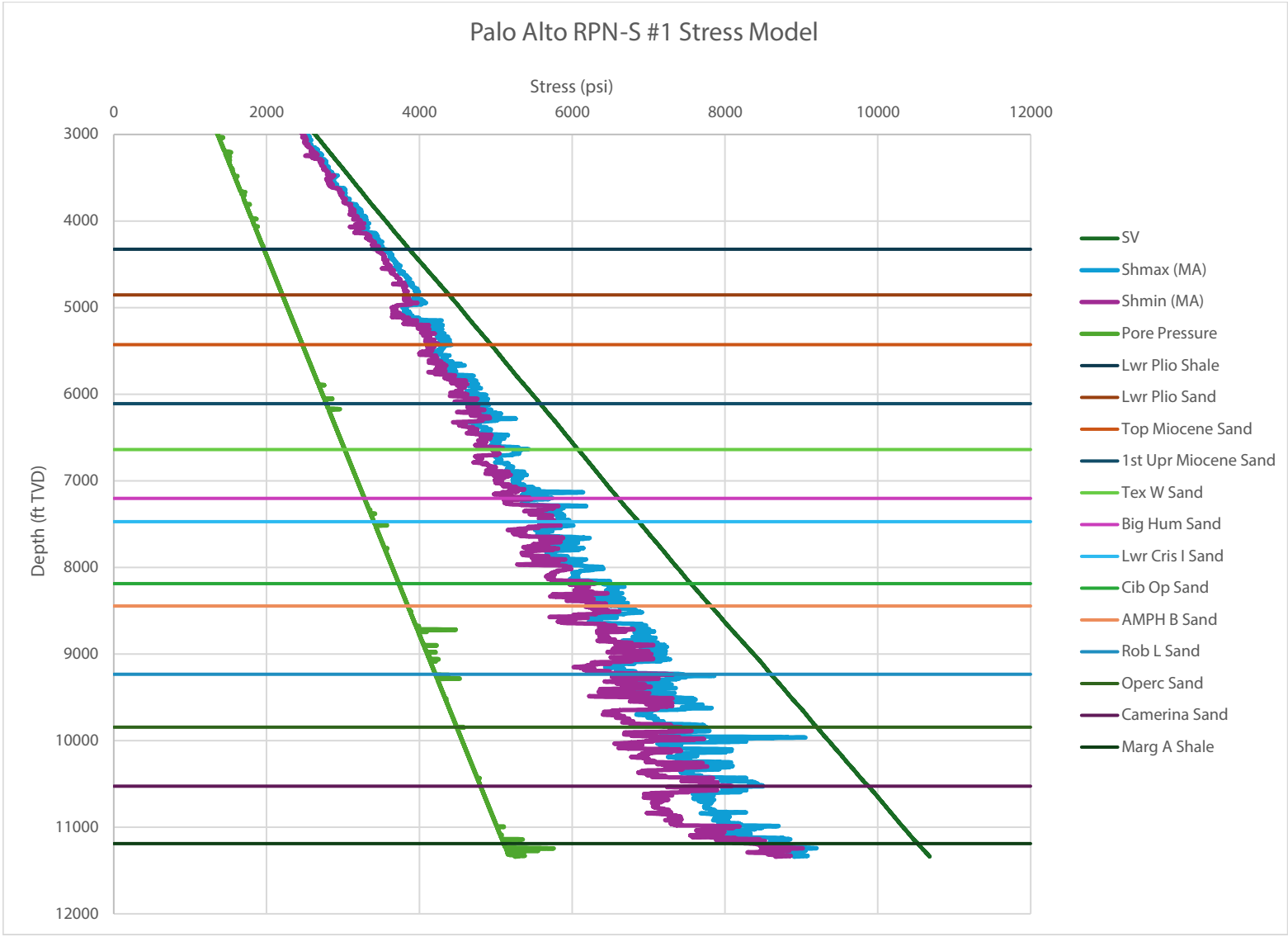
0 1,000 Feet

Palo Alto RPN-S #1
Unconfined Compressive Strength
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.5-1

RPS Project | May 2024



Legend

- SV
- Shmax (MA)
- Shmin (MA)
- Pore Pressure
- Lwr Pliocene Shale
- Lwr Pliocene Sand
- Top Miocene Sand
- 1st Upr Miocene Sand
- Tex W Sand
- Big Hum Sand
- Lwr Cris I Sand
- Cib Op Sand
- Amph B Sand
- Rob L Sand
- Operc Sand
- Camerina Sand
- Marg A Shale

Note
1- 10 point moving average applied to smooth curves

Explanation
Lwr - Lower
Upr - Upper
psi - pound per square inch
TVD - true vertical depth
SV - vertical stress
Shmax - maximum horizontal stress
Shmin - minimum horizontal stress
ft - feet
MA - moving average

N

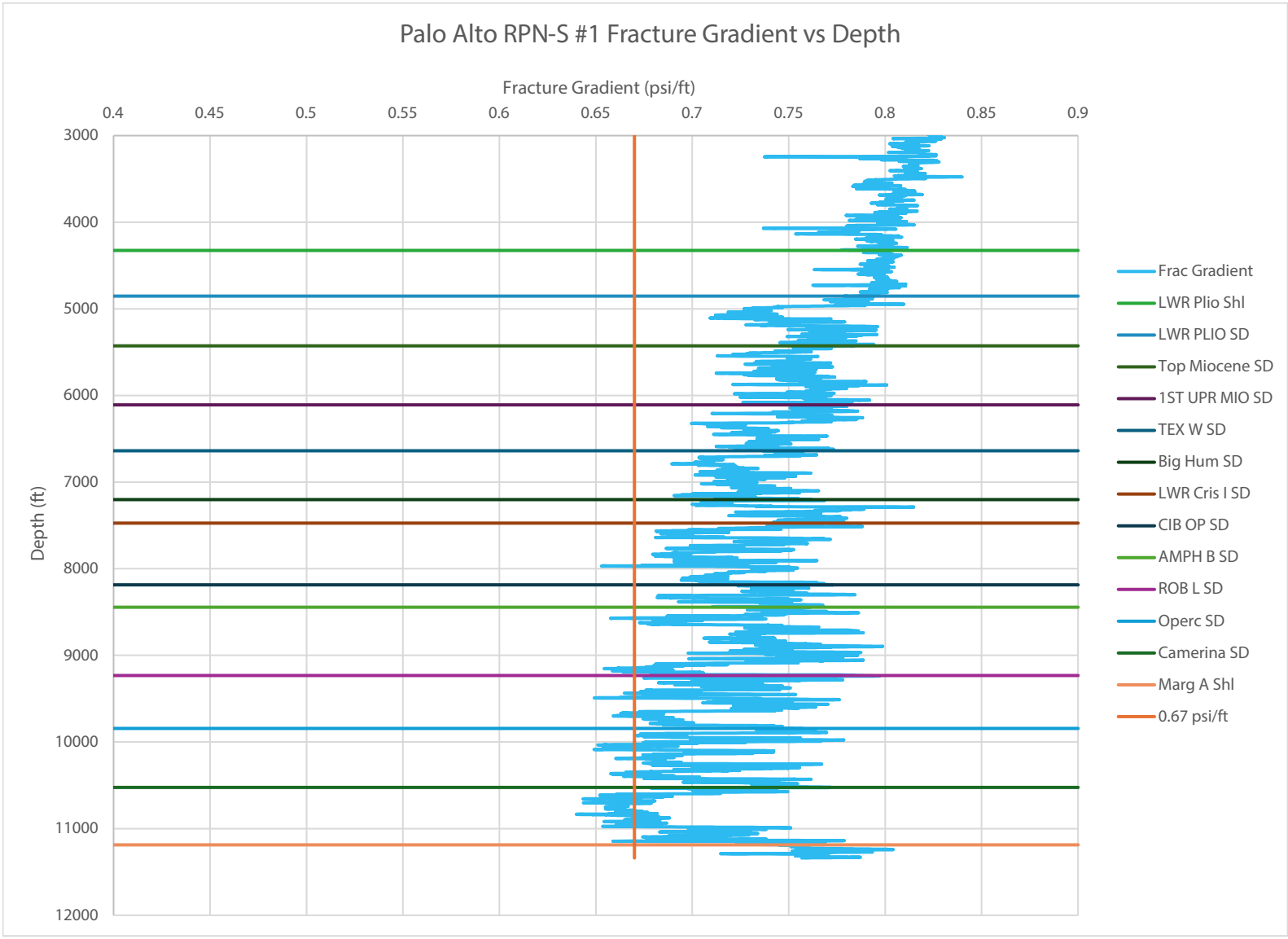
0 1,000 Feet

Palo Alto RPN-S #1
Stress Field
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.5-2

RPS Project | May 2024



Legend

- Fracture Gradient
- Lwr Pliocene Shale
- Lwr Pliocene Sand
- Top Miocene Sand
- 1st Upr Miocene Sand
- Tex W Sand
- Big Hum Sand
- Lwr Cris I Sand
- Cib Op Sand
- Amph B Sand
- Rob L Sand
- Operc Sand
- Camerina Sand
- Marg A Shale
- 0.67 psi/ft

Explanation

Lwr - Lower
Upr - Upper
SD - Sand
Shl - Shale
psi - pound per square inch
ft - feet

Note

1- 10 point moving average applied to smooth curves

N

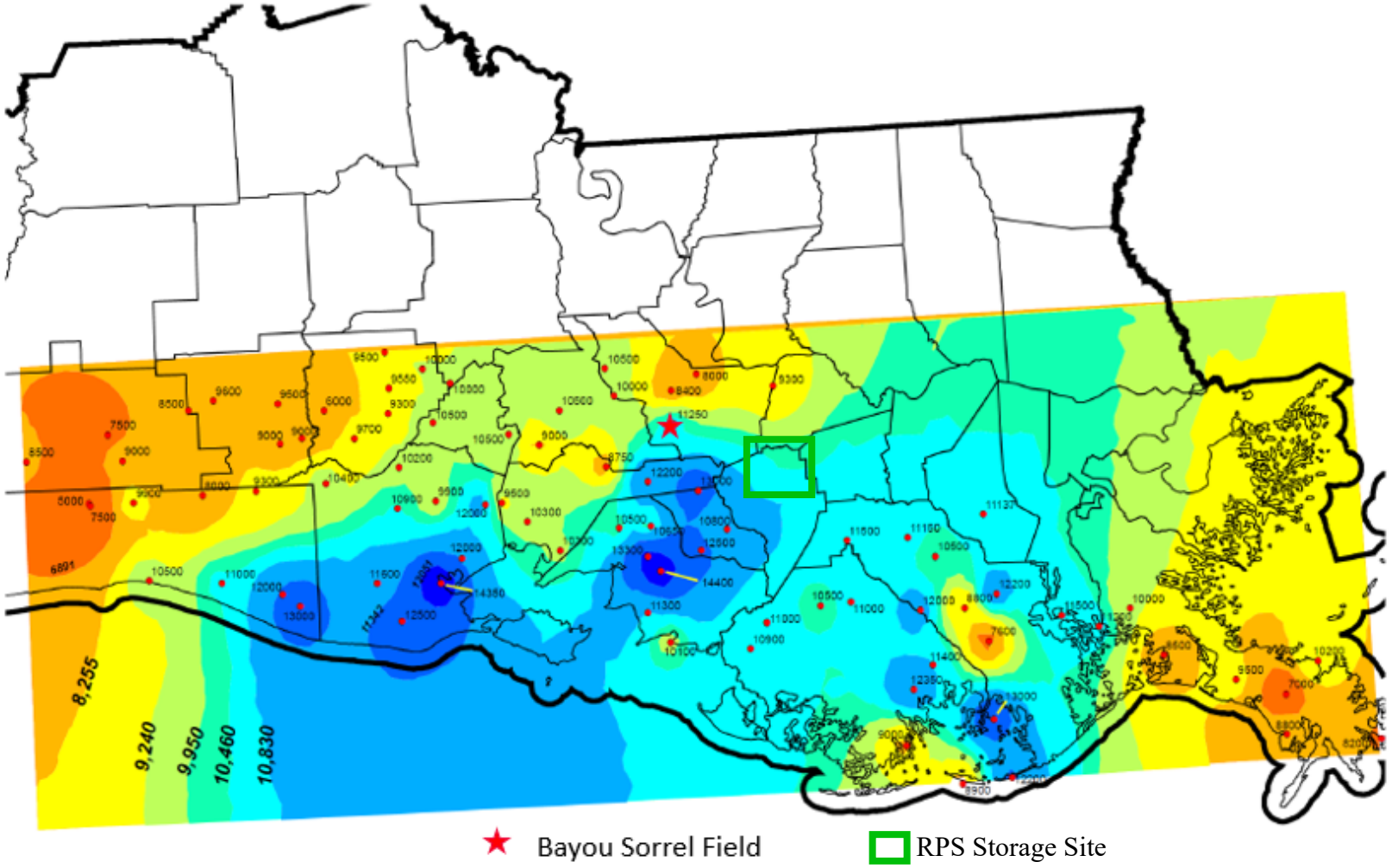
0 1,000 Feet

Palo Alto RPN-S #1
Fracture Gradient
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.5-3

RPS Project | May 2024



Explanation:
Depth contour map in feet of approximate base of pressure transition zone from 86 oil and gas fields.
(Modified from Nelson, P. H. (2012) Overpressure and hydrocarbon accumulations in Tertiary strata, gulf coast of Louisiana.Search and Discovery article #41000).
The units of the coutours are feet below mean sea level

Notes:
RPS - River Parish Sequestration

Depth Contour Map of Base of Pressure Transition Zone

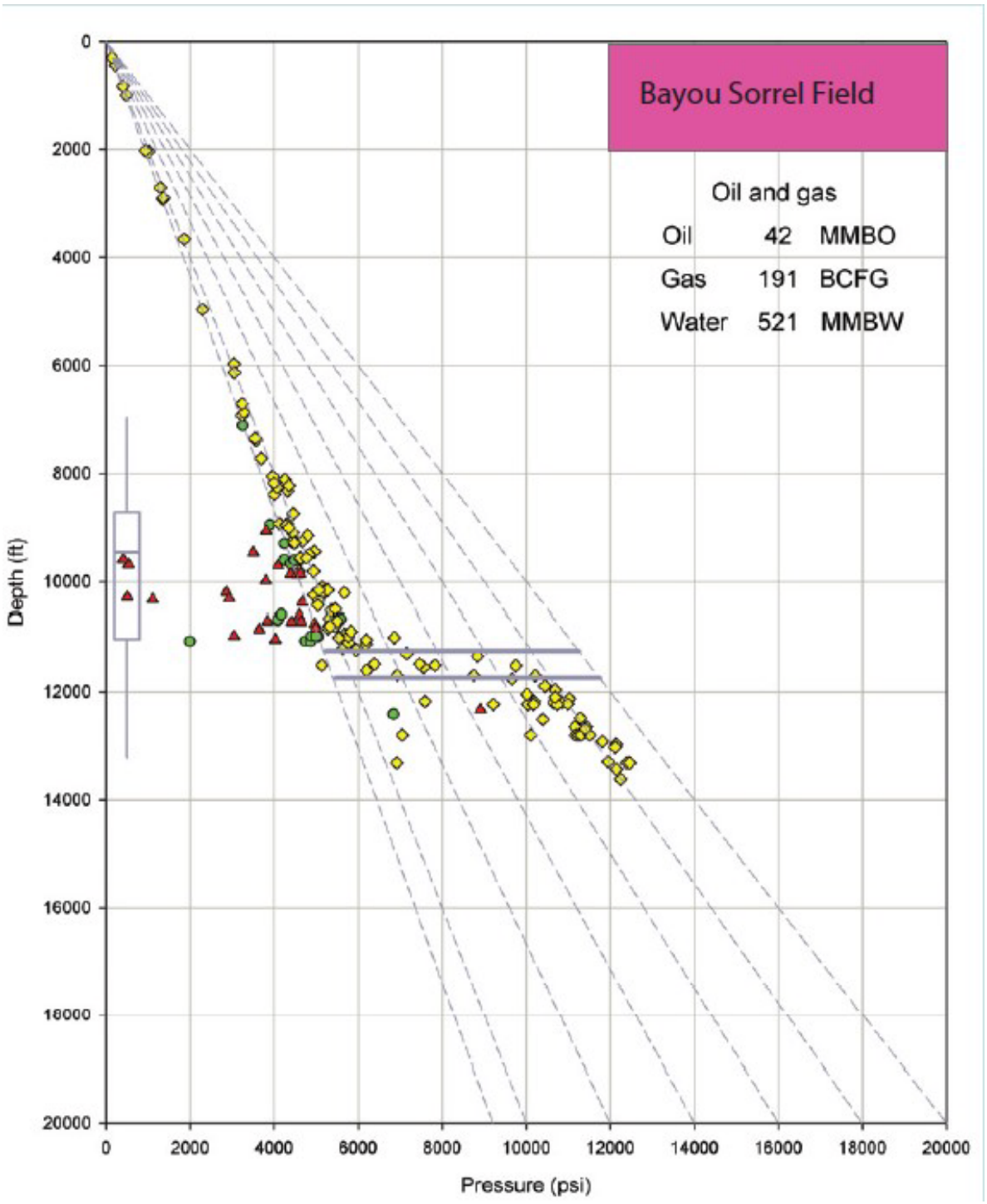
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2024

Figure

2.5-4



Explanation:
Pressure as a function of depth in Bayou Sorrel field. The pore pressure transition and top of geopressure occur in the Anahuac formation. (Nelson, P. H. (2012) Overpressure and hydrocarbon accumulations in Tertiary strata, gulf coast of Louisiana.Search and Discovery article #41000).

Notes:
psi - pounds per square inch
ft - feet
MMBO - Million Barrels of Oil
BCFG - Billion Cubic Feet Gas
MMBW - Million Barrels of Water

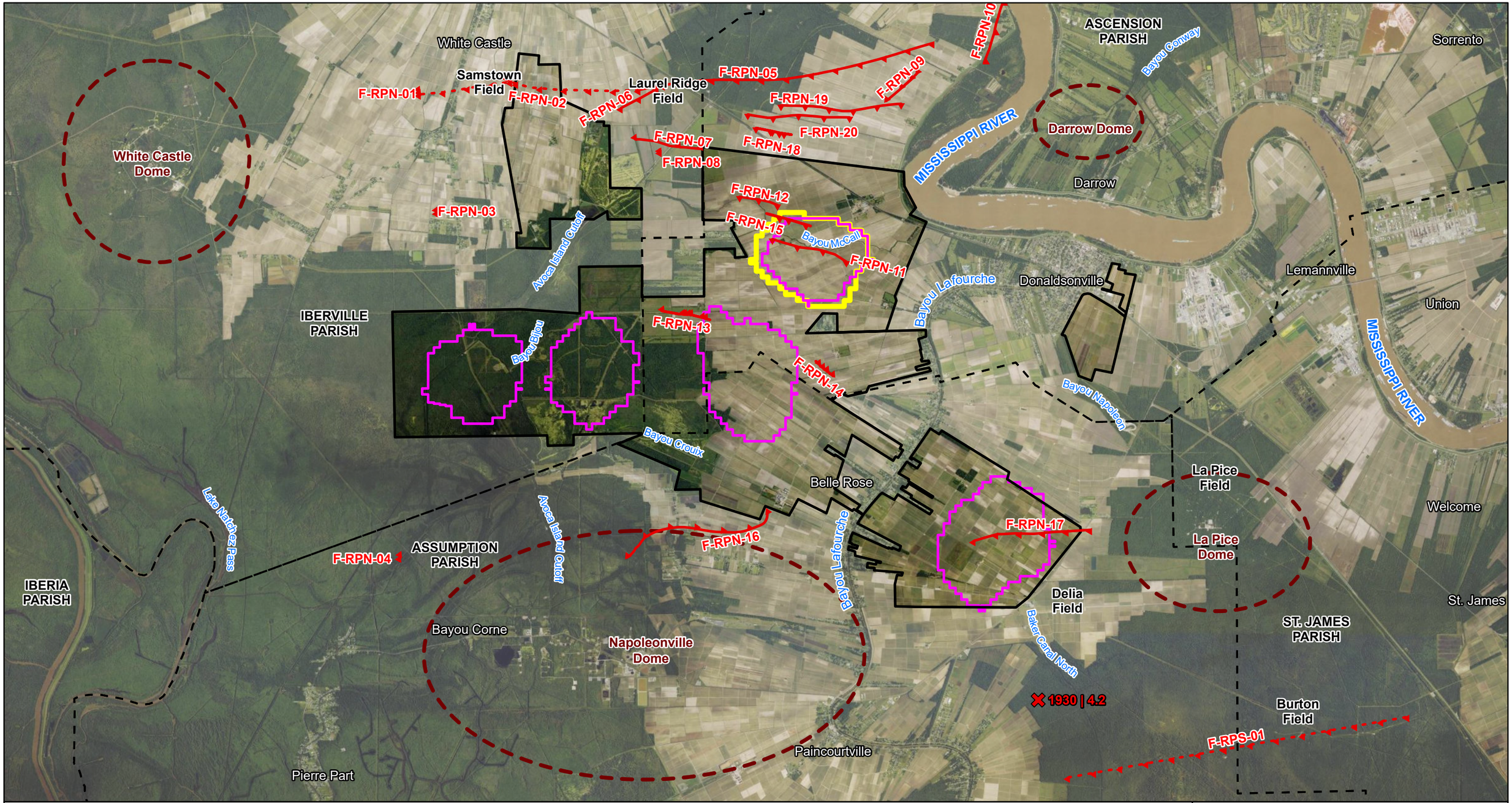
Bayou Sorrel Field Pressure Transition

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

Figure 2.5-5

RPS Project | May 2024



Legend

- Earthquake Epicenter with Year and Magnitude
- Approximate Salt Dome Structure
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary
- Interpreted faults projected from midpoint of the fault plane from the geologic model. Faults projected to surface for spatial communication.
- Fault section interpolated between seismic lines and outside of well control
- Fault F-RPS-01

N

Basemap Source: NAIP Imagery Hybrid

0 1.5 Miles

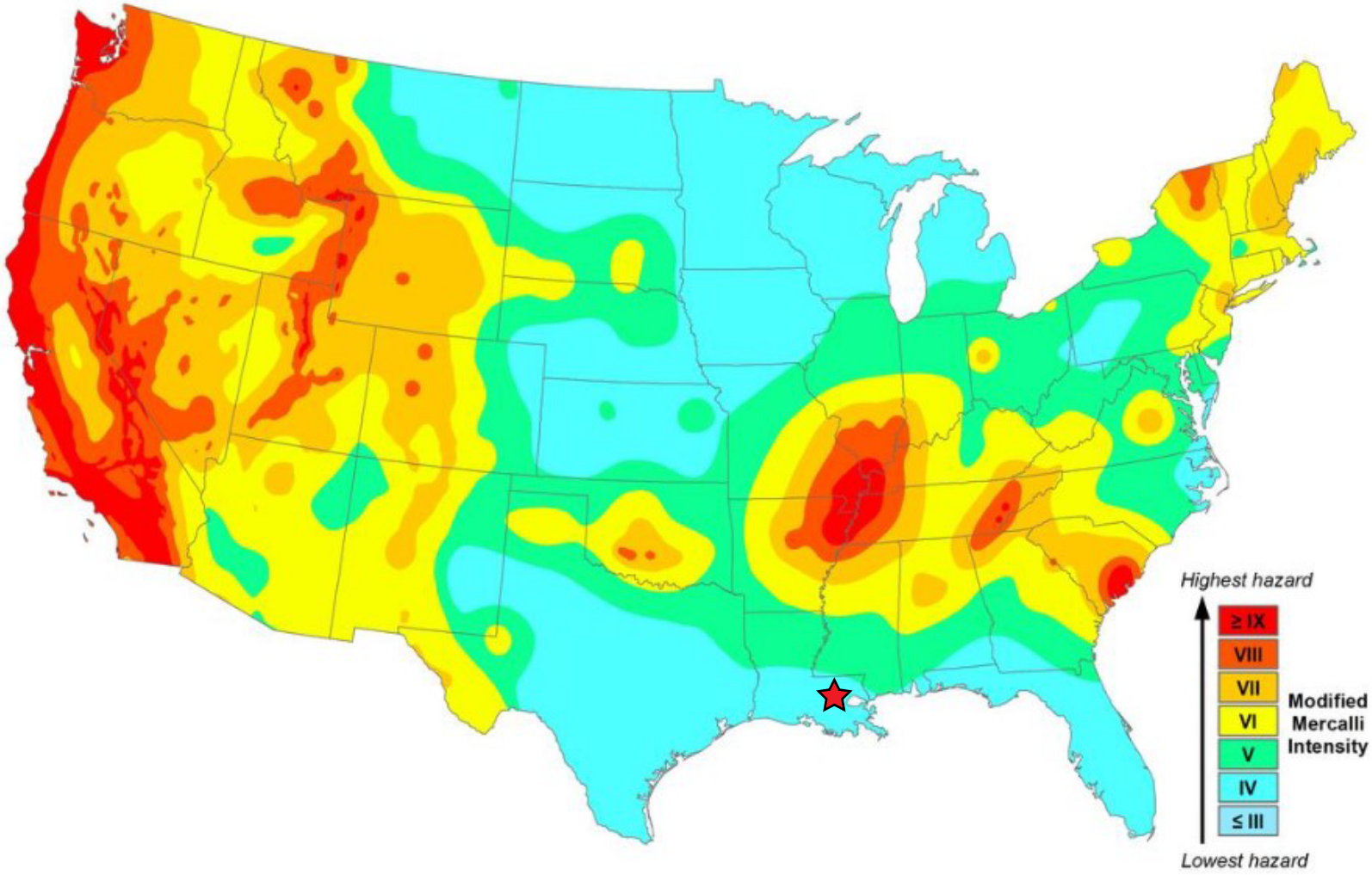
Historic Seismicity in the RPS Project Area

Ascension, Assumption, Iberville and St. James Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.6-1



USGS map showing the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years

Explanation:
2018 USGS published risk assessment characterizing intensity of a potential earthquake with a 2% chance of occurrence in the next 50 years (courtesy of USGS).

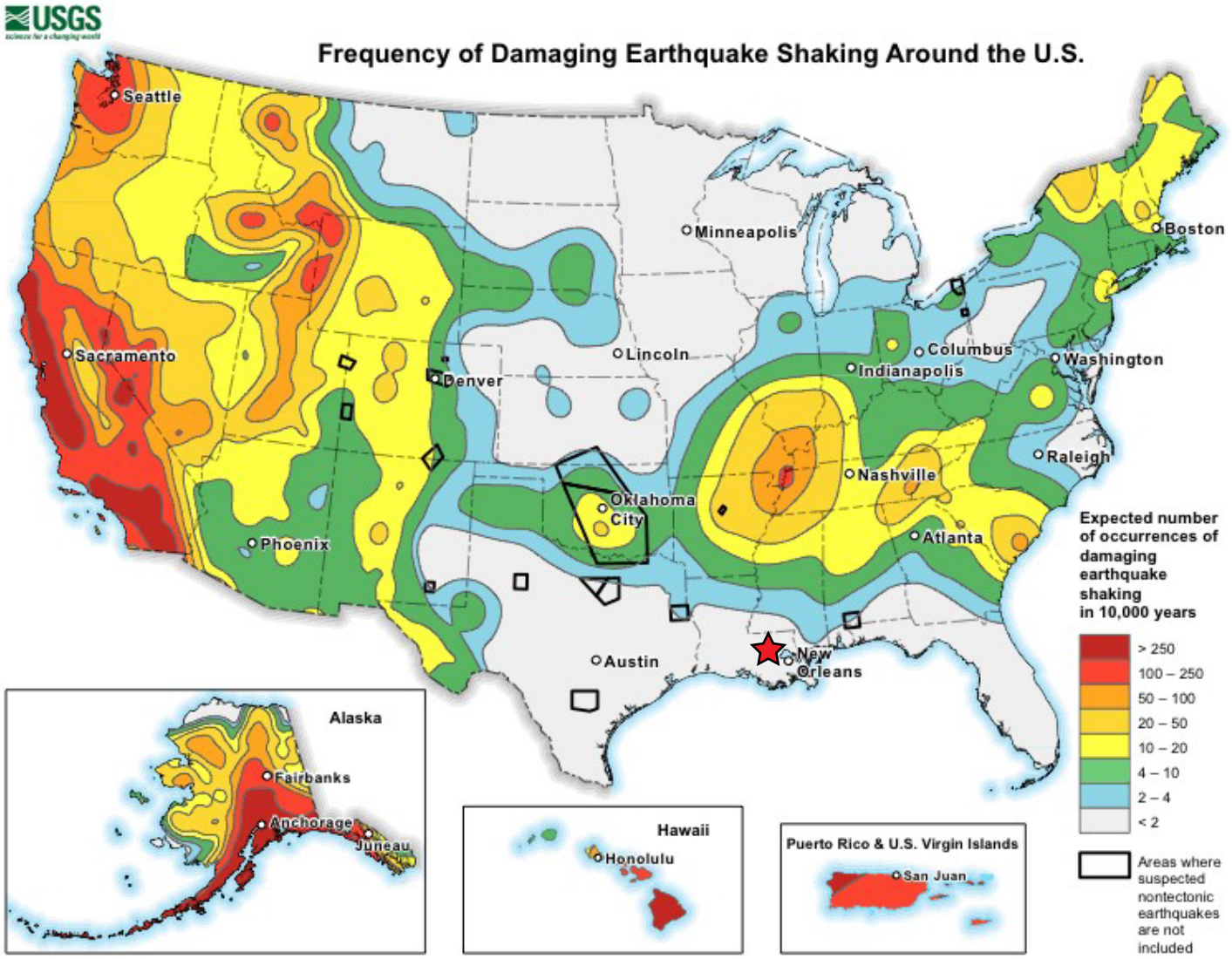
★ RPS Storage Site

Risk Assessment Characterizing Intensity of a Potential Earthquake

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2023	**Figure 2.6-2**



Notes:
USGS probabilistic assessment for the expected number of occurences of damaging earthquake shaking over the next 10,000 years (courtesy of https://www.usgs.gov/programs/earthquake-hazards/science/introduction-national-seismic-hazard-maps)

★ RPS Storage Site

Expected Number of Occurences of Damaging Earthquake
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2023	**Figure 2.6-3**

Intensity	Shaking	Description/Damage
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest,especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Notes:
Modified Mercalli Intensity scale for earthquake surface damage (courtesy of https://www.usgs.gov/media/images/modified-mercalli-intensity-scale).

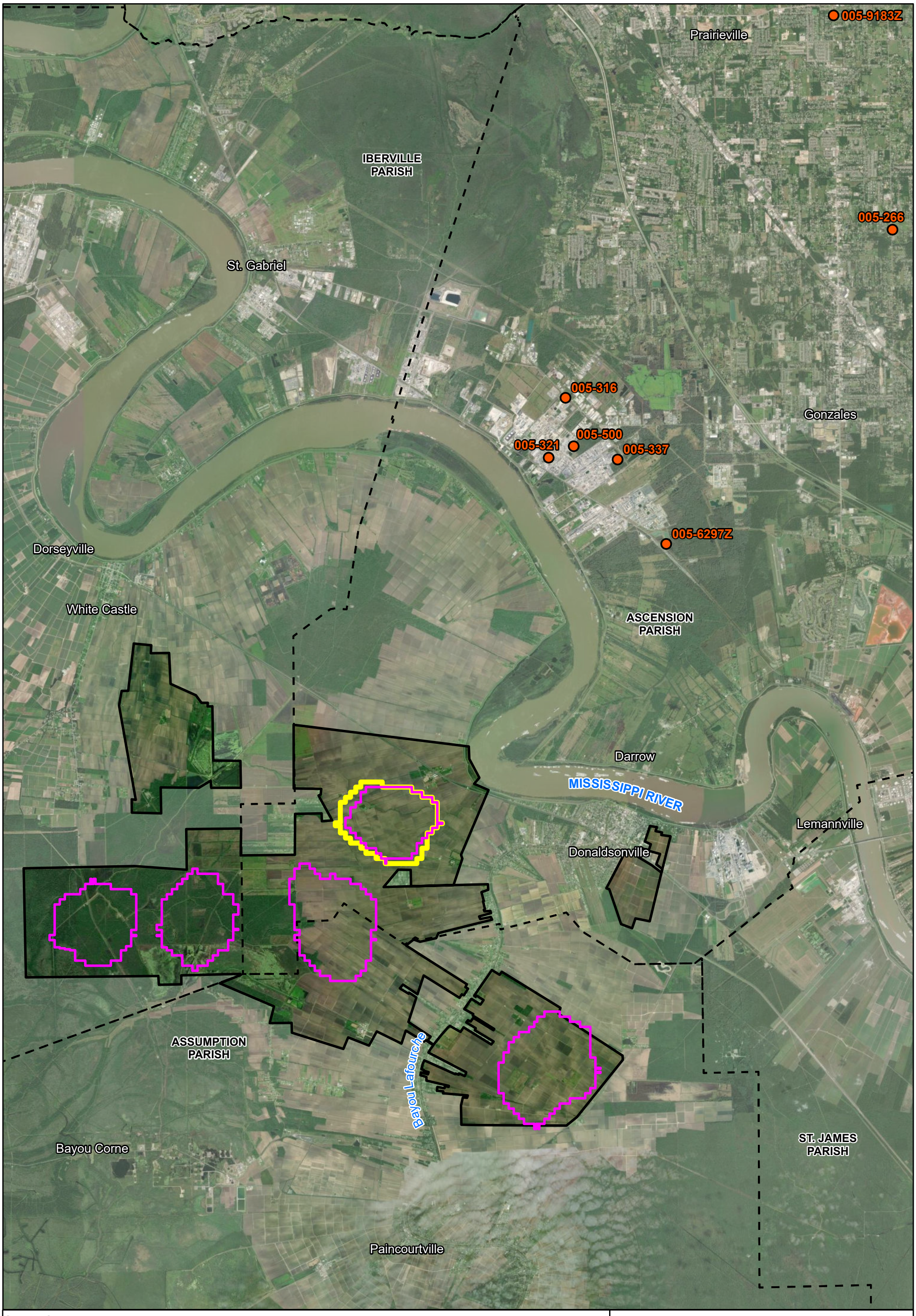
Modified Mercalli Intensity Scale

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project | May 2023

Figure 2.6-4



Legend

- Well with Groundwater Chemistry Analysis
- Area of Review
- Modeled CO_2 Plume Extent
- RPS Storage Site
- Parish Boundary

Basemap Source:
Esri World Imagery

N

0 0.5 1 1.5 2 Miles

Wells with Groundwater Chemistry Analyses

Ascension Parish
Outside Donaldsonville, Louisiana

RIVER PARISH

RPS Project	October 2025	**Figure 2.7-1**

P:\GIS\x-Blue Sky CCS\Projects\Blue_Sky_RPN_1 Application Updates - LDENR NOD\Blue_Sky.aprx_Fig2.7-1_Wells_with_Groundwater_Chemistry_Analyses 10/1/2025 7:43 PM (Henry.Nsude)

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White Castle
Sorrento
Darrow
Donaldsonville
Lemannville
Union
Belle Rose
Welcome
St. James
Bayou Corne
Paincourtville
Pierre Part
MISSISSIPPI RIVER
MISSISSIPPI RNER
Bayou Lafourche

970114 (2370) {13}
44399 (10695) {147}
47800 (11300) {179}
28723 (11758) {23}
65081 (12725) {175}
111864 (13207) {105}
61658 (15081) {172}
162343 (14858) {130}
32941 (10547) {50}
26628 (11851) {62}
32713 (5248) {73}
36938 (7063) {43}
110009 (11132) {88}
37629 (11450) {97}
132422 (12100) {135}

20
40
60
80
100
120
140
160

Legend

Top of Mississippi River Alluvial Aquifer
0 ft
180 ft

Area of Review
Modeled CO_2 Plume Extent
RPS Storage Site
Parish Boundary

Well Used to Generate Contours
Groundwater Elevation Interpreted from Resistivity Logs:
State serial number
(Total Depth - MD)
{Well top depth - TVDss}

Notes:
Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.
Contour Interval: 20 feet
MD - Measured Depth (feet)
TVDss - True Vertical Depth subsea (feet)

N

0 1.5 Miles

Depth to Top of Mississippi River Alluvial Aquifer

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.7-2

Legend:

Recharge Area and Areal Extent of Freshwater

RPS Storage Site

Notes:

Rechararge area for the Mississippi River Alluvial acquifer within Louisiana (Modified from Stuart et. al, 1994).

Recharge Area for Mississippi River Alluvial Aquifer

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	June 2023

Figure

2.7-3

Legend:

- 20 — Potentiometric Contour
- → Direction of Groundwater Flow
- Freshwater and Recharge Area
- ★ RPS Storage Site

Notes:
Potentiometric contour map of the Mississippi River Alluvial aquifer with interpreted flow direction pathways (Modified from Stuart et. al, 1994).

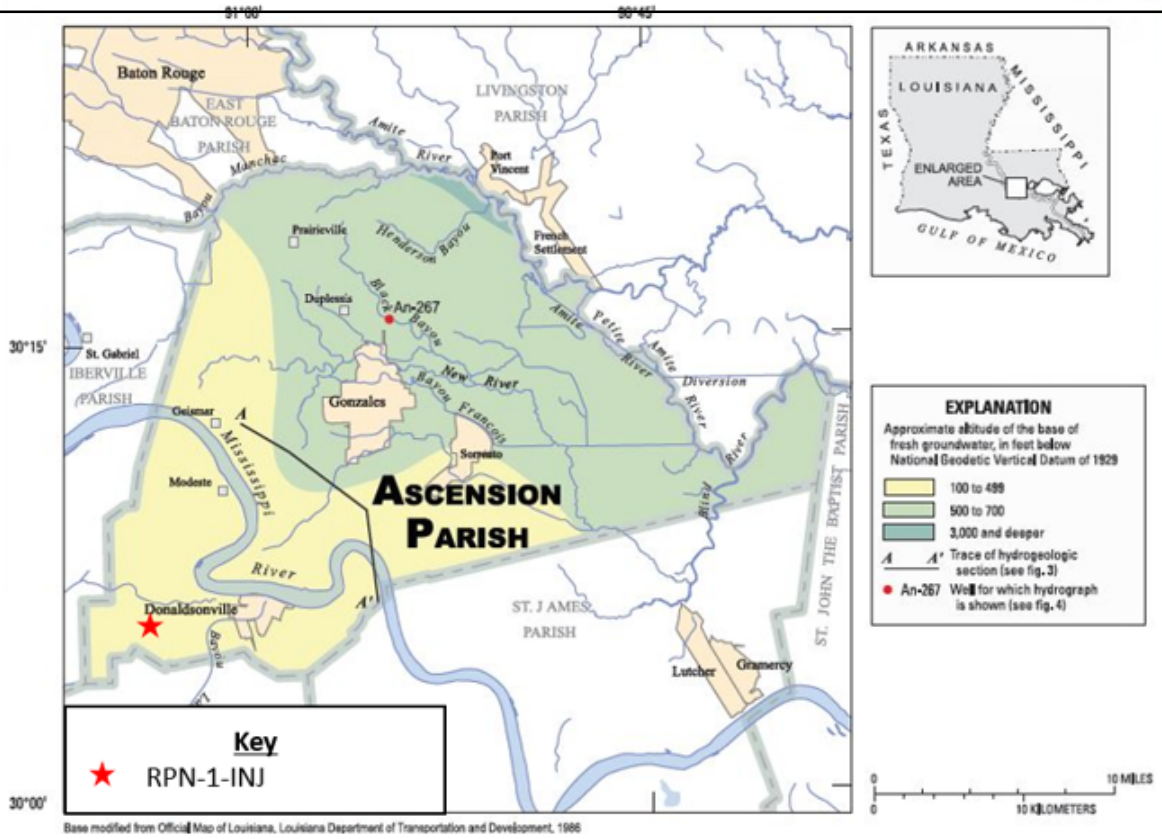
Potentiometric Contour Map of the Mississippi River Alluvial Aquifer
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

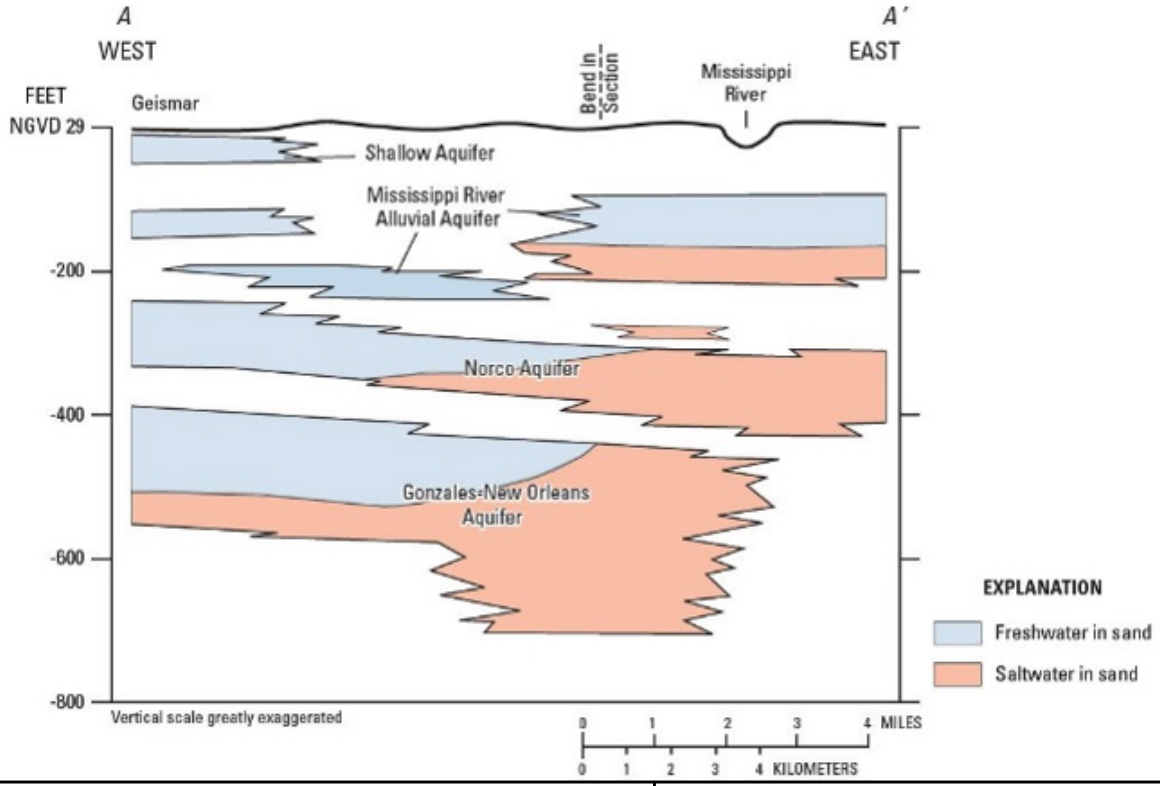
RPS Project	May 2023

Figure 2.7-4

a)



b)



Explanation:
Basemap (a) and schematic cross-section (b) approximate depth, orientation and extent of primary aquifers in Ascension Parish (modified from Griffith and Fendrick, 2009).

Primay Aquifers in Ascension Parish

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2023	**Figure 2.7-5**

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White Castle
Sorrento
Darrow
Donaldsonville
Lemannville
Union
Romeville
Belle Rose
Bayou Corne
Paincourtville
Pierre Part
Bayou Lafourche
St. James
Welcome

IBERVILLE PARISH
ASCENSION PARISH
ASSUMPTION PARISH
ST. JAMES PARISH
IBERIA PARISH

MISSISSIPPI RIVER
MISSISSIPPI RIVER

970114 (2370) {322}
44399 (10695) {265}
32431 (9626) {272}
22477 (10823) {180}
28723 (11758) {338}
29535 (10710) {297}
47800 (11300) {285}
24302 (11501) {336}
976011 (11425) {367}
65081 (12725) {284}
111864 (13207) {346}
61658 (15081) {354}
162343 (14858) {313}
32941 (10547) {188}
26628 (11851) {179}
59355 (12644) {300}
62589 (12751) {338}
30860 (6988) {247}
110009 (11132) {317}
32713 (5248) {395}
36938 (7063) {424}
37629 (11450) {379}
60377 (12468) {403}
132422 (12100) {407}

280 300 320 340 360 380 400 420 440 460 240 220 200 260

Legend

Top of Norco Aquifer
180 ft
500 ft

Area of Review
Modeled CO_2 Plume Extent
RPS Storage Site
Parish Boundary

Well Used to Generate Contours
Groundwater Elevation Interpreted from Resistivity Logs:
State serial number
(Total Depth - MD)
{Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.
Contour Interval: 20 feet
MD - Measured Depth (feet)
Additional well details in Table 2.1-1

N

0 1.5 Miles

Depth to Top of Norco Aquifer

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

RPS Project | October 2025

Figure 2.7-6

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White Castle
22477 (10823) {395}
970114 (2370) {522}
29535 (10710) {547}
44399 (10695) {448}
32431 (9626) {479}
47800 (11300) {492}
24302 (11501) {548}
28723 (11758) {538}
Sorrento
ASCENSION PARISH
Darrow
MISSISSIPPI RIVER
IBERVILLE PARISH
976011 (11425) {574}
Donaldsonville
Lemannville
Union
Romeville
65081 (12725) {582}
111864 (13207) {598}
61658 (15081) {612}
162343 (14858) {385}
32941 (10547) {358}
26628 (11851) {407}
Belle Rose
ST. JAMES PARISH
Welcome
59355 (12644) {383}
30860 (6988) {377}
62589 (12751) {384}
ASSUMPTION PARISH
32713 (5248) {587}
36938 (7063) {621}
Bayou Lafourche
St. James
IBERIA PARISH
Bayou Corne
110009 (11132) {396}
37629 (11450) {473}
60377 (12468) {490}
132422 (12100) {550}
Paincourtville
Pierre Part

Legend

Top Gonzalez - New Orleans Aquifer
360 ft
720 ft

Area of Review
Modeled CO_2 Plume Extent
RPS Storage Site
Parish Boundary

Well Used to Generate Contours
Groundwater Elevation Interpreted from Resistivity Logs:
State serial number
(Total Depth - MD)
{Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.
Contour Interval: 20 feet
MD - Measured Depth (feet)
Additional well details in Table 2.1-1

N
0 1.5 Miles

Depth to Top of Gonzalez-New Orleans Aquifer

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

Figure 2.7-7

RPS Project | October 2025

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White Castle
970114 (2370) {745}
22477 (10823) {810}
29535 (10710) {759}
44399 (10695) {732}
32431 (9626) {752}
47800 (11300) {767}
24302 (11501) {800}
28723 (11758) {808}
Sorrento
ASCENSION PARISH
Darrow
MISSISSIPPI RIVER
IBERVILLE PARISH
976011 (11425) {812}
Donaldsonville
Lemannville
Union
65081 (12725) {804}
111864 (13207) {716}
61658 (15081) {787}
162343 (14858) {809}
32941 (10547) {723}
26628 (11851) {692}
Romeville
MISSISSIPPI RIVER
Belle Rose
ST. JAMES PARISH
Welcome
59355 (12644) {723}
30860 (6988) {717}
62589 (12751) {812}
ASSUMPTION PARISH
32713 (5248) {746}
Bayou Lafourche
St. James
IBERIA PARISH
36938 (7063) {827}
Bayou Corne
Salt
110009 (11132) {842}
37629 (11450) {713}
60377 (12468) {760}
Paincourtville
132422 (12100) {983}
Pierre Part

Legend

Top 1,200-Foot Sand Aquifer
700 ft
1,000 ft

Area of Review
Modeled CO_2 Plume Extent
RPS Storage Site
Parish Boundary
Salt

Well Used to Generate Contours
Groundwater Elevation Interpreted from Resistivity Logs:
State serial number
(Total Depth - MD)
{Well top depth - TVDss}

Notes:

Top of salt domes constrained from publications.
The formations directly above and immediately adjacent to the salt domes were not constrained by seismic data and are expected to contain some radial faulting.

Contour Interval: 20 feet
MD - Measured Depth (feet)

Additional well details in Table 2.1-1

N

0 1.5 Miles

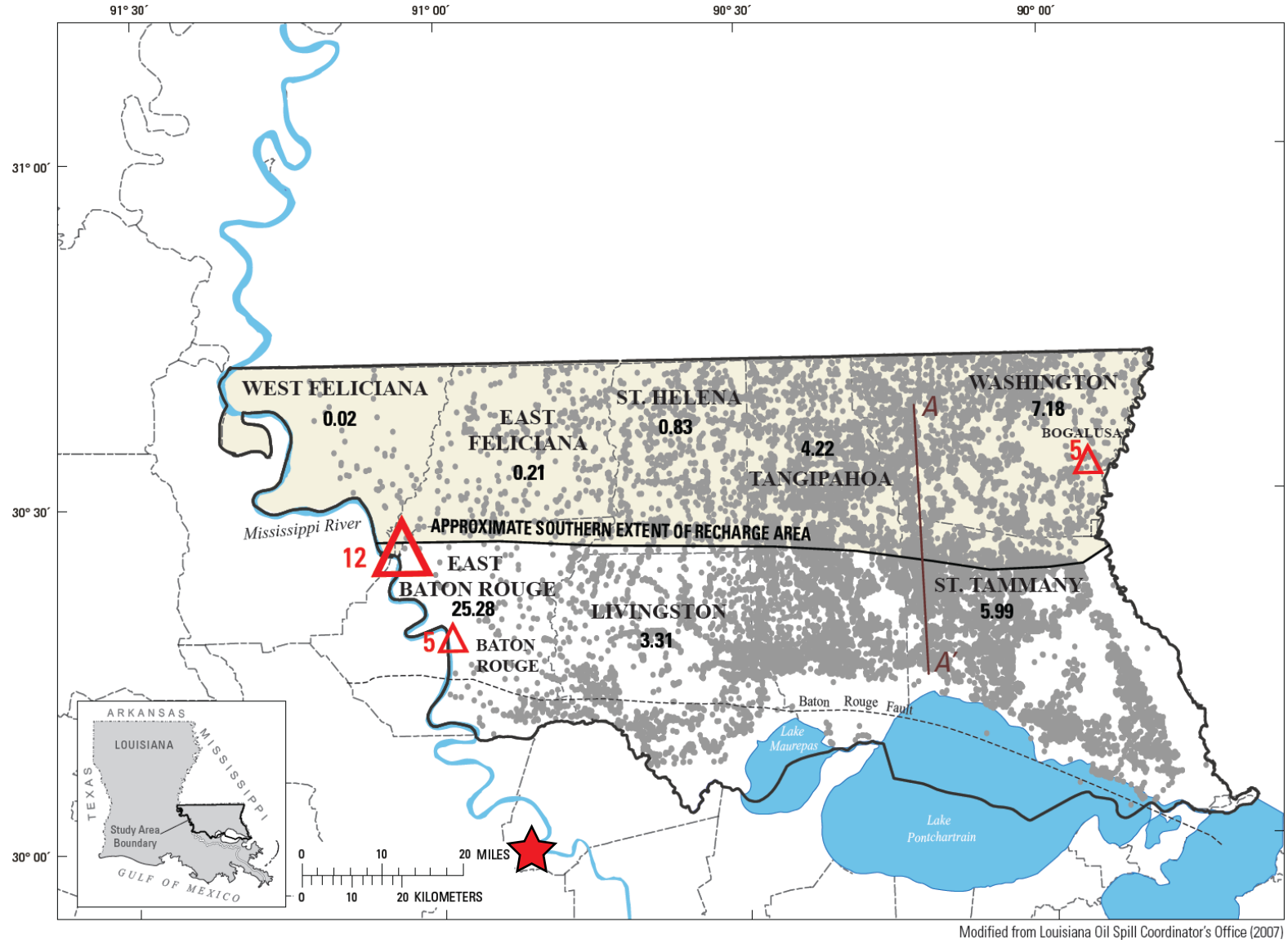
Depth to Top of 1,200-Foot Sand Aquifer

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

Figure 2.7-8

RPS Project | October 2025



Modified from Louisiana Oil Spill Coordinator's Office (2007)

Explanation:

- Study Area Boundary
- A — A´ Trace of Section
- RPS Storage Site
- △5 Area where more than 5 million gallons per day (Mgal/d) of water was withdrawn during 2005 (from Sargent, 2007). Number is withdrawal rate in Mgal/d.
- **5.99** Total rate of water withdrawal, in Mgal/d, from the Chicot equivalent aquifer system in the parish during 2005.

Recharge area for Chicot Equivalent aquifer system (adapted from Tomaszewski, 2011).

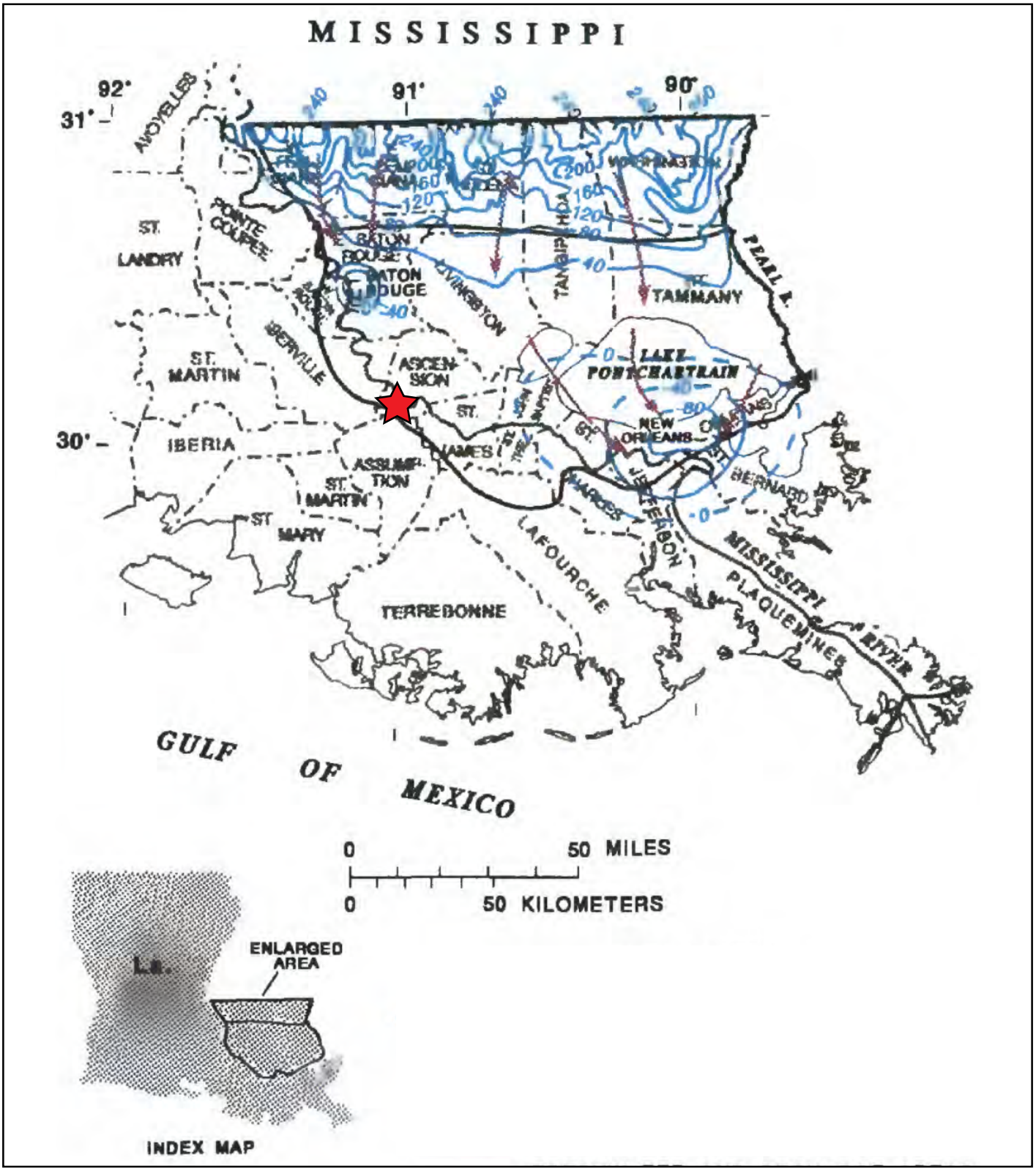
Notes:
Mgal/d - Million Gallons per day

Recharge Area for Chicot Equivalent Aquifer System

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2023	**Figure 2.7-9**



Explanation:

- 80 — Potentiometric Contour
- Direction of Groundwater Flow
- Freshwater and Recharge Area
- RPS Storage Site

Potentiometric contour map of the Chicot Equivalent Aquifer with interpreted flow direction pathways. (Modified from Stuart et. al, 1994).

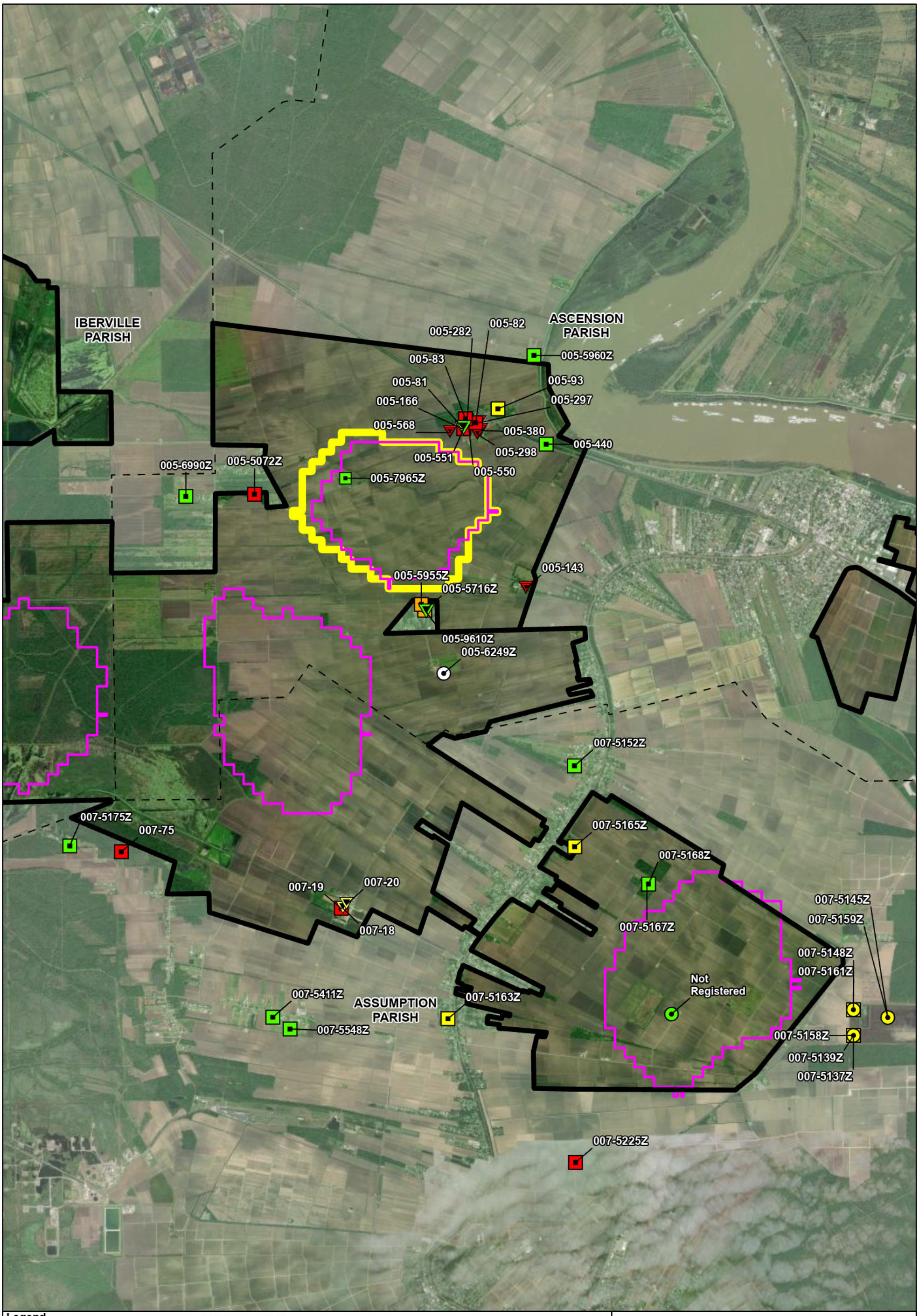
Potentiometric Contour Map of the Chicot Equivalent Aquifer System

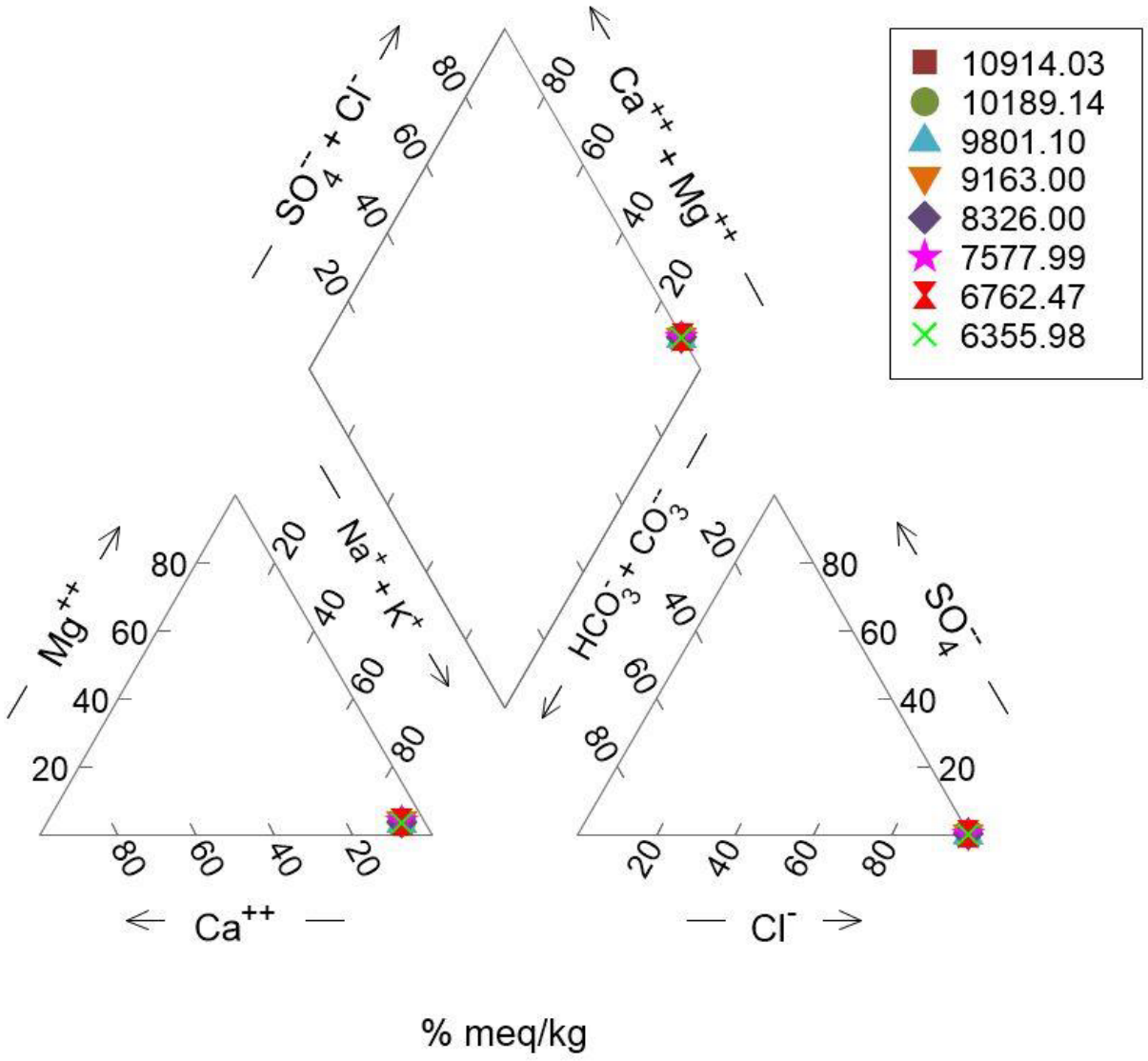
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.7-10

RPS Project	May 2023


IBERVILLE PARISH
ASCENSION PARISH
005-82
005-282
005-5960Z
005-83
005-81
005-93
005-166
005-297
005-568
005-380
005-440
005-298
005-551
005-550
005-6990Z
005-5072Z
005-7965Z
005-143
005-5955Z
005-5716Z
005-9610Z
005-6249Z
007-5152Z
007-5175Z
007-75
007-5165Z
007-5168Z
007-19
007-20
007-18
007-5167Z
007-5145Z
007-5159Z
007-5148Z
007-5161Z
Not Registered
007-5411Z
ASSUMPTION PARISH
007-5163Z
007-5548Z
007-5158Z
007-5139Z
007-5137Z
007-5225Z
Legend
Modeled CO_2 Plume Extent
Area of Review
RPS Storage Site
Parish
Well Screened in the Mississippi River Valley Alluvial Aquifer
Well Screened in the Norco Aquifer
Well Screened at an unknown depth
Sampled
Unable to Sample
Unable to Locate
Abandoned Well
Did Not Attempt to Locate
Basemap Source: NearMap, 2022-10-19
N
0 0.25 Miles
RPN-1 Groundwater USDW Sampling
Ascension Parish
Outside Donaldsonville, Louisiana
RIVER PARISH
Figure 2.7-11
RPS Project
November 2025



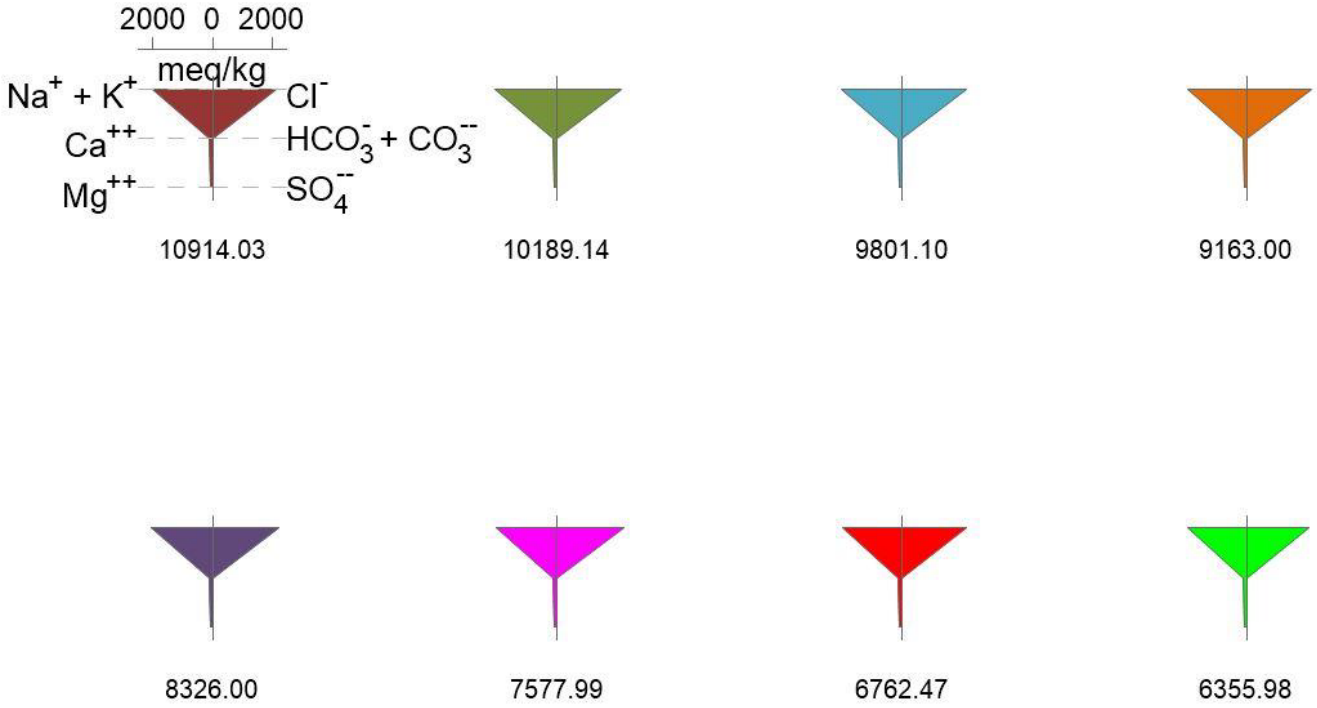
Notes:
Formational water major ion chemistry is displayed as relative percentage of milliequivalents per kilogram of water (meq/kg).

Injection Zone Formation Water Piper Diagrams

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024	**Figure 2.8-1**



Notes:

Formational water major ion chemistry is displayed in units of milliequivalents per kilogram of water (meq/kg). A stiff diagram is shown for each of the eight formation water samples. Samples are labeled with the depth of sample collection in units of feet (measured depth).

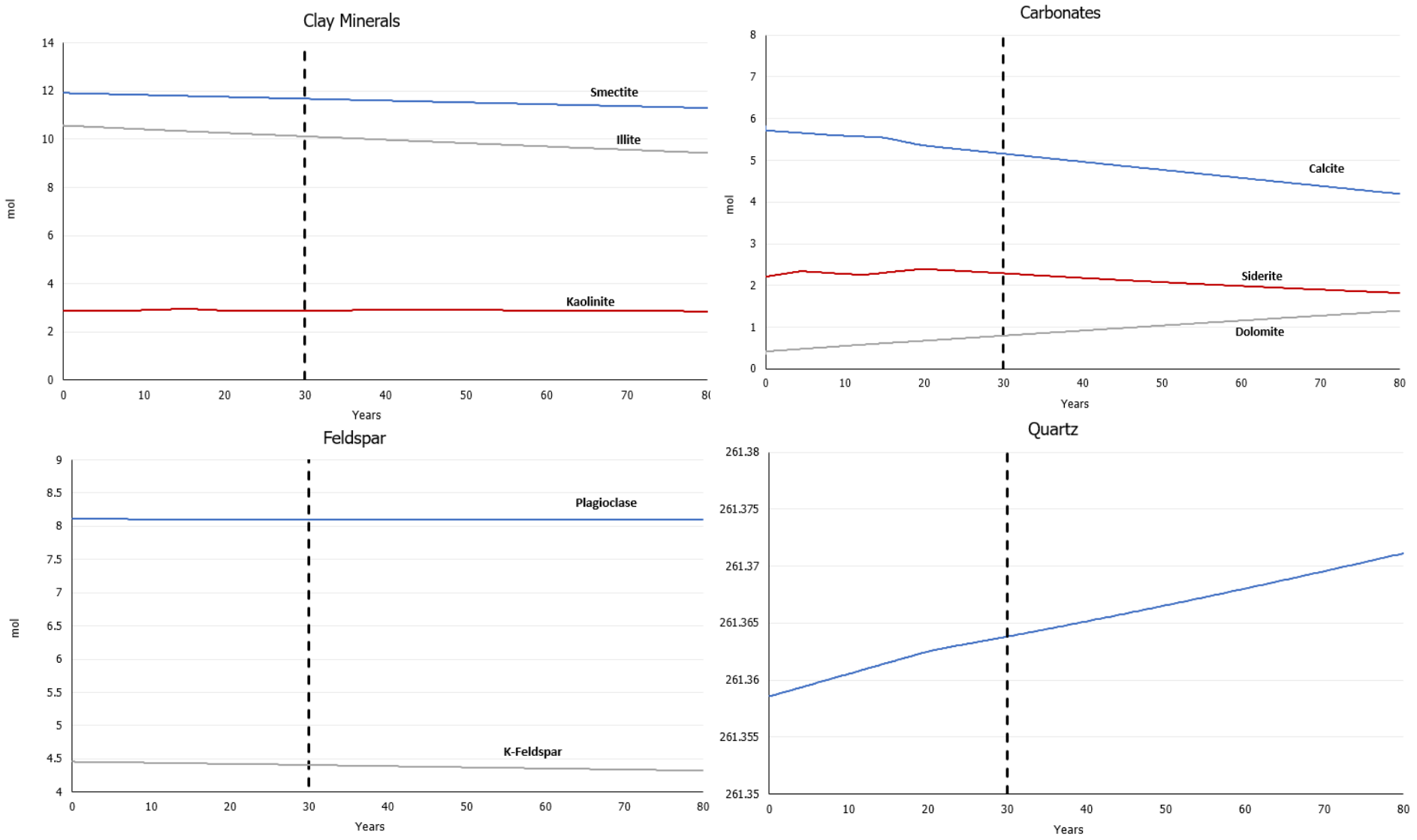
Injection Zone Formation Water Stiff Diagrams

Ascension, Assumption, and Iberville Parishes Louisiana

RIVER PARISH

RPS Project | April 2024

Figure 2.8-2



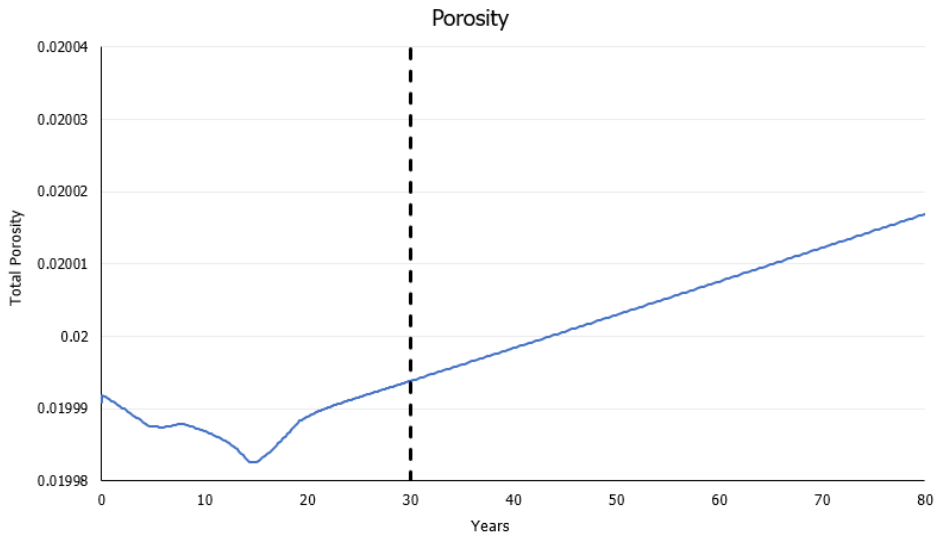
Notes:
Mineral masses displayed in units of moles over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

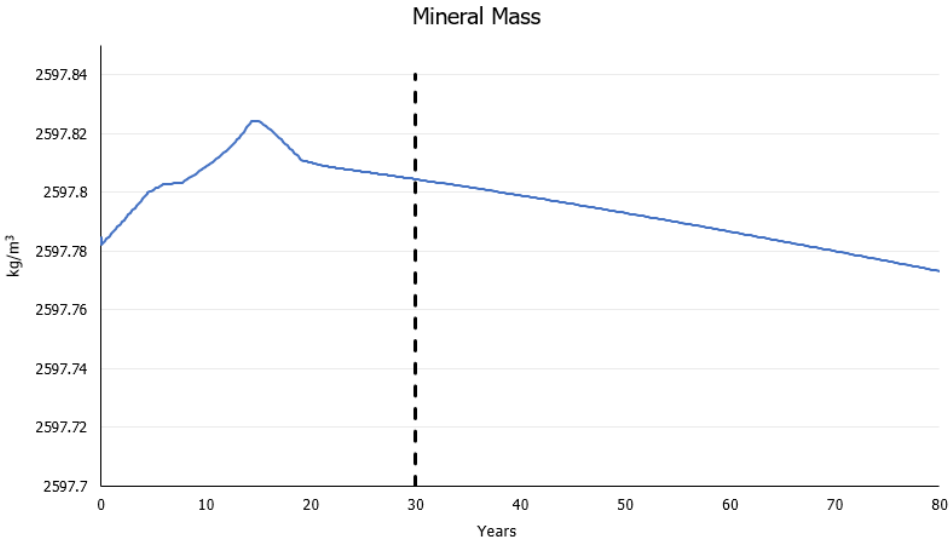
Reaction Pathway Modeling-Confining Unit Mineral Masses

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024	**Figure 2.8-3**





Notes:
Total porosity is displayed in decimal fractions and total mineral mass is displayed in units of kilograms per cubic meter over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

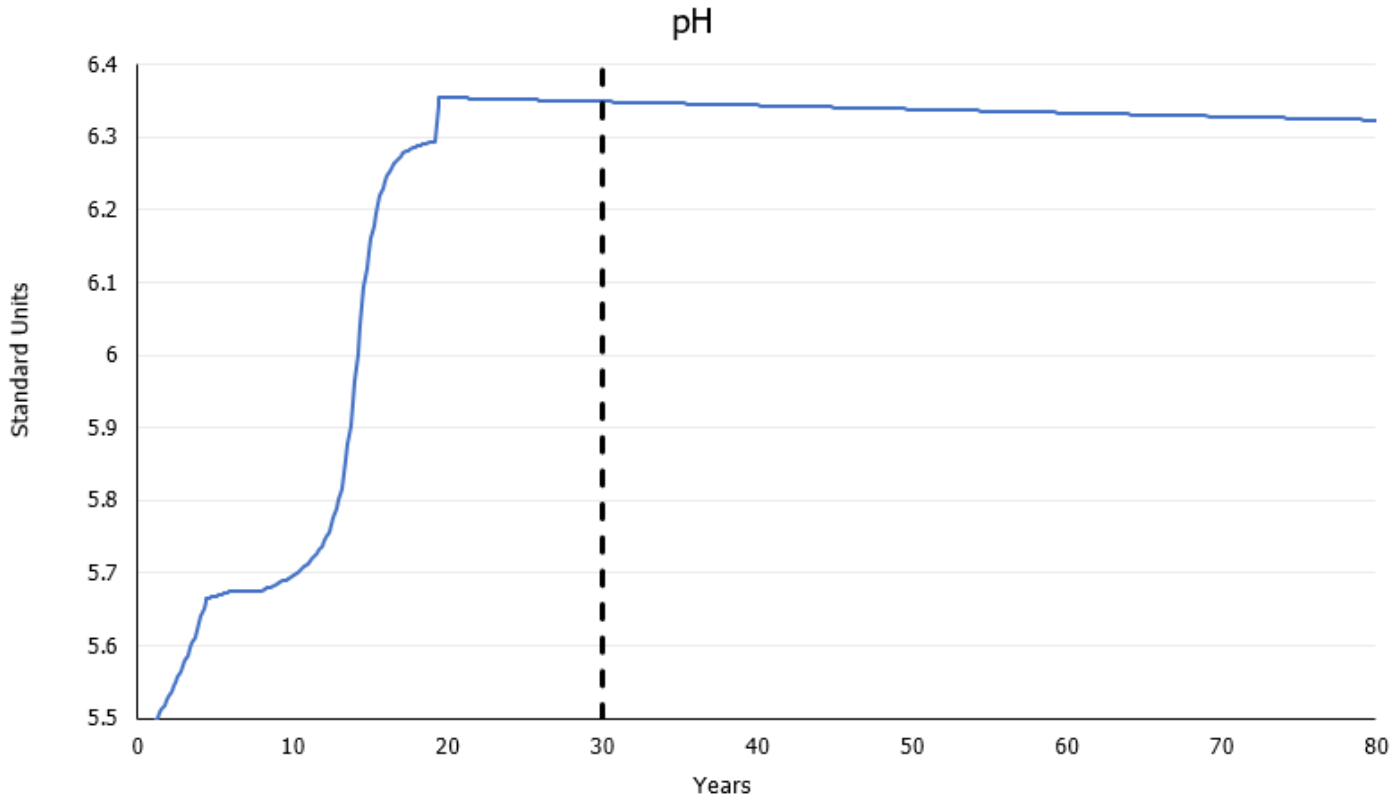
Reaction Pathway Modeling- Confining Unit Porosity and Total Mineral Masses

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024

Figure 2.8-4



Notes:
Formation water pH is displayed in standard units over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

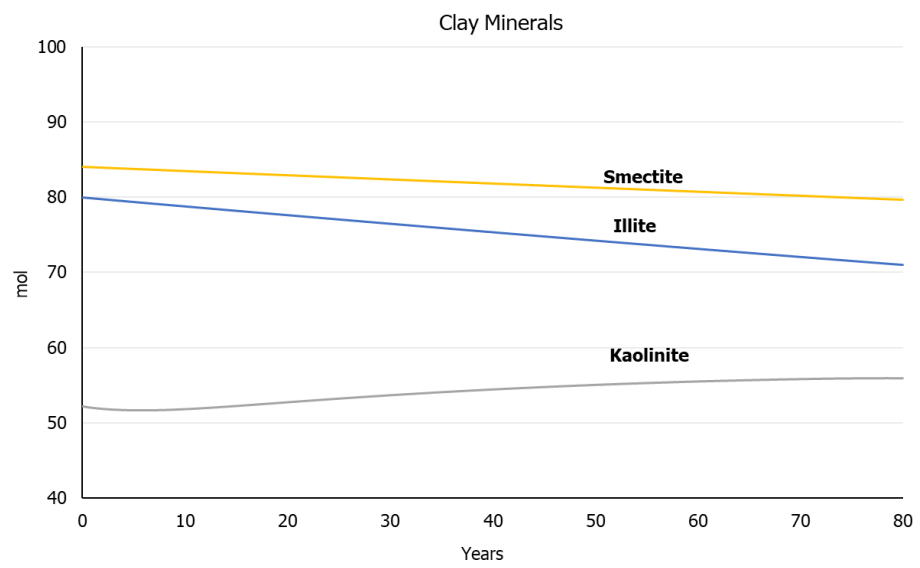
Reaction Pathway Modeling- Confining Unit Formation Water pH

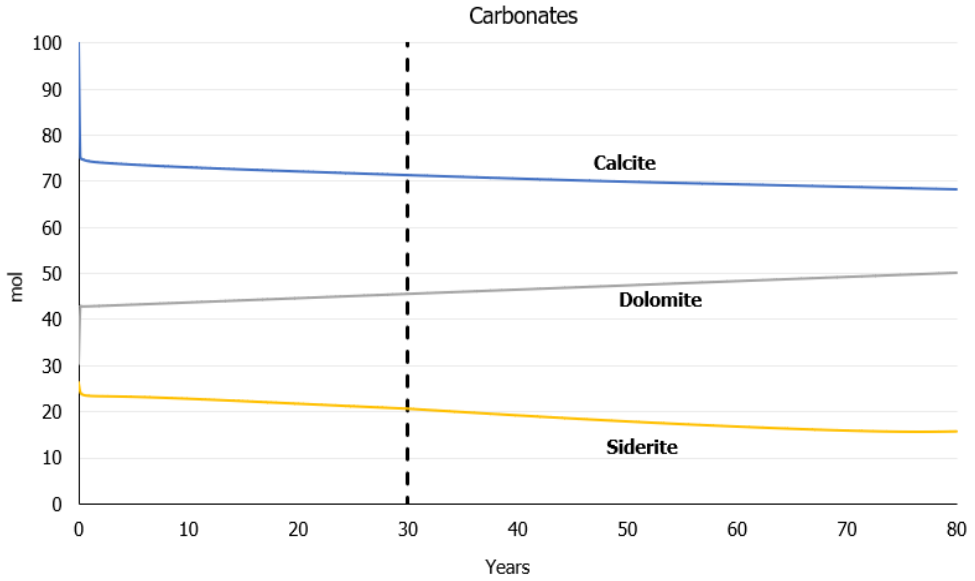
Ascension, Assumption and Iberville Parishes
Louisiana

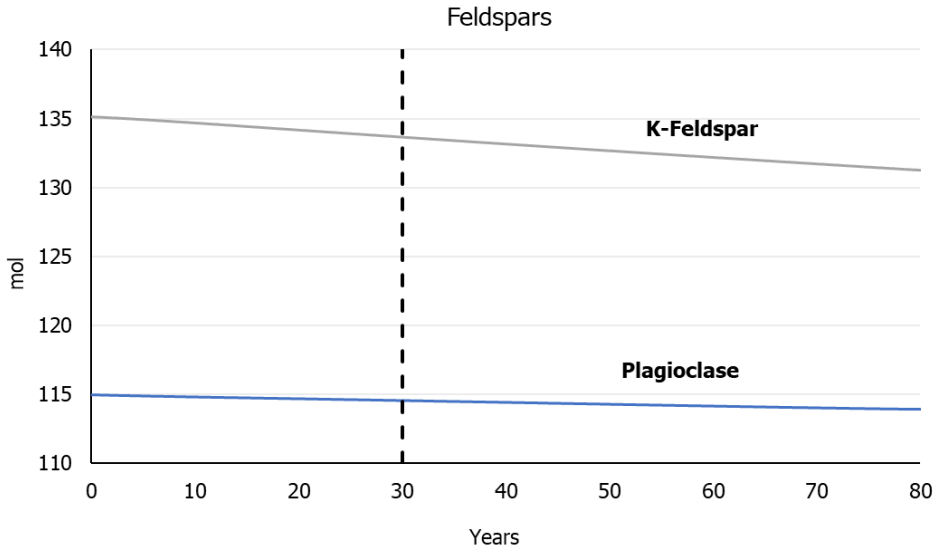
RIVER PARISH

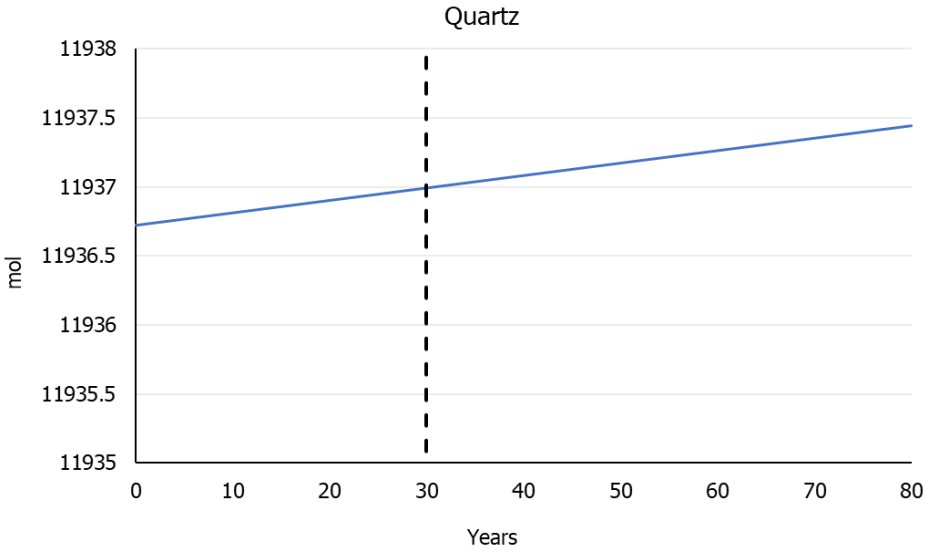
RPS Project	April 2024

Figure 2.8-5









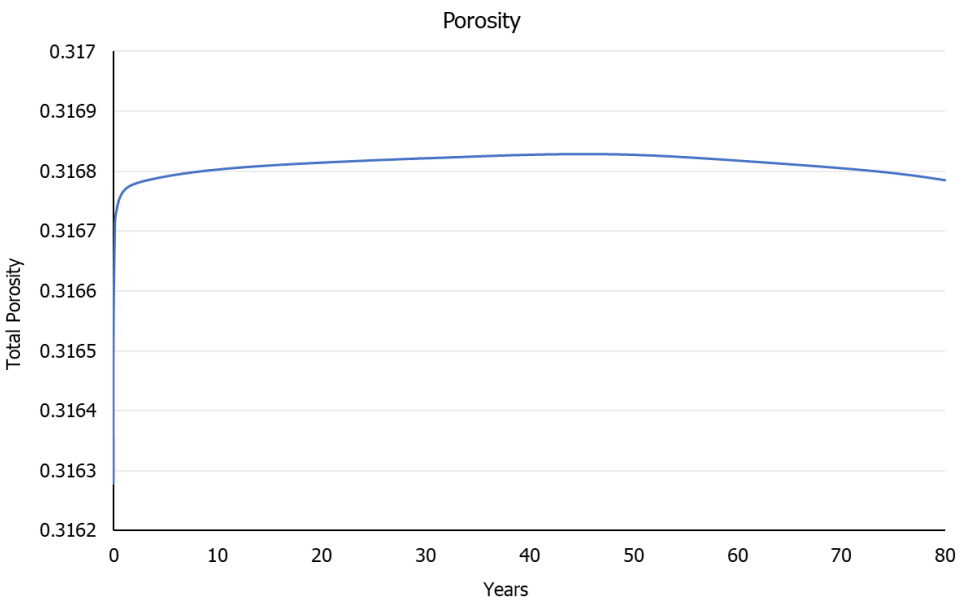
Notes:
Mineral masses displayed in units of moles over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

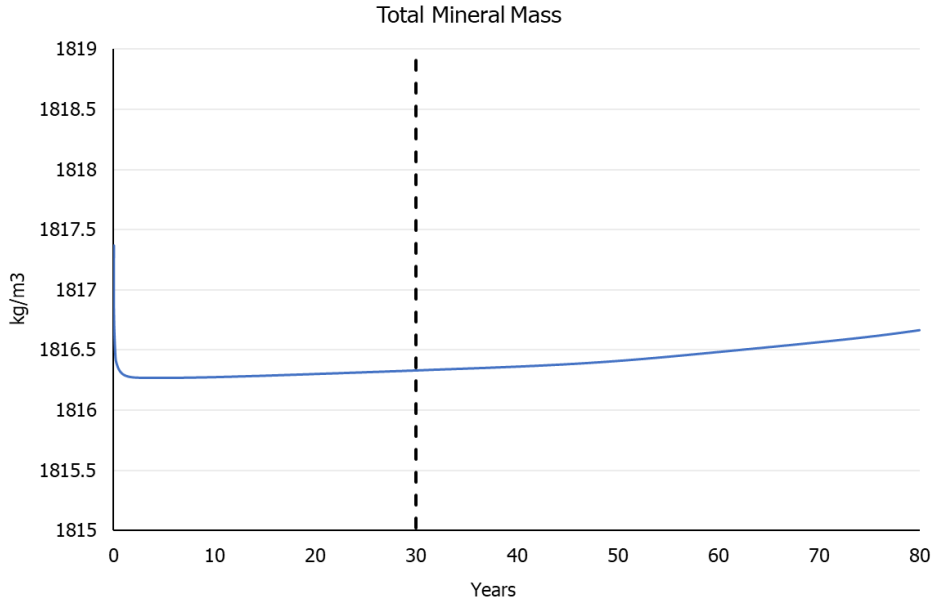
Reaction Pathway Modeling- Injection Zone (Sandy Lithology, Shallow Conditions) Mineral Masses

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024	**Figure 2.8-6**





Notes:
Total porosity is displayed in decimal fractions and total mineral mass is displayed in units of kilograms per cubic meter over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

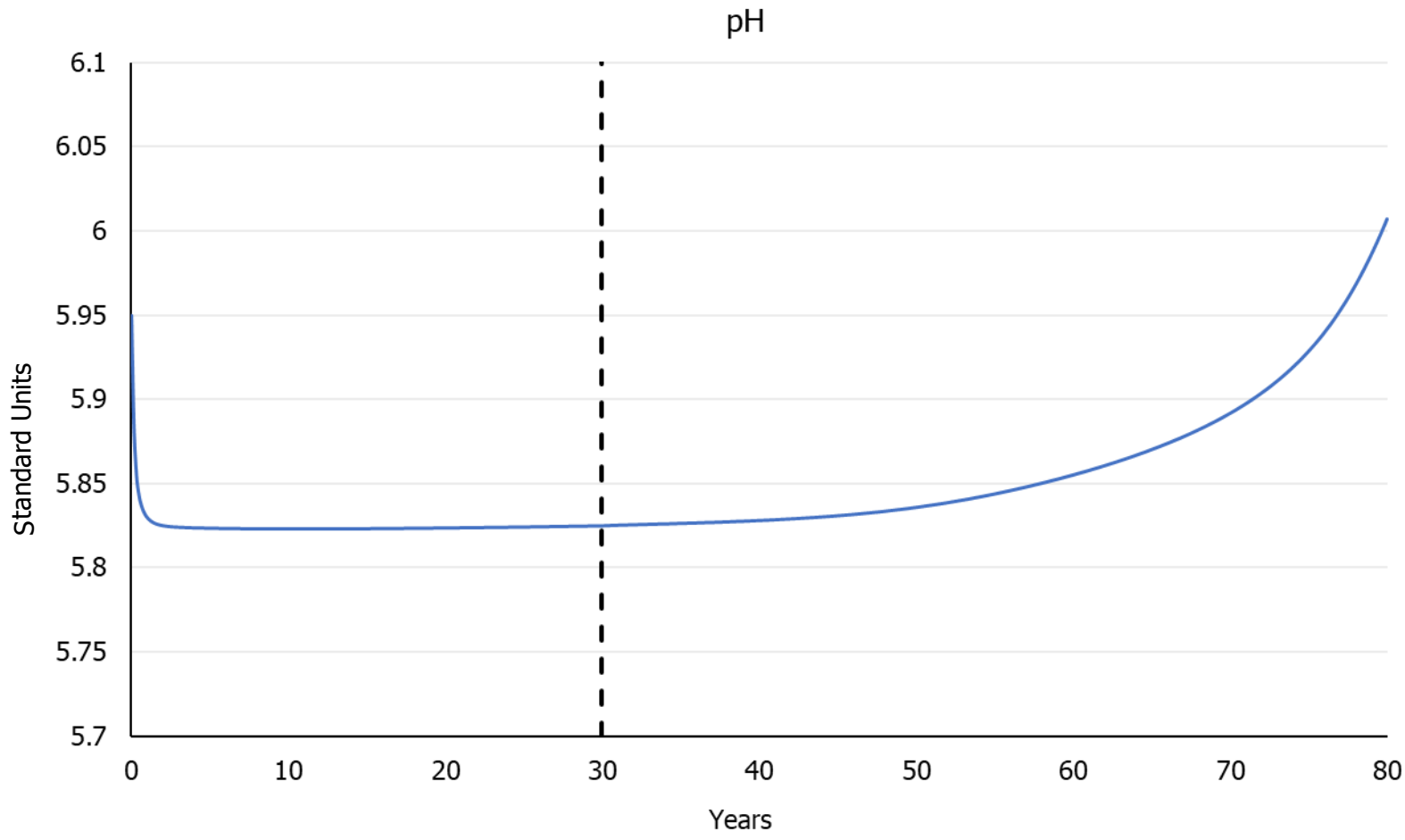
Reaction Pathway Modeling- Injection Zone (Sandy Lithology, Shallow Conditions) Porosity and Mineral Mass

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024

Figure 2.8-7



Notes:
Formation water pH is displayed in standard units over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

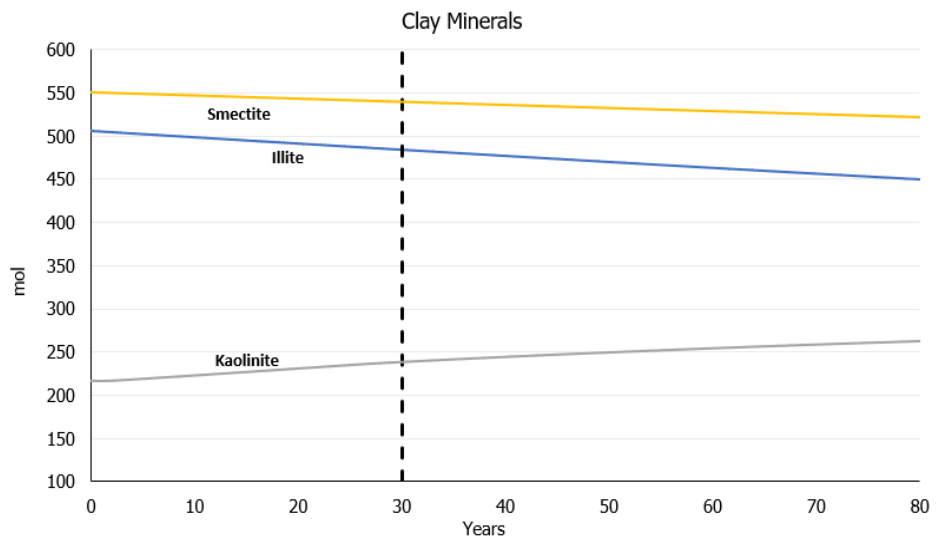
Reaction Pathway Modeling- Injection Zone (Sandy Lithology, Shallow Conditions) Formation Water pH

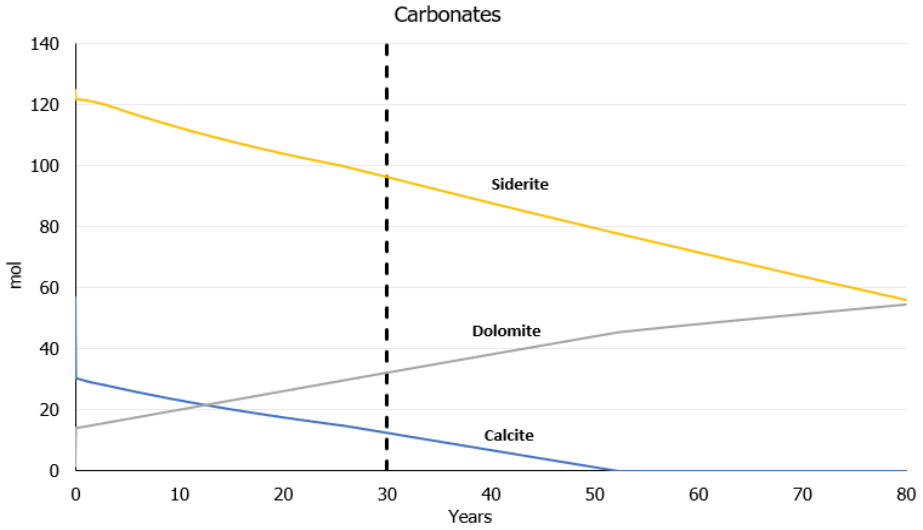
Ascension, Assumption and Iberville Parishes
Louisiana

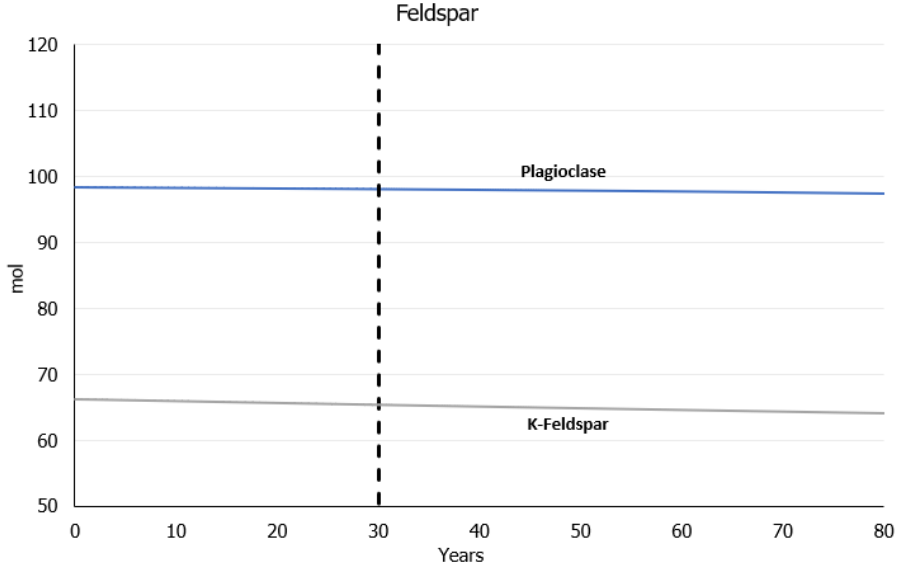
RIVER PARISH

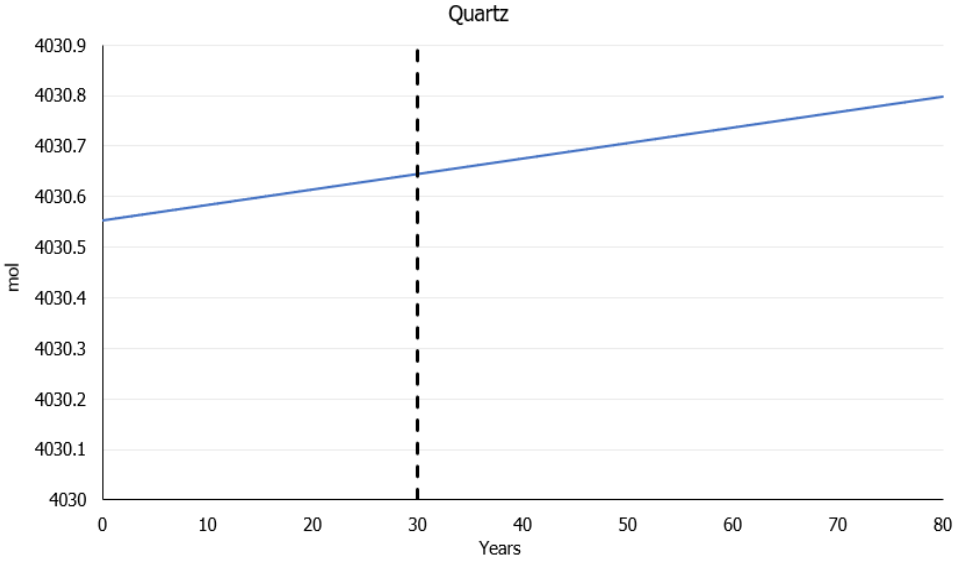
Figure 2.8-8

RPS Project	April 2024









Notes:
Mineral masses displayed in units of moles over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

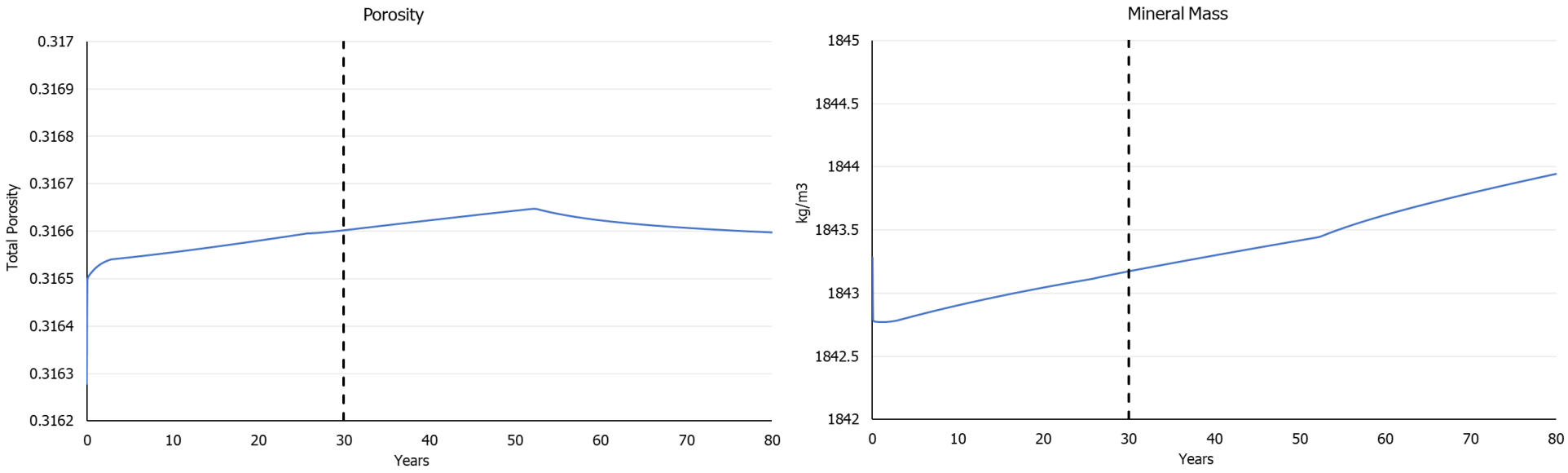
Reaction Pathway Modeling- Injection Zone (Shaley Lithology, Shallow Conditions) Mineral Masses

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.8-9

RPS Project	April 2024



Notes:
Total porosity is displayed in decimal fractions and total mineral mass is displayed in units of kilograms per cubic meter over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

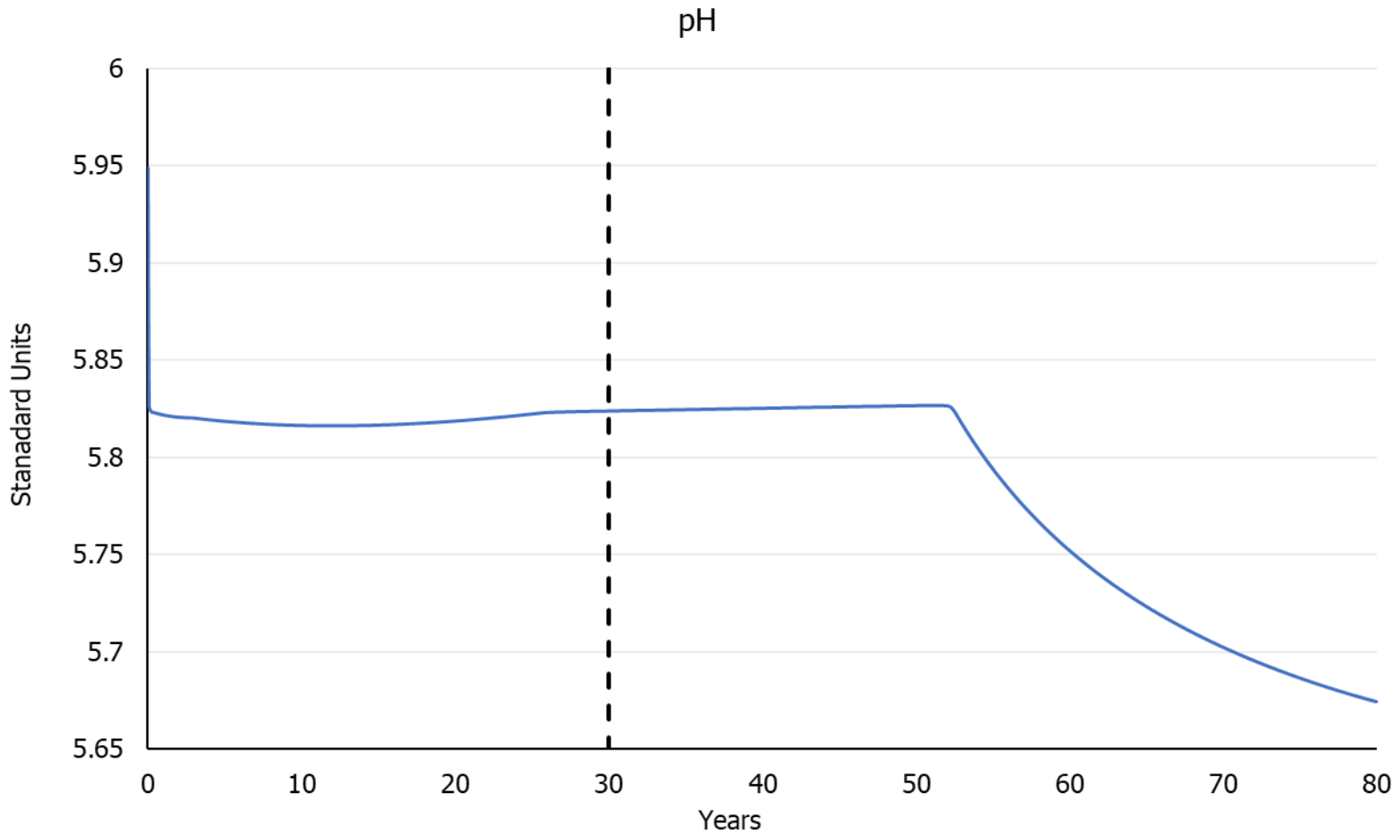
Reaction Pathway Modeling- Injection Zone (Shaley Lithology, Shallow Conditions) Porosity and Mineral Mass

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.8-10

RPS Project	April 2024



Notes:
Formation water pH is displayed in standard units over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

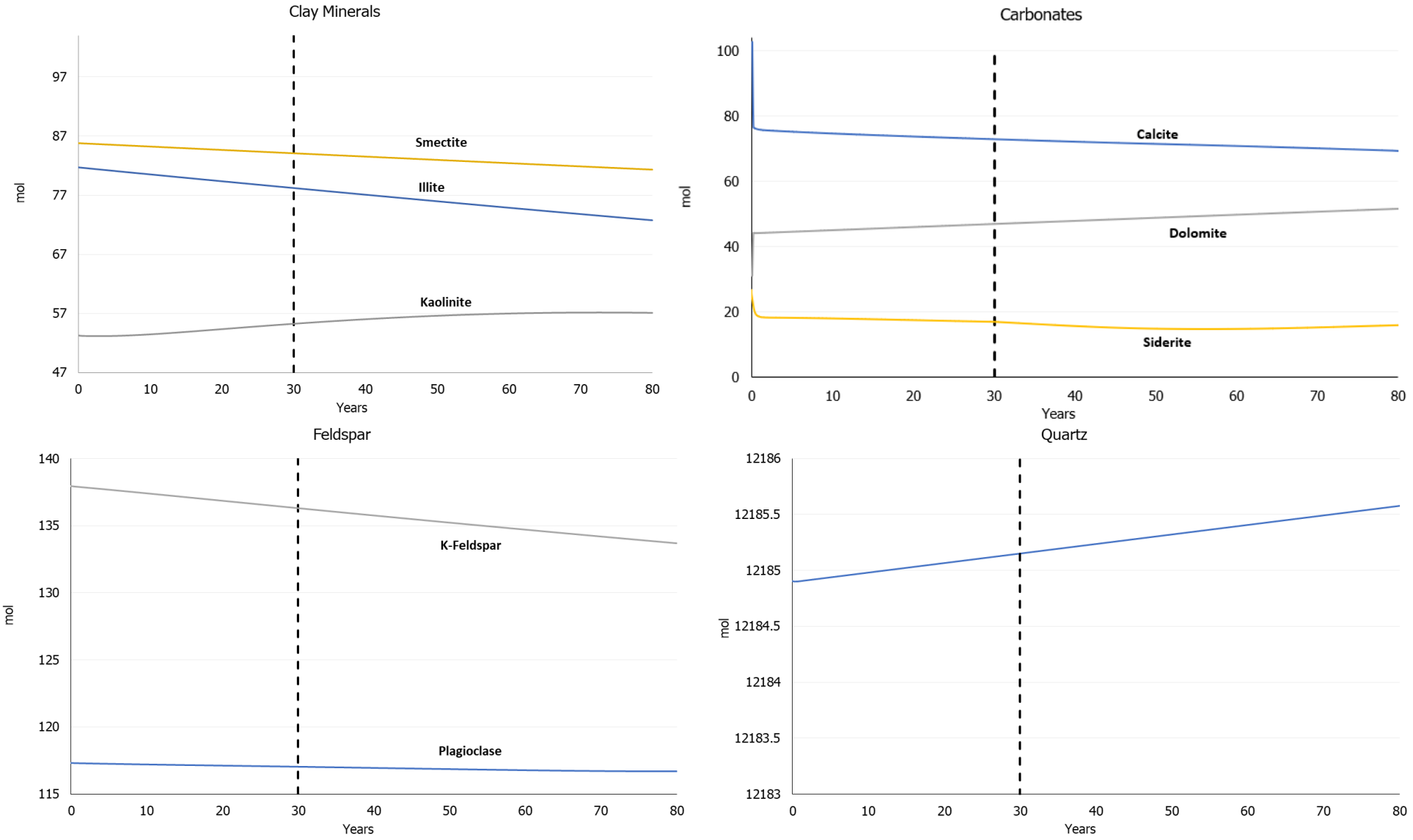
Reaction Pathway Modeling- Injection Zone (Shaley Lithology, Shallow Conditions) Formation Water pH

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.8-11

RPS Project	April 2024



Notes:
Mineral masses displayed in units of moles over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

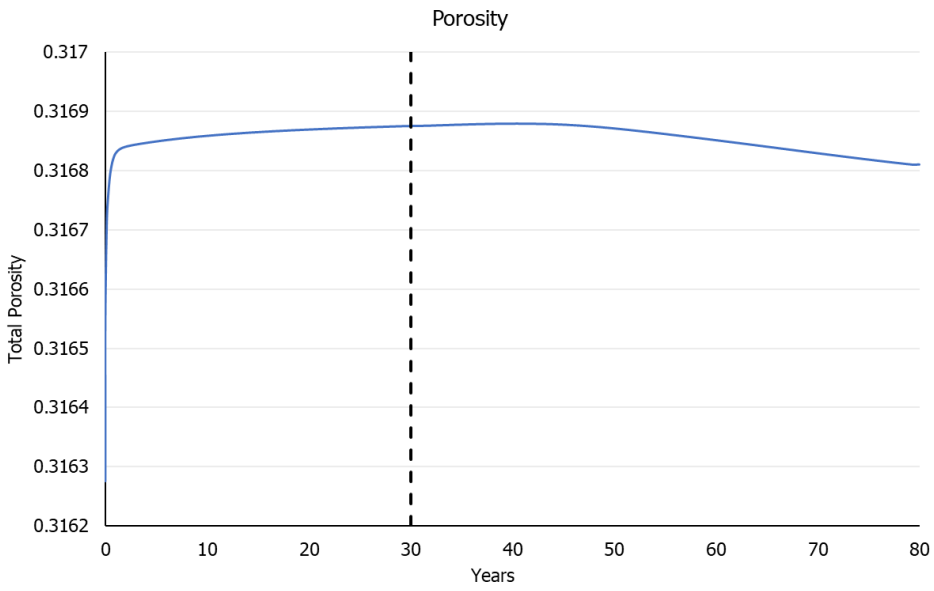
Reaction Pathway Modeling- Injection Zone (Sandy Lithology, Deep Conditions) Mineral Masses

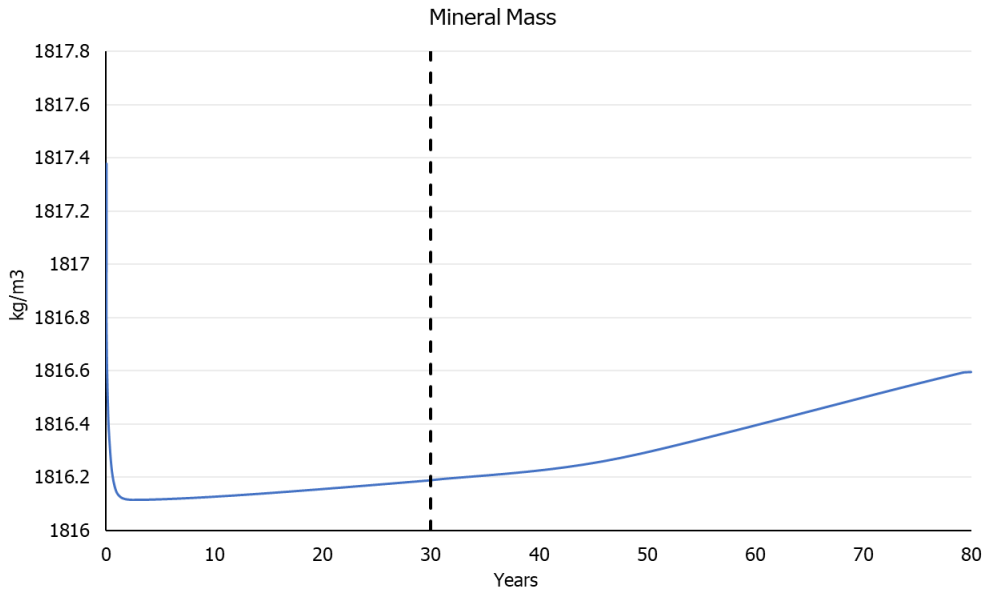
Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024

Figure 2.8-12





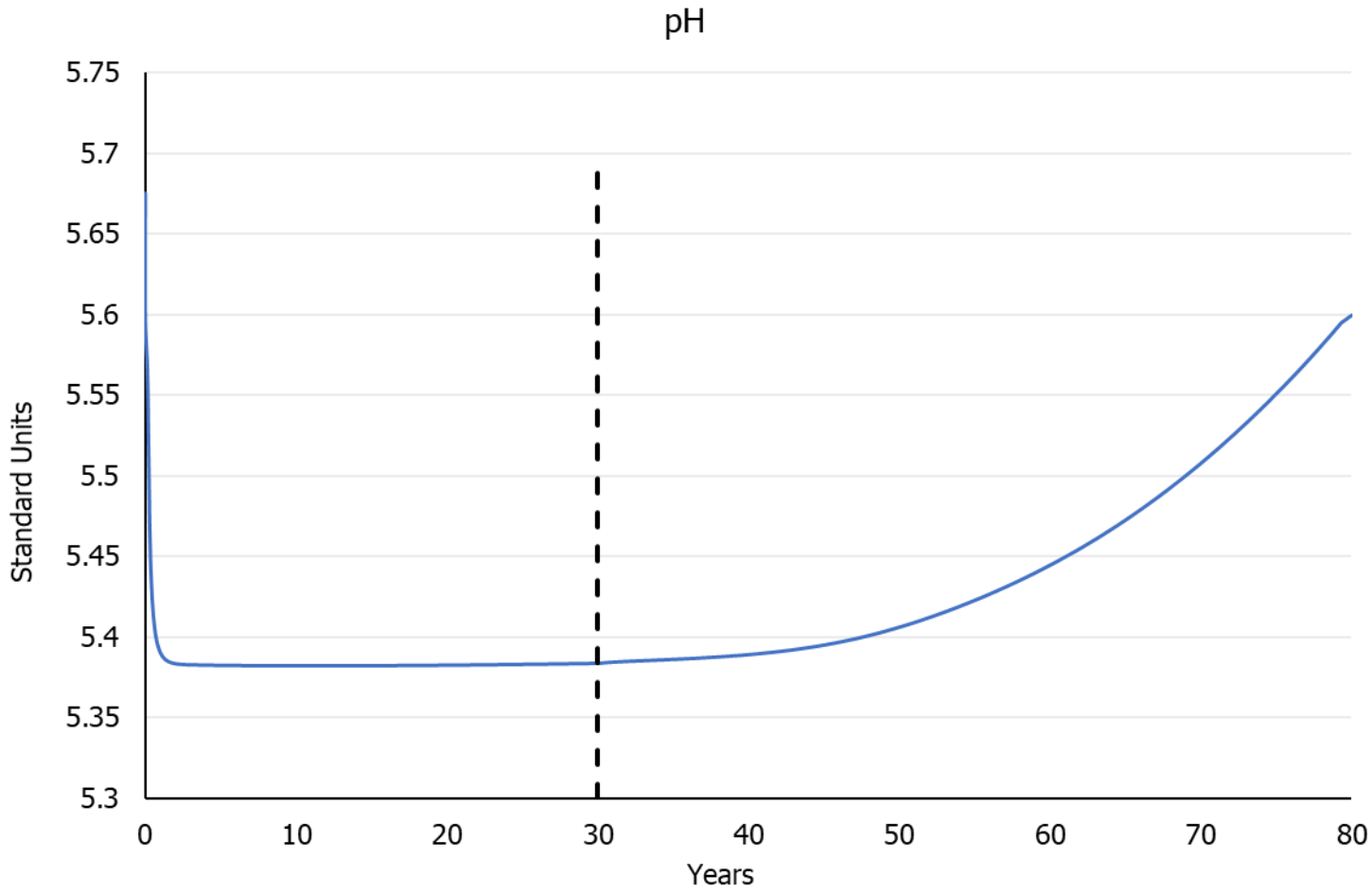
Notes:
Total porosity is displayed in decimal fractions and total mineral mass is displayed in units of kilograms per cubic meter over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

Reaction Pathway Modeling- Injection Zone (Sandy Lithology, Deep Conditions) Porosity and Mineral Mass
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	April 2024

Figure 2.8-13



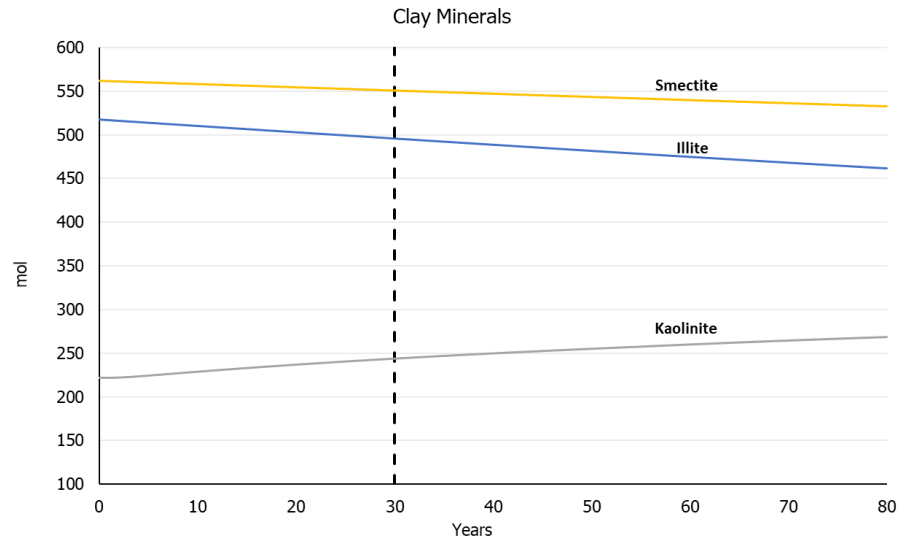
Notes:
Formation water pH is displayed in standard units over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

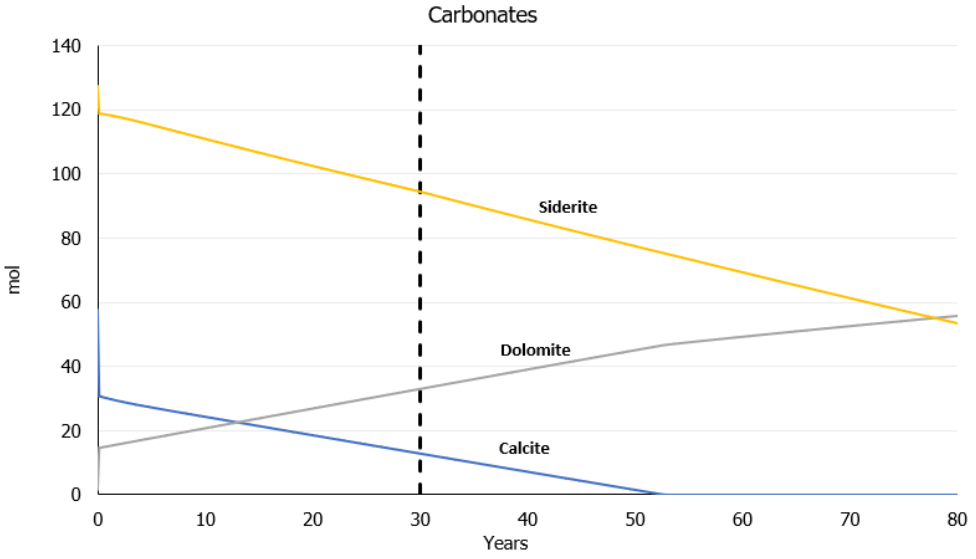
Reaction Pathway Modeling- Injection Zone (Sandy Lithology, Deep Conditions) Formation Water pH
Ascension, Assumption and Iberville Parishes
Louisiana

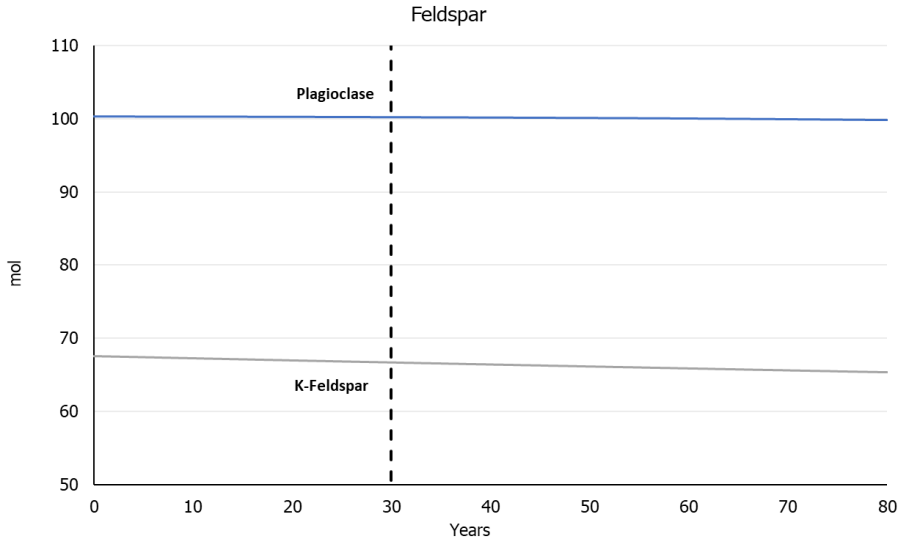
RIVER PARISH

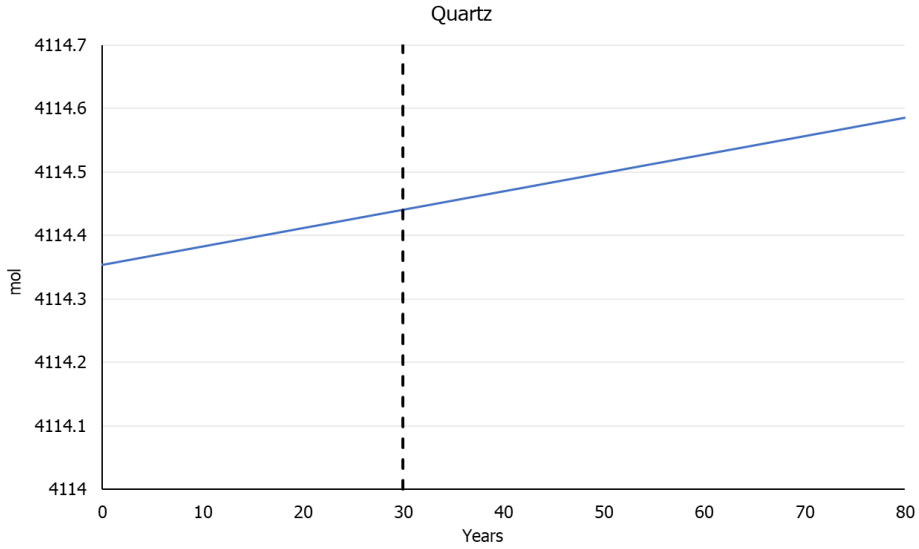
Figure 2.8-14

RPS Project | April 2024









Notes:
Mineral masses displayed in units of moles over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

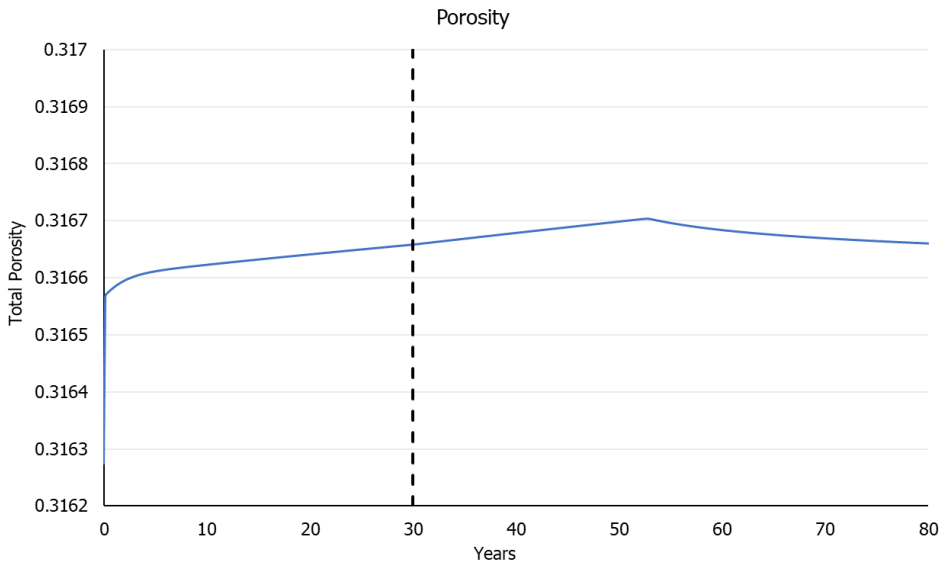
Reaction Pathway Modeling- Injection Zone (Shaley Lithology, Deep Conditions) Mineral Masses

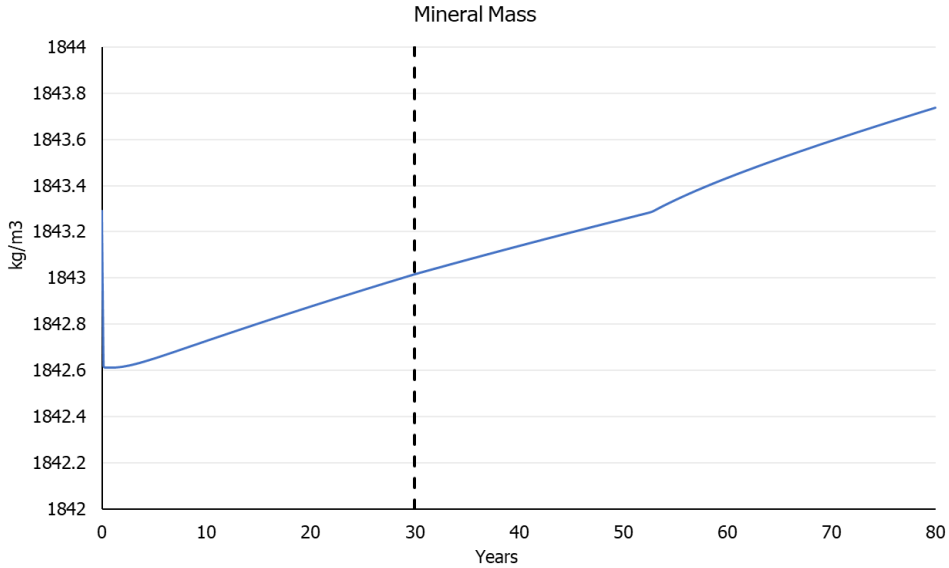
Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.8-15

RPS Project	April 2024





Notes:
Total porosity is displayed in decimal fractions and total mineral mass is displayed in units of kilograms per cubic meter over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

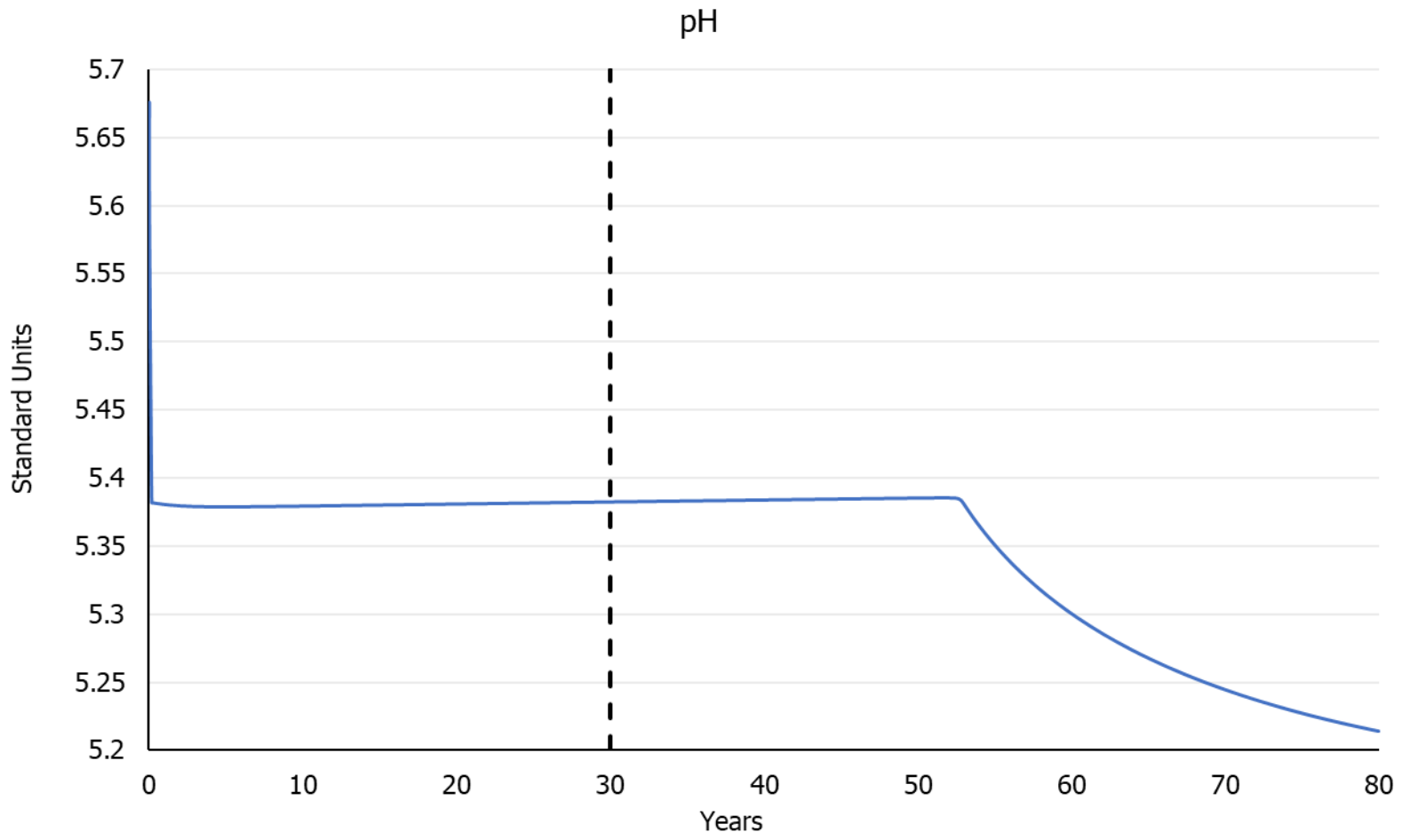
Reaction Pathway Modeling- Injection Zone (Shaley Lithology, Deep Conditions) Porosity and Mineral Mass

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.8-16

RPS Project	April 2024



Notes:
Formation water pH is displayed in standard units over the 80-year modeling time duration. The shift from gas injection to post-injection conditions is indicated on the plots by the dashed line.

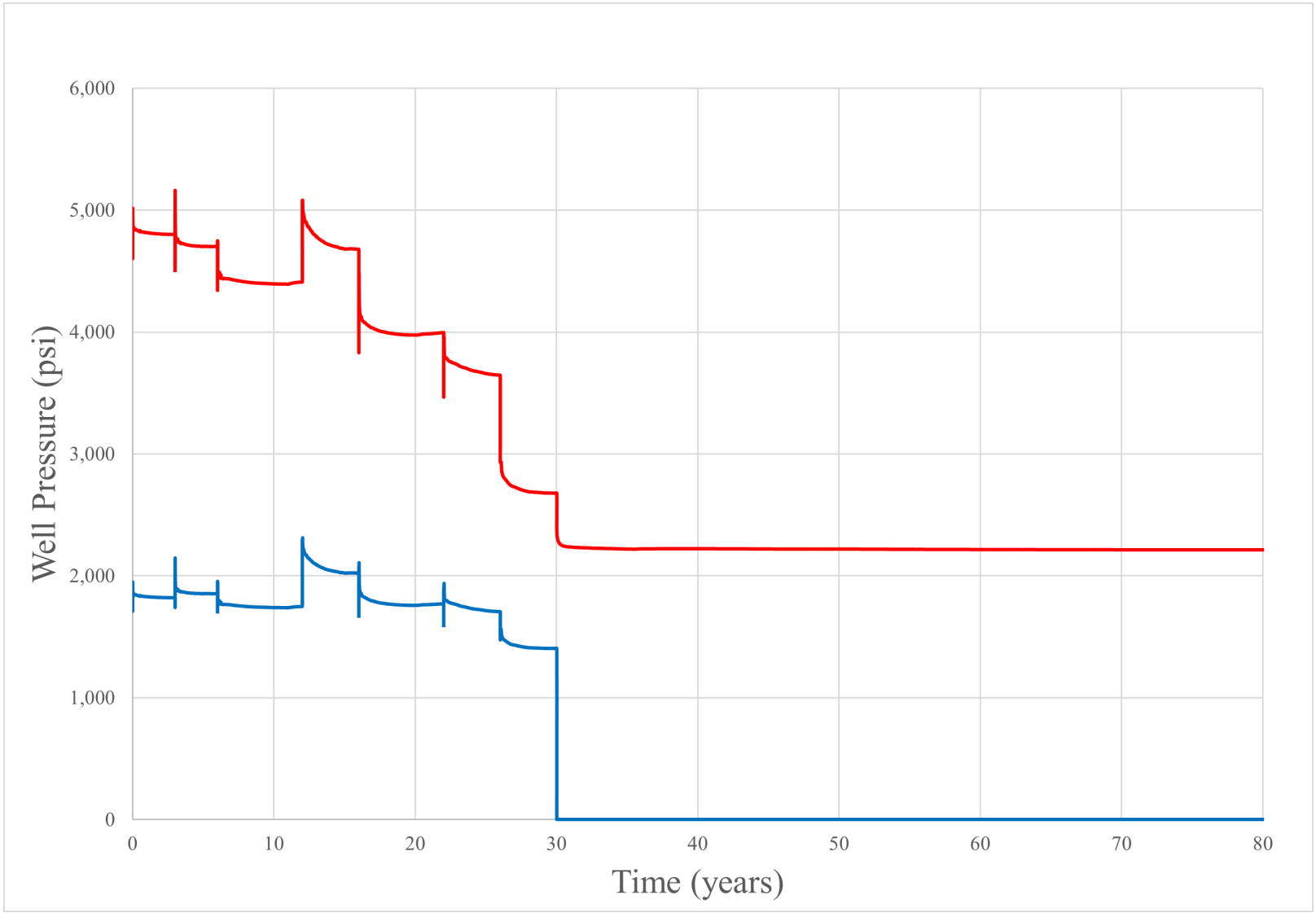
Reaction Pathway Modeling- Injection Zone (Shaley Lithology, Deep Conditions) Formation Water pH

Ascension, Assumption and Iberville Parishes
Louisiana

RIVER PARISH

Figure 2.8-17

RPS Project	April 2024



Legend:

Bottom-hole Pressure

Wellhead Pressure

Explanation:

psi - pounds per square inch

Modeled
RPN-1-INJ Injection Profile
Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	October 2025

Figure 5.4-1

Notes:
This figure generally illustrates how intervals will be actively injected into, filled, and plugged moving upwards towards the surface.

Operation Completion Strategy Schematic

Ascension, Assumption, and Iberville Parishes
Louisiana

RIVER PARISH

RPS Project	May 2023

Figure 7.1-1

Legend

- Proposed Injection Well
- Pump Station
- Census Tract Boundary
- Area of Review
- RPS Storage Site
- Parish Boundary

N

Basemap Source: NAIP Imagery Hybrid

0 1 Miles

Census Tracts Near RPS

Ascension, Assumption and Iberville Parishes
Area of Donaldsonville, Louisiana

RIVER PARISH

Figure 14.1-1

RPS Project | October 2025