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Amended Subpart RR Monitoring, Reporting, and Verification Plan

Campo Viejo Plant
Pozo Acido Viejo No. 1
Esperanza No. 1

Yoakum County, Texas

Prepared for *Stakeholder Gas Services, LLC*
San Antonio, Texas

By

Lonquist Sequestration, LLC
Austin, Texas

August 2025
(Original Approval Date August 8, 2022)

INTRODUCTION

Stakeholder Gas Services, LLC (Stakeholder) is amending the existing Monitoring, Reporting, and Verification (MRV) plan for the Campo Viejo Gas Processing Plant to add a proposed acid gas injection (AGI) well, Esperanza No. 1, to the facility. This well will replace the previously permitted Estacado No. 1, which did not have sufficient injectivity to support the expected needs of the facility. Stakeholder currently has a Class II AGI permit, issued by the Railroad Commission of Texas (TRRC) in August 2018 and amended in August 2022, for the Pozo Acido Viejo No. 1 (API No. 42-501-36935). This permit currently authorizes Stakeholder to inject up to 20 million standard cubic feet per day (MMscf/d) of treated acid gas (TAG) into the Bronco (Siluro-Devonian) Field at a depth of 12,020 feet (ft) to 12,349 ft with a maximum allowable surface pressure of 4,319 pounds per square inch (psi). Since being permitted, the injection has proceeded without incident. Stakeholder has a pending Class II permit with the TRRC for their second AGI well, the Esperanza No. 1 (API No. 42-501-37616). Stakeholder has requested approval to inject 19.7 MMscf/d at a depth of 12,039 ft to 12,800 ft measured depth (MD) with a maximum allowable surface pressure of 4,300 psi. Approval for this permit is expected to occur in Q3/Q4 2025. These two AGI wells are associated with Stakeholder's Campo Viejo gas treating and processing plant (Campo Viejo Facility) located in a rural, sparsely populated area of Yoakum County, Texas, approximately 10 miles west of the town of Plains, as shown in Figure 1. Stakeholder is submitting this revision to its MRV plan to the Environmental Protection Agency (EPA) for approval under Title 40, U.S. Code of Federal Regulations (40 CFR) **§98.440(a)**, Subpart RR, of the Greenhouse Gas Reporting Program (GHGRP).

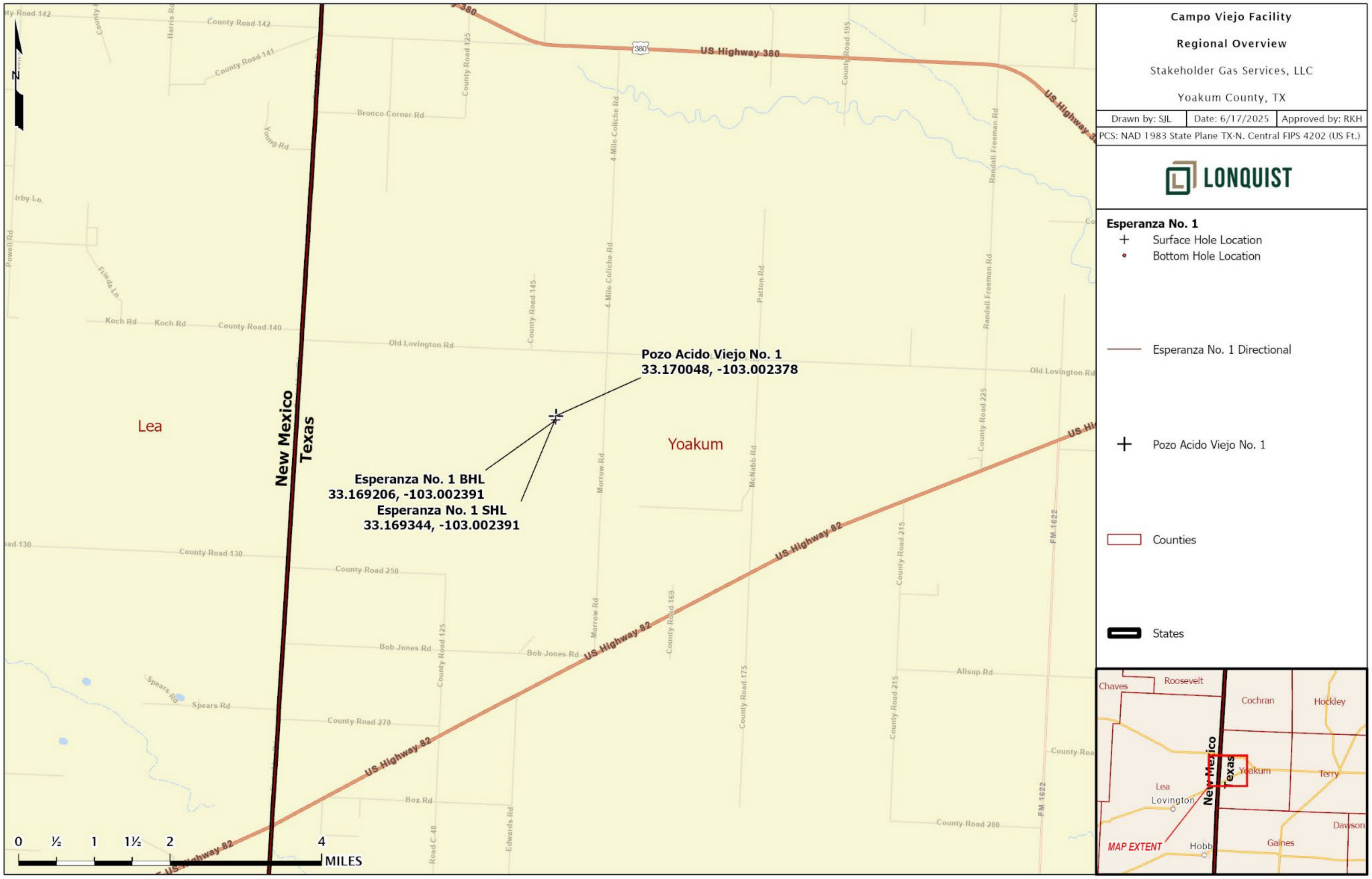


Figure 1 – Location of Pozo Acido Viejo No. 1 and Esperanza No. 1.

ACRONYMS AND ABBREVIATIONS

%	Percent(age)
°F	Degrees Fahrenheit
AGI	Acid Gas Injection
AMA	Active Monitoring Area
API	American Petroleum Institute
BCF	Billion Cubic Feet
BHP	Bottomhole Pressure
CFR	Code of Federal Regulations
CH_4	Methane
CO_2	Carbon Dioxide (may also refer to other Carbon Oxides)
E	East
EOS	Equation of State
EPA	U.S. Environmental Protection Agency
ESD	Emergency Shutdown
FG	Fracture Gradient
ft	Foot (Feet)
GAU	Groundwater Advisory Unit
GHGs	Greenhouse Gases
GHGRP	Greenhouse Gas Reporting Program
H_2S	Hydrogen Sulfide
MD	Measured depth
mD	Millidarcy(ies)
mi	Mile(s)
MIT	Mechanical Integrity Test
MMA	Maximum Monitoring Area
MMscf/d	Million Standard Cubic Feet per Day
MRV	Monitoring, Reporting and Verification

ν	Poisson's Ratio
N	North
NW	Northwest
pH	Scale of Acidity
ppm	Parts per Million
psi	Pounds per Square Inch
psi/ft	Pound per square inch per foot
S	South
SDRDB	Submitted Drillers Report Database
SE	Southeast
SF	Safety Factor
SWD	Saltwater Disposal
TAC	Texas Administrative Code
TAG	Treated Acid Gas
TBD	To Be Determined
tNav	tNavigator (software)
TRRC	Railroad Commission of Texas
TVD	True Vertical Depth
TWDB	Texas Water Development Board
UIC	Underground Injection Control
USDW	Underground Source of Drinking Water
USGS	U.S. Geological Survey
W	West
WHP	Wellhead pressure

Table of Contents

LIST OF FIGURES

LIST OF TABLES

SECTION 1 – FACILITY INFORMATION

This section contains key information regarding the acid gas and carbon dioxide (CO_2) injection facility.

1.1 Reporter Number:

- Gas Plant Facility Name: Campo Viejo Gas Processing Plant
- Greenhouse Gas Reporting Program ID: 573525
    - Reporting under Subpart RR
- Operator: Stakeholder Gas Services, LLC

1.2 Underground Injection Control Permit Class: Class II

The TRRC regulates oil and gas activities in Texas and has primacy to implement the Underground Injection Control (UIC) Class II program. The TRRC classifies the Pozo Acido Viejo No. 1 and Esperanza No. 1 as UIC Class II wells. A Class II permit was issued to Stakeholder for the Pozo Acido Viejo No. 1 well under TRRC Rule 46 (entitled "Fluid Injection Into Productive Reservoirs") and Rule 36 ("Oil, Gas, or Geothermal Resource Operation in Hydrogen Sulfide Areas"). The TRRC is currently reviewing the Class II permit application for the Esperanza No. 1 well. Approval for the Esperanza No. 1 Class II permit is expected to occur in Q3/Q4 2025.

1.3 UIC Well Identification Numbers:

- Pozo Acido Viejo No. 1, API No. 42-501-36935, UIC No. 000117488.

- Esperanza No. 1, API No. 42-501-37616, UIC No. (TBD).

1.4 Facility Address

Campo Viejo Gas Processing Plant
1548 County Road 165
Plains, Texas 79355

Coordinates in NAD83 for this facility:

Latitude: 33.161087
Longitude: -102.992248

SECTION 2 – PROJECT DESCRIPTION

This project description discusses the geologic setting, planned injection volumes and process, and the reservoir modeling performed for the Pozo Acido Viejo No. 1 and Esperanza No. 1 wells. Stakeholder originally provided a geological overview as part of Stakeholder's original Class II application with the TRRC in 2018. Stakeholder has updated the geology and plume modeling within the reservoir for this MRV plan.

The two AGI wells are located and designed to protect against migration of CO_2 into productive oil and gas formations, freshwater aquifers, and surface releases. The injection interval for the AGI wells is located more than 5,900 ft below the active producing formations in the immediate area and more than 9,700 ft below the base of the lowest usable quality water table, as shown in Figure 2. These wells inject both hydrogen sulfide (H_2S) and CO_2; therefore, both the well and facility are designed to minimize any leakage to the surface.

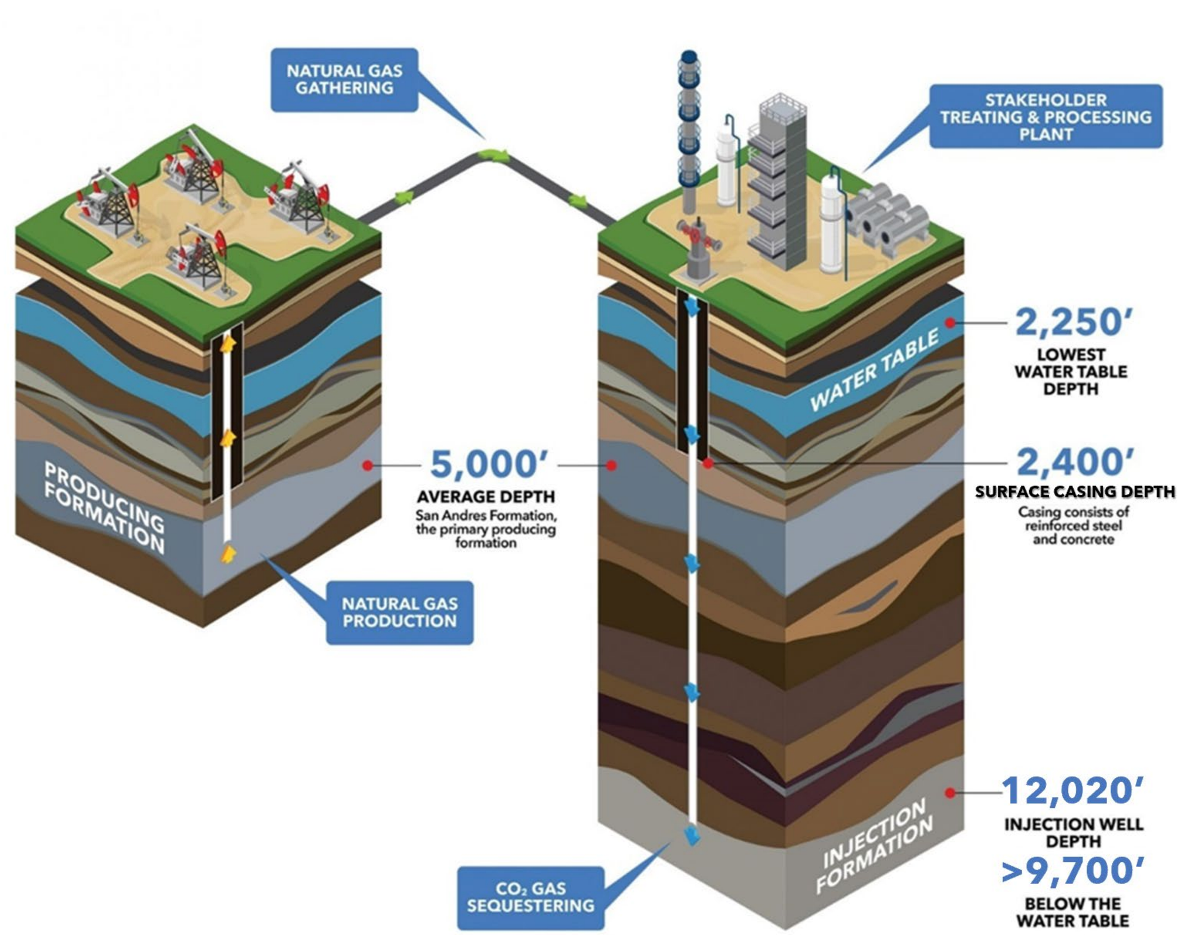


Figure 2 – Illustrative Overview of the Campo Viejo Facility.

2.1 Regional Geology

The AGI wells at Campo Viejo are located on the southern portion of the Northwestern Shelf within the larger Permian Basin, as shown in Figure 3. The Northwestern Shelf is a broad marine shelf located in the northern portion of the Permian Basin.

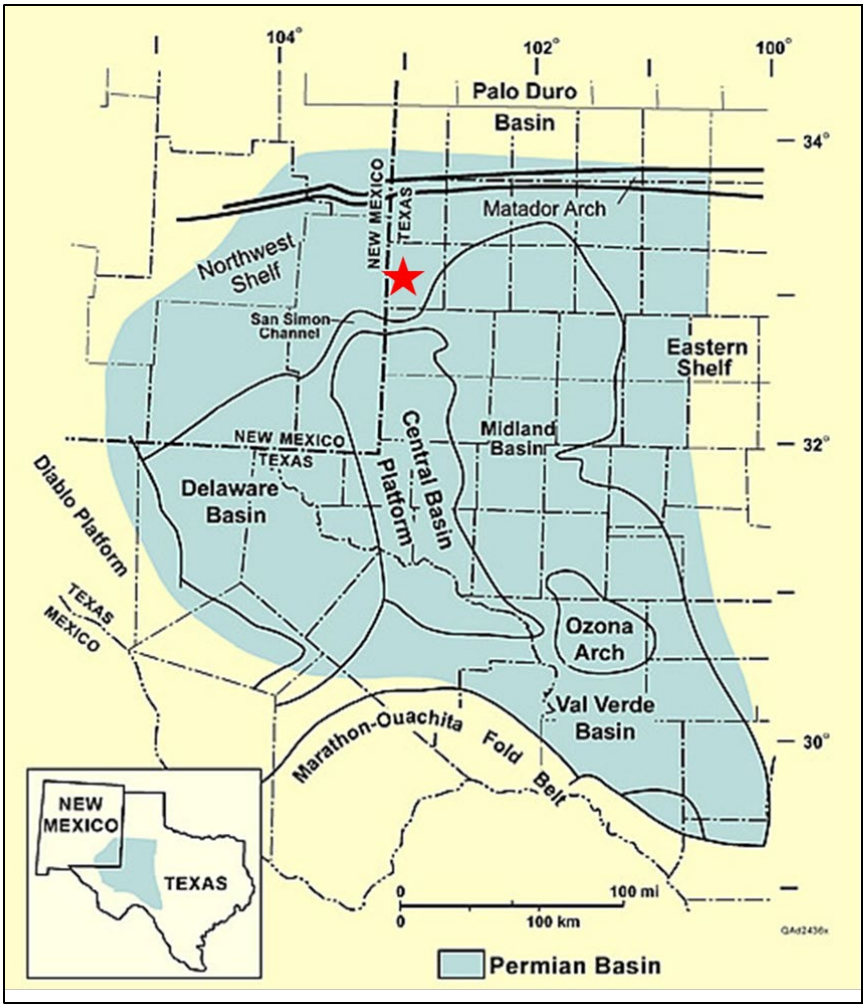


Figure 3 – Regional map of the Permian Basin. The red star indicates the approximate location of the Campo Viejo AGI wells.

Figure 4 depicts the stratigraphic column found at the Campo Viejo Facility, with a red star referencing the injection formation and the green stars indicating the productive intervals in the area. The primary injection interval is found within the Wristen Group, of Silurian age, as shown in Figure 5. The TRRC refers to this sequence under the general terms "Devonian," "Silurian-Devonian," or "Siluro-Devonian."

Period	Epoch	Formation		General Lithology
Permian	Ochoan	Dewey Lake		Redbeds/Anhydrite
		Rustler		Halite
		Salado		Halite/Anhydrite
	Guadalupian	Tansil		Anhydrite/Dolomite
		Yates		Anhydrite/Dolomite
		Seven Rivers		Dolomite/Anhydrite
		Queen		Sandy Dolomite/Anhydrite/Sandstone
		Grayburg		Dolomite/Anhydrite/Shale/Sandstone
	Leonardian	★ San Andres		Dolomite/Anhydrite
		Glorieta		Sandy Dolomite
		Yeso	Paddock	Dolomite/Anhydrite/Sandstone
			Blinebry	
			Tubb	
			Drinkard	
		Abo		Dolomite/Anhydrite/Shale
	Wolfcampian	★ Wolfcamp		Limestone/Dolomite
Pennsylvanian	Virgilian	Cisco		Limestone/Dolomite
	Missourian	Canyon		Limestone/Shale
	Des Moinesian	Strawn		Limestone/Sandstone
	Atokan	Bend		Limestone/Sandstone/Shale
	Morrowan	Morrow		
Mississippian		Mississippian Lime		Limestone
Devonian		Woodford		Shale
Silurian		★ Wristen Group		Dolomite/Limestone
		Fusselman		Dolomite/Chert
Ordovician	Upper			
		Montoya		Dolomite/Chert
	Middle	Simspson Gp		Limestone/Sandstone/Shale
	Lower	Ellenburger		Dolomite

Figure 4 – Stratigraphic column of the Northwest Shelf. The red star indicates the injection interval; the green stars, the productive intervals.

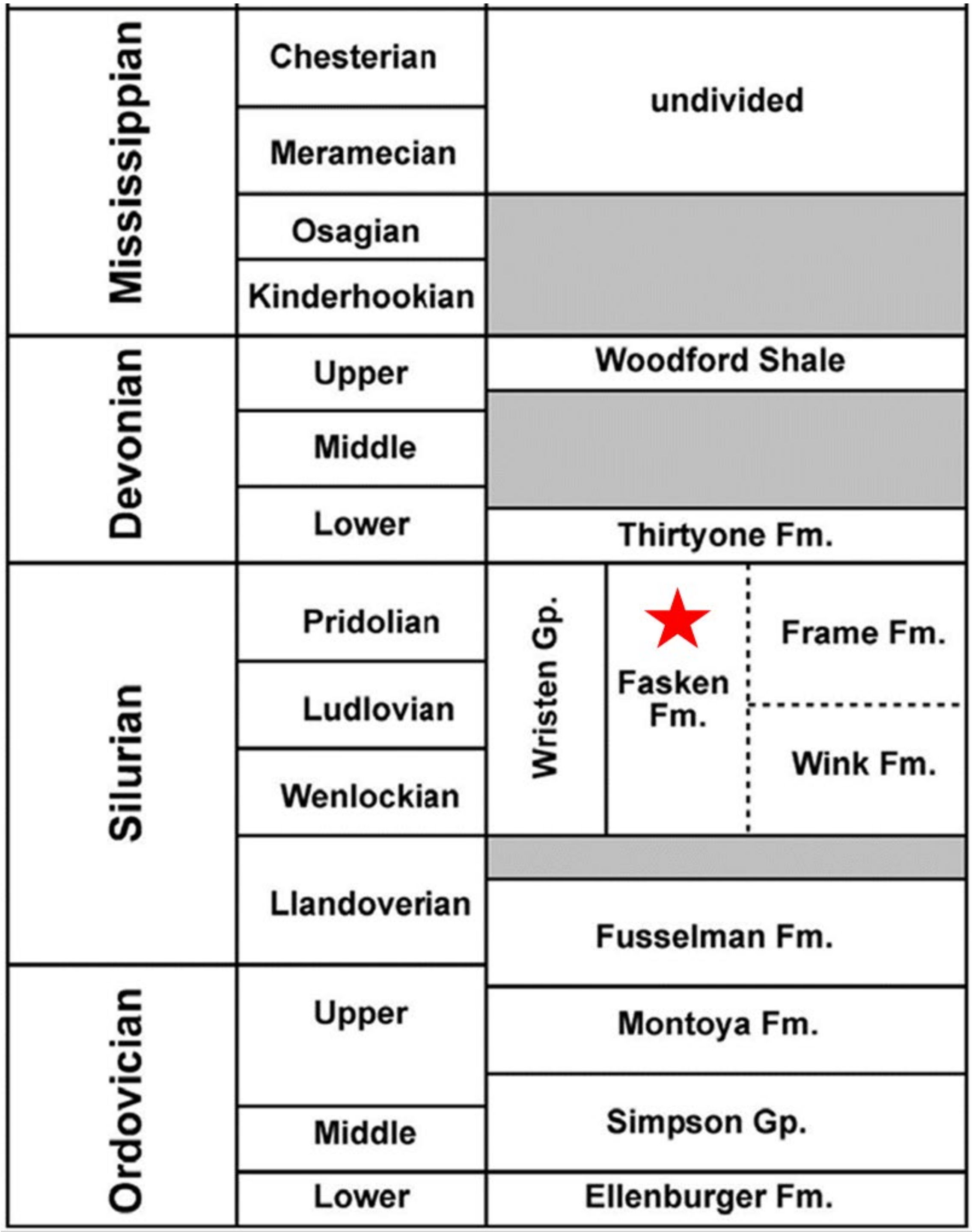


Figure 5 – Stratigraphic column depicting the composition of the Silurian group. The red star indicates the injection interval (Broadhead, 2005).

The Wristen Group was deposited in a basin platform setting across the northern half of the Permian Basin. The depositional environment over Yoakum County during the Silurian period was a shallow inner platform, the margin of which exists to the south, in southern Andrews County, Texas. The Silurian-age lithology on the inner platform is dominated by grain-rich skeletal carbonates.

Carbonate buildups are common within the shallow inner platform, mainly skeletal wackestone, indicating a lower-energy deposition on the inner platform. The carbonate shelf margin to the south acted as a barrier from basinward wave energy (Ruppel and Holtz, 1994).

Depositional cycles within the inner platform indicate it was controlled by episodic sea level rise and fall, resulting in subareal exposure and diagenesis. The diagenesis of the Silurian-age carbonate rocks initiated secondary porosity development and increased permeability. Dolomite and solution-related features are the most prominent diagenetic characteristics found within the Silurian. The Wristen Group is composed of three formations: Fasken, Frame, and Wink. The Frame and Wink formations are found near the ramp boundary to the south, while the Fasken formation is found predominantly in the inner platform where the AGI wells are located. The Fasken Formation is predominately dolomite grading to limestone, occurring as cycles, down section. This dolomitization was caused in part to subareal exposure, during which karsts and secondary porosity developed. Additional dolomitization was possible during successive sea-level fluctuations by way of movement of a magnesium-rich solution through karsts and vugs, which acted as channels for fluid flow (Ruppel and Holtz, 1994).

Figure 6 shows a regional isopach map of the Siluro-Devonian (the combined Fasken and Fusselman formations) with a red star depicting the Campo Viejo project location. The thickness of the Silurian-age rock is approximately 1,000 ft at the AGI well locations.

North of Andrews County there is little differentiation between the Fasken and Fusselman formations, which are both carbonate deposits with the potential for subareal exposure and porosity development. The injection interval defined herein is based on petrophysical characteristics rather than stratigraphic nomenclature. For the purposes of this MRV plan, the Fasken is defined as the porous and permeable carbonate rock at the top of the Siluro-Devonian section, and the Fusselman is the low-permeability rock that comprises the carbonate section between the Fasken and Montoya formations.

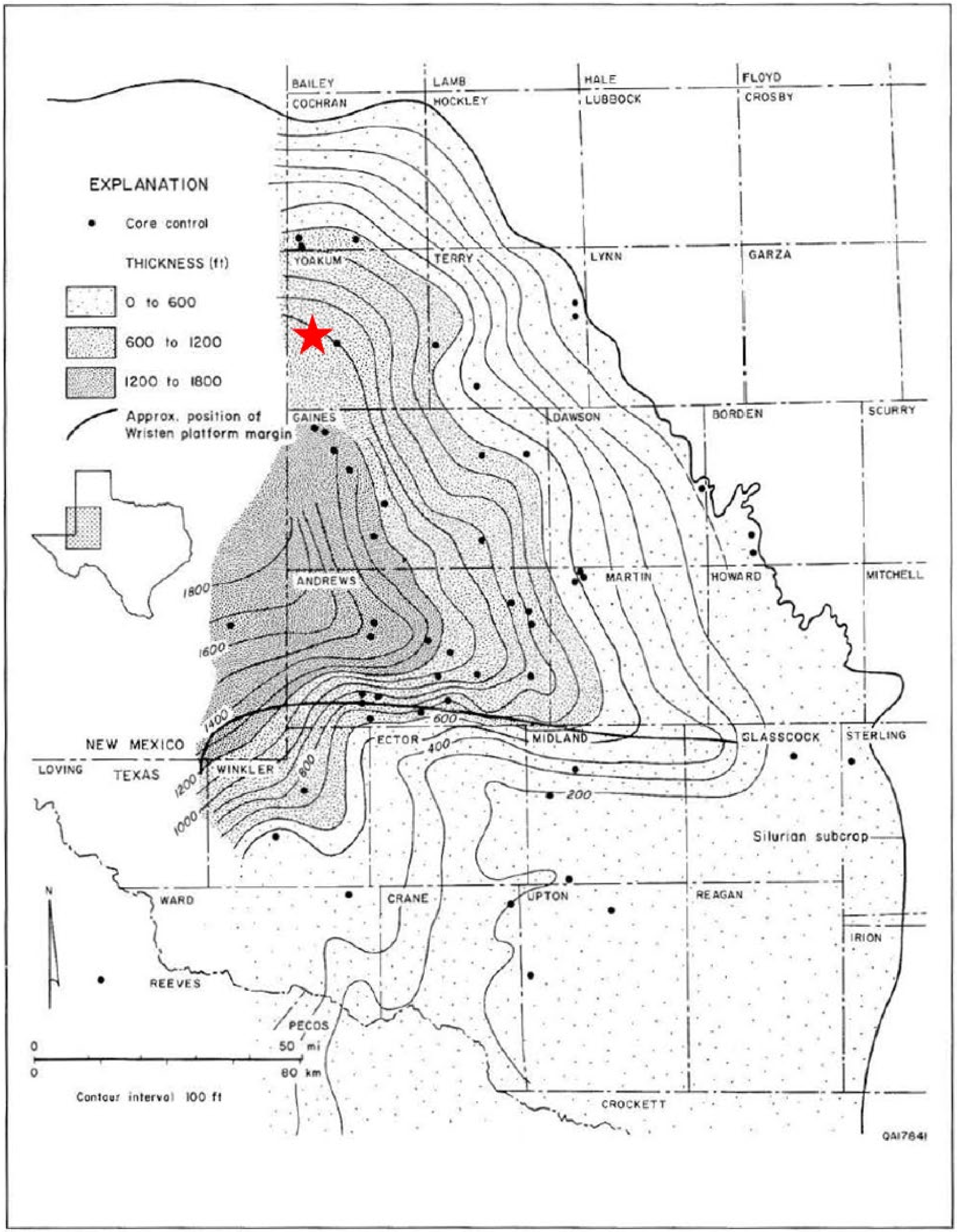


Figure 6 – Thickness map of the Silurian system that composes the Fusselman and Wristen Group.

2.1.1 Regional Faulting

A major uplift that began in the Pennsylvanian strata to the south, the Central Basin Platform, ceased in Wolfcampian time, which caused a regional unconformity of the underlying formations (Hoak, Sundberg, and Ortoleva, 1998). Faulting on the Northwest Shelf is evident through high-angle basement faults that tend to die within the Pennsylvanian strata. These faults predominately represent contractional (i.e., thrust) faults that were initiated during the Pennsylvanian because of regional tectonics. Hydrocarbon traps within the Wristen Group are primarily anticlinal structures dependent on reservoir development (Broadhead, 2005).

2.2 Site Characterization

The Pozo Acido Viejo No. 1 and Esperanza No. 1 wells are located in Section 452, Block D, John H. Gibson Survey, in Yoakum County, Texas. Stakeholder owns the 200-acre surface tract where the plant and the two AGI wells are located. The following discusses the geological character of this site.

2.2.1 Stratigraphy and Lithologic Characteristics

Figure 7 depicts an openhole log from an offset well (API No. 42-501-33943) to the AGI wells indicating the injection and primary upper confining zones.

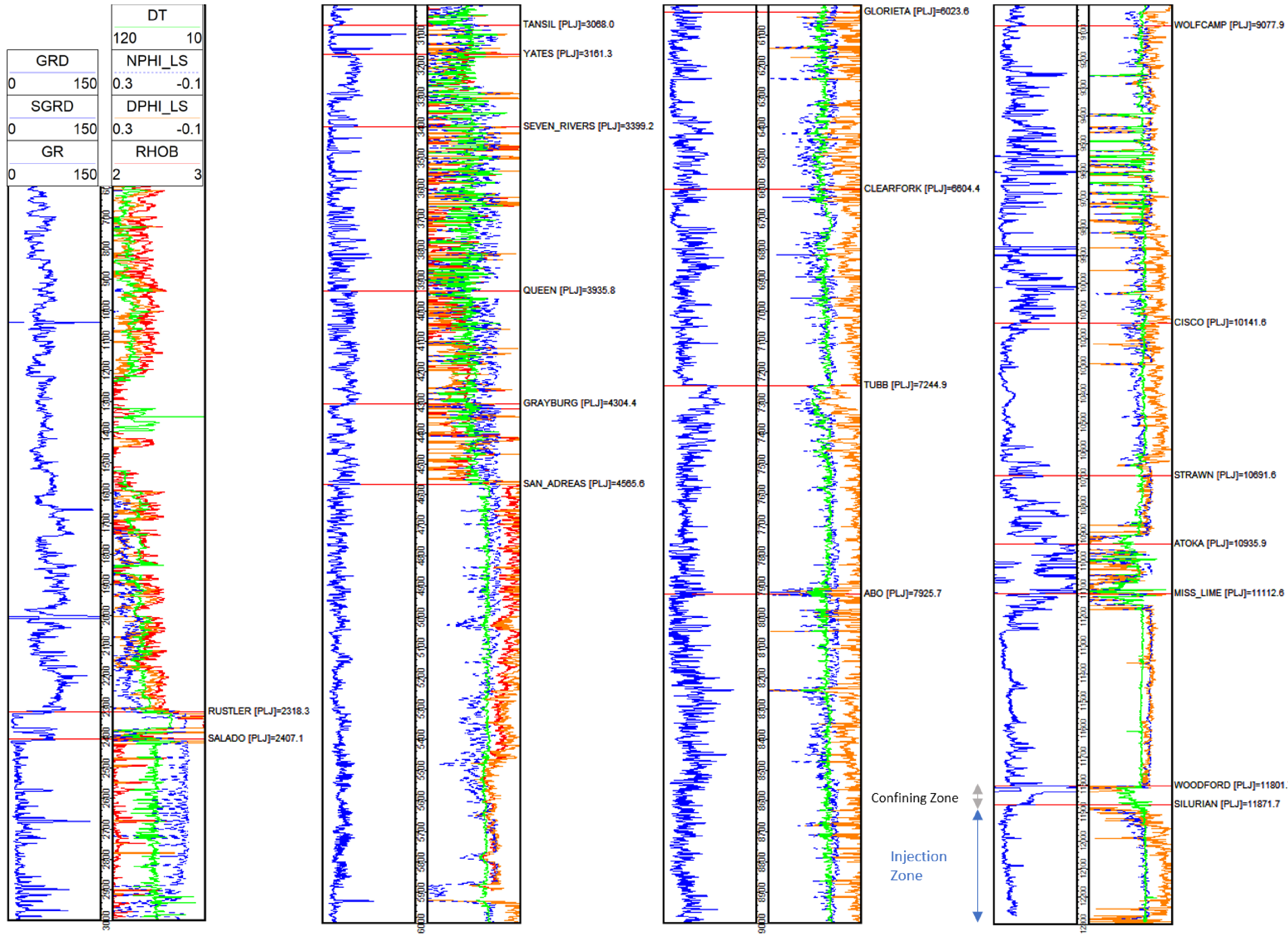


Figure 7 – Type Log (API No. 42-501-33943) with tops, and injection and confining zones depicted.

2.2.2 Upper-Confining Zone – Woodford Shale

The Woodford Shale is a late Devonian-aged organic-rich shale deposited because of a widespread marine transgression. The flooding event occurred over much of the Permian Basin, which produced a low-relief blanket-like shale deposit of the Woodford. Two major lithofacies found within the Woodford are black shale and siltstone. Nutrient-rich surface waters promoted the decay of abundant organic matter within the Woodford, thereby resulting in a high total organic carbon (TOC) percentage. The Woodford acts as the primary source and sealant rock for the Wristen Group (Comer, 1991).

Figure 8 is a description of a core sample taken in Lea County, New Mexico immediately southwest of the Campo Viejo AGI well location. This sample is referenced as C9 in the reference map with the blue star representing the Campo Viejo location. In the core description, black shale with abundant illitic clays is observed in the upper section, and medium gray dolomitic siltstone found in the basal section. The mineralogic and lithologic properties recorded in this description serve as excellent sealant characteristics to prohibit any injected fluids from migrating higher than the injection interval.

At the Campo Viejo site, the Woodford is encountered at approximately 11,975 ft TVD and 65 ft thick.

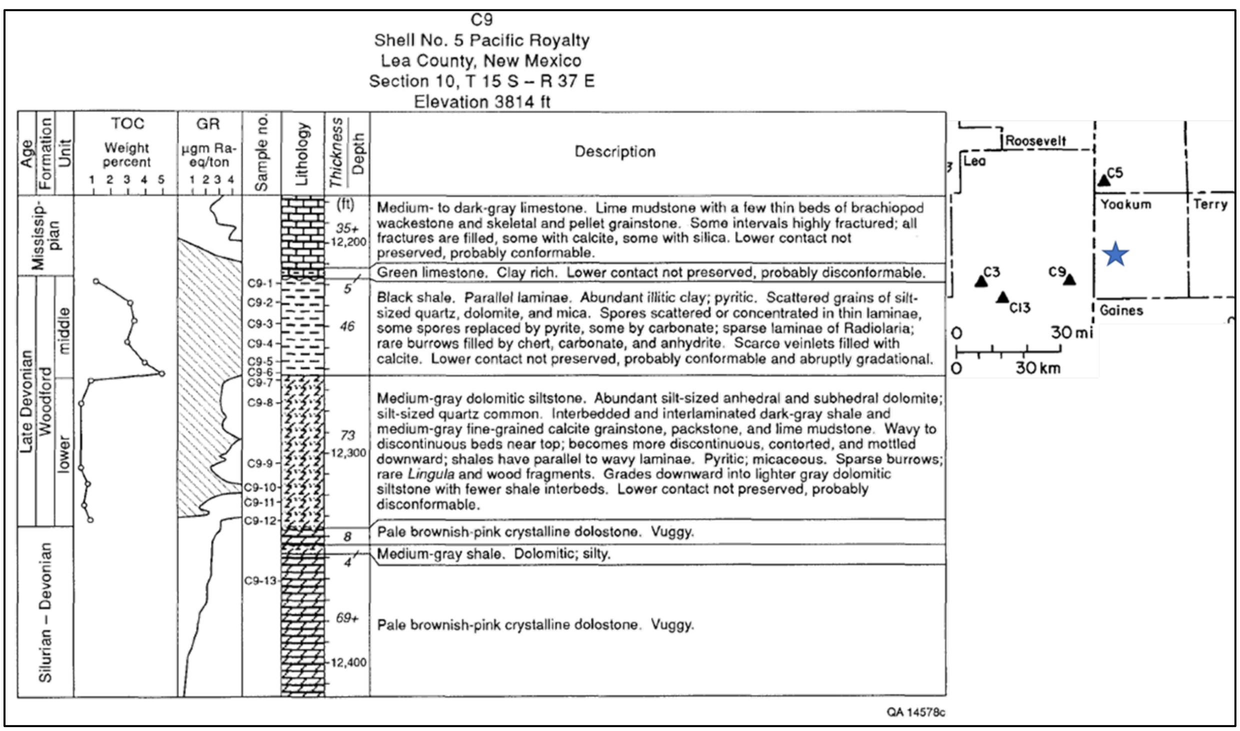


Figure 8 – Core description of the Woodford Shale and Upper Silurian (Ruppel and Holtz, 1994).

2.2.3 Injection Zone – Fasken Formation

The AGI wells at Campo Viejo reach total depth in the Fasken formation (Silurian in age), directly beneath the Woodford Formation. Dolomites at the top of the Fasken underwent multiple leaching and diagenetic episodes that developed secondary porosity. This higher porosity is evidenced in offset wells by the practice of only drilling through the top 30 ft of the Fasken in anticipation of encountering the best reservoir quality. In Figure 8, the uppermost Siluro-Devonian section is described as "vuggy dolostone". Beds beneath the top of the Fasken section may also have similar petrophysical attributes if exposed to multiple diagenetic events. Solution-collapse and karst breccia horizons can be found within inner platform deposits, some occurring as much as 100 ft beneath the Fasken top (Ruppel and Holtz, 1994).

2.2.3.1 Porosity/Permeability Development

Porosity in the Fasken Formation at Campo Viejo is typically moldic and intercrystalline associated with leaching of allochem-rich intervals. Porosity is directly related to these leaching events that occurred during and post-deposition, resulting in vugs and karst-like features. Figure 9 provides reservoir information from core data within fields in the Wristen buildup and platform carbonate play. The average porosity of these cores is 7.1% with an average permeability of 45.28 millidarcies (mD) (Ruppel and Holtz, 1994). The porosity and permeability described in the offset core data indicate that the Fasken Formation provides sufficient accessible pore space for the volume of fluid injection proposed.

Using the previously described values as reference points, porosity logs run in the Estacado No. 1 wellbore were evaluated. Figure 10 is the product of the petrophysical analysis performed on the openhole logs within the Estacado No. 1 well, as Figure 7 showed. A permeability curve was generated from the effective porosity curve using the table in Figure 9 to establish the porosity-permeability relationship within the Estacado wellbore. In Figure 10, most of the porosity and permeability in the injection interval is found at the top of the Fasken Formation, which correlates with the diagenetic processes previously described. These curves are extrapolated to the injection site and used to establish reservoir characteristics in the plume model.

	Fusselman Shallow Platform Carbonate play	Wristen Buildups and Platform Carbonate play	Thirtyone Ramp Carbonate play	Thirtyone Deep-Water Chert play
Porosity (%)				
Number of data points	33	30	16	35
Mean	7.93	7.10	6.41	14.85
Minimum	1.00	2.70	3.50	2.00
Maximum	17.70	14.00	9.50	30.00
Standard deviation	4.01	2.67	1.75	6.76
Permeability (md)				
Number of data points	21	24	12	33
Mean	11.61	45.28	1.51	8.56
Minimum	0.60	2.90	0.40	1.00
Maximum	84.80	400.00	30.00	100.00
Standard deviation	22.48	99.17	8.36	22.23
Initial water saturation (%)				
Number of data points	24	28	10	31
Mean	26.96	31.55	24.70	31.46
Minimum	10.00	20.00	16.00	10.00
Maximum	50.00	55.00	40.00	45.00
Standard deviation	9.31	10.45	7.39	8.33
Residual oil saturation (%)				
Number of data points	8	13	5	22
Mean	34.06	30.54	21.30	29.17
Minimum	30.00	20.00	9.00	14.00
Maximum	50.00	35.00	35.00	48.20
Standard deviation	6.99	4.61	11.66	9.76
Oil viscosity (cp)				
Number of data points	11	12	5	21
Mean	0.69	1.16	0.33	0.68
Minimum	0.13	0.32	0.04	0.07
Maximum	1.08	2.00	1.00	1.03
Standard deviation	0.81	0.75	0.40	0.42
Oil formation volume factor				
Number of data points	21	22	6	32
Mean	1.57	1.22	1.65	1.50
Minimum	1.05	1.05	1.31	1.30
Maximum	1.91	1.55	1.66	1.73
Standard deviation	0.28	0.14	0.48	0.16
Bubble-point pressure (psi)				
Number of data points	9	9	5	19
Mean	2,272	1,055	3,750	2,752
Minimum	798	450	2,660	1,755
Maximum	4,050	2,600	4,440	4,656
Standard deviation	1,300	689	756	667

Figure 9 – Table of reservoir properties found within the Wristen buildups and platform plays (Ruppel and Holtz, 1994).

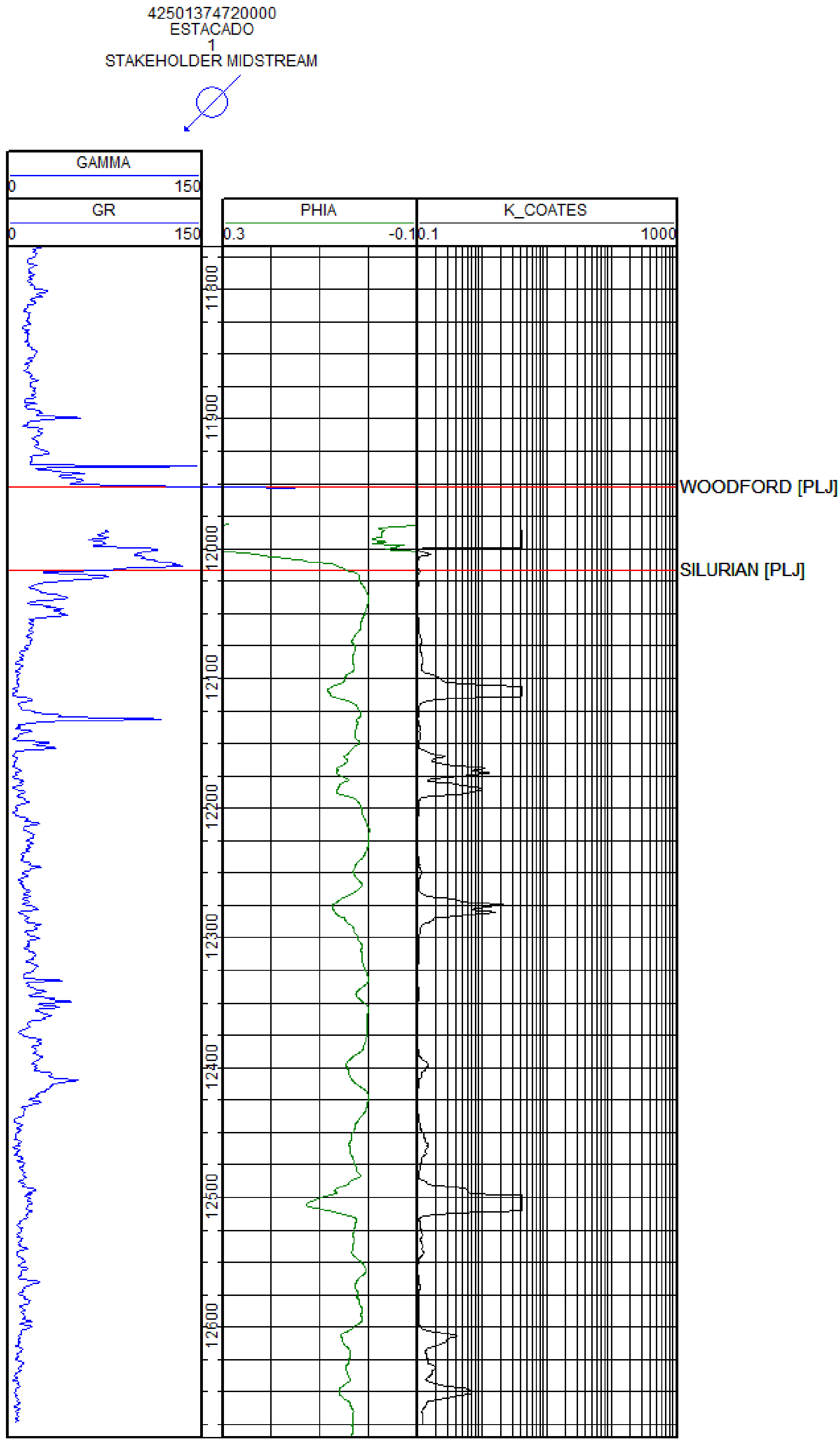


Figure 10 – Openhole log of Estacado well (API No. 42-501-37472) showing effective porosity (green) and permeability (black).

2.2.3.2 Formation Fluid

Four wells were identified through a review of chemical analyses of oilfield brines from the U.S. Geological Survey (USGS) National Produced Waters Geochemical Database (ver. 2.1) within the Devonian, Siluro-Devonian, or Fusselman formations within 20 miles of the Campo Viejo AGI wells (Figure 11). Water chemistry analyses conducted on oilfield brines in Gaines County, as reported to the Texas Water Development Board (TWDB), provided additional data on Devonian and Silurian reservoir fluids. Results from the synthesis of these two sources are provided in Table 1. The fluids have greater than 20,000 parts per million (ppm) total dissolved solids (TDS); therefore, these aquifers are considered saline. These analyses indicate that the in-situ reservoir fluid of the Devonian, Silurian, and Fusselman formations are compatible with the proposed injection fluids.

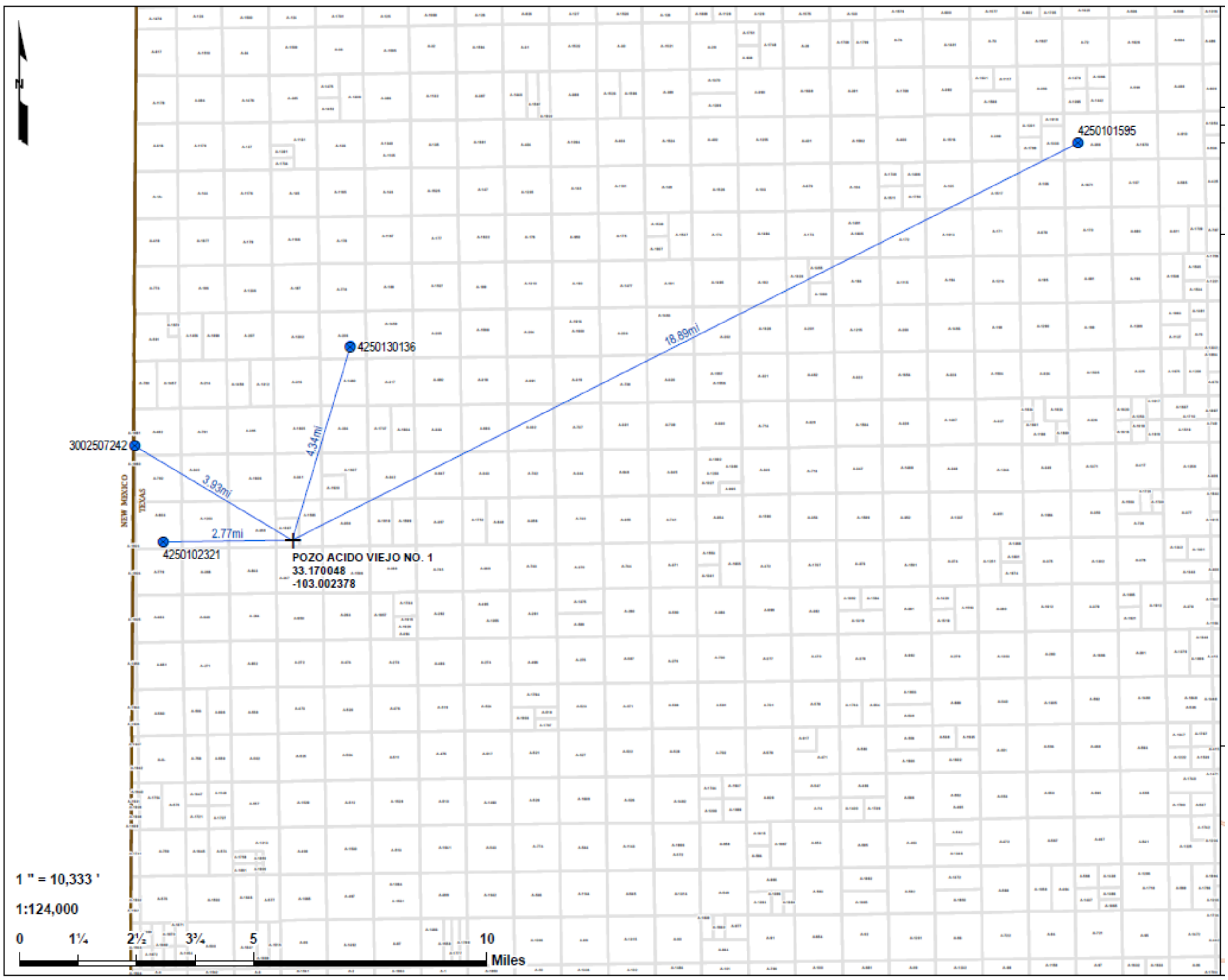


Figure 11 – Offset wells used for formation fluid characterization.

Table 1 – Analysis of Siluro-Devonian age formation fluids from nearby oilfield brine samples.

Measurement	Average	Low	High
Total Dissolved Solids (ppm)	51,933	23,100	81,770
pH	7.2	7.0	7.3
Sodium (ppm)	18,550	7,426	25,377
Calcium (ppm)	2,195	1,010	2,760
Chloride (ppm)	27,250	12,810	43,800

2.2.3.3 Fracture Pressure Gradient

The fracture gradient of the injection zone was estimated to be at least 0.739 psi/ft based on a step-rate test (SRT) performed on the Estacado No. 1 well on May 21, 2024. The bottomhole location of Estacado No. 1 well is approximately 1,809 ft from the Esperanza No. 1 well. A 10% safety factor was then applied to the fracture gradient estimated from the Estacado No. 1 SRT to yield a 0.665 psi/ft gradient for use as a pressure constraint in the model. The pressure constraint gradient used in the model of 0.665 psi/ft is equivalent to a bottomhole pressure (BHP) of 8,005 psi at the top of the injection interval (12,038 ft). The Estacado No. 1 SRT report is provided in Appendix A-1.

The fracture pressure gradients of the upper and lower confining zones were calculated using Eaton's equation, provided in Equation 1. Public literature was reviewed to provide insight into a range of Poisson's ratios (v) for the target formation. The literature suggests that limestones/dolomites can have a Poisson's ratio of 0.3 to 0.35 (Molina, Vilarras, and Zeidouni 2016). Data from the SRT conducted on the Estacado well was used with Eaton's equation to calculate the Poisson's ratio, which was calculated to be 0.323, corresponding with literature estimates. The overburden gradient was assumed to be 1.1 psi/ft, which is considered a best practice value when there is no site-specific data. The following calculations were then done to estimate the fracture gradient of the upper and lower confining zones.

Table 2 - Inputs for Eaton's Equation

Input	Value
Overburden Gradient	1.1 psi/ft
Pore Gradient	0.411 psi/ft
Poisson's Ratio	0.323

(Eq. 1) $$FG = \frac{\mathrm{n}}{1-\mathrm{n}}(OBG - PG) + PG$$

Rearranging Easton's equation to solve for Poisson's ratio based on the fracture gradient from the SRT, results in Equation 2:

(Eq. 2) $$v = (FG - PG)/(OBG + FG - 2PG)$$

$$v = (0.739 - 0.411)/(1.1 + 0.739 - 2(0.4411))$$

$$v = 0.323$$

For the upper confining zone, a fracture gradient similar to the injection zone limestone was calculated. Shale has an increased chance to vertically fracture if the injection zone is fractured (Molina, Vilarras, and Zeidouni 2016). A Poisson's ratio equal to the injection zone was used as a conservative estimate. The lower confining zone was assumed to be of a similar matrix to that of the injection zone, with the key difference being that the formation is much tighter (i.e., lower porosity/permeability). The Poisson's ratio was assumed to be slightly higher in this rock. As shown in Table 3, the fracture gradient (FG) in the lower confining zone is slightly higher than in the upper zones.

Table 3 – Fracture Gradient Assumptions.

	Injection Zone	**Upper Confining Zone**	**Lower Confining Zone**
Overburden Gradient (psi/ft)	1.1	1.1	1.1
Pore Gradient (psi/ft)	0.411	0.411	0.411
Poisson's Ratio	0.323	0.323	0.330
Fracture Gradient (psi/ft)	0.739	0.739*	0.750
FG + 10% Safety Factor (psi/ft)	**0.665**	**0.665**	**0.675**

*Fracture gradient of the injection zone determined from SRT.

2.2.4 Lower Confining Zone – Montoya Formation

The low-permeability Montoya Formation acts as the lower confining unit for the injection zone. Tight limestone rock in the Montoya section acts as a lower seal. Similar to the Siluro-Devonian, rock within the upper Ordovician has little to no reservoir development when diagenetic processes do not occur. Therefore, layers with no porosity within the injection zone and lower confining layer act as seals, preventing the migration of injectate beneath the proposed injection zone. Additionally, the buoyancy of the proposed gas stream is lighter than the connate fluid within the formation, thereby causing it to migrate to the shallower strata, making the lower confining layer less likely to encounter any of the injectate.

2.3 Local Structure

Regional structure near the Campo Viejo AGI wells is dictated by carbonate buildups and structural events causing anticlinal to synclinal features throughout the area. The AGI wells are specifically located at the base of a syncline with anticlinal features to the north, west, and east. Figure 12 is a structure map of the Siluro-Devonian formation of subsea depths with the red star representing the location of the injection wells. The red and blue lines represent the cross-section reference lines.

Faulting is evident to the west of Campo Viejo, which set up the hydrocarbon trap for the Bronco field. Figures 13 and 14 are west-east and north-south structural cross sections, respectively, showing the structural dips. As displayed in those figures, the Woodford is laterally present above the injection zone, alleviating risk of erosion of the upper sealant formation.

Higher resolution versions of Figures 12 through 14 are provided in Appendix A-2 through A-4.

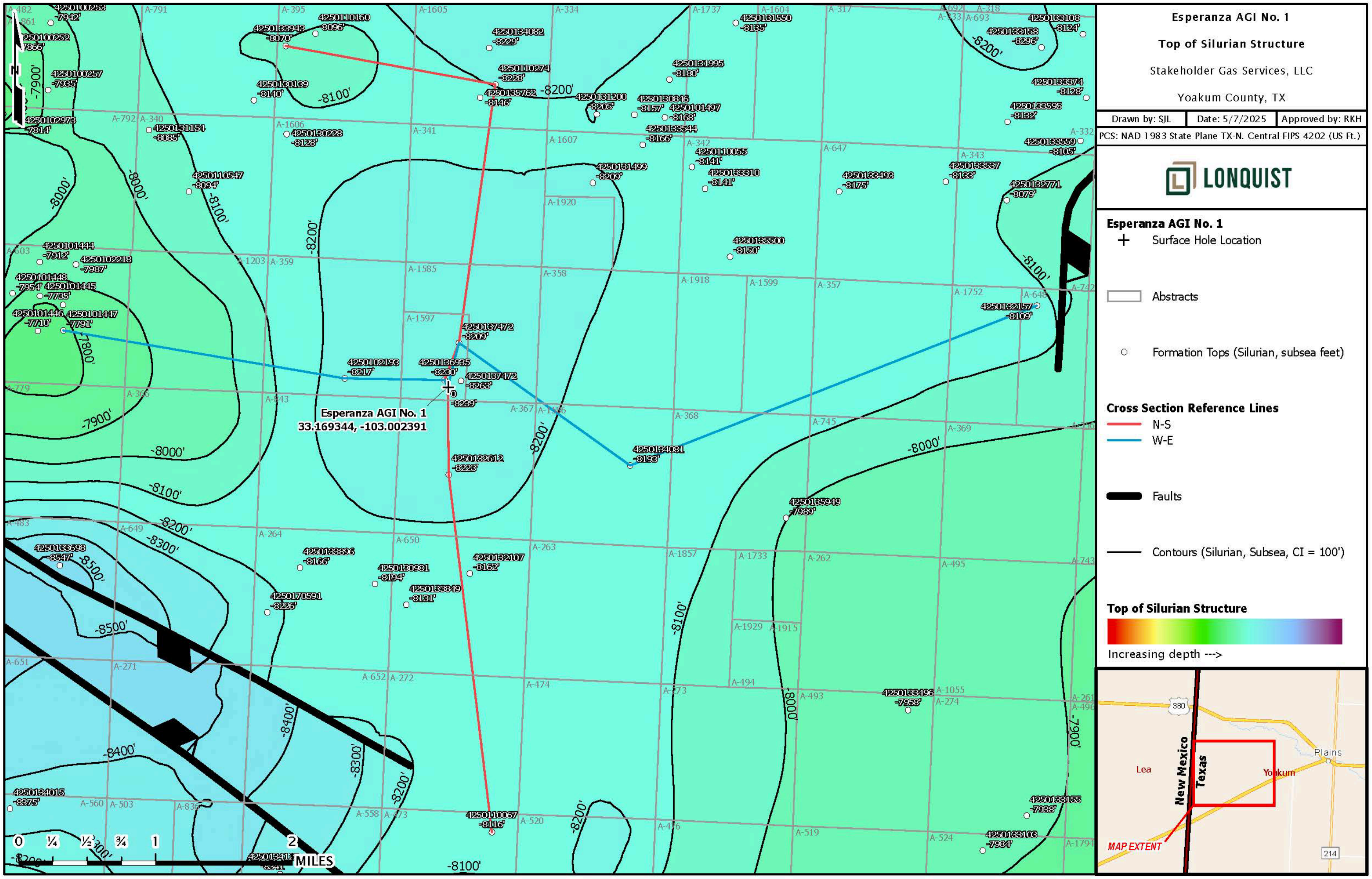


Figure 12 – Siluro-Devonian Structure Map (subsea depths).

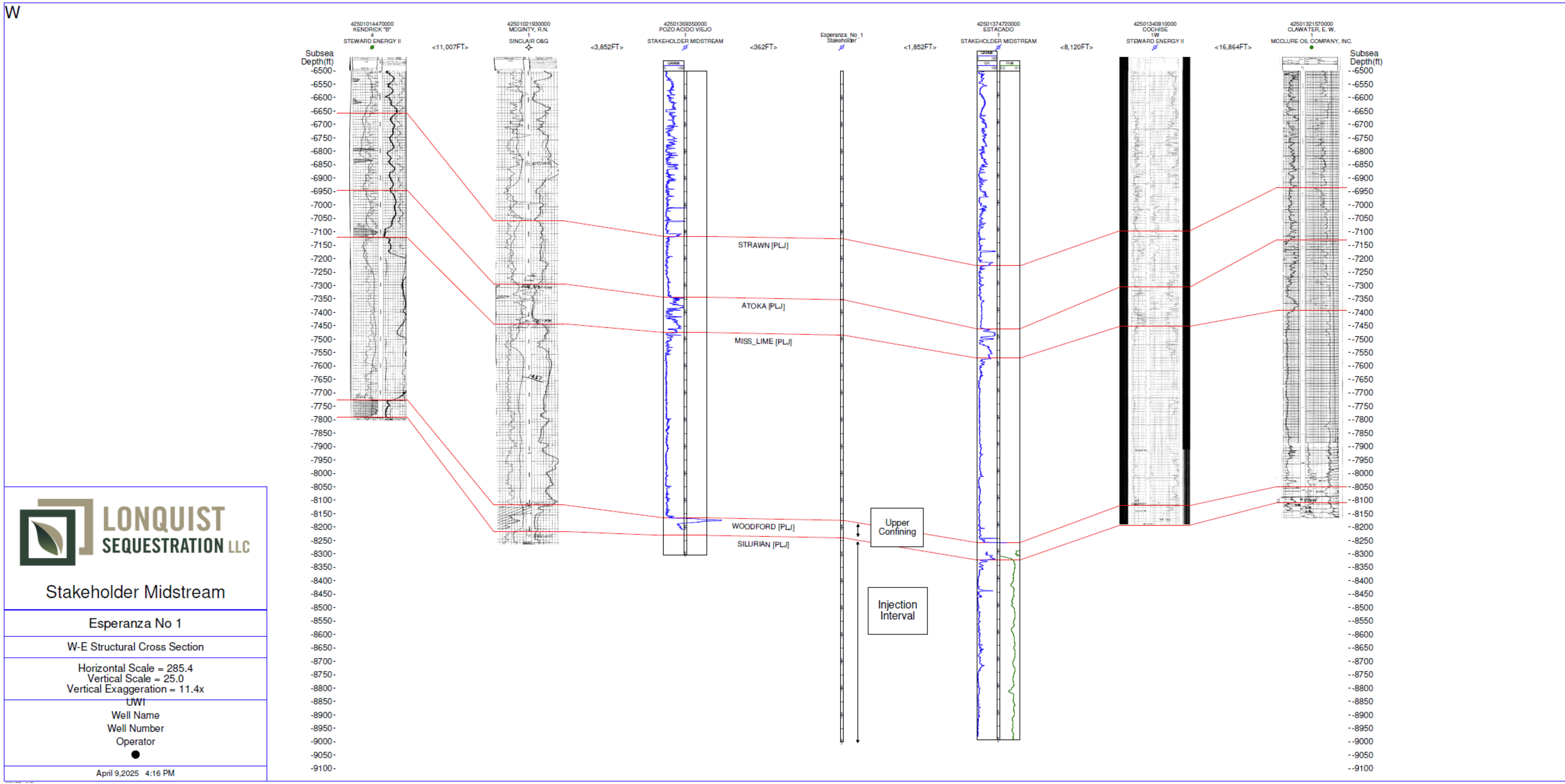


Figure 13 – Structural West-East Cross Section.

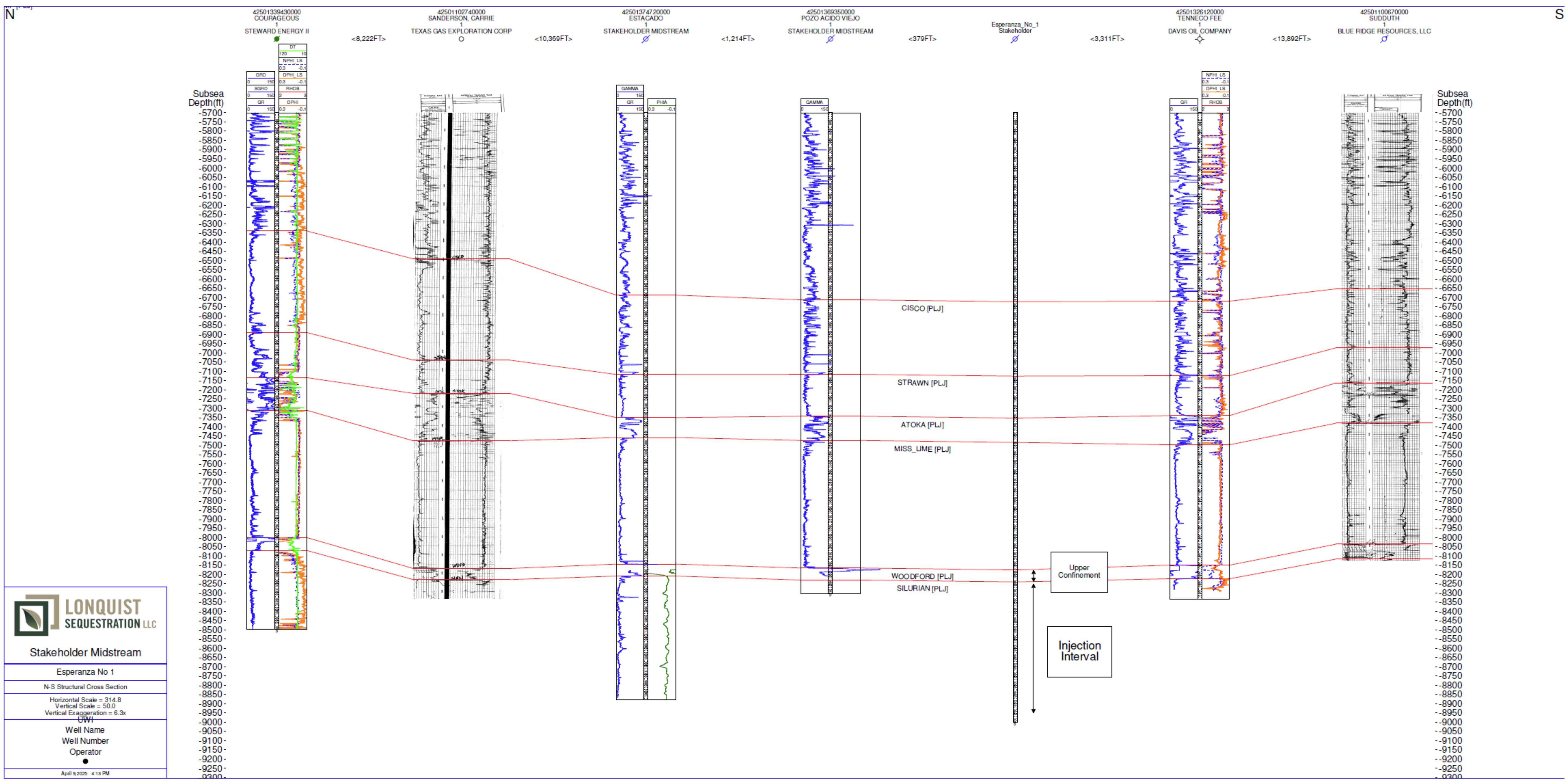


Figure 14 – Structural North-South Cross Section.

2.4 Injection and Confinement Summary

The lithologic and petrophysical characteristics of the Fasken Formation at the Campo Viejo AGI well locations indicate that the formation has sufficient thickness, porosity, permeability, and lateral continuity to accept the injection fluids. The Woodford formation shale at Campo Viejo has low permeability and is of sufficient thickness and lateral continuity to serve as the upper-confining zone. Beneath the injection zone, the low-permeability, low-porosity Montoya Formation is unsuitable for fluid migration and therefore serves as the lower confining zone.

Although few wells penetrate the lower confining zone in the area of Campo Viejo, lateral deposition of the tight carbonate found in the lower confining zone can be expected as extensive around Campo Viejo based on the lack of exposure events in that time of deposition. Deeper, laterally continuous formations, including the Simpson Group, provide additional confinement.

2.5 Groundwater Hydrology

Yoakum County falls within the boundary of the Sandy Land Underground Water Conservation District. Three aquifers are identified by the TWDB's *Aquifers of Texas* report in the vicinity of the AGI wells: Dockum, Edwards-Trinity, and Ogallalar (George, Mace, and Petrossian, 2011). Table 4 references the positions of the aquifers in geologic time and the associated geologic formations. A schematic cross section in Figure 15 illustrates the structure and stratigraphy of these water-bearing formations near Campo Viejo. Groundwater flow direction is the same for the three aquifers, generally from northwest to southeast, as shown in Figure 16 (Teeple et al., 2021).

Table 4 – Geologic and hydrogeologic units with accompanying lithologic descriptions near Gaines, Terry, and Yoakum Counties, Texas (Teeple, et al. 2021)

Era	Period	Epoch or series	Geologic unit group or formation	Lithologic descriptions	Hydrogeologic unit
Cenozoic	Tertiary	Pliocene	Ogallala Formation	Gravel, sand, silt, and clay	High Plains aquifer system (Ogallala aquifer)
		Miocene			
Mesozoic	Cretaceous[1]	Comanchean Series	Washita Group[2]	Shale and limestone	Edwards-Trinity (High Plains) aquifer system
			Fredericksburg Group	Clay, shale, and limestone	
			Trinity Group	Sand and gravel	
	Triassic	Upper	Dockum Group	Siltstone, mudstone, shale, and sandstone	Dockum aquifer

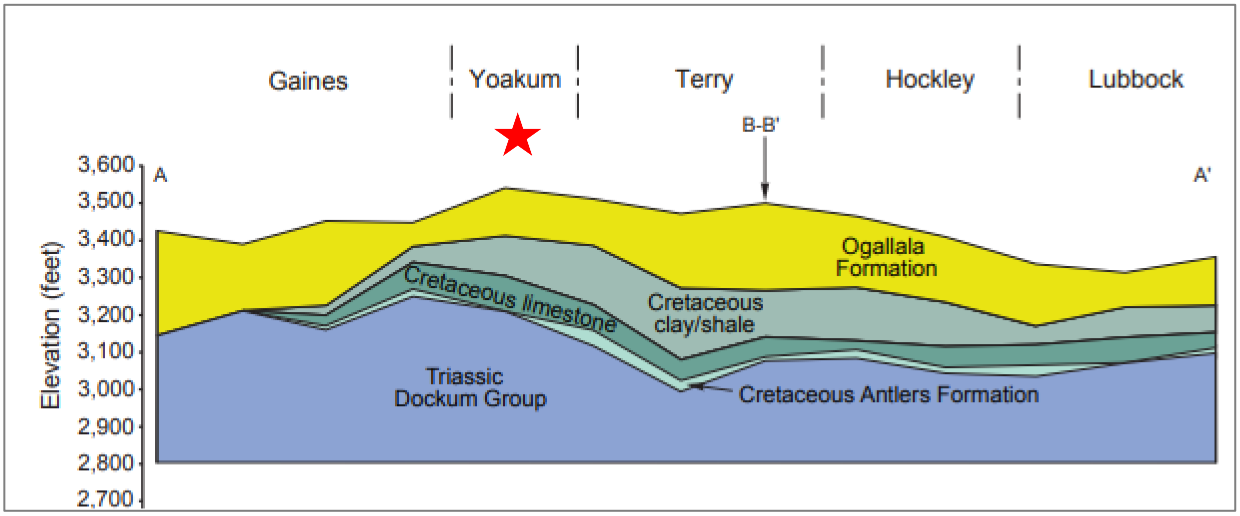


Figure 15 – Northwest-southeast cross section of aquifers in the Campo Viejo area (George, Mace, and Petrossian, 2011).

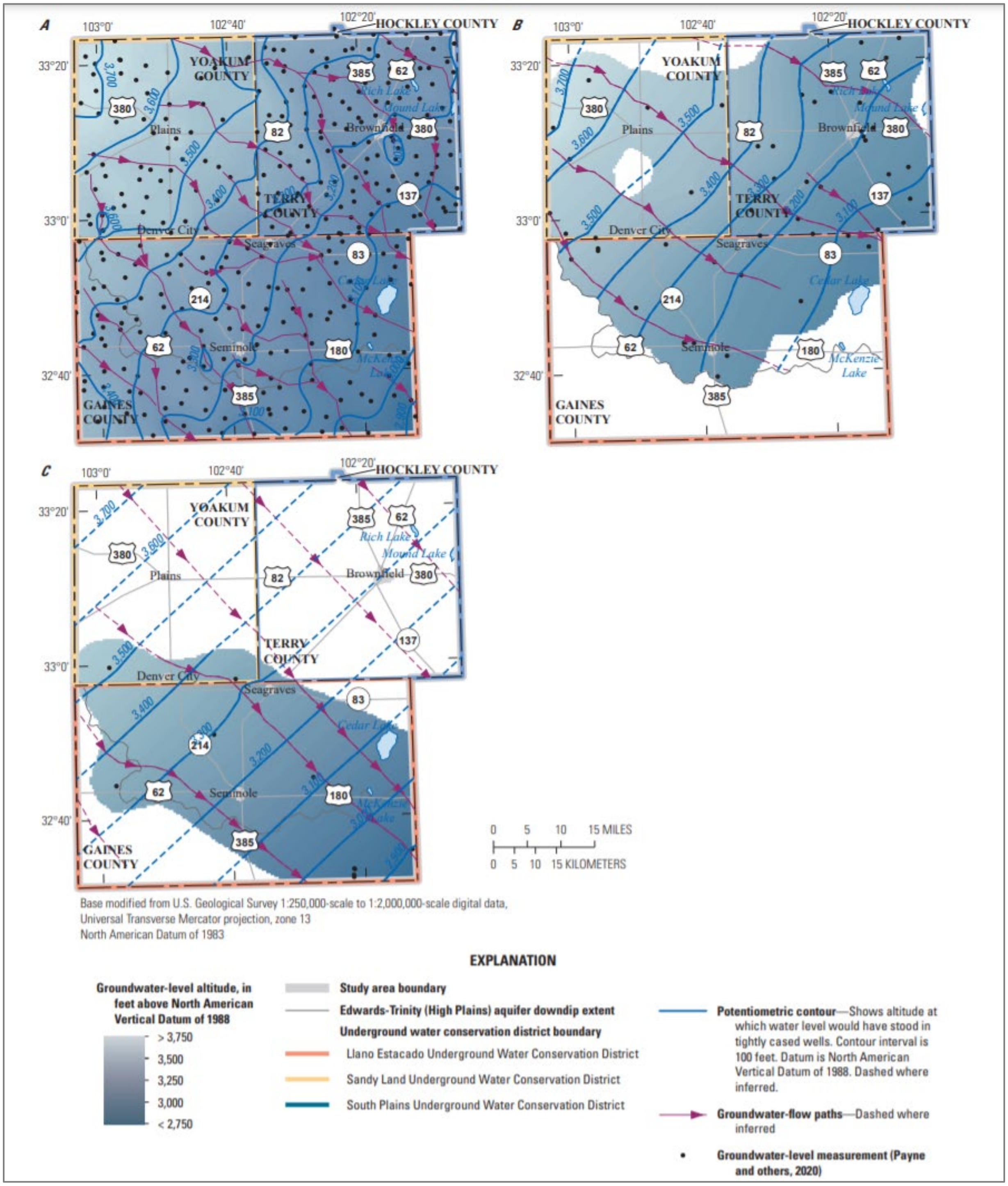


Figure 16 – Potentiometric surfaces from wells completed in A, Ogallala aquifer; B, the Edwards-Trinity aquifer; and C, the Dockum aquifer (George, Mace, and Petrossian, 2011).

The Dockum aquifer is the oldest of the three aquifers, formed from Triassic-age Dockum Group sediments, and underlies the Cretaceous Trinity and Fredericksburg Groups (Teeple et al., 2021). Figure 17 shows the subsurface and outcrop extent of the Dockum Aquifer. As shown in Figure 18, the TDS in western Yoakum County exceeds 5,000 milligrams per liter (mg/L); therefore, the aquifer is considered brackish.

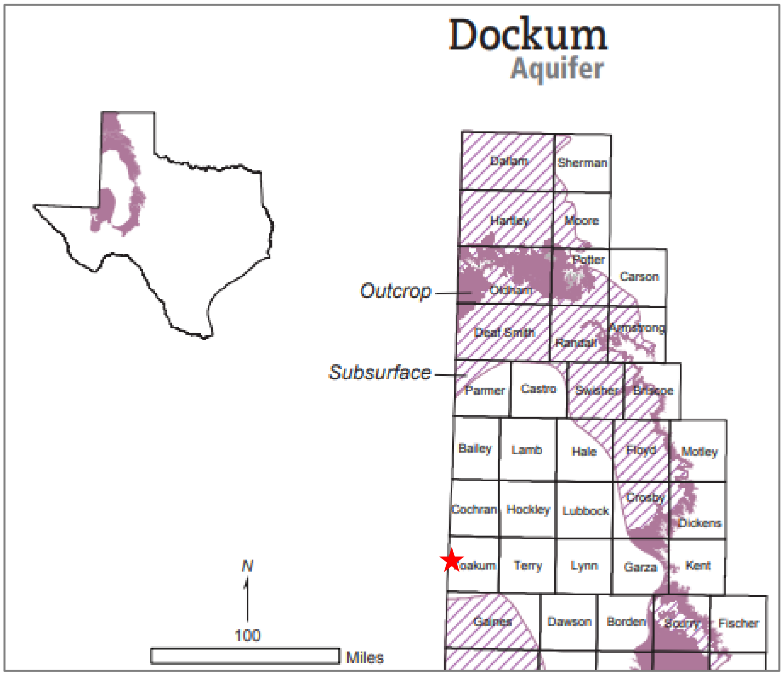


Figure 17 – Regional Extent of the Dockum Freshwater Aquifer (TWDB).

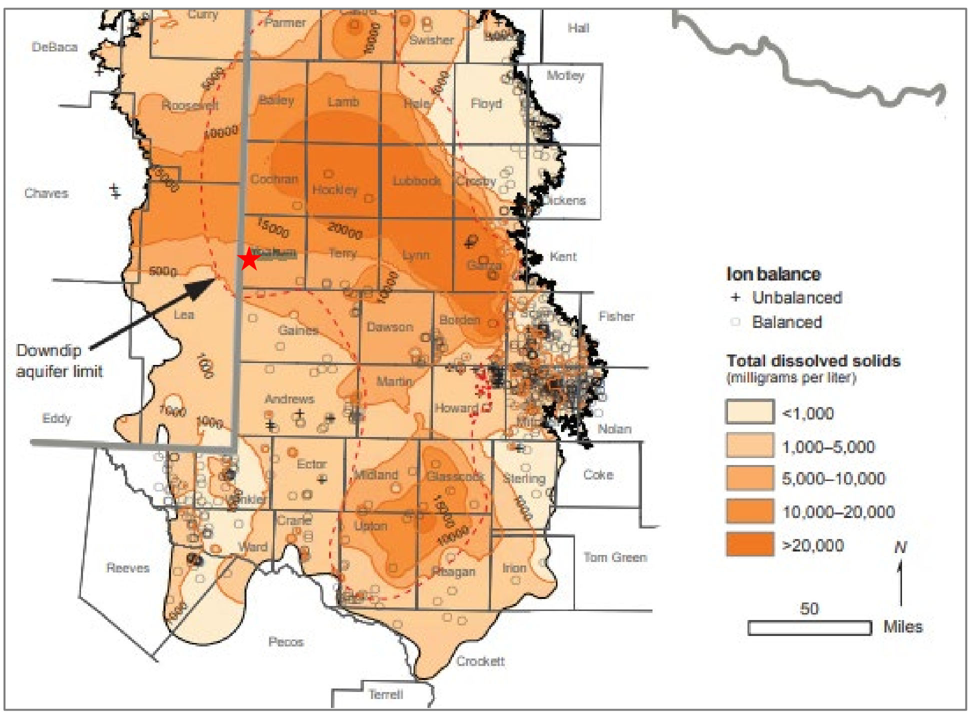


Figure 18 – Total dissolved solids in groundwater from the Dockum aquifer (Ewing et al., 2008).

The Edwards-Trinity aquifer is a collection of Cretaceous age sediments—primarily the sandstone of the Trinity Group Antlers Formation and limestones of the Fredericksburg Group, specifically the Comanche Peak and Edwards formations. Figure 19 shows the subsurface and outcrop extent of the Edwards-Trinity aquifer. Freshwater infiltration to this aquifer is primarily from the overlying Ogallala aquifer (George, Mace, and Petrossian, 2011).

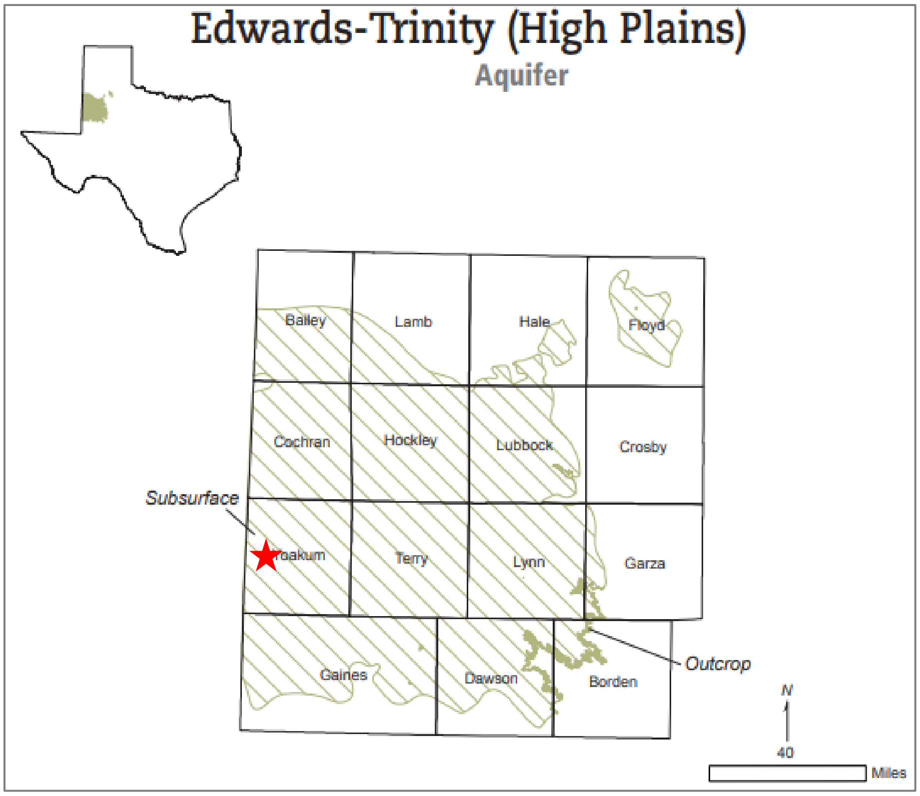


Figure 19 – Regional extent of the Edwards-Trinity freshwater aquifer (George, Mace, and Petrossian, 2011).

The Ogallala aquifer consists of sand, gravel, clay, and silt sediments (George, Mace, and Petrossian, 2011) and produces most of the freshwater for Yoakum County. Figure 20 shows the subsurface and outcrop extent of the Ogallala aquifer.

The base of the deepest aquifer is separated from the injection zone by approximately 9,800 ft of rock, including 650 ft of Salado salt. Though unlikely for reasons outlined in the confinement and potential leaks sections, if migration of injected fluid did occur above the Woodford Shale, thousands of feet of tight sandstone, limestone, shale, and anhydrite beds occur between the injection zone and the lowest water-bearing aquifer.

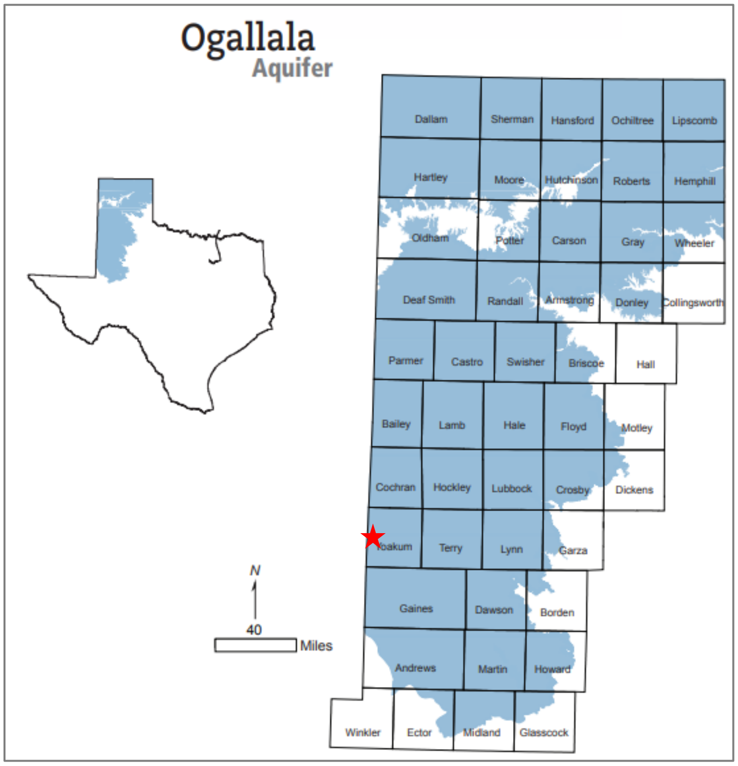


Figure 20 – Regional extent of the Ogallala freshwater aquifer (George, Mace, and Petrossian, 2011).

The TRRC's Groundwater Advisory Unit (GAU) identified the base of Underground Sources of Drinking Water (USDW) at 2,250 ft at the location of the Campo Viejo wells. Therefore, approximately 9,700 ft separates the base of the USDW and the injection zone. A copy of the GAU's Groundwater Protection Determination letters issued by the TRRC as part of the Class II permitting process for Pozo Acido Viejo No. 1 and Esperanza No. 1 are provided in Appendix B.

2.6 Description of the Injection Process

2.6.1 Current Operations

The Campo Viejo Facility and its associated Pozo Acido Viejo No. 1 well began operating in March 2019. Since operations began, 8.2 billion cubic ft (BCF) of TAG have been injected, which equates to approximately 392,700 metric tons of CO_2. Over the life of the injection period, the average daily injection rate has been 3.9 MMscf/d. Esperanza No. 1 is expected to begin injection operation in Q4 2025. The approximate current composition of the TAG stream is provided in Table 5.

Table 5 – Gas Composition of Campo Viejo Facility Outlet.

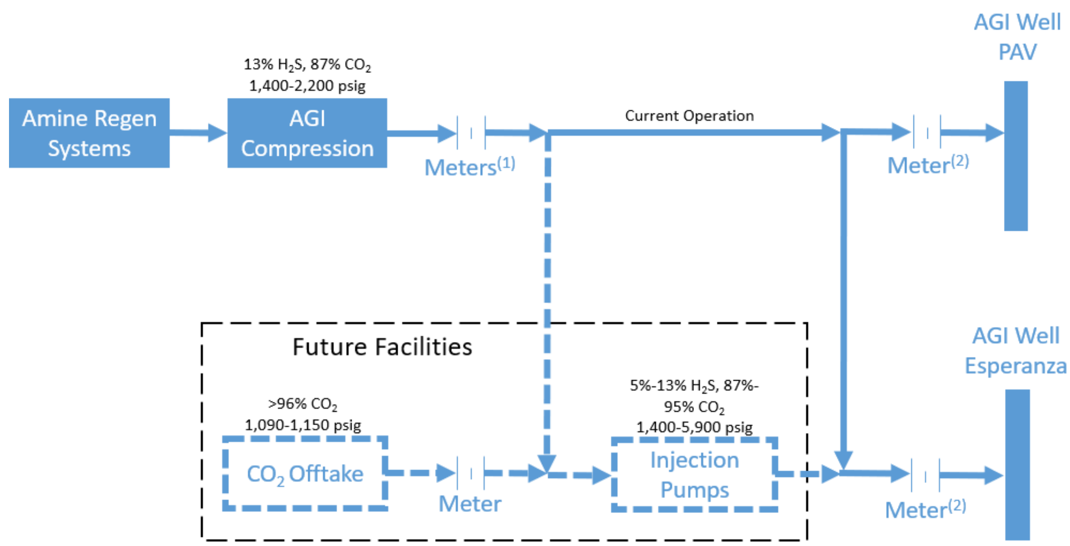
Component	Mol %
CO_2	90.00
H_2S	9.29
N_2	0.01
Other	0.70

The Campo Viejo Facility is designed to compress, treat, and process natural gas produced from the surrounding counties in Texas and New Mexico. The gas is dehydrated to remove the water content, then processed to separate natural gas liquids, which are then sold, along with the pipeline quality natural gas, to various customers. The TAG is then directly routed from the plant sweeteners to the AGI wells. The facility is manned 24 hours per day, 7 days per week.

2.6.2 Planned Operations

Stakeholder anticipates increasing the amount of CO_2 injected into the two AGI wells from the current rate up to 20 MMscf/d at Pozo Acido Viejo No. 1 and 19.7 MMscf/d at Esperanza No. 1. Additional growth is expected both at Stakeholder facilities and regionally as rising sour gas production and flaring reduction mandates create the need for additional CO_2 and H_2S disposal capacity. Stakeholder plans to inject into these AGI wells for a total of 25 years from the start of injection in 2019.

Figure 21 shows a high-level view of the current process flow plus the prospective additional operations over time.



(1) Existing meters used for Subparts RR and PP reporting
(2) Estimated in-service Q4 2025. Will be used for Subpart RR going forward

Figure 21 – Campo Viejo Facility Process Flow Diagram.

2.7 Reservoir Characterization Modeling

The modeling software used to evaluate this project was Rock Flow Dynamic's tNavigator 2025.1 (tNav) simulator. This reservoir simulation software package is frequently used in the oil and gas industry for conventional, unconventional, and secondary recovery modeling. tNav uses equation-of-state (EOS) algorithms along with some of the most advanced computational methods to evaluate compositional, chemical, and geochemical processes and characteristics to produce highly accurate and reliable simulation models for carbon injection and storage. The tNav model is recognized by the EPA for use in area-of-review delineation modeling, as listed in the Class VI Well Area of Review Evaluation and Corrective Action Guidance document.

The Siluro-Devonian (Fasken) formation is the target formation for the AGI wells at the Campo Viejo Facility. The Petra software package was used to create the geologic model of the target formation. The faulting and geologic structure was then imported into tNav and used to create contours for the model grid.

Since the time that the initial MRV plan for the Pozo Acido Viejo No. 1 was approved, the Estacado No. 1 was drilled and key reservoir properties were obtained, which were not available at the time of the original MRV submission. Porosity and permeability estimates were determined using the porosity log from the Estacado No. 1. The Coates permeability equation was then used to calculate permeability with depth. Both porosity and permeability are assumed to be laterally homogeneous in the reservoir.

The reservoir is assumed to be at hydrostatic equilibrium and initially saturated with 100% brine. An infinite acting reservoir was created to simulate boundary conditions. The gas injectate is composed of H_2S, CO_2, methane (CH_4), and other components, as shown in Table 6. Core data from a literature review was used to determine residual gas saturation (Ruppel and Holtz, 1994). The modeled composition only takes into consideration the CO_2 and H_2S, as they comprise nearly 99% of total stream. For the initial injection period, these compositions are normalized up to 100%. For the proposed additional injection period, it is expected that a larger portion of the gas added is CO_2, thereby changing the composition to 94% CO_2 and 6% H_2S.

Table 6 – Modeled Initial Gas Composition.

Component	Measured Current Composition (mol%)	2019–2025 Model Composition (mol%)	2025–2050 Model Composition (mol%)
H_2S	9.292	9.844	6.000
Nitrogen (N_2)	0.010	0.000	0.000
CO_2	90.000	90.156	94.000
Methane (C_1)	0.284	0.000	0.000
Ethane (C_2)	0.103	0.000	0.000
Propane (C_3)	0.054	0.000	0.000
Butane Plus (C_{4+})	0.257	0.000	0.000

Core data from the literature review was used to determine relative permeability curves between CO_2 and the connate brine within the Siluro-Devonian carbonates (Ruppel and Holtz, 1994). The key inputs used in the model include an irreducible water saturation of 40% and a maximum residual gas saturation of 21%.

The grid contains 160 blocks in the x-direction (east-west) and 160 blocks in the y-direction (north-south), totaling 25,600 grid blocks per layer. Each grid block has dimensions of 300 ft x 300 ft, which results in the grid being 48,000 ft x 48,000 ft, totaling an 83-square-mile area. Each layer in the model was determined by assigning zones of similar permeability and porosity to each layer, as was shown in Figure 10. The model contains a total of 17 layers in the model, representing 7 layers of high permeability rock, 5 layers of moderate permeability rock, and 5 layers of intermediary low-permeability zones. The properties of each of these layers are summarized in Table 7.

Table 7 – Model Layer Properties.

Layer	Grid Top (ft)	Thickness (ft)	Porosity (%)	Permeability (mD)
1	12,029	47	1.30%	0.57
2	12,076	30	3.20%	12
3	12,106	31	5.40%	158
4	12,137	10	2.10%	0.86
5	12,147	20	2.70%	5
6	12,167	39	5.30%	127
7	12,206	51	1.00%	0.74
8	12,257	21	2.50%	5
9	12,278	32	5.30%	115
10	12,310	93	1.20%	0.62
11	12,403	18	4.20%	21
12	12,421	34	1.30%	0.97
13	12,455	33	3.50%	21
14	12,488	12	2.50%	6
15	12,500	60	5.50%	123
16	12,560	51	1.90%	2
17	12,611	76	4.50%	64

2.7.1 Simulation Modeling

The primary objectives of the model simulation were to:

1) Estimate the maximum areal extent and density drift of the acid gas plume after injection.
2) Assess the impact of offset saltwater disposal (SWD) well injection on density drift of the plume.

3) Determine the ability of the target formation to handle the required injection rate without fracturing the injection zone.
4) Assess the likelihood of the acid gas plume migrating into potential leak pathways.

The reservoir is assumed to be an aquifer filled with 100% brine. The salinity of the target formation is estimated to be 100,000 ppm, typical for the region. The acid gas stream is primarily composed of CO_2 and H_2S, as stated previously. Core data was used to help generate relative permeability curves. Cores, from the literature reviews, as previously discussed, that most closely represent the vuggy carbonate seen in this region were identified and the Corey-Brooks equations were used to develop the curves. The lowest residual gas saturation found in the cores was then used for a conservative estimate of plume size. The initial reservoir pressure is 4,950 psi, which is equivalent to a 0.411-psi/ft pressure gradient and was determined from a BHP test performed in the Pozo Acido Viejo No. 1 in April 2022. A SRT was performed on the Estacado No. 1 well on May 21, 2024. The bottomhole location of the well is approximately 1,809 ft from the Esperanza No. 1 well. The fracture gradient of the injection zone was estimated to be 0.739 psi/ft, based on the SRT. A 10% safety factor was then applied to this number, thereby putting the maximum BHP constraint allowed in the model at 0.665 psi/ft, which is equivalent to 8,005 psi at the top of the injection zone (12,038 ft).

The model also considered offset SWD injection volumes close to the Campo Viejo site. A total of 23 offset wells currently injecting into the Devonian were identified within a 5-mile radius of Pozo Acido Viejo No. 1 and Esperanza No. 1. Historical injection rates of each of these wells were analyzed and projected into the model. This simulation includes the effect of water injection on the density drift of the plume and BHP.

The model runs for a total of 92 years and is comprised of both historical and forecasted injection rates. The forecasted SWD and AGI rates in the model are at the max permitted volume. Offset SWD injection begins in 1983 and continues for the life of the model. The acid gas injection period begins in 2019 when the Pozo Acido Viejo No. 1 first became operational. Historical injection monthly rates of Pozo Acido Viejo No. 1 are taken into consideration until 2025 in the model. After this initial acid gas injection period for the Pozo Acido Viejo No. 1, it is assumed that the injection rate increases to 19.75 MMscf/d for the remainder of the active injection period. At the start of 2025, the Esperanza No. 1 well is assumed to start injection at 19.75 MMscf/d until the end of injection. The end of acid gas injection occurs 25 years after the start of Esperanza No. 1 (Year 2050), at which point the AGI wells stop injection while the offset SWD injectors continue operations during the 25-year density drift period. By using the maximum permitted injection rates for the acid gas wells and the SWD wells, the model results in a conservative extent of the acid gas plume after acid gas injection has ceased in year 2050 and at the end of the 25-year density drift period from 2050 to 2075. Figure 22 provides a timeline of the events described in this paragraph.

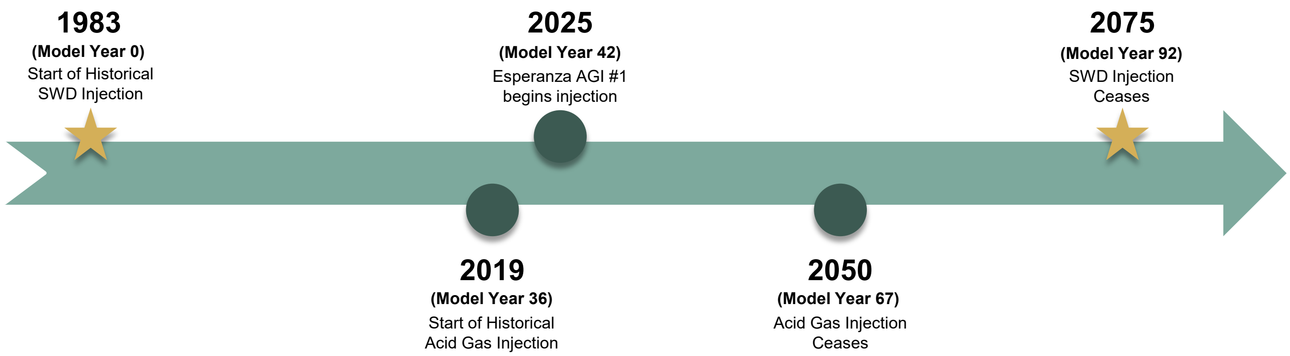


Figure 22 – Model Timeline of Events

The maximum plume extent during the 25-year acid gas injection period is shown in Figure 23. The final extent of the plume after 25 years of density drift after acid gas injection ceases is shown in Figure 24.

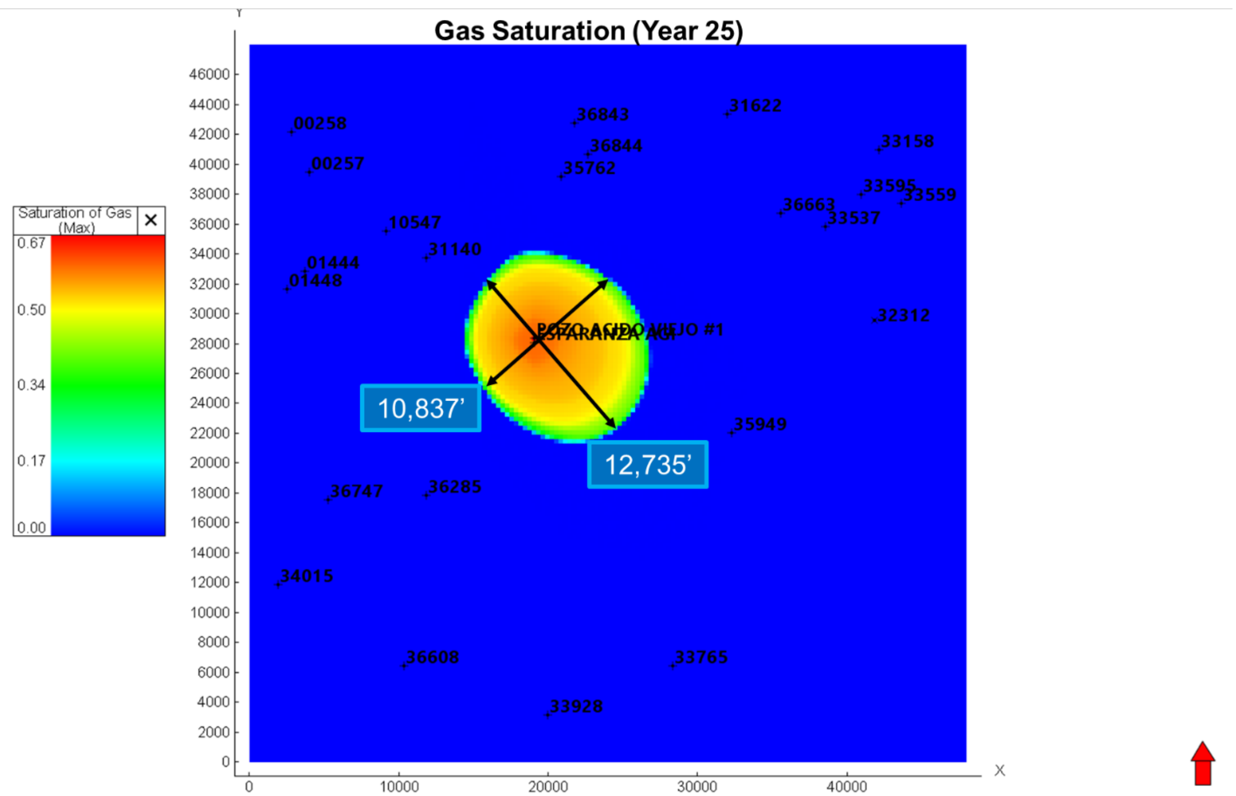


Figure 23 – Areal View Gas Saturation Plume, Year 25 (End of Injection).

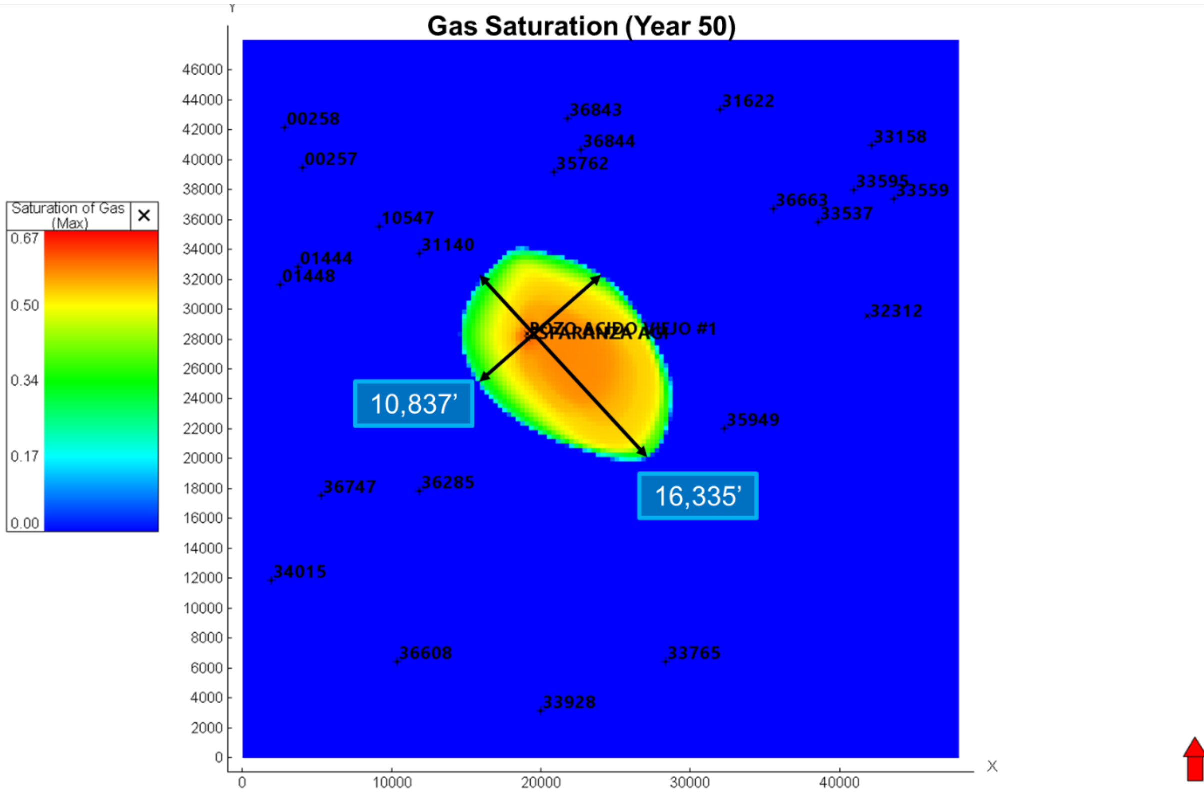


Figure 24 – Areal View Gas Saturation Plume, Year 50 (End of Simulation).

Figures 25 and 26 show the surface injection rate, BHP, and WHP over the acid gas injection period for each well. Both wells experience the BHP increasing steadily throughout the acid gas injection period. At Pozo Acido No. 1, the well reaches a maximum BHP of 6,831 psi, which is yielded from a buildup of approximately 1,607 psi of BHP over the modeled acid gas injection period. At Esperanza No. 1, the well reaches a maximum BHP of 6,687 psi as a result of a total BHP buildup of 1,342 psi that occurs over the modeled acid gas injection period. The maximum BHPs modeled for each well over their respective acid gas injection periods are safely below the applied BHP constraint of 8,005 psi. The WHP for each well is calculated from the wellbore model coupled with the dynamic flow model. Maximum WHPs of approximately 2,517 psi and 2,519 psi are modeled for Pozo Acido No. 1 and Esperanza No. 1, respectively. Both wells remain below the permitted maximum allowable WHPs in accordance with the TRRC UIC permits in place or submitted for each well.

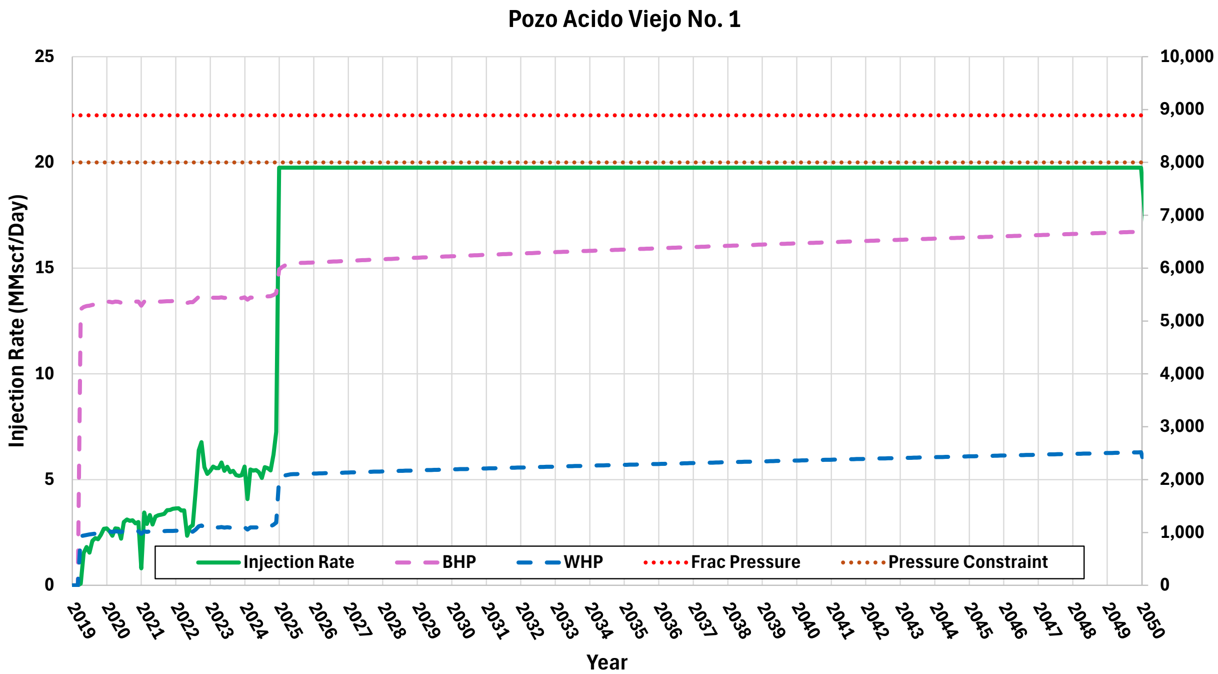


Figure 25 – Well Operation Time Series at Pozo Acido Viejo No. 1.

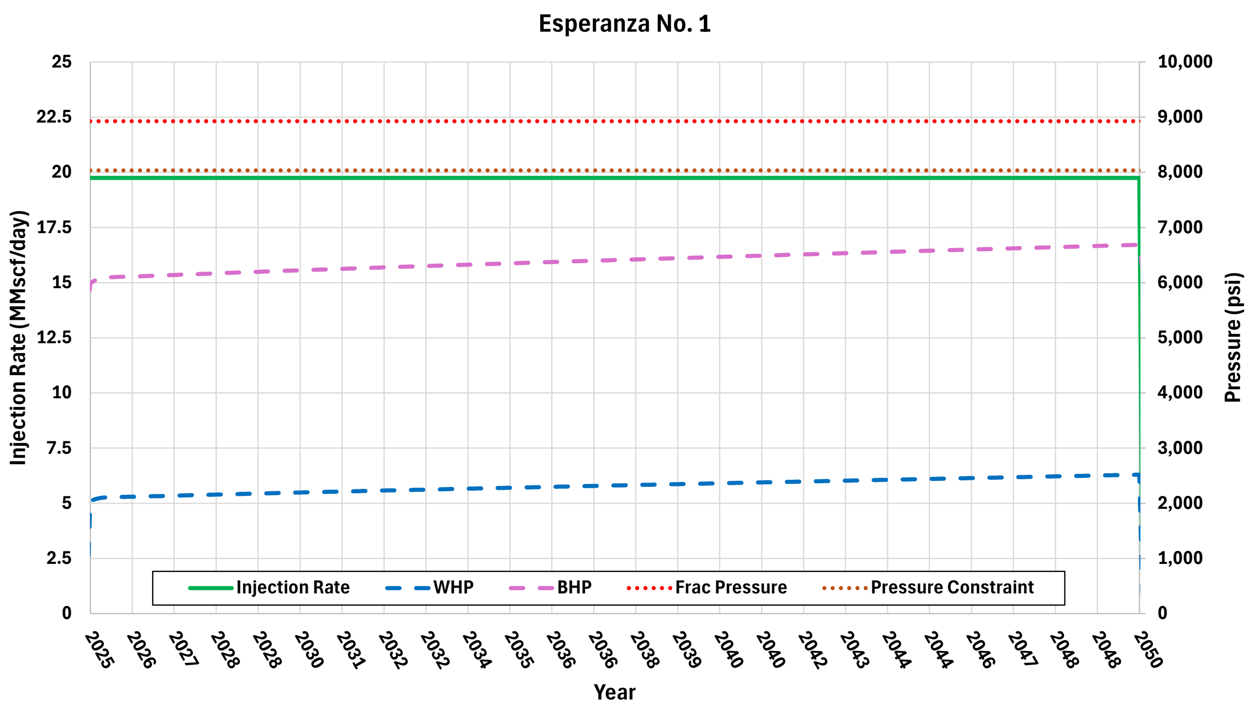


Figure 26 – Well Operation Time Series at Esperanza No. 1.

As shown in Figure 27, the plume has a high growth rate, as modeled in 2020 and 2025, as a result of the initial injection for each well. As the wells continue to inject and the plume establishes itself, the growth rate rapidly decreases to a more stable rate then drops again after injection ceases in

2050. By 2053, the plume is effectively stabilized with a growth rate of less than 1% increase in area per year.

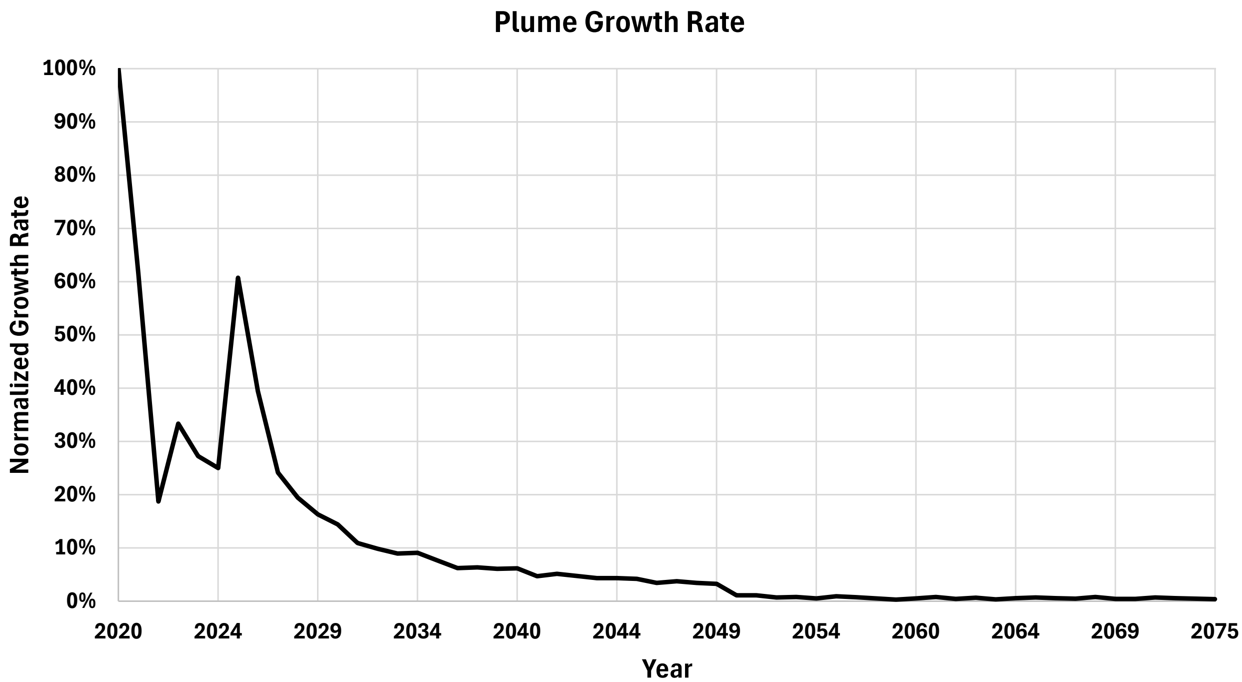


Figure 27 – Annual Growth Rate of CO_2 Plume

SECTION 3 – DELINEATION OF MONITORING AREA

This section discusses the delineation of Maximum Monitoring Area (MMA) and Active Monitoring Area (AMA), as described in 40 CFR **§98.448(a)(1)**.

3.1 Maximum Monitoring Area

The MMA is defined as equal to or greater than the area expected to contain the free-phase CO_2 plume until the plume has stabilized plus an all-around buffer zone of at least 0.5 miles. Numerical simulation was used to predict the size and drift of the plume. With the tNav software package, reservoir modeling was used to determine the areal extent and density drift of the plume. The model considers the following:

- Logs from Estacado No. 1 and offset wells to estimate geologic properties
- Petrophysical analysis to calculate the heterogeneity of the rock
- Geological interpretations to determine faulting and geologic structure
- Offset injection history to adequately predict the density drift of the plume

Acid gas injectate was analyzed by a third-party vendor to determine the initial composition used in the model. The report is provided in Appendix C. The molar composition of the gas is primarily CO_2 with some H_2S and CH_4. The change in molar composition was also incorporated into the model as future, predominantly CO_2 streams are added for injection. As discussed in Section 2, the gas was injected into the Siluro-Devonian—specifically, the Fasken Formation. The geomodel was created based on the rock properties seen in the Fasken.

The plume boundary was defined by the weighted average gas saturation in the aquifer. A value of 1% gas saturation was used to determine the boundary of the plume. When acid gas injection into the Pozo Acido Viejo No. 1 and Esperanza No. 1 ceases 25 years from initial injection into the Esperanza No. 1, the areal expanse of the plume will be 2,875 acres. The maximum distance between the wellbores and the edge of the plume is approximately 1.57 miles to the southeast. After 25 additional years of density drift post-acid gas injection, the areal extent of the plume is 3,337 acres with a maximum distance to the edge of the plume of approximately 2.21 miles to the southeast.

Figure 28 shows the 25-year plume boundary, the 50-year plume boundary, and the MMA.

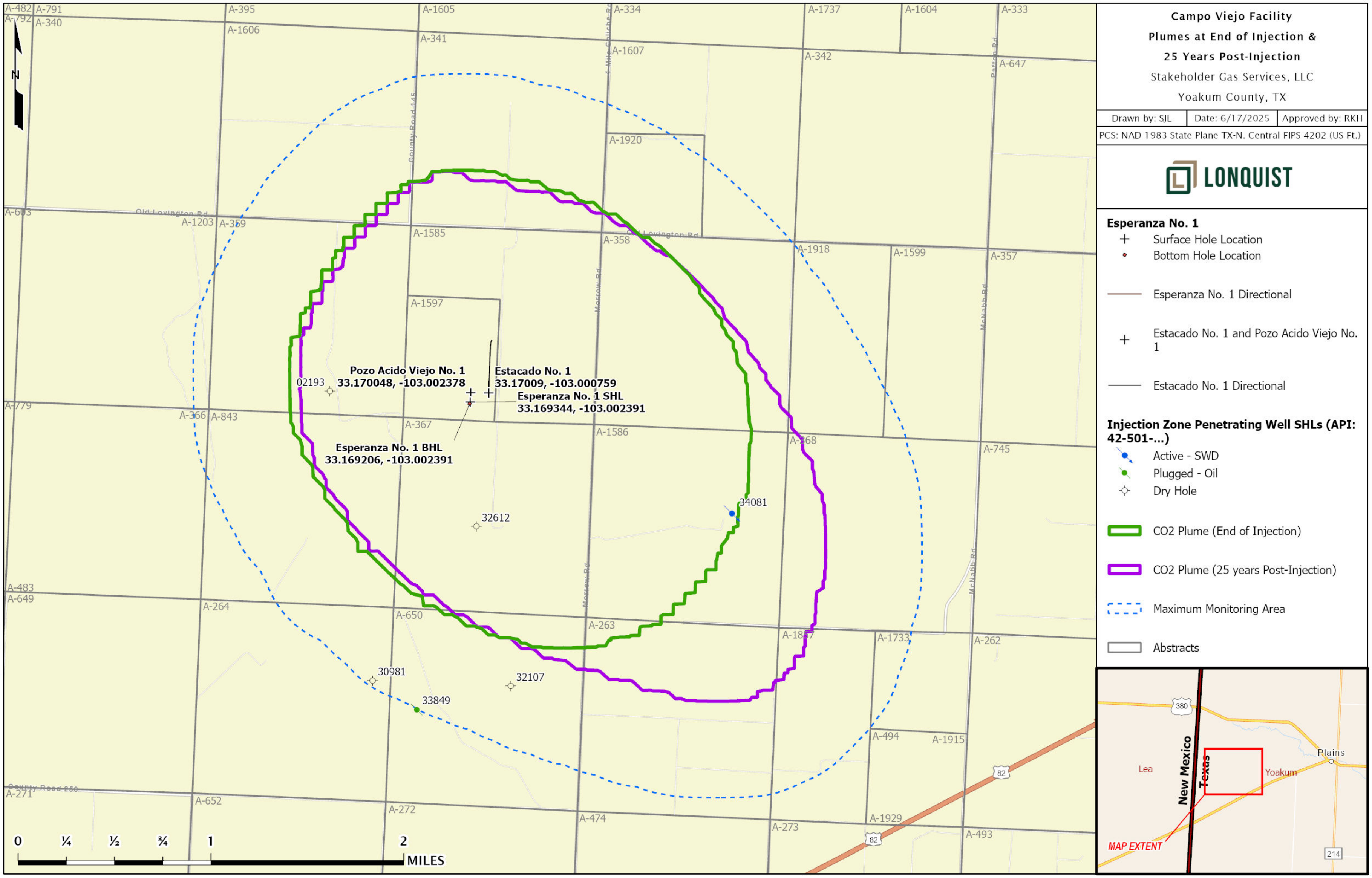


Figure 28 – 25-year plume, 50-year plume, and Maximum Monitoring Area.

3.2 Active Monitoring Area

The AMA is proposed to have the same boundary as the MMA. The only probable leakage paths in the MMA are the wells that penetrate the injection zone and the surface equipment; therefore, the MMA adequately covers the area that should be monitored for CO_2 leakage. Leakage from groundwater wells, faults, and fractures through the confining layer and seismicity events are highly improbable, as discussed in the next section, and would be covered by the MMA. Further consideration was done in determining the plume boundary to provide the most conservative estimate. Anisotropy of formation was considered to allow gas to flow into the highest permeability zones. The zone with the highest permeability would take on the most gas and allow for a larger areal extent of gas.

As it is based on the stabilized CO_2 plume, the AMA will fully contain the plume within its boundaries in year t=50 and therefore, at t=55.

SECTION 4 – POTENTIAL PATHWAYS FOR LEAKAGE

This section identifies the potential pathways for CO_2 to leak to the surface within the MMA and the likelihood, magnitude, and timing of such leakage. The potential leakage pathways are as follows:

- Leakage from surface equipment
- Leakage through existing wells within the MMA
- Drilling through the MMA
- Leakage through faults and fractures
- Leakage through the confining layer
- Natural or induced seismicity

A summary of the risk assessment for the potential leakage pathways is provided in Table 8.

Table 8 – Potential Leakage Pathway Risk Assessment.

Potential Leakage Pathway	Likelihood	Magnitude	Timing
Surface Equipment	Remote likelihood of mechanical failure of flowlines or distribution system.	Very low. Automated monitoring systems and emergency shutdown valves in the event of overpressure. Competent management of operations.	During active injection.
Existing wells within the MMA	Possible. Six artificial penetrations were drilled into the injection interval.	Medium. Monitoring plans would identify leakage and the affected well remediated.	During active injection and until plume stabilizes (5 years after injection)
Drilling through the MMA	Very unlikely. The Siluro-Devonian and deeper formation are not productive in this area	Very low. Any wells that would be drilled in the MMA would be required to be cased and cemented to prevent flow from the Siluro-Devonian.	During active injection and until plume stabilizes (5 years after injection).
Faults and Fractures	Remote. A regional seismic evaluation did not identify any faulting of the confining or injection zones or within the modeled plume extents.	Very low. Additional confinement above the Woodford Shale is provided by the Mississippi Lime.	During active injection and until plume stabilizes (5 years after injection).
Upper Confining Zone	Remote. The mineralogic and lithologic properties of the Woodford Shale results in excellent confining characteristics.	Very low. Additional confinement above the Woodford Shale is provided by the Mississippi Lime.	During active injection and until plume stabilizes (5 years after injection).

Potential Leakage Pathway	Likelihood	Magnitude	Timing
Natural or induced seismicity	Remote. Campo Viejo is in a seismically inactive area. Injection pressure will be kept below the maximum limit.	Very Low. Additional confinement above the Woodford Shale is provided by the Mississippi Lime if any events were to result in the development of a new pathway.	During active injection.

Table 9 – Description of Magnitude Assessment Levels.

Magnitude Assessment Description
Low – Categorized as little-to-no impact to health, safety, and environment. Minimal costs to mitigate.
Medium – Potential risks to the USDW and for surface releases exist. Easily remediated.
High – Danger to the USDW and/or significant surface release. Significant cost to remediate.

The risk of leakage through potential pathways is highest during the injection period. Once injection ceases the risks of leakage from offset wells, fractures, etc. diminish quickly as the plume stabilizes. Potential risks from surface equipment would be eliminated once the wells are plugged, and surface equipment is decommissioned.

4.1 Leakage from Surface Equipment

The surface facilities at the Campo Viejo Facility are designed for injecting acid gas containing H_2S—and therefore, minimize leakage points, such as valves and flanges, by following industry standards and best practices. The H_2S gas detectors, located around the facility and the well site, trigger alarms at 10 ppm. Additionally, all Stakeholder field personnel are required to wear H_2S monitors that are also triggered at 10 ppm. A shut-in valve is located at the wellhead and locally controlled by pressure, with both high- and low-pressure shutoffs.

The facilities have been designed and constructed with additional safety systems to provide for safe operations. These systems include Emergency Shutdown (ESD) valves to isolate portions of the plant and pipeline, pressure relief valves along the pipeline to prevent over pressurization, and flares to allow piping and equipment to be de-pressured rapidly under safe and controlled operating conditions in the event of a leak.

Figures 29 and 30 display the facility safety plot plan taken from the Campo Viejo H_2S Contingency Plan and show the location of the H_2S monitors in the vicinity of the plant and AGI wells. Should Stakeholder construct additional CO_2 facilities, as Figure 21 indicated, a separate meter will be installed for the additional stream to comply with the 40 CFR **§98.448(a)(5)** measurement. Because this meter will be near the existing facilities, it will use the existing monitoring programs discussed previously. Additionally, CO_2 monitors will be installed near the new meter and tied into the facility monitoring systems.

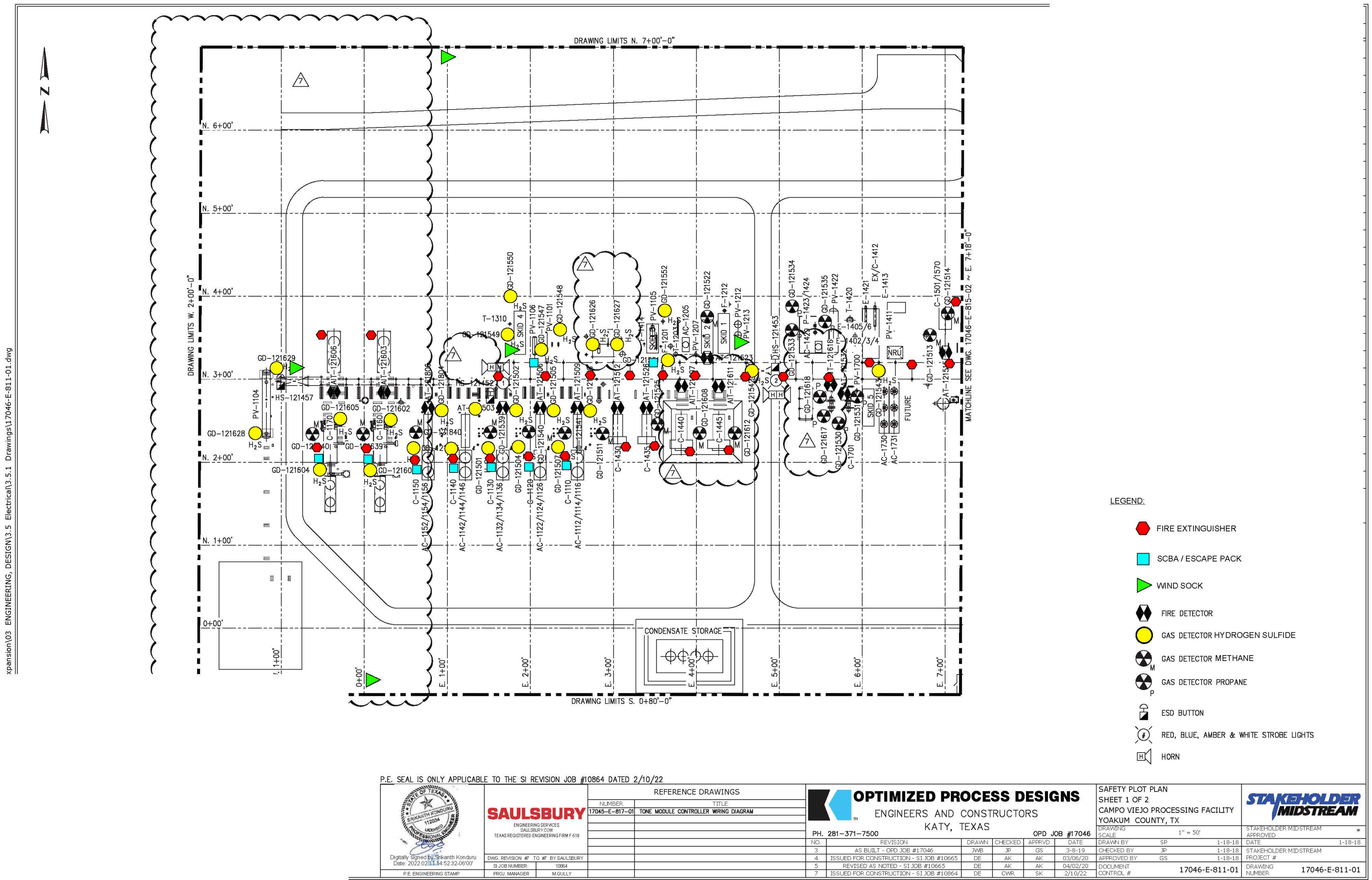


Figure 29 – Site Plan, Campo Viejo Facility – West Section.

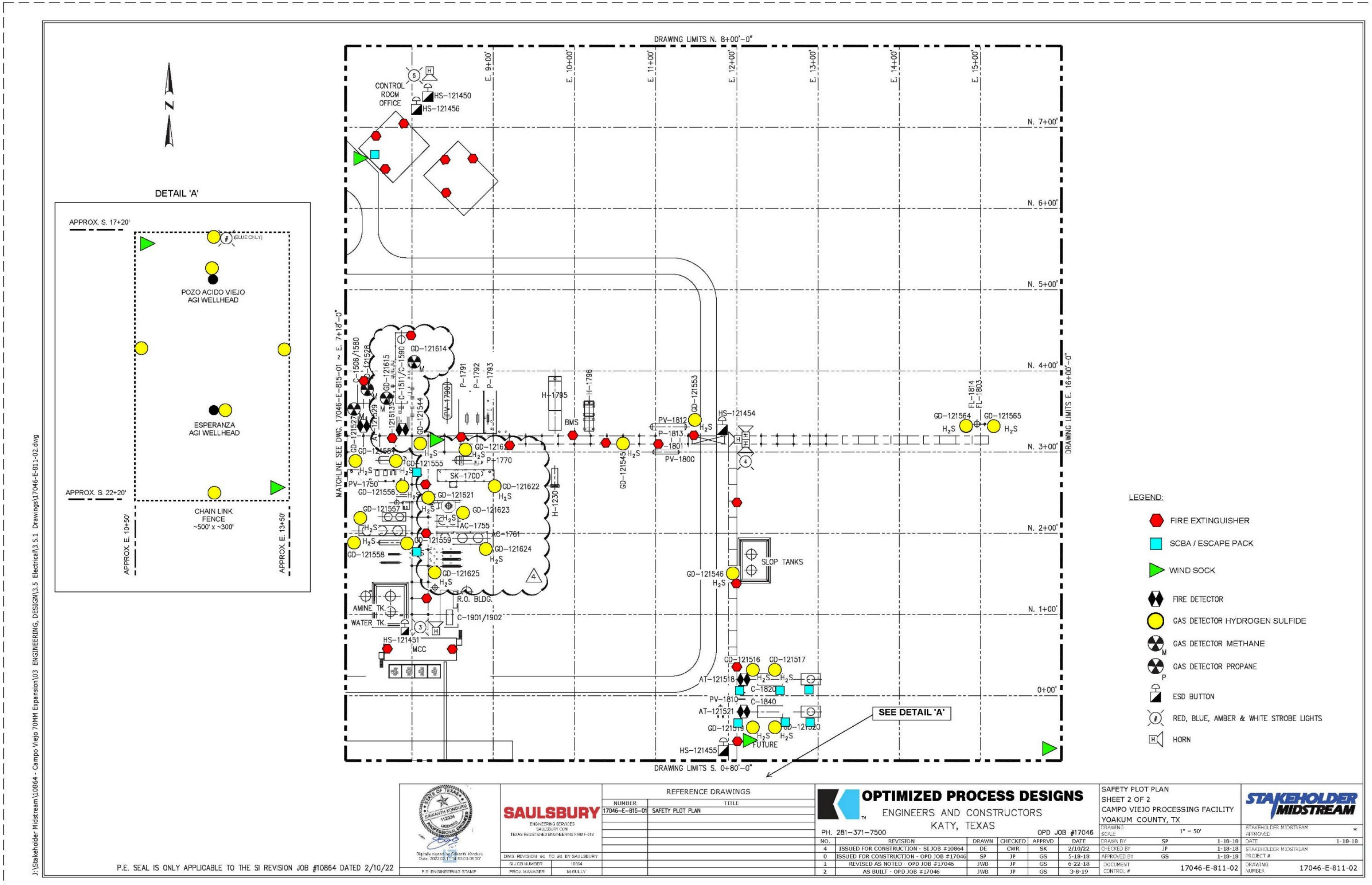


Figure 30 – Site Plan, Campo Viejo Facility and AGI Wells – East Section.

With the level of monitoring at the Campo Viejo Facility and the two AGI wells, any release of H_2S and CO_2 would be quickly identified, and the safety systems would quickly minimize the volume of the release. The CO_2 injected into the AGI wells is injected with H_2S at a concentration of 10% (i.e., 100,000 ppm). At this high level of H_2S concentration, even a small leakage would trigger personal and facility H_2S monitors set to alarm at 10 ppm. If any leakage were to be detected, the volume of CO_2 released will be quantified based on the operating conditions at the time of release, as stated in Section 7 in accordance with 40 CFR **§98.448(a)(5)**.

Higher resolution versions of Figures 29 and 30 are provided in Appendix D.

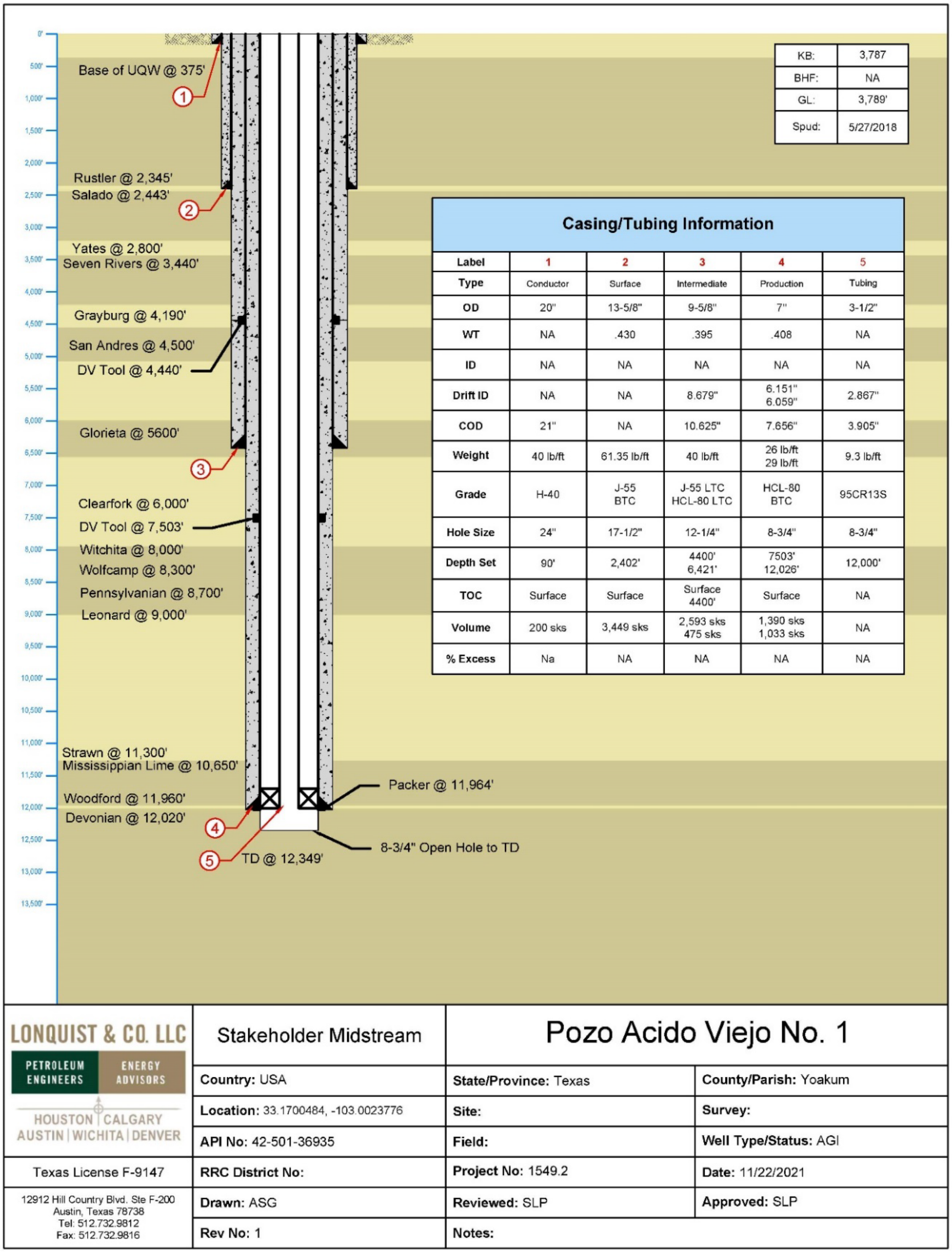
4.2 Leakage from Wells Within the Monitoring Area

4.2.1 Oil and Gas Operations Within the Monitoring Area

Historical production within the area of Campo Viejo has primarily been from the shallower San Andres and Wolfcamp formations. These formations are separated from the Siluro-Devonian zone by 5,900 ft and 1,500 ft, respectively. Within the plume area of the two AGI wells, 86 wells have been drilled. Of these wells, 72 are active producers or injectors, 12 are plugged and abandoned, and 2 are shut in, including the Estacado No. 1. Eight wells, including the active Pozo Acido Viejo No. 1 AGI well and the shut-in Estacado No. 1 well, penetrate the injection zone within the MMA. The casing and cementing of each of these wells meets TRRC regulations, as specified in Title 16, Texas Administrative Code (16 TAC) **§3.13(a)(4)**. These wells have also been properly constructed and/or plugged and abandoned in accordance with TRRC regulations, as specified in 16 TAC **§3.14(d).**

All the wells that penetrate the injection zone within the MMA were properly cased and cemented to prevent annular leakage of CO_2 to the surface. The plugged wells are also adequately protected against migration from the Siluro-Devonian by the placement of the plugs within the wellbores. Current wellbore schematics for these wells are provided in Appendix E. Additionally, the two AGI wells, and the shut-in Estacado No. 1 well, are designed to prevent migration from the injection zone to the surface through the casing and cement placed in the well, as shown in Figures 31 through 33. Mechanical integrity tests (MITs) required under TRRC rules are run annually to verify that the wells and wellheads can hold the appropriate amount of pressure. If an MIT were to indicate a leak, Stakeholder would review the MIT data, injection volumes, and pressures of the AGI well to determine if any significant changes occurred that would indicate potential leakage of the AGI stream. If potential leakage from the AGI stream is present, the AGI well will be isolated, and the leak mitigated quickly, to prevent leakage out of the injection zone.

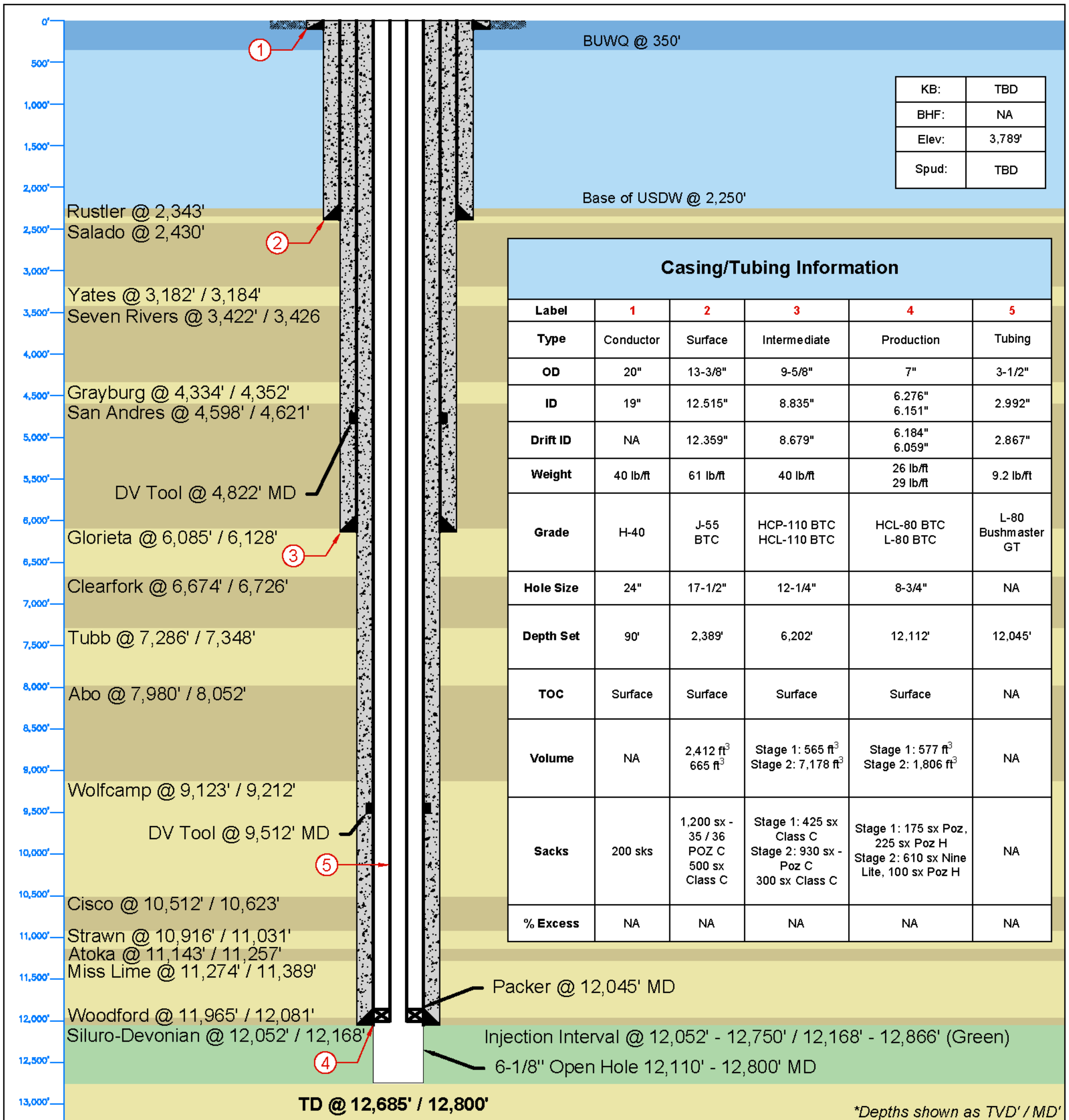
A map of all oil-and-gas wells within the MMA is shown in Figure 34. Figure 35 shows only those wells that penetrate the injection zone. The MMA review maps, a summary of all the wells in the MMA, and detailed wellbore schematics for those wells that penetrate the injection zone are provided in Appendix D.



Casing/Tubing Information

Label	1	2	3	4	5
Type	Conductor	Surface	Intermediate	Production	Tubing
OD	20"	13-5/8"	9-5/8"	7"	3-1/2"
WT	NA	.430	.395	.408	NA
ID	NA	NA	NA	NA	NA
Drift ID	NA	NA	8.679"	6.151" 6.059"	2.867"
COD	21"	NA	10.625"	7.656"	3.905"
Weight	40 lb/ft	61.35 lb/ft	40 lb/ft	26 lb/ft 29 lb/ft	9.3 lb/ft
Grade	H-40	J-55 BTC	J-55 LTC HCL-80 LTC	HCL-80 BTC	95CR13S
Hole Size	24"	17-1/2"	12-1/4"	8-3/4"	8-3/4"
Depth Set	90'	2,402'	4400' 6,421'	7503' 12,026'	12,000'
TOC	Surface	Surface	Surface 4400'	Surface	NA
Volume	200 sks	3,449 sks	2,593 sks 475 sks	1,390 sks 1,033 sks	NA
% Excess	Na	NA	NA	NA	NA

Figure 31 – Pozo Acido Viejo No. 1 Wellbore Schematic.



Casing/Tubing Information

Label	1	2	3	4	5
Type	Conductor	Surface	Intermediate	Production	Tubing
OD	20"	13-3/8"	9-5/8"	7"	3-1/2"
ID	19"	12.515"	8.835"	6.276" 6.151"	2.992"
Drift ID	NA	12.359"	8.679"	6.184" 6.059"	2.867"
Weight	40 lb/ft	61 lb/ft	40 lb/ft	26 lb/ft 29 lb/ft	9.2 lb/ft
Grade	H-40	J-55 BTC	HCP-110 BTC HCL-110 BTC	HCL-80 BTC L-80 BTC	L-80 Bushmaster GT
Hole Size	24"	17-1/2"	12-1/4"	8-3/4"	NA
Depth Set	90'	2,389'	6,202'	12,112'	12,045'
TOC	Surface	Surface	Surface	Surface	NA
Volume	NA	2,412 ft^3 665 ft^3	Stage 1: 565 ft^3 Stage 2: 7,178 ft^3	Stage 1: 577 ft^3 Stage 2: 1,806 ft^3	NA
Sacks	200 sks	1,200 sx - 35 / 36 POZ C 500 sx Class C	Stage 1: 425 sx Class C Stage 2: 930 sx - Poz C 300 sx Class C	Stage 1: 175 sx Poz, 225 sx Poz H Stage 2: 610 sx Nine Lite, 100 sx Poz H	NA
% Excess	NA	NA	NA	NA	NA

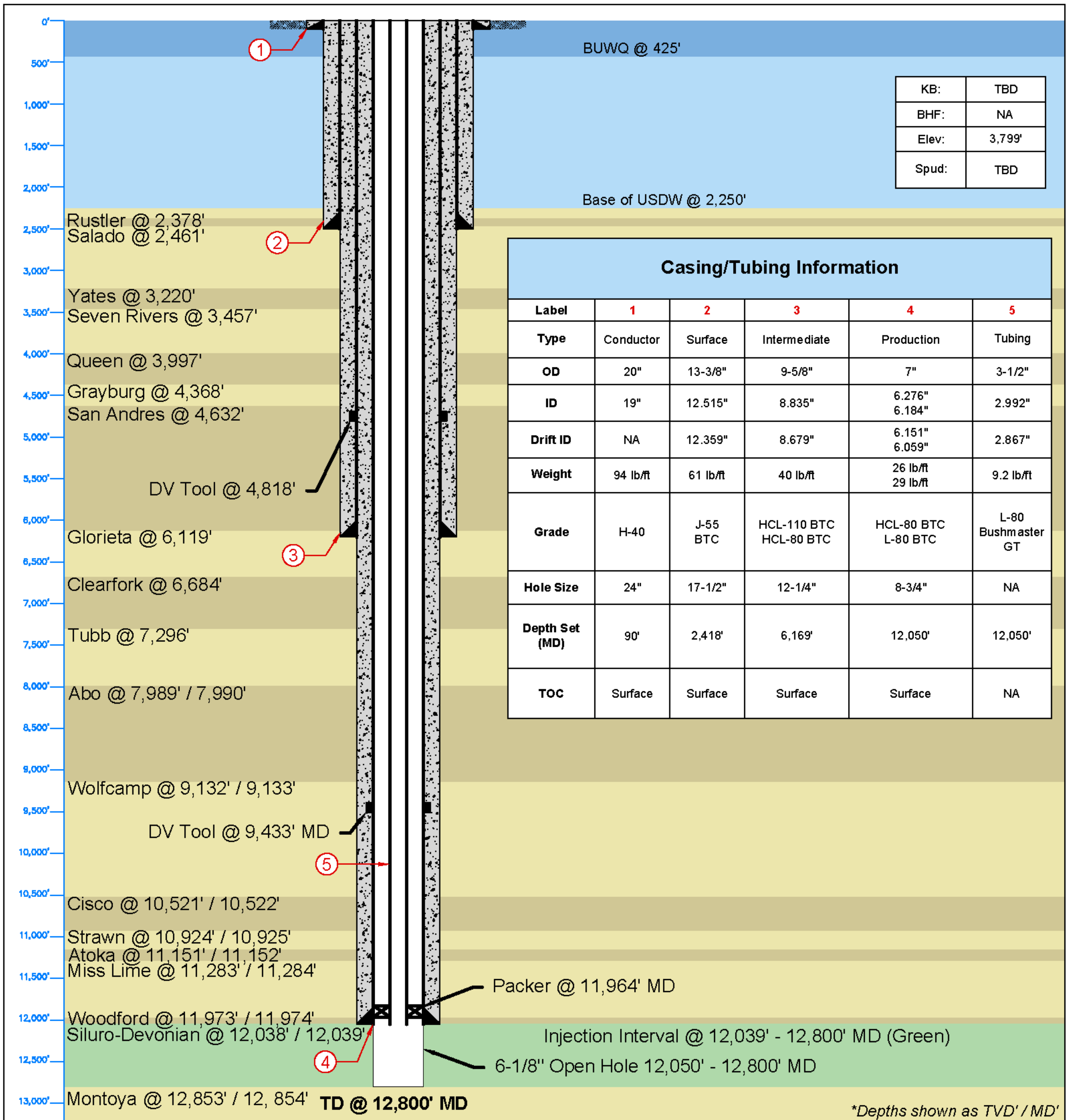
LONQUIST & CO. LLC
PETROLEUM ENGINEERS | ENERGY ADVISORS

Stakeholder Midstream

Estacado #1

Texas License F-9147	**Country:** USA	**State/Province:** Texas	**County/Parish:** Yoakum
	Location: 33°10'12.3230N, 103°0'2.732W	**District:**	**Survey:**
	API No: 42-501-37472	**Field:**	**Well Type/Status:** AGI
	State Gas ID No: NA	**Project No:** NA	**Date:** 2/26/2024
12912 Hill Country Blvd. Ste F-200 Austin, Texas 78738 Tel: 512.732.9812 Fax: 512.732.9816	**Drawn:** CJL	**Reviewed:**	**Approved:**
	Rev No: 0	**Notes:**	

Figure 32 – Estacado No. 1 Wellbore Schematic.



KB:	TBD
BHF:	NA
Elev:	3,799'
Spud:	TBD

Casing/Tubing Information

Label	1	2	3	4	5
Type	Conductor	Surface	Intermediate	Production	Tubing
OD	20"	13-3/8"	9-5/8"	7"	3-1/2"
ID	19"	12.515"	8.835"	6.276" 6.184"	2.992"
Drift ID	NA	12.359"	8.679"	6.151" 6.059"	2.867"
Weight	94 lb/ft	61 lb/ft	40 lb/ft	26 lb/ft 29 lb/ft	9.2 lb/ft
Grade	H-40	J-55 BTC	HCL-110 BTC HCL-80 BTC	HCL-80 BTC L-80 BTC	L-80 Bushmaster GT
Hole Size	24"	17-1/2"	12-1/4"	8-3/4"	NA
Depth Set (MD)	90'	2,418'	6,169'	12,050'	12,050'
TOC	Surface	Surface	Surface	Surface	NA

LONQUIST	Stakeholder Midstream	Esperanza #1	
	Country: USA	**State/Province:** Texas	**County/Parish:** Yoakum
	Location: 33°10'09.26"N, 103°0'6.82"W (NAD27)	**District:** 8A	**Survey:** Sec. 452, Blk D, A-1597; John H. Gibson
	API No: TBD	**Field:** Bronco(Siluro-Devonian)	**Well Type/Status:** Proposed AGI
Texas License F-9147	**State Gas ID No:** NA	**Project No:** NA	**Date:** 06/10/2025
12912 Hill Country Blvd. Ste F-200 Austin, Texas 78738 Tel: 512.732.9812 Fax: 512.732.9816	**Drawn:** LMM	**Reviewed:**	**Approved:**
	Rev No: 0	**Notes:**	

Figure 33 – Esperanza No. 1 Wellbore Schematic

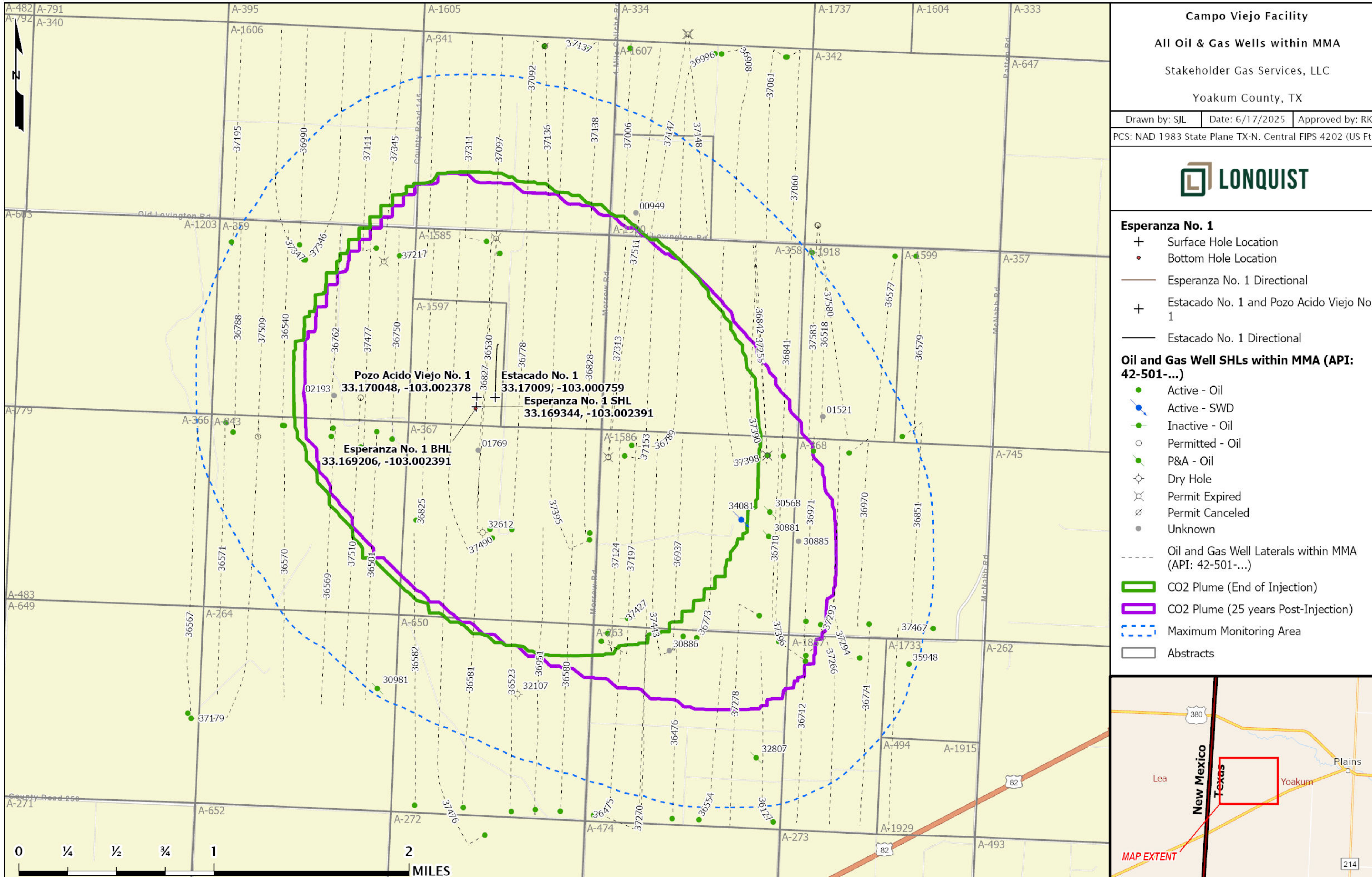


Figure 34 – Oil and Gas Wells Within the MMA.

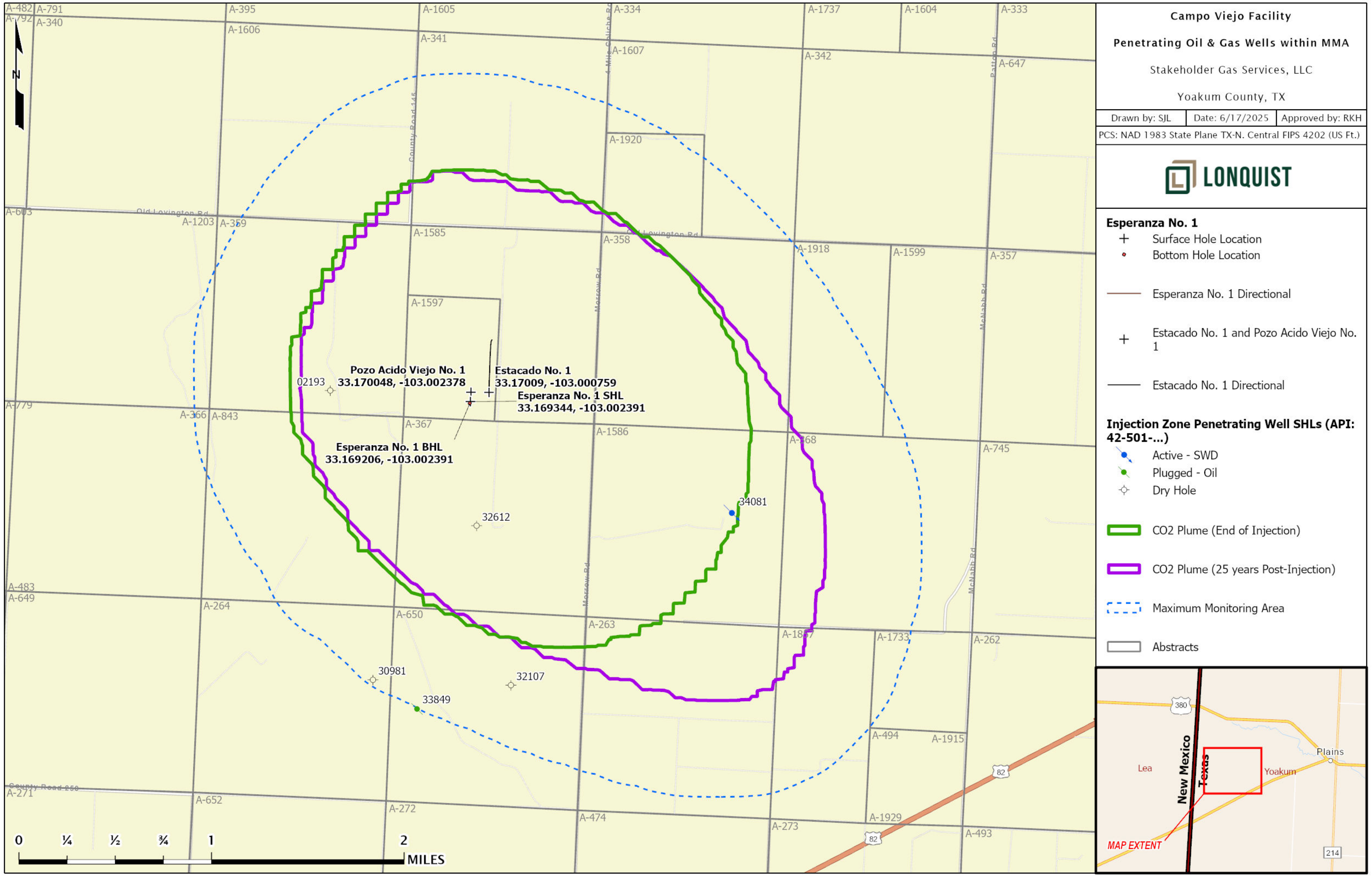


Figure 35 – Penetrating Oil and Gas Wells Within the MMA.

4.2.1.1 Future Drilling

Potential leak pathways caused by future drilling in the area are not expected to occur. The deep formations, such as the Siluro-Devonian, have proven to date to be less productive or nonproductive in this area, which is why the location was selected for injection. Also, the Pozo Acido Viejo No. 1 and Esperanza No. 1 wells are included in the Bronco (Siluro-Devonian) Field, which is designated by the TRRC as an H_2S field. An H_2S field designation alerts potential oil-and-gas operators to the presence of H_2S. Any drilling permits issued by the TRRC around the two AGI wells include a list of formations for which oil-and-gas operators are required to comply with TRRC Rule 13 ("Casing, Cementing, Drilling, Well Control, and Completion Requirements") (16 TAC **§3.13**). By way of example, the Pozo Acido Viejo No. 1 well drilling permit is provided in Appendix B.

TRRC Rule 13 requires oil and gas operators to set steel casing and cement across and above all formations permitted for injection under TRRC Rule 9 or immediately above all formations permitted for injection under TRRC Rule 46 for any well proposed within a 0.25-mile radius of an injection well. In this instance, any new well permitted and drilled to the injection zone located within a one-quarter-mile radius of Pozo Acido Viejo No. 1 or Esperanza No. 1 will be required under TRRC Rule 13 to set steel casing and cement above the Siluro-Devonian. Additionally, TRRC Rule 13 requires operators to case and cement across and above *all* potential flow zones and/or zones with corrosive formation fluids. The TRRC maintains a list of such known zones by the TRRC district and county and provides that list with each drilling permit issued, which is also shown in the permit presented in Appendix B.

If any leakage were to be detected, the volume of CO_2 released would be quantified based on the operating conditions at the time of release.

4.2.2 Groundwater Wells

There are 41 groundwater wells located within the MMA, as identified by the TWDB (Figure 36). All the identified groundwater wells in the area have total depths less than or equal to 400 ft, as shown in Table 10. Additionally, Stakeholder has a water well on the facility property with a total depth of approximately 180 ft.

The surface and intermediate casings of the two AGI wells, and one shut-in AGI well, as Figures 31 through 33 showed, are designed to protect the shallow freshwater aquifers, consistent with applicable TRRC regulations and the GAU letter issued for this location, as provided in Appendix B. The wellbore casings and cements also serve to prevent CO_2 leakage to the surface along the borehole.

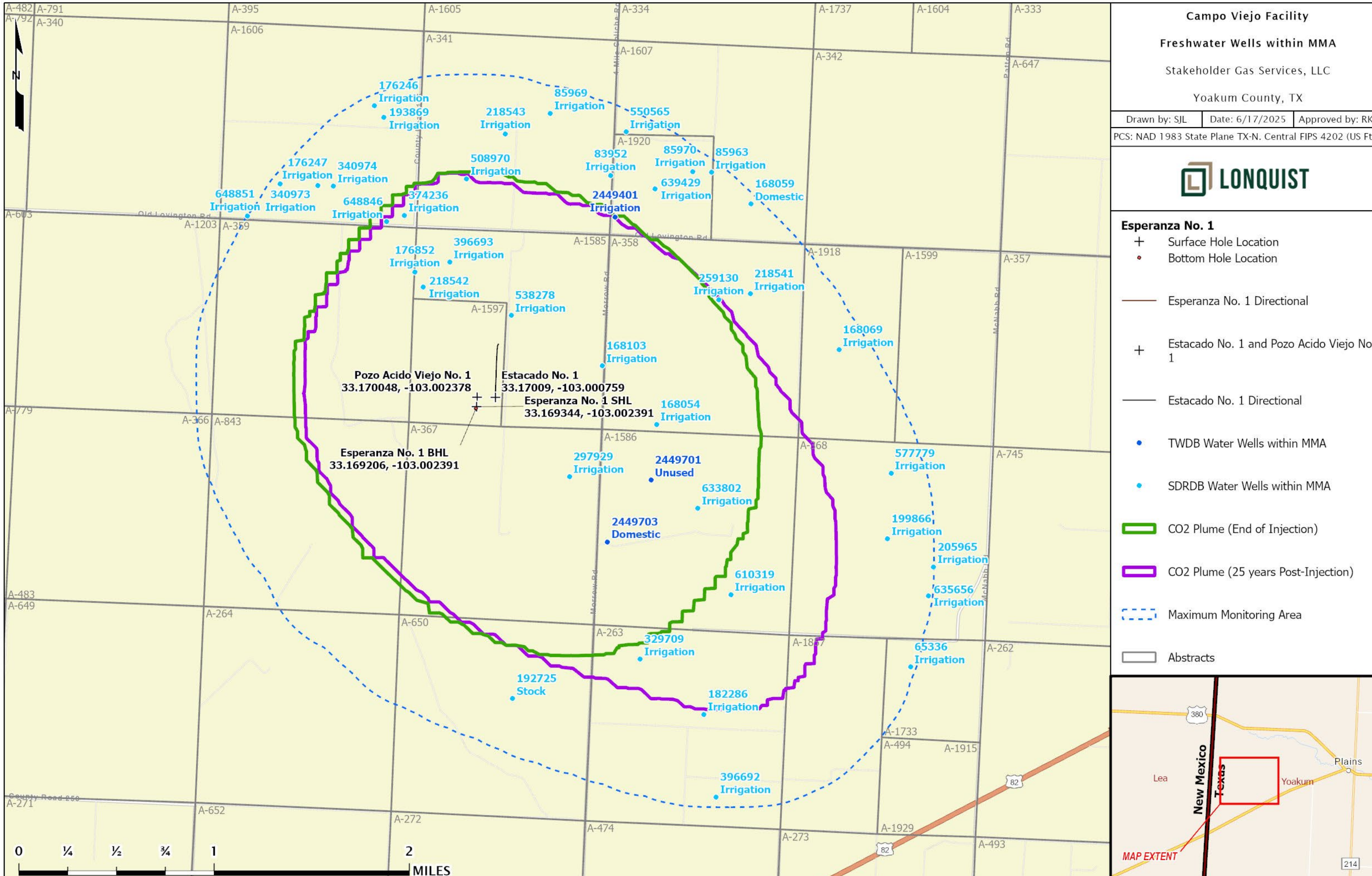


Figure 36 – Groundwater Wells Within the MMA.

Table 10 – Groundwater Well Summary.

State Well ID	Owner Name	Use	Well Depth (ft)	Elevation (ft)	TYPE
2449401	Robert Box	Irrigation	165	3,790	TWDB
2449701	Gene Smith	Unused	167	3,775	TWDB
2449703	Larry Morrow	Domestic	200	3,774	TWDB
65336	Larry Morrow	Irrigation	190	-	SDRDB
83952	D.L. Hartman Partnership	Irrigation	220	-	SDRDB
85963	J & A Farms	Irrigation	252	-	SDRDB
85969	Hartman Partnership	Irrigation	262	-	SDRDB
85970	Hartman Partnership	Irrigation	240	-	SDRDB
168054	Teichroeb, Peter	Irrigation	208	-	SDRDB
168059	Teichroeb, Peter	Domestic	206	-	SDRDB
168069	Teichroeb, Peter	Irrigation	208	-	SDRDB
168103	Teichroeb, Peter	Irrigation	206	-	SDRDB
176246	Abe Dyck	Irrigation	286	-	SDRDB
176247	Abe Dyck	Irrigation	268	-	SDRDB
176852	Darrel Lowrey	Irrigation	183	-	SDRDB
182286	Buford Duff	Irrigation	205	-	SDRDB
192725	LANNY SMITH	Stock	185	-	SDRDB
193869	Abe Dyck	Irrigation	301	-	SDRDB
199866	Henry Letkeman	Irrigation	354	-	SDRDB
205965	Lanny Smith	Irrigation	207	-	SDRDB
218541	RANDY FORBUS	Irrigation	174	-	SDRDB
218542	BRAD MCWHIRTER	Irrigation	217	-	SDRDB
218543	BRAD MCWHIRTER	Irrigation	201	-	SDRDB
259130	RANDY FORBUS	Irrigation	176	-	SDRDB
297929	3D LandCo	Irrigation	186	-	SDRDB
329709	MELRA BEARDEN	Irrigation	200	-	SDRDB
340973	Ben Dyck	Irrigation	400	-	SDRDB
340974	Ben Dyck	Irrigation	360	-	SDRDB
374236	Ben Dyck	Irrigation	320	-	SDRDB
396692	Mc Whirter Family Farms	Irrigation	288	-	SDRDB
396693	Brad McWhirter	Irrigation	266	-	SDRDB
508970	BRAD McWHIRTER	Irrigation	204	-	SDRDB
538278	BRAD McWHIRTER	Irrigation	238	-	SDRDB
550565	Tommy Box	Irrigation	298	-	SDRDB
577779	Henry Letkeman	Irrigation	195	-	SDRDB
610319	MARTIN KLASSEN	Irrigation	310	-	SDRDB
633802	Martin Klassen	Irrigation	325	-	SDRDB
635656	Henry Martens	Irrigation	200	-	SDRDB
639429	Tommy Box	Irrigation	302	-	SDRDB

State Well ID	Owner Name	Use	Well Depth (ft)	Elevation (ft)	TYPE
648846	BEN DYCK	Irrigation	304	-	SDRDB
648851	BEN DYCK	Irrigation	304	-	SDRDB

*SDRDB – Submitted Drillers Report Database

4.3 Leakage Through Faults or Fractures

Dynamic modeling at the Campo Viejo site indicates that migration of the plume will not intersect a fault. Regional faults act as structural traps creating a seal against the migration of hydrocarbons, as demonstrated by the Bronco field. Should an unmapped fault exist within the plume boundary, vertical migration is unlikely. Shale gouge within the fault plane from a thick Woodford Shale section will prevent vertical transmission of injected fluid along the fault and contain it beneath the Woodford. Faulting in this region terminates vertically beneath the Pennsylvanian-age rock. Secondary confining shales within the Wolfcampian and younger strata provide additional, redundant confining layers that would prevent CO_2 from migrating into freshwater aquifers.

Fractures are responsible for porosity development within the injection zones. However, the subsequent exposure events did not produce the same solution diagenesis in the Woodford Shale. Upward migration of injected gas through confining bed fractures is unlikely.

4.4 Leakage Through Confining Layers

The Siluro-Devonian injection zones have competent sealing rocks above and below the porous subareally exposed carbonate. The properties of the overlying transgressive Woodford shale (i.e., widespread deposition, high illite clay and organic matter composition, and low porosity and permeability) make an excellent sealing rock to the underlying Siluro-Devonian formation. The underlying low-porosity and permeability Montoya carbonate minimizes the likelihood of downward migration of injected fluids. The relative buoyancy of injected gas to the in-situ reservoir fluid makes migration below the lower confining zone unlikely.

4.5 Leakage from Natural or Induced Seismicity

The location of the Campo Viejo Facility is in an area of the Permian Basin that is inactive from a seismicity perspective, whether induced or natural. A review of historical seismic events in the USGS's Advanced National Seismic System site (from 1971 to present) and the Bureau of Economic Geology's TexNet catalog (from 2017 to present), as shown in Figure 37, indicates that the nearest seismic event occurred more than 60 miles away.

A regional analysis of the probabilistic fault slip potential across the Permian Basin (Snee and Zoback, 2016), as shown in Figure 38, further demonstrates that the AGI wells are located in a seismically inactive area and confirms that this area has little-to-no potential for an induced seismicity event. Therefore, there is no indication that seismic activity poses a risk for a loss of CO_2 to the surface within the MMA.

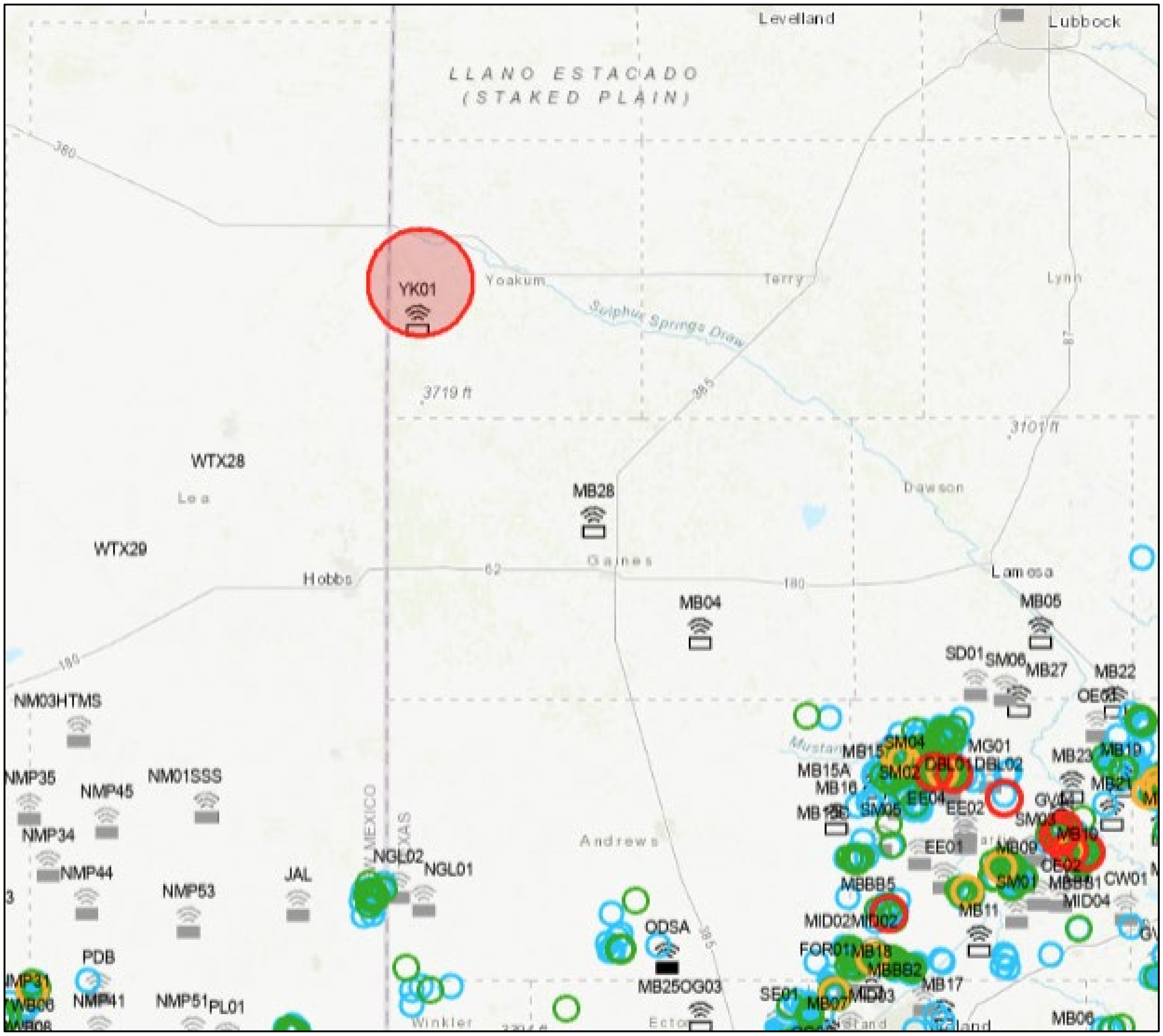


Figure 37 – Seismicity Review (Magnitude >= 2.5 since 2017) (TexNet, 6/2/2025).

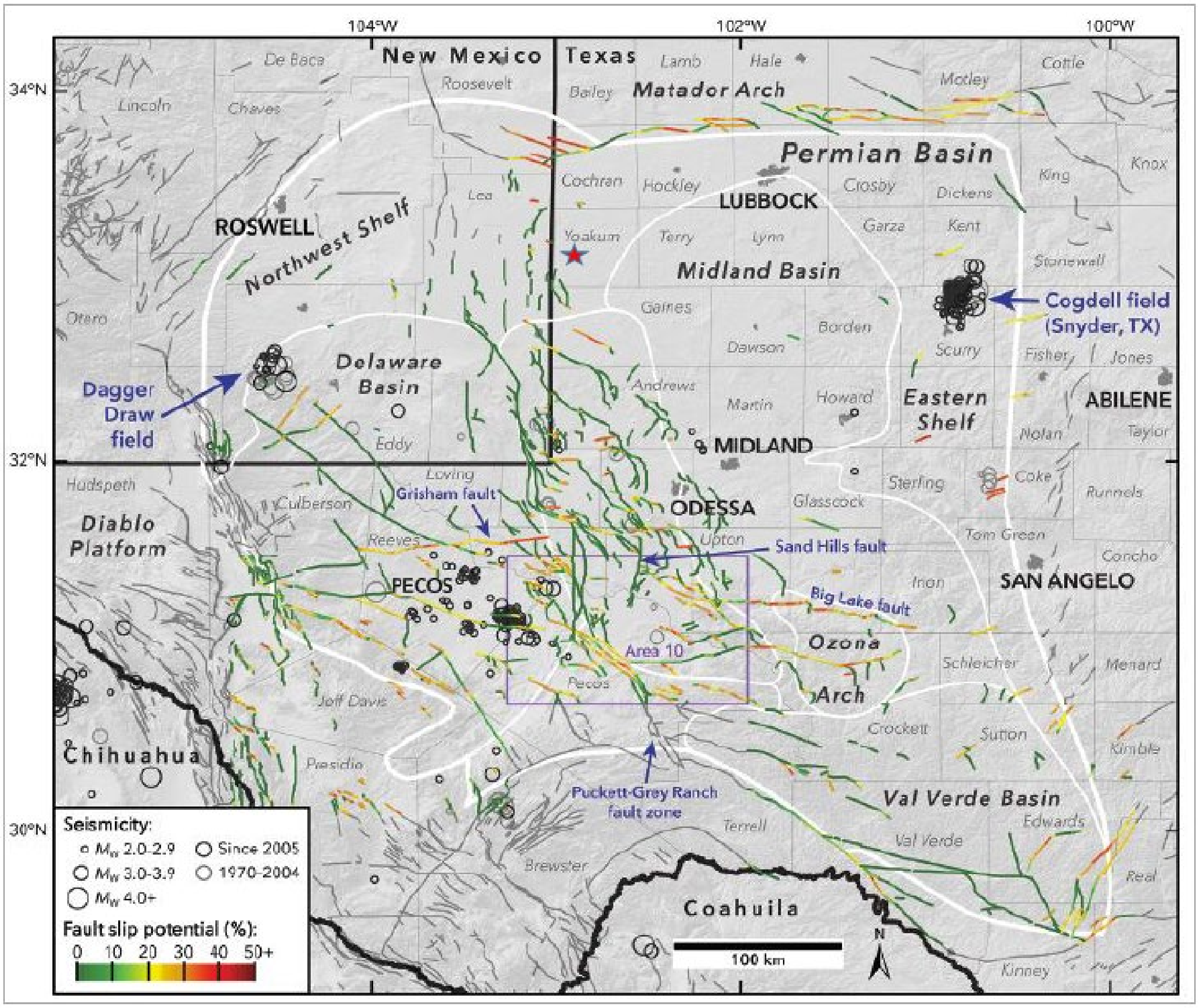


Figure 38 – Probabilistic Fault Slip Potential Analysis with the Campo Viejo Location (Snee and Zobak 2016).

The Campo Viejo facility will have operating procedures and set points programmed into the control and Supervisory Control and Data Acquisition (SCADA) systems to ensure operating pressures are maintained below the fracture gradient of the injection and confining intervals, thus avoiding the potential for inducing seismicity.

While the likelihood of a natural or induced seismicity event is extremely low, Stakeholder has installed a seismic monitoring station near Campo Viejo. This monitoring station is tied into the Bureau of Economic Geology's TexNet Seismic Monitoring system. If a seismic event of 3.0 magnitude or greater is detected, Stakeholder will review the injection volumes and pressures at the AGI wells to determine if any significant changes occurred that would indicate potential leakage. In the unlikely event a leak occurs, Stakeholder will quantify the leak in accordance with the strategies discussed in *Section 7*.

SECTION 5 – MONITORING FOR LEAKAGE

This section discusses the strategy that Stakeholder will employ for detecting and quantifying surface leakage of CO_2 through the pathways identified in Section 4 to meet the requirements of 40 CFR **§98.448(a)(3).** Because the injectate stream contains both H_2S and CO_2, the H_2S will be a proxy for CO_2 leakage; therefore, the monitoring systems in place to detect H_2S will also indicate a release of CO_2. Table 11 summarizes the monitoring of potential leakage pathways to the surface. Monitoring will occur during either the planned 25-year injection period or cessation of injection operations, plus a proposed 5-year post-injection period.

- Leakage from surface equipment
- Leakage through existing and future wells within the MMA
- Leakage through faults and fractures
- Leakage through the confining layer
- Leakage through natural or induced seismicity

Because the acid gas injection stream also contains H_2S, any leakage would be detected by the H_2S alarms located around the facility, be quickly addressed, and would minimize the release of CO_2 into the atmosphere.

Table 11 – Summary of Leakage Monitoring Methods.

Leakage Pathway	Monitoring Method	Frequency
Surface Equipment	Fixed H_2S monitors throughout the AGI facility	Continuous
	Daily visual inspections	Daily
	Personal H_2S monitors	As needed
	Distributed Control System Monitoring (Volumes and Pressures)	Continuous
Existing Wells	Fixed H_2S monitor at the AGI well	Continuous
	SCADA continuous monitoring at the AGI wells	Continuous
	Annual Mechanical Integrity Tests of the AGI Well	Annually
	Visual inspections	As needed
	Quarterly CO_2 measurements within MMA	Quarterly
	Annual groundwater samples on property	Annually
Drilling Through the MMA	H_2S monitoring during offset drilling operations	During operations
Faults and Fractures	SCADA continuous monitoring at the AGI wells (volumes and pressures)	Continuous
	Fixed H_2S monitors at facility; handheld CO_2 monitors within the MMA	Continuous/ Quarterly
Upper Confining Zone	SCADA Continuous Monitoring at the AGI Well (volumes and pressures)	Continuous

Leakage Pathway	Monitoring Method	Frequency
	Fixed H_2S monitors at the facility; handheld CO_2 monitors within the MMA	Continuous
Natural or Induced seismicity	Seismic monitoring station	Continuous

5.1 Leakage from Surface Equipment

Because the Campo Viejo Facility and AGI wells are designed to handle H_2S, leakage from surface equipment is unlikely to occur and, if it did, would be quickly detected and addressed. The facility design minimizes leak points through the equipment used, and the type of connections are designed to minimize corrosion points. The H_2S in the injectate serves as a proxy for the release of CO_2. The facility and well site contain several H_2S alarms, set with a trigger of 10 ppm (as Figures 29 and 30 previously showed). Additionally, all Stakeholder field personnel are required to wear H_2S monitors, which trigger the alarm at 10 ppm.

The AGI facility is continuously monitored through automated systems. In addition, field personnel conduct daily visual field inspections of gauges, monitors, and leak indicators, such as vapor plumes. The effectiveness of the internal and external corrosion control program is monitored through the periodic inspection of the system and inspection of the cathodic protection system. These inspections, in addition to the automated systems, allow Stakeholder to quickly respond to any leakage situation. Should leakage be detected during active injection operations, the volume of CO_2 released will be calculated based on operating conditions at the time of the event, in accordance with 40 CFR **§98.448(a)(5)** and **§98.444(d)**.

5.2 Leakage from Existing and Future Wells Within the Monitoring Area

Stakeholder continuously monitors and collects injection volumes and pressures through their SCADA systems and collects monthly gas composition data for the two AGI wells. This data is reviewed by qualified personnel and will follow response and reporting procedures when data is outside acceptable performance limits. Pozo Acido Viejo No. 1 and Esperanza No. 1 have pressure gauges placed in the injection stream at the wellhead, and a pressure gauge on the casing annulus. A change of pressure on the annulus would indicate the presence of a possible leak. MITs performed annually would also indicate the presence of a leak. Upon a negative MIT, Stakeholder would immediately investigate the cause of the failure and mitigate as needed.

The six offset penetrating wells within the MMA are adequately cased and cemented to prevent potential leakage of CO_2 from the injection plume. Additionally, the plugged wells were done in a way to prevent migration of CO_2 as provided in Appendix E. As discussed previously, TRRC Rule 13 would ensure that new wells in the field would be constructed in a manner to prevent migration from the injection zone.

In addition to the fixed and personal monitors described previously, Stakeholder will also establish and operate an in-field monitoring program to detect any CO_2 leakage within the MMA. The scope of work will include H_2S and CO_2 monitoring at the AGI well site as well as minimum, quarterly atmospheric monitoring near identified penetrations within the MMA. Upon approval of the MRV and through the post-injection monitoring period, Stakeholder will have these monitoring systems in place.

5.2.1 Groundwater Quality Monitoring

Stakeholder will monitor the groundwater quality in fluids above the upper confining zone by sampling the wells on the facility property and analyzing the samples with a third-party laboratory on an annual basis. Any significant changes to the water analysis would be investigated to determine if such a change was a result of leakage from the AGI wells.

5.3 Leakage Through Faults, Fractures, or Confining Seals

Stakeholder continuously monitors the operations of Campo Viejo Facility through automated systems. Any deviation from normal operating conditions indicating movement into a potential pathway, such as a fault or breakthrough of the confining seals, would trigger an alert. Any such alert would be reviewed by field personnel and action taken to shut in the well(s), if necessary. The H_2S monitoring systems at the facility would alert field personnel for any release of H_2S/CO_2 caused by such leakage.

5.4 Leakage Through Natural or Induced Seismicity

Stakeholder's operations at the Campo Viejo Facility are designed to minimize the risk of induced seismicity caused by the injection of TAG into the Siluro-Devonian. The maximum allowable surface pressures, set as a condition of the permits, are designed to ensure that the bottomhole injection pressures do not reach the fracture gradient of the injection or confining layers.

While the likelihood of a natural or induced seismicity event is extremely low, Stakeholder has installed a seismic monitoring station near Campo Viejo, as shown in Figure 39. This monitoring station is tied into the Bureau of Economic Geology's TexNet Seismic Monitoring system. If a seismic event of 3.0 magnitude or greater is detected, Stakeholder will review the injection volumes and pressures at the AGI wells to determine if any significant changes occurred that would indicate potential leakage. In the unlikely event that a leak occurs, Stakeholder will quantify the leak in accordance with the strategies discussed in *Section 7*.

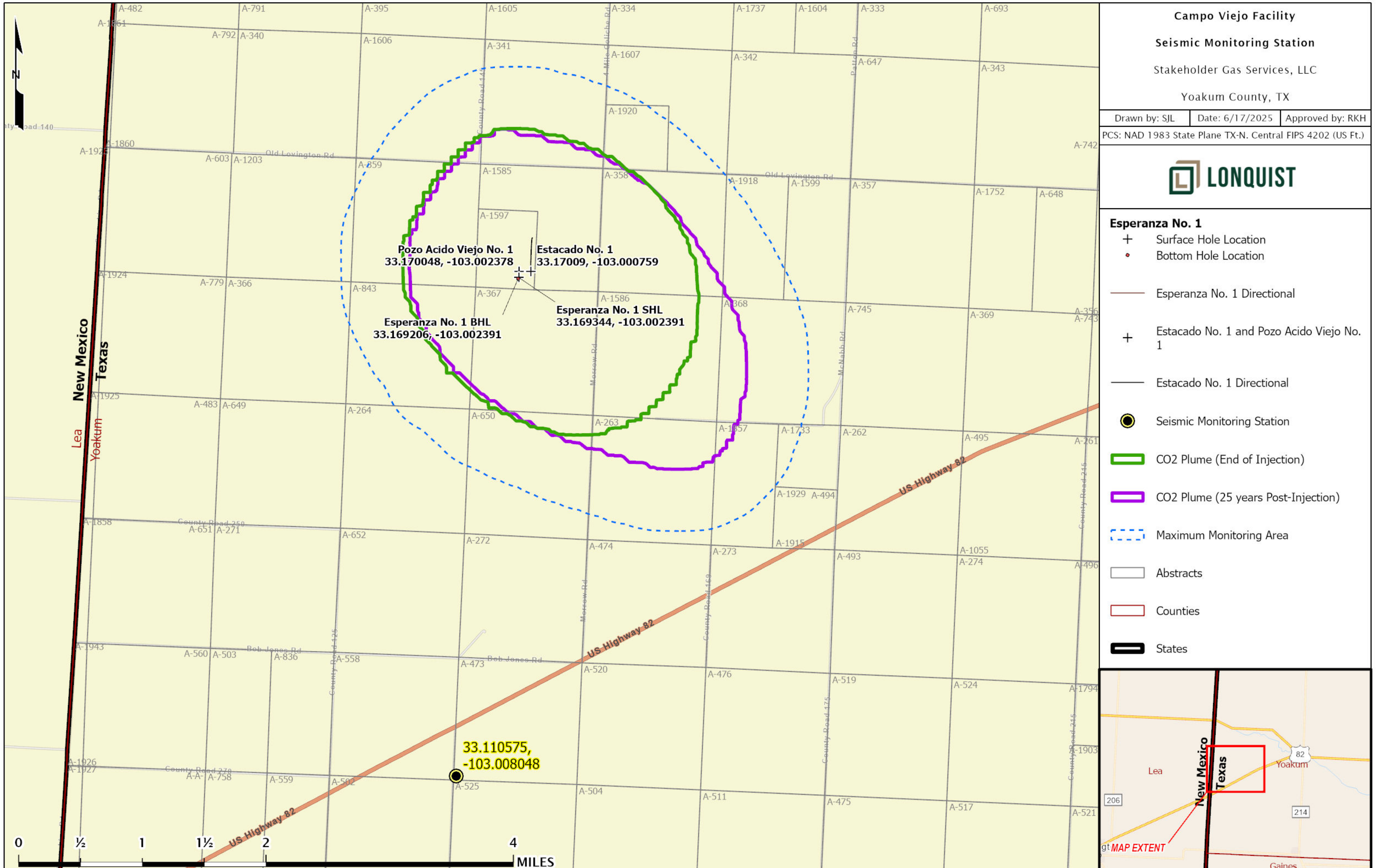


Figure 39 – Location of Seismic Monitoring Station.

SECTION 6 – BASELINE DETERMINATIONS

This section identifies the strategies Stakeholder will undertake to establish the expected baselines for monitoring CO_2 surface leakage in accordance with 40 CFR **§98.448(a)(4**). Stakeholder will use the existing SCADA monitoring systems to identify changes from expected performance that may indicate leakage of CO_2.

6.1 Visual Inspections

Daily inspections will be conducted by field personnel at the Campo Viejo Facility and the two associated AGI wells. These inspections will aid in identifying and addressing issues in a timely manner to minimize the possibility of leakage. If any issues are identified, such as vapor clouds or ice formations, corrective actions would be taken to address such issues.

6.2 H_2S Detection

H_2S will be initially injected into the AGI wells at a concentration of approximately 10% or 100,000 ppm. The concentration will drop to approximately 6% as additional volumes are added. The H_2S gas detectors are located throughout the AGI facility and well site and are set to trigger the alarm at 10 ppm. Additionally, all field personnel are required to wear personal H_2S monitors, which are set to trigger the alarm at 10 ppm. Any alarm would trigger an immediate response to protect personnel and verify that the monitors are working properly. If the monitors are working correctly, immediate action will be taken to secure the facility.

6.3 CO_2 Detection

Any CO_2 release would be accompanied by H_2S; therefore, the H_2S monitors at the facility would also serve as a CO_2 release warning system. In addition to the fixed and personal monitors described previously, Stakeholder has established and operates a facility monitoring program to detect any CO_2 leakage within the AMA. The monitoring system includes H_2S and CO_2 monitoring at the AGI well sites and facility as well as periodic hand-held atmospheric monitoring near identified penetrations within the AMA.

6.4 Operational Data

Baseline measurements of injection volumes and pressures were taken before the initial implementation of the original MRV plan for Pozo Acido Viejo No. 1. The monitoring process will continue with the addition of Esperanza No. 1. Any significant deviations over time will be analyzed for indication of a leakage of CO_2.

6.5 Continuous Monitoring

Mass of CO_2 emitted by surface leakage and equipment leaks will not be measured directly, because the injection stream for these wells contains H_2S, which would be extremely dangerous for personnel to perform a direct leak survey. Any leakage would be detected and managed in accordance with Texas regulations and Stakeholder's TRRC-approved H_2S Contingency Plan. Gas detectors and continuous monitoring systems would trigger an alarm upon a release. The mass of the CO_2 released would be calculated for the operating conditions at the time, including pressure, flowrate, size of the leak point opening, and duration of the leak. This method is consistent with 40 CFR **§98.448(a)(5),** thereby allowing the operator to calculate site-specific variables used in the mass balance equation.

No CO_2 emissions will occur from venting because of the high H_2S concentrations. Blowdown emissions are sent to flares and would be reported as part of the required reporting for the gas plant.

6.6 Groundwater Monitoring

An initial sample was taken in 2022 from the groundwater well on Stakeholder's property. The sample was analyzed by a third-party laboratory to establish the baseline properties of the groundwater. Furthermore, samples taken in 2023 and 2024 indicated no variance from the baseline properties.

SECTION 7 – SITE-SPECIFIC CONSIDERATIONS FOR MASS BALANCE EQUATION

This section identifies how Stakeholder will calculate the mass of CO_2 injected, emitted, and sequestered. This section also includes site-specific variables for calculating the CO_2 emissions from equipment leaks and vented emissions of CO_2 between the injection flowmeter and the injection well in accordance with 40 CFR **§98.448(a)(5).**

7.1 Mass of CO_2 Received

In accordance with 40 CFR **§98.443**, the mass of CO_2 received must be calculated using the specified CO_2 received equations "unless you follow the procedures in 40 CFR **§98.444(a)(4)**." That section states that "if the CO_2 you receive is wholly injected and is not mixed with any other supply of CO_2, you may report the annual mass of CO_2 injected that you determined following the requirements under paragraph (b) of this section as the total annual mass of CO_2 received instead of using Equation RR-1 or RR-2 of this subpart to calculate CO_2 received." The CO_2 received for these injection wells is wholly injected and not mixed with any other supply, and the annual mass of CO_2 injected will equal the amount received. Any future streams would be metered separately before being combined into the calculated stream.

7.2 Mass of CO_2 Injected

In accordance with 40 CFR **§98.444(b),** because the flowrate of CO_2 injected will be measured with a volumetric flowmeter, the total annual mass of CO_2, in metric tons, will be calculated by multiplying the volumetric flow at standard conditions by the CO_2 concentration in the flow and the density of CO_2 at standard conditions, according to Equation RR-5:

$$CO_{2,u} = \sum_{p=1}^{4} Q_{p,u} * D * C_{CO_{2,p,u}}$$

Where:

$CO_{2,u}$ = Annual CO_2 mass injected (metric tons) as measured by flow meter u

$Q_{p,u}$ = Quarterly volumetric flowrate measurement for flowmeter u in quarter p at standard conditions (standard cubic meters per quarter)

D = Density of CO_2 at standard conditions (metric tons per standard cubic meter): 0.0018682

$C_{CO2,p,u}$ = CO_2 concentration measurement in flow for flowmeter u in quarter p (vol. percent CO_2, expressed as a decimal fraction)

p = Quarter of the year

u = Flowmeter

7.3 Mass of CO_2 Produced

The Pozo Acido Viejo No. 1 and Esperanza No. 1 wells are not part of an enhanced oil recovery project; therefore, no CO_2 will be produced.

7.4 Mass of CO_2 Emitted by Surface Leakage

Mass of CO_2 emitted by surface leakage and equipment leaks will not be measured directly, because the injection stream for these wells contains H_2S, which would be extremely dangerous for personnel to perform a direct leak survey. Any leakage would be detected and managed as a major upset event. Gas detectors and continuous monitoring systems would trigger an alarm upon release. The mass of the CO_2 released would be calculated for the operating conditions at the time, including pressure, flowrate, size of the leak point opening, and duration of the leak. This method is consistent with 40 CFR **§98.448(a)(5)** and **§98.444(d)**, allowing the operator to calculate site-specific variables used in the mass balance equation.

In the unlikely event that CO_2 was released as a result of surface leakage, the mass emitted would be calculated for each surface pathway according to methods outlined in the plan and totaled using Equation RR-10 as follows:

$$CO_{2E} = \sum_{x=1}^{X} CO_{2,x}$$

Where:

CO_2 = Total annual CO_2 mass emitted by surface leakage (metric tons) in the reporting year

$CO_{2,x}$ = Annual CO_2 mass emitted (metric tons) at leakage pathway x in the reporting year

X = Leakage pathway

Calculation methods from Subpart W will be used to calculate CO_2 emissions caused by any surface leakage between the flowmeter used to measure injection quantity and the injection wellhead.

As discussed previously, the potential for pathways for all previously mentioned forms of leakage are unlikely. Given the previously mentioned possibility of uncertainty around the cause of a leakage pathway, Stakeholder believes that the most appropriate method to quantify the mass of CO_2 released will be determined on a case-by-case basis. Any mass of CO_2 detected leaking to the surface will be quantified by using industry-proven engineering methods, including, but not limited to, engineering analysis on surface and subsurface measurement data, dynamic reservoir modeling, and history-matching of the sequestering reservoir performance. In the unlikely event that a leak occurs, it will be addressed, quantified, and documented within the appropriate timeline. Any records of leakage events will be kept and stored as stated in Section 10.

7.5 Mass of CO_2 Sequestered

The mass of CO_2 sequestered in subsurface geologic formations will be calculated based on Equation RR-12, as these wells will not actively produce oil or natural gas or any other fluids, as follows:

$$CO_2 = CO_{2I} - CO_{2E} - CO_{2FI}$$

Where:

CO_2 = Total annual CO_2 mass sequestered in subsurface geologic formations (metric tons) at the facility in the reporting year

CO_{2I} = Total annual CO_2 mass injected (metric tons) in the well or group of wells covered by this source category in the reporting year

CO_{2E} = Total annual CO_2 mass emitted (metric tons) by surface leakage in the reporting year

CO_{2FI} = Total annual CO_2 mass emitted (metric tons) from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the flowmeter used to measure injection quantity and the injection wellhead, for which a calculation procedure is provided in Subpart W of this part

CO_{2FI} will be calculated in accordance with Subpart W reporting of GHGs. Because no venting would occur, because of the high H_2S concentrations of the injectate stream, the calculations would be based on the blowdown emissions that would be sent to flares and reported as part of the required GHG reporting for the gas plant. Calculation methods from Subpart W will be used to calculate CO_2 emissions from equipment located on the surface between the flowmeter used to measure injection quantity and the injection wellhead.

SECTION 8 – IMPLEMENTATION SCHEDULE FOR THE MRV PLAN

Because this plan is an amendment to the previously approved MRV plan for the Campo Viejo Facility, the MRV plan is currently implemented and will continue to report the information required under Subpart RR. The Annual Subpart RR Report will be filed on March 31 of the year following the reporting year.

SECTION 9 – QUALITY ASSURANCE

This section identifies how Stakeholder plans to manage quality assurance and control to meet the requirements of 40 CFR **§98.444**.

9.1 Monitoring Quality Assurance/Quality Control

CO_2 *Injected*

- The flowrate of the CO_2 injected will be measured with a volumetric flowmeter, consistent with industry best practices. These flowrates will be compiled quarterly.
- The composition of the CO_2 stream will be measured upstream of the volumetric flowmeter with a continuous gas composition analyzer or representative sampling consistent with industry best practices.
- The gas composition measurements of the injected stream will be averaged quarterly.
- The CO_2 measurement equipment will be calibrated according to manufacturer recommendations.

CO_2 *Emissions from Leaks and Vented Emissions*

- Gas detectors will be operated continuously, except for maintenance and calibration.
- Gas detectors will be calibrated according to manufacturer recommendations and American Petroleum Institute (API) standards.
- Calculation methods from subpart W will be used to calculate CO_2 emissions from equipment located on the surface between the flowmeter used to measure injection quantity and the injection wellhead.

Measurement Devices

- Flowmeters will be continuously operated except for maintenance and calibration.
- Flowmeters will be calibrated according to the requirements in 40 CFR **§98.3(i**).
- Flowmeters will be operated in accordance with an appropriate standard method as published by a consensus-based standards organization.
- Flowmeter calibrations will be traceable to the National Institute of Standards and Technology (NIST).

All measured volumes of CO_2 will be converted to standard cubic meters at a temperature of 60°F and an absolute pressure of 1 atmosphere.

9.2 Missing Data

In accordance with 40 CFR **§98.445**, Stakeholder will use the following procedures to estimate missing data if unable to collect the data needed for the mass balance calculations:

- If a quarterly quantity of CO_2 injected is missing, the amount will be estimated using a representative quantity of CO_2 injected from the nearest previous period of time at a similar injection pressure.
- Fugitive CO_2 emissions from equipment leaks from facility surface equipment will be estimated and reported in accordance with the procedures specified in Subpart W of 40 CFR **§98**.

9.3 MRV Plan Revisions

If any of the changes outlined in 40 CFR **§98.448(d)** occur, Stakeholder will revise and submit an amended MRV plan within 180 days to the Administrator for approval.

SECTION 10 – RECORDS RETENTION

Stakeholder will retain records, as required by 40 CFR **§98.3(g**). These records will be retained for at least 3 years and include the following:

- Quarterly records of the CO_2 injected
    - Volumetric flow at standard conditions
    - Volumetric flow at operating conditions
    - Operating temperature and pressure
    - Concentration of the CO_2 stream
- Annual records of the information used to calculate the CO_2 emitted by surface leakage from leakage pathways
- Annual records of information used to calculate CO_2 emitted from equipment leaks and vented emissions of CO_2 from equipment located on the surface, between the flowmeter used to measure injection quantity and the injection wellhead

References

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Comer, J.B. 1991. Stratigraphic Analysis of the Upper Devonian Woodford Formation, Permian Basin, West Texas and Southeastern New Mexico: Bureau of Economic Geology Report of Investigations, no. 201.

Ewing et al., 2008 (NOT SHOWN IN REFERENCES).

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Hoak, T., Sundberg, K., and Ortoleva, P. 1998. Overview of the Structural Geology and Tectonics of the Central Basin Platform, Delaware Basin, and Midland Basin, West Texas and New Mexico: Department of Energy Open File Report.

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Ruppel, S.C. and Holtz, M.H. 1994. Depositional and Diagenetic Facies Patterns and Reservoir Development in Silurian and Devonian Rocks of the Permian Basin: Bureau of Economic Geology Report of Investigations, no. 216.

Snee, J.-E.L. and Zoback, M.D. 2016. State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity.

Teeple, A.P., Ging, P.B., Thomas, J.V., Wallace, D.S., and Payne, J.D. 2021. Hydrogeologic Framework, Geochemistry, Groundwater-Flow System, and Aquifer Hydraulic Properties Used in the Development of a Conceptual Model of the Ogallala, Edwards-Trinity (High Plains), and Dockum Aquifers in and Near Gaines, Terry, and Yoakum Counties, Texas: USGS Scientific Investigations Report 2021-5009.

APPENDICES

APPENDIX A – GEOLOGY

APPENDIX A-1: STEP-RATE TEST, ESTACADO NO. 1

APPENDIX A-2: SILURO-DEVONIAN STRUCTURE MAP

APPENDIX A-3: N-S CROSS SECTION

APPENDIX A-4: W-E CROSS SECTION

LONQUIST & CO. LLC
PETROLEUM ENGINEERS | ENERGY ADVISORS

July 5, 2024

Mr. Ivan Salas
Manager for Underground Injection Control Permits Unit
Railroad Commission of Texas
1701 N. Congress Avenue
Austin, Texas 78701

RE: Step Rate Test Analysis
Stakeholder Gas Services, LLC (811207)
Estacado No. 1 (API: 42-501-37472)
Tracking No. 56366

Dear Mr. Salas:

Lonquist & Co., LLC (LCO) is submitting an analysis of testing performed on the above referenced Estacado No. 1 Injection Well in Yoakum County. A step rate test was performed on May 21, 2024 to determine the reservoir fracture initiation pressure.

The test consisted of six injection steps with increasing rate up to 5,817 bbl/day. Fracture initiation was observed between the fifth and sixth step at a bottom hole pressure gradient between 0.739 psi/ft and 0.767 psi/ft. This letter documents the analysis and findings of this test. The following section outlines elements of the test procedure. A final section details the data analysis and results. The attached set of figures provides graphic depictions of the analysis and conclusions.

Test Procedure

The test was performed on May 21, 2024 prior to initial injection into the formation. Surface pressure and injection rate were recorded throughout the test at three-second intervals. Bottom-hole pressure readings were captured by a pressure gauge set at 12,080 feet and recorded at one-second intervals.

Six stages of continuous-rate injection were performed at incrementally increasing volumes. Injection began at a rate of 725 bbl/day (0.5 bbl/min). The initial step was extended to 78 minutes to allow the well to fill with brine. The following five stages were performed at equal time intervals of approximately 30 minutes. Three additional steps were planned but could not be completed due to high surface pressures. At the completion of the injection test, pumping was ceased and pressures were recorded for approximately 25 minutes before retrieving the bottomhole pressure gauge.

Figure 1 in the attached analysis provides an overview of the pressures and flow rate data captured during the test.

Data Analysis and Results

Pressure and flow rate data from the final 60 seconds of each injection stage was isolated and averaged to generate the below table of values. For the final stage, values were taken from the 18th minute of injection, prior to a sudden change in injection rate.

Step	Flow Rate (bbl/min)	Flow Rate (bbl/day)	Surface Injection Pressure (psi)	Bottom Hole Pressure (psi)	Bottom Hole Pressure Gradient (psi/ft)
1	0.50	725	268	6,450	0.534
2	1.03	1,476	1,264	7,450	0.617
3	1.58	2,282	1,656	7,815	0.647
4	2.02	2,904	2,111	8,233	0.682
5	2.95	4,251	2,920	8,928	0.739
6	4.04	5,817	3,466	9,266	0.767

Bottom hole pressure values from this table were plotted against the associated injection rates to illustrate their relationship. This is provided as Figure 2 in the attached analysis. Bottom hole pressure gradient values were also plotted against their respective injection rates, showing a similar trend. This has been included in the attached analysis as Figure 3.

The resulting trend observed in the bottom hole pressure vs. injection rate indicated fracture initiation between the fifth and sixth injection steps. This is illustrated by a linear trend up to step five followed by a significant change in slope to step six. Steps five and six achieved stabilized bottom hole pressures of 8,928 psi (0.739 psi/ft) and 9,266 psi (0.767 psi/ft), respectively. It has been determined that the fracture initiation pressure is greater than or equal to 8,928 psi (0.739 psi/ft) at the gauge depth of 12,080 ft.

Respectfully submitted:

Certified By:
Lonquist & Co., LLC
Texas Registration No. F-8952

John Moltz, P.E.
Petroleum Engineer
Texas License No. 147905

Date Signed: July 5, 2024
Austin, Texas

Figure 1

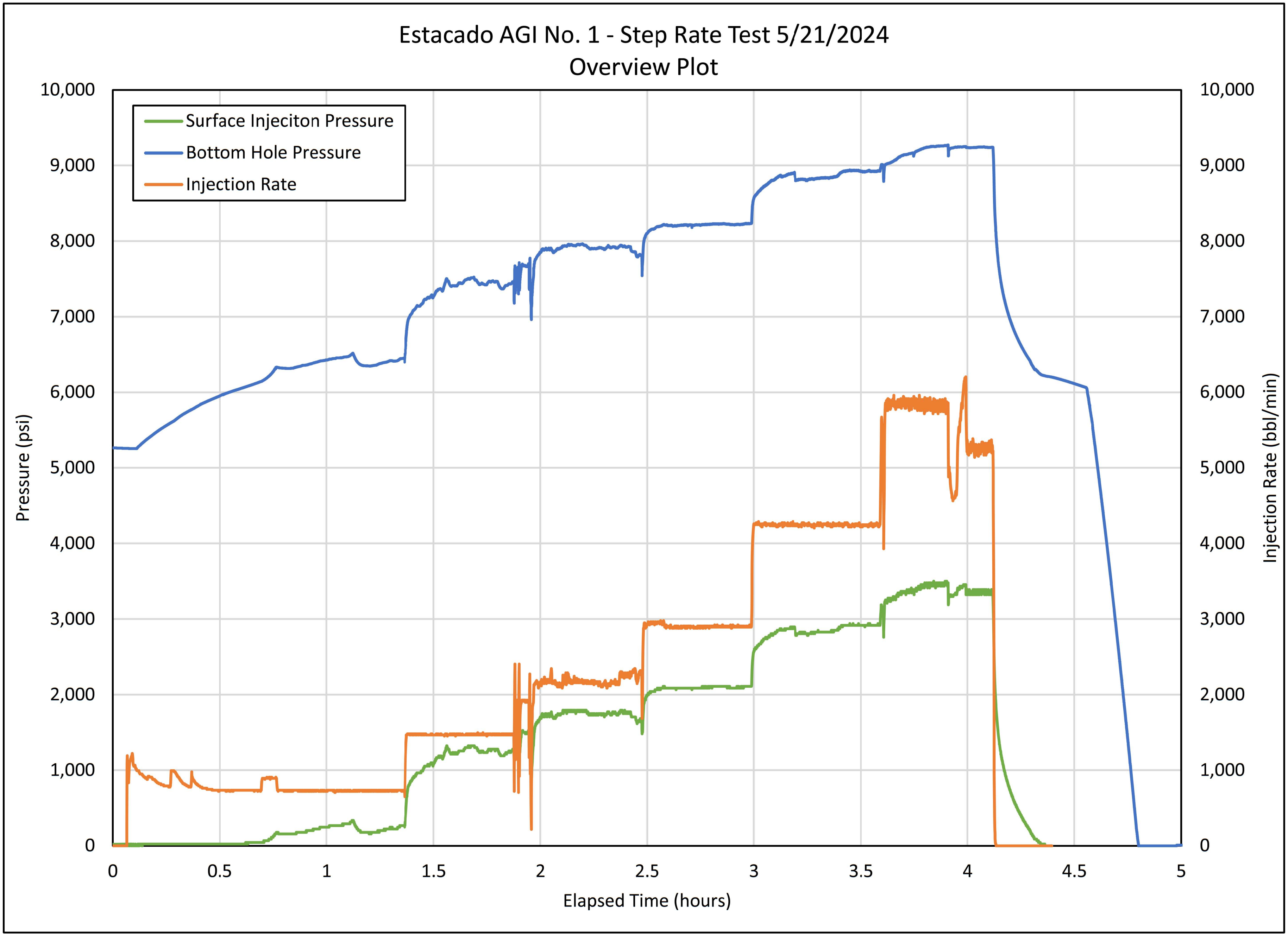

Estacado AGI No. 1 - Step Rate Test 5/21/2024
Overview Plot
Surface Injeciton Pressure
Bottom Hole Pressure
Injection Rate
Pressure (psi)
Injection Rate (bbl/min)
Elapsed Time (hours)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

Figure 2

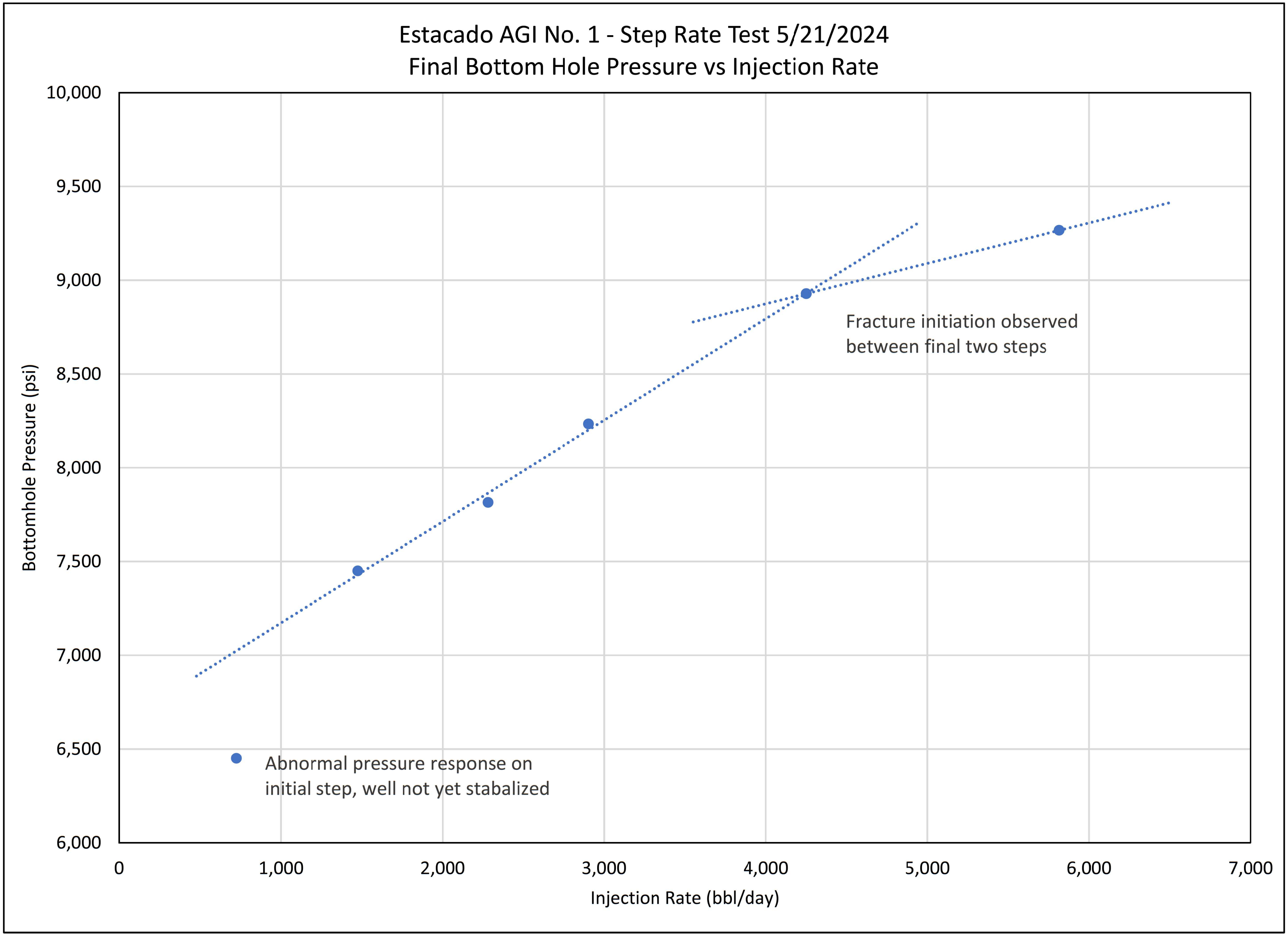
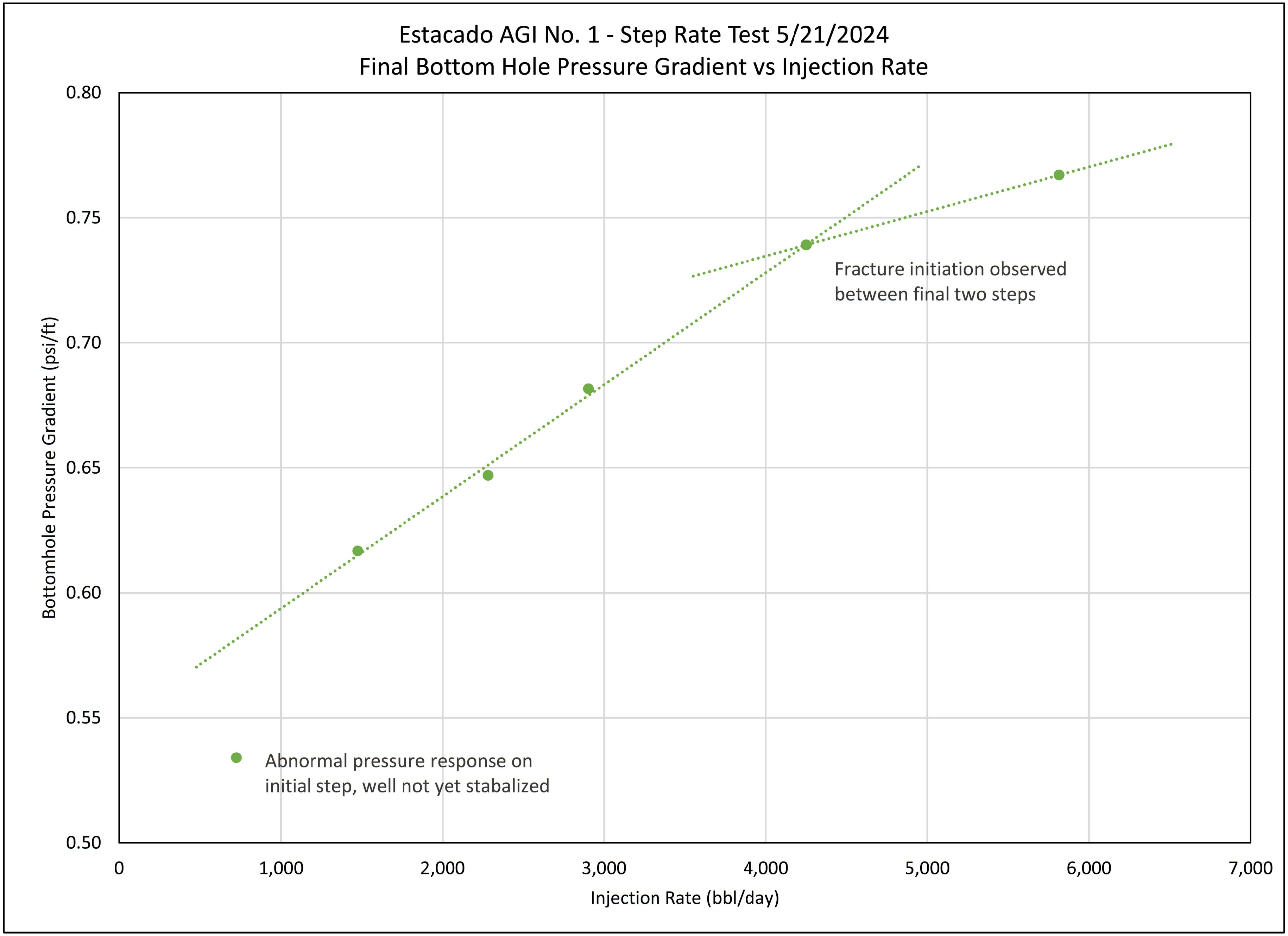
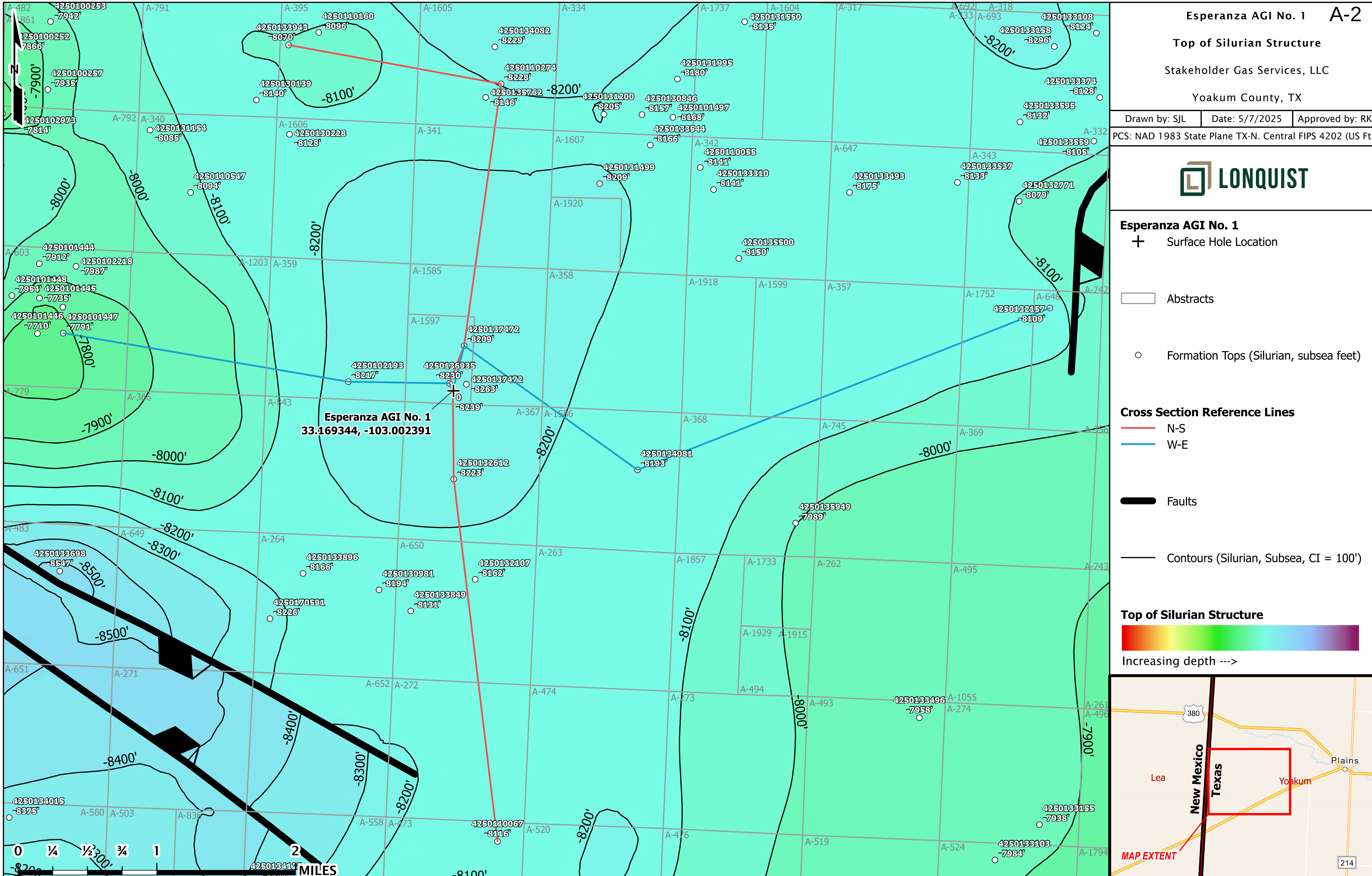

Estacado AGI No. 1 - Step Rate Test 5/21/2024
Final Bottom Hole Pressure vs Injection Rate
Bottomhole Pressure (psi)
10,000
9,500
9,000
8,500
8,000
7,500
7,000
6,500
6,000
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
Injection Rate (bbl/day)
Fracture initiation observed
between final two steps
Abnormal pressure response on
initial step, well not yet stabalized

Figure 3



Estacado AGI No. 1 - Step Rate Test 5/21/2024
Final Bottom Hole Pressure Gradient vs Injection Rate
Bottomhole Pressure Gradient (psi/ft)
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
Injection Rate (bbl/day)
Fracture initiation observed
between final two steps
Abnormal pressure response on
initial step, well not yet stabalized

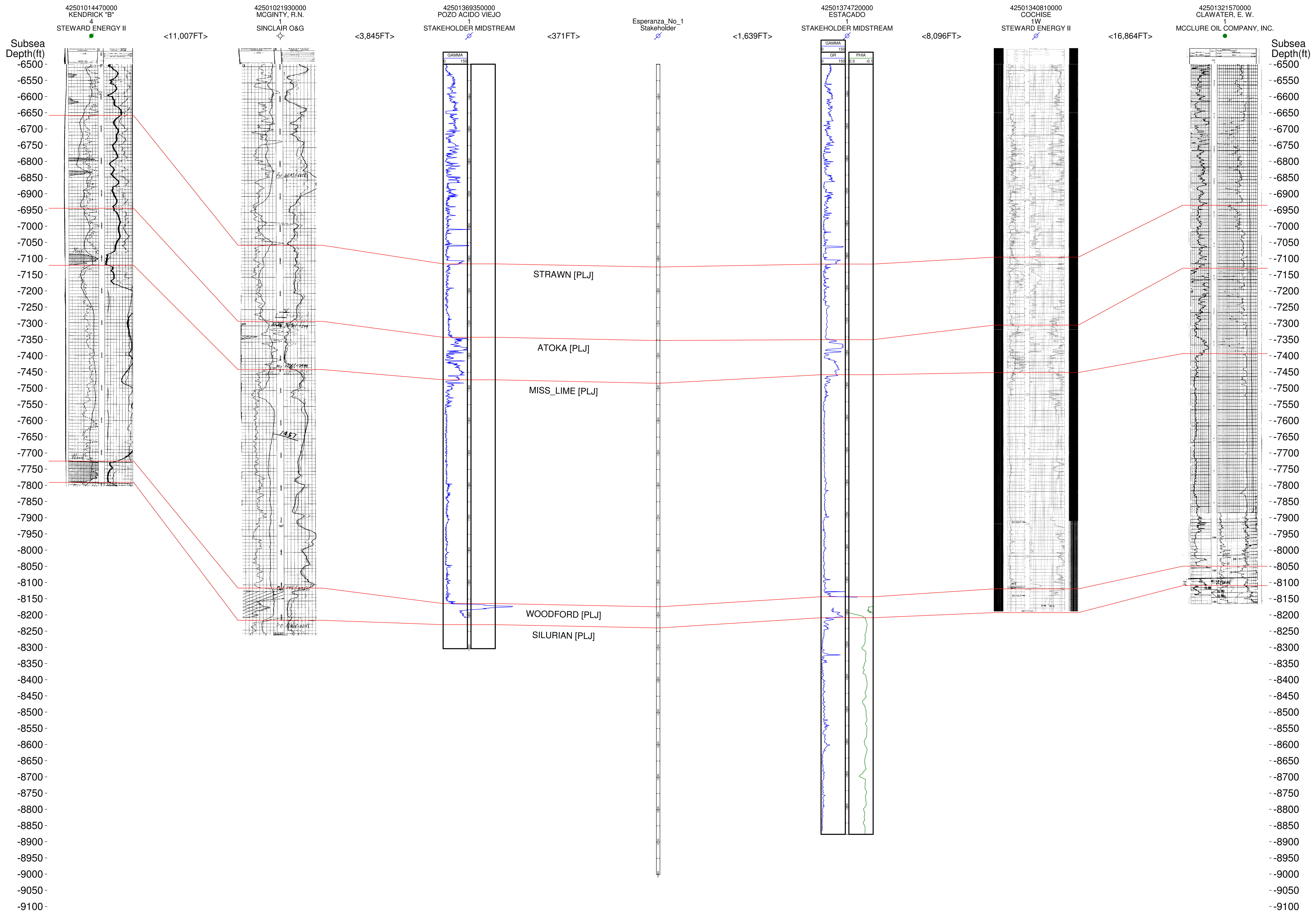

Esperanza AGI No. 1
A-2
Top of Silurian Structure
Stakeholder Gas Services, LLC
Yoakum County, TX
Drawn by: SJL
Date: 5/7/2025
Approved by: RKH
PCS: NAD 1983 State Plane TX-N. Central FIPS 4202 (US Ft.)
LONQUIST
Esperanza AGI No. 1
Surface Hole Location
Abstracts
Formation Tops (Silurian, subsea feet)
Cross Section Reference Lines
N-S
W-E
Faults
Contours (Silurian, Subsea, CI = 100')
Top of Silurian Structure
Increasing depth --->
Esperanza AGI No. 1
33.169344, -103.002391
0 ¼ ½ ¾ 1 2
MILES
N
380
214
Plains
Lea
Yoakum
New Mexico
Texas
MAP EXTENT


MP [PLJ]
N
S
A-3
42501339430000
COURAGEOUS
1
STEWARD ENERGY II
<8,222FT>
42501102740000
SANDERSON, CARRIE
1
TEXAS GAS EXPLORATION CORP
<10,034FT>
42501374720000
ESTACADO
1
STAKEHOLDER MIDSTREAM
<1,569FT>
42501369350000
POZO ACIDO VIEJO
1
STAKEHOLDER MIDSTREAM
<362FT>
Esperanza_No_1
Stakeholder
<3,311FT>
42501326120000
TENNECO FEE
1
DAVIS OIL COMPANY
<13,892FT>
42501100670000
SUDDUTH
1
BLUE RIDGE RESOURCES, LLC
Subsea Depth(ft)
GRD
SGRD
GR
DT
NPHI_LS
DPHI_LS
RHOB
DPHI
GAMMA
CISCO [PLJ]
STRAWN [PLJ]
ATOKA [PLJ]
MISS_LIME [PLJ]
WOODFORD [PLJ]
SILURIAN [PLJ]
LONQUIST SEQUESTRATION LLC
Stakeholder Midstream
Esperanza No 1
N-S Structural Cross Section
Horizontal Scale = 314.8
Vertical Scale = 50.0
Vertical Exaggeration = 6.3x
UWI
Well Name
Well Number
Operator
April 4,2025 2:47 PM

W

E

A-4



LONQUIST SEQUESTRATION LLC

Stakeholder Midstream

Esperanza No 1

W-E Structural Cross Section

Horizontal Scale = 285.4
Vertical Scale = 25.0
Vertical Exaggeration = 11.4x

UWI
Well Name
Well Number
Operator

April 4,2025 2:48 PM

APPENDIX B – TEXAS RAILROAD COMMISSION FORMS

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO INJECT FLUID INTO A RESERVOIR PRODUCTIVE OF OIL AND GAS

PROJECT NO. F-21146, COMMERCIAL AMENDMENT

STAKEHOLDER GAS SERVICES, LLC
401 E SONTERRA BLVD STE 215
SAN ANTONIO TX 78258

Authority is granted to inject into the well identified herein in accordance with Statewide Rule 46 of the Railroad Commission of Texas and based on the information contained in the application (Forms H-1 and H-1A) dated April 04, 2022, for the permitted interval(s) of the SILURO-DEVONIAN formation(s) and subject to the following terms and special conditions:

POZO ACIDO VIEJO (70951) LEASE
BRONCO (SILURO-DEVONIAN) FIELD
YOAKUM COUNTY
DISTRICT 8A

WELL IDENTIFICATION AND PERMIT PARAMETERS:

Well No.	API No.	UIC Number	Permitted Fluids	Top Interval (feet)	Bottom Interval (feet)	Maximum Liquid Daily Injection Volume (BBL/day)	Maximum Gas Daily Injection Volume (MCF/day)	Maximum Surface Injection Pressure for Liquid (PSIG)	Maximum Surface Injection Pressure for Gas (PSIG)
1	50136935	000117488	Carbon Dioxide (CO2); Hydrogen Sulfide (H2S); Other Non-Hazardous O/G Waste	12,020	12,349		20,000		4,319

SPECIAL CONDITIONS:

Well No.	API No.	Special Conditions
1	50136935	1. An annual annulus pressure test must be performed and the test results submitted in accordance with the instructions of Form H-5. 2. The tubing-casing annulus pressure must be monitored at least weekly and reported annually on Form H-10 to the Commission's Austin Offices. 3. This is not an Underground Injection Control (UIC) Class VI permit for geologic sequestration of CO_2. Geologic sequestration of CO_2 that occurs incidental to oil and gas operations is authorized under a Class II UIC permit under certain circumstances, including but not limited to there being a legitimate/material oil and gas exploration/production purpose for the injection that does not cause or contribute to an increased risk to USDW. 4. Bottomhole Pressure (BHP) Test: 5 Year Lifetime (A) Operator shall perform an initial static BHP test to quantify reservoir pressure prior to injection into the permitted formation(s) or have performed within 12 months prior to issuance of the amended permit or within 90 days of the issuance of the amended permit to quantify reservoir pressure prior to changing injection conditions according to the permit amendments. (B) Operator shall conduct a BHP test at least once every five (5) years from the date of the test in (A) above, and provide the Commission an opportunity to witness the test as stated in (D) below. The analysis of the BHP test shall be provided under the supervision, seal, and signature of a registered professional engineer in Texas. The test analysis shall be filed with the Injection-Storage Permits Unit (UIC) within 30 days of completion of the BHP test. (C) Measurement for the BHP test shall be performed via wireline tool(s), or other Commission approved bottom hole pressure measurement technique. (D) Operator must notify the District Office 48 hours in advance of the test in order to provide opportunity for the RRC field inspector to witness the test. Operator shall provide raw data from the test to UIC within 48 hours of completing the test. 5. Fluid migration and pressure monitoring report: The operator must submit a report of monitoring data, including but not limited to: pressure and temperature data, used to determine fluid migration from the disposal well and pressure increases in the reservoir. The report must include, at a minimum, all monitoring data recorded since the last report (or since data recording began for the first report) through the date 30 days before the MIT is due and a summary analysis of the data. The summary analysis must include data trends and anomalies and any likely explanation for those trends or anomalies, for example, any significant operational events. The operator must submit the report with the Mechanical Integrity Test (MIT) filing to the Disposal/Injection Well Pressure Test (H-5) online system. 6. NOTE: UIC staff has approved the "Surface Shut-In Pressure Test" technique, submitted by the operator on August 8, 2022 and included in the permit application, to quantify reservoir pressure as required in Special Condition No. 4. 7. NOTE: The operator must notify the Injection-Storage Permits Unit (UIC) and District Office of any event that may have jeopardized the mechanical and/or hydraulic integrity of any segment of the processing, injection, or storage components of the permitted facility.

Note: This document will only be distributed electronically.

STANDARD CONDITIONS:

1. Injection must be through tubing set on a packer.

2. The District Office must be notified 48 hours prior to:
   a. running tubing and setting packer;
   b. beginning any work over or remedial operation;
   c. conducting any required pressure tests or surveys.

3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.

4. Prior to beginning injection and subsequently after any work over, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.

5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.

6. Within 30 days after completion, conversion to disposal, or any work over which results in a change in well completion, a new Form W-2 or G-1 must be filed to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.

7. Written notice of intent to transfer the permit to another operator by filing Form P-4 must be submitted to the Commission at least 15 days prior to the date of the transfer.

8. A well herein authorized cannot be converted to a producing well and have an allowable assigned without filing an amended Form W-1 and receiving Commission approval.

9. Unless otherwise required by conditions of the permit, completion and operations of the well shall be in accordance with the information represented on the application (Forms H-1 and H-1A).

10. This permit will expire when the Form W-3, Plugging Record, is filed with the Commission. Furthermore, permits issued for wells to be drilled will expire three (3) years from the date of the permit unless drilling operations have commenced.

Note: This document will only be distributed electronically.

11. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:

  a. Prior to beginning operation, all collecting pits, skimming pits, or washout pits must be permitted under the requirements of Statewide Rule 8.

  b. Prior to beginning operation, a catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.

  c. Prior to beginning operation, all fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director or Director's delegate. These facilities must be maintained so as to prevent discharges of oil and gas waste.

  d. Prior to beginning operation, dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.

  e. Prior to beginning operation, the facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.

  f. Prior to beginning operation, each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.

12. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

13. If the facility will have staff on-site for periods of time necessitating bathroom accommodations, these accommodations must be designed, installed, and maintained by a person licensed to do so and the accommodations must comply with all applicable local, county, and State health regulations.

Note: This document will only be distributed electronically.

Provided further that, should it be determined that such injection fluid is not confined to the approved interval, then the permission given herein is suspended and the fluid injection operation must be stopped until the fluid migration from such interval is eliminated. Failure to comply with all of the conditions of this permit may result in the operator being referred to enforcement to consider assessment of administrative penalties and/or the cancellation of the permit.

APPROVED AND ISSUED ON August 16, 2022.

Scott Rosenquist

(for) ______________________________

Sean Avitt, Manager
Injection-Storage Permits Unit

Amendment Comments:

Well No.	API No.	Amendment Comments
1	50136935	1. Amends permit dated 2018/08/21. 2. Amends packer setting depth from 11900 feet. 3. Amends maximum surface injection pressure for gas from 6010 psig. 4. Amends maximum daily injection volume for gas from 6900 MCF/day.

Note: This document will only be distributed electronically.

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

Date Issued:	01 November 2017	**GAU Number:**	182849

Attention:	STAKEHOLDER MIDSTREAM, 777 E SONTERRA STE 100 SAN ANTONIO, TX 78258	**API Number:**	50100000
		County:	YOAKUM
		Lease Name:	Pozo Acido Viejo
		Lease Number:	
Operator No.:	811202	**Well Number:**	1
		Total Vertical Depth:	12600
		Latitude:	33.169934
		Longitude:	-103.001911
		Datum:	NAD27

Purpose: Injection into Producing Zone (H1)

Location: Survey-Gibson, J H; Abstract-1597; Block-D; Section-452

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 375 feet must be protected.

The BASE OF UNDERGROUND SOURCES OF DRINKING WATER (USDW) is estimated to occur at a depth of 2250 feet at the site of the referenced well.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 10/30/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary.
If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Railroad Commission of Texas

PERMIT TO DRILL, RE-COMPLETE, OR RE-ENTER ON REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

CONDITIONS AND INSTRUCTIONS

Permit Invalidation. It is the operator's responsibility to make sure that the permitted location complies with Commission density and spacing rules in effect on the spud date. The permit becomes invalid automatically if, because of a field rule change or the drilling of another well, the stated location is not in compliance with Commission field rules on the spud date. If this occurs, application for an exception to Statewide Rules 37 and 38 must be made and a special permit granted prior to spudding. Failure to do so may result in an allowable not being assigned and/or enforcement procedures being initiated.

Notice Requirements. Per H.B 630, signed May 8, 2007, the operator is required to provide notice to the surface owner no later than the 15th business day after the Commission issues a permit to drill. Please refer to subchapter Q Sec. 91.751-91.755 of the Texas Natural Resources Code for applicability.

Permit expiration. This permit expires two (2) years from the date of issuance shown on the original permit. The permit period will not be extended.

Drilling Permit Number. The drilling permit number shown on the permit MUST be given as a reference with any notification to the district (see below), correspondence, or application concerning this permit.

Rule 37 Exception Permits. This Statewide Rule 37 exception permit is granted under either provision Rule 37 (h)(2)(A) or 37(h)(2)(B). Be advised that a permit granted under Rule 37(h)(2)(A), notice of application, is subject to the General Rules of Practice and Procedures and if a protest is received under Section 1.3, “Filing of Documents,” and/or Section 1.4, “Computation of Time,” the permit may be deemed invalid.

Before Drilling

Fresh Water Sand Protection. The operator must set and cement sufficient surface casing to protect all usable-quality water, as defined by the Railroad Commission of Texas (RRC) Groundwater Advisory Unit (GWAU). Before drilling a well, the operator must obtain a letter from the Railroad Commission of Texas stating the depth to which water needs protection, Write: Railroad Commission of Texas, Groundwater Advisory Unit (GWAU), P.O. Box 12967, Austin, TX 78711-3087. File a copy of the letter with the appropriate district office.

Accessing the Well Site. If an OPERATOR, well equipment TRANSPORTER or WELL service provider must access the well site from a roadway on the state highway system (Interstate, U.S. Highway, State Highway, Farm-to-Market Road, Ranch-to-Market Road, etc.), an access permit is required from TxDOT. Permit applications are submitted to the respective TxDOT Area Office serving the county where the well is located.

Water Transport to Well Site. If an operator intends to transport water to the well site through a temporary pipeline laid above ground on the state’s right-of-way, an additional TxDOT permit is required. Permit applications are submitted to the respective TxDOT Area Office serving the county where the well is located.

*NOTIFICATION

The operator is **REQUIRED** to notify the district office when setting surface casing, intermediate casing, and production casing, or when plugging a dry hole. The district office **MUST** also be notified if the operator intends to re-enter a plugged well or re-complete a well into a different regulatory field. Time requirements are given below. The drilling permit number **MUST** be given with such notifications.

During Drilling

Permit at Drilling Site. A copy of the Form W-1 Drilling Permit Application, the location plat, a copy of Statewide Rule 13 alternate surface casing setting depth approval from the district office, if applicable, and this drilling permit must be kept at the permitted well site throughout drilling operations.

***Notification of Setting Casing.** The operator MUST call in notification to the appropriate district office (phone number shown the on permit) a minimum of eight (8) hours prior to the setting of surface casing, intermediate casing, AND production casing. The individual giving notification MUST be able to advise the district office of the drilling permit number.

***Notification of Re-completion/Re-entry.** The operator MUST call in notification to the appropriate district office (phone number shown on permit) a minimum of eight (8) hours prior to the initiation of drilling or re-completion operations. The individual giving notification MUST be able to advise the district office of the drilling permit number.

Completion and Plugging Reports

Hydraulic Fracture Stimulation using Diesel Fuel: Most operators in Texas do not use diesel fuel in hydraulic fracturing fluids. Section 322 of the Energy Policy Act of 2005 amended the Underground Injection Control (UIC) portion of the federal Safe Drinking Water Act (42 USC 300h(d)) to define "underground Injection" to *EXCLUDE* " ...the underground injection of fluids or propping agents (*<u>other than diesel fluels</u>*) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities." (italic and underlining added.) Therefore, hydraulic fracturing may be subject to regulation under the federal UIC regulations if diesel fuel is injected or used as a propping agent. EPA defined "diesel fuel" using the following five (5) Chemical Abstract Service numbers: 68334-30-5 Primary Name: Fuels, diesel; 68476-34-6 Primary Name: Fuels, diesel, No. 2; 68476-30-2 Primary Name: Fuel oil No. 2; 68476-31-3 Primary Nmae: Fuel oil, No. 4; and 8008-20-6 Primary Name: Kerosene. As a result, an injection well permit would be required before performing hydraulic fracture stimulation using diesel fuel as defined by EPA on any well in Texas. Hydraulic fracture stimulation using diesel fuel as defined by EPA on a well in Texas without an injection well permit could result in enforcement action.

Producing Well. Statewide Rule 16 states that the operator of a well shall file with the Commission the appropriate completion report within thirty (30) days after completion of the well or within ninety (90) days after the date on which the drilling operation is completed, whichever is earlier. Completion of the well in a field authorized by this permit voids the permit for all other fields included in the permit unless the operator indicates on the initial completion report that the well is to be a dual or multiple completion and promptly submits an application for multiple completion. All zones are required to be completed before the expiration date on the existing permit. Statewide Rule 40(d) requires that upon successful completion of a well in the same reservoir as any other well previously assigned the same acreage, proration plats and P-15s (if required) must be submitted with no double assignment of acreage.

Dry or Noncommercial Hole. Statewide Rule 14(b)(2) prohibits suspension of operations on each dry or non-commercial well without plugging unless the hole is cased and the casing is cemented in compliance with Commission rules. If properly cased, Statewide Rule 14(b)(2) requires that plugging operations must begin within a period of one (1) year after drilling or operations have ceased. Plugging operations must proceed with due diligence until completed. An extension to the one-year plugging requirement may be granted under the provisions stated in Statewide Rule 14(b)(2).

Intention to Plug. The operator must file a Form W-3A (Notice of Intention to Plug and Abandon) with the district office at least five (5) days prior to beginning plugging operations. If, however, a drilling rig is already at work on location and ready to begin plugging operations, the district director or the director's delegate may waive this requirement upon request, and verbally approve the proposed plugging procedures.

***Notification of Plugging a Dry Hole.** The operator MUST call in notification to the appropriate district office (phone number shown on permit) a minimum of four (4) hours prior to beginning plugging operations. The individual giving the notification MUST be able to advise the district office of the drilling permit number and all water protection depths for that location as stated in the Texas Commission on Environmental Quality letter.

DIRECT INQUIRIES TO: DRILLING PERMIT SECTION, OIL AND GAS DIVISION

PHONE
(512) 463-6751

MAIL:
PO Box 12967
Austin, Texas, 78711-2967

RAILROAD COMMISSION OF TEXAS

OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER	DATE PERMIT ISSUED OR AMENDED	DISTRICT
834810	Jan 09, 2018	* 8A
API NUMBER 42-501-36935	**FORM W-1 RECEIVED** Jan 04, 2018	**COUNTY** YOAKUM
TYPE OF OPERATION NEW DRILL	**WELLBORE PROFILE(S)** Vertical	**ACRES** 200

OPERATOR 811207

STAKEHOLDER GAS SERVICES, LLC

401 E SONTERRA BLVD STE 215
SAN ANTONIO, TX 78258-0000

NOTICE

This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored.

District Office Telephone No:

(432) 684-5581

LEASE NAME	WELL NUMBER
POZO ACIDO VIEJO	1
LOCATION 10.3 miles W direction from PLAINS, TX	**TOTAL DEPTH** 14000

Section, Block and/or Survey

SECTION 452 BLOCK D ABSTRACT 1597

SURVEY GIBSON, J H / READ, W K

DISTANCE TO SURVEY LINES	DISTANCE TO NEAREST LEASE LINE
1862.8 ft. W 754.6 ft. S	754.6 ft.
DISTANCE TO LEASE LINES 777.2 ft. E 754.6 ft. S	**DISTANCE TO NEAREST WELL ON LEASE** See FIELD(s) Below

FIELD(s) and LIMITATIONS:

* SEE FIELD DISTRICT FOR REPORTING PURPOSES *

FIELD NAME / LEASE NAME	ACRES / NEAREST LEASE	DEPTH	WELL # / NEAREST WE	DIST
BRONCO (SILURO-DEVONIAN)	200.00	12,000	1	8A
POZO ACIDO VIEJO	754.6		0	

RESTRICTIONS: Do not use this well for injection/disposal/hydrocarbon storage purposes without approval by the Environmental Services section of the Railroad Commission, Austin, Texas office. This is a hydrogen sulfide field. Hydrogen Sulfide Fields with perforations must be isolated and tested per State Wide Rule 36 and a Form H-9 filed with the district office. Fields with SWR 10 authority to downhole commingle must be isolated and tested individually prior to commingling production.

THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS

This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.

This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data

YOAKUM (501) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
RED BED-SANTA ROSA	1,100	1,100		1	12/17/2013
YATES	2,800	3,450		2	12/17/2013
SAN ANDRES	4,500	5,500	high flows, H2S, corrosive	3	12/17/2013
GLORIETA	5,600	6,000		4	12/17/2013
CLEARFORK	6,000	7,900	Active CO2 Flood	5	12/17/2013
WICHITA	8,000	8,200		6	12/17/2013
LEONARD	9,000	9,700		7	12/17/2013
WOLFCAMP	8,300	10,700		8	12/17/2013
PENNSYLVANIAN	8,700	8,700		9	12/17/2013
STRAWN	11,300	11,500		10	12/17/2013
MISSISSIPPIAN	10,650	10,800		11	12/17/2013
DEVONIAN	11,200	13,100		12	12/17/2013
DEVONIAN-SILURIAN	11,500	11,500		13	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator’s responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info

B-4

RAILROAD COMMISSION OF TEXAS

Oil and Gas Division

Tracking No.: 201485
Status: Approved

This facsimile W-2 was generated electronically from data submitted to the RRC.

API No. 42- 501-36935

7. RRC District No. 8A

Oil Well Potential Test, Completion or Recompletion Report, and Log

8. RRC Lease No. 70951

1. FIELD NAME (as per RRC Records or Wildcat): BRONCO (SILURO-DEVONIAN)	2. LEASE NAME: POZO ACIDO VIEJO	9. Well No.: 1
3. OPERATOR'S NAME (Exactly as shown on Form P-5, Organization Report): STAKEHOLDER GAS SERVICES, LLC	RRC Operator No.: 811207	10. County of well site: YOAKUM
4. ADDRESS: 401 E SONTERRA BLVD STE 215 SAN ANTONIO, TX 78258-0000		11. Purpose of filing: Initial Potential [ ] Retest [ ] Reclass [ ] Well record only (Explain In remarks) [X]
5. If Operator has changed within last 60 days, name former operator		
6a. Location (Section, Block, and Survey): 452 , D , GIBSON, J H / READ, W K , A-1597	6b. Distance and direction to nearest town in this county: PLAINS, TX	

12. If workover or reclass, give former field (with reservoir) & Gas ID or oil lease no. FIELD & RESERVOIR	GAS ID or OIL LEASE #	Oil-0 Gas-G	Well #
N/A			

13. Type of electric or other log run	14. Completion or recompletion date
None	01/08/2019

SECTION I- POTENTIAL TEST DATA IMPORTANT: Test should be for 24 hours unless otherwise specified infield rules.

15. Date of test	16. No. of hours tested	17. Production method (Flowing, Gas Lift, Jetting, Pumping- Size & Type of pump)	18. Choke size

	Oil - BBLS	Gas - MCF	Water - BBLS	Gas - Oil Ratio	Flowing Tubing Pressure
19. Production during Test Period				0	PSI
	Oil - BBLS	Gas - MCF	Water - BBLS	Oil Gravity-API-60°	Casing Pressure
20. Calculated 24-Hour Rate					PSI

21. Was swab used during this test?	22. Oil produced prior to test (New & Reworked wells)	23. Injection Gas-Oil Ratio
Yes [ ] No [X]		

REMARKS: N/A

INSTRUCTIONS: File an original and one copy of the completed FormW-2 in the appropriate RRC District Office within 30 days after completing a well and within 10 days after a potential test. If an operator does not properly report the results of a potential test within the 10-day period, the effective date of the allowable assigned to the well will not extend back more than 10 days before the W-2 was received in the District Office. (Statewide Rules 16 and 51) To report a completion or recompletion, fill in both sides of this form. To report a retest, fill in only the front side.

WELL TESTERS CERTIFICATION
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I conducted or supervised this test by observation of (a) meter readings or (b) the top and bottom gauges of each tank into which production was run during the test. I further certify that the potential test data shown above is true, correct, and complete, to the best of my knowledge.

Signature: Well Tester   Name of Company   RRC Representative

OPERATOR'S CERTIFICATION
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct and complete, to the best of my knowledge.

Type or printed name of operator's representative

Consultant
Title of Person

(806) 665-0338   01/31/2020
Telephone: Area Code Number   Month Day Year

Rebecca Dunn
Signature

SECTION III — **DATA ON WELL COMPLETION AND LOG (Not Required on Retest)**

24. Type of Completion: New Well [X] Deepening [ ] Plug Back [ ] Other [ ]

25. Permit to Drill, Plug Back or Deepen — DATE: 01/09/2018 — PERMIT NO.: 834810

Rule 37 Exception — CASE NO.:

Water Injection Permit — PERMIT NO.:

Salt Water Disposal Permit — PERMIT NO.:

Other — 08/21/2018 — PERMIT NO.: 21146

CO2,H2S, OTHER

26. Notice of Intention to Drill this well was filed in Name of

STAKEHOLDER GAS SERVICES, LLC

27. Number of producing wells on this lease in this field (reservoir) including this well

0

28. Total number of acres in this lease

200.0

29. Date Plug Back, Deepening, Workover or Drilling Operations: Commenced 05/25/2018 Completed 06/23/2018

30. Distance to nearest well, Same Lease &Reservoir

31. Location of well, relative to nearest lease boundaries: 777.2 Feet From East Line and 754.6 Feet from South Line of the POZO ACIDO VIEJO Lease

32. Elevation (DF. RKB, RT. GR ETC.) 3787 GL

33. Was directional survey made other than inclination (Form W-12)? Yes [ ] No [X]

34. Top of Pay:

35. Total Depth: 12349

36. P. B. Depth:

37. Surface Casing Determined by: Field Rules [ ] Recommendation of T.D.W.R. [X] Dt. of Letter 11/01/2017; Railroad Commission (Special) [ ] Dt. of Letter

38. Is well multiple completion? Yes [ ] No [X]

39. If multiple completion, list all reservoir names (completions in this well) and Oil Lease or Gas ID No.

FIELD & RESERVOIR	GAS ID or OIL LEASE #	Oil-0 Gas-G	Well #
N/A			

40. Intervals Drilled by: Rotary Tools X; Cable Tools

41. Name of Drilling Contractor:

42. Is Cementing Affidavit Attached? Yes [X] No [ ]

43. CASING RECORD (Report All Strings Set in Well)

CASING SIZE	WT #/FT.	DEPTH SET	MULTISTAGE TOOL DEPTH	TYPE & AMOUNT CEMENT (sacks)	HOLE SIZE	TOP OF CEMENT	SLURRY VOL. cu. ft.
20		90		C HSR 169	24	SURF	200.0
13 3/8		2402		C HSR 1600	17 1/2	SURF	3449.0
9 5/8		6421	4400	C HSR 1250	12 1/4	0	2593.0
9 5/8		6421		C HSR 358	12 1/4	4400	475.0
7		12026	7503	C HSR 717	8 3/4	250	1390.0
7		12026		C & H HSR 535	8 3/4	7503	1033.0

44. LINER RECORD

Size	Top	Bottom	Sacks Cement	Screen
N/A				

45. TUBING RECORD

Size	Depth Set	Packer Set
3 1/2	11964	11964

46. Producing Interval (this completion) Indicate depth of perforation or open hole

From	To
From 12026	To 12349 OH
From	To
From	To
From	To

47. ACID, SHOT, FRACTURE, CEMENT SQUEEZE. ETC.

Depth Interval		Amount and Kind of Material Used
12026.0	12349.0	2000 GALS 15% HCL

48. FORMATION RECORD (LIST DEPTHS OF PRINCIPAL GEOLOGICAL MARKERS AND FORMATION TOPS)

Formations	Depth	Formations	Depth
RED BED-SANTA ROSA	1100.0	WOLFCAMP	8300.0
YATES	2800.0	PENNSYLVANIAN	8700.0
SAN ANDRES - HIGH FLOWS, H2S, CORROSIVE	4500.0	STRAWN	11300.0
GLORIETA	5600.0	MISSISSIPPIAN	10650.0
CLEARFORK - ACTIVE CO2 FLOOD	6000.0	DEVONIAN	12020.0

48. FORMATION RECORD (LIST DEPTHS OF PRINCIPAL GEOLOGICAL MARKERS AND FORMATION TOPS)			
Formations	Depth	Formations	Depth
WICHITA	8000.0	DEVONIAN-SILURIAN	11050.0
LEONARD	9000.0		
REMARKS: ACID GAS INJECTION WELL INTO THE DEVONIAN. OIL & GAS DOCKET NO 8A-0310710 - FINAL ORDER			

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form H-1
05/2004

APPLICATION TO INJECT FLUID INTO A RESERVOIR PRODUCTIVE OF OIL OR GAS

1.Operator name STAKEHOLDER GAS SERVICES, LLC (as shown on P-5, Organization Report) 2. Operator P-5 No. 811207

3.Operator Address 19122 US HWY 281 N STE 113; SAN ANTONIO, TX 78258

4. County YOAKUM 5. RRC District No. 8A

6. Field Name BRONCO (SILURO-DEVONIAN) 7. Field No. 12160600

8. Lease Name ESPERANZA 9. Lease/Gas ID No. TBD

10. Check the Appropriate Boxes: New Project ☐ Amendment ☐

If amendment, Fluid Injection Project No. F-____________

Reason for Amendment: Add wells ☐ Add or change types of fluids ☐ Change pressure ☐ Change volume ☐ Change interval ☐ Other (explain) ____________

RESERVOIR DATA FOR A NEW PROJECT

11. Name of Formation SILURO-DEVONIAN 12. Lithology DOLOMITIC LIMESTONE (e.g., dolomite, limestone, sand, etc.)

13. Type of Trap STRATIGRAPHIC (anticline, fault trap, stratigraphic trap, etc.) 14. Type of Drive during Primary Production PESSURE DISPLACEMENT

15. Average Pay Thickness 761' 16. Lse/Unit Acreage 200 17. Current Bottom Hole Pressure (psig) 5,300

18. Average Horizontal Permeability (mds) 39 19. Average Porosity (%) 3.1

INJECTION PROJECT DATA

20. No. of Injection Wells in this application 1

21. Type of Injection Project: Waterflood ☐ Pressure Maintenance ☐ Miscible Displacement ☐ Natural Gas Storage ☐ Steam ☐ Thermal Recovery ☐ Disposal ☐ Other ____________

22. If disposal, are fluids from leases other than the lease identified in Item 9? Yes ☐ No ☐

23. Is this application for a Commercial Disposal Well ? Yes ☐ No ☐

24. If for commercial disposal, will non-hazardous oil and gas waste other than produced water be disposed? Yes ☐ No ☐

25. Type(s) of Injection Fluid:

Salt Water ☐ Brackish Water ☐ Fresh Water ☐ CO_2 ☐ N_2 ☐ Air ☐ H_2S ☐ LPG ☐ NORM ☐

Natural Gas ☐ Polymer ☐ Other (explain) RCRA Exempt Wastes

26. If water other than produced salt water will be injected, identify the source of each type of injection water by formation, or by aquifer and depths, or by name of surface water source:

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that the data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature ____________ Date 05/12/2025

Name of Person (type or print) Lauren Mayo

Phone (512) 600-0700 Fax ____________

For Office Use Only	*Register No.*	*Amount $*

See Reverse Side for Required Attachments

INSTRUCTIONS FOR FORM H-1

1. **Application**. File the original Form H-1 application, including all attachments, with Assistant Director, Environmental Services, Railroad Commission of Texas, P. O. Box 12967, Capitol Station, Austin, Texas 78711. File one copy of the application and all attachments with the appropriate Railroad Commission District Office. Include with the original application a non-refundable fee of $200, payable to the Railroad Commission of Texas. Submit an additional $150 for each request for an exception to Statewide Rule 46(g)(3) and/or (j)(5)(B).

2. **Well Logs**. Attach the complete electric log or a similar well log for one of the proposed injection wells or for a nearby well. Attach any other logging and testing data, such as a cement bond log, available for the well that supports this application.

3. (a) **For a new project**, attach a map with surveys marked showing the location and depth of all wells of public record within one-quarter (1/4) mile radius of the proposed injection well(s).
(b) **For an amendment to add wells to a previous authority**, attach a map with surveys marked showing the location and depth of all wells of public record within one-quarter (1/4) mile radius of the additional wells, unless such data has been submitted previously for the project.
(c) **Table of Wells**. For those wells in 3(a) or 3(b) that penetrate the top of the injection interval, attach a table of wells showing the dates drilled and their current status. The Commission may adjust or waive this data requirement in accordance with provisions in the "Area of Review" section of Statewide Rule 46 (Rule 46(e)).

4. **Water Letter**. Attach a letter from the Texas Commission on Environmental Quality (TCEQ) or its predecessor or successor agencies for a well within the project area stating the depth to which usable quality water occurs.

5. **Form(s) H-1A**. Attach Form H-1A showing each injection well to be used in the project. Up to TWO wells can be listed on each Form H-1A.

6. **Use of Fresh Water**. Attach Form H-7, Fresh Water Data Form, for a new injection project that includes the use of fresh water. An updated Form H-7 must be attached to Form H-1 for an expansion of a previously authorized fresh water injection project unless the fresh water is purchased from a commercial supplier, public entity, or from another operator.

7. **Plat of Leases, Notice and Hearings**

(a) Plat of Leases. Attach a plat of leases showing producing wells, injection wells, offset wells and identifying ownership of all surrounding leases within one-half (1/2) mile.

(b) Notice.
(1) Send or deliver a copy of the application to the owner of record of the surface tract on which the well(s) is located; each Commission-designated operator of any well located within one-half (1/2) mile of the proposed injection well(s); and the clerk of the city and county in which the well(s) is located. If this is the initial application for fluid injection authority for this reservoir, send copies of the application to all operators in the reservoir. Attach a signed statement indicating the date the copies of the application were mailed or delivered and the names and addresses of the persons to whom copies were sent.

(2) Attach an affidavit of publication signed by the publisher that notice of the application has been published in a newspaper of general circulation in the county where the well(s) will be located. Notice instructions and forms may be obtained from the Commission's Austin Office, the Commission's website (www.rrc.state.tx.us) or the District Offices. Attach a newspaper clipping of the published notice.

(c) Protests and Hearings. An affected person or local government may protest this application. A hearing on the application will be held if a protest is received and the applicant requests a hearing, or if the Commission determines that a hearing is in the public interest. Any such request for a public hearing shall be in writing and contain: (1) the name, mailing address and phone number of the person making the request; and (2) a brief description of how the protestant would be adversely affected by the granting of the application. If the Commission determines that a valid protest has been received, or that a hearing would be in the public interest, a hearing will be held after issuance of proper and timely notice of the hearing by the Commission. If no protest is received within fifteen (15) days of publication or receipt in Austin of the application, the application may be processed administratively.

RAILROAD COMMISSION OF TEXAS -- OIL AND GAS DIVISION

Form H-1A

INJECTION WELL DATA (attach to Form H-1)

1. Operator Name (as shown on P-5) STAKEHOLDER GAS SERVICES, LLC	2. Operator P-5 No. 811207
3. Field Name BRONCO(SILURO-DEVONIAN)	4. Field No. 12160600
5. Current Lease Name ESPERANZA	6. Lease/Gas ID No. TBD

7. Lease is 9.9 miles in a SW direction from PLAINS, TX (center of nearest town).

8. Well No.	9. API No.	10. UIC No.	11. Total Depth	12. Date Drilled	13. Base of Usable Quality Water (ft)
1			12,800'		BUQW @ 425', USDW @ 2,250'

14. (a) Legal description of well location, including distance and direction from survey lines:
781' FEL, 498' FSL; SEC 452, BLK D, JOHN H. GIBSON SURVEY, A-1597

(b) Latitude and Longitude of well location, if known (optional) Lat. 33 10' 09.64" (NAD83) Long. -103 00' 08.61" (NAD83)

15. New Injection Well ☐ or Injection Well Amendment ☐ Reason for Amendment: Pressure ☐ Volume ☐ Interval ☐ Fluid Type ☐

Other (explain) ______

Casing	Size	Setting Depth	Hole Size	Casing Weight	Cement Class	# Sacks of Cement	Top of Cement	Top Determined by
16. Surface	13-5/8"	2,418'	17-1/2"	61 lb/ft	C	3500	Surface	Circulation
17. Intermediate	9-5/8"	6,169'	12-1/4"	40 lb/ft	C	3000	Surface	Circulation
18. Long string	7"	12,050'	8-3/4"	26/29 lb/ft	C/H	2500	Surface	Circulation
19. Liner								

20. Tubing size	21. Tubing depth	22. Injection tubing packer depth	23. Injection interval
3 1/2"	12,050'	11,964'	12,039' to 12,800'

24. Cement Squeeze Operations (List all)	Squeeze Interval (ft)	No. of Sacks	Top of Cement (ft)

25. Multiple Completion? Yes ☐ No ☐

26. Downhole Water Separation? Yes ☐ No ☐

NOTE: If the answer is "Yes" to Item 25 or 26, provide a Wellbore Sketch

27. Fluid Type	28. Maximum daily injection volume for each fluid type (rate in bpd or mcf/d)	29. Estimated average daily injection volume for each fluid type (rate in bpd or mcf/d)
H_2S/CO_2 chemical mix	19,700 mscf/d as a super critical fluid	15,000 mscf/d as a super critical fluid

30. Maximum Surface Injection Pressure: for Liquid ______ psig for Gas 4300 psig.

8. Well No.	9. API No.	10. UIC No.	11. Total Depth	12. Date Drilled	13. Base of Usable Quality Water (ft)

14. (a) Legal description of well location, including distance and direction from survey lines:

(b) Latitude and Longitude of well location, if known (optional) Lat. ______ Long. ______

15. New Injection Well ☐ or Injection Well Amendment ☐ Reason for Amendment: Pressure ☐ Volume ☐ Interval ☐ Fluid Type ☐

Other (explain) ______

Casing	Size	Setting Depth	Hole Size	Casing Weight	Cement Class	# Sacks of Cement	Top of Cement	Top Determined by
16. Surface								
17. Intermediate								
18. Long string								
19. Liner								

20. Tubing size	21. Tubing depth	22. Injection tubing packer depth	23. Injection interval
			______ to ______

24. Cement Squeeze Operations (List all)	Squeeze Interval (ft)	No. of Sacks	Top of Cement (ft)

25. Multiple Completion? Yes ☐ No ☐

26. Downhole Water Separation? Yes ☐ No ☐

NOTE: If the answer is "Yes" to Item 25 or 26, provide a Wellbore Sketch

27. Fluid Type	28. Maximum daily injection volume for each fluid type (rate in bpd or mcf/d)	29. Estimated average daily injection volume for each fluid type (rate in bpd or mcf/d)

30. Maximum Surface Injection Pressure: for Liquid ______ psig for Gas ______ psig.

FORM H-1A INSTRUCTIONS

05/2004

1. File as an attachment to Form H-1 to provide injection well data for each application for a new injection well permit or to amend an injection well permit.

2. Complete the current field name and number (Items 3 and 4) with the current field designation in Commission records.

3. Complete the current lease name and number (Items 5 and 6) with the current lease identification in Commission records for each well in the application. Use separate H-1A Forms for each lease.

4. Provide the current well number(s) for existing wells in Item 8. Provide the proposed well numbers for wells that have not yet been drilled.

5. Check in Item 15 the appropriate box for a new injection well permit or an amendment to an injection well permit. If an amendment, check the appropriate boxes for the reason(s) for the application(s) for amendment. If "other" is checked, provide a brief explanation.

6. Provide complete well construction information (Items 16 through 26), including all proposed re-completion (e.g. liner, cement squeeze, tubing, packer). Attach additional sheets if necessary. For Item 19, if the liner was not to the surface, indicate both the top and the bottom depth of the liner as the "Setting Depth."

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

B-6

Date Issued:	01 May 2025	**GAU Number:**	394368
Attention:	STAKEHOLDER GAS 19122 US HWY 281 N STE SAN ANTONIO, TX 78258	**API Number:**	00000000
		County:	YOAKUM
		Lease Name:	Esperanza
		Lease Number:	
Operator No.:	811207	**Well Number:**	1
		Total Vertical	12800
		Latitude:	33.169240
		Longitude:	-103.001895
		Datum:	NAD27

Purpose: Injection into Producing Zone (H1)

Location: Survey-Gibson, J. H.; Abstract-1597; Block-D; Section-452

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The base of usable-quality water-bearing strata is estimated to occur at a depth of 425 feet at the site of the referenced well.

The BASE OF UNDERGROUND SOURCES OF DRINKING WATER (USDW) is estimated to occur at a depth of 2250 feet at the site of the referenced well.

Geologic isolation from the Base of Usable-Quality Water and the USDW is estimated to occur at a depth of approximately 2400 feet (for UIC purposes only).

Our review of the data contained in the Form H-1/H-1A application to inject dated April 9, 2025 and of other available hydrogeologic data indicates, if otherwise compliant with Railroad Commission of Texas rules and guidelines, including those relating to confinement of injected fluids and operations including hydrogen sulfide, that drilling and using this disposal well and injecting oil and gas waste into the subsurface stratum in the depth interval from 12039 feet to 12800 feet WILL NOT endanger the freshwater strata in this area. This recommendation applies to Class II injection only.

This recommendation applies to any location of the referenced proposed injection well only to be drilled within 200 feet of the referenced GPS coordinates only and should not be construed as establishing an area-wide depth for the protection of usable-quality ground water.

Note: Unless stated otherwise, this recommendation is intended to apply to all wells drilled within 200 feet of the subject well. Unless stated otherwise, this recommendation is for normal drilling, production, and plugging operations only.

This determination is based on information provided when the application was submitted on 04/14/2025. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Railroad Commission of Texas

PERMIT TO DRILL, RE-COMPLETE, OR RE-ENTER ON REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

CONDITIONS AND INSTRUCTIONS

Permit Invalidation. It is the operator's responsibility to make sure that the permitted location complies with Commission density and spacing rules in effect on the spud date. The permit becomes invalid automatically if, because of a field rule change or the drilling of another well, the stated location is not in compliance with Commission field rules on the spud date. If this occurs, application for an exception to Statewide Rules 37 and 38 must be made and a special permit granted prior to spudding. Failure to do so may result in an allowable not being assigned and/or enforcement procedures being initiated.

Notice Requirements. Per H.B 630, signed May 8, 2007, the operator is required to provide notice to the surface owner no later than the 15th business day after the Commission issues a permit to drill. Please refer to subchapter Q Sec. 91.751-91.755 of the Texas Natural Resources Code for applicability.

Permit expiration. This permit expires two (2) years from the date of issuance shown on the original permit. The permit period will not be extended.

Drilling Permit Number. The drilling permit number shown on the permit MUST be given as a reference with any notification to the district (see below), correspondence, or application concerning this permit.

Rule 37 Exception Permits. This Statewide Rule 37 exception permit is granted under either provision Rule 37 (h)(2)(A) or 37(h)(2)(B). Be advised that a permit granted under Rule 37(h)(2)(A), notice of application, is subject to the General Rules of Practice and Procedures and if a protest is received under Section 1.3, “Filing of Documents,” and/or Section 1.4, “Computation of Time,” the permit may be deemed invalid.

Before Drilling

Fresh Water Sand Protection. The operator must set and cement sufficient surface casing to protect all usable-quality water, as defined by the Railroad Commission of Texas (RRC) Groundwater Advisory Unit (GWAU). Before drilling a well, the operator must obtain a letter from the Railroad Commission of Texas stating the depth to which water needs protection, Write: Railroad Commission of Texas, Groundwater Advisory Unit (GWAU), P.O. Box 12967, Austin, TX 78711-3087. File a copy of the letter with the appropriate district office.

Accessing the Well Site. If an OPERATOR, well equipment TRANSPORTER or WELL service provider must access the well site from a roadway on the state highway system (Interstate, U.S. Highway, State Highway, Farm-to-Market Road, Ranch-to-Market Road, etc.), an access permit is required from TxDOT. Permit applications are submitted to the respective TxDOT Area Office serving the county where the well is located.

Water Transport to Well Site. If an operator intends to transport water to the well site through a temporary pipeline laid above ground on the state’s right-of-way, an additional TxDOT permit is required. Permit applications are submitted to the respective TxDOT Area Office serving the county where the well is located.

*NOTIFICATION

The operator is **REQUIRED** to notify the district office when setting surface casing, intermediate casing, and production casing, or when plugging a dry hole. The district office **MUST** also be notified if the operator intends to re-enter a plugged well or re-complete a well into a different regulatory field. Time requirements are given below. The drilling permit number **MUST** be given with such notifications.

During Drilling

Permit at Drilling Site. A copy of the Form W-1 Drilling Permit Application, the location plat, a copy of Statewide Rule 13 alternate surface casing setting depth approval from the district office, if applicable, and this drilling permit must be kept at the permitted well site throughout drilling operations.

***Notification of Setting Casing.** The operator MUST call in notification to the appropriate district office (phone number shown the on permit) a minimum of eight (8) hours prior to the setting of surface casing, intermediate casing, AND production casing. The individual giving notification MUST be able to advise the district office of the drilling permit number.

***Notification of Re-completion/Re-entry.** The operator MUST call in notification to the appropriate district office (phone number shown on permit) a minimum of eight (8) hours prior to the initiation of drilling or re-completion operations. The individual giving notification MUST be able to advise the district office of the drilling permit number.

Completion and Plugging Reports

Hydraulic Fracture Stimulation using Diesel Fuel: Most operators in Texas do not use diesel fuel in hydraulic fracturing fluids. Section 322 of the Energy Policy Act of 2005 amended the Underground Injection Control (UIC) portion of the federal Safe Drinking Water Act (42 USC 300h(d)) to define "underground Injection" to *EXCLUDE* " ...the underground injection of fluids or propping agents (*<u>other than diesel fuels</u>*) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities." (italic and underlining added.) Therefore, hydraulic fracturing may be subject to regulation under the federal UIC regulations if diesel fuel is injected or used as a propping agent. EPA defined "diesel fuel" using the following five (5) Chemical Abstract Service numbers: 68334-30-5 Primary Name: Fuels, diesel; 68476-34-6 Primary Name: Fuels, diesel, No. 2; 68476-30-2 Primary Name: Fuel oil No. 2; 68476-31-3 Primary Name: Fuel oil, No. 4; and 8008-20-6 Primary Name: Kerosene. As a result, an injection well permit would be required before performing hydraulic fracture stimulation using diesel fuel as defined by EPA on any well in Texas. Hydraulic fracture stimulation using diesel fuel as defined by EPA on a well in Texas without an injection well permit could result in enforcement action.

Producing Well. Statewide Rule 16 states that the operator of a well shall file with the Commission the appropriate completion report within ninety (90) days after completion of the well or within one hundred and fifty (150) days after the date on which the drilling operation is completed, whichever is earlier. Completion of the well in a field authorized by this permit voids the permit for all other fields included in the permit unless the operator indicates on the initial completion report that the well is to be a dual or multiple completion and promptly submits an application for multiple completion. All zones are required to be completed before the expiration date on the existing permit. Statewide Rule 40(d) requires that upon successful completion of a well in the same reservoir as any other well previously assigned the same acreage, proration plats and P-15s or P-16s (if required) or a lease plat and P-16 must be submitted with no double assignment of acreage unless authorized by rule.

Dry or Noncommercial Hole. Statewide Rule 14(b)(2) prohibits suspension of operations on each dry or non-commercial well without plugging unless the hole is cased and the casing is cemented in compliance with Commission rules. If properly cased, Statewide Rule 14(b)(2) requires that plugging operations must begin within a period of one (1) year after drilling or operations have ceased. Plugging operations must proceed with due diligence until completed. An extension to the one-year plugging requirement may be granted under the provisions stated in Statewide Rule 14(b)(2).

Intention to Plug. The operator must file a Form W-3A (Notice of Intention to Plug and Abandon) with the district office at least five (5) days prior to beginning plugging operations. If, however, a drilling rig is already at work on location and ready to begin plugging operations, the district director or the director's delegate may waive this requirement upon request, and verbally approve the proposed plugging procedures.

***Notification of Plugging a Dry Hole.** The operator MUST call in notification to the appropriate district office (phone number shown on permit) a minimum of four (4) hours prior to beginning plugging operations. The individual giving the notification MUST be able to advise the district office of the drilling permit number and all water protection depths for that location as stated in the Groundwater Advisory Unit letter.

DIRECT INQUIRIES TO: DRILLING PERMIT SECTION, OIL AND GAS DIVISION

PHONE
(512) 463-6751

MAIL:
PO Box 12967
Austin, Texas, 78711-2967

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER	DATE PERMIT ISSUED OR AMENDED	DISTRICT
908411	Jun 06, 2025	* 8A
API NUMBER	**FORM W-1 RECEIVED**	**COUNTY**
42-501-37616	Jun 03, 2025	YOAKUM
TYPE OF OPERATION	**WELLBORE PROFILE(S)**	**ACRES**
NEW DRILL	Directional	200

OPERATOR 811207

STAKEHOLDER GAS SERVICES, LLC

19122 US HWY 281 N STE 113
SAN ANTONIO, TX 78258-0000

NOTICE

This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored.

District Office Telephone No:

(806) 698-6509

LEASE NAME	WELL NUMBER
ESPERANZA	1
LOCATION	**TOTAL DEPTH**
9.9 miles SW direction from PLAINS	12800

Section, Block and/or Survey

SECTION 452 BLOCK D ABSTRACT 1597

SURVEY GIBSON, J H / READ, W K

DISTANCE TO SURVEY LINES	DISTANCE TO NEAREST LEASE LINE
498 ft. SOUTH 1859 ft. WEST	ft.
DISTANCE TO LEASE LINES	**DISTANCE TO NEAREST WELL ON LEASE**
1859 ft. WEST 498 ft. SOUTH	See FIELD(s) Below

FIELD(s) and LIMITATIONS:

* SEE FIELD DISTRICT FOR REPORTING PURPOSES *

FIELD NAME / LEASE NAME	ACRES / NEAREST LEASE	DEPTH	WELL # / NEAREST WE	DIST
BRONCO (SILURO-DEVONIAN) / ESPERANZA	200.00	12,800	1 / 0	8A

WELLBORE PROFILE(s) FOR FIELD: Directional

RESTRICTIONS:

```
Do not use this well for injection/disposal/hydrocarbon storage purposes without approval
by the Environmental Services section of the Railroad Commission, Austin, Texas office.
This is a hydrogen sulfide field. Hydrogen Sulfide Fields with perforations must be
isolated and tested per State Wide Rule 36 and a Form H-9 filed with the district office.
Fields with SWR 10 authority to downhole commingle must be isolated and tested
individually prior to commingling production.

Bottom Hole: BH1
  Lease Lines:       1859.0 F WEST L
                      448.0 F SOUTH L
  Survey Lines:      1859.0 F WEST L
                      448.0 F SOUTH L
```

THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS

This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER	DATE PERMIT ISSUED OR AMENDED	DISTRICT
908411	Jun 06, 2025	* 8A
API NUMBER 42-501-37616	FORM W-1 RECEIVED Jun 03, 2025	COUNTY YOAKUM
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Directional	ACRES 200

OPERATOR	NOTICE
811207 STAKEHOLDER GAS SERVICES, LLC 19122 US HWY 281 N STE 113 SAN ANTONIO, TX 78258-0000	This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. **District Office Telephone No:** (806) 698-6509
LEASE NAME ESPERANZA	WELL NUMBER 1
LOCATION 9.9 miles SW direction from PLAINS	TOTAL DEPTH 12800

Section, Block and/or Survey
SECTION 452 BLOCK D ABSTRACT 1597
SURVEY GIBSON, J H / READ, W K

DISTANCE TO SURVEY LINES	DISTANCE TO NEAREST LEASE LINE
498 ft. SOUTH 1859 ft. WEST	ft.
DISTANCE TO LEASE LINES 1859 ft. WEST 498 ft. SOUTH	DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below

FIELD(s) and LIMITATIONS:

* SEE FIELD DISTRICT FOR REPORTING PURPOSES *

FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH	WELL # NEAREST WE	DIST

This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data

YOAKUM (501) County

Formation	Remarks	Geological Order	Effective Date
RED BED-SANTA ROSA		1	12/17/2013
YATES		2	12/17/2013
SAN ANDRES	high flows, H2S, corrosive	3	12/17/2013
GLORIETA		4	12/17/2013
CLEARFORK	Active CO2 Flood	5	12/17/2013
WICHITA		6	12/17/2013
LEONARD		7	12/17/2013
WOLFCAMP		8	12/17/2013
PENNSYLVANIAN		9	12/17/2013
STRAWN		10	12/17/2013
MISSISSIPPIAN		11	12/17/2013
DEVONIAN		12	12/17/2013
DEVONIAN-SILURIAN		13	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. The listing order of the Formation information reflects the general stratigraphic order and relative geologic age. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info

APPENDIX C – GAS COMPOSITION

PANTECHS LABORATORIES

ANALYSIScertificate

OPERATOR	Stakeholder Midstream, LLC	PRESS/TEMP	7 psig/104 F
LOCATION	Campo Viejo Processing Plant-Gases	ATM TEMP	64 F
SITE	CV1	DATE/TIME	04/07/2025 11:55 AM
SAMPLE POINT	Acid Gas	COLLECTION BY	Daniel Jett
METER ID	30110	SPOT/COMP	Spot
CONTAINER(S)	PL2478	BASE	14.730 psi/60 F

ONSITE TESTING - TUTWILER

METHOD	COMPOUND	MOL%	GRAINS/100 SCF	PPMV
ASTM D2385	hydrogen sulfide	9.2922	5,900.55	93,818.7

FRACTIONAL: GPA 2261-20

COMPOUND	FORMULA	MOL%	WT%	GPM
NITROGEN	N2	0.0096	0.0062	
CARBON DIOXIDE	CO2	90.0003	91.9431	15.265
HYDROGEN SULFIDE	H2S	9.2922	7.3512	1.248
METHANE	C1	0.2835	0.1056	0.048
ETHANE	C2	0.1031	0.0720	0.027
PROPANE	C3	0.0540	0.0553	0.015
I-BUTANE	iC4	0.0123	0.0166	0.004
N-BUTANE	nC4	0.0232	0.0314	0.007
I-PENTANE	iC5	0.0076	0.0127	0.003
N-PENTANE	nC5	0.0073	0.0122	0.003
HEXANES PLUS	C6+	0.2069	0.3937	0.062
TOTALS:		**100.0000**	**100.0000**	**16.682**

Value of "0.0000" in fractional interpreted as below detectable limit.

LIQUID YIELD (GAL/MSCF)	ETHANE+	PROPANE+	BUTANES+	PENTANES+
	0.121	0.094	0.079	0.068

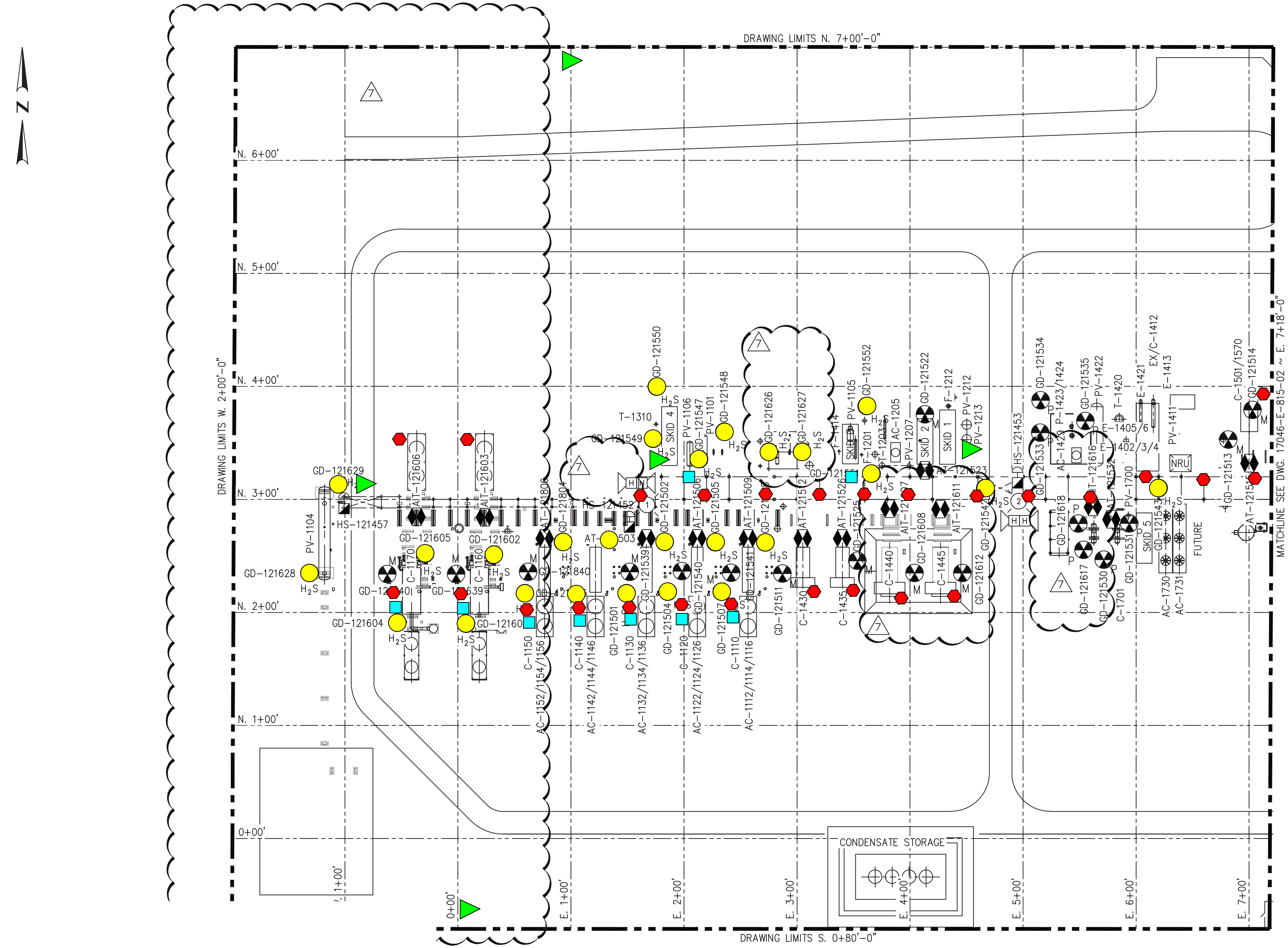
CALCULATED PROPERTIES: GPA 2172/ASTM D3588

PROPERTY	MOL WT	SP GRAVITY	BTU/CF GR	BTU/CF NET	Z FACTOR	WOBBE INDX
DRY	43.079	1.4954	75.882	70.105	0.9941	62.053
H2O SAT	42.331	1.4624	75.480	68.919	0.9936	62.416
C6+ ONLY	93.189	3.2250	5141.087	**MOL RATIO%**	**C6** **C7** **C8**	**60.0000** **30.0000** **10.0000**

APPENDIX D – FACILITY SAFETY PLOT PLANS

xpansion\03 ENGINEERING, DESIGN\3.5 Electrical\3.5.1 Drawings\17046-E-811-01.dwg

D-1



LEGEND:

- FIRE EXTINGUISHER
- SCBA / ESCAPE PACK
- WIND SOCK
- FIRE DETECTOR
- GAS DETECTOR HYDROGEN SULFIDE
- GAS DETECTOR METHANE
- GAS DETECTOR PROPANE
- ESD BUTTON
- RED, BLUE, AMBER & WHITE STROBE LIGHTS
- HORN

P.E. SEAL IS ONLY APPLICABLE TO THE SI REVISION JOB #10864 DATED 2/10/22

STATE OF TEXAS · SRIKANTH KONDURU · 112034 · LICENSED · PROFESSIONAL ENGINEER

Digitally signed by Srikanth Konduru
Date: 2022.02.11 14:52:32-06'00'

P.E. ENGINEERING STAMP

SAULSBURY
ENGINEERING SERVICES
SAULSBURY.COM
TEXAS REGISTERED ENGINEERING FIRM F-518

DWG. REVISION #7 TO #7 BY SAULSBURY	
SI JOB NUMBER:	10864
PROJ. MANAGER	M.GULLY

REFERENCE DRAWINGS

NUMBER	TITLE
17045-E-817-01	TONE MODULE CONTROLLER WIRING DIAGRAM

OPTIMIZED PROCESS DESIGNS
ENGINEERS AND CONSTRUCTORS
KATY, TEXAS
PH. 281-371-7500
OPD JOB #17046

NO.	REVISION	DRAWN	CHECKED	APPRVD	DATE
3	AS BUILT - OPD JOB #17046	JWB	JP	GS	3-8-19
4	ISSUED FOR CONSTRUCTION - SI JOB #10665	DE	AK	AK	03/06/20
5	REVISED AS NOTED - SI JOB #10665	DE	AK	AK	04/02/20
7	ISSUED FOR CONSTRUCTION - SI JOB #10864	DE	CWR	SK	2/10/22

SAFETY PLOT PLAN
SHEET 1 OF 2
CAMPO VIEJO PROCESSING FACILITY
YOAKUM COUNTY, TX

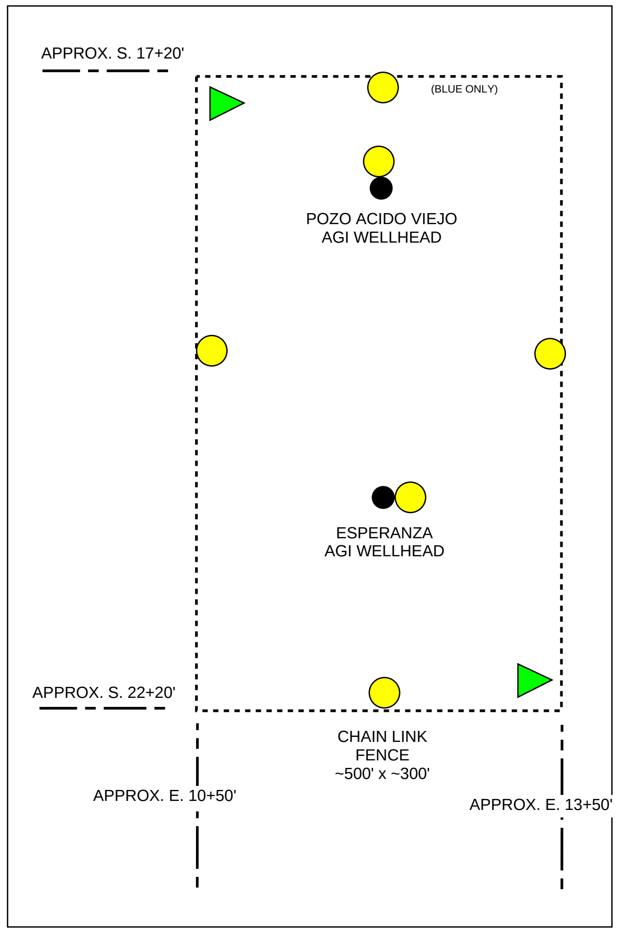
DRAWING SCALE	1" = 50'	
DRAWN BY	SP	1-18-18
CHECKED BY	JP	1-18-18
APPROVED BY	GS	1-18-18
DOCUMENT CONTROL #	17046-E-811-01	

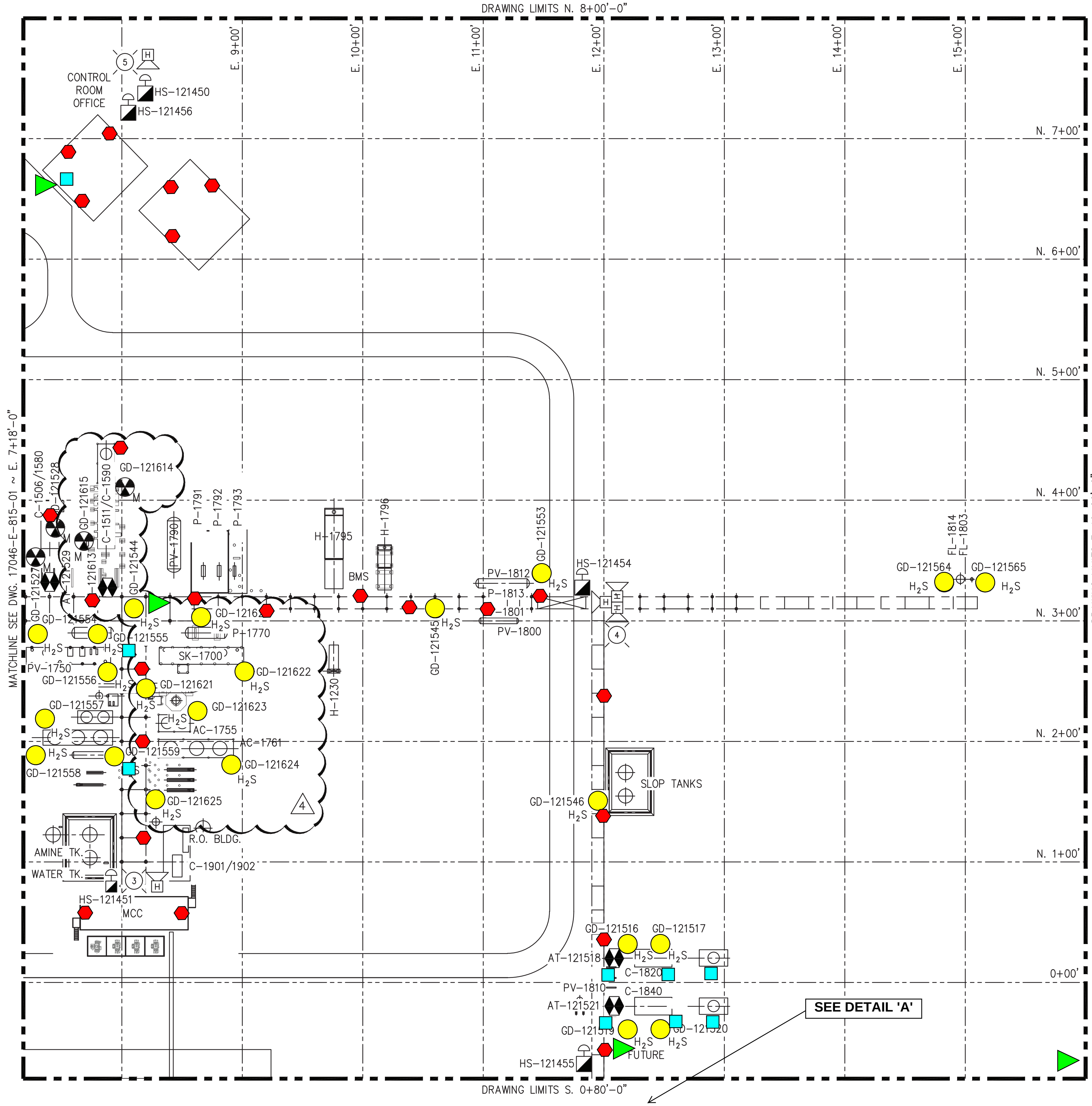
STAKEHOLDER MIDSTREAM

STAKEHOLDER MIDSTREAM APPROVED	*
DATE	1-18-18
STAKEHOLDER MIDSTREAM PROJECT #	
DRAWING NUMBER	17046-E-811-01

D-1

DETAIL 'A'





LEGEND:

- FIRE EXTINGUISHER
- SCBA / ESCAPE PACK
- WIND SOCK
- FIRE DETECTOR
- GAS DETECTOR HYDROGEN SULFIDE
- GAS DETECTOR METHANE
- GAS DETECTOR PROPANE
- ESD BUTTON
- RED, BLUE, AMBER & WHITE STROBE LIGHTS
- HORN

P.E. SEAL IS ONLY APPLICABLE TO THE SI REVISION JOB #10864 DATED 2/10/22

STATE OF TEXAS
SRIKANTH KONDURU
112034
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Srikanth Konduru
Date: 2022.02.11 14:53:03-06'00'

P.E. ENGINEERING STAMP

SAULSBURY
ENGINEERING SERVICES
SAULSBURY.COM
TEXAS REGISTERED ENGINEERING FIRM F-518

DWG. REVISION #4 TO #4 BY SAULSBURY	
SI JOB NUMBER:	10864
PROJ. MANAGER	M.GULLY

REFERENCE DRAWINGS

NUMBER	TITLE
17046-E-815-01	SAFETY PLOT PLAN

OPTIMIZED PROCESS DESIGNS
ENGINEERS AND CONSTRUCTORS
KATY, TEXAS
PH. 281-371-7500 OPD JOB #17046

NO.	REVISION	DRAWN	CHECKED	APPRVD	DATE
4	ISSUED FOR CONSTRUCTION - SI JOB #10864	DE	CWR	SK	2/10/22
0	ISSUED FOR CONSTRUCTION - OPD JOB #17046	SP	JP	GS	5-18-18
1	REVISED AS NOTED - OPD JOB #17046	JWB	JP	GS	6-22-18
2	AS BUILT - OPD JOB #17046	JWB	JP	GS	3-8-19

SAFETY PLOT PLAN
SHEET 2 OF 2
CAMPO VIEJO PROCESSING FACILITY
YOAKUM COUNTY, TX

DRAWING SCALE	1" = 50'	
DRAWN BY	SP	1-18-18
CHECKED BY	JP	1-18-18
APPROVED BY	GS	1-18-18
DOCUMENT CONTROL #	17046-E-811-02	

STAKEHOLDER MIDSTREAM

STAKEHOLDER MIDSTREAM APPROVED	*
DATE	1-18-18
STAKEHOLDER MIDSTREAM PROJECT #	
DRAWING NUMBER	17046-E-811-02

J:\Stakeholder Midstream\10864 - Campo Viejo 70MM Expansion\03 ENGINEERING, DESIGN\3.5 Electrical\3.5.1 Drawings\17046-E-811-02.dwg

APPENDIX E – MMA/AMA REVIEW MAPS

APPENDIX E-1: 25-YEAR PLUME EXTENT, 50-YEAR PLUME EXTENT AND MAXIMUM MONITORING AREA MAP

APPENDIX E-2: OIL AND GAS WELLS WITHIN THE MMA MAP

APPENDIX E-3: INJECTION ZONE PENETRATING WELLS WITHIN THE MMA MAP

APPENDIX E-4: OIL AND GAS WELLS WITHIN THE MMA LIST

APPENDIX E-5: GROUNDWATER WELLS WITHIN THE MMA MAP

APPENDIX E-6: GROUNDWATER WELLS WITHIN THE MMA LIST

APPENDIX E-7: WELLBORE SCHEMATICS FOR INJECTION ZONE PENETRATING WELLS

Campo Viejo Facility
Plumes at End of Injection &
25 Years Post-Injection

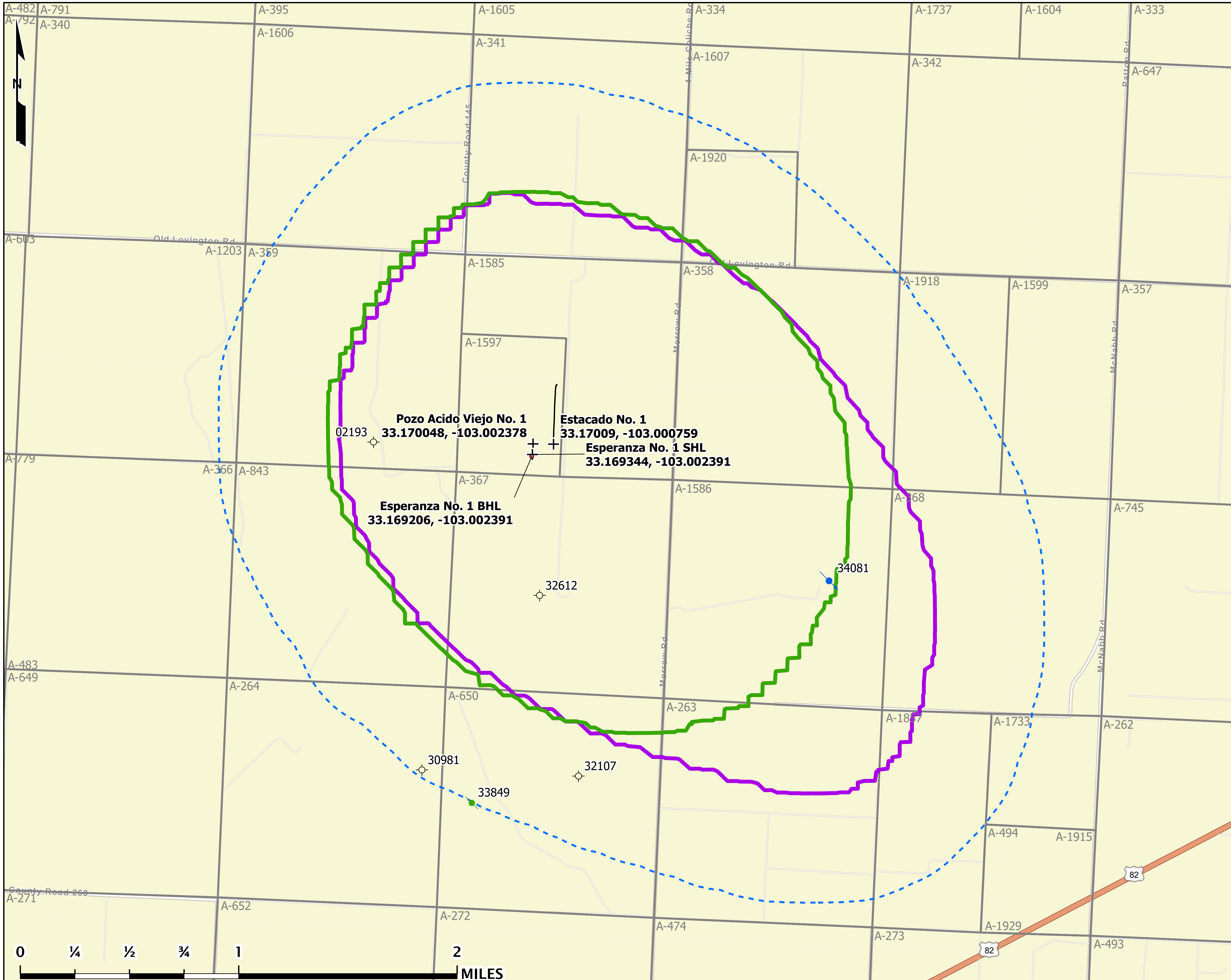
E-1

Stakeholder Gas Services, LLC
Yoakum County, TX

Drawn by: SJL	Date: 6/17/2025	Approved by: RKH

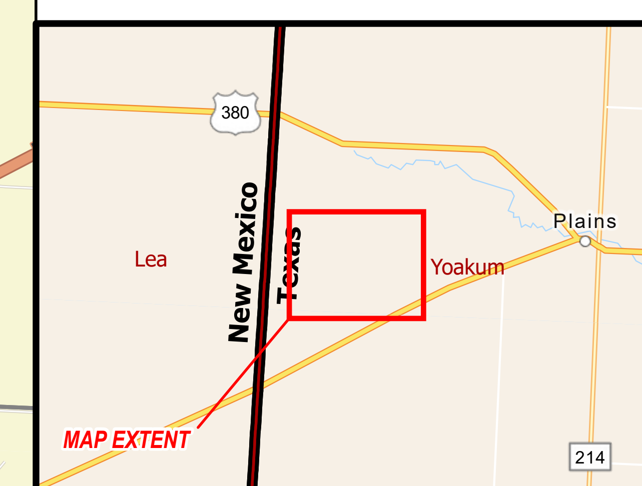
PCS: NAD 1983 State Plane TX-N. Central FIPS 4202 (US Ft.)

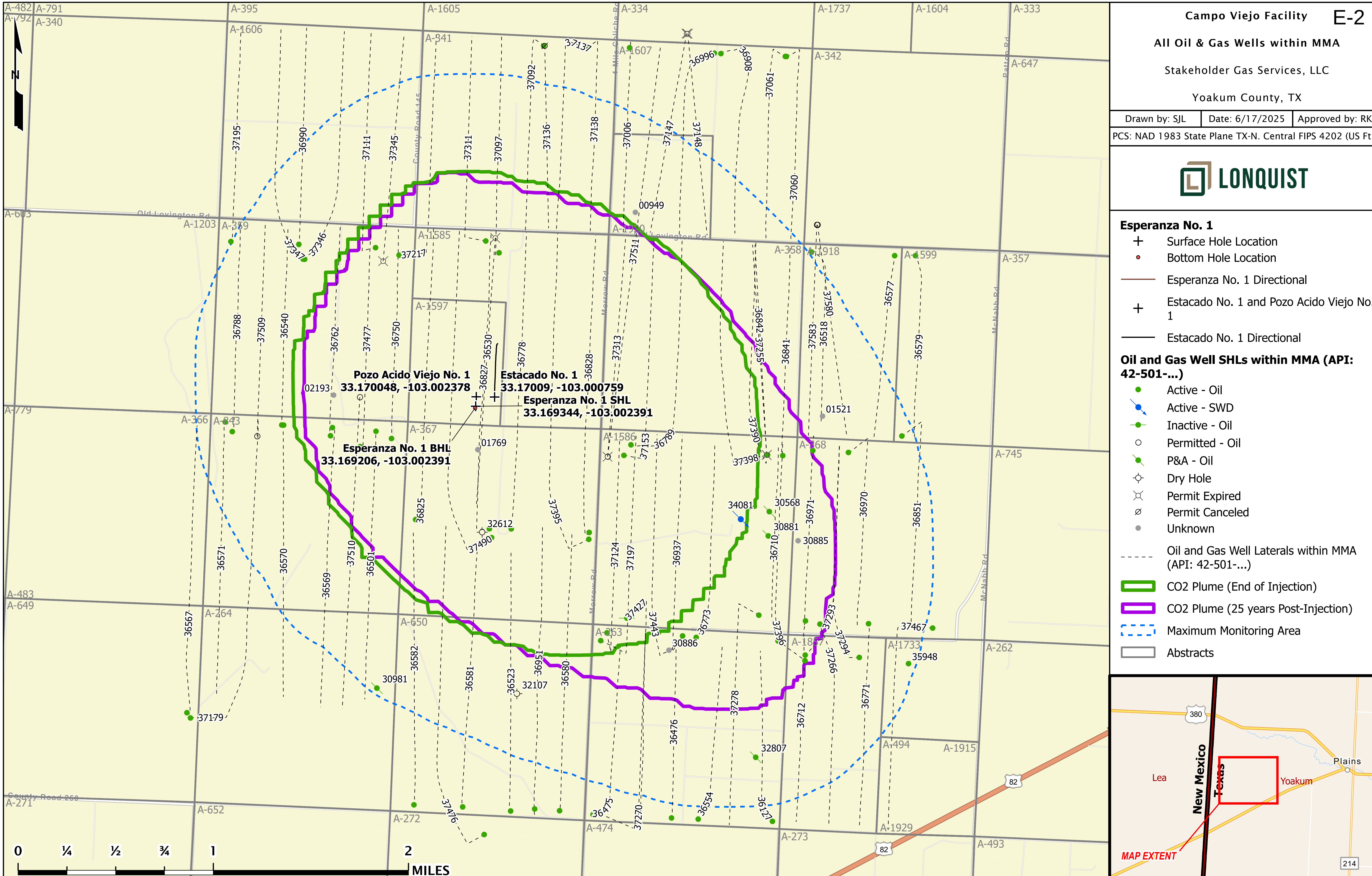
LONQUIST

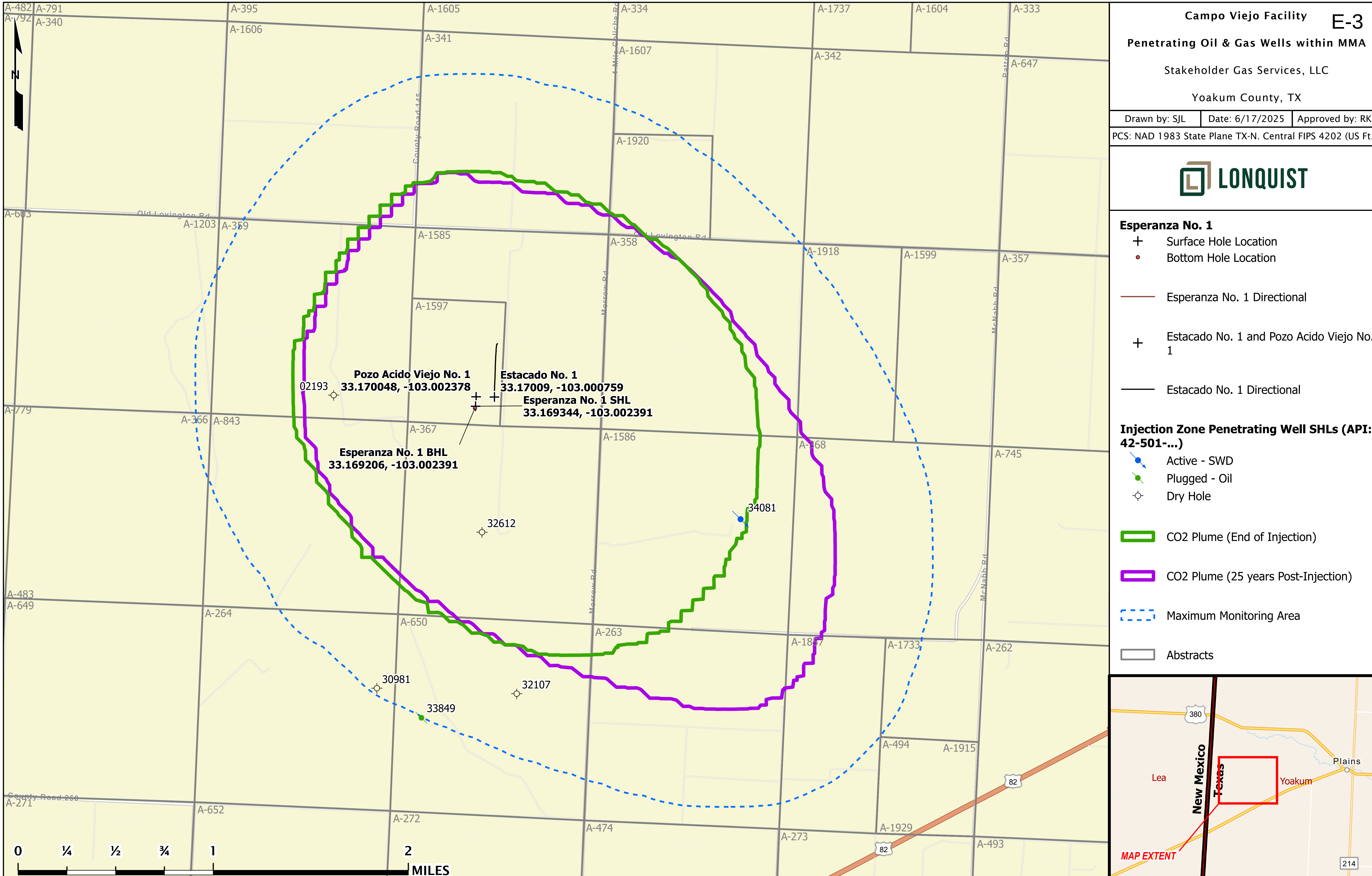


Esperanza No. 1
- Surface Hole Location
- Bottom Hole Location
- Esperanza No. 1 Directional
- Estacado No. 1 and Pozo Acido Viejo No. 1
- Estacado No. 1 Directional

Injection Zone Penetrating Well SHLs (API: 42-501-...)
- Active - SWD
- Plugged - Oil
- Dry Hole
- CO2 Plume (End of Injection)
- CO2 Plume (25 years Post-Injection)
- Maximum Monitoring Area
- Abstracts




Campo Viejo Facility
E-2
All Oil & Gas Wells within MMA
Stakeholder Gas Services, LLC
Yoakum County, TX
Drawn by: SJL
Date: 6/17/2025
Approved by: RKH
PCS: NAD 1983 State Plane TX-N. Central FIPS 4202 (US Ft.)
LONQUIST
Esperanza No. 1
Surface Hole Location
Bottom Hole Location
Esperanza No. 1 Directional
Estacado No. 1 and Pozo Acido Viejo No. 1
Estacado No. 1 Directional
Oil and Gas Well SHLs within MMA (API: 42-501-...)
Active - Oil
Active - SWD
Inactive - Oil
Permitted - Oil
P&A - Oil
Dry Hole
Permit Expired
Permit Canceled
Unknown
Oil and Gas Well Laterals within MMA (API: 42-501-...)
CO2 Plume (End of Injection)
CO2 Plume (25 years Post-Injection)
Maximum Monitoring Area
Abstracts
Pozo Acido Viejo No. 1
33.170048, -103.002378
Estacado No. 1
33.17009, -103.000759
Esperanza No. 1 SHL
33.169344, -103.002391
Esperanza No. 1 BHL
33.169206, -103.002391
Old Lovington Rd
County Road 250
N
0
¼
½
¾
1
2
MILES
New Mexico
Texas
Lea
Yoakum
Plains
MAP EXTENT
380
82
214


Campo Viejo Facility
E-3
Penetrating Oil & Gas Wells within MMA
Stakeholder Gas Services, LLC
Yoakum County, TX
Drawn by: SJL
Date: 6/17/2025
Approved by: RKH
PCS: NAD 1983 State Plane TX-N. Central FIPS 4202 (US Ft.)
LONQUIST
Esperanza No. 1
Surface Hole Location
Bottom Hole Location
Esperanza No. 1 Directional
Estacado No. 1 and Pozo Acido Viejo No. 1
Estacado No. 1 Directional
Injection Zone Penetrating Well SHLs (API: 42-501-...)
Active - SWD
Plugged - Oil
Dry Hole
CO2 Plume (End of Injection)
CO2 Plume (25 years Post-Injection)
Maximum Monitoring Area
Abstracts
Pozo Acido Viejo No. 1
33.170048, -103.002378
Estacado No. 1
33.17009, -103.000759
Esperanza No. 1 SHL
33.169344, -103.002391
Esperanza No. 1 BHL
33.169206, -103.002391
02193
32612
34081
30981
32107
33849
0 ¼ ½ ¾ 1 2
MILES
New Mexico
Texas
Lea
Yoakum
Plains
MAP EXTENT
380
82
214

Campo Viejo Facility
Oil and Gas Wells within MMA

API	WELL NAME	WELL NO.	STATUS	OPERATOR	FIELD (FORMATION)	TVD (Ft.)
4250100949	GRANGER, A.T.	1	DRY HOLE	JOHN J EISNER	-	5500
4250101521	REED, CORA	1	P & A	HODGES, HARLAN A.	-	-
4250101769	READ, T.W.	1	DRY HOLE	MANOR OIL	-	5445
4250102193	MCGINTY, R.N.	1	DRY HOLE	SINCLAIR O&G	-	12615
4250130568	LIBERTY NATIONAL BANK	1	P & A	VICOTORY PET CORP	BRAHANEY (-)	5374
4250130881	LIBERTY NATL BANK	2	P & A	VICTORY PETROLEUM COMPANY	WILDCAT (-)	5490
4250130885	J.L. MCCULLOUGH	1	SPUD DATE ONLY	VICTORY PETROLEUM COMPANY	WILDCAT (-)	-
4250130886	HIGGINBOTHAM	1	UNREPORTED	-	-	-
4250130981	WEST PLAINS	1	P & A	HANAGAN PETROLEUM	WILDCAT (-)	12020
4250132107	MCGINTY 2	2	P & A	STEWARD ENERGY II	HARVARD (DEVONIAN)	9605
4250132612	TENNECO FEE	1	P & A	DAVIS OIL COMPANY	WILDCAT (-)	12130
4250132807	HIGGINBOTHAM BROS. & CO.	1	P & A	HENDERSON VICTOR W	BRAHANEY (SAN ANDRES)	5320
4250134081	COCHISE	1W	INJECTING	STEWARD ENERGY II	BRAHANEY (GLORIETA)	11979
4250135948	CHAPPLE, H.	4	PRODUCING	BURK ROYALTY	BRAHANEY (SAN ANDRES)	5302
4250136127	WHAT A MELLON 519	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5325
4250136475	WHAT A MELLON 519	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5316
4250136476	WHAT A MELLON 519	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5348
4250136501	SKINNY DENNIS 468	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5320
4250136518	COUSIN WILLARD 450	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5326
4250136523	SMOKIN TRAIN 520	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5335
4250136530	BANJO BILL 452	3H	PERMIT EXPIRED	MANZANO	PLATANG (SAN ANDRES)	9000
4250136540	BLAZIN SKIES 453	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5241
4250136554	WHAT A MELLON 519	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5326
4250136567	ONE EYED JOHN 522	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5313
4250136569	SKINNY DENNIS 468	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5317
4250136570	SKINNY DENNIS 468	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5315
4250136571	SKINNY DENNIS 468	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5322
4250136577	COUSIN WILLARD 450	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5323
4250136579	COUSIN WILLARD 450	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5316
4250136580	SMOKIN TRAIN 520	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5348
4250136581	SMOKIN TRAIN 520	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5315
4250136582	SMOKIN TRAIN 520	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5313

Campo Viejo Facility
Oil and Gas Wells within MMA
Source: Texas Railroad Commission (2025)

Campo Viejo Facility
Oil and Gas Wells within MMA

4250136710	COCHISE UNIT 470	1H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5274
4250136712	HUFFINES 518	1H	PRODUCING	BURK ROYALTY	BRAHANEY (SAN ANDRES)	5269
4250136750	BLAZIN SKIES 453	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5271
4250136762	BLAZIN SKIES 453	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5304
4250136771	HUFFINES 518	2H	PRODUCING	BURK ROYALTY	BRAHANEY (SAN ANDRES)	5254
4250136773	COCHISE UNIT 470	2H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5318
4250136778	BANJO BILL 452	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5328
4250136788	BLAZIN SKIES 453	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5299
4250136789	NEVERMIND 451	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5331
4250136825	UNDER THE BRIDGE 452A	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5354
4250136827	UNDER THE BRIDGE 452	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5349
4250136828	BANJO BILL 452 A	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5388
4250136841	NEVERMIND 451	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5354
4250136842	NEVERMIND 451	2H	PERMIT EXPIRED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600
4250136851	DIANNE CHAPIN 471	2H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5343
4250136908	OLD SWITCHEROO 418	5H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5322
4250136935	POZO ACIDO VIEJO	1	INJECTING	STAKEHOLDER MIDSTREAM	BRONCO (DEVONIAN)	12349
4250136937	SANDMAN 470	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5240
4250136951	SMOKIN TRAIN 520	15H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5225
4250136970	DIANNE CHAPIN 471	3H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5343
4250136971	DIANNE CHAPIN 471	4H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5347
4250136990	SIXTEEN STONE 416	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5322
4250136996	OLD SWITCHEROO 418	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5316
4250137006	OLD SWITCHEROO 418	1H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5334
4250137060	OLD SWITCHEROO 418	7H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5316
4250137061	OLD SWITCHEROO 418	6H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5316
4250137092	CHICKEN ROASTER 417	5H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5319
4250137097	LIGHTNING CRASHES 417	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5311
4250137111	SIXTEEN STONE 416	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5309
4250137124	SANDMAN 470	6H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5380
4250137136	CHICKEN ROASTER 417	6H	PERMIT CANCELLED	HADAWAY CONSULT AND ENGINEER,LLC	SABLE (SAN ANDRES)	6000
4250137137	CHICKEN ROASTER 417	6H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5328

Source: Texas Railroad Commission (2025)

Campo Viejo Facility
Oil and Gas Wells within MMA

4250137138	CHICKEN ROASTER 417	7H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5325
4250137147	OLD SWITCHEROO 418	2H	PERMIT EXPIRED	HADAWAY CONSULT AND ENGINEER,LLC	SABLE (SAN ANDRES)	6000
4250137148	OLD SWITCHEROO 418	4H	PERMIT EXPIRED	HADAWAY CONSULT AND ENGINEER,LLC	SABLE (SAN ANDRES)	6000
4250137153	NEVERMIND 451	35H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5394
4250137179	SKINNY DENNIS 468	35H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5362
4250137195	SIXTEEN STONE 416	6H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5308
4250137197	SANDMAN 470	5H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5248
4250137217	LIGHTNING CRASHES 417	6H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5336
4250137255	NEVERMIND 451	2H	PERMIT EXPIRED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600
4250137266	HUFFINES 518	3H	PRODUCING	BURK ROYALTY	BRAHANEY (SAN ANDRES)	5356
4250137270	WHAT A MELLON 519	35H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5428
4250137278	WHAT A MELLON 519	15H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5432
4250137293	DIANNE CHAPIN 471	7H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5395
4250137294	DIANNE CHAPIN 471	6H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5394
4250137311	LIGHTNING CRASHES 417	5H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5344
4250137313	NEVERMIND 451	4H	PERMIT EXPIRED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600
4250137345	SIXTEEN STONE 416	1H	PERMIT EXPIRED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600
4250137346	SIXTEEN STONE 416	3H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5361
4250137347	SIXTEEN STONE 416	5H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5359
4250137390	NEVERMIND 451	2H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5402
4250137395	BANJO BILL 452 C	15H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5431
4250137396	COCHISE UNIT 470	3H	PRODUCING	SIXESS ENERGY LLC	BRAHANEY (SAN ANDRES)	5409
4250137398	NEVERMIND 451	25H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5391
4250137427	WHAT A MELLON 519	35H	INACTIVE COMPLETED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5435
4250137443	SANDMAN 470	4H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5431
4250137467	C.D.U.	1H	PRODUCING	BURK ROYALTY	BRAHANEY (RED BED-SANTA ROSA)	5383
4250137472	ESTACADO	1	DUC	STAKEHOLDER MIDSTREAM	BRONCO (SILURO-DEVONIAN)	12685
4250137476	SMOKIN TRAIN 520	35H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5405
4250137477	BLAZIN SKIES 453	15H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5366
4250137490	UNDER THE BRIDGE 452 C	35H	PRODUCING	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5395
4250137509	BLAZIN SKIES 453	35H	PERMITTED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600

Campo Viejo Facility
Oil and Gas Wells within MMA
Source: Texas Railroad Commission (2025)

4250137510	SKINNY DENNIS 468	15H	PERMITTED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600
4250137511	NEVER SWITCH 451 A	4H	PERMITTED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	5600
4250137580	COUSIN WILLARD 450	35H	PERMITTED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	6000
4250137583	COUSIN WILLARD 450	45H	PERMITTED	STEWARD ENERGY II	PLATANG (SAN ANDRES)	6000

Campo Viejo Facility E-5

Freshwater Wells within MMA

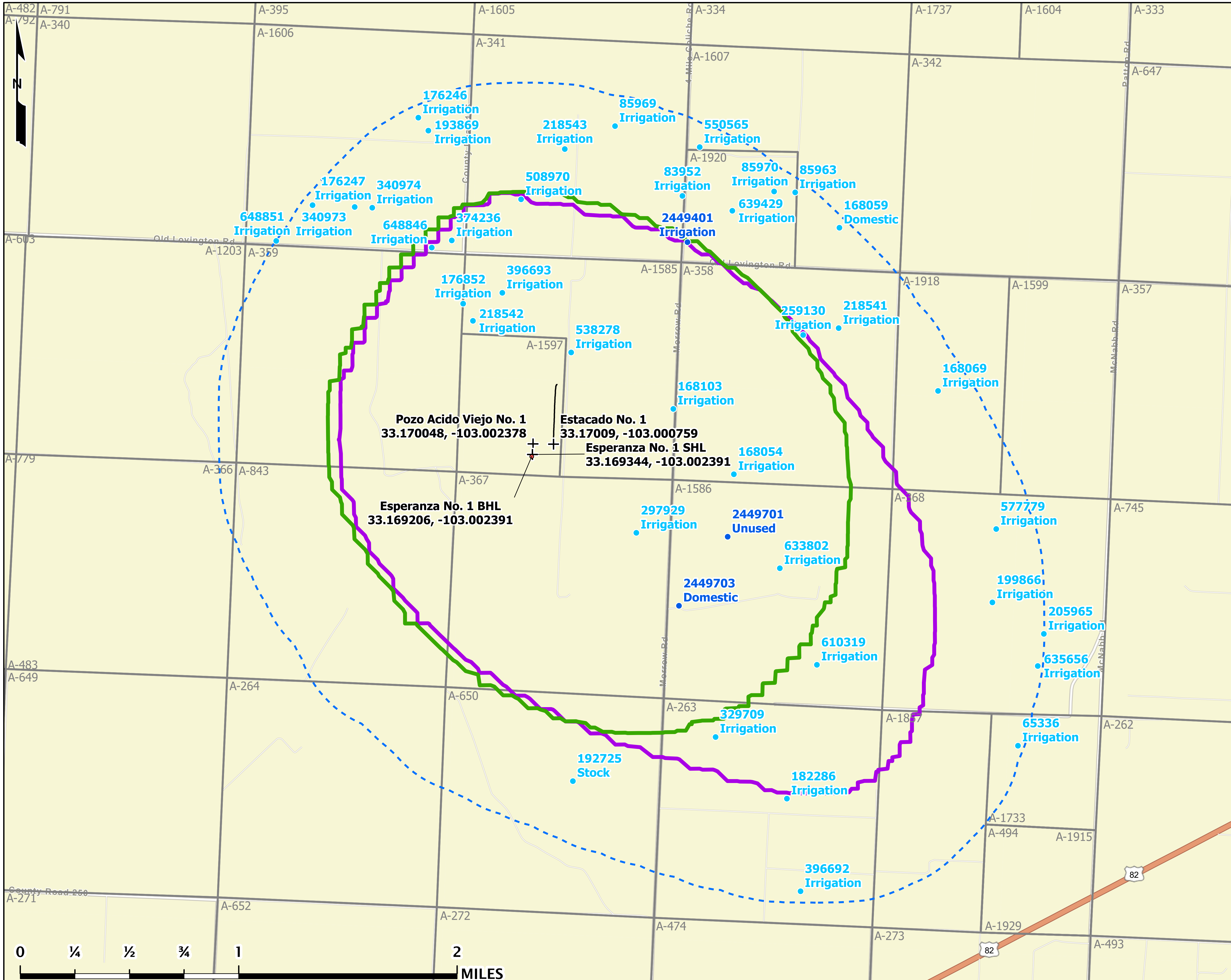
Stakeholder Gas Services, LLC

Yoakum County, TX

Drawn by: SJL	Date: 6/17/2025	Approved by: RKH

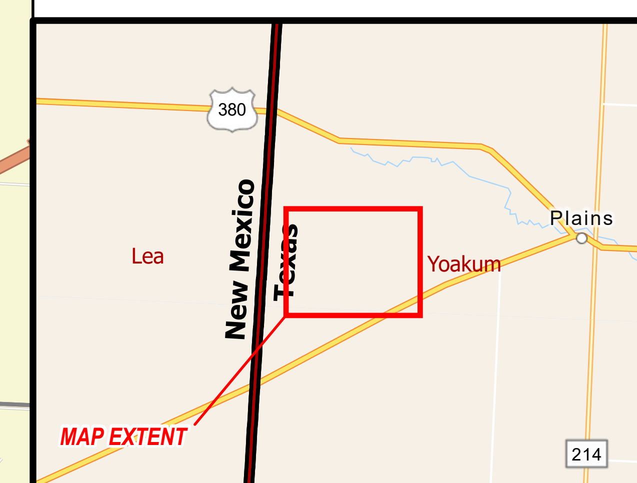
PCS: NAD 1983 State Plane TX-N. Central FIPS 4202 (US Ft.)

LONQUIST



Esperanza No. 1

- Surface Hole Location
- Bottom Hole Location
- Esperanza No. 1 Directional
- Estacado No. 1 and Pozo Acido Viejo No. 1
- Estacado No. 1 Directional
- TWDB Water Wells within MMA
- SDRDB Water Wells within MMA
- CO2 Plume (End of Injection)
- CO2 Plume (25 years Post-Injection)
- Maximum Monitoring Area
- Abstracts



Campo Viejo Facility
Water Wells within MMA

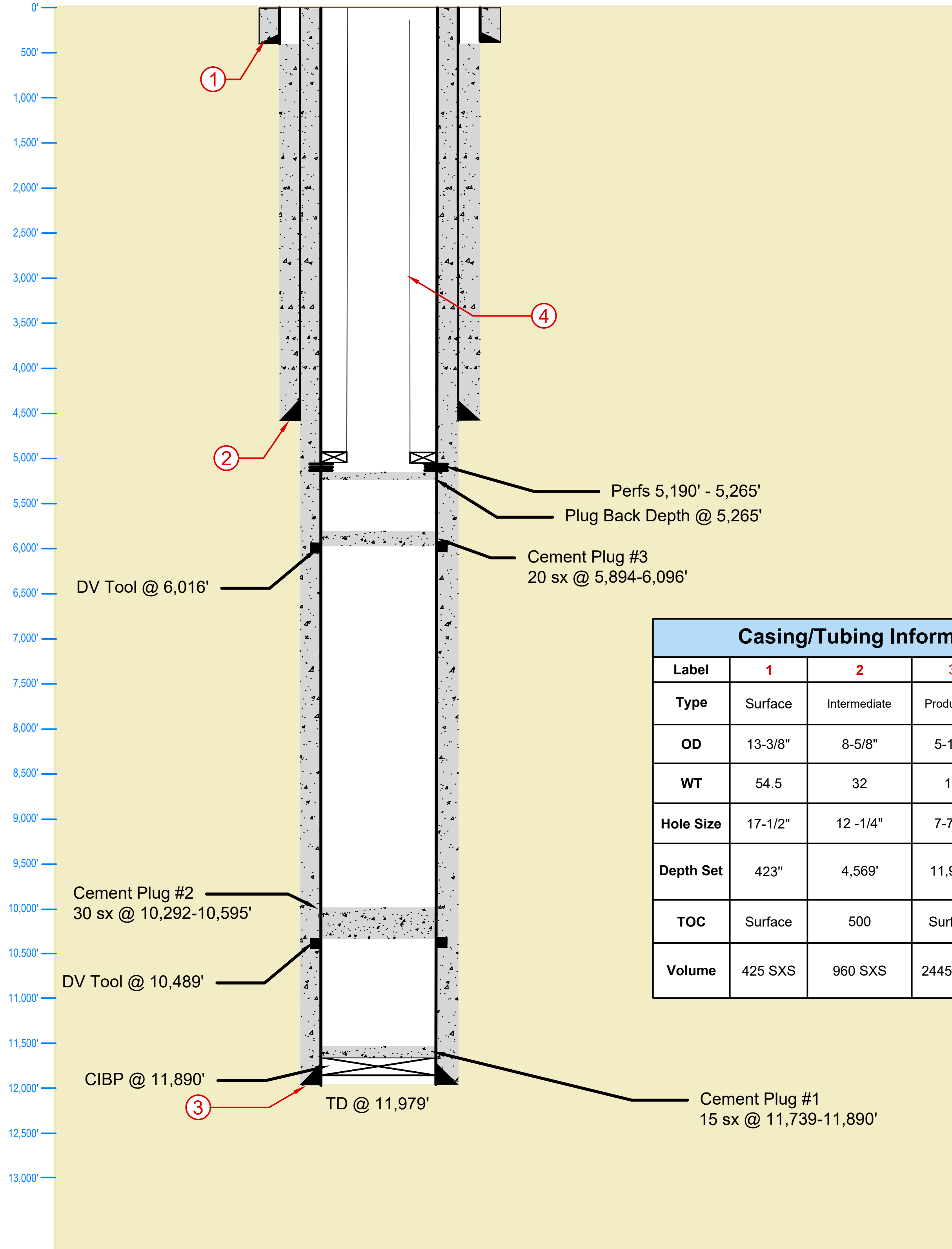
STATE WELL ID	OWNER NAME	USE	WELL DEPTH	ELEVATION	DATASET
2449401	Robert Box	Irrigation	165	3790	TWDB
2449701	Gene Smith	Unused	167	3775	TWDB
2449703	Larry Morrow	Domestic	200	3774	TWDB
65336	Larry Morrow	Irrigation	190	-	SDRDB
83952	D.L. Hartman Partnership	Irrigation	220	-	SDRDB
85963	J & A Farms	Irrigation	252	-	SDRDB
85969	Hartman Partnership	Irrigation	262	-	SDRDB
85970	Hartman Partnership	Irrigation	240	-	SDRDB
168054	Teichroeb, Peter	Irrigation	208	-	SDRDB
168059	Teichroeb, Peter	Domestic	206	-	SDRDB
168069	Teichroeb, Peter	Irrigation	208	-	SDRDB
168103	Teichroeb, Peter	Irrigation	206	-	SDRDB
176246	Abe Dyck	Irrigation	286	-	SDRDB
176247	Abe Dyck	Irrigation	268	-	SDRDB
176852	Darrel Lowrey	Irrigation	183	-	SDRDB
182286	Buford Duff	Irrigation	205	-	SDRDB
192725	LANNY SMITH	Stock	185	-	SDRDB
193869	Abe Dyck	Irrigation	301	-	SDRDB
199866	Henry letkeman	Irrigation	354	-	SDRDB
205965	Lanny Smith	Irrigation	207	-	SDRDB
218541	RANDY FORBUS	Irrigation	174	-	SDRDB
218542	BRAD MCWHIRTER	Irrigation	217	-	SDRDB
218543	BRAD MCWHIRTER	Irrigation	201	-	SDRDB
259130	RANDY FORBUS	Irrigation	176	-	SDRDB
297929	3D LandCo	Irrigation	186	-	SDRDB
329709	MELRA BEARDEN	Irrigation	200	-	SDRDB
340973	Ben Dyck	Irrigation	400	-	SDRDB
340974	Ben Dyck	Irrigation	360	-	SDRDB
374236	Ben Dyck	Irrigation	320	-	SDRDB
396692	Mc Whirter Family Farms	Irrigation	288	-	SDRDB
396693	Brad McWhirter	Irrigation	266	-	SDRDB
508970	BRAD McWHIRTER	Irrigation	204	-	SDRDB

Campo Viejo Facility
Water Wells within MMA
Source: Texas Water Development Board (2025)

538278	BRAD McWHIRTER	Irrigation	238	-	SDRDB
550565	Tommy Box	Irrigation	298	-	SDRDB
577779	Henry Letkeman	Irrigation	195	-	SDRDB
610319	MARTIN KLASSEN	Irrigation	310	-	SDRDB
633802	Martin Klassen	Irrigation	325	-	SDRDB
635656	Henry Martens	Irrigation	200	-	SDRDB
639429	Tommy Box	Irrigation	302	-	SDRDB
648846	BEN DYCK	Irrigation	304	-	SDRDB
648851	BEN DYCK	Irrigation	304	-	SDRDB

E-7

KB:	N/A'
BHF:	N/A
GL:	3,768
Spud:	N/A



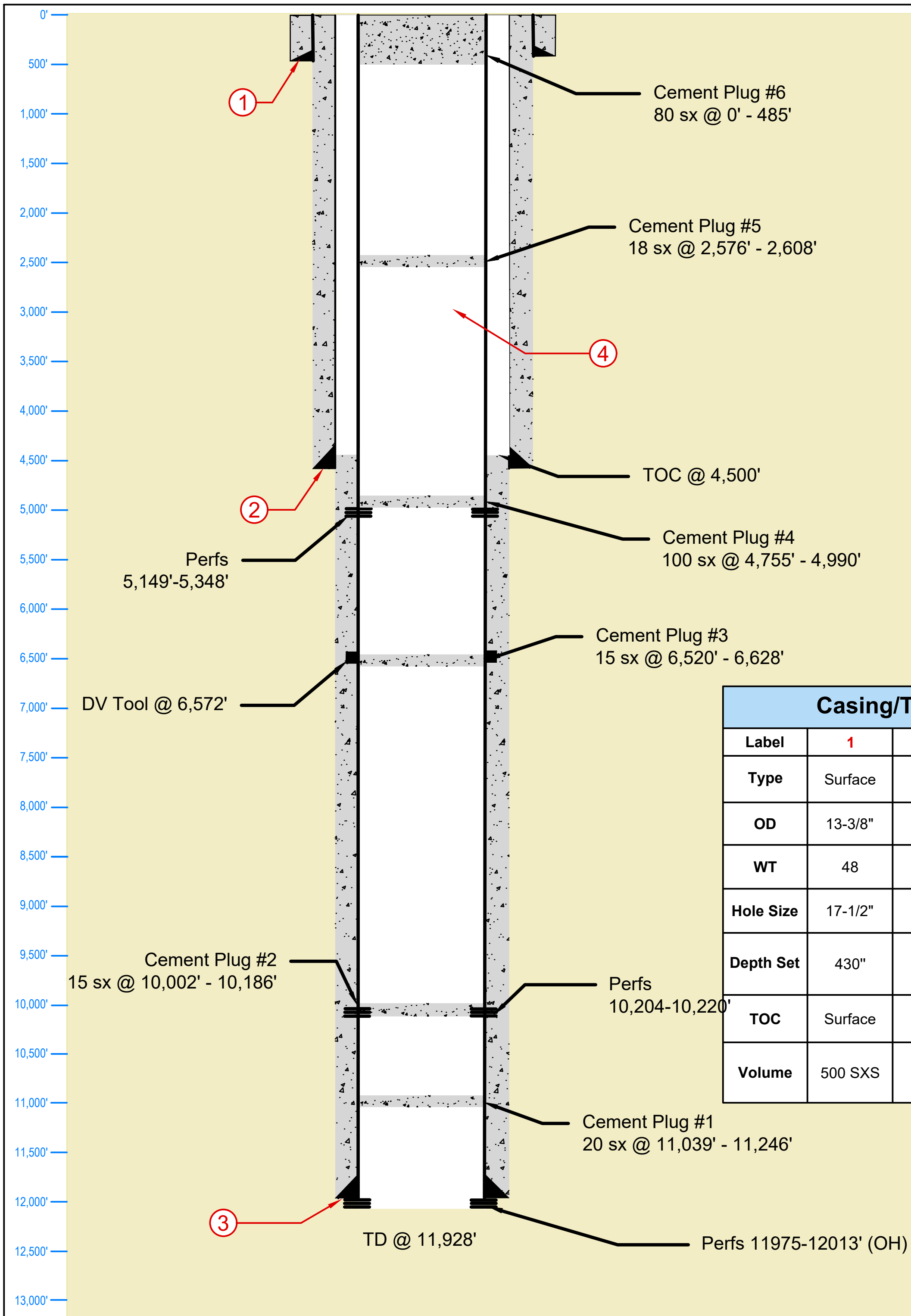
Casing/Tubing Information

Label	1	2	3	4
Type	Surface	Intermediate	Production	Tubing
OD	13-3/8"	8-5/8"	5-1/2"	2-7/8"
WT	54.5	32	17	N/A
Hole Size	17-1/2"	12 -1/4"	7-7/8"	N/A
Depth Set	423"	4,569'	11,965'	5,200'
TOC	Surface	500	Surface	N/A
Volume	425 SXS	960 SXS	2445 SXS	N/A

LONQUIST & CO. LLC
PETROLEUM ENGINEERS | ENERGY ADVISORS
HOUSTON | CALGARY
AUSTIN | WICHITA | DENVER
Texas License F-9147
12912 Hill Country Blvd. Ste F-200
Austin, Texas 78738
Tel: 512.732.9812
Fax: 512.732.9816

Cochise 1W

Country: USA	**State/Province:** Texas	**County/Parish:** Yoakum
Location:	**Site:**	**Survey:**
API No: 42-501-34081	**Field:** BRAHANEY	**Well Type/Status:** SWD
RRC District No:	**Project No:**	**Date:** 03/14/2022
Drawn: ASG	**Reviewed:** SLP	**Approved:** SLP
Rev No: 1	**Notes:**	



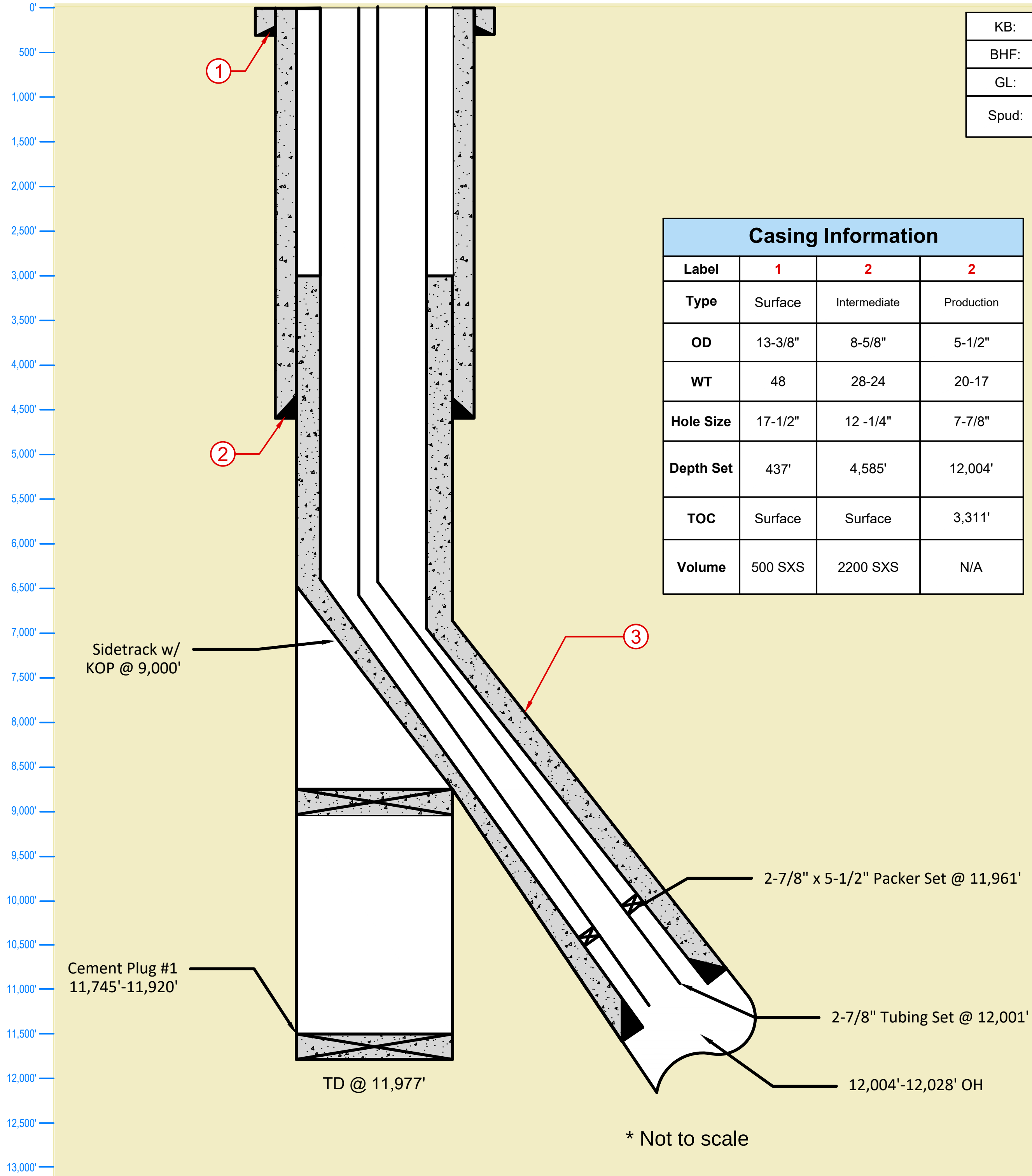
KB:	N/A'
BHF:	N/A
GL:	3,768
Spud:	N/A

Casing/Tubing Information

Label	1	2	3	4
Type	Surface	Intermediate	Production	Tubing
OD	13-3/8"	8-5/8"	5-1/2"	2-7/8"
WT	48	38/32	17/20	N/A
Hole Size	17-1/2"	12 -1/4"	7-7/8"	N/A
Depth Set	430"	4,600'	4,500"	11,975'
TOC	Surface	Surface	Surface	N/A
Volume	500 SXS	1900 SXS	1300 SXS	N/A

MCGINTY #1

LONQUIST & CO. LLC PETROLEUM ENGINEERS ENERGY ADVISORS AUSTIN · HOUSTON CALGARY · WICHITA DENVER · COLLEGE STATION BATON ROUGE · EDMONTON	**Country:** USA	**State/Province:** Texas	**County/Parish:** Yoakum
	Location:	**Site:**	**Survey:**
	API No: 42-501-33849	**Field:**	**Well Type/Status:** SWD
Texas License F-9147	**RRC District No:**	**Project No:**	**Date:** 03/21/2022
12912 Hill Country Blvd. Ste F-200 Austin, Texas 78738 Tel: 512.732.9812 Fax: 512.732.9816	**Drawn:** ASG	**Reviewed:** SLP	**Approved:** SLP
	Rev No: 1	**Notes:**	



KB:	3,768'
BHF:	N/A
GL:	N/A
Spud:	N/A

Casing Information

Label	1	2	2
Type	Surface	Intermediate	Production
OD	13-3/8"	8-5/8"	5-1/2"
WT	48	28-24	20-17
Hole Size	17-1/2"	12 -1/4"	7-7/8"
Depth Set	437'	4,585'	12,004'
TOC	Surface	Surface	3,311'
Volume	500 SXS	2200 SXS	N/A

* Not to scale

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McGinty 2 #2

Country: USA	**State/Province:** Texas	**County/Parish:** Yoakum
Location:	**Site:**	**Survey:**
API No: 42-501-32107	**Field:** BRAHANEY	**Well Type/Status:** SWD
RRC District No:	**Project No:**	**Date:** 03/15/2022
Drawn: ASG	**Reviewed:** SLP	**Approved:** SLP
Rev No: 1	**Notes:**	

Texas License F-9147

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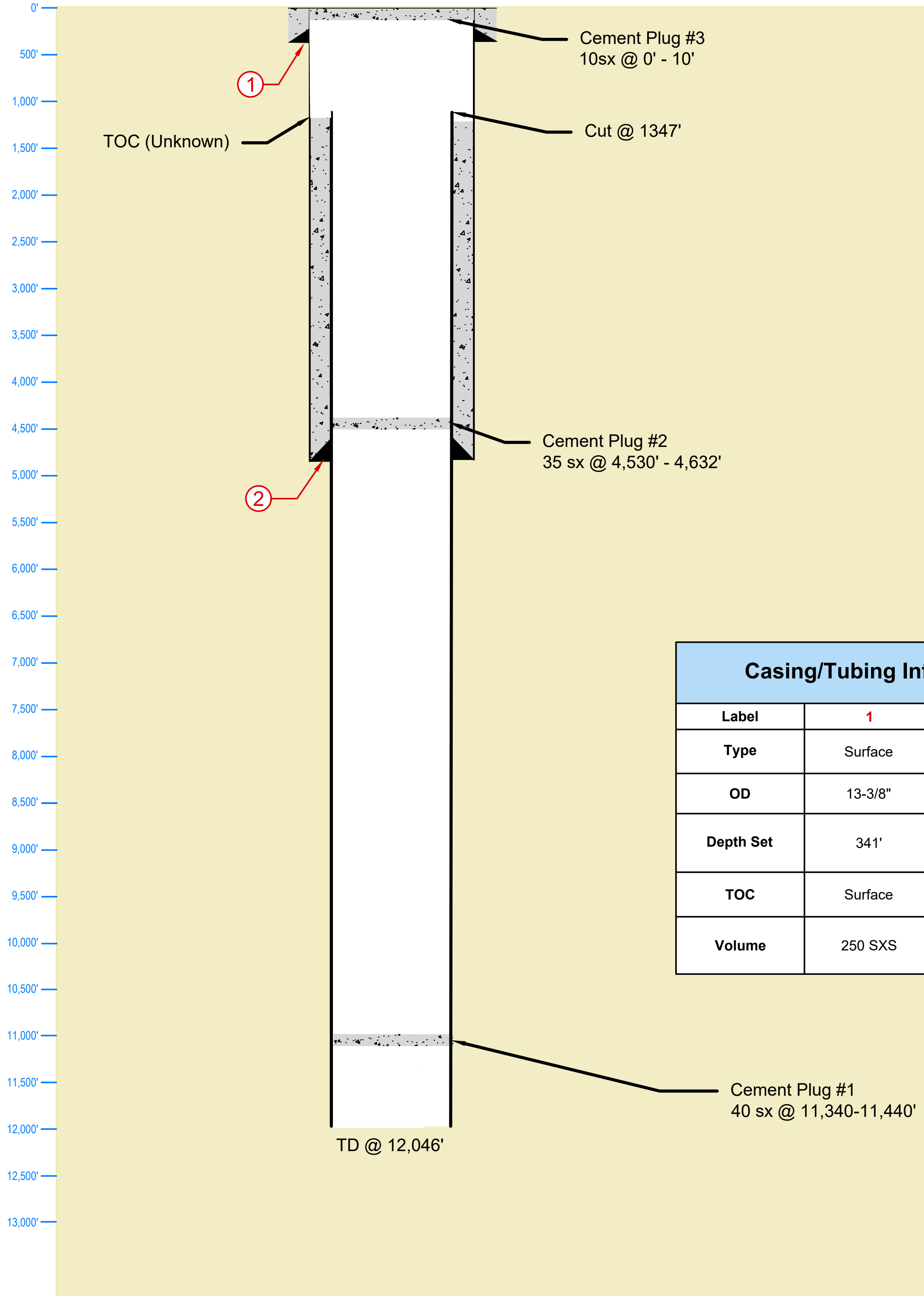

KB:	N/A
BHF:	N/A
GL:	N/A
Spud:	N/A

Casing/Tubing Information

Label	1	2
Type	Surface	Intermediate
OD	13-3/8"	9-5/8"
Depth Set	341'	4,581'
TOC	Surface	Surface
Volume	250 SXS	1500 SXS

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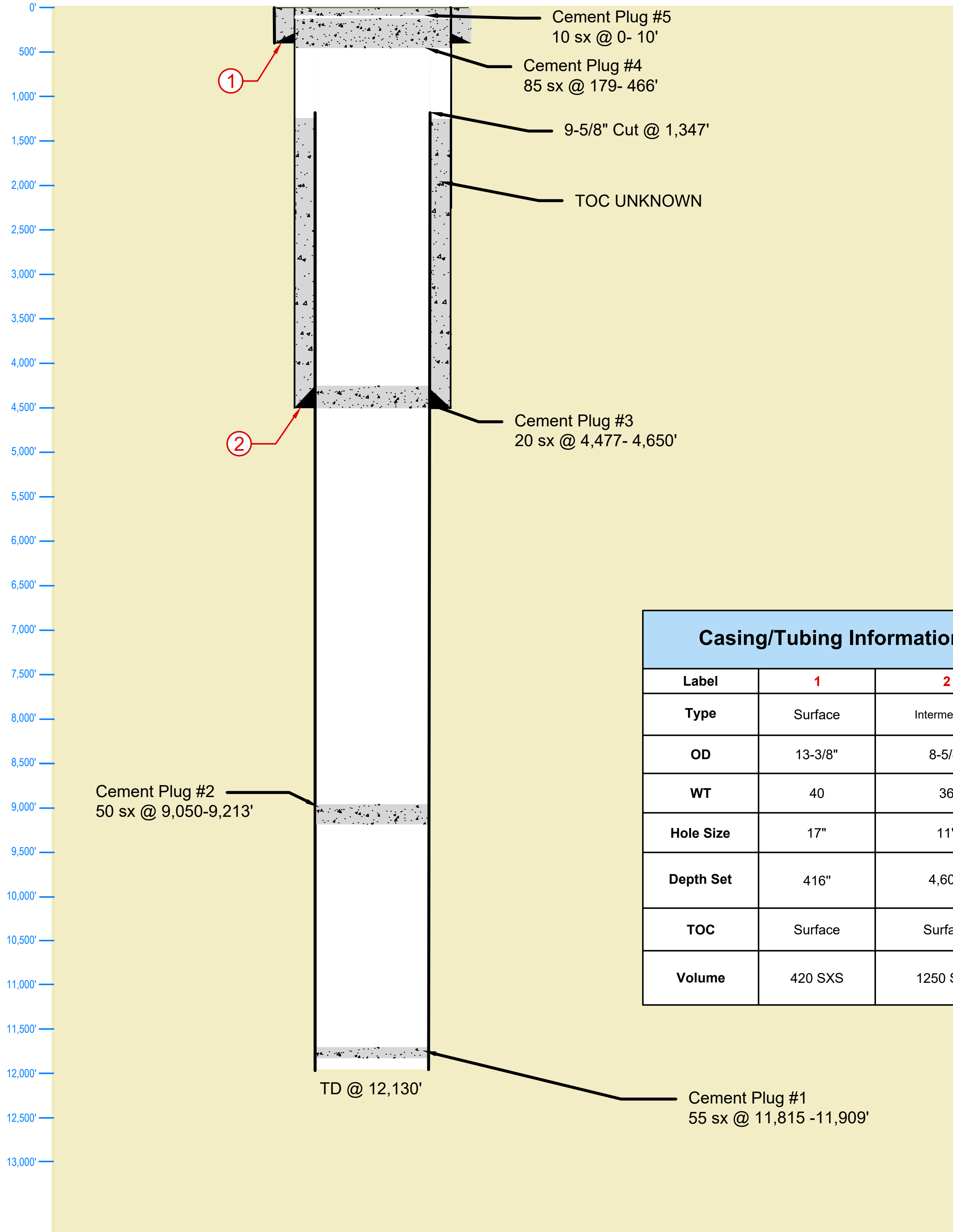
R.N. McGinty #1

	Country: USA	**State/Province:** Texas	**County/Parish:** Yoakum
	Location:	**Site:**	**Survey:**
	API No:	**Field:**	**Well Type/Status:** SWD
Texas License F-9147	**RRC District No:**	**Project No:**	**Date:** 03/15/2022
12912 Hill Country Blvd. Ste F-200 Austin, Texas 78738 Tel: 512.732.9812 Fax: 512.732.9816	**Drawn:** ASG	**Reviewed:** SLP	**Approved:** SLP
	Rev No: 1	**Notes:**	



KB:	N/A'
BHF:	N/A
GL:	N/A
Spud:	N/A

Casing/Tubing Information

Label	1	2
Type	Surface	Intermediate
OD	13-3/8"	8-5/8"
WT	40	36
Hole Size	17"	11"
Depth Set	416"	4,600'
TOC	Surface	Surface
Volume	420 SXS	1250 SXS

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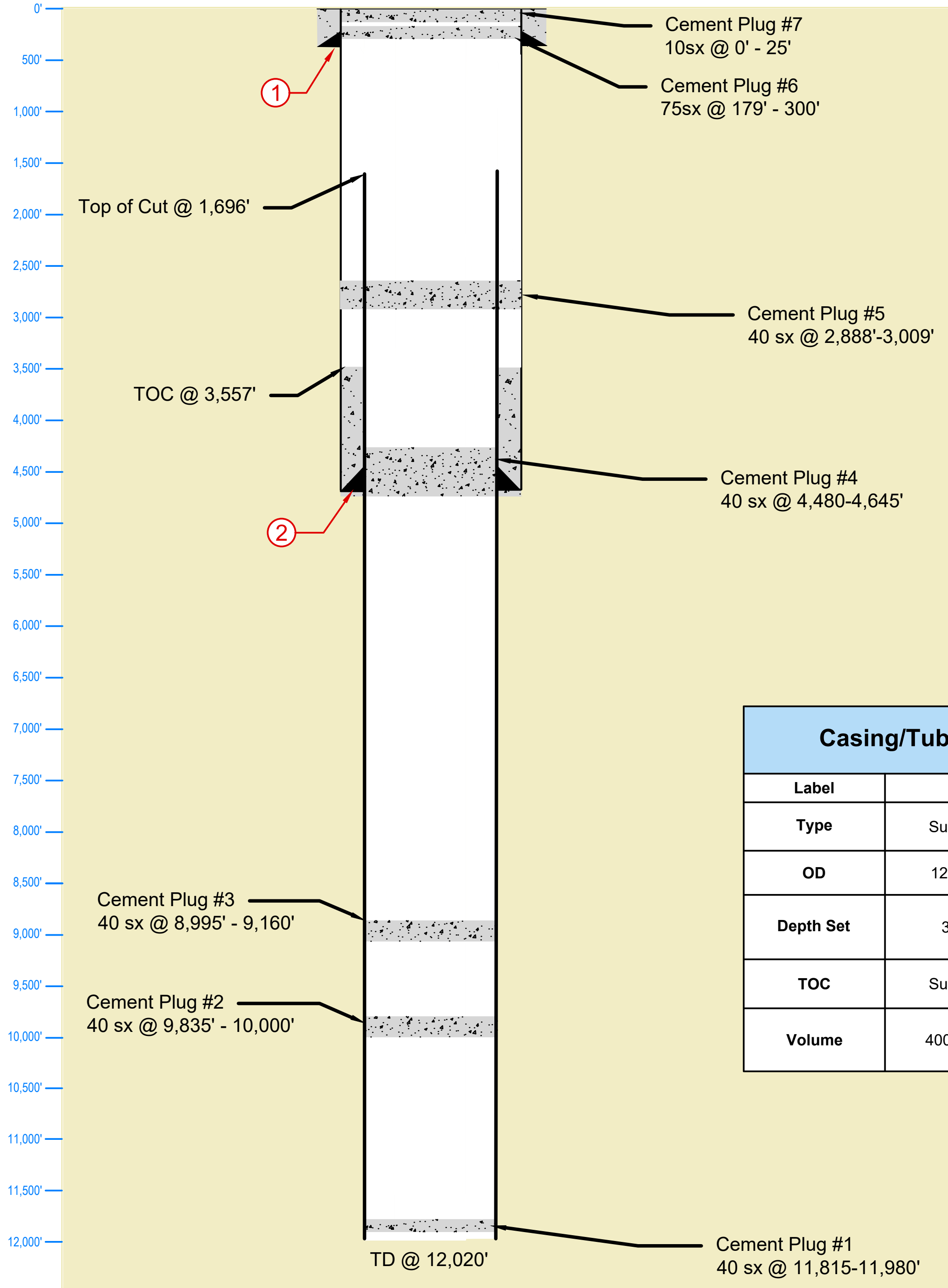
Tel: 512.732.9812
Fax: 512.732.9816

Tenneco Fee #1

Country: USA	**State/Province:** Texas	**County/Parish:** Yoakum
Location:	**Site:**	**Survey:**
API No: 42-501-32612	**Field:** BRAHANEY	**Well Type/Status:** SWD
RRC District No:	**Project No:**	**Date:** 03/14/2022
Drawn: ASG	**Reviewed:** SLP	**Approved:** SLP
Rev No: 1	**Notes:**	



KB:	N/A
BHF:	N/A
GL:	N/A
Spud:	N/A

Casing/Tubing Information

Label	1	2
Type	Surface	Intermediate
OD	12-3/4"	8-5/8"
Depth Set	358'	4,595'
TOC	Surface	3,557'
Volume	400 SXS	200 SXS

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West Plains Unit #1

Texas License F-9147	**Country:** USA	**State/Province:** Texas	**County/Parish:** Yoakum
	Location:	**Site:**	**Survey:**
	API No: 4250130981	**Field:**	**Well Type/Status:** SWD
	RRC District No:	**Project No:**	**Date:** 03/17/2022
12912 Hill Country Blvd. Ste F-200 Austin, Texas 78738 Tel: 512.732.9812 Fax: 512.732.9816	**Drawn:** ASG	**Reviewed:** SLP	**Approved:** SLP
	Rev No: 1	**Notes:**	