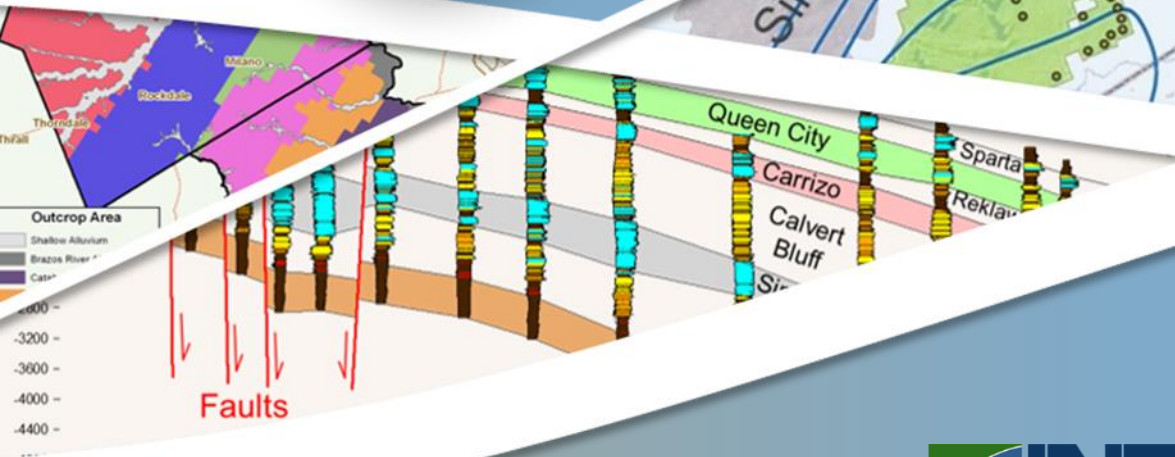


POSGCD Board Meeting

Presented To:



Presented By:

Steve Young
Ross Kushnereit
Lakin Beal



November 15, 2022

DFC Compliance 2022 Evaluation

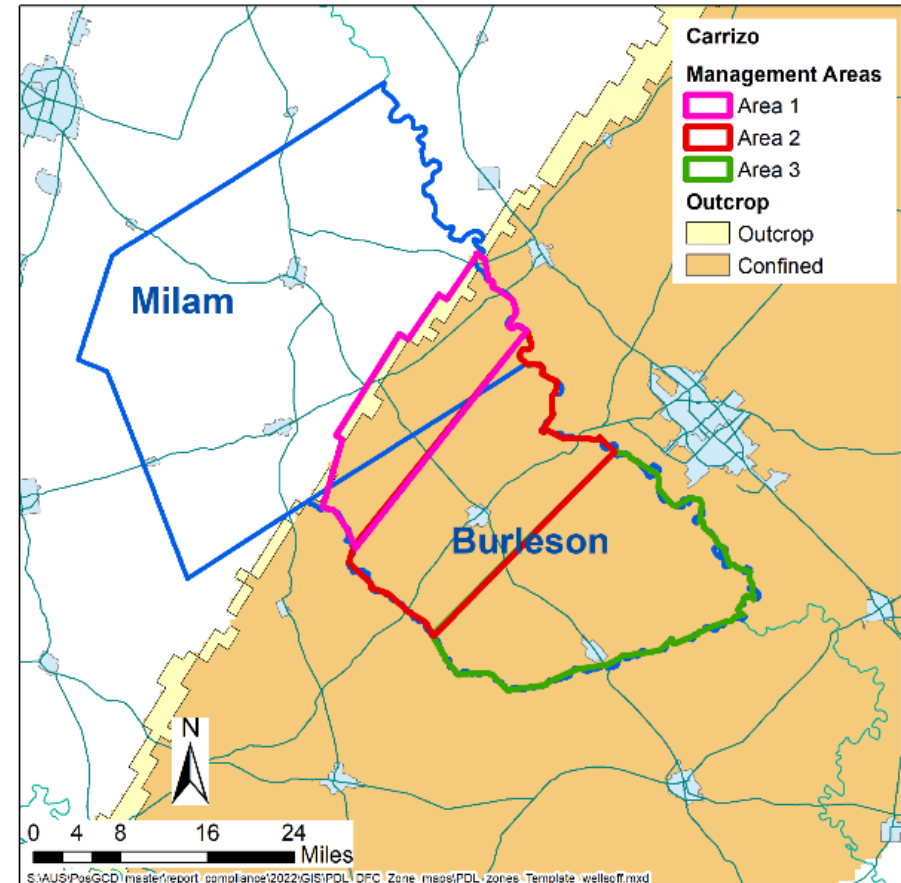
Management Zone	2070 DFC (ft)	Avg. Drawdown (ft) / % of DFC	Compliant with DFC
Sparta	32	12.0 (37.6%)	Yes
Queen City	30	13.1 (43.5%)	Yes
Carrizo	146	51.6 (35.4%)	Yes
Calvert Bluff (Upper Wilcox)	156	40.8 (26.2%)	Yes
Simsboro (Middle Wilcox)	278	38.9 (14%)	Yes
Hooper (Lower Wilcox)	178	11.6 (6.5%)	Yes
Yegua-Jackson	61	-16.3 (-26.7%)	Yes

PDL Compliance 2022 Evaluation

Example of Management Areas: Carrizo Aquifer

Management Area		2070 PDL (ft)	Avg. Drawdown (ft) / % of PDL	Compliant with PDL
Sparta	Area 1	28	2.9 (10.2%)	Yes
Queen City	Area 1	19	0.1 (0%)	Yes
Carrizo	Area 1	75	9.7 (13%)	Yes
	Area 2	175	74.5 (43%)	Yes
Calvert Bluff (Upper Wilcox)	Area 1	88	11.9 (14%)	Yes
	Area 2	223	69.7 (31%)	Yes
Simsboro (Middle Wilcox)	Area 1	91	-6 (-7%)	Yes
	Area 2	335	64.2 (19%)	Yes
Hooper (Lower Wilcox)	Area 1	210	11.9 (6%)	Yes

Threshold 1 = 50% PDL Threshold 2 = 60% PDL
Threshold 3 = 75% DFC



Model Simulation & Preliminary Analysis

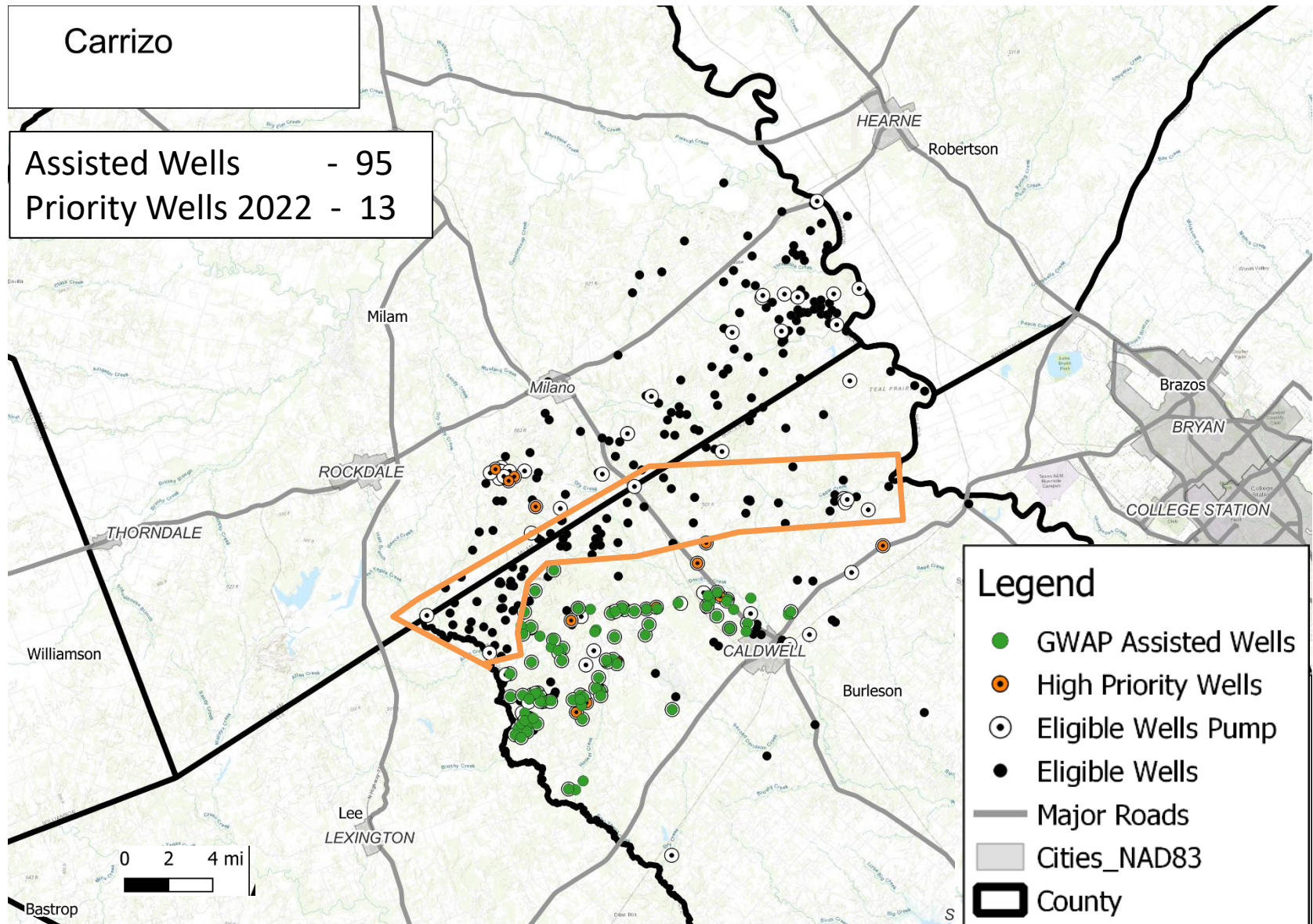
- Operational Model
 - August 2021 version
 - Increases Carrizo drawdown relative to GAM
 - Decreases Simsboro drawdown relative to GAM
- Modified GMA S-19 Model Run
 - SLR Production adjusted
 - Adjustments to Robertson pumping (UW Brazos Farm)

- Preliminary Results
 - Update well database
 - Develop methodology for moderate priority wells

Aquifer	Eligible Wells		
	Without Pump Setting *	With Pump Settings	Total
Carrizo	260	132	392
Calvert Bluff	581	199	780
Simsboro	383	70	453
Hooper	537	176	713

*pump settings are estimated from nearby wells with pump settings

Carrizo



Preliminary GANA Results

Water Level less than 15 ft above Pump Setting

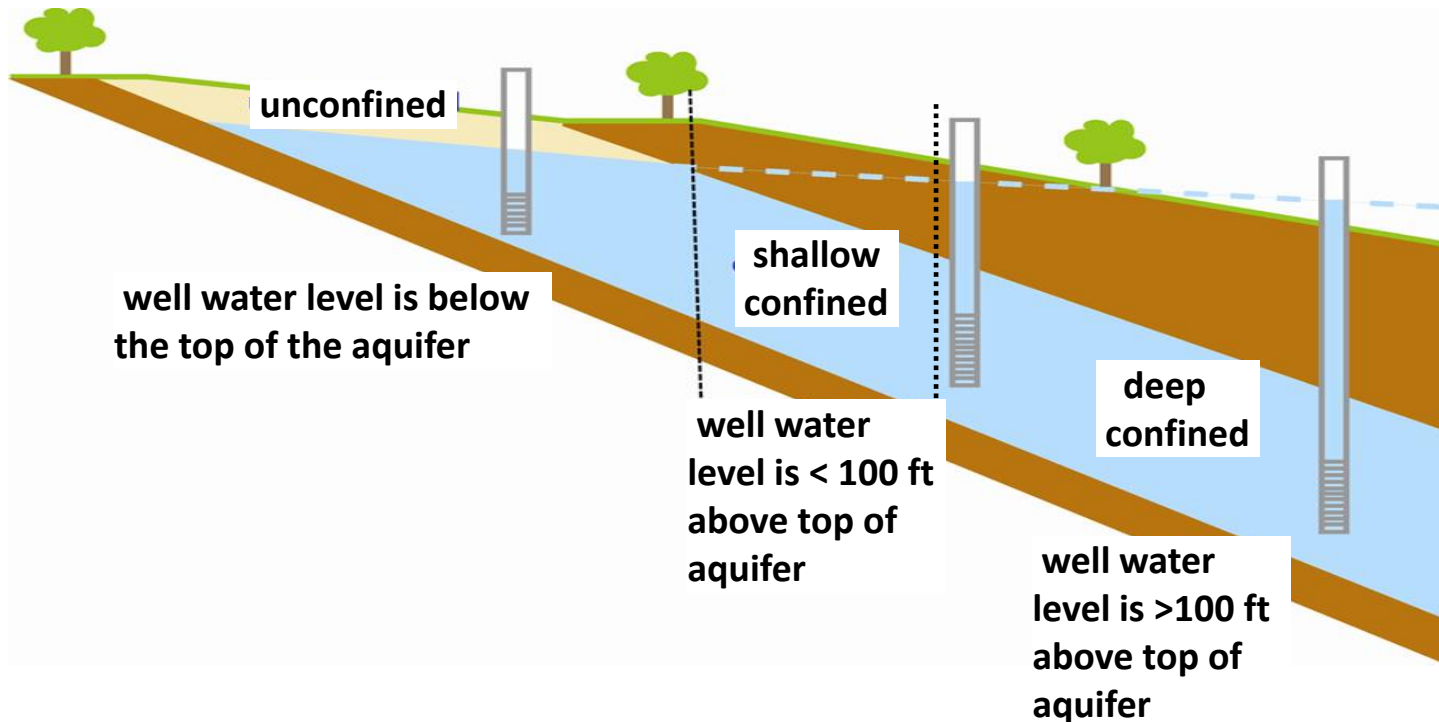
- High Priority Well (pump info)

- Moderate Priority Well (no pump info)

- GWAP assisted Wells
 - In 2020, 20 wells assisted
 - In 2021, 41 wells assisted
 - In 2022, 38 wells assisted
- 2021 GANA Report
 - 21 High Priority Wells (17 Carrizo, 3 Calvert Bluff, 1 other)
 - 38 Moderate Priority Wells
 - 41 Wells of Concern
- 2022 Preliminary GANA Results
 - 22 wells High Priority Wells (13 Carrizo, 7 Calvert Bluff, 2 other)

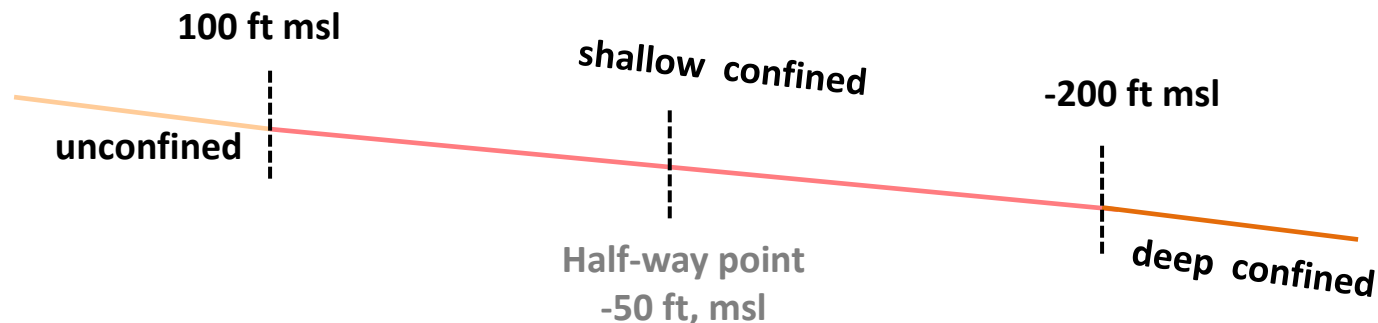
Driller's Guidance

- Purpose
 - Prevent newly drilled wells from having water levels drop below elevation of pump in the next 30 years
 - Currently only applicable for Carrizo-Wilcox Aquifer
- Approach

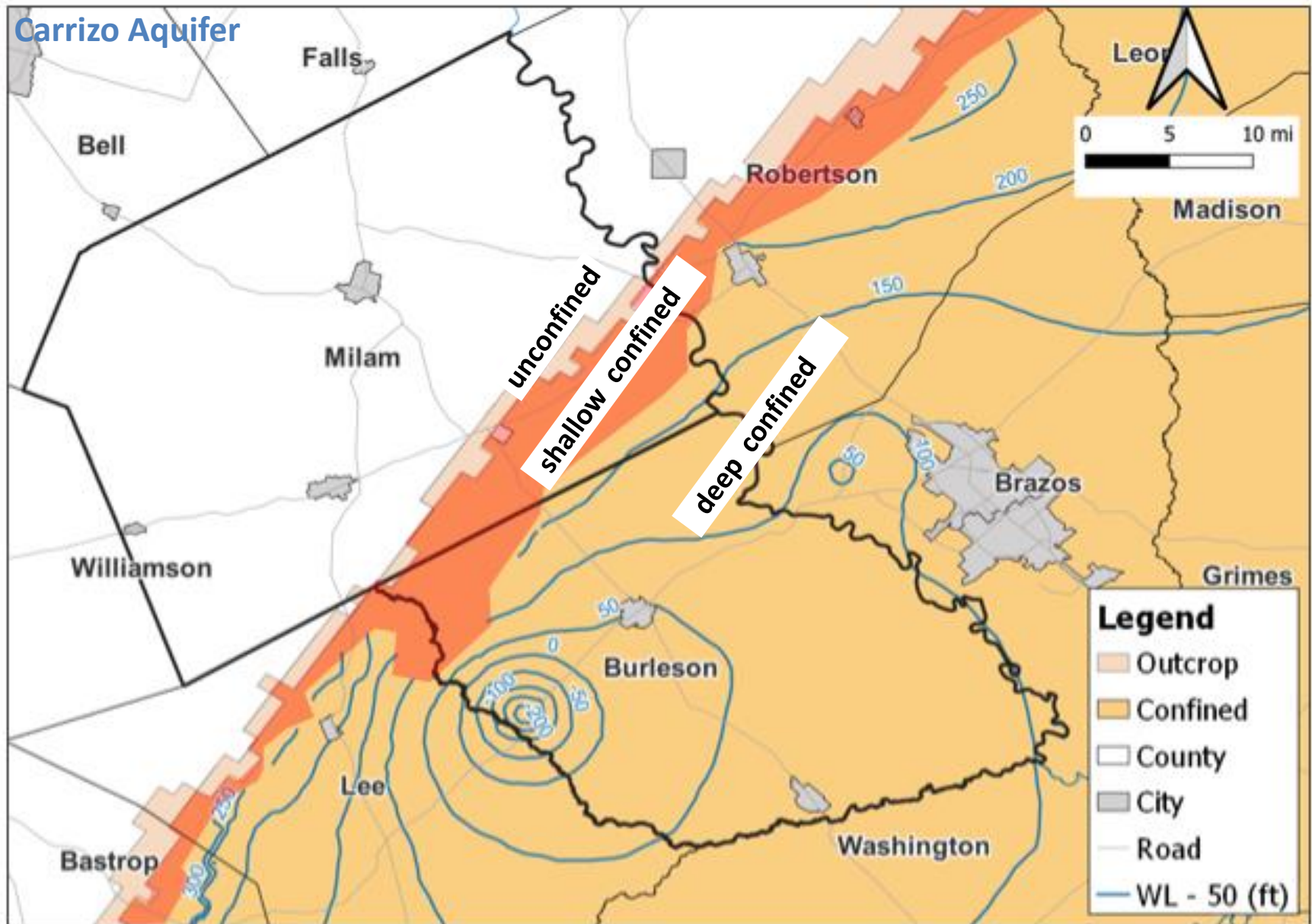


Driller's Guidance for Carrizo-Simsboro Aquifers

- Deep Zone (Deep Confined Zone)
 - Pump set at least 100 below 2050 water level elevation
 - Estimated 2050 water level
 - Use POSGCD operation model instead of GAM
 - Modify S-19 pumping based on current information on permits
- Outcrop
 - well screen set in lower section of the aquifer & pump set above well screen
- Shallow Confined Zone
 - Wells screen set is based on a weighted average of the Deep Zone elevation and the outcrop elevation



Example Deep Zone: Carrizo



Implementation of the Driller's Guidance

1. Add Section to POSGCD Drilling Application Regarding GWAP
 - Acknowledge eligibility requirements by signature
2. Modify “Certificate to Proceed with Drilling” and “Drilling Permits”
 - Add language to include requirement
 - Append a “GWAP Letter”
3. Modify “Driller's Completion to Permit Application”
 - statement regarding GWAP recommendation were followed



Questions ?