



Lost Pines GCD Board Meeting
November 15th, 2023

Lost Pines GCD Hydrogeologic Model Project Update 3

Presenter: Vince Clause
LRE Water Project Manager and
Texas Groundwater Lead

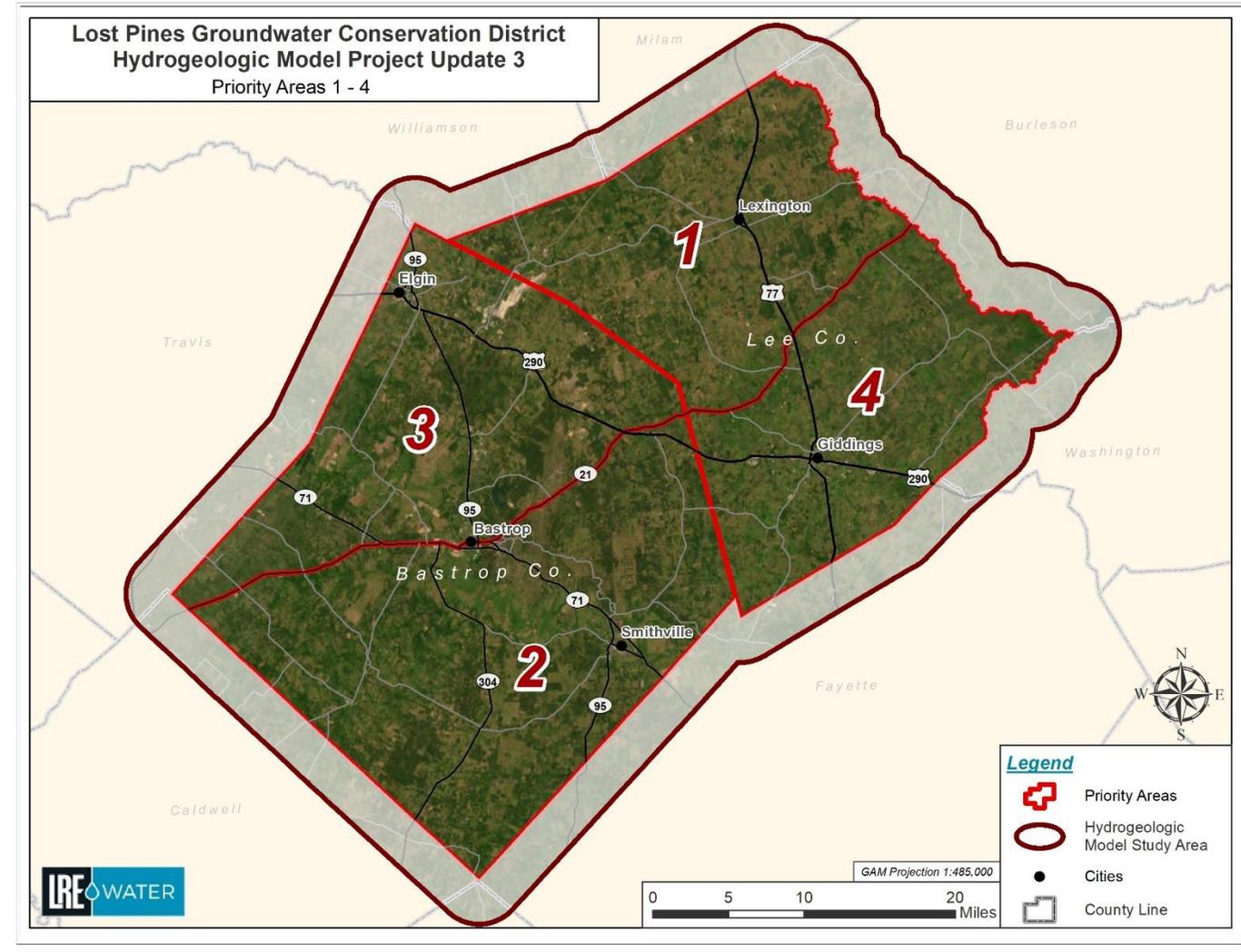
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ROCKY MOUNTAIN | MIDWEST | SOUTHWEST | TEXAS

Study Area – Today's Focus

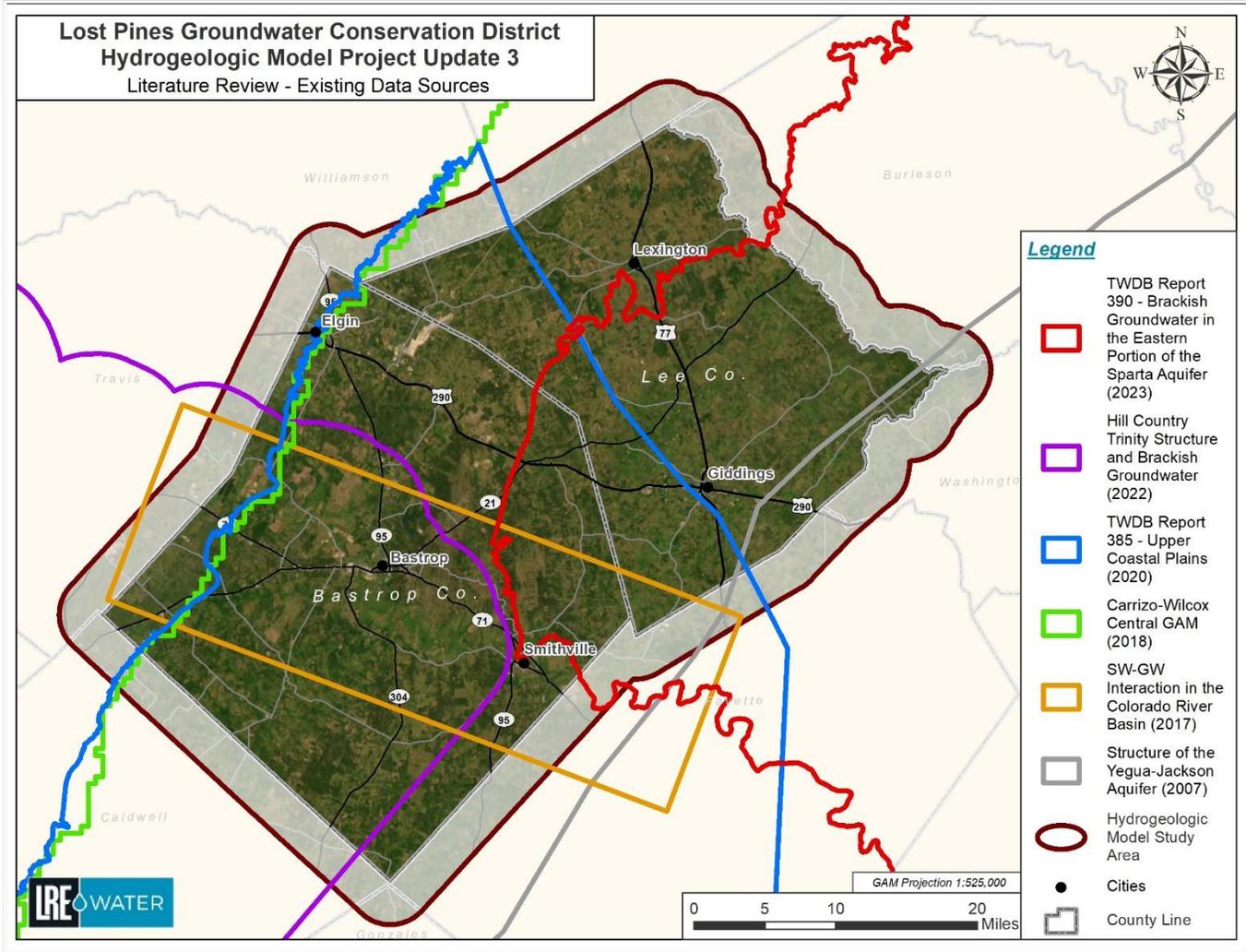
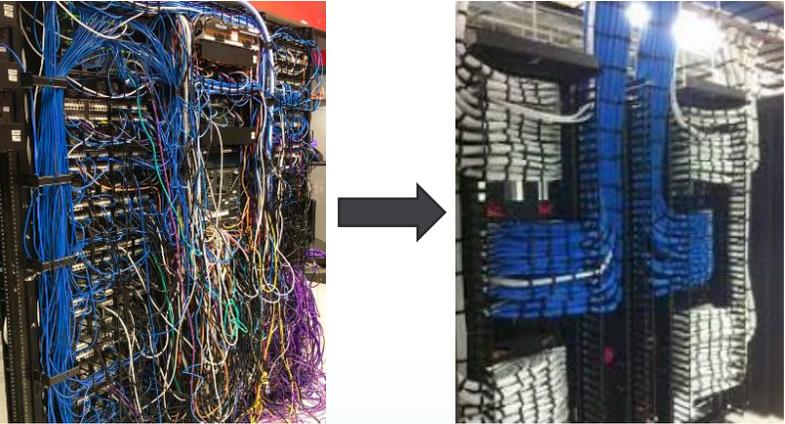
- Finalized Geophysical Log interpretations across District

- Reviewed/Updated/Supplemented existing interpretations (372)
- Interpretations on acquired logs (183)
- 794 logs within the Hydrogeologic Model Database*
 - *Does not include Lithology Descriptions used for Colorado River Alluvium Thickness



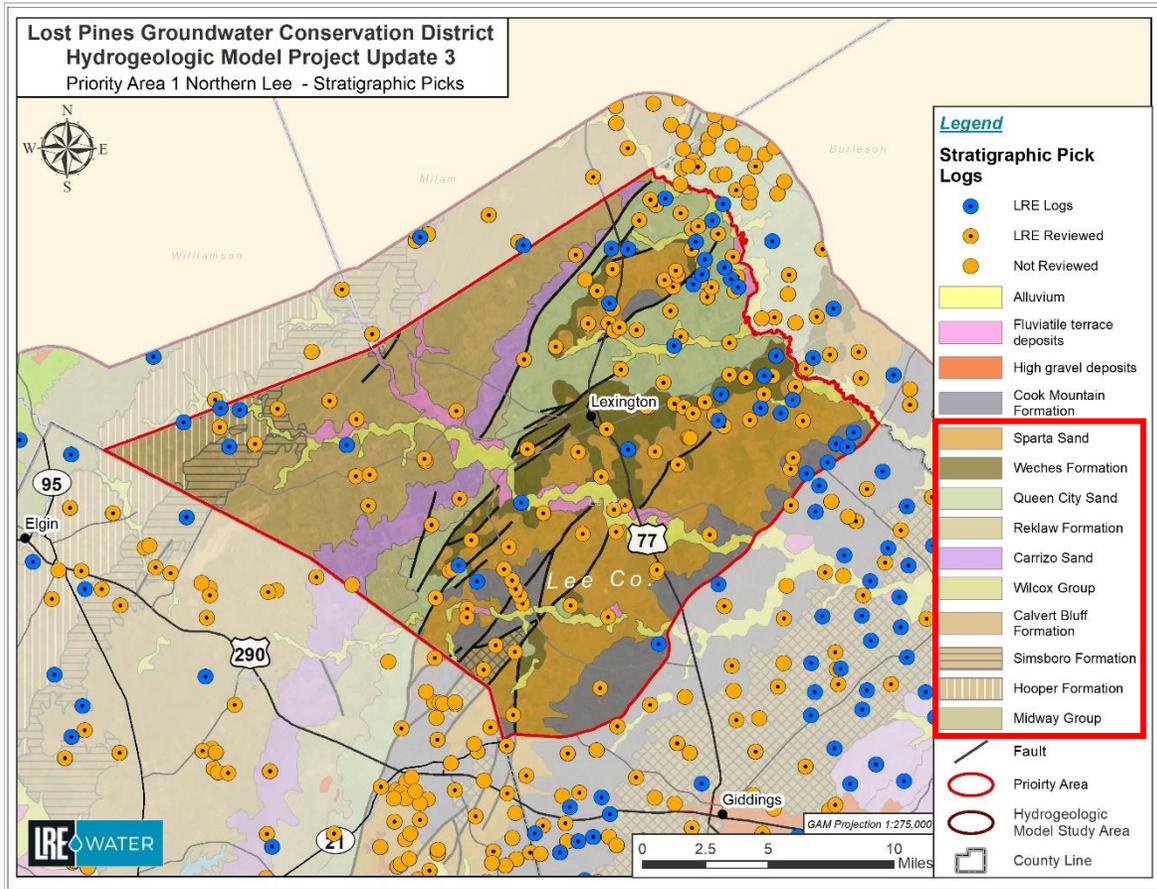
Prior Studies – Existing Data Sources

- Brought together stratigraphy from (6) regional studies.



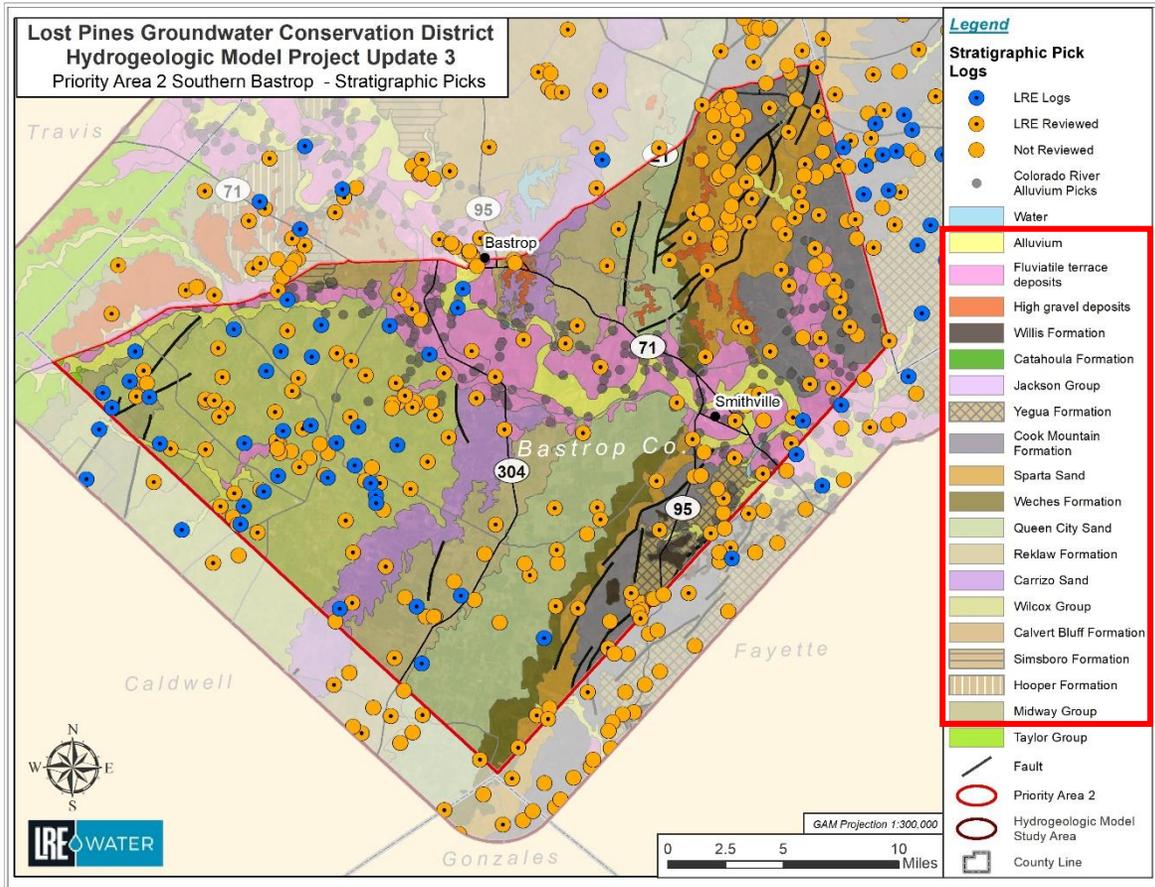
	Priority Area 1 (Northern Lee)		Priority Area 2 (Southern Bastrop)		Priority Area 3 (Northern Bastrop)		Priority Area 4 (Southern Bastrop)		Buffer Zone		Total		
	Existing	New Total	Existing	New Total	Existing	New Total	Existing	New Total	Existing	New Total	Existing	New Total	% Increase
Colorado R. Alluvium	-	-	244	-	132	-	-	-	84	-	460	460	0%
Cook Mountain	-	-	1	1	-	-	4	14	6	7	11	22	100%
Sparta	0	0	12	12	0	0	21	32	22	26	55	70	27%
Queen City Sand	1	11	18	21	2	4	11	52	19	30	51	118	131%
Reklaw	26	68	67	67	10	10	26	75	31	52	160	272	70%
Carrizo Sand	42	77	81	85	11	11	27	79	39	62	200	314	57%
Calvert Bluff	10	76	78	90	25	25	16	79	39	61	168	331	97%
Simsboro Sand	62	109	85	109	22	22	22	88	56	84	247	412	67%
Hooper	65	115	96	146	21	33	21	101	62	93	265	488	84%
Midway Group	25	124	150	204	62	83	17	87	52	84	306	582	90%

Study Area - Hydrostratigraphy



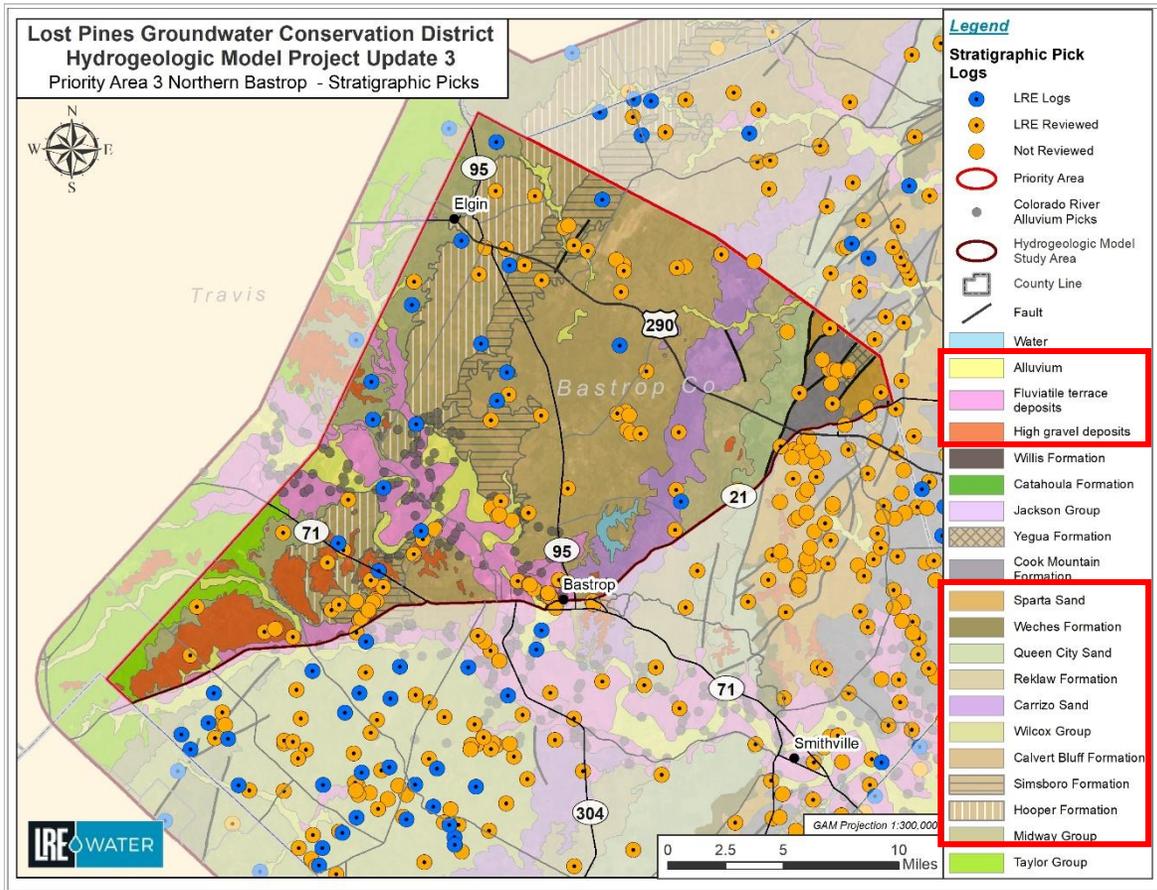
Formation		Model Layer
Colorado River Alluvium		1
Yegua-Jackson		2
Cook Mountain		3
Sparta Sand		4
Weches		5
Queen City Sand		6
Reklaw		7
Carrizo Sand		8
Wilcox	Calvert Bluff	9
	Simsboro Sand	10
	Hooper	11
Midway Group		12

Priority Area 2 - Hydrostratigraphy



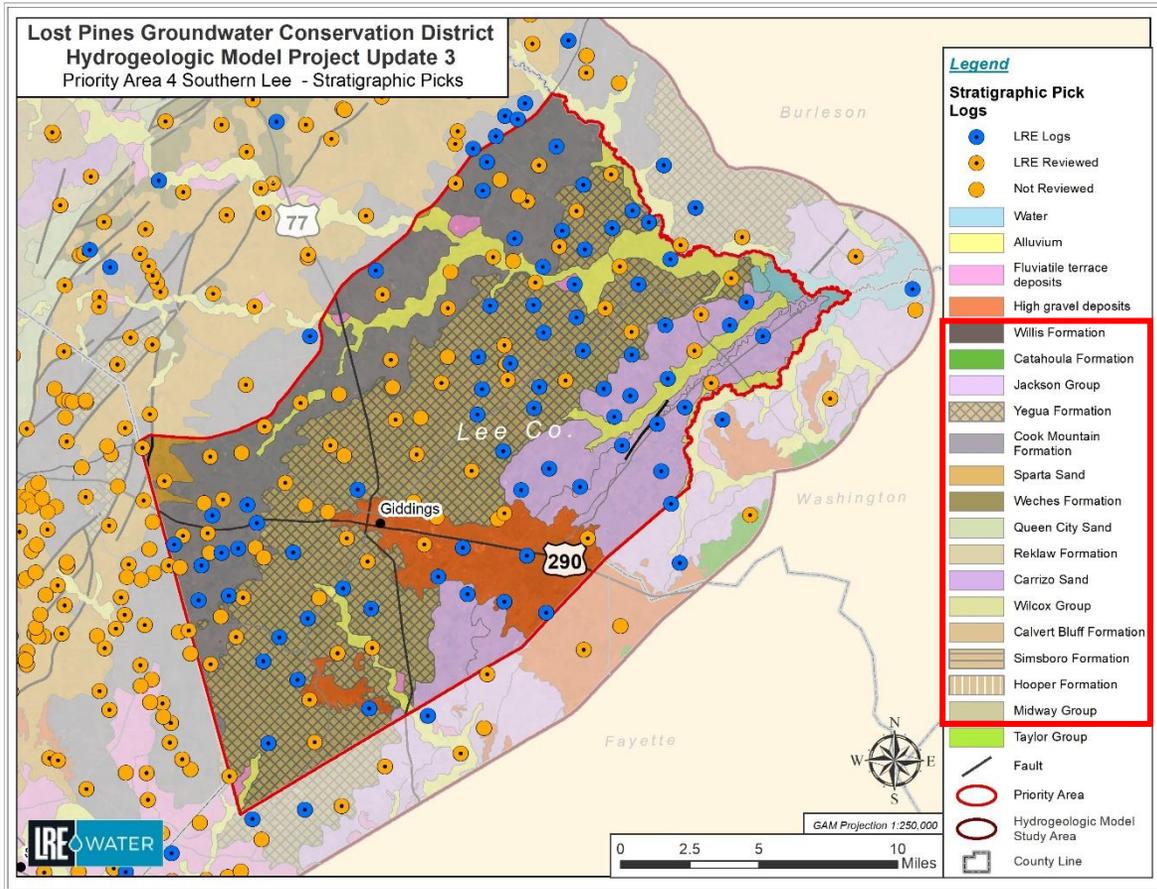
Formation		Model Layer
Colorado River Alluvium		1
Yegua-Jackson		2
Cook Mountain		3
Sparta Sand		4
Weches		5
Queen City Sand		6
Reklaw		7
Carrizo Sand		8
Wilcox	Calvert Bluff	9
	Simsboro Sand	10
	Hooper	11
Midway Group		12

Priority Area 3 - Hydrostratigraphy



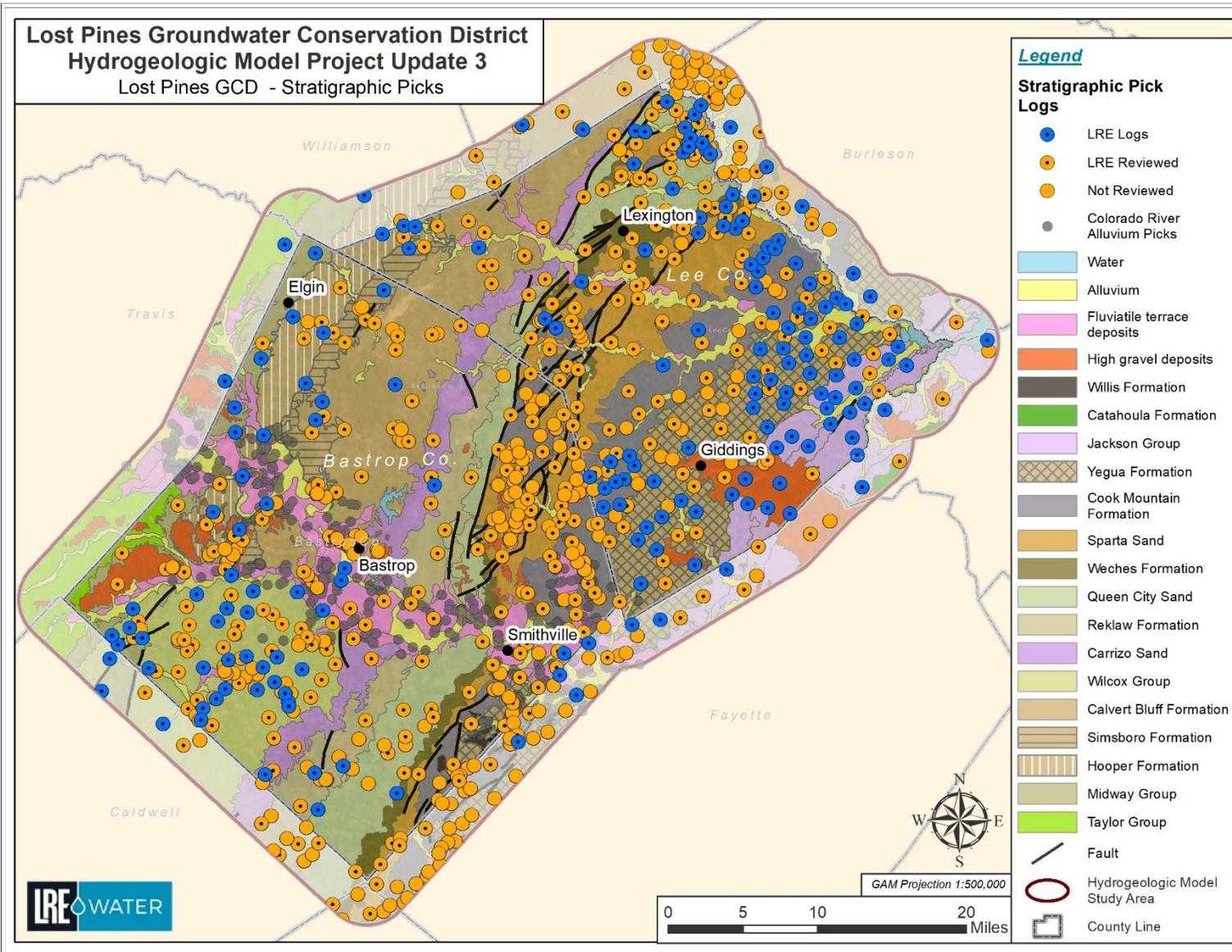
Formation		Model Layer
Colorado River Alluvium		1
Yegua-Jackson		2
Cook Mountain		3
Sparta Sand		4
Weches		5
Queen City Sand		6
Reklaw		7
Carrizo Sand		8
Wilcox	Calvert Bluff	9
	Simsboro Sand	10
	Hooper	11
Midway Group		12

Priority Area 4 - Hydrostratigraphy

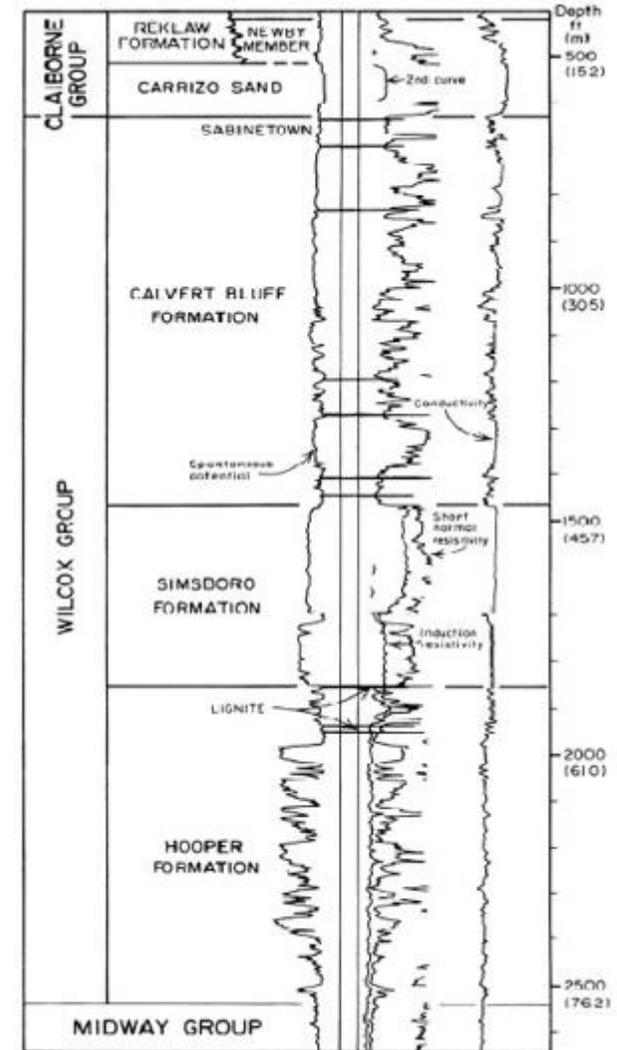


Formation		Model Layer
Colorado River Alluvium		1
Yegua-Jackson		2
Cook Mountain		3
Sparta Sand		4
Weches		5
Queen City Sand		6
Reklaw		7
Carrizo Sand		8
Wilcox	Calvert Bluff	9
	Simsboro Sand	10
	Hooper	11
Midway Group		12

Study Area - Hydrostratigraphy



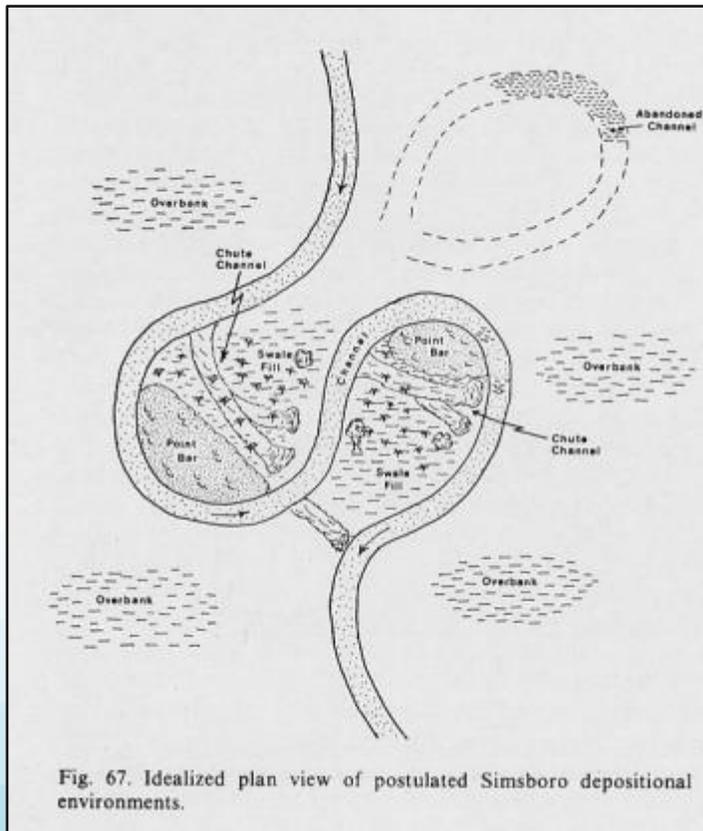
Type Log



From Ayers and Lewis (1985)

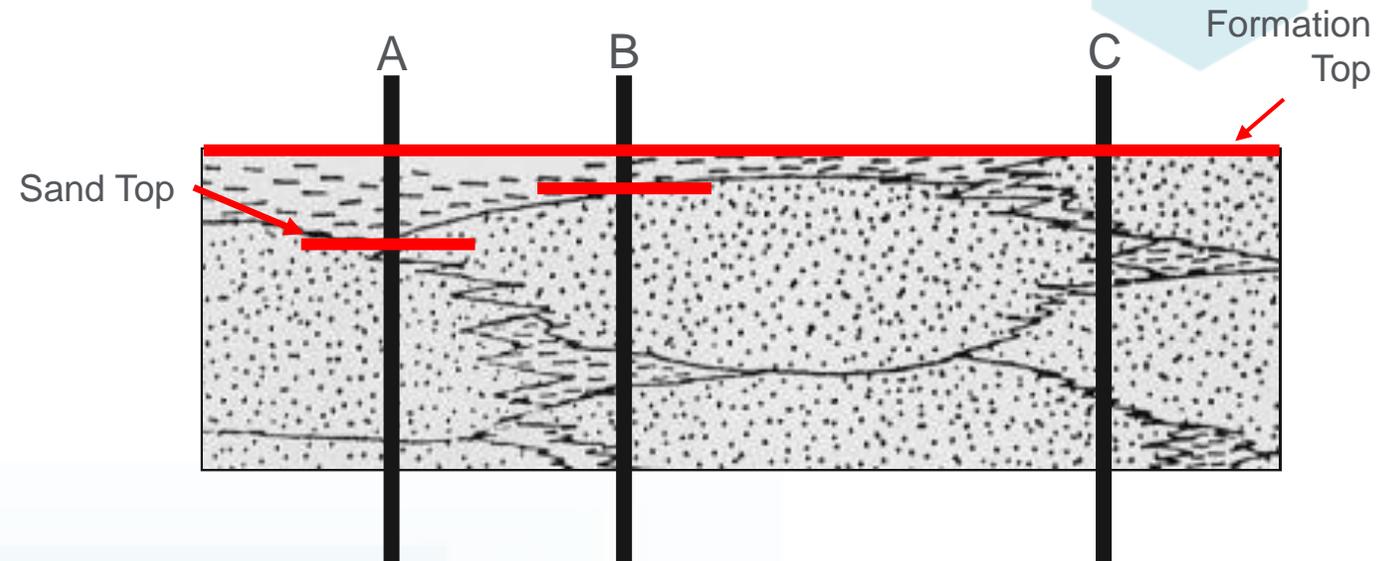
Postulated Simsboro River System And Depositional Framework

Idealized Plan View Simsboro Depositional Environment



Baylor Bulletin 37 - Bammel (1979)

Hypothetical Simsboro Section *Top of Sand vs. Top of Formation*

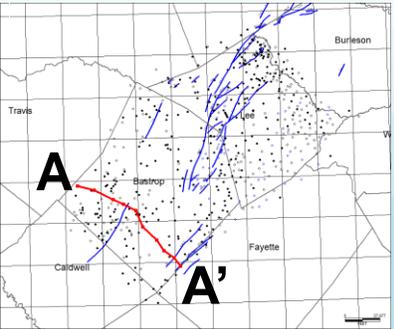
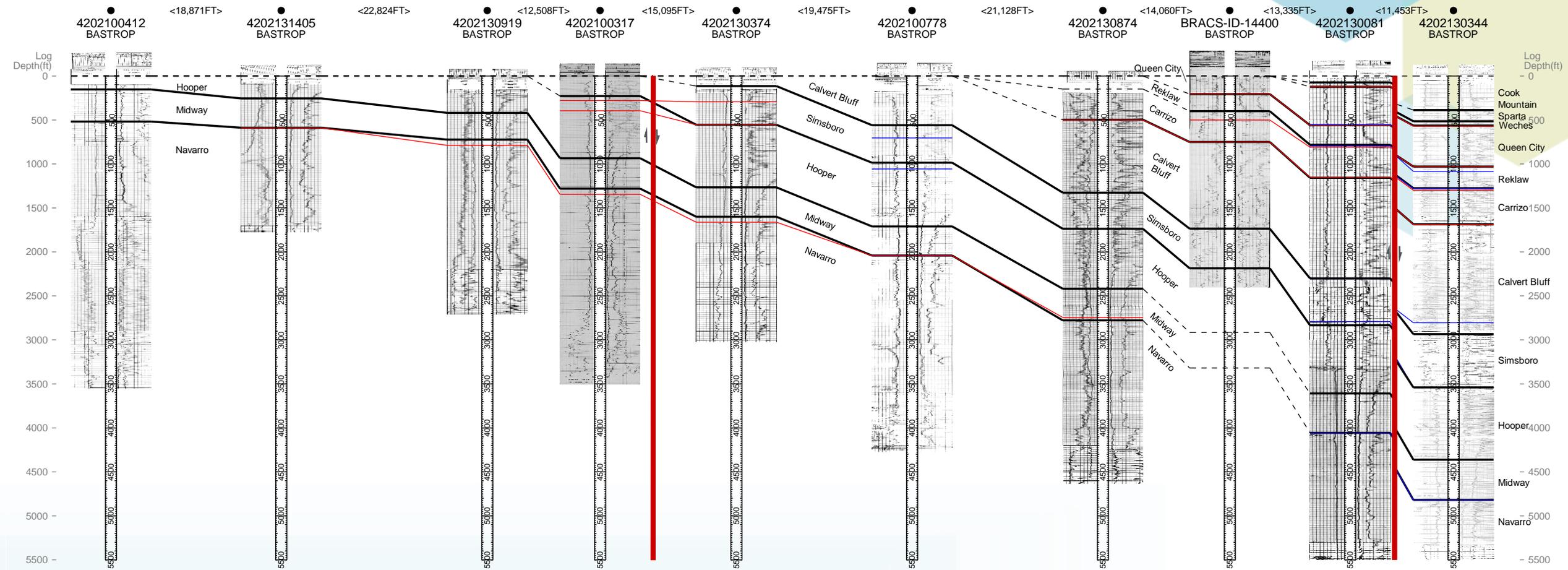


- All mapped stratigraphic units are based on the Top of Formation marker bed.

A Northwest

A' Southeast

Bastrop County



Regional Cross Section A – A'

Bastrop County (Dip 1)

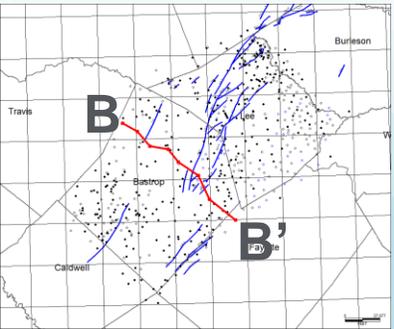
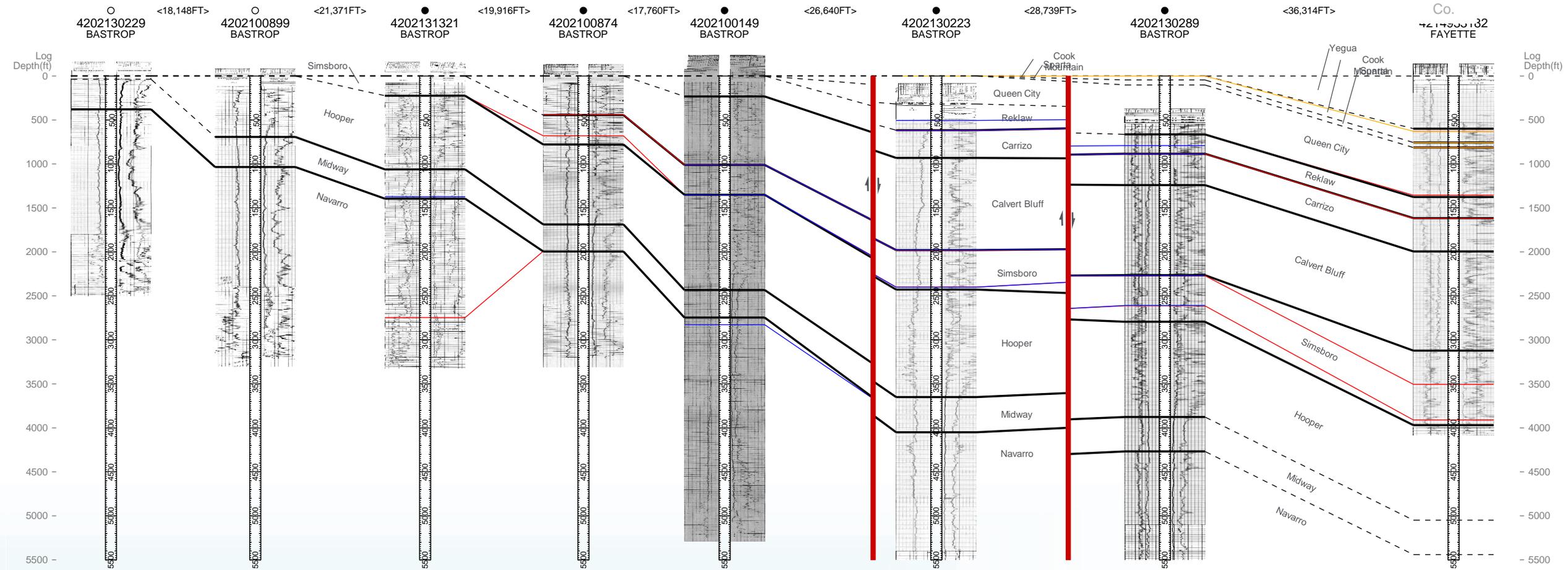


B
Northwest

B'
Southeast

Bastrop County

Fayette Co.

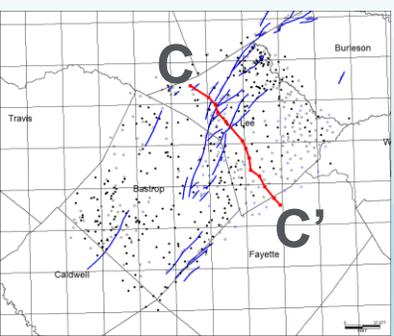
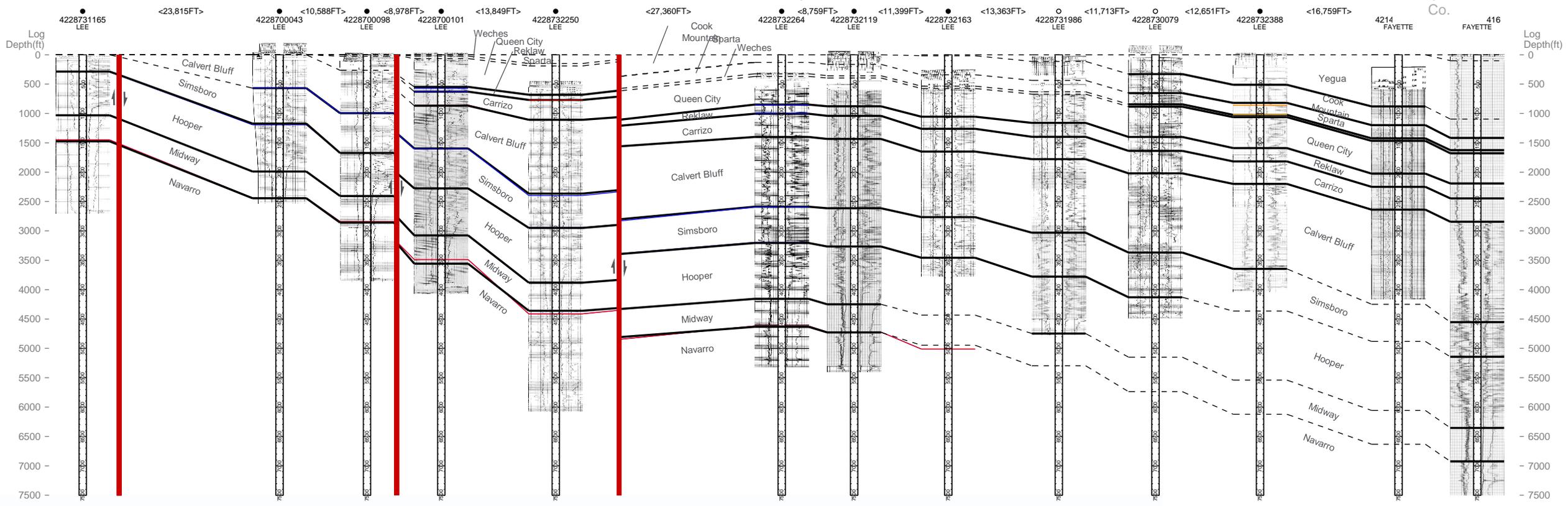


Regional Cross Section B – B'
Bastrop County (Dip 2)



Lee County

Fayette Co.

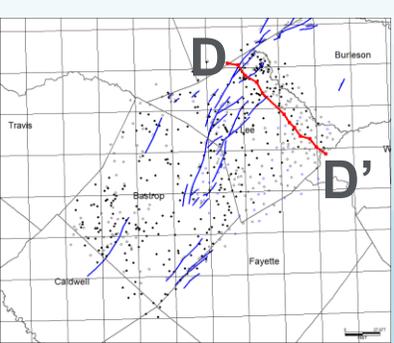
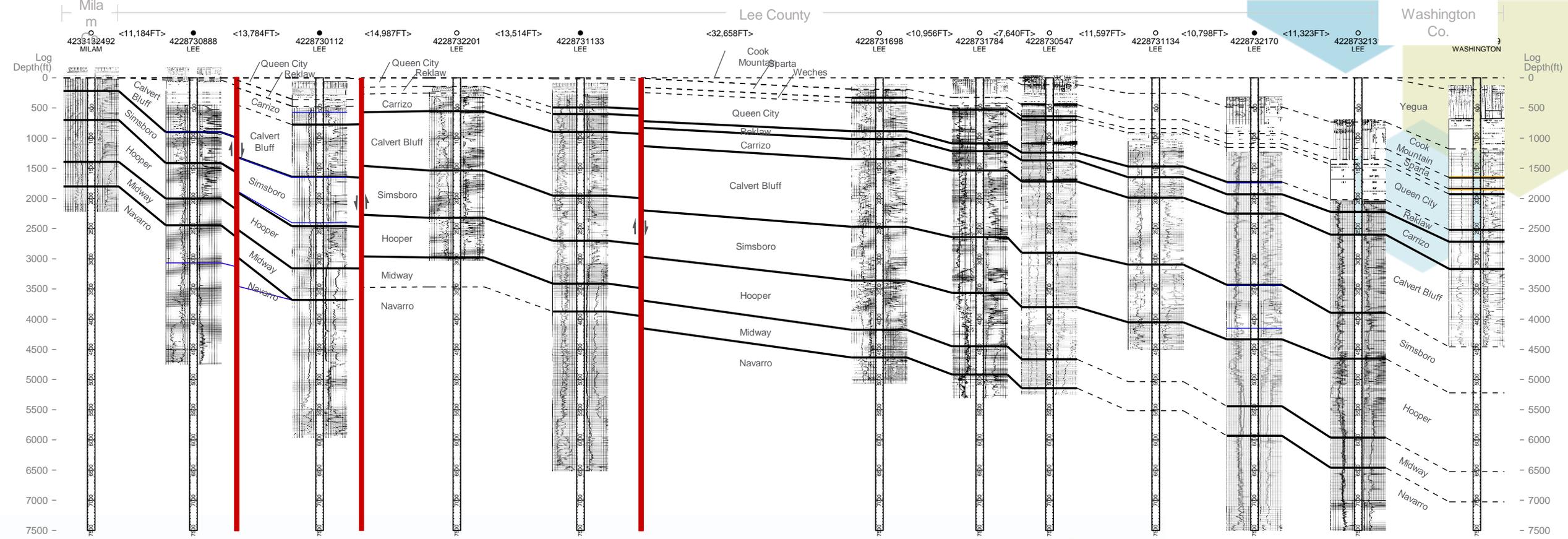


Regional Cross Section C – C'
Lee County (Dip 1)



D Northwest

D' Southeast

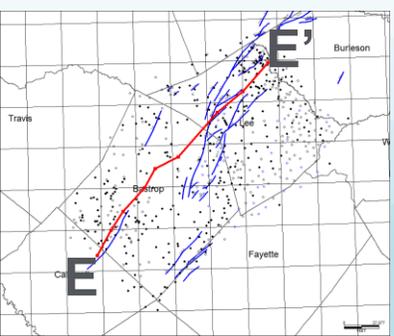
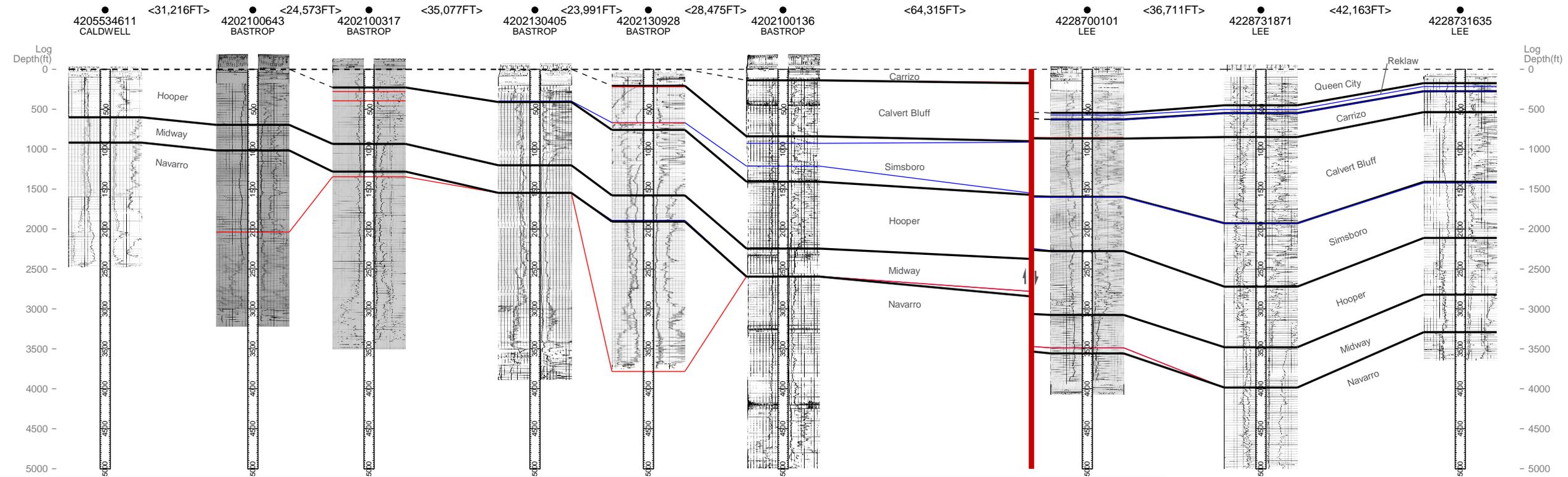


Regional Cross Section D – D'
Lee County (Dip 2)



Bastrop County

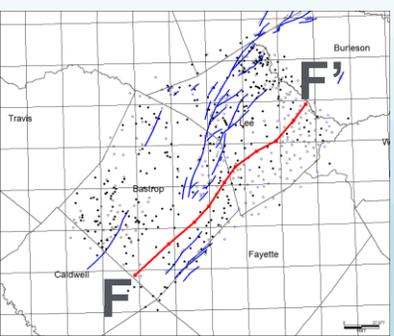
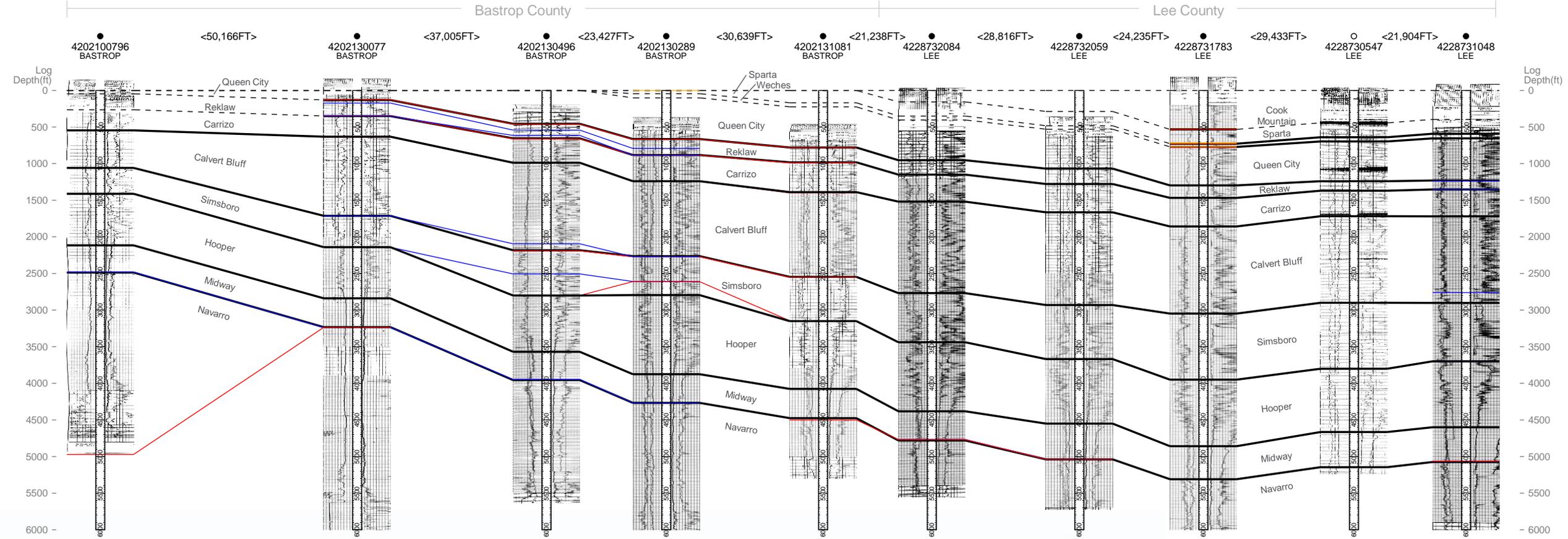
Lee County



Regional Cross Section E – E'

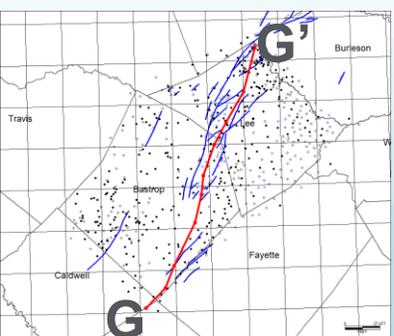
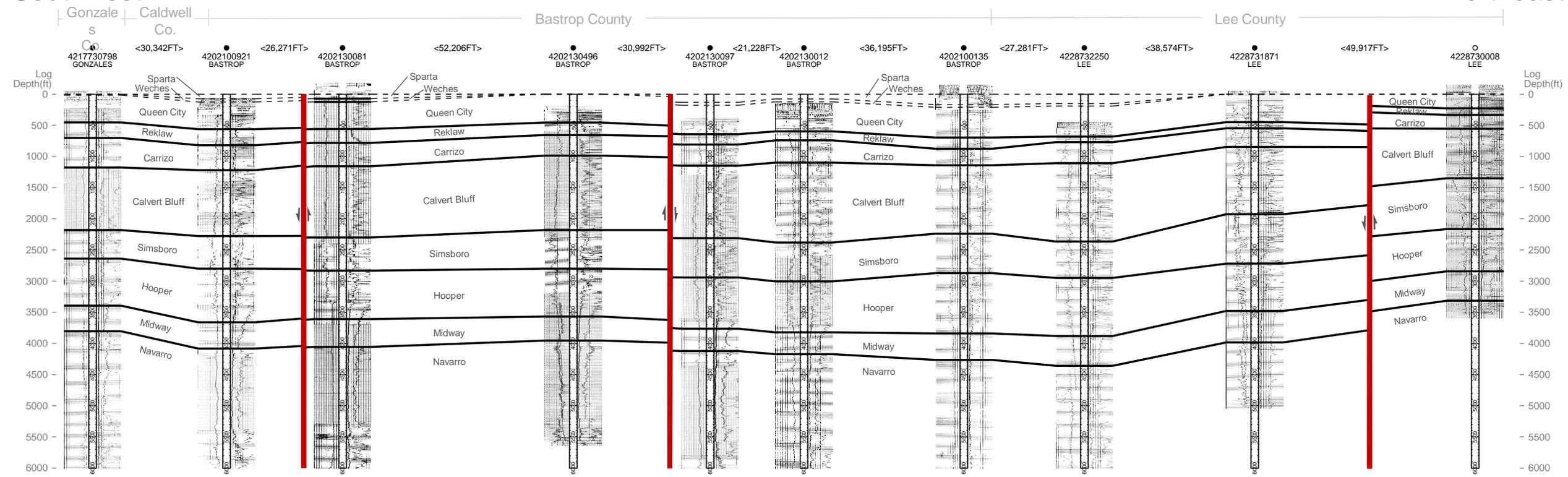
Zones 3 to 1 (Strike 1)





Regional Cross Section F – F' Zone 2 to 4 (Strike 1)

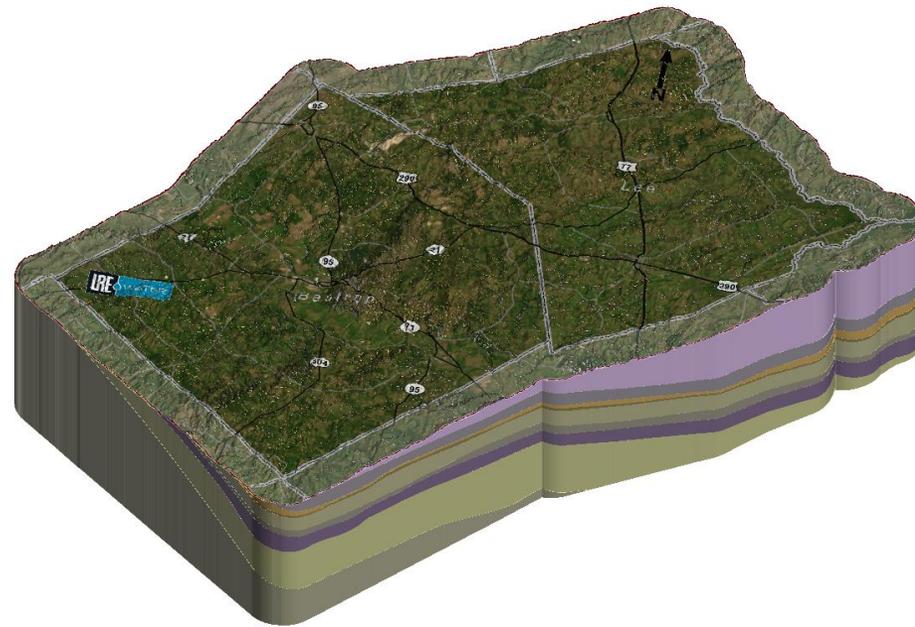




Regional Cross Section G – G'
True Strike

Next Steps:

- Finalize Hydrogeologic Model
- Finalize Supplemental Deliverables
 - Water Chemistry*
 - Water Levels*
 - Aquifer Properties*
 - Well completion
- Final Deliverables and Stratigraphy/Hydrogeologic Model Summary Report



- Lost Pines GCD
- L1_Colorado River Alluvium
 - L2_Yegua-Jackson
 - L3_Cook Mountain
 - L4_Sparta Sand
 - L5>Weches
 - L6>Queen City Sand
 - L7>Reklaw
 - L8>Carrizo Sand
 - L9-11>Wilcox
 - L12>Midway Group
 - Unknown

*if sufficient data is available



CONNECTING WATER TO LIFE



Questions?

**Vince Clause
Project Manager
LRE Water**

**vince.clause@LREwater.com
(512) 906-8614**