

Era	System	Series	Stratigraphic unit <small>Modified from Baker, 1979</small>	Lithology	Hydrogeologic unit commonly used in Texas <small>Modified from Baker, 1979</small>	Hydrogeologic nomenclature used in this report <small>Modified from Weiss, 1992</small>	
Cenozoic	Quaternary	Holocene	Alluvium	Sand, silt, and clay	Chicot aquifer	Permeable zone A	
		Pleistocene	Beaumont Formation	Sand, silt, and clay			Permeable zone B
			Montgomery Formation Bentley Formation Willis Sand				
	Pliocene	Goliad Sand	Sand, silt, and clay	Evangeline aquifer	Permeable zone C		
		Fleming Formation	Clay, silt and sand			Zone D confining unit [1]	
	Miocene	Oakville Sandstone	Catahoula Sandstone or Tuff [2]	Sand, silt, and clay	Jasper aquifer	Permeable zone D	
							Anahuac Formation [1]
		Frio Formation [1]	Vicksburg Formation [1]	Clay, silt and sand	Catahoula confining unit (restricted)	Permeable zone E	
				Sand, silt, and clay			
	Oligocene	Frio Clay [3]	Vicksburg Formation [1]	Clay and silt	Vicksburg-Jackson confining unit		
	Eocene	Jackson Group	Whitsett Formation Manning Clay Wellborn Sandstone Caddell Formation	Clay and silt	Vicksburg-Jackson confining unit		
							Coastal lowlands aquifer system

[1] Present only in the subsurface  
 [2] Called Catahoula Tuff west of Lavaca County  
 [3] Not recognized at surface east of Live Oak County

Figure 2.3.1-16 Correlation of USGS and Texas Nomenclature (modified from Reference 2.3.1-2)

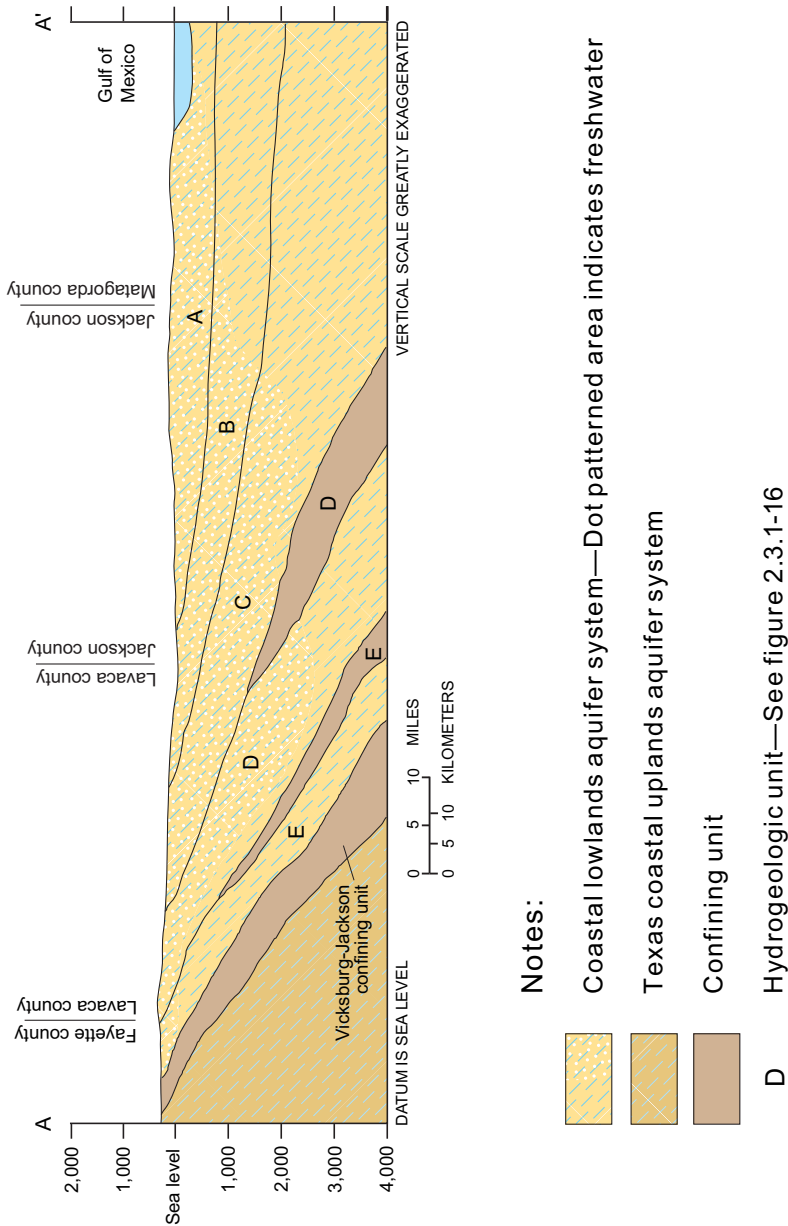


Figure 2.3.1-17 Generalized Cross Section through the Coastal Lowlands/Coastal Uplands Aquifer Systems (modified from Reference 2.3.1-21)

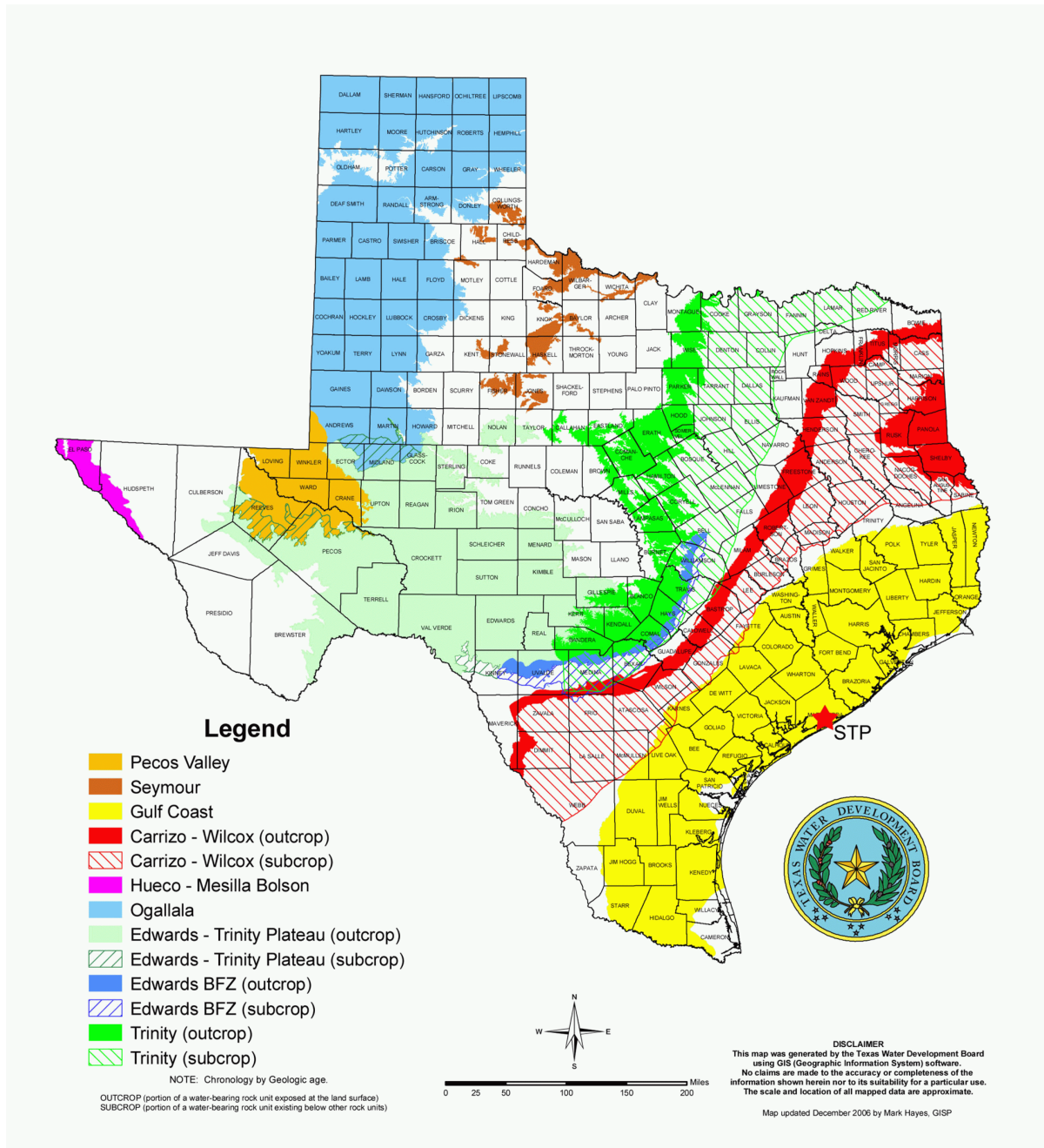


Figure 2.3.1-18 Major Aquifers of Texas (modified from Reference 2.3.1-22)

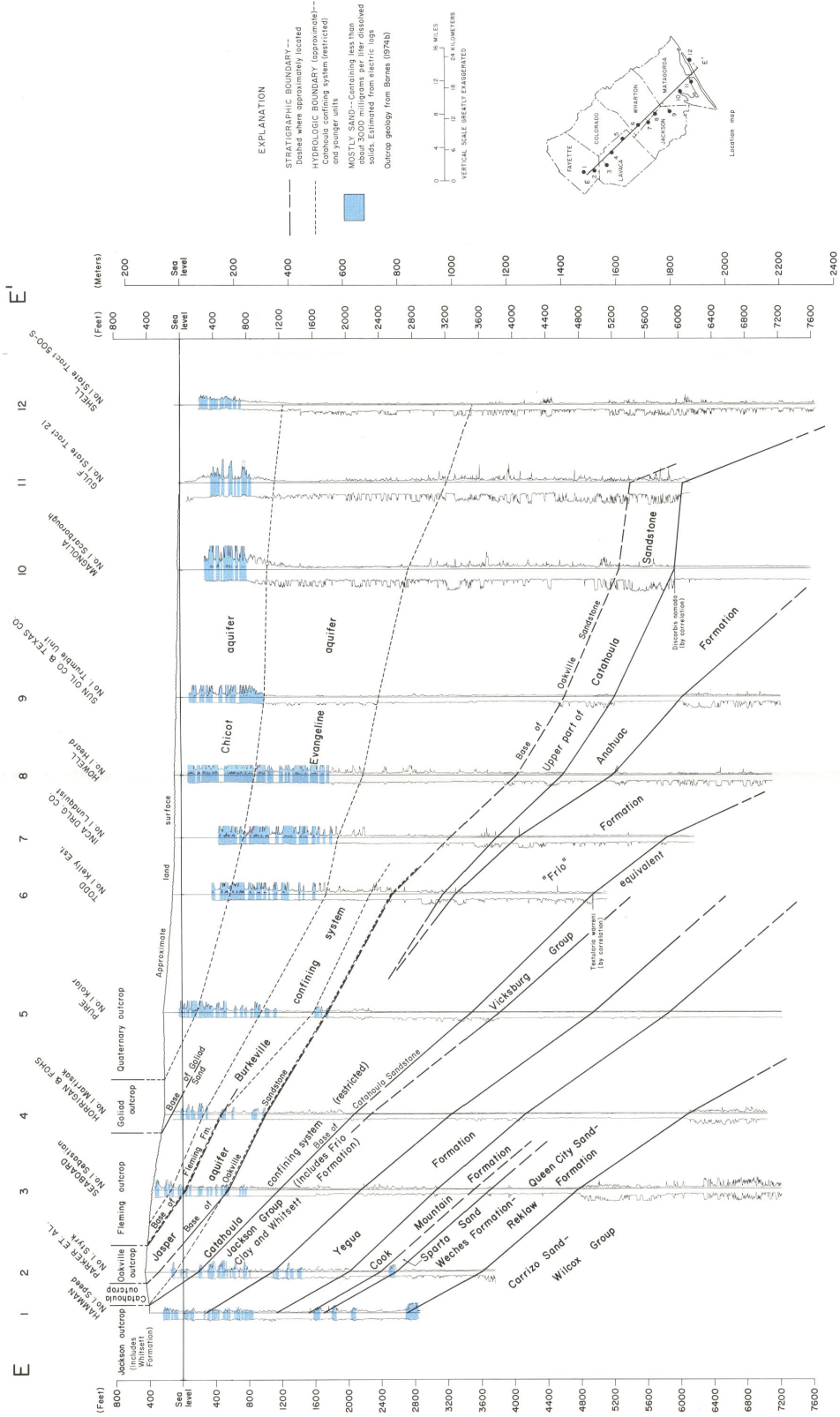


Figure 2.3.1-19 Regional Hydrogeologic Cross Section through the Gulf Coast Aquifer System (Reference 2.3.1-23)



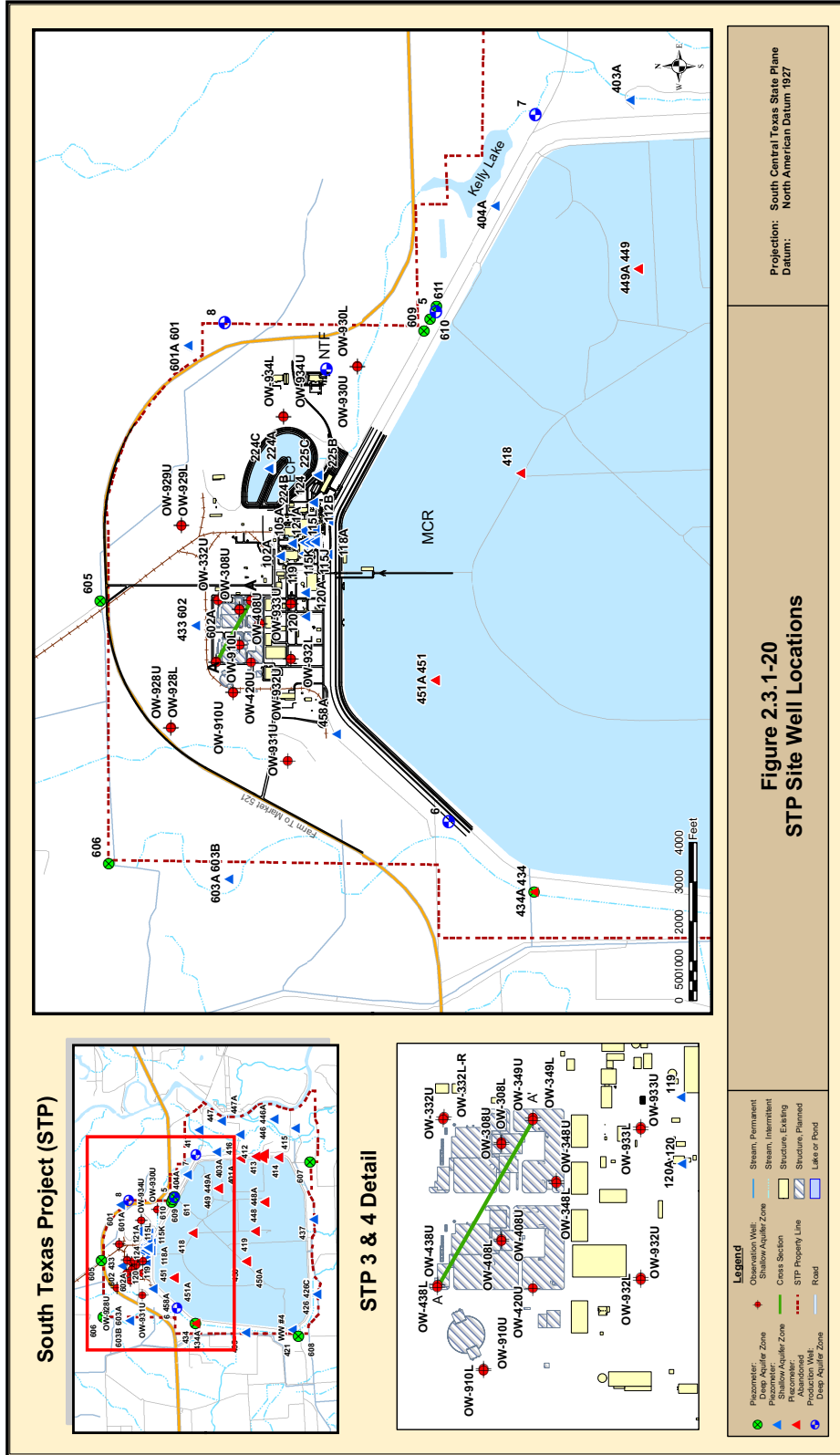
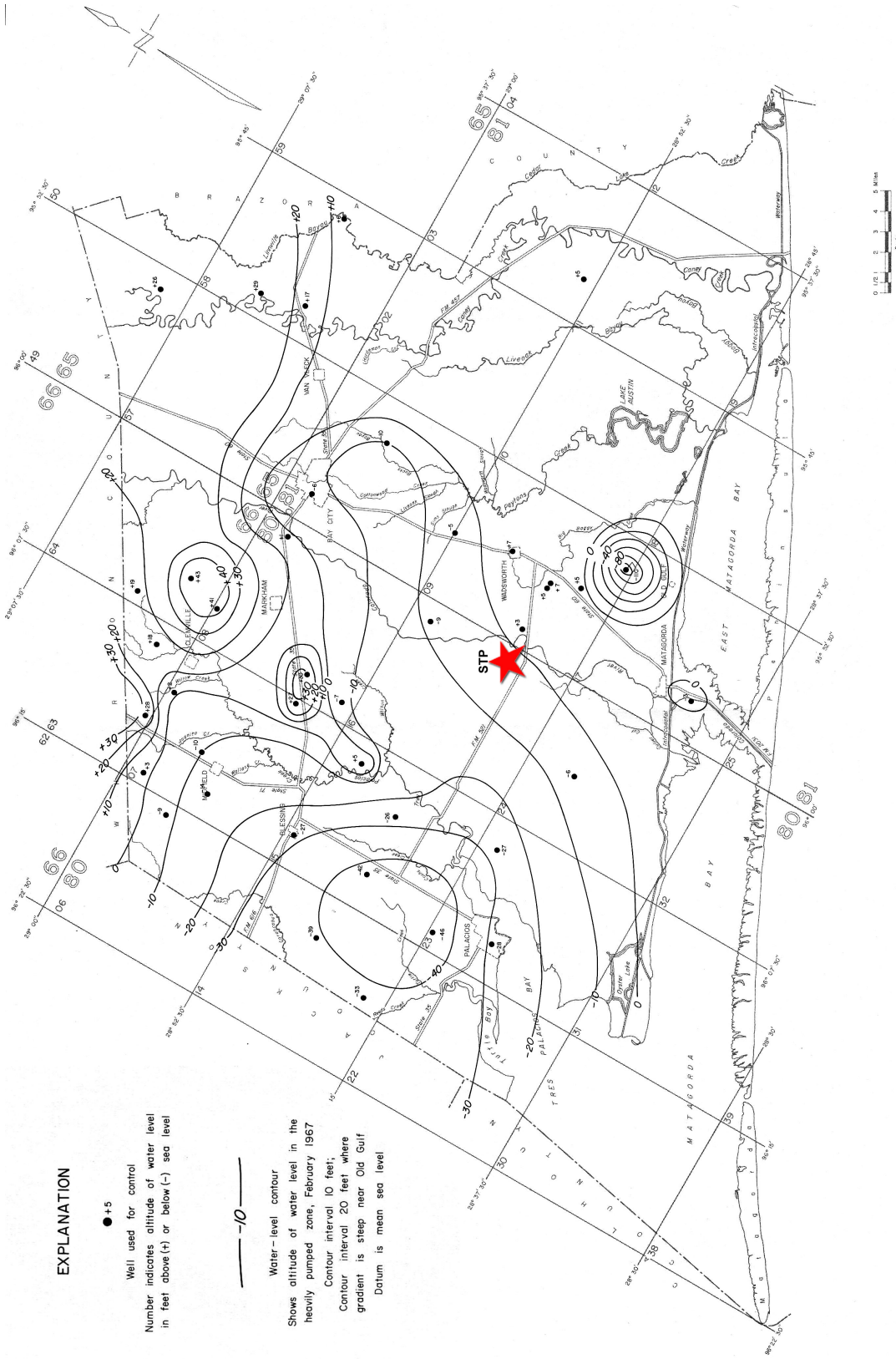


Figure 2.3.1-20 STP Site Well Locations



**EXPLANATION**

- +5  
Well used for control
- Number indicates altitude of water level in feet above (+) or below (-) sea level
- -10 —  
Water-level contour
- Shows altitude of water level in the heavily pumped zone, February 1967
- Contour interval 10 feet;
- Contour interval 20 feet where gradient is steep near Old Gulf
- Datum is mean sea level

**Figure 2.3.1-21 Potentiometric Surface in the Deep Aquifer in Matagorda County in 1967 (modified from Reference 2.3.1-24)**

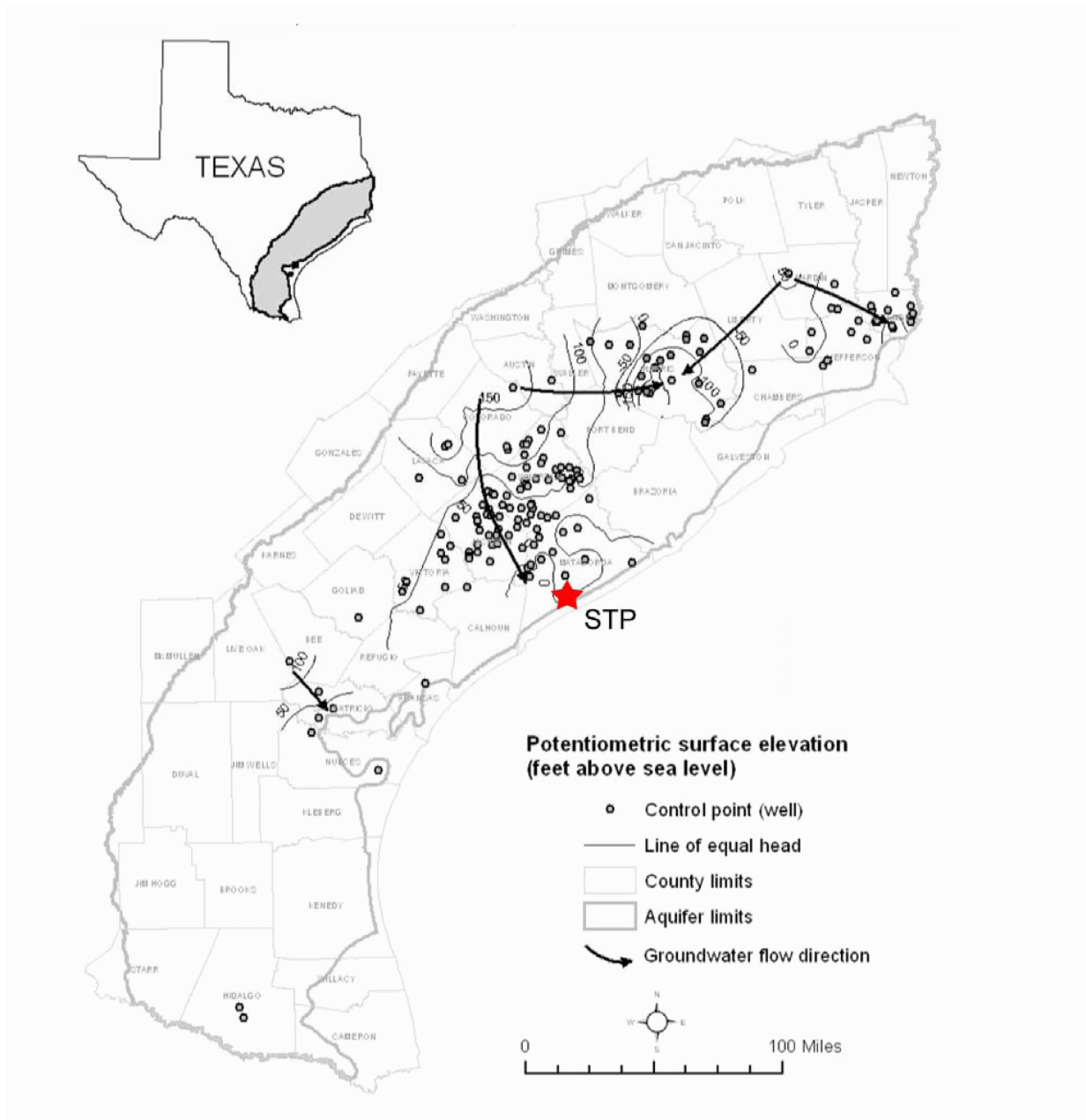


Figure 2.3.1-22 Regional Potentiometric Surface Map including water level measurements from 2001 to 2005 (modified from Reference 2.3.1-26)

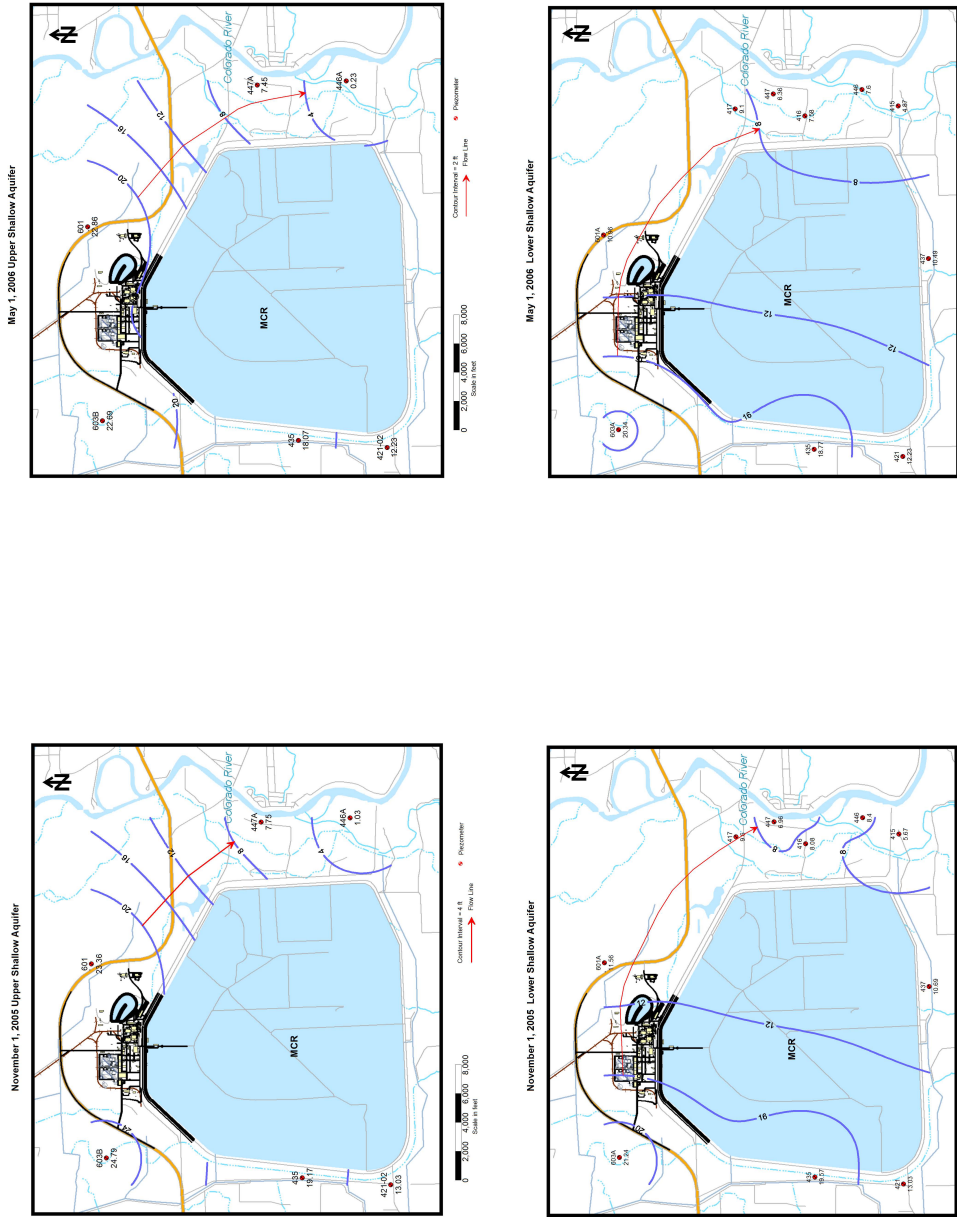


Figure 2.3.1-23 Shallow Aquifer Potentiometric Surface Maps

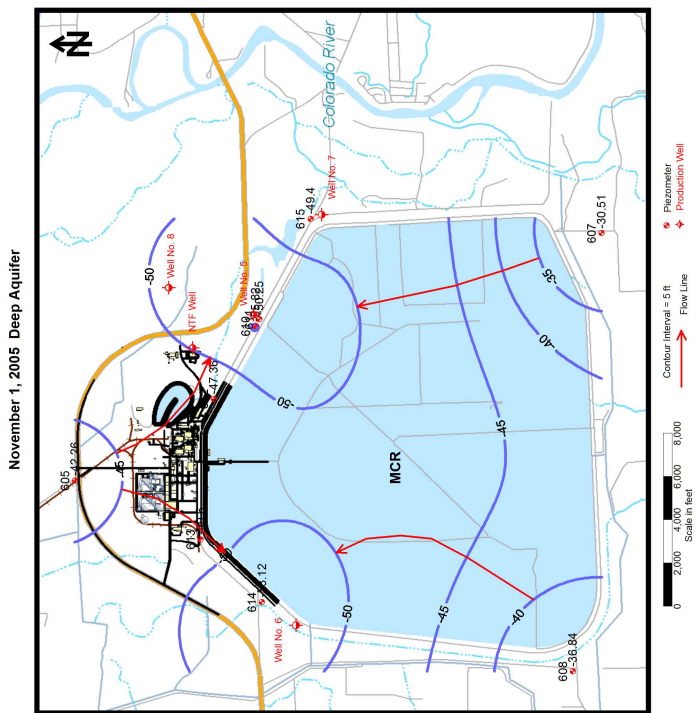
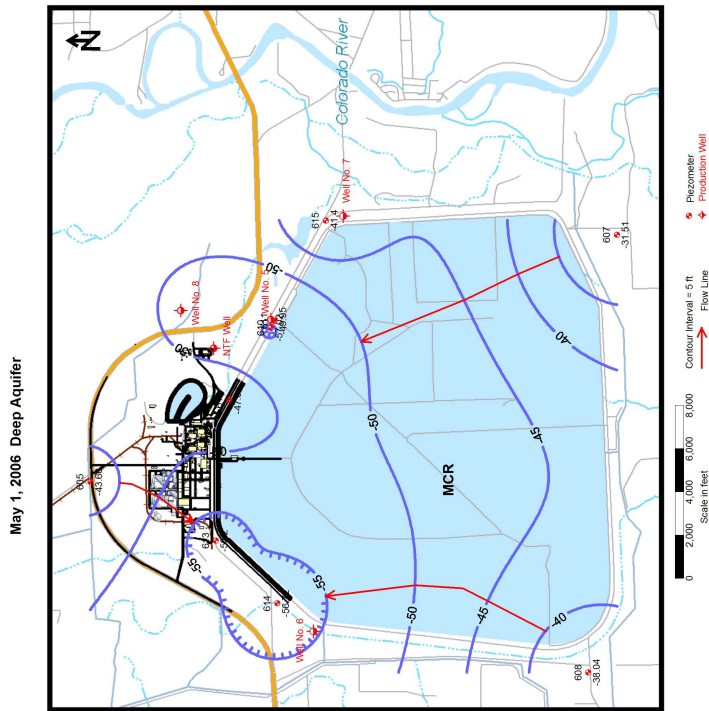
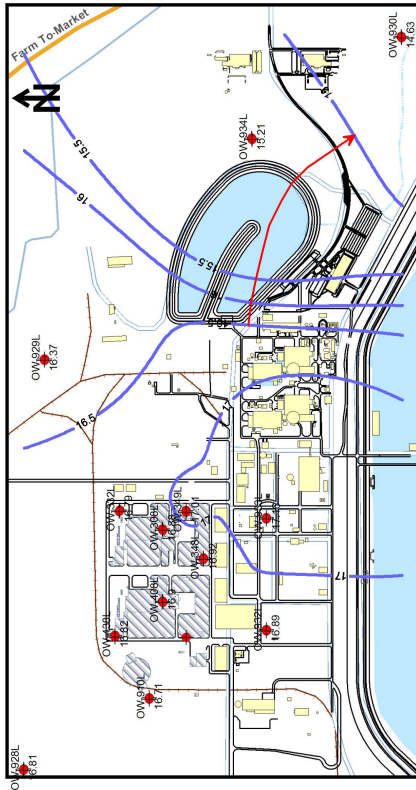


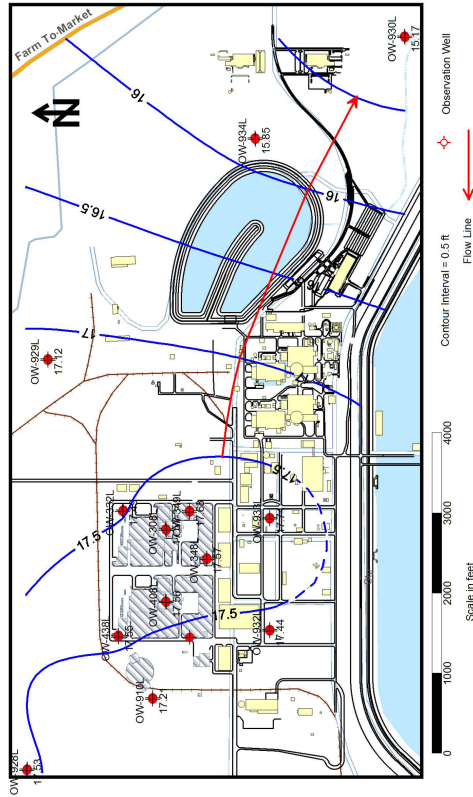
Table 2.3.1-24 Deep Aquifer Potentiometric Surface Maps



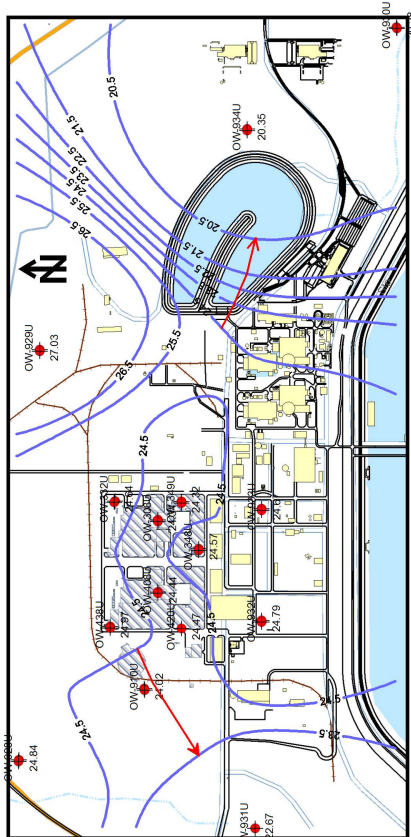
Lower Shallow Aquifer February 22, 2007



Lower Shallow Aquifer April 27, 2007



Upper Shallow Aquifer February 22, 2007



Upper Shallow Aquifer April 27, 2007

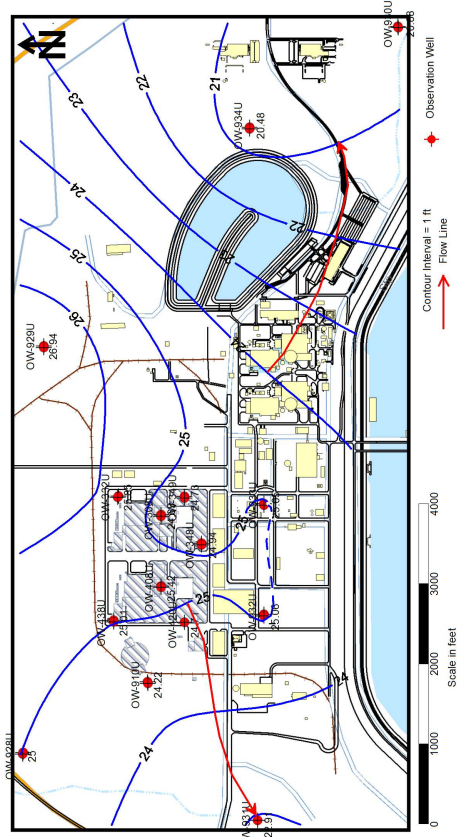


Figure 2.3.1-25 Quarterly Potentiometric Surface Maps in the STP 3 & 4 Areas



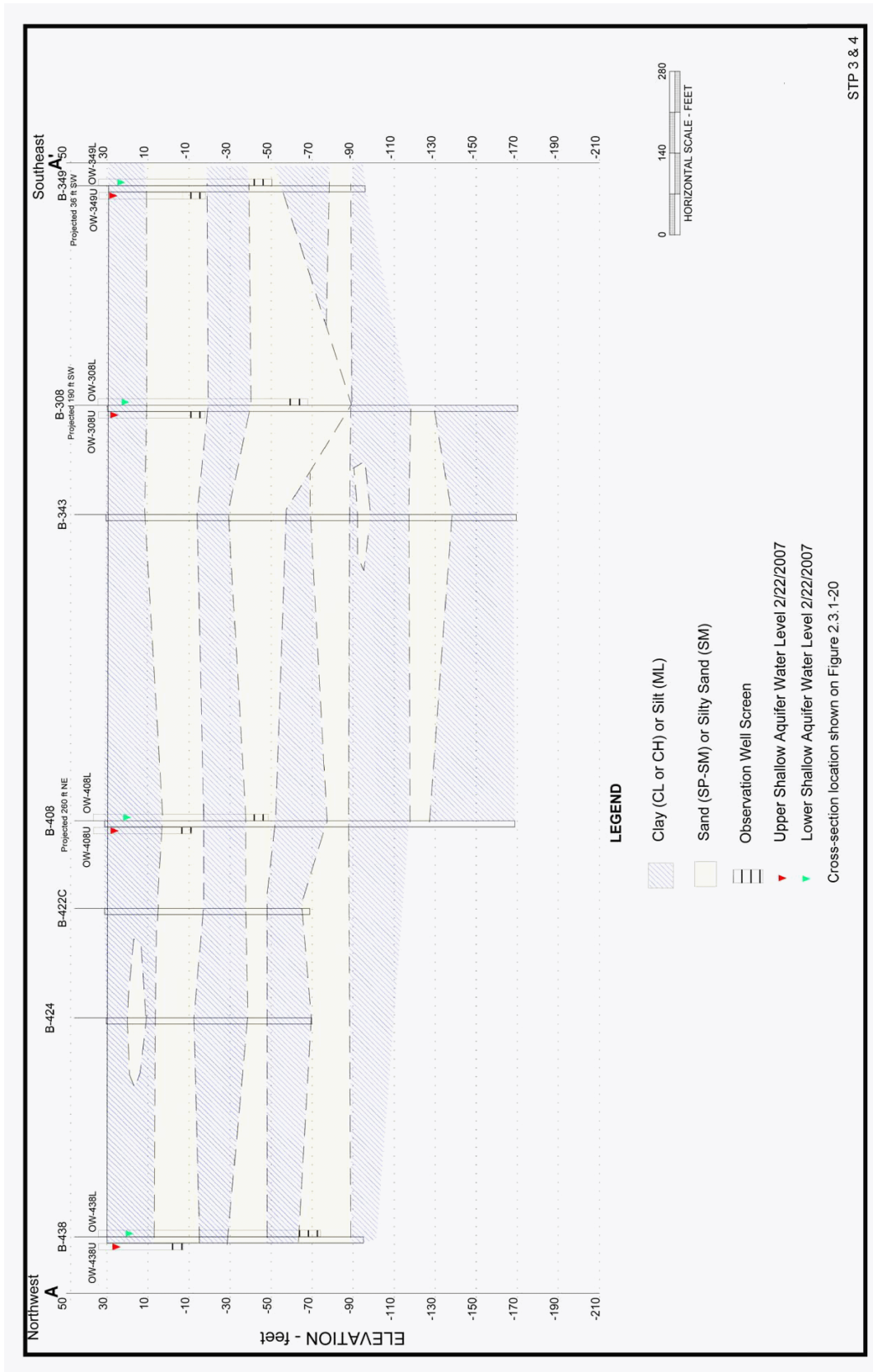


Figure 2.3.1-26 Hydrogeologic Cross-Section A-A'

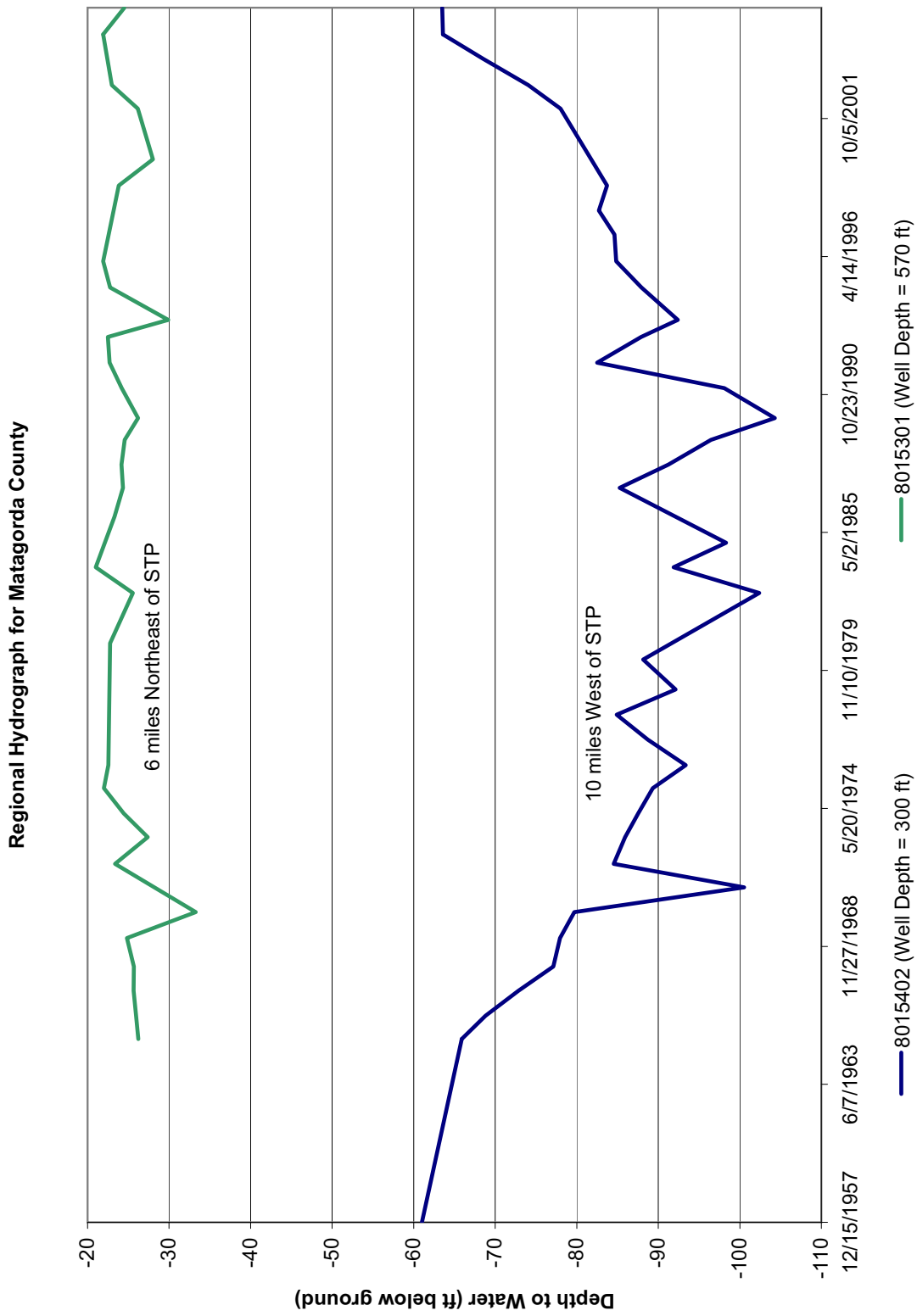


Figure 2.3.1-27 Regional Hydrographs for Deep Aquifer (Reference 2.3.1-27)

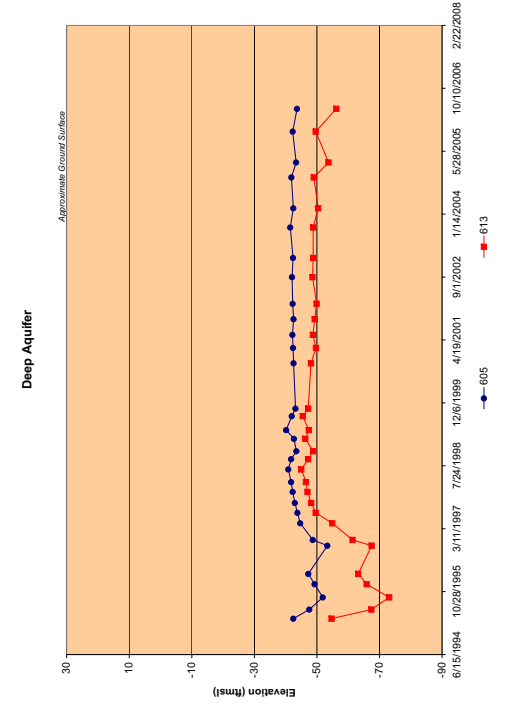
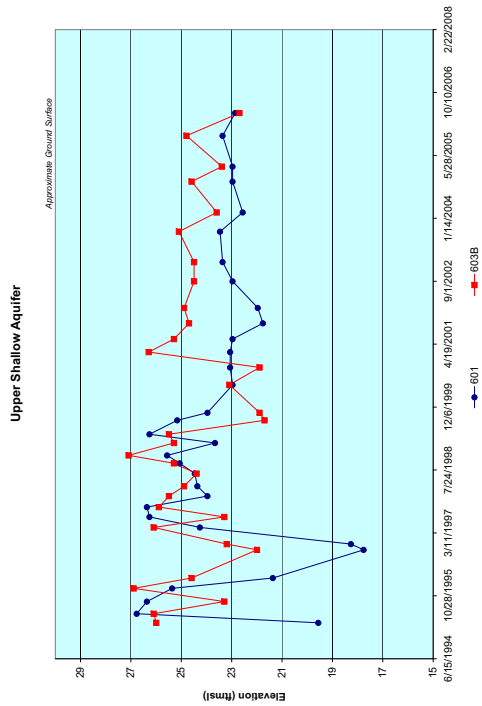
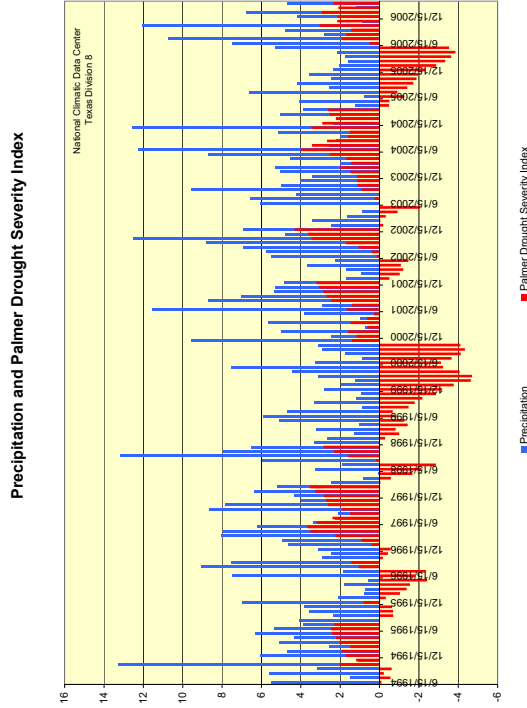
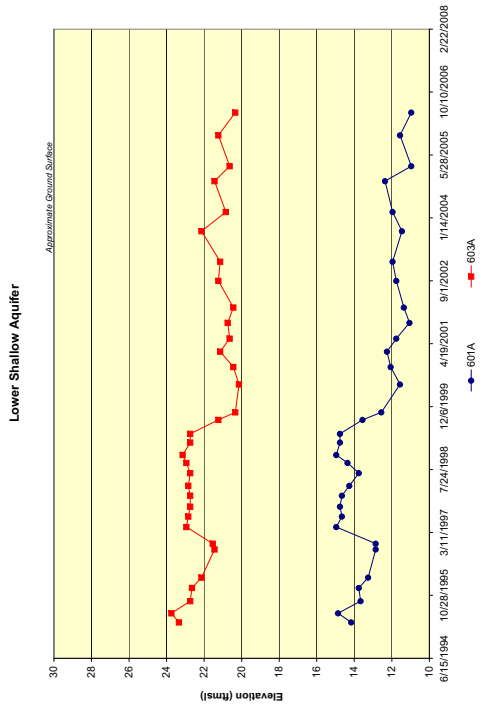


Figure 2.3.1-28 Hydrographs of Selected Wells at the STP Site

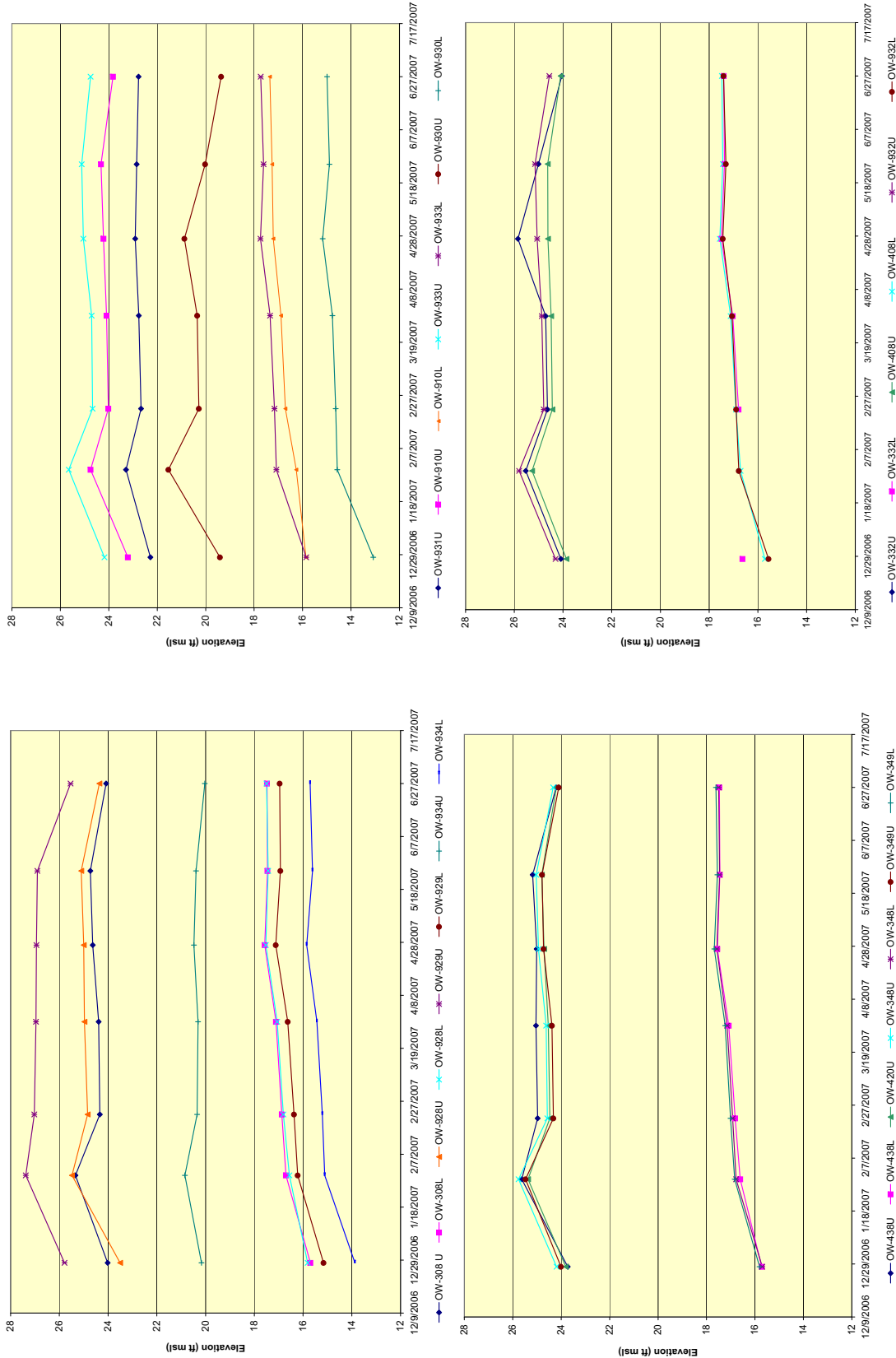


Figure 2.3.1-29 Hydrographs of Wells in the STP 3 & 4 Area

Parameter	Regional Transmissivity (gpd/ft)	STP Deep Aquifer Transmissivity (gpd/ft)	STP Shallow Aquifer Transmissivity (gpd/ft)	Regional Storage Coefficient (unitless)	STP Deep Aquifer Storage Coefficient (unitless)	STP Shallow Aquifer Storage Coefficient (unitless)
Sample Size (N)	40	3	5	6	2	4
Standard Deviation	71,936	14,526	11,620	0.0006	0.0004	0.0006
Mean	84,500	33,245	14,320	0.0008	0.0005	0.0009
Geometric Mean	63,725	31,379	9,295	0.0005	0.0004	0.0008
Median	63,800	25,533	13,000	0.0010	0.0005	0.0007

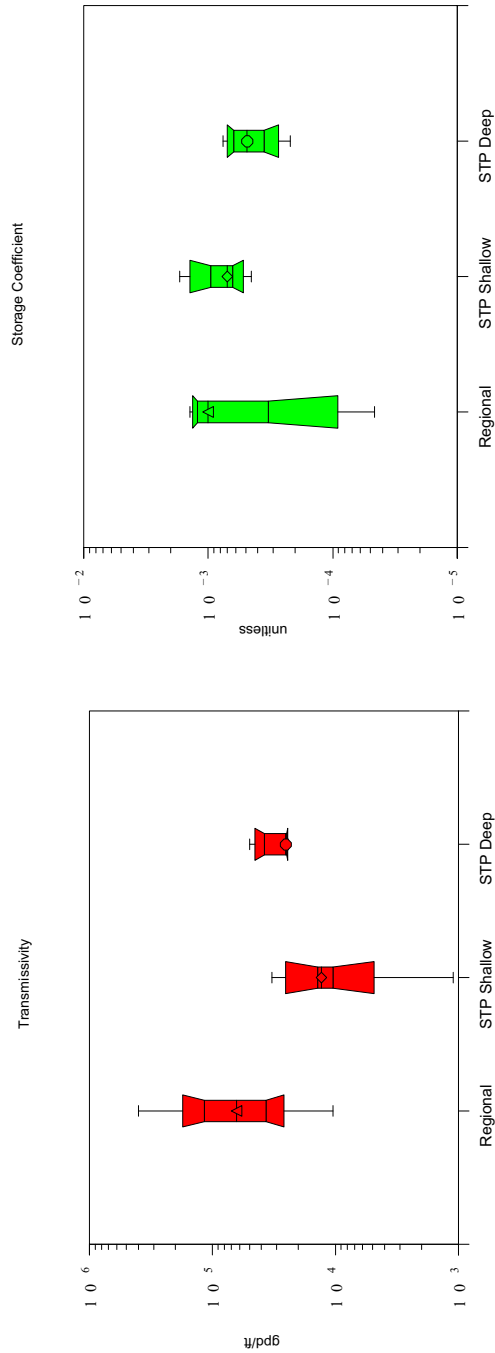


Figure 2.3.1-30 Summary of Aquifer Transmissivity and Storage Coefficient Data from Aquifer Pumping Tests