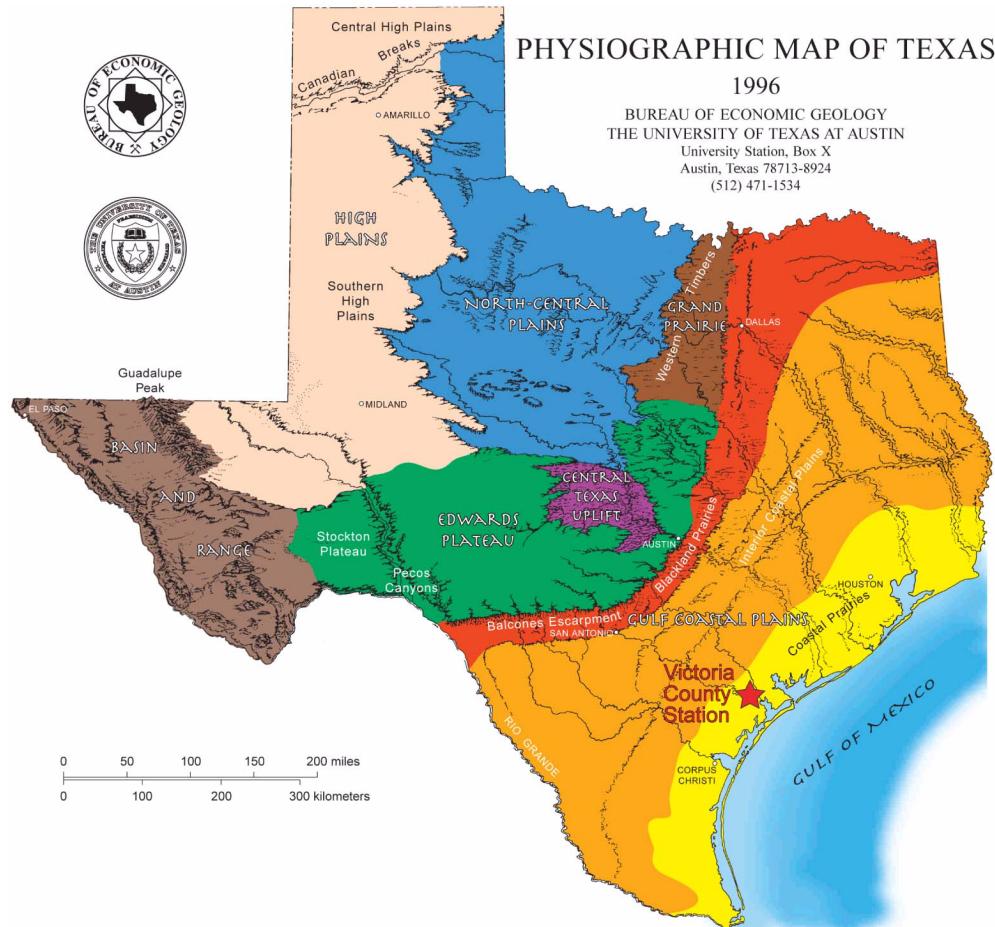




Figure 2.3.1.2-1 Regional Site Location Plan



PROVINCE	MAX. ELEV. (ft)	MIN. ELEV. (ft)	TOPOGRAPHY	GEOLOGIC STRUCTURE	BEDROCK TYPES
Gulf Coastal Plains					
Coastal Prairies	300	0	Nearly flat prairie, <1 ft/mi to Gulf	Nearly flat strata	Deltaic sands and muds
Interior Coastal Plains	800	300	Parallel ridges (questas) and valleys	Beds tilted toward Gulf	Unconsolidated sands and muds
Blackland Prairies	1000	450	Low rolling terrain	Beds tilted south and east	Chalks and marls
Grand Prairie	1250	450	Low stairstep hills west; plains east	Strata dip east	Calcareous east; sandy west
Edwards Plateau					
Principal	3000	450	Flat upper surface with box canyons	Beds dip south; normal faulted	Limestones and dolomites
Pecos Canyons	2000	1200	Steep-walled canyons		Limestones and dolomites
Stockton Plateau	4200	1700	Mesa-formed terrain; highs to west	Unfaulted, near-horizontal beds	Carbonates and alluvial sediments
Central Texas Uplift	2000	800	Knobby plain surrounded by questas	Centripetal dips, strongly faulted	Granites; metamorphics; sediments
North-Central Plains	3000	900	Low north-south ridges (questas)	West dip; minor faults	Limestones; sandstones; shales
High Plains					
Central	4750	2900	Flat prairies slope east and south	Slight dips east and south	Eolian silts and fine sands
Canadian Breaks	3800	2350	Highly dissected; local solution valleys		
Southern	3800	2200	Flat; many playas; local dune fields		
Basin and Range	8750	1700	North-south mountains and basins	Some complex folding and faulting	Igneous; metamorphics; sediments

Modified from Bureau of Economic Geology, 1996.

Figure 2.3.1.2-2 Physiographic Map of Texas

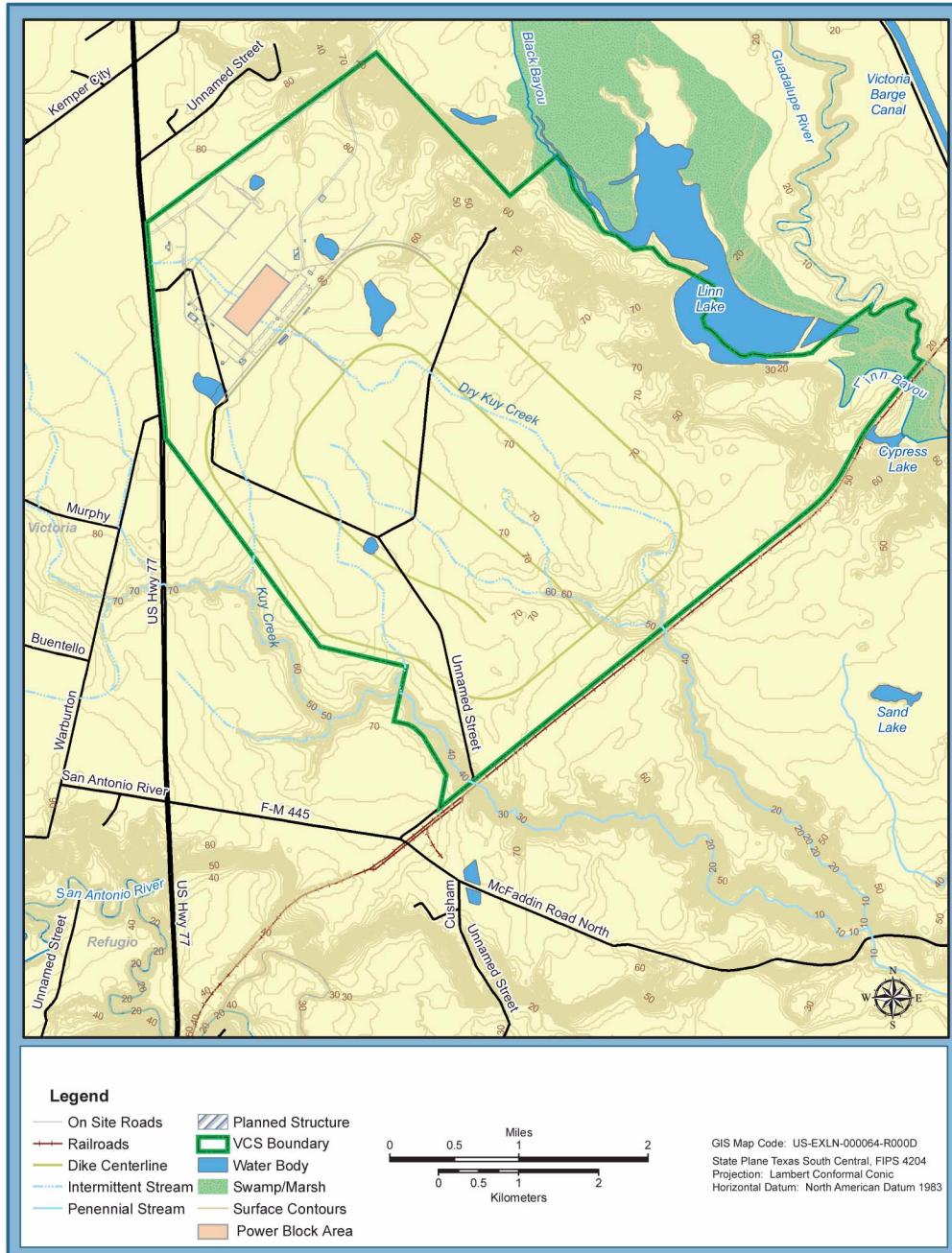
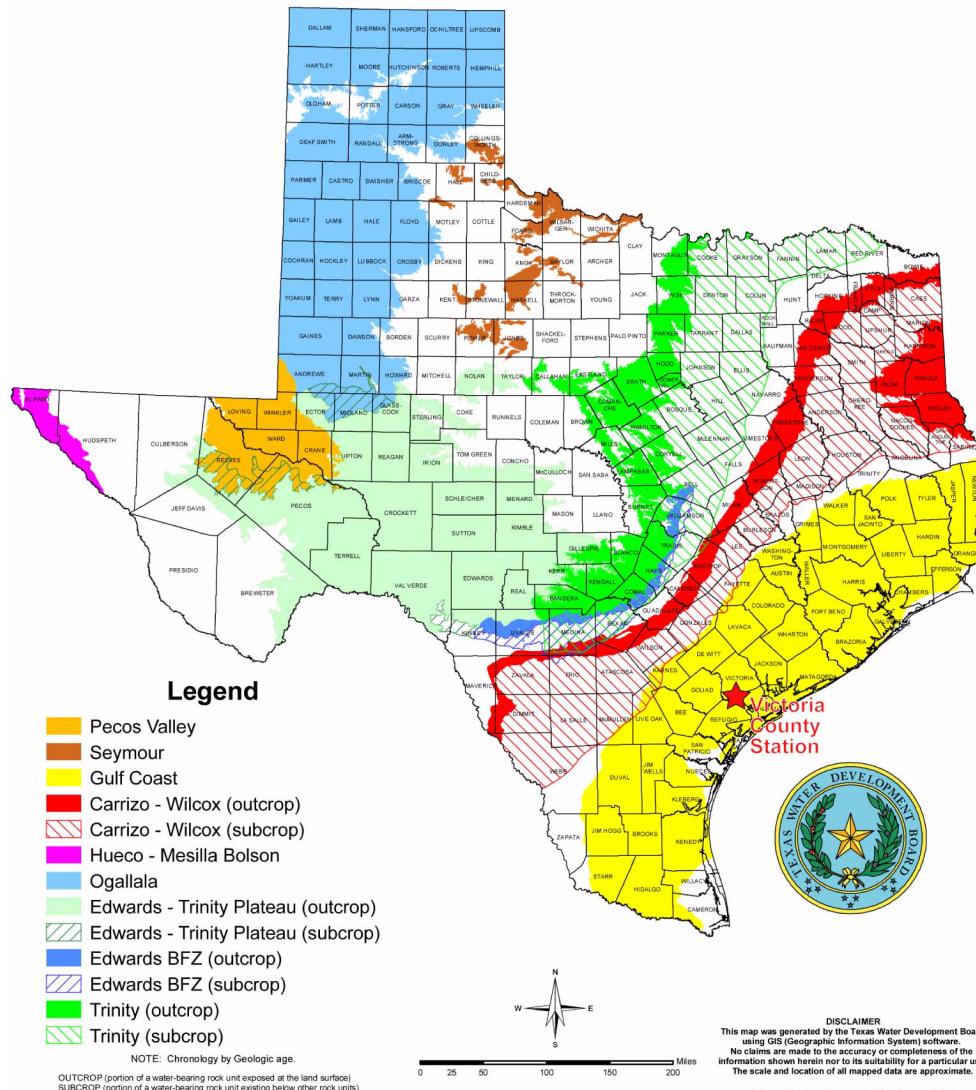


Figure 2.3.1.2-3 Detailed Site Location Plan

Major Aquifers of Texas



Modified from TWDB, 2006a.

Figure 2.3.1.2-4 Major Aquifers of Texas

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

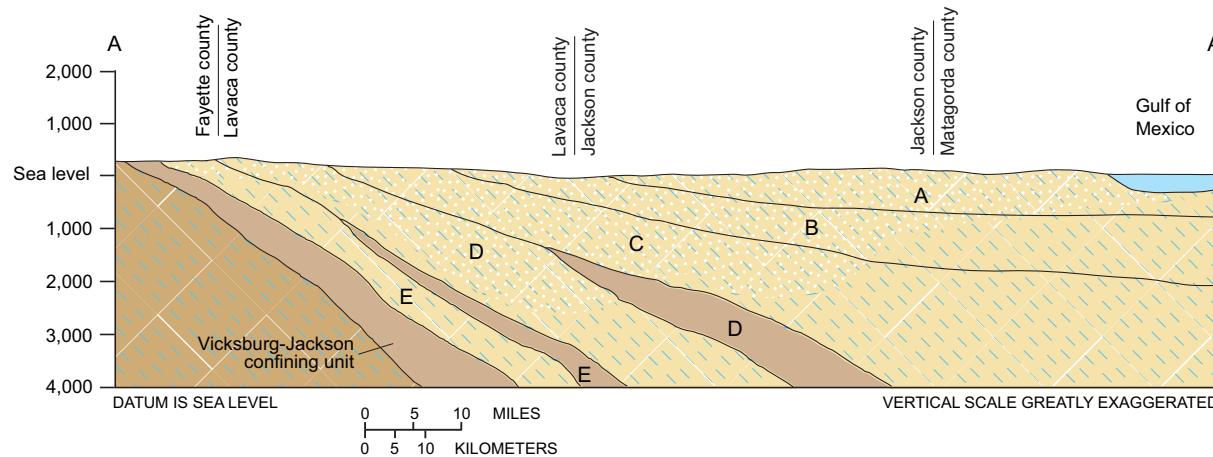
[1] Present only in the subsurface

[2] Called Catahoula Tuff west of Lavaca County

[3] Not recognized at surface east of Live Oak County

Modified from Ryder, 1996.

Figure 2.3.1.2-5 Correlation of USGS and Texas Nomenclature

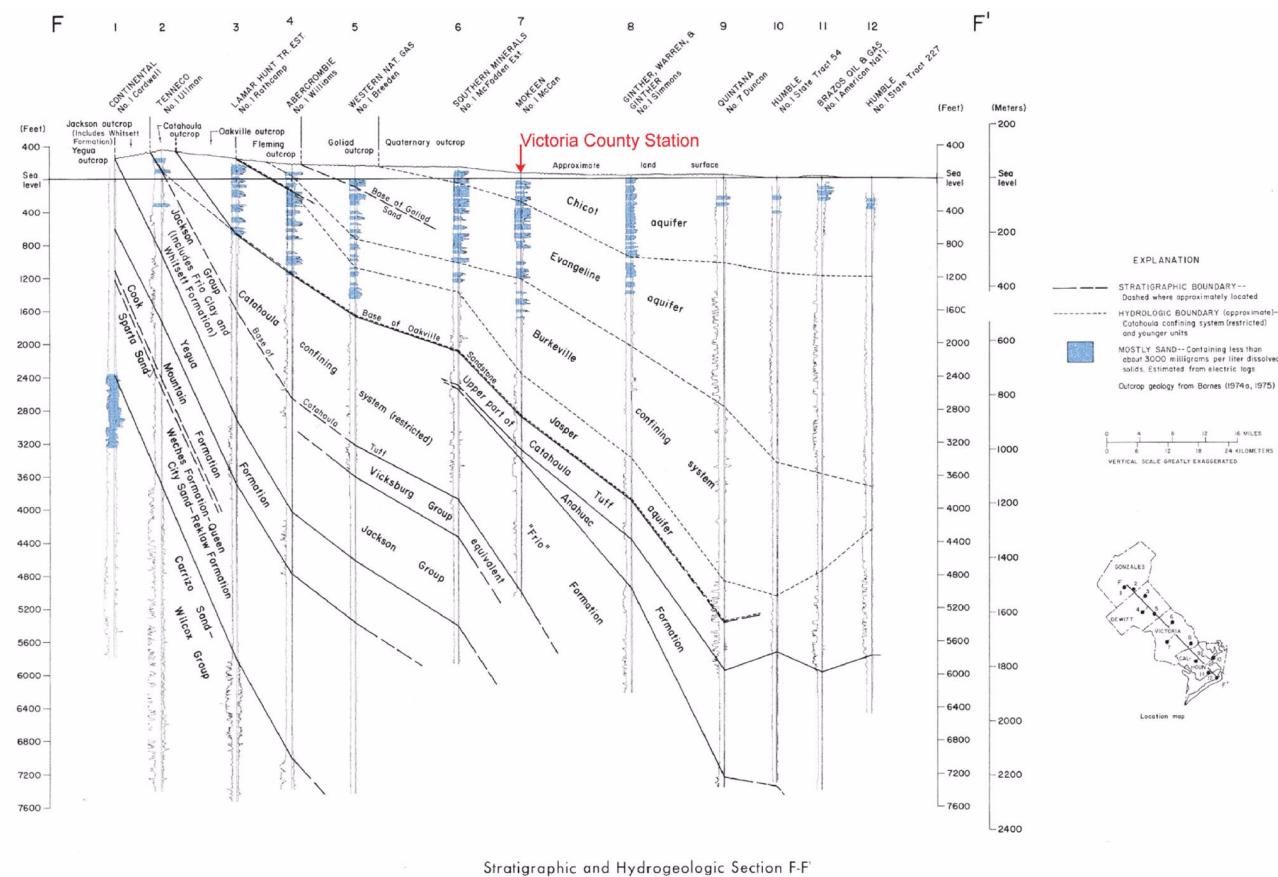


Notes:

- Coastal lowlands aquifer system—Dot patterned area indicates freshwater
- Texas coastal uplands aquifer system
- Confining unit
- D Hydrogeologic unit

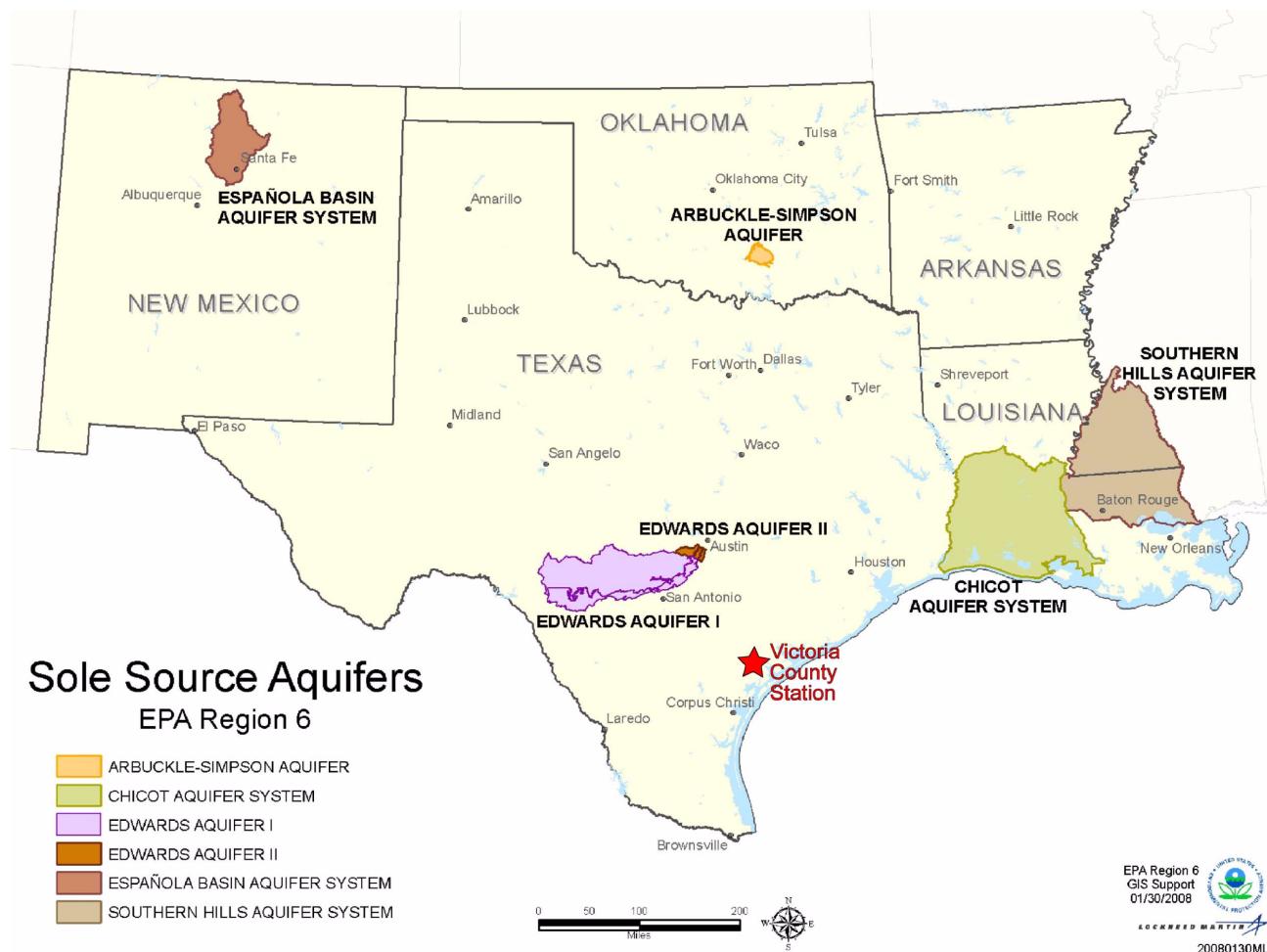
Modified from Ryder, 1996.

Figure 2.3.1.2-6 Generalized Cross Section through the Coastal Lowlands/Coastal Uplands Aquifer Systems



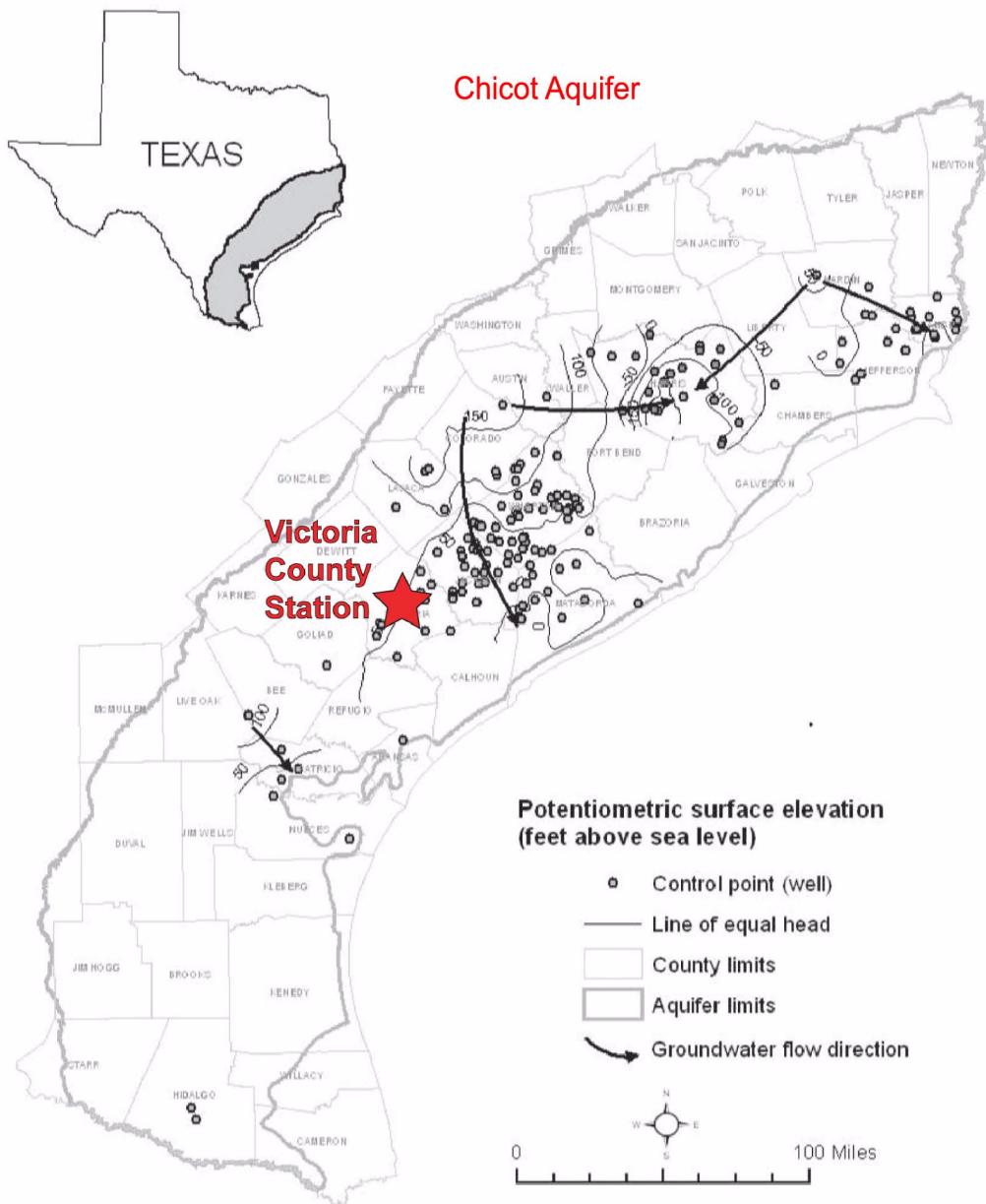
Modified from Baker, 1979.

Figure 2.3.1.2-7 Regional Hydrogeologic Cross Section through the Gulf Coast Aquifer System



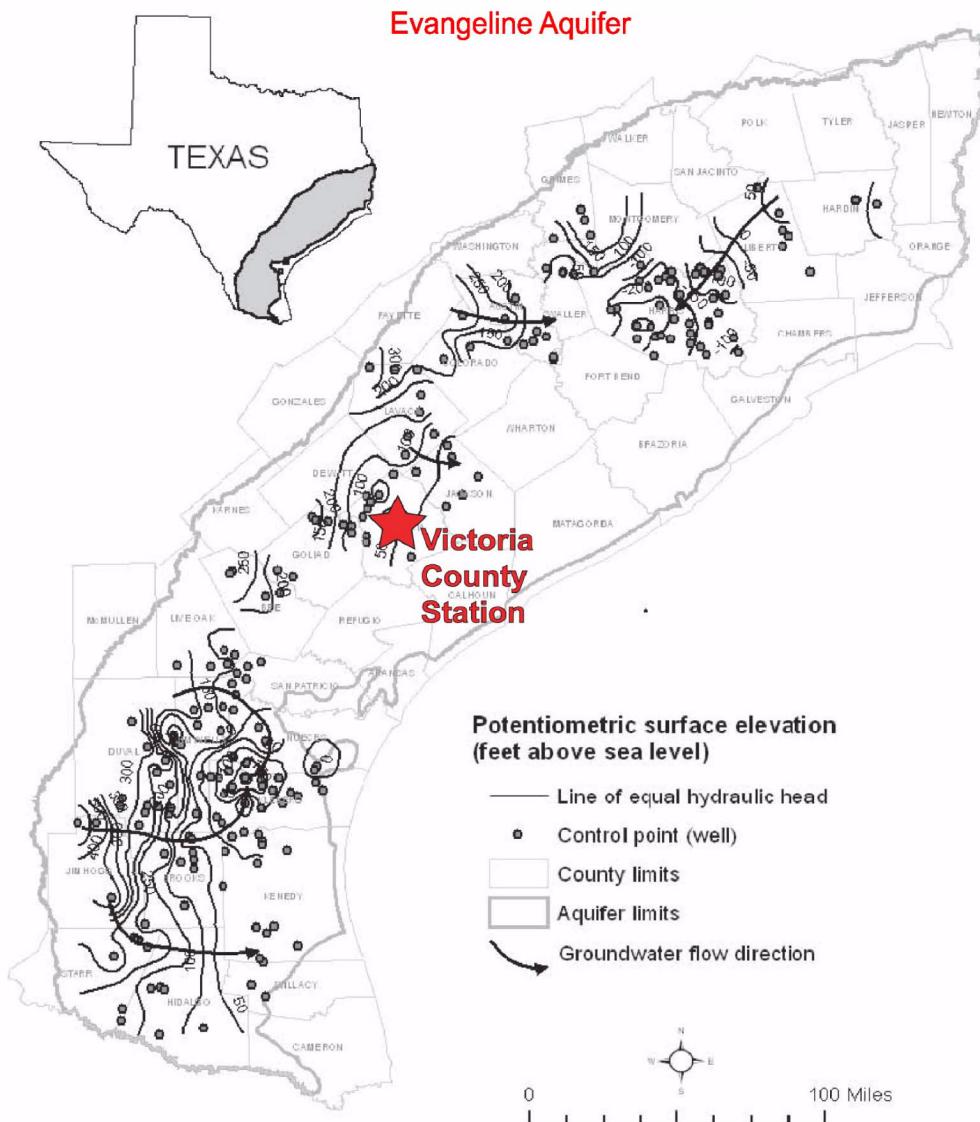
Modified from U.S. EPA, 2008a.

Figure 2.3.1.2-8 Sole Source Aquifers EPA Region 6



Modified from Chowdhury, et al., 2006.

Figure 2.3.1.2-9 Regional Potentiometric Surface Map for the Chicot Aquifer, including Water Level Measurements from 2001 to 2005 (Sheet 1 of 2)



Modified from Chowdhury, et al., 2006.

Figure 2.3.1.2-9 Regional Potentiometric Surface Map for the Chicot Aquifer, including Water Level Measurements from 2001 to 2005 (Sheet 2 of 2)

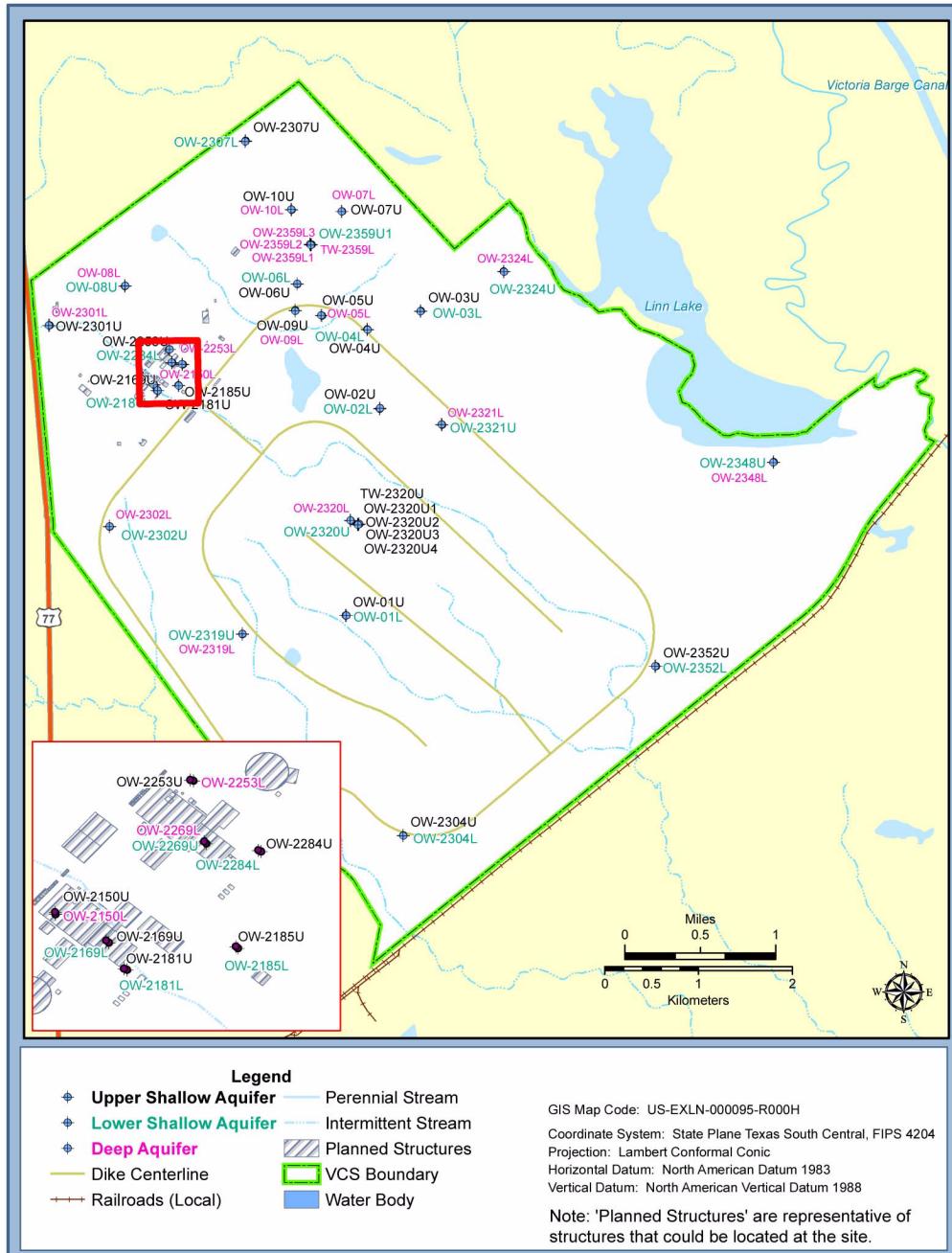
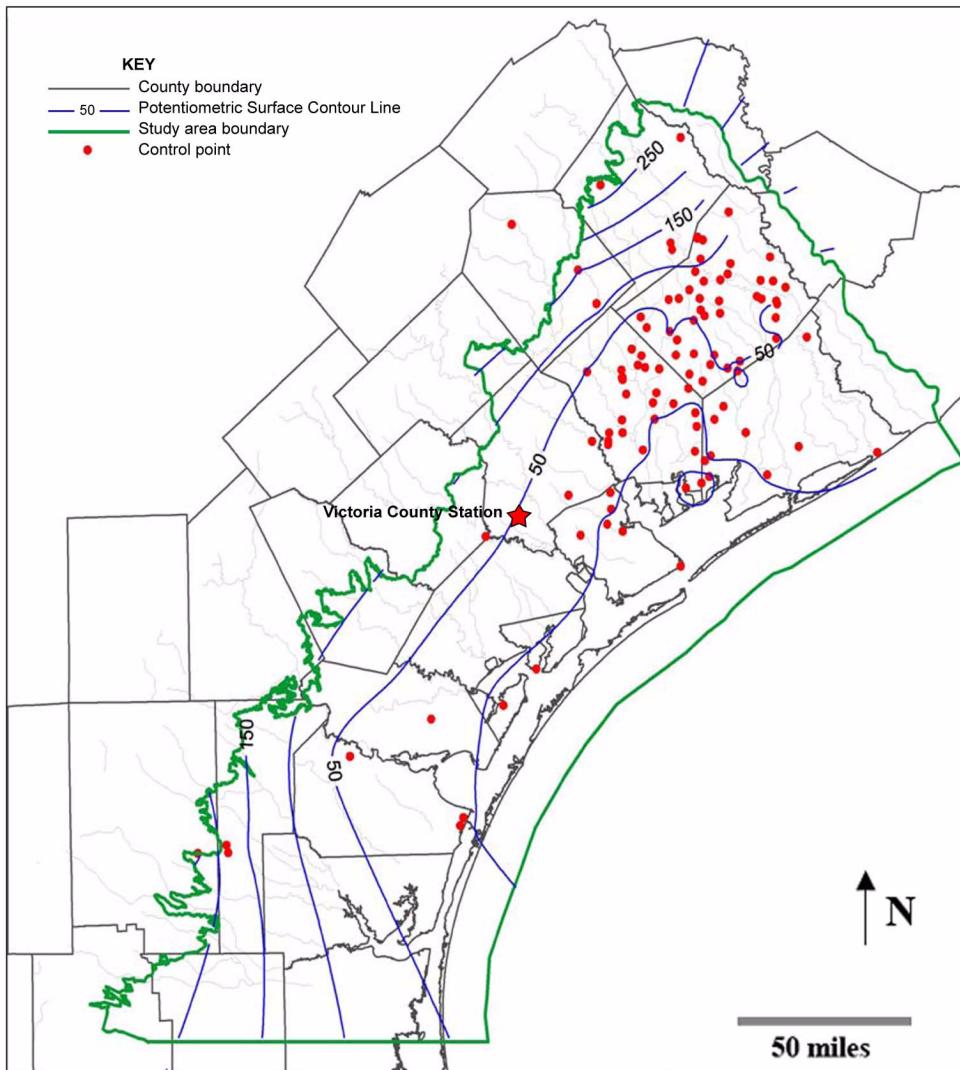
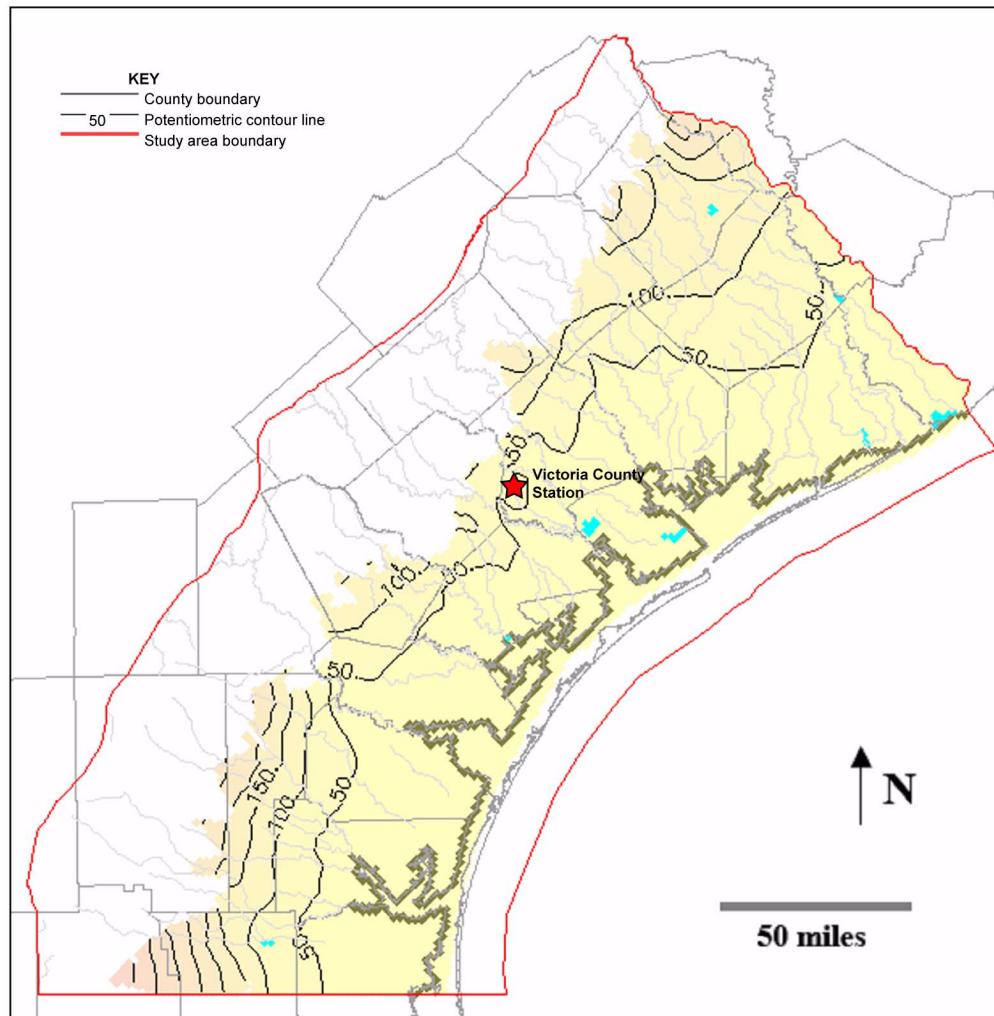


Figure 2.3.1.2-10 VCS Site Well Location Plan



Modified from Chowdhury, et al., 2004.

Figure 2.3.1.2-11 1999 Potentiometric Surface of the Chicot Aquifer



Modified from Chowdhury, et al., 2004.

Figure 2.3.1.2-12 Simulated Chicot Aquifer Groundwater Levels from GAM Steady-State Model