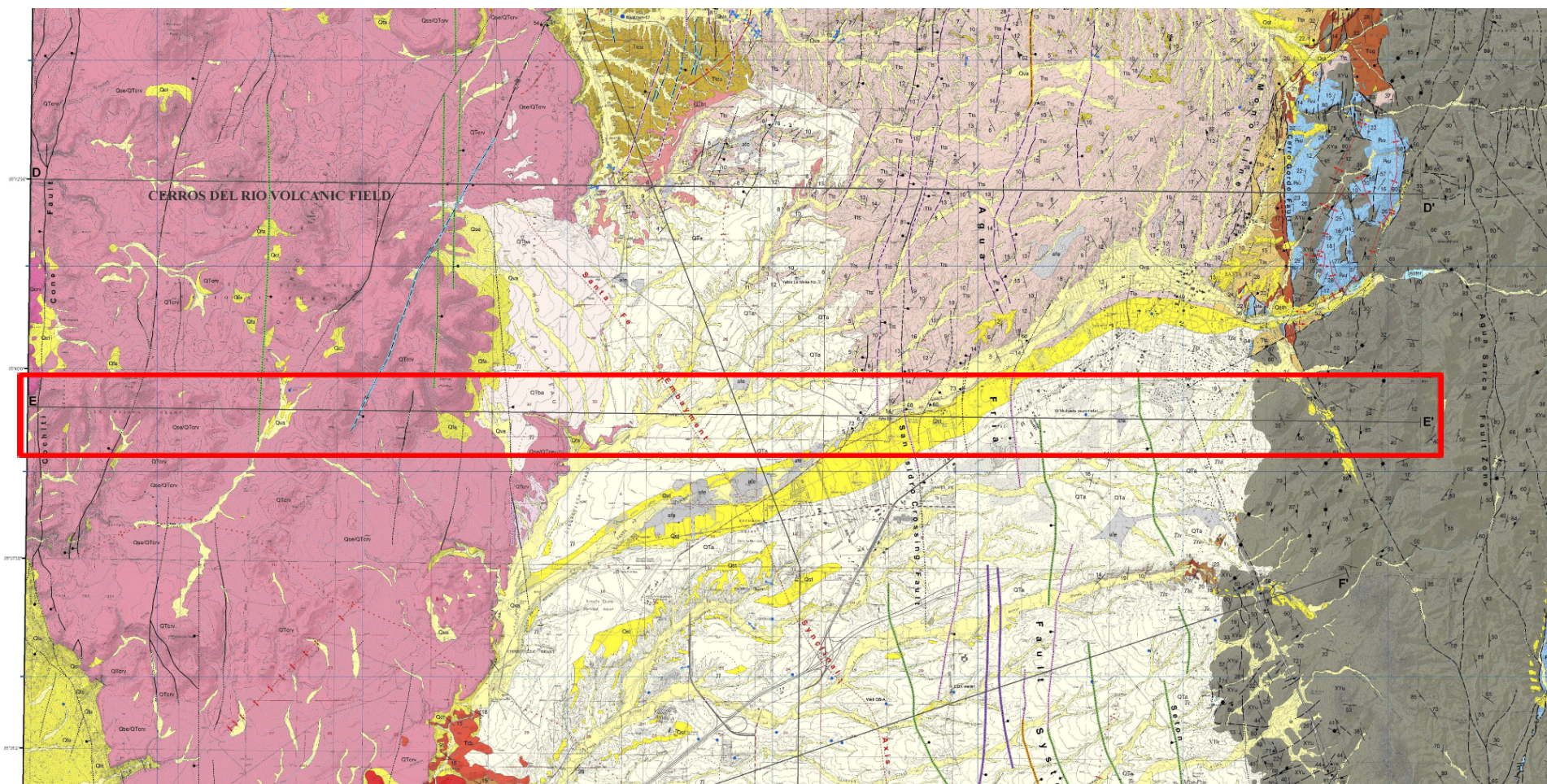


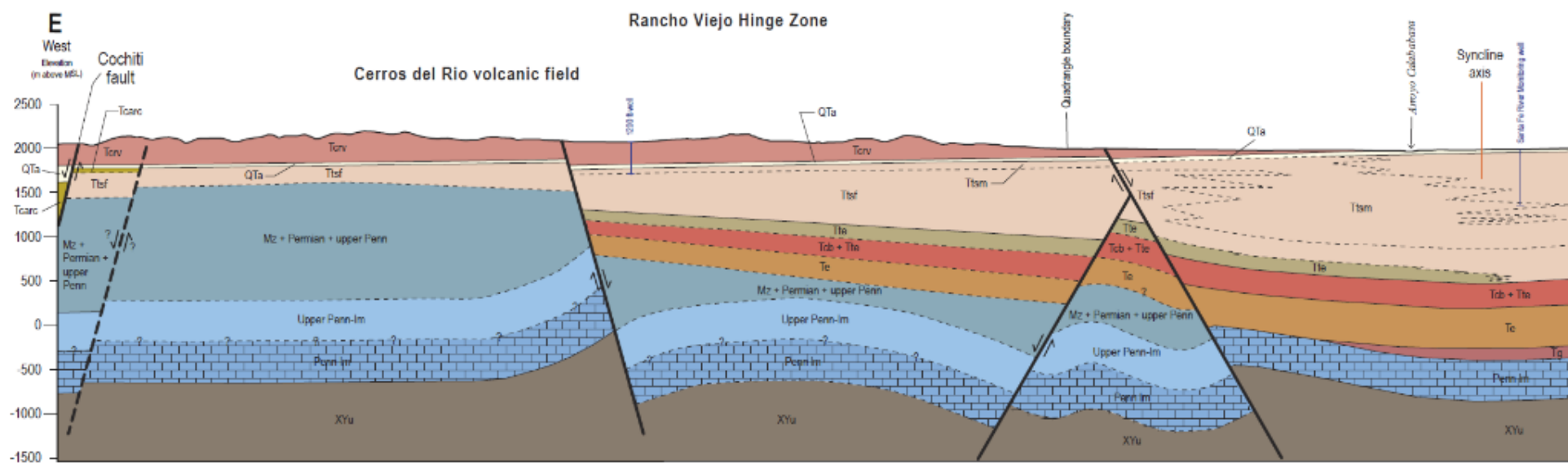
Schematic of the hydrologic cycle from New Mexico Tech (<https://geoinfo.nmt.edu/faq/water/>)



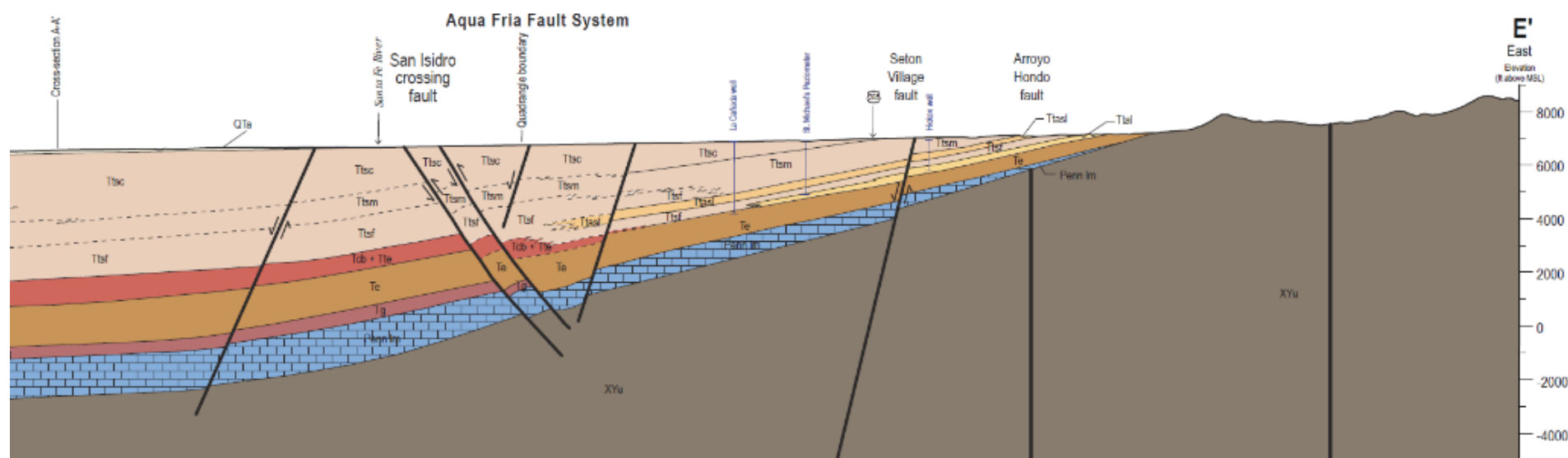
Geological Map of Santa Fe Region, Koning 2010

The red box outlines the E-E cross section that is detailed on the following pages.

3



Depths and geometry of base of Tsf in western cross-section is from Grauch et al. (2009) and Brian Rodriguez (written communication, 2009)



Notes:

- 0 elevation is sea level

Geology of the Santa Fe Area

Geologic Units

	Open water in the Rio Grande or reservoirs
afe	Artificial fill or excavations
Qva	Valley-fill alluvium
Qfa	Alluvial fan deposits
Qms	Mass-wasting, colluvial, and sheetwash deposits
Qst	Stream-terrace deposits
Qvc	Volcanic rocks originating from the Valles caldera, Jemez Mountains
Qto	Other Quaternary-Tertiary deposits (typically sand or gravel)
QTgo	Older high-level stream gravel deposits
QTV	Volcanic rocks originating from east of the Rio Grande

Santa Fe Group

QTa	Ancha Formation
QTP	Puye Formation
Tcar	Axial-river deposits of the Chamita Formation
Ticu	Cuarteles Member of the Tesuque Formation
Tcarc	Interfingering Chamita Formation and Cuarteles Member
Tta	Lithosome A of the Tesuque Formation
Ttb	Lithosome B of the Tesuque Formation
Tts	Lithosome S of the Tesuque Formation
Ttas	Mixed lithosomes A and S of the Tesuque Formation

Older rocks

Tos	Sedimentary and volcanoclastic rocks underlying the Santa Fe Group
Pzu	Paleozoic rocks
XYu	Proterozoic rocks

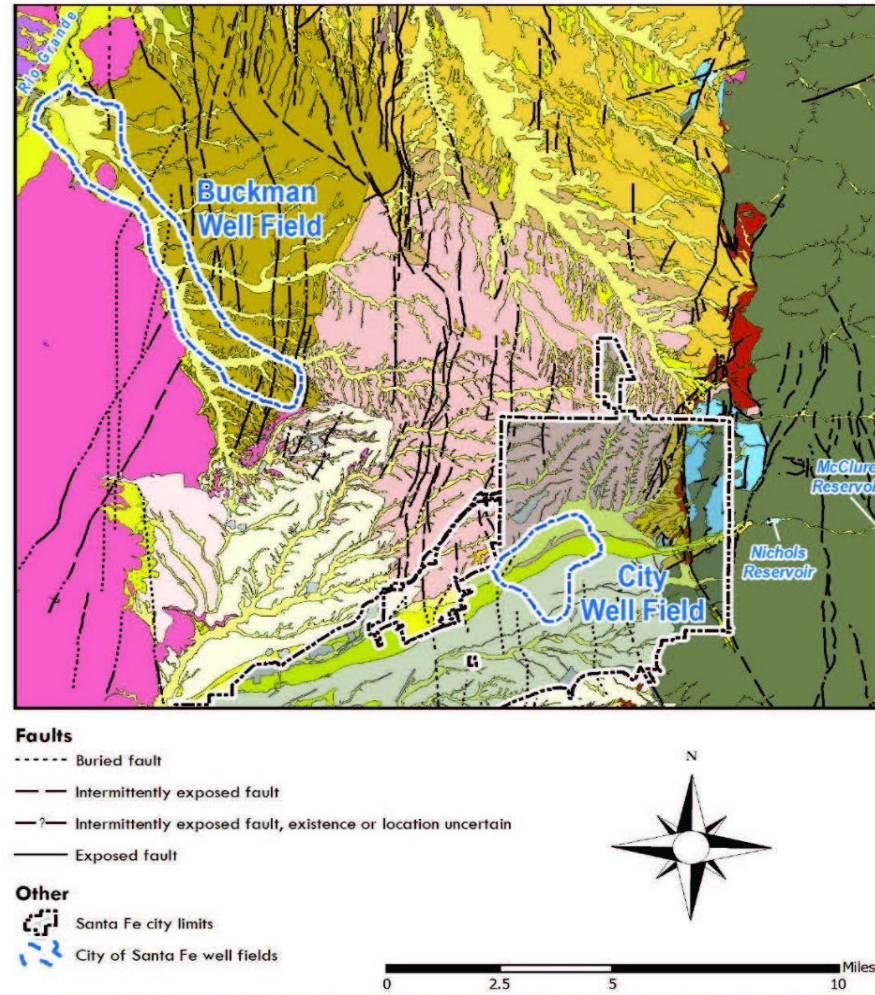


Figure 4-1 Generalized geologic map of the Santa Fe area encompassing the Buckman and City well fields. Modified from Koning and Read (2010).

Table 4-1 Descriptions for lithologic units in the Santa Fe area as shown in Figure 4-1 (modified from Koning and Read 2010)

Abbreviation	Unit Name	Brief Description
afe	Artificial fill or excavations	Deposits under highways or in landfills
Qva*	Valley-fill alluvium	Sand and gravel deposited in valley floors and often cut by arroyos
Qfa	Alluvial fan deposits	Gravel and sand deposited in fan-shaped lobes at the mouths of drainageways
Qms	Mass-wasting, colluvial, and sheetwash deposits	Sheetflood sand, coarse landslide or slump deposits, and gravelly talus or colluvium
Qst	Stream-terrace deposits	Sand and gravel underlying terraces perched above active drainageways
Qvc	Volcanic rocks originating from the Valles caldera	Ash and ash-flow tuffs resulting from powerful eruptions of the Valles caldera over the last 1,600,000 years
QTo	Other Quaternary-Tertiary deposits (sand or gravel)	Gravel and sand consisting of volcanic rocks deposited east of the Caja del Rio Plateau
QTgo	Older high-level stream gravel deposits	Sandy gravel underlying terraces on Tano Ridge and north of the Río Tesuque that are perched higher above active drainageways than those of unit <i>Qst</i>
QTV	Volcanic rocks originating from east of the Rio Grande	Basaltic to andesitic rocks capping the Caja del Rio Plateau or monzonitic intrusive rocks near La Cienega
Santa Fe Group		
QTa*	Ancha Formation	Sand and gravel derived from the southwestern Sangre de Cristo Mountains and deposited on alluvial slopes
QTp	Puye Formation	Volcanic-rich gravel, sand, and silt deposited by streams and debris flows west of the Rio Grande
Tcar*	Axial-river deposits of the Chamita Formation	Sandstones deposited by the ancestral Rio Grande
Ttcu	Cuarteles Member of the Tesuque Formation	Conglomerate and sandstone deposited on alluvial slopes
Tcarc	Interfingering Chamita Fm and Cuarteles Mbr	Complexly interfingering conglomerate and sandstone of units <i>Tcar</i> and <i>Ttcu</i>
Tta	Lithosome A of the Tesuque Fm	Sandstone and subordinate mudstone deposited on alluvial slopes that complexly interfingers and grades laterally or vertically into units <i>Ttb</i> , <i>Tts</i> , and <i>Ttcu</i>
Ttb	Lithosome B of the Tesuque Fm	Claystone, siltstone, and sandstone deposited on floodplains in a basin-floor setting
Tts*	Lithosome S of the Tesuque Fm	Pebbly sandstone, siltstone, and mudstone deposited by the ancestral Santa Fe River in its channel or on its floodplain
Ttas	Mixed lithosomes A and S of the Tesuque Fm	Gradational zone between units <i>Tta</i> and <i>Tts</i> northwest of the Pueblo of Tesuque
Older Rocks		
Tos	Sedimentary, volcanoclastic rocks under the Santa Fe Group	Includes ash-rich sandstone and siltstone of the Abiquiu Formation, alluvial-fan sandstone and conglomerate or tuffaceous sandstone of the Espinazo Formation, stream-deposited sandstone of the Galisteo Formation, and limestone- to granite-bearing sandstone and conglomerate near Bishops Lodge
Pzu	Paleozoic rocks	Limestone, siltstone, shale, and sandstone
XYu	Proterozoic rocks	Granite, pegmatite, and amphibolite of the southern Sangre de Cristo Mountains

*Unit known to host either shallow or deep aquifers.

