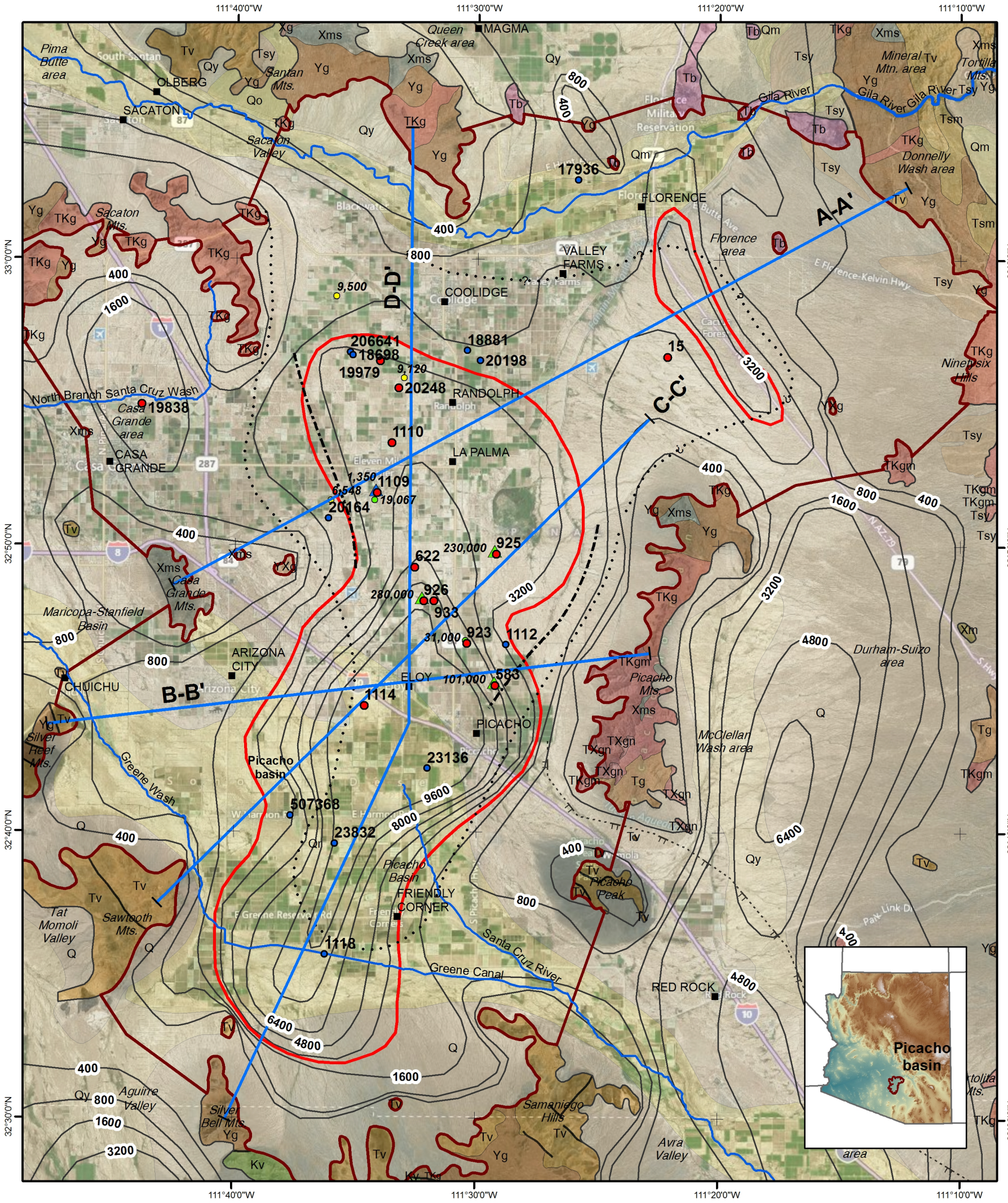
Geologic Map of the Picacho Basin, South-central Arizona: Geologic evaluation for CO2 sequestration potential

PLATE 1



Legend

- Wells >800 m depth-bls
- Wells <800 m depth-bls
- *Extent of the Picacho basin*
- *800-m (2,625-ft) depth contour below land surface*
- *Major drainages*
- *Approximate maximum extent of gypsum in Upper Basin Fill (from Pool et al., 2001)*
- *Extent of gypsiferous sediment queried where uncertain*
- *Approximate maximum extent of evaporite deposits in Lower Basin-Fill deposits*
- *Geologic cross-sections*

Statewide salinity (2012)

Well Depth (m), TDS (mg/L)

- >800 m, >10,000 mg/L
- >800 m, 5,000 to 10,000 mg/L
- >800 m, <5,000 mg/L
- <800 m, >10,000 mg/L
- <800 m, 5,000 to 10,000 mg/L

1:275,000

0 2 4 6 8 Kilometers

0 4 8 Miles

Map projection NAD83, UTM 12 North
Geologic Map from Richard et al, 2000, AZGS Map 35 - see map for explanation of units and line types.
Base map from ESRI Services.

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Geologic Cross-sections of the Picacho Basin, South-central Arizona: Geologic evaluation for CO2 sequestration potential

PLATE 2

Legend

- *Land surface with surficial geologic map units (Richard et al., 2000)*
- *Depth to bedrock contour (feet below land surface)*
- *800 meters (2,625 feet) below land surface*
- *High-angle normal fault*
- *High-angle normal fault, inferred*

Stratigraphic Units

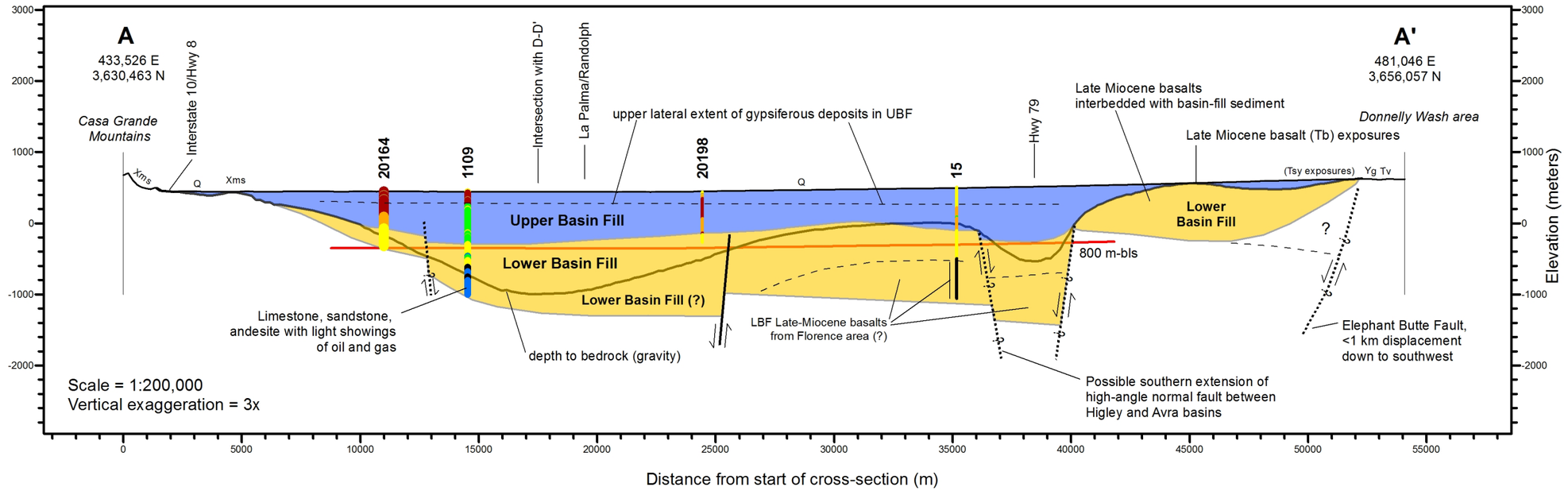
- Upper Basin Fill
- Lower Basin Fill

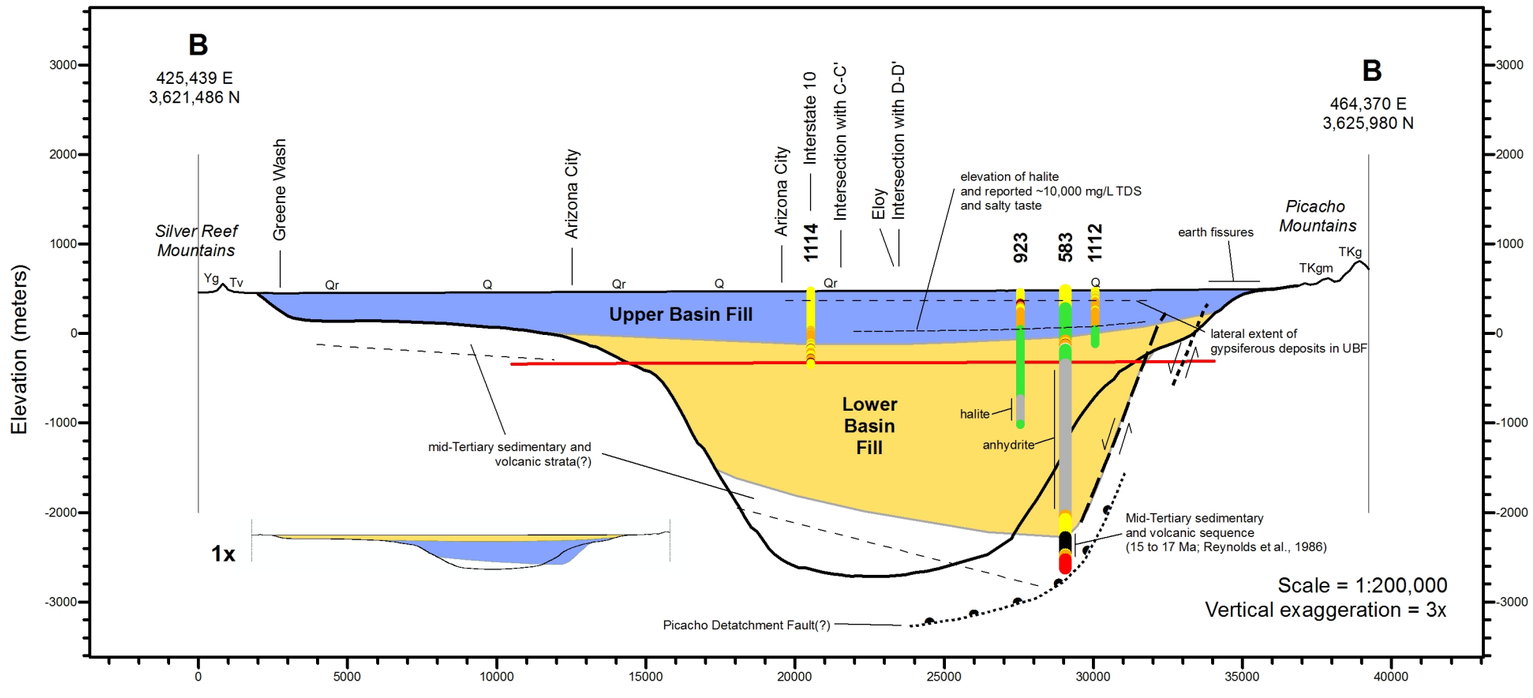
Borehole Lithology

- *Predominantly coarse-grained (sand, gravel and conglomerate)*
- *Predominantly fine-grained (silt, mud, and clayey deposits)*
- *Predominantly clay*
- *Predominantly fine-grained gypsiferous sediment*
- *Predominantly halite and anhydrite (undifferentiated)*
- *Predominantly limestone or limey deposits*
- *Andesitic and basaltic lava flows*
- *Crystalline basement (bedrock)*

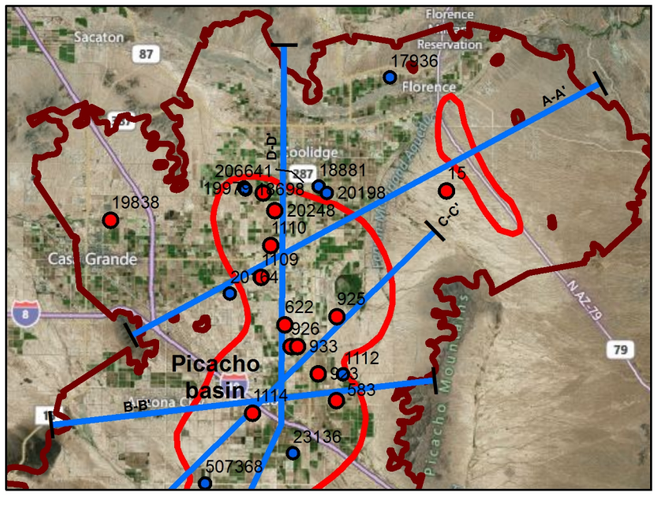
Horizontal offset from cross-section (meters)

- *0 to 1,000*
- *1,001 to 2,000*
- *2,001 to 3,000*





Location map



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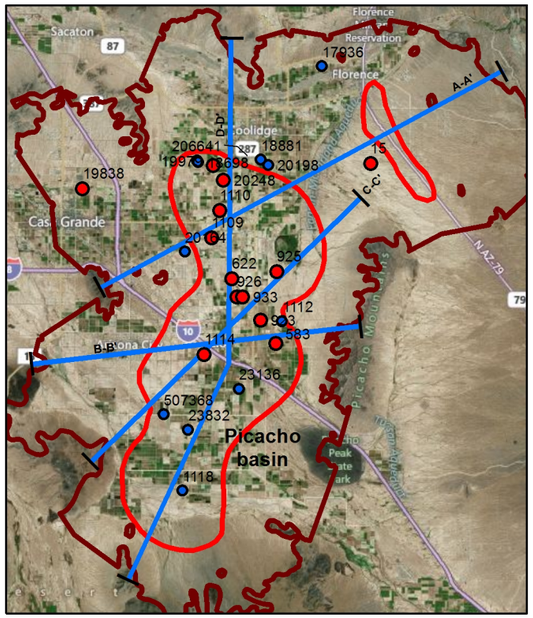
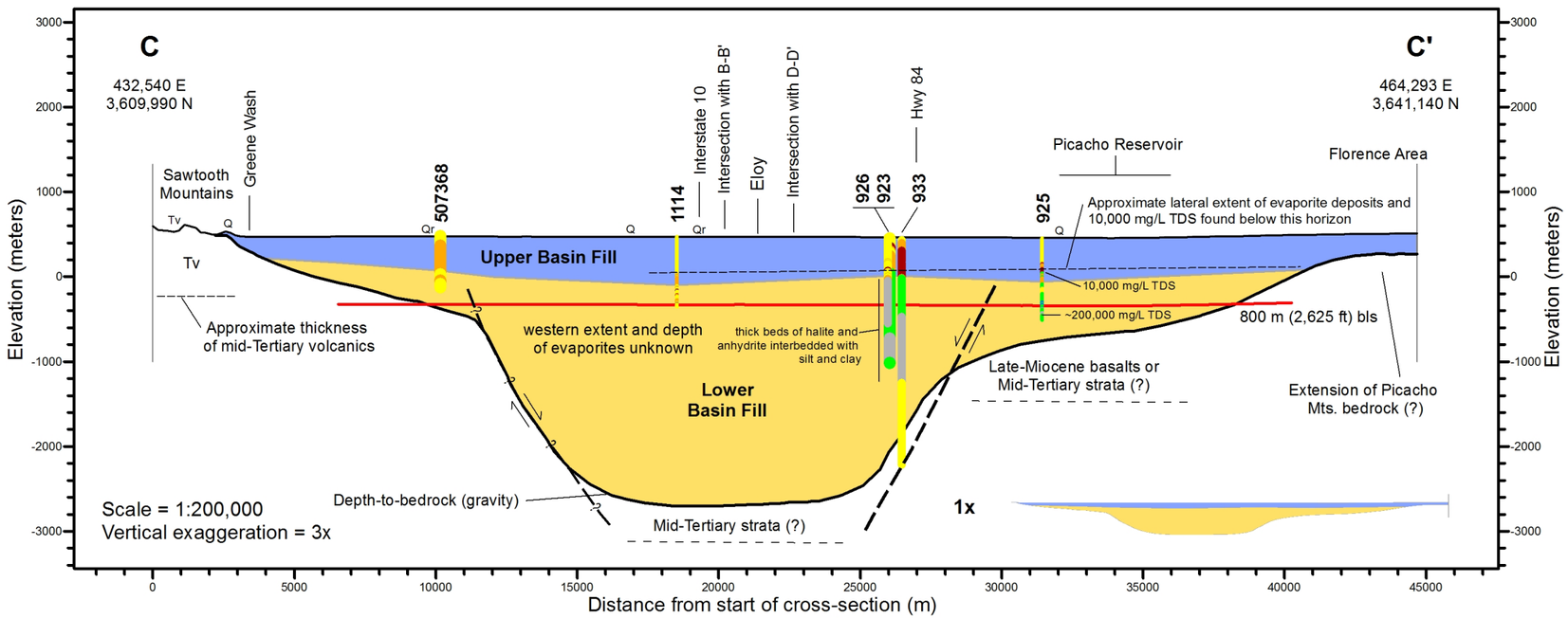
Arizona Geological Survey

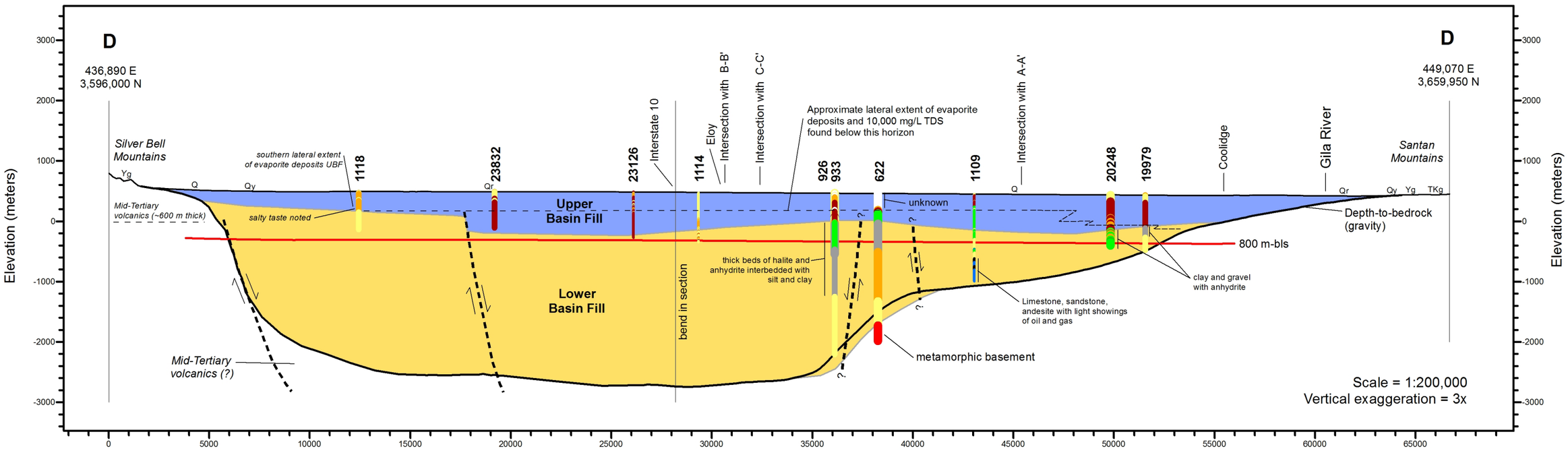
Geologic Cross-sections of the Picacho Basin, South-central Arizona: Geologic evaluation for CO2 sequestration potential

PLATE 3

Location map







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