CROSS SECTION EXPLANATION (PLATE 2)

Hueco Bolson Hydrostratigraphic Units (HSUs)

RIO GRANDE VALLEY FILL

RA — **Rio Grande Alluvium --** River-channel and floodplain deposits of the Rio Grande; up to 100 ft (30 m) saturated thickness; mostly facies a1 and a2; Late Quaternary. ***Upper shallow aquifer zone***

VA — **Valley-Border Alluvium --** Channel, fan and terrace deposits of tributary arroyo systems; Undifferentiated deposits of (VAY and VAO) of major ephemeral tributaries to the Rio Grande; facies b (like 5 and 6); Middle and Late Quaternary

VAY — **Younger Valley-Border Alluvium -- V**alley fill deposits associated with entrenchment and backfilling of major arroyo tributaries to the Rio Grande; facies b (like 5 and 6); Late Quaternary

TA — **Rio Grande Terrace Deposits, undivided --** Channel and overbank sediments of the ancestral Rio Grande; as much as 150 ft above the present floodplain; mostly facies a1 entirely in the vadose zone; Middle and Late Quaternary

TAO — **Older Rio Grande Terrace Deposits --**High-level river deposits; as much as 200 ft above the present floodplain; mostly facies a2, entirely in the vadose zone; Middle Pleistocene

YOUNGER BASIN FILL

PAU — **Piedmont-Slope Alluvium --** Older and younger piedmont-slope deposits and correlative Upper Santa Fe piedmont facies (5 to 8), undivided; Middle Pleistocene

PA — **Piedmont-Slope Deposits --** Younger and older (PAO) piedmont-slope deposits, undivided, stippeled where up to 10 ft (3 m) of Late Quaternary eolian cover is present; Middle and Late Quaternary mostly facies 5 and 6

BF — **Basin-Floor Deposits, undivided --** alluvial flat and small playa depression fills; mostly facies c and 3; entirely in vadose zone; Middle and Late Quaternary

EBF — **Basin-Floor Deposits --** with thin eolian cover, undivided

BFP — **Basin-Floor Playa-lake Deposits --** local depressions on basin-floor alluvial plains (unit BF); as much as 20 ft (6 m) thick and entirely in vadose zone; fine- grained with thin sandy layers; mostly facies c

SANTA FE GROUP BASIN FILL

USF — **Upper Santa Fe HSUs, undivided --** medial to distal piedmont facies5 and 6 that grade to basin-floor facies 1 to 4; Early Pleistocene to Late Miocene

USF1 — **Upper Santa Fe HSUs --** medial to distal piedmont facies, mostly facies 5 and 6; includes Camp Rice Formation; up to 10 ft (3 m) of upper Quaternary eolian cover is locally present; Early Pleistocene to Late Miocene

USF2 — **Upper Santa Fe HSUs --** basin-floor facies 1 to 4, undivided; includes Camp Rice Formation subdivisions; up to 10 ft (3 m) of upper Quaternary eolian cover is locally present; Early to Late Miocene

USFc — **Upper Santa Fe HSUs --** mostly proximal piedmont facies 6 and 8; includes Camp Rice Formation subdivisions; Pliocene to Late Miocene

MSF — **Middle Santa Fe HSUs, undivided --** primarily conglomeratic piedmont facies 7 and 8 that grade to basin-floor facies 3 and 4; includes Fort Hancock and Rincon Valley Fm correlatives. Note that unit only occurs in the subsurface beneath the central basin areas and is saturated; Upper Cenozoic-Miocene

MSF1 — **Middle Santa Fe HSUs --** primarily conglomeratic piedmont facies 7 and 8; includes Fort Hancock and Rincon Valley Fm correlatives;

MSF2 — **Middle Santa Fe HSUs --** basin-floor facies undivided; primarily weakly to moderately indurated pebbley sandstones, sandstones and mudstones of facies 3, 4, and 9 (mostly in the zone of saturation); includes Rincon Valley Fm correlatives.

MLS — **Middle and Lower Santa Fe HSUs -- undivided**

LSF — **Lower Santa Fe HSUs --** undivided piedmont and basin-floor facies 4, 7, 8, 9, and 10; fanglomerate, conglomerate, conglomeratic sandstone, siltstone, and mudstone with thin, limestone and gypsite (facies 10) layers. Note that unit only occurs in subsurface; Upper Cenozoic-Miocene

LSF1 — **Lower Santa Fe HSUs --** piedmont facies 7 and 8

LSF2 — **Lower Santa Fe HSUs --** basin floor facies 3, 4, 9, and 10

BEDROCK UNITS

Tli — Intermediate Intrusive igneous rocks, undivided (Lower Cenozoic)

Tls — Mostly lower Eocene-Paleocene (Lower Cenozoic) sedimentary rocks, sandstones, mudstones and conglomerates with minor or no volcaniclastic constituents

K — Upper Cretaceous marine sedimentary rocks, undifferentiated -- Limestone, silty to shaly Limestone, and shale

P — Permian Rocks, Undifferentiated - Primarily limestone, sandstone and red-bed mudstones

IP — Pennsylvanian and Lower Permian Rocks, Undifferentiated-Primarily Limestone and redbeds, sandy mudstone, with shale, sandstone and gypsite

Pz — Paleozoic Rocks, Undifferentiated

Pzu — Upper Paleozoic Rocks, Undifferentiated -- Primarily limestone, with shale, sandstone, red-bed mudstones and gypsite

Pzm — Middle Paleozoic Rocks, Devonian and Mississipian, primarily carbonate types, with shale

Pzl — Lower Paleozoic Rocks, Cambrian to Silurian, primarily carbonate types

XY — Precambrian Rocks, Undifferentiated

Textural-Class Symbols -- Dominant Clast-size Range

c — Coarse-grained -- Gravel and gravelly sand

m — Medium-grained -- Sand and pebbly sand

f — Fined-grained -- Silty to fine sandy clay

fine-grained

medium- to fne-grained

medium-grained

medium- to coarse-grained

Fault -- Dashed where approximate, question mark where inferred

At 1

Mi 1

Well Control, including City of El Paso and CD. Juearz water-supply wells -- solid within 5000 ft of section line; dashed when 5000-7000 ft from section line

X-sec (1.6pt)

Major tics (0.8pt)

Surface (1pt)

Certain contact (1pt)

Uncertain contact (1pt, dashed: 8pt, 2.5pt)

Fault (2.8pt)

Well on section (1.4pt)

Well off section (1.4, dashed: 5pt, 2pt)

Leaders (.50pt)