

PLATE 1 series. Hydrogeologic base maps (**1A** and **1B**) of the Mesilla Basin region Study Area (**PLS. 2A** and **2B**). Hydrogeologic-subdivision categories of groundwater-basin and inter-basin map units are defined in **PLATE 2B-1 (Tbl. 1-4)**. The solid and dashed black map-unit boundary lines (mostly fault zones) are primarily defined for use in groundwater-flow and hydrochemical model development. Blue lines show locations of hydrogeologic cross sections A-A' to S-S' (**PLATE 5 series**). Additional information on hydrostratigraphic, lithostratigraphic, and structural components of cross sections, subsurface maps, and block diagrams in **TABLES 1 to 3 (cf. PLATES 5 to 9)**. Most maps initially compiled on Google Earth® DTM image-base at a 1:100,000 scale:

PLATE 1A. Digital compilation of the **PLATE 1** hydrogeologic map with an overlay of a section of the 4-milligal contour-interval Bouguer (isostatic-residual) gravity-map of Jiménez and Keller (2000, Fig. 4). The Southern Jornada Basin (SJB), Mesilla Basin (MeB), and El Parabién Basin (EPB) are outlined in orange, green, and dark red, respectively.

PLATE 1B. Schematic depiction of the topography, and primary stratigraphic and structural components of the bedrock terrane that is buried by basin-fill deposits in the Study Area. The Mesilla GW Basin boundary is in green, with map-unit subdivisions defined in **Tables 1-4 and 1-4**. The primary structure-contour interval on the bedrock surface is 100-ft (~30-m); and the red lines show locations of three schematic geologic cross sections (I-I' to III-III') on **PLATE 2C**. The general position of the deeply buried “Lanark igneous-intrusive complex (TmLC),” which forms the central part of the Mid-Basin High, is also shown (*cf. PLS. 5i and 5q; Part 6.3.2a; Clemons 1993*). The map represents the first effort to create an approximation of the hydrogeologic “bottom” of the SFG basin-fill aquifer system. It is based on a synthesis of available geological and/geophysical information that has been acquired by the PI since 1962.