

**Part F5—Plates F5-1 to F5-5 Series.  
Representative Hydrostratigraphic Units  
(HSUs) and Lithofacies Assemblages (LFAs)  
in Santa Fe Group (SFG) Basin-Fill Deposits**

**Plates F5-1a and F5-1b. Representative  
Exposures of the Lower SFG-Hayner Ranch  
Formation (HSU-LSF, LFAs 7 and 8) in the  
Eastern Rincon Valley Area**

**Pl. F5-1a (NM BMMR; 5/23/1988). View to S across the East Tonuco Corridor (ETNC), with steeply dipping conglomeratic sandstones of the “Type” Hayner Ranch Fm (HSU-LSF, LFAs 7 and 8) in the foreground. The Robledo Mtns. and northern Selden Hills are on the skyline. *See Pl. F5-2c***





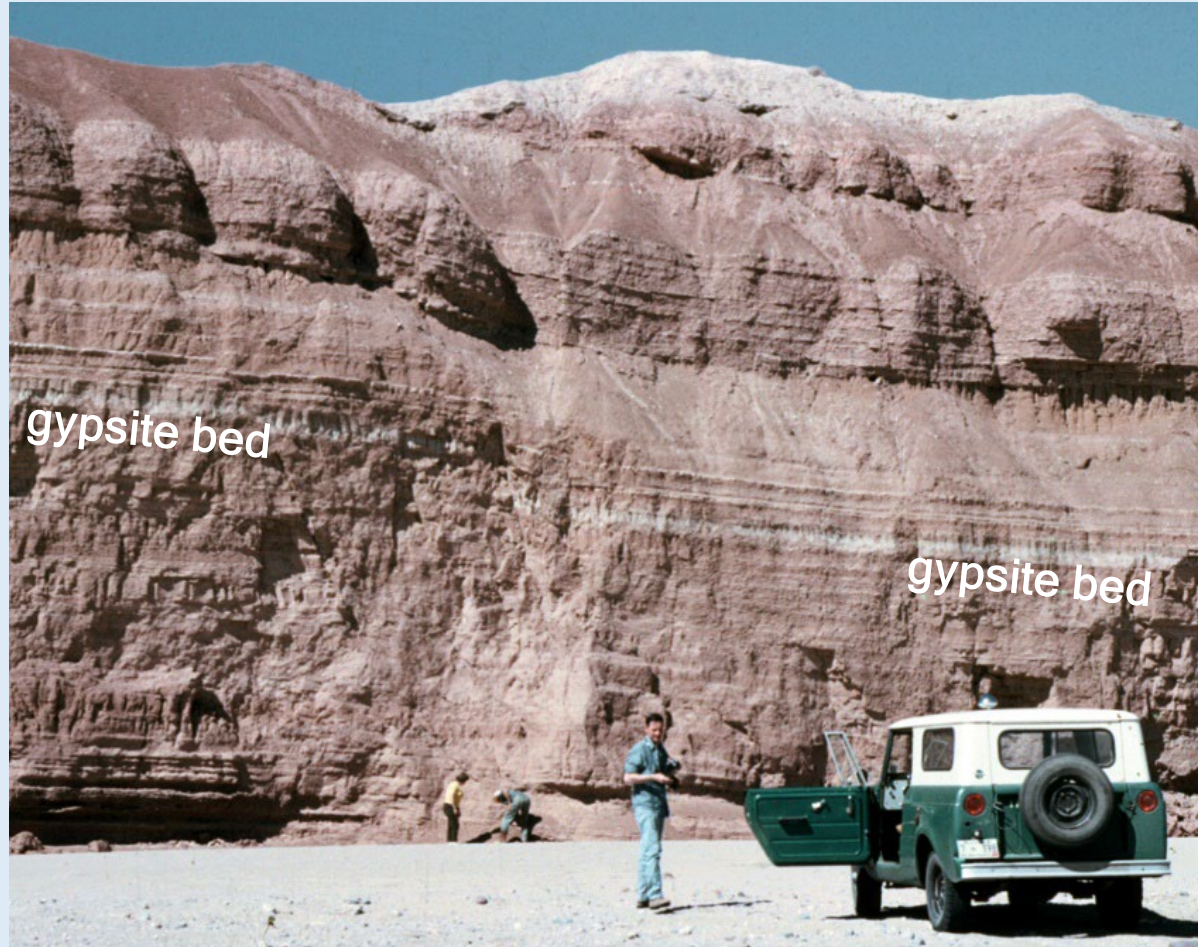
**PL. F5-1b (USDA-SCS; 4/1965). Johnson Springs Arroyo exposure of S-dipping conglomerate beds near base of the Hayner Ranch Fm (HSU-LSF, LFA 8). Photo site about 3 mi (4.8 km) NE of Hatch at SW edge of the Rincon Hills**



**Plates F5-2a to F5-2f. Representative  
Exposures of Middle SFG  
Hydrostratigraphic Unit (HSU-MSF) and  
its Lithofacies Assemblages (LFAs) in the  
Southern Palomas Basin and Northern  
Selden Canyon Areas**



**Pl. F5-2a (USDA-SCS; Spring 1969). Gypsiferous Rincon Valley Fm mudstone beds in the (MSF2, LFA 10) exposed in N wall of Arroyo Cuervo in SE Palomas Basin, about 10 mi (16 km) NW of Hatch. Note minor compaction deformation.**



**Pl. F5-2b (NM BMMR; 4/8/1981). I-25 roadcut exposure of W-dipping gypsiferous mudstone beds (w/ small-scale fault offsets) in “type-area” of the Rincon Valley Fm (HSU-MSF2, LFA 10). The Rincon Hills are on the NE skyline. Photo site is between I-25 MPs-36 and 37**





**Pl. F5-2c (USDA-SCS; Summer 1968). Exposures of interbedded sandstone and mudstone of the Rincon Valley Fm (HSU-MSF 2,,LFAs 3 and 9) in the East Tonuco Corridor between the lower Rincon Valley and Southern Jornada Basins. The Tonuco Uplift is on the northern skyline**





**Pl. F5-2d (USDA-SCS; 4/1965). Tongue of Selden Basalt (~9.5 Ma) in conglomeratic-mudstone of the Middle SFG-Rincon Valley Fm (MSF1, LFA 7) exposed in NW wall of lower Broad Canyon. Photo site is about 0.5 mi (0.8 km) SW of northern Selden Canyon**



**Pl. F5-2e (USDA-SCS; 1972). View from upper Selden Canyon rim, with San Diego Mtn. and the northern Selden Hills on the NE skyline. Exposure of the Middle SFG-Hayner Ranch Fm pebbly mudstone (MSF1-*LFA* 5) on the eastern slope of Ash Mine Mesa (*see* PLS. F4-1c and F5-2f).**





**Pl. F5-2f (USDA-SCS; Spring 1972). Sediment and paleo-mag sampling of Middle SFG-Rincon Valley Fm exposure at Ash Mine Mesa site (Pl. F5-1e; *see* Pls. F4-1d, F5-2b and F7-2d)**





**Plates F5-3a to F5-3f (Slides 97 to 105).  
Representative Exposures of the Upper SFG  
Palomas and Camp Rice Fms in the Palomas  
and Mesilla Basin Areas (HSU USF)**

**Pl. F5-3a (NM WRRI;  
3/10/2016). Palomas Fm  
piedmont facies (USF1/  
LFA 5) exposed in the  
south wall of Percha  
Creek Valley about 6 mi  
(10 km) west of Caballo  
Dam. General southern  
Palomas Basin setting in  
Pl. F3-2b; and details of  
outcrop behind geologist  
Dan Koning in Pl. F5-3b**



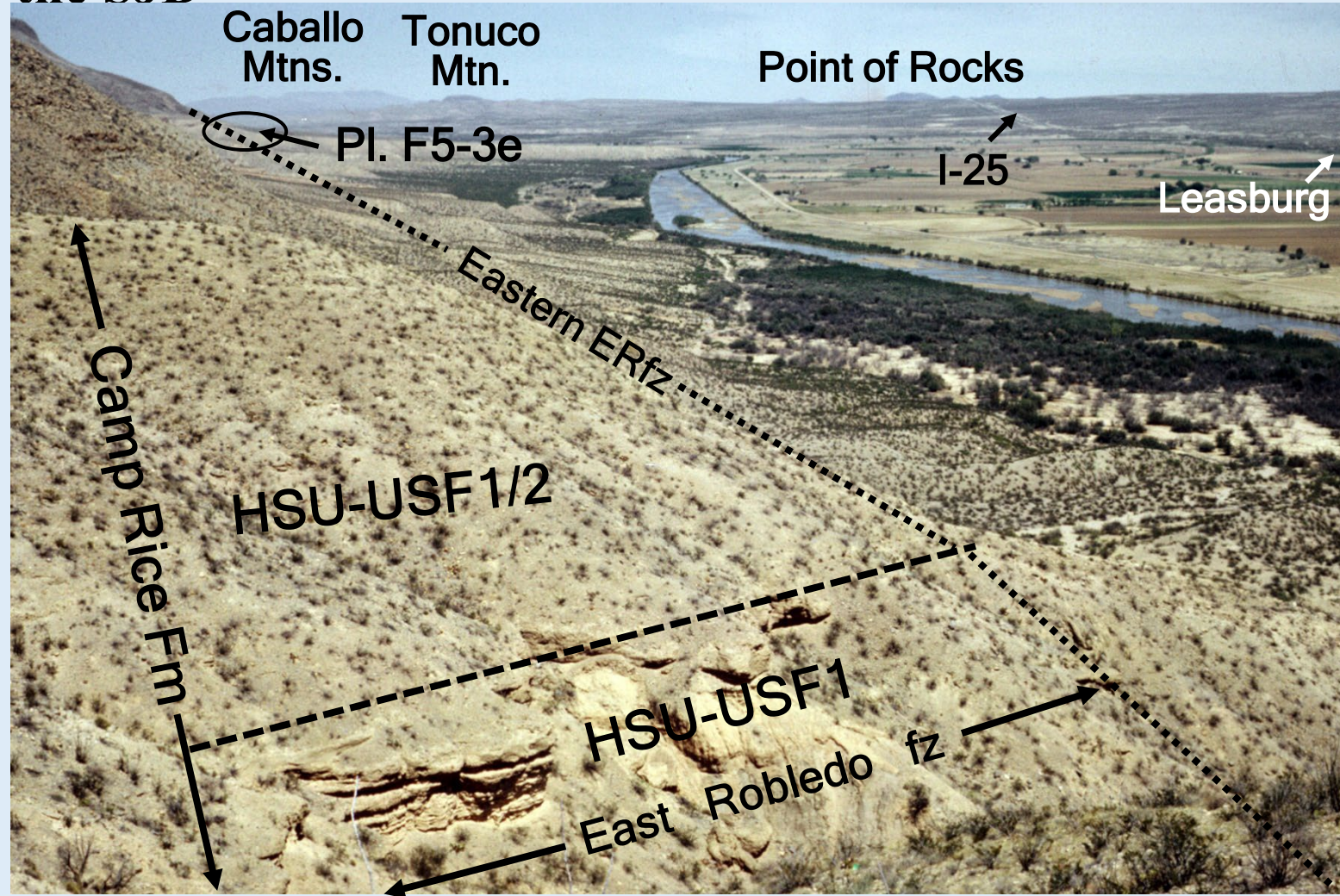


**Pl. F5-3b (NM WRRI; 3/10/2016). Percha Creek  
recharging the Palomas Fm-piedmont facies aquifer  
(USF1, LFA 5). Southern Palomas Basin about 6 mi  
(10 km) west of Caballo Dam (*see* Pl. F5-3a)**



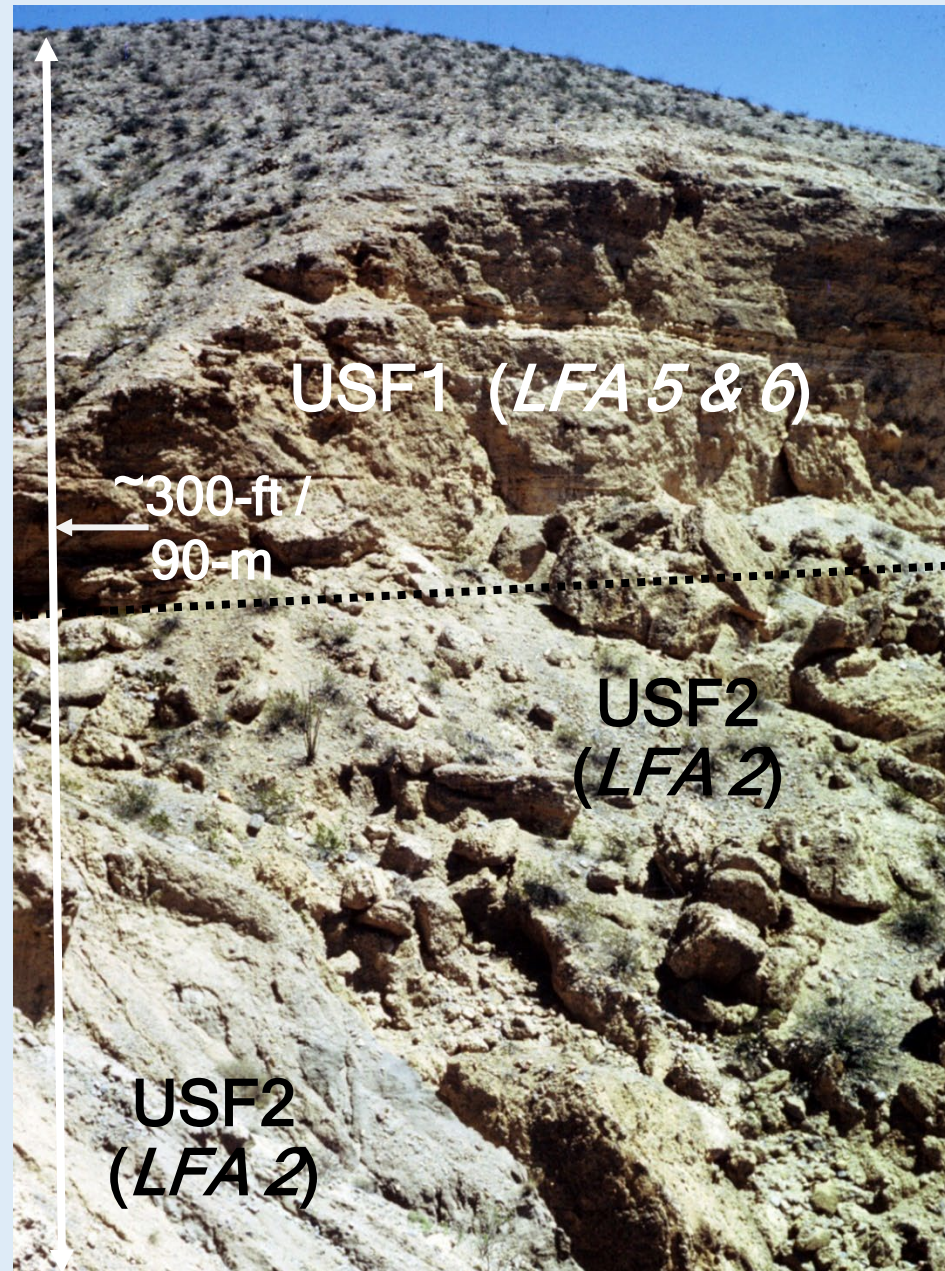


**Pl. F5-3c (USDA-SCS; Spring 1968). View across Upper Mesilla Valley from the western edge of the East Robledo fault zone to the Experimental Range Subbasin of the SJB**



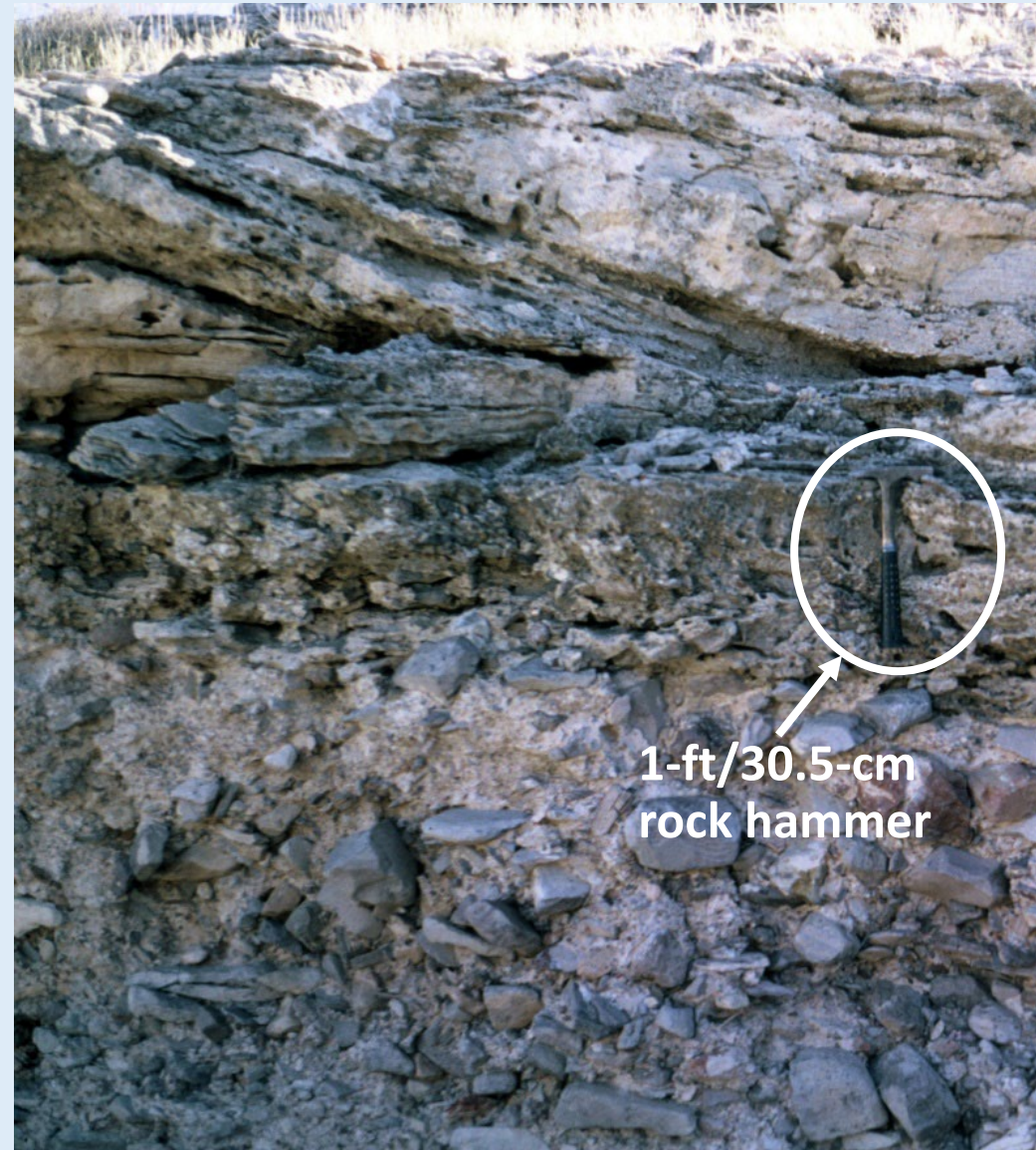


**Pl. F5-3d (USDA-SCS;  
Spring 1968; photo-site  
location on Pl. F5-3e).  
Upper SFG Camp Rice  
Fm (HSU-USF) exposed  
on hanging wall of ERfz  
at base of the northern  
Robledo Mtns. Partly  
indurated fan-piedmont  
deposits (USF1, LFAs 5  
and 6) conformably  
overlie pebbly-sand  
ARG channel facies  
(USF2, LFA 2)**



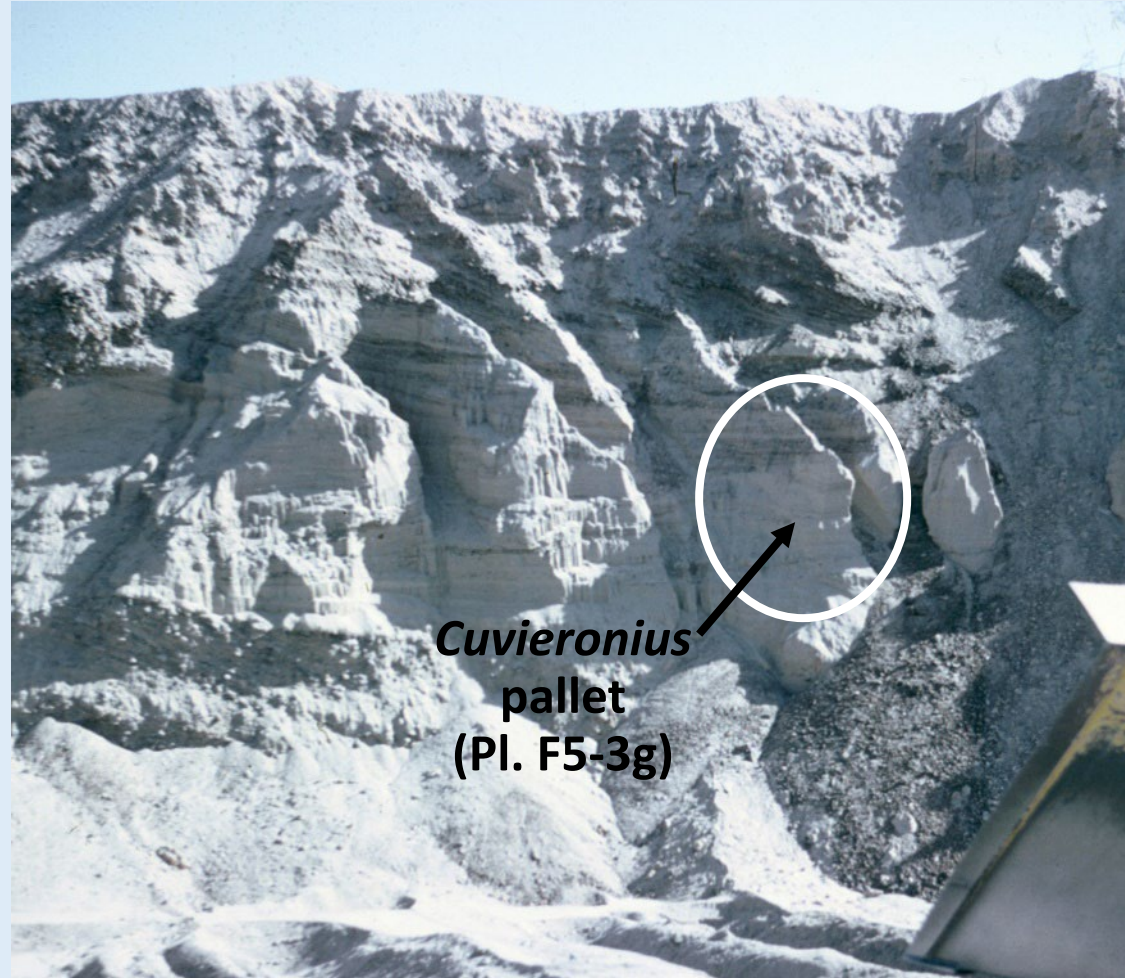


**Pl. F5-3e (USDA-SCS;  
April 1965). Basal  
Upper SFG-Camp  
Rice Fm (USF2/USF1)  
Exposed at Head of  
Faulkner Cyn. Arroyo  
in the NE Corralitos  
Ranch Subbasin of  
the Cedar-Corralitos  
Upland Basin. Rock  
hammer is at contact  
between USF2 (ARG)  
facies sandstone, and  
Robledo Mtn.-source  
USF1 fanglomerate  
(LFA 8)**





**Pl. F5-3f (USDA-SCS; 12/1965). Sand & gravel-pit exposure of Upper SFG Camp Rice Fm-ARG channel facies (USF2, LFA 2). Photo site on eastern Mesilla Valley border north of Tortugas Mtn. *See* Pls. F3-2c and F5-3g**



**Pl. F5-3g (USDA-SCS; 12/1965). Upper pallet of the Early Pleistocene mastodont *Cuvieronius* collected from the Inman Sand & Gravel Pit site shown in Pl. F5-3f**





**Pl. F5-3h; 5/22/2007). Upper SFG Camp Rice Fm-ARG channel facies (USF2, LFA 1) on western Mesilla Valley rim near the NMSU Lower La Mesa trench site (PL. F7-1e). Southern Organ Mtns., Bishop Cap, and Fillmore Pass, are on the southeastern Skyline**





**Pl. F5-3i (USDA-SCS; 10/1971). Upper SFG Camp Rice Fm  
piedmont-alluvial facies (USF1, LFA 6) exposed in fan-head  
trench in the western Soledad Canyon section of the Central  
Organ Mtns. See Pl. F3-2c for photo-site location**



**Plates F5-4a and F5-4b (Slides 107 and 108).  
Exposures of Basin-Floor Lithofacies  
Assemblages *LFA-3* and *LFA-10* in Camp Rice  
and Fort Hancock Fm (HSU-USF2) in the Hueco  
Bolson Area**



**Pl. F5-4a (UACJ; 1/14/2003). SW Hueco Bolson mesa-rim exposure of sandy Upper SFG-Camp Rice Fm of mixed fluvial and eolian origin (USF2, LFA 3). John Hawley and John Kennedy at Pan-American Hwy. site, about 10 km South of the Cd. Juarez Airport. *See* Pl. F7-1f for “mesa-caprock” petrocalcic-soil detail**



**Pl. F5-4b (NM BMMR; 3/26/1994). Gypsiferous lacustrine facies of the Fort Hancock Fm (USF2, LFA 3/10) exposed in lower Nealy Cyn. White layer is an altered volcanic ash-fall bed of probable early- to mid-Pliocene age. Photo site is about 1 mi (1.6 km) from the Rio Grande/Bravo, and 4 mi (6.4 km) SSE of the Fort Quitman Gaging Station (Pl. F1-4). *See* Gustavson (1991, Fig. 14)**





**Plates F5-5a and F5-5b (Slides 110 and 111).  
Exposures of Upper SFG Hydrostratigraphic  
Units (USF2) and Basin-Floor Lithofacies  
Assemblages (LFAs) in the Northern Bolsón  
de Los Muertos Area**

**Pl. F5-5a (NM WRRRI; 6/5/2009). Gravel-pit exposure of ancestral Rio Casas Grandes channel deposits (USF2, LFA 1) capped by petrocalcic soil. Photo site NE of Mex. Fed. Hwy. 2 - Palomas Hwy. junction at Seis de Enero [Los Trios] (Pls. F2-3 and F2-4)**





**Pl. F5-5b (NM WRRRI; 6/5/2009). Ancestral Rio Mimbres fluvial-deltaic deposits (USF2, LFA 2 and 3) exposed in NE rim of the El Barreal ephemeral (playa)-lake plain in the background. The Mex. Hwy. 2 photo site about 5 mi (8 km) WNW of Rancho La Laguna (*see* Pl. F2-4)**

