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Sources: Geomorphic Provinces, CGS 2002; Plan Area, ICF 2012

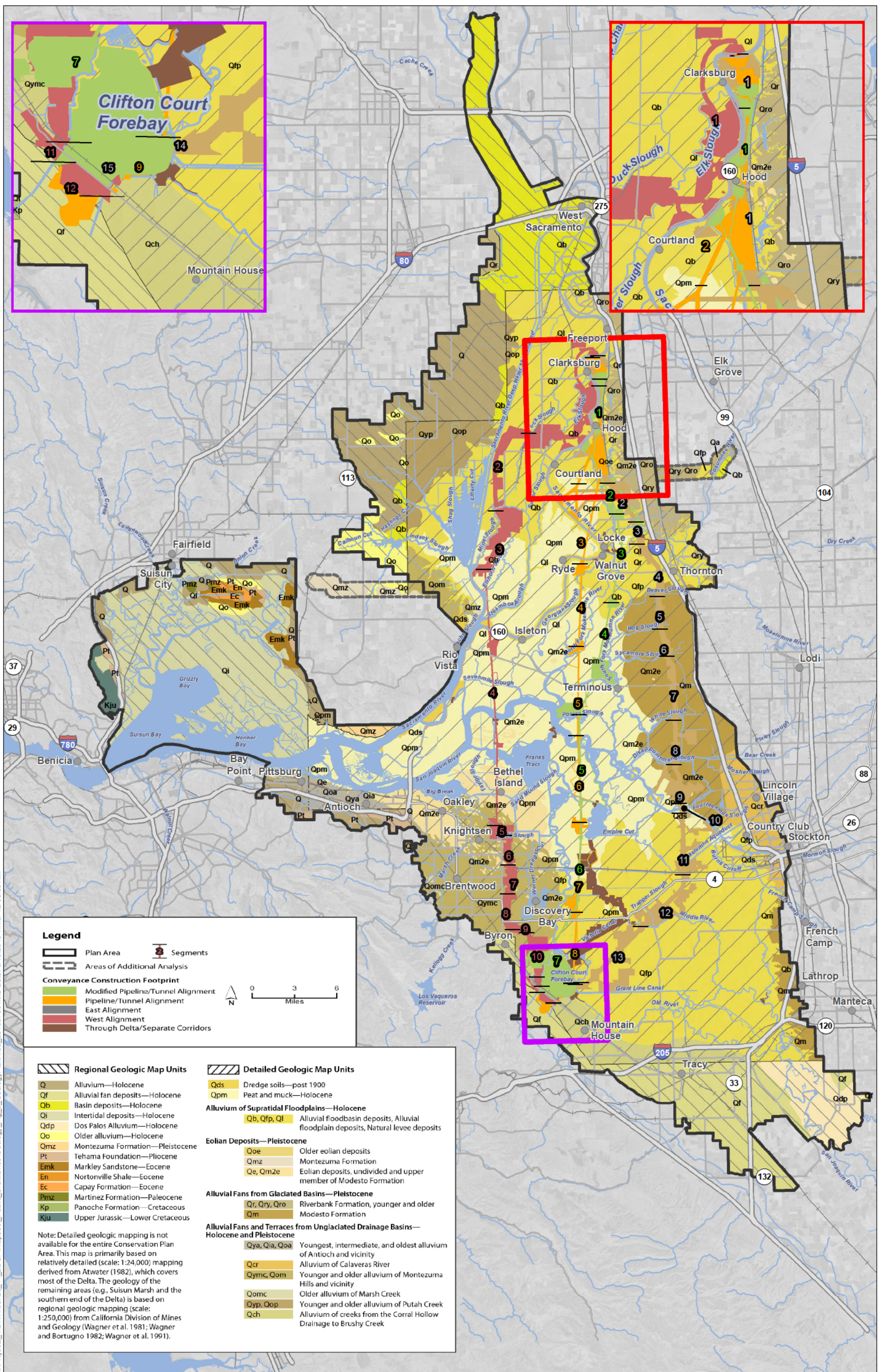
Figure 9-1
Geomorphic Provinces of California

RELATIVE GEOLOGIC TIME			TIME (Million Years before Present)
Era	Period	Epoch	
CENOZOIC	Quaternary	Holocene	0.011
		Pleistocene	
	Tertiary	Pliocene	1.6
		Miocene	5.3
		Oligocene	24
		Eocene	37
		Paleocene	58
MESOZOIC	Cretaceous	65	
	Jurassic	144	
	Triassic	208	
PALEOZOIC	Permian	245	
	Carbon- iferous	Pennsylvanian	286
		Mississippian	320
	Devonian	360	
	Silurian	408	
	Ordovician	438	
	Cambrian	505	
PRECAMBRIAN		570	

Source: Based on California Department of Conservation, California Geological Survey, Note 17, page 3, 2002.

Note: This geologic timescale is based on the time scale used by the California Geological Survey (CGS) (2002). The more recent U.S. Geological Survey geologic time scale (2010), which has revised age boundaries, is not used because it was published after the publication of the geologic maps used in this report.

Figure 9-2
Geologic Time Scale



Sources: Plan Area, ICF 2012; Constructability (Rev 10b), DHCCP DWR 2012; Constructability (Rev 2b), DHCCP DWR 2013 Constructability (Rev 3b), DHCCP DWR 2012; Geology, ICF 2012.

Figure 9-3
Geology of the Plan Area

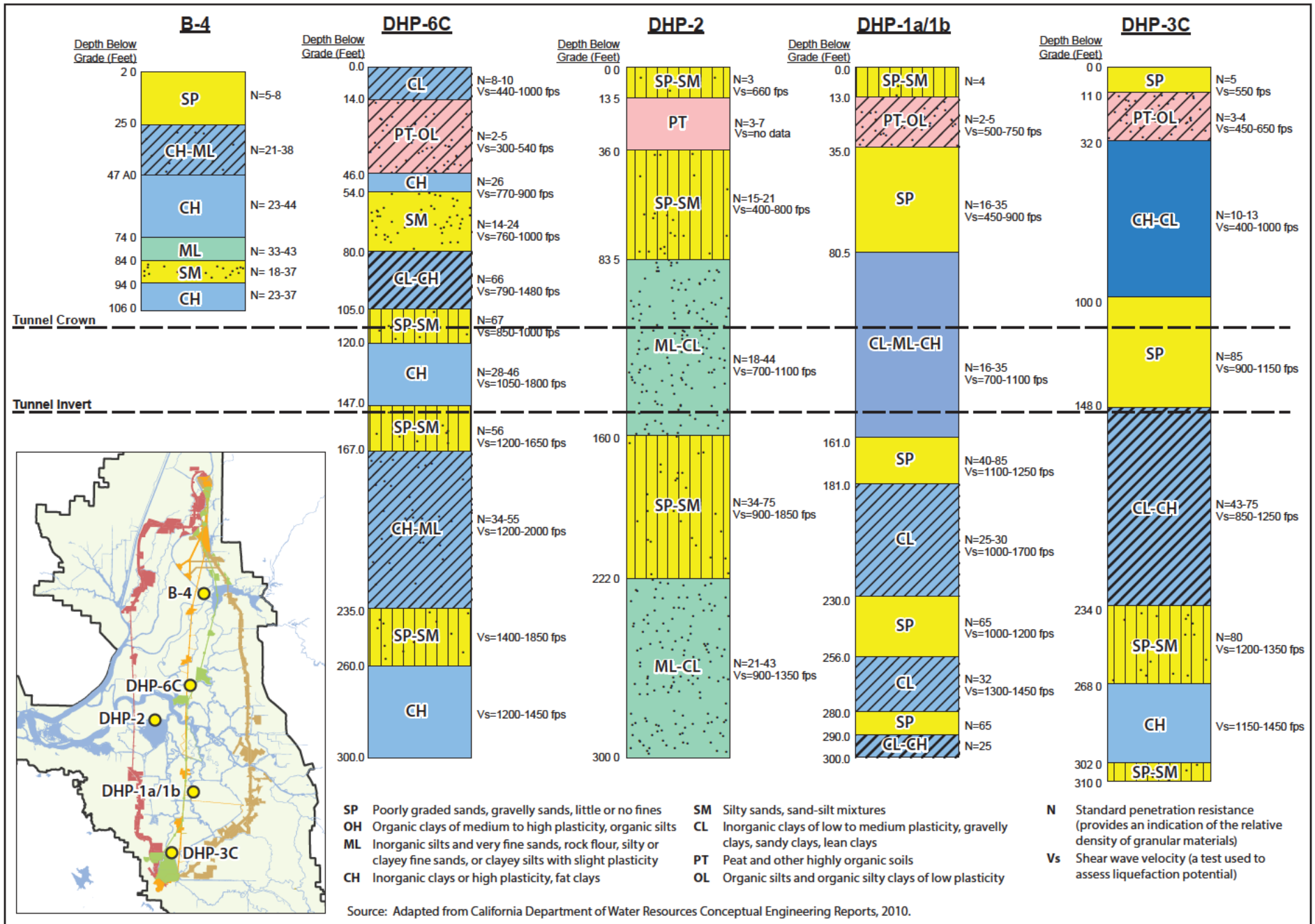
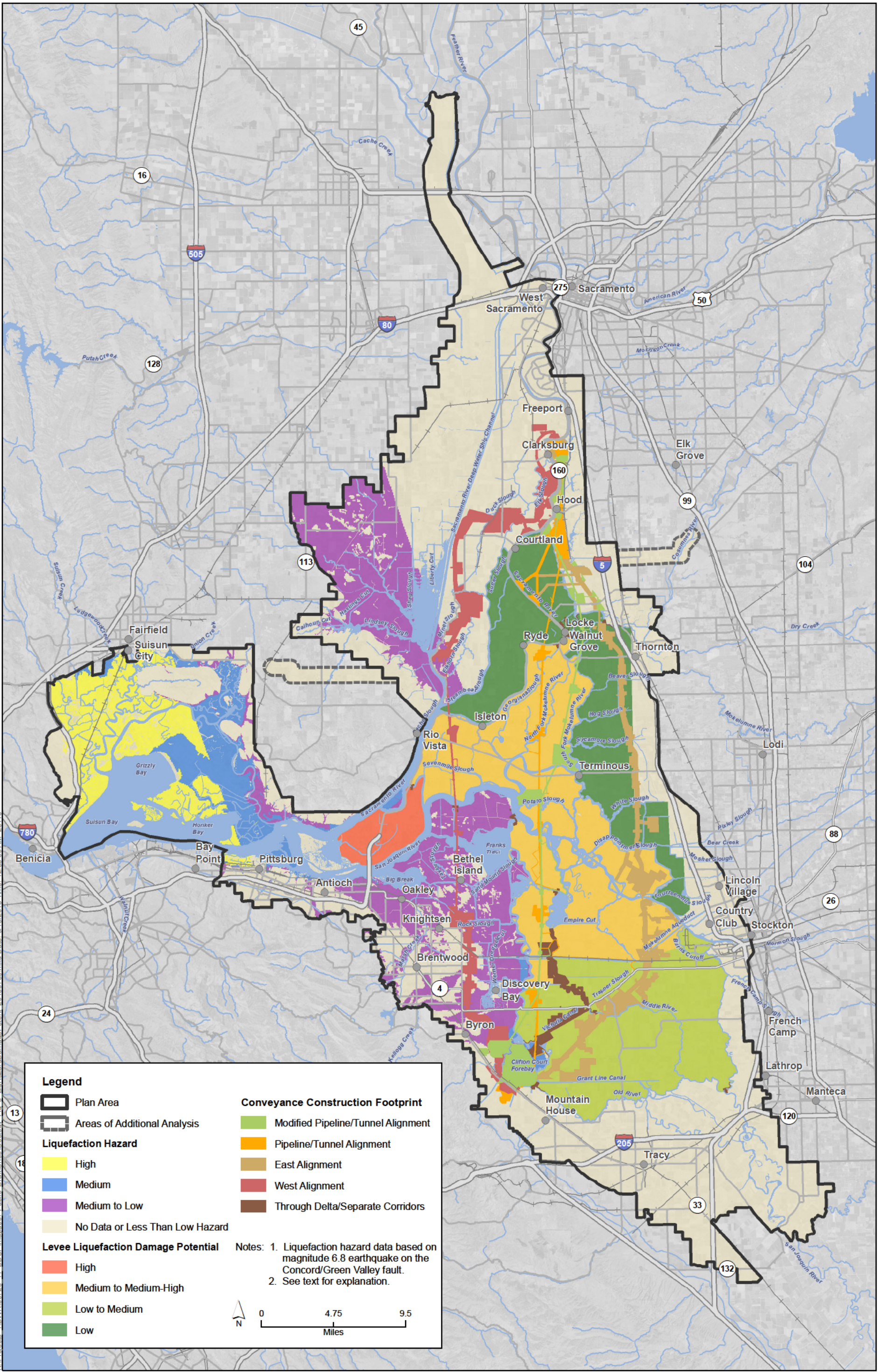


Figure 9-4
Geologic Borehole Logs in Vicinity of Proposed Tunnel Locations



Sources: Plan Area, ICF 2012; Liquefaction Damage Potential, Torres et al. 2000; Liquefaction Hazard, ABAG 2011; Constructability (Rev 10b), DHCCP DWR 2012; Constructability (Rev 3b), DHCCP DWR 2012 Constructability (Rev 2b), DHCCP DWR 2013

Figure 9-6
Liquefaction Hazard and Levee Liquefaction Damage Potential in the Plan Area