

# Regional Geologic Map (Dibblee)

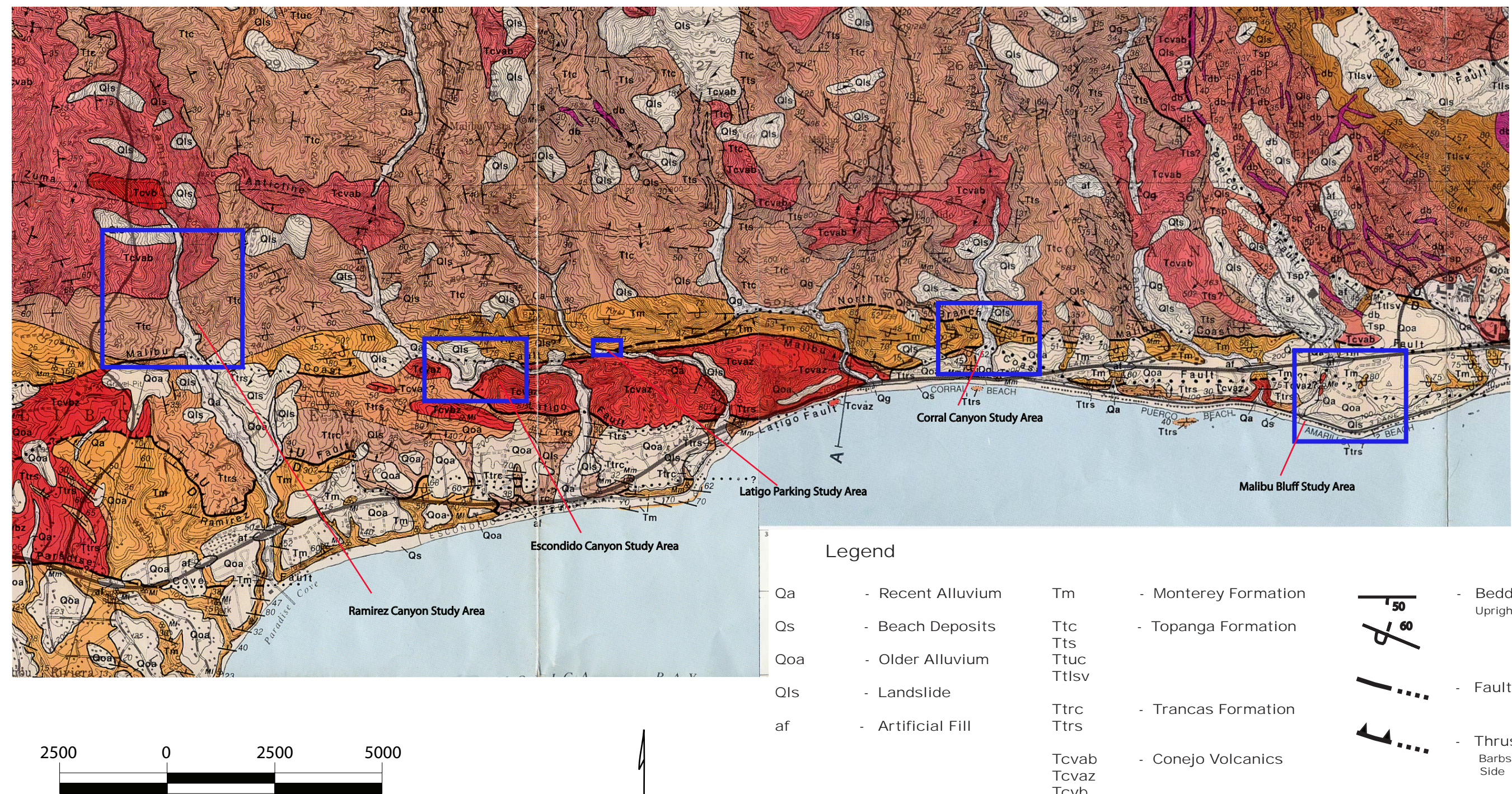


Figure 3a  
From Dibblee, 1993a, b

Mountains Recreation and Conservation Authority

Corral, Escondido, & Ramirez Canyon, Latigo Parking and Malibu Bluffs

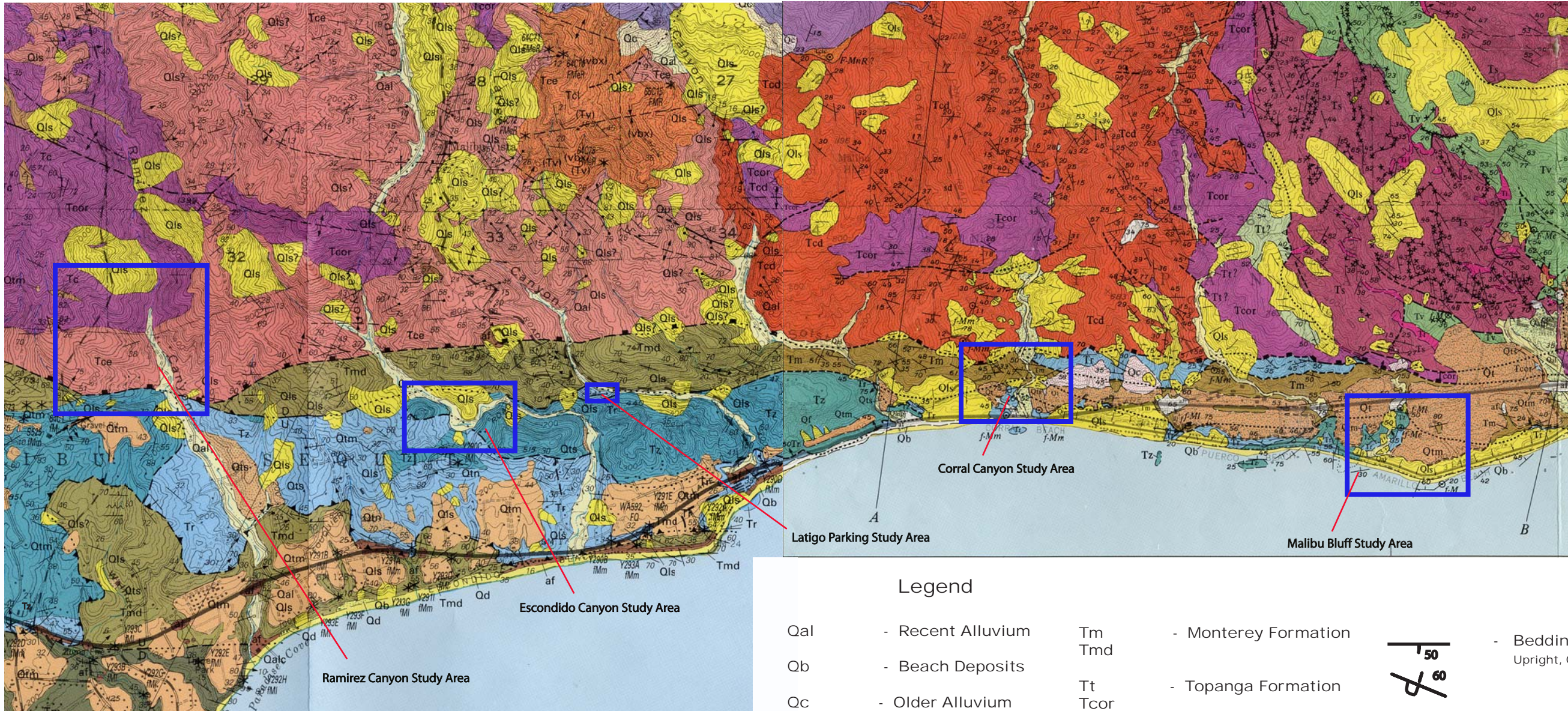
September 21, 2009

Southwestern Engineering Geology

Project No. 1-208/707-2006



# Regional Geologic Map (USGS)



### Legend

- |     |                   |      |                      |  |  |
|-----|-------------------|------|----------------------|--|--|
| Qal | - Recent Alluvium | Tm   | - Monterey Formation |  | - Bedding<br>Upright, Overturned         |
| Qb  | - Beach Deposits  | Tmd  |                      |  |  |
| Qc  | - Older Alluvium  | Tt   | - Topanga Formation  |  | - Fault                                  |
| Qts |                   | Tcor |                      |  |  |
| Qt  |                   | Tcd  |                      |  |  |
| Qtm |                   | Tce  |                      |  |  |
| Qls | - Landslide       | Tr   | - Trancas Formation  |  | - Thrust Fault<br>Barbs on Upthrown Side |
| af  | - Artificial Fill | Tc   | - Conejo Volcanics   |  |  |
|     |                   | Tcor |                      |  |  |
|     |                   | Tz   |                      |  |  |



Figure 3b  
From Campbell et. al., 1996 and Yerkes and Campbell, 1980.

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# California Seismic Hazard Zones and Earthquake Fault Zone

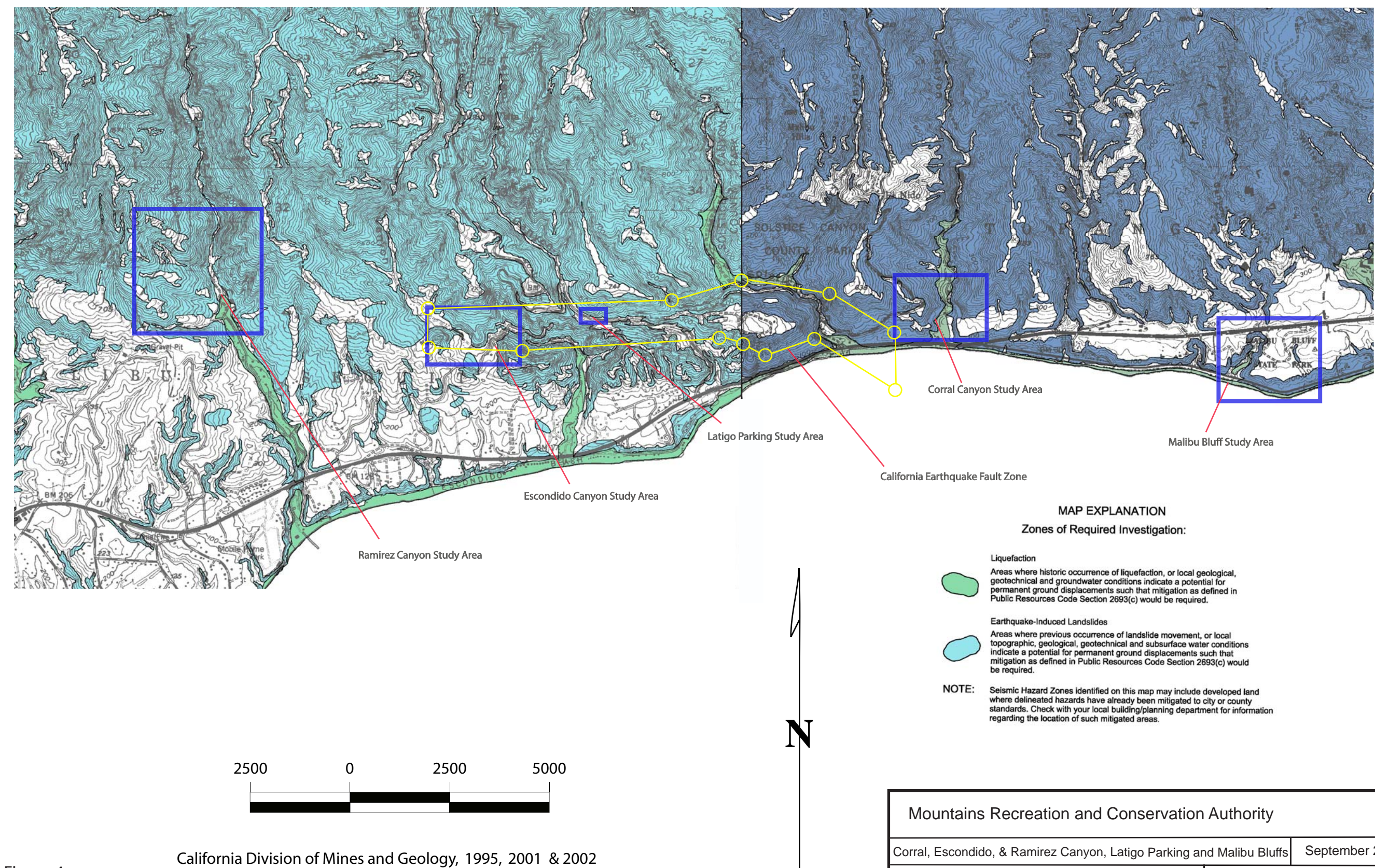


Figure 4

California Division of Mines and Geology, 1995, 2001 & 2002  
California Geological Survey, 2007



# Winding Way Landslides

## Landslide

Approximate boundaries as published on small scale maps by Campbell et. al. (1970) and on Dibblee (1993b). Geomorphology suggests boundaries that extend further west as recognized in consultant studies (California GeoSystems, 1985a)

Existing Debris Flow  
Note that snout of debris blocks existing bench.

Latigo Parking Area

Latigo Parking Area Landslide

6100 Via Escondido



Figure 5

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Photo 1 - Water line, retaining wall and road fill at proposed trailhead parking area at Pacific Coast Highway at Corral Canyon.



Photo 2 - Existing trail along steep slope at Location 3, Corral Canyon.

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Malibu Park Sites - Photos 1 & 2

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Photo 3 - Recently active landslide just north of Camp Area 2.



Photo 4 - Vicinity of proposed 15,000 sf parking area near trailhead at Escondido Canyon. Constructing parking area may require substantial grading. Road cracks suggests fill settlement and possible downhill creep. The road and descending slope were resurfaced prior to September, 2009.

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Photo 5 - Closer view of cracking along Winding Way. The outer five to ten feet of the roadway are affected. Road was resurfaced prior to our site reconnaissance in September 2009.



Photo 6 - Erosion due to concentrated drainage across existing maintenance road at Escondido Canyon between trailhead and ADA Camp Area.

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Malibu Park Sites - Photos 5 & 6

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Photo 7 - Outfall of pipe that carries flow along Escondido Creek below crossing for access road. Surrounding fill is eroded to a steep angle to vertical.



Photo 8 - Inlet to pipe that carries flow along Escondido Creek below crossing for access road. Note fill contains debris including old tracks from heavy equipment.

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Malibu Park Sites - Photos 7 & 8

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Photo 9- View looking north along rock retaining wall on east bank of Ramirez Canyon Creek at proposed bridge crossing. Wall is about 7 feet high, and is located about five feet above the streambed.



Photo 10 - View looking south along rock retaining wall on east bank of Ramirez Canyon Creek at proposed bridge crossing. Creek encroaches within about five feet of the wall.

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Malibu Park Sites - Photos 9 & 10

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Photo 11 - Slope repair upslope of the "Barwood" under repair in 2006.

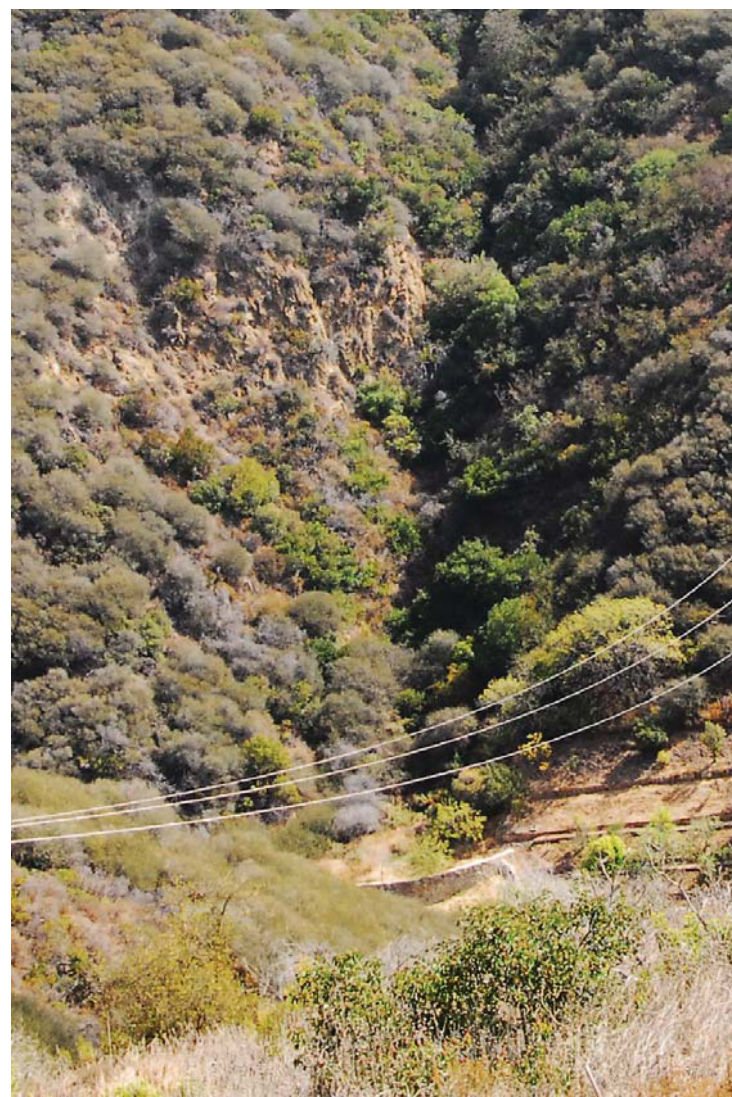


Photo 12 - Steep, rocky outcrop above camp area proposed at Note 8 on Plate 3B. A potential for large topples and rockfall from this outcrop preclude camp areas at the bottom of the canyon (above the wall) or in the meadow north of the adjacent protective ridge.

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Malibu Park Sites - Photos 11 & 12

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Photo 13- View looking south along upper section of Delaplane Road. Slopes ascend and descend from the edge of the existing pavement at a gradient of about 2:1.



Photo 14 - View looking east across landslide south of proposed parking area, showing headscarp and displacement of existing trail.

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Malibu Park Sites - Photos 13 & 14

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Photo 15 - Erosion encroaching into existing trail along blufftop.



Photo 16 - Existing garden surrounded by railroad ties at grade of Malibu Road where small parking area is proposed. Slosson and Moran identified foreground of photo as ancient landslide.

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Malibu Park Sites - Photos 15 & 16

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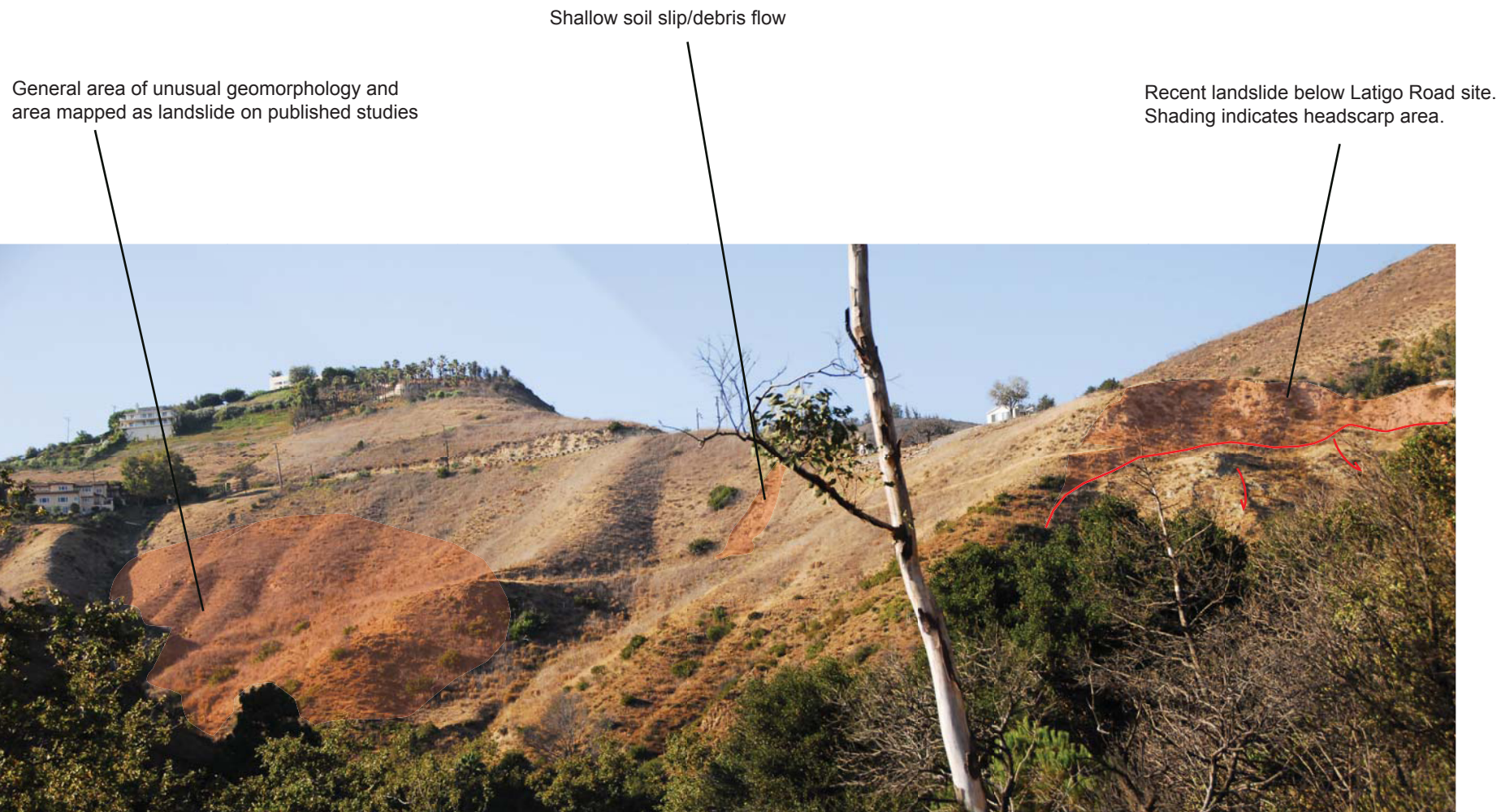


Photo 17 - Areas of slope instability west of the parking area proposed along Latigo Canyon Road. Recent landslide below Latigo site is at right side of photo, a shallow soil slip/debris flow near the photo center, and a general area where a landslide is indicated on published studies in the left third of the photo.

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Malibu Park Sites - Photo 17		September, 21, 2009
<i>Southwestern Engineering Geology</i>	Project No. 1-208/707-2006	