Data Repository Sheet 1: Photo-mosaic of Cut 5, showing C-14 and OSL samples from Qyw1. Dates are shown for samples that have been dated.
Data Repository Sheet 2: Photo-mosaic along northern wall of Trench 3, showing fluvial gravel (Qyw1) overlain by colluvium (Qyc2). Locations of dated C-14 samples are marked with white circles. Blue diamonds (mostly hidden behind the photomosaic) mark locations of surveyed points.
Data Repository Sheet 3: Construction cut into west side of the knob of Qvof (Lots 44-52).

The young age (1.2 ka) of C-14 sample PCSR-7 is puzzling given the well consolidated nature of the unit 3a deposits. The sample was probably not bioturbated but may have been a root. Burrowing would be difficult within the mostly clast-supported breccia of unit 3a and would most likely have been recognizable if it had occurred within the moderately well sorted sand pocket from which the sample was collected. The sample was large (2 cm x 2 cm x 5 mm), extending about 2 cm into the wall, with one fork that branched off a bit from the main sample. It was mostly brown, but parts of the interior were black. Prior to dating it was thought to be either a decaying root or partially oxidized detrital charcoal. Given the young age of the sample, it seems most likely to have been a root. The nearby OSL sample (OSL-1) has not been dated.

Interpretation: The part of the knob exposed here is cored by mafic gneiss (1a). This lithology dominates the mountain front nearby, on the opposite (northeast) side of the fault. Other outcrops of gneiss on this (southwest) side of the fault are rare. This may be a landslide block of gneiss that fell across the fault, although J. Matti interprets it as in-place basement of the Wilson Creek block, between the San Bernardino and Mission Creek stands of the San Andreas fault. The relationship between this gneiss along the west flank of the knob and the diorite exposed along the south flank of the knob is unknown. Both the diorite (Fig. 4) and the gneiss in this knob are buried by very old alluvium (Qvof, 2a-2c) that is dominated by granitic clasts (>97%) and that has a strong red soil developed on it. As expected, the red color is most strongly developed near the surface (2d) but is also strong near some parts of the contact with the gneiss (2e). The contact between Qvof and the gneiss is complex, with a few rounded granitic boulders apparently embedded within the decomposing gneiss (1b) and with one block of gneiss apparently embedded within the Qvof gravels (along top contact of unit 2e). We interpret these relationships as the result of the complex threedimensional geometry of the contact between the Qvof gravels and the underlying gneiss, exposed in the west-dipping construction cut.

We interpret units 3a and 3b as deposits filling the abandoned channel between the Qvof knob and the San Bernardino stand. Unit 3b is incised into and overlapping Qvof at 2f (in lot 52), so it must be younger than Qvof. The west-dipping orientation of the cut slope combined with the fact that the Qvof/Unit 3 contact probably trends southwestern (toward the right and out of the page) explains the illusion that Qvof overlies unit 3 beneath lot 81. In addition, unlike Qvof, both 1a and 3b contain a substantial percentage of clast of mafic gneiss in addition to granitic clasts. These mafic gneiss clasts were most likely derived from the basement rocks exposed in the local mountain front and were added to the granitic clasts being transported in the fault-parallel channel from farther upstream in the Plunge Creek drainage basin. Unit 3a is clast-supported and may represent colluvium burying the stream deposits and filling the remainder of the incised channel.

1. Mafic gneiss
   1a. gneiss: mafic, gneissic bedrock or block in a landslide deposit
   1b. decomposed, mafic bedrock (or landslide) below 2 inches of gravel float. There are rounded granitic boulders in mafic sand or decomposed mafic bedrock that locally has red-stained streaks through it.

2. Qvof
   Rounded cobbles and small boulders (up to 40 cm) in a matrix of pebbles, granules and sand (2a). Where well exposed the gravels are clast-supported (2f). All clasts are felsic plutonic rocks, except for up to 3% mafic clasts (biotite gneiss?) noted at 2f. Quartz, plagioclase and/or white orthoclase and biotite are most common in the granitic clasts, though some clasts have pink orthoclase. Most granitic clasts have crystal size 3-7 mm diameter. Some are fine grained. Two sandy layers are interbedded with the gravels at 2b (fine to medium sand, moderately well sorted) and at 2c (coarse to very coarse sand, moderately well sorted). Near top of exposure (e.g., at 2d) there is a prominent red stain on clasts and matrix, more clasts with caliche coatings and many boulders appear to have disintegrated in place, leaving parts of the caliche coating absent along an angular surface. The interiors of some of these boulders can be picked away with a plastic scraper with some difficulty. Clasts and matrix are also strongly red stained at 2e. Contact between 2e and 2a is very gradational and irregular.

Interpretation: The young age (1.2 ka) of C-14 sample PCSR-7 is puzzling given the well consolidated nature of the unit 3a deposits. The sample was probably not bioturbated but may have been a root. Burrowing would be difficult within the mostly clast-supported breccia of unit 3a and would most likely have been recognizable if it had occurred within the moderately well sorted sand pocket from which the sample was collected. The sample was large (2 cm x 2 cm x 5 mm), extending about 2 cm into the wall, with one fork that branched off a bit from the main sample. It was mostly brown, but parts of the interior were black. Prior to dating it was thought to be either a decaying root or partially oxidized detrital charcoal. Given the young age of the sample, it seems most likely to have been a root. The nearby OSL sample (OSL-1) has not been dated.

Interpretation: The part of the knob exposed here is cored by mafic gneiss (1a). This lithology dominates the mountain front nearby, on the opposite (northeast) side of the fault. Other outcrops of gneiss on this (southwest) side of the fault are rare. This may be a landslide block of gneiss that fell across the fault, although J. Matti interprets it as in-place basement of the Wilson Creek block, between the San Bernardino and Mission Creek stands of the San Andreas fault. The relationship between this gneiss along the west flank of the knob and the diorite exposed along the south flank of the knob is unknown. Both the diorite (Fig. 4) and the gneiss in this knob are buried by very old alluvium (Qvof, 2a-2c) that is dominated by granitic clasts (>97%) and that has a strong red soil developed on it. As expected, the red color is most strongly developed near the surface (2d) but is also strong near some parts of the contact with the gneiss (2e). The contact between Qvof and the gneiss is complex, with a few rounded granitic boulders apparently embedded within the decomposing gneiss (1b) and with one block of gneiss apparently embedded within the Qvof gravels (along top contact of unit 2e). We interpret these relationships as the result of the complex three-dimensional geometry of the contact between the Qvof gravels and the underlying gneiss, exposed in the west-dipping construction cut.

We interpret units 3a and 3b as deposits filling the abandoned channel between the Qvof knob and the San Bernardino stand. Unit 3b is incised into and overlapping Qvof at 2f (in lot 52), so it must be younger than Qvof. The west-dipping orientation of the cut slope combined with the fact that the Qvof/Unit 3 contact probably trends southwestern (toward the right and out of the page) explains the illusion that Qvof overlies unit 3 beneath lot 81. In addition, unlike Qvof, both 1a and 3b contain a substantial percentage of clast of mafic gneiss in addition to granitic clasts. These mafic gneiss clasts were most likely derived from the basement rocks exposed in the local mountain front and were added to the granitic clasts being transported in the fault-parallel channel from farther upstream in the Plunge Creek drainage basin. Unit 3a is clast-supported and may represent colluvium burying the stream deposits and filling the remainder of the incised channel.

Interpretation: The young age (1.2 ka) of C-14 sample PCSR-7 is puzzling given the well consolidated nature of the unit 3a deposits. The sample was probably not bioturbated but may have been a root. Burrowing would be difficult within the mostly clast-supported breccia of unit 3a and would most likely have been recognizable if it had occurred within the moderately well sorted sand pocket from which the sample was collected. The sample was large (2 cm x 2 cm x 5 mm), extending about 2 cm into the wall, with one fork that branched off a bit from the main sample. It was mostly brown, but parts of the interior were black. Prior to dating it was thought to be either a decaying root or partially oxidized detrital charcoal. Given the young age of the sample, it seems most likely to have been a root. The nearby OSL sample (OSL-1) has not been dated.
Data Repository Sheet 4: Log of southwest end of Trench R1-99, from unpublished report by Gary Rasmussen on tentative tract no. 16003, Highland, California, Project No. 1455.71, 1999. (The trench is referred to as T-1 in that report). Log shows boulder gravel (observed in the field to be granitic, by McGill) at base of trench. We interpret the bouldery gravel to be Qow3b, deposited in the abandoned channel and buried by colluvium. See Figure 4 for location.
Data Repository Sheet 5 (page 1 of 3): Log of trench S1, by Donn Schwartzkopf, unpublished report, Highland, California, 1992. Trench shows northeast-dipping fault with reverse or reverse-oblique slip placing gneiss over Quaternary deposits. See Figure 4 for trench location.
Trench shows northeast-dipping fault with reverse or reverse-oblique slip placing gneiss over Quaternary deposits. See Figure 4 for trench location.
Trench shows northeast-dipping fault with reverse or reverse-oblique slip placing gneiss over Quaternary deposits. See Figure 4 for trench location.
Gray gravel: Clasts up to 40 cm diameter, 100% granitic? Some with pink feldspar, others very fine grained and lacking pink feldspar. Matrix-supported where cut. One boulder 1.3 m in diameter. Overlain by red sand, which in turn is overlain by gray sand.

Data Repository Sheet 6:
Photo-compilation along Baseline Avenue. Upper photo panel (A) shows construction cut along "Lot W" (see Figure 4 for location), along the northeast side of Baseline Avenue. We infer an unexposed thrust or reverse fault beneath the gneiss along the base of this outcrop. Others have interpreted this gneiss as landslide block (G. Rasmussen, personal communication). The gneiss, with abundant shear planes, is pictured at lower right (B). Lower left photo panel (C) shows construction cut parallel to and southwest of Baseline Avenue. Gray gravel may be Qow3b deposited in the abandoned channel between the Qvof knob and the San Bernardino strand (see figures 4 and 11). Lot numbers in (C) are from City of Highland, Tract 16003 (D).