CALIFORNIA DIVISION OF MINES AND GEOLOGY
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STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION

Figure 4b. Seven Palms Valley quadrangle Official Special Studies Zones Map (California Division of Mines and Geology, 1974) with annotations based on field checking by Drew P. Smith.

SEVEN PALMS VALLEY QUADRANGLE
CALIFORNIA–RIVERSIDE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 THOUSAND PALMS 15' QUADRANGLE

FER-86

This fault is characterized by a 15 cm to 20 cm wide gouge zone within a 15 m to 30 m wide mildly cataclastic zone. The fault generally lies beneath the modern alluvium of the canyon bottom, but locally is exposed in the granitic and metamorphic bedrock of the canyon walls at bends in the canyon. There is no direct evidence for or against Holocene offset. The modern alluvium is not faulted, and there are no older alluvial deposits along this canyon. Where the faulted bedrock is exposed, the geomorphic features do not suggest movement as recent as Holocene time.

REFERENCES USED TO COMPILE FAULT DATA

Seven Palms Valley Quadrangle

Hope, R.A., 1969, Map showing recently active breaks along the San Andreas and related faults between Cajon Pass and the Salton Sea: U.S. Geological Survey open-file map.

Proctor, R. J., 1968, Geology of the Desert Hot Springs-upper Coachella Valley area, California: California Division of Mines and Geology Special Report 94, 50 p., pl. 1.

TRENCH SYMBOL

AP-321 trench

The red line indicates the location of the trench, the short black dash indicates the position and trend of any faults observed in the trench.

Aqueduct exposed 27" gouge zone in gneiss dips 70° W, overlain by 3' of undisturbed alluvium (Proctor, 1968, p. 35) – EWH, 11/29/79

This area entirely cut & fill landscaping (January 1979); no original land surface

C-33 trenches indicate E-dipping fault, down to the west (Rasmussen, 1979)

Older aerial photography shows well-defined, northeast-facing eroded scarp (Trace of Proctor, 1968)

Fault does not cut Recent alluvium as shown by Proctor (1968)

Fault exposed in basement rock

Older alluvial surface not offset. Very old alluvium (reddish, much caliche) and basement rock are faulted.

Rasmussen (1979) reports possible Holocene fault in trenches – EWH, 11/29/79

No evidence for offset of Recent alluvium in these places as mapped by Proctor (1968)

No evidence for offset of Recent alluvium in this area as shown by Proctor (1968)

AP-188 trenches

AP-839 trench

AP-623 trenches

Fault exposed in deep stream cuts; older alluvium is faulted, but only to within about 3 m from the surface (Trace of Hope, 1969)

AP-571 trenches

AP-923 trenches

Trench by Brown (1974) no fault observed

Fault exposed in basement rock, overlying veneer of older alluvium not cut by the fault.

Older alluvial terrace surface not offset by fault.

AP-908 trench

Fault characterized by ancient cataclastic zone, 1 to 3 m thick. Note slight difference in location of fault at this point.

Remnants of older alluvial surface show west side of fault up about 1.0 m

No evidence for offset of Recent alluvium in this area as shown by Proctor (1968)

AP-922 trenches

AP-916

AP-916 trench

AP-921 trench

AP-599 trench

AP-271 trench

AP-626 trenches

The topographic features in this area are strongly modified by wind-blown sand, and may consist entirely of semi-stabilized dunes. There is no clear evidence for these fault traces.

The geomorphic features along these two fault segments have been extensively modified by erosion; this suggests that there has not been Holocene movement. The Holocene alluvium that locally overlies parts of these fault segments appears to be not cut by the faults.

There is no specefic surface evidence for the location of the Garnet Hill fault in this quadrangle.

Holocene alluvium not cut

SAN ANDREAS FAULT SYSTEM
SAN BERNARDINO MOUNTAINS
MONUMENT MOUNTAINS
BLIND CANYON FAULT
SPV-A FAULT
SPV-B FAULT
SPV-C FAULT
SPV-D FAULT
SPV-E FAULT
MISSION CREEK BRANCH OF SAN ANDREAS FAULT
MIRACLE HILL FAULT
FUN VALLEY FAULT
SEVEN PALMS VALLEY FAULT
BANNING FAULT
GARNET HILL FAULT
COACHELLA VALLEY
INDIO HILLS

TOPOGRAPHIC BASE BY U.S. GEOLOGICAL SURVEY 1958

SCALE 1:24 000

INTERIOR—GEOLOGICAL SURVEY WASHINGTON, D. C.—1975

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