02-HQ-GR-0099

DEEP BOREHOLE TENSOR STRAIN MONITORING, NORTHERN CALIFORNIA

FINAL TECHNICAL REPORT

Michael T. Gladwin +617 3327 4562
Fax +61733274455
Email: mike.gladwin@csiro.au
C.S.I.R.O.
P.O. Box 883
Kenmore QLD 4069
AUSTRALIA

TECHNICAL ABSTRACT
Data from five borehole tensor strain instruments situated along the San Andreas Fault in Northern California and the Hayward Fault in San Francisco Bay area have been maintained and continue to provide archive quality data for the geophysical research community, and automatically processed near-real time data for USGS internal use. Long term changes of strain rate have continued to present at San Juan Bautista since the October 1998 slow earthquake sequence. Two new episodic strain/creep events have been observed there during 2002/2003. At Parkfield, strain/creep episodes continue to be observed. A significant shift in shear strain accumulation rate at Parkfield was observed in 1998 and has continued and is correlated with co-located other instruments. Long term changes in strain rate at Chabot have been observed in 1997 and 1999, also correlated with other SF Bay instruments.

Data from the Gladwin Tensor Strainmeters has been instrumental in the ongoing proposals for a Plate Boundary Observatory, and significant effort in our project is now centred on assisting this process of establishing the planned coherent strain monitoring arrays of the future which will subsume and replace the research and development studies funded by
NEHRP in this project