

99-HQ-GR-0061

**DEEP BOREHOLE TENSOR STRAIN MONITORING
SOUTHERN CALIFORNIA.**

FINAL TECHNICAL REPORT

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TECHNICAL ABSTRACT

Data from two Gladwin Tensor Strain instruments situated at Pinon Flat and in the San Gabriel mountains region in southern California have been maintained and provide both archive quality data, and automatically processed near-real time data for use by the geophysical research community. Strain offsets were observed at both instrument sites during the Hector Mine earthquake. Modelling studies indicate that the character of the observed offsets at Coldbrook can only be accounted for by addition of triggered slip on the San Andreas fault to the northeast of the site. Slow aseismic strain was observed at both instruments over 5 days following the event.

Non-Technical Summary

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seismology, geodesy, borehole geophysics

Data from two borehole tensor strain instruments situated at Pinon Flat and in the San Gabriel mountains have been maintained and provide both archive quality data, and automatically processed near-real time data for use by the geophysical research community. Strain offsets resulting from the Hector Mine earthquake in October 1999 were observed at each instrument. Modelling of these offsets indicates that triggered slip occurred on the San Andreas fault to the northeast of the Coldbrook instrument. Aseismic afterslip was also observed at both instruments in the days following the earthquake. There have been significant changes in long term strain accumulation rate at Coldbrook continuing from January to June 2000.