FOR IMMEDIATE RELEASE

Earthquakes – One Notch Closer to an Early Detection System

Palo Alto, CA October 14, 2009 -- Hardly a week goes by without a grim headline, somewhere in the world, announcing the deadly strike of an earthquake as in the case of Samoa and Indonesia that have just been devastated by two quakes in two consecutive days. Upon the 20th anniversary of the devastating Loma Prieta events of October 17th 1989, the question resonates louder than ever. How can we prevent this destructive force from ever catching us by surprise again? Earthquake science seems to be closing in on the answer.

Among researchers and noted scientists putting forth their findings at the 2009 Asia Oceania Geosciences Society Conference in Singapore, one that stood to notice was the presentation by Tom Bleier, head of QuakeFinder, titled "Multiple Electromagnetic Signals Associated with California Earthquakes". While the bulk of the seismology community has concentrated on investigating mechanical precursors, Quakefinder is part of a smaller community of international researchers who have quietly been investigating electromagnetic phenomena to gain insight into what is happening in the earth's crust, miles beneath the surface. They analyze data from 60 magnetometers and air conductivity sensors across California. For the very first time three separate sets of data have converged in support of their hypothesis. One sensor located within 2 miles of the 2007 Alum Rock M5.4 earthquake recorded an unusual series of strong magnetic pulsations two weeks prior to the quake. The air conductivity sensor detected unusual charged particles floating close to the ground in that same period, so plentiful that they started to saturate the sensor. In addition, QuakeFinder checked with their colleagues at NASA Jet Propulsion Laboratory to see if they had observed any unusual infrared signatures around the area. They had. The nighttime air around the Calaveras fault had heated up slightly—not cooled down as might be expected.

"The data continues to support our hypothesis that there may be a sequence of electromagnetic signals that occur around two weeks prior to large earthquakes," says Bleier, "now that we are expanding the network of sensors in the field we are more likely to capture large earthquakes near those sensors to provide more proof. This holds life-saving significance in that it could be developed into a useful earthquake hazard warning system that would allow for community preparedness and emergency services to be deployed before the disaster hits."

The months following the Alum Rock earthquake were spent arduously scrutinizing the EM data, looking for any possible source of noise that might have contaminated it. None was found except for the normal noise in nature. There were two interesting facts emerging from the data. The magnetic pulsations were 50 to 100 times more frequent and the air conductivity levels were noticeably larger in the two weeks

before the quake—more than at any time in the two years prior to the quake at that location. More convincingly perhaps, during the specific two weeks prior to the quake, the higher pattern of magnetic pulses and positive air ions did not exist at any other of the nine identical QuakeFinder sites scattered across the state—just at the Alum Rock site.

So how does the earth generate or cause these electromagnetic signals? NASA Ames and SETI Institute researcher Dr. Friedemann Freud has shown in many laboratory experiments that rocks under intense stress free up charge carriers (p-holes) that cause electrical currents in the rocks (a semi-conductor effect). Byproducts of this effect are magnetic pulses, air conductivity changes, and infrared (IR) signals (when the charged particles neutralize in the air). The rock physics seem to agree with the data from QuakeFinder field monitors. Earlier reports have provided indications as well. Back in the time of the Loma Prieta earthquake, Dr. Anthony Fraser-Smith of Stanford had only one magnetometer working, but it was very close to the Loma Prieta epicenter and it detected a large increase of magnetic anomalies two weeks prior to the quake. Unfortunately at that time there were no other sensors nearby to validate the signals. The Parkfield (2004), San Simeon (2003) and Hollister (1998) quakes all saw smaller but similar magnetic pulses but no air conductivity sensors existed at these locations. Researchers in Japan, Taiwan, Russia, and China are also reporting magnetic, infrared, and ionospheric anomalies prior to large quakes. In order to confirm any findings, there needs to be an increase in the density of the network of sensors as a minimum to cover the major faults in California.

QuakeFinder, the Humanitarian R&D division of aerospace engineering firm Stellar Solutions, has 60 working sites and states that over 200 are needed just for California. Many more are needed internationally, to allow the capture and analysis of more earthquake events in order to determine if these patterns are repeatable. Providing additional corroboration of their research could mean that some earthquakes could be forecasted and these EM signals could be used to drive up graduated hazard levels during those two-week periods, much like hurricanes are tracked today, a breakthrough that could not arrive too soon.

For additional information on the ongoing research that is the subject of this release contact Tom Bleier or visit www.quakefinder.com.

About QuakeFinder

QuakeFinder, the Humanitarian R&D division of Stellar Solutions located in Palo Alto, CA, conducts pioneering research in the area of earthquake forecasting with the ultimate aim to develop, within the next decade, a global warning system of imminent destructive earthquakes. For more information visit www.quakefinder.com

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Stellar Solutions is an aerospace engineering services firm that provides technical expertise in diverse defense and intelligence related projects, commercial

telecommunications and imagery satellite systems, and NASA's planetary and earth science missions. Their high-caliber team of aerospace professionals holds decades of applied mission experience within a culture focused on satisfying the critical needs of their global customers. They have offices in major space development and operational hubs - California, Colorado and the Washington DC area and also in London through their sister company Stellar Solutions Aerospace Ltd.

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