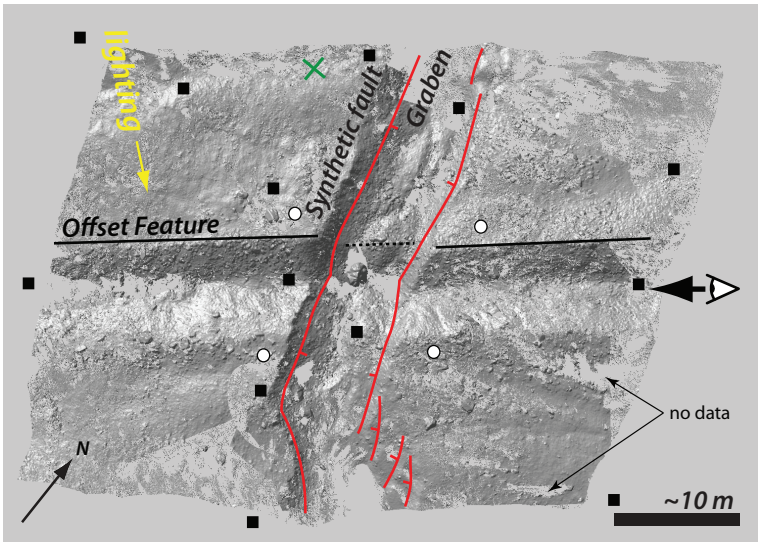
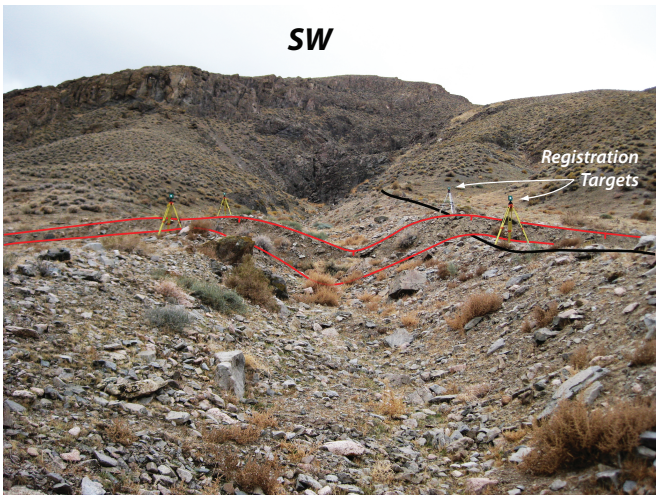
UCDAVIS DEPARTMENT OF GEOLOGY

Metadata	
Dataset Name:	Dixie Valley fault rupture terrestrial laser scanning dataset-Site 1 (DVF_TLS_s1)
Collected by:	Peter Gold (UC Davis)
Project PI:	Peter Gold (UC Davis)
Funding:	UC Davis Dept of Geology; Geological Society of America
Geographic location:	Central Nevada, United States. 1954 Dixie Valley fault rupture. (lat 39.628657 lon -118.176837)
Acquisition date(s):	11 November 2009-13 November 2009
Instrumentation:	Trimble GX3D DR200+ terrestrial laser scanner; Dell Latitude 6200 ATG laptop; Trimble R7 GPS receivers; Leica TCR400 Total Station.
Power source:	1000 W generator
Field software:	Trimble PointScape
Post-processing software:	Trimble RealWorks; LidarViewer (KeckCAVES.org)
Total lidar returns:	13238696
Ground returns:	11116813
Vegetation and other returns:	2121883
Data format:	.las, x,y,z,intenisty (E,N,Z,intensity)
Vegetation classification method:	Performed manually in the UC Davis KeckCAVES 3D immersive virtual reality CAVE environment. Some small grass remains.
Scan footprint area:	3000 m^2
Averaged point density:	~3700 pts/m^2
Number of scan stations:	13
Registration Method:	Target-based using square, flat panel reflective targets. Targets were installed over ground control points that were surveyed prior to scanning with a total station (for a more complete description see Gold et al., 2012)
Number of targets:	4
Number of targets measured from each scan station:	4
Assessment of scan registration errors:	Residual target mismatches and point cloud mismatches are 0-3 cm
Georeferencing method:	Trimble R7 receivers set to collect in rapid-static mode for 3-8 hours at 3 target locations. Georeferencing of point clouds performed using Trimble RealWorks.
Field survey methods and workflow:	Following workflow outlined in Gold et al., 2012
References:	Gold, P. O., Cowgill, E., Kreylos, O., and Gold, R. D., 2012, A terrestrial lidar-based workflow for determining three-dimensional slip cectors and associated uncertianties: *Geosphere*, v. 8, no. 2, p. 431-442.

Dixie Valley fault rupture TLS dataset survey details-Site 1

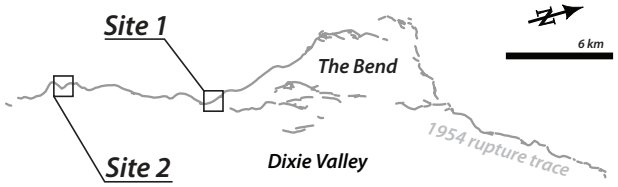


DVF_TLS_Site1 Survey Map



Field Photo

Regional Rupture Map



Key

- ■ Scanner location
- ○ Target location
- ✕ Total station
- Fault, down-dip tick
- Offset feature
- Photo viewpoint