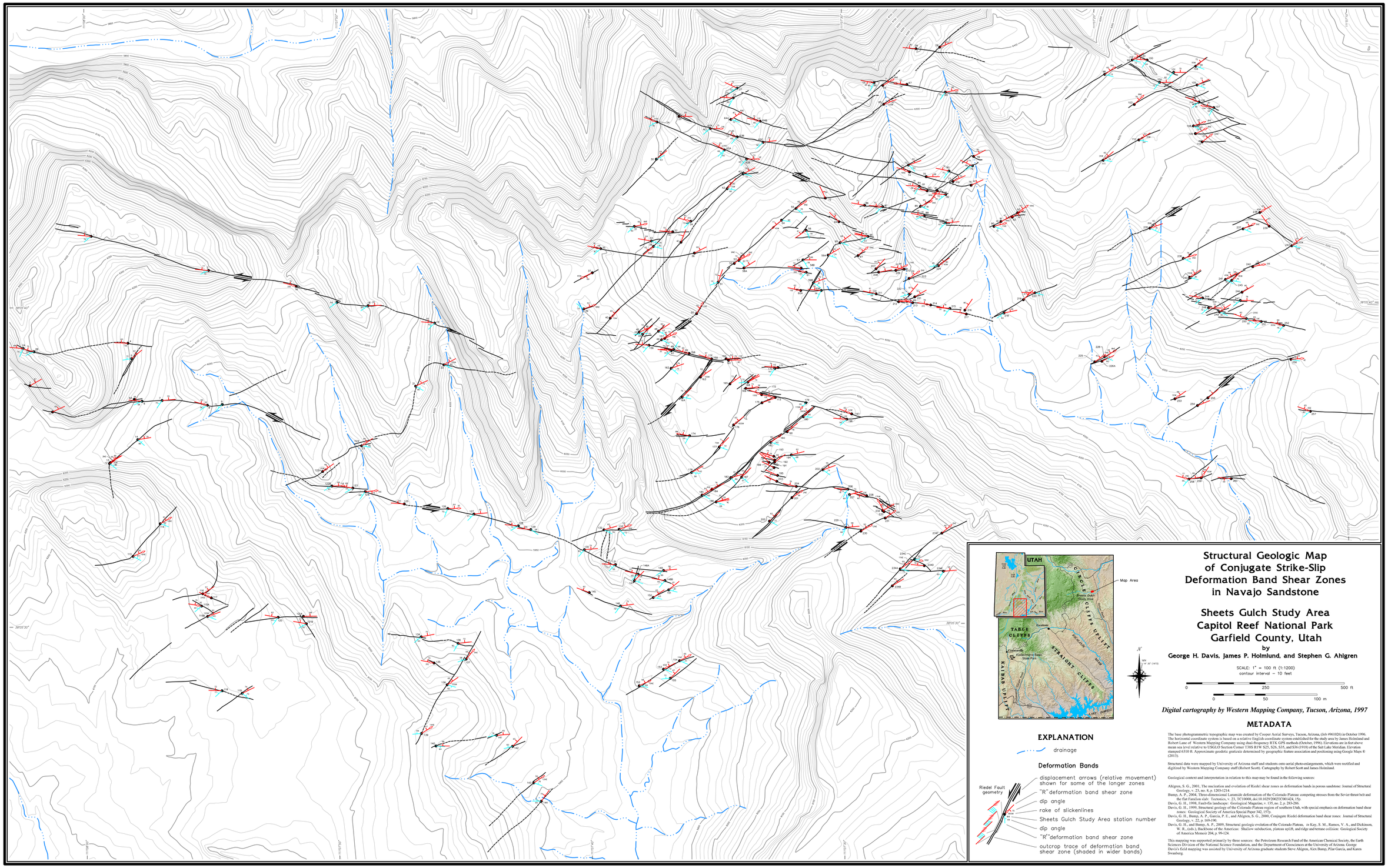

Structural Geologic Map of Conjugate Strike-Slip Deformation Band Shear Zones in Navajo Sandstone

Sheets Gulch Study Area
Capitol Reef National Park
Garfield County, Utah

by
George H. Davis, James P. Holmlund, and Stephen G. Ahlgren

SCALE: 1" = 100 ft (1:1200)
contour interval – 10 feet

0 250 500 ft

0 50 100 m

Digital cartography by Western Mapping Company, Tucson, Arizona, 1997

METADATA

The base photogrammetric topographic map was created by Cooper Aerial Surveys, Tucson, Arizona, (Job #961026) in October 1996. The horizontal coordinate system is based on a relative English coordinate system established for the study area by James Holmlund and Robert Lane of Western Mapping Company using dual-frequency RTK GPS methods (October, 1996). Elevations are in feet above mean sea level relative to USGLO Section Corner T38S R1W S25, S26, S35, and S36 (1918) of the Salt Lake Meridian. Elevation stamped 6310 ft. Approximate geodetic graticule determined by geographic feature association and positioning using Google Maps ® (2013).

Structural data were mapped by University of Arizona staff and students onto aerial photo-enlargements, which were rectified and digitized by Western Mapping Company staff (Robert Scott). Cartography by Robert Scott and James Holmlund.

Geological context and interpretation in relation to this map may be found in the following sources:

Ahlgren, S. G., 2001, The nucleation and evolution of Riedel shear zones as deformation bands in porous sandstone: Journal of Structural Geology, v. 23, no. 8, p. 1203-1214.

Bump, A. P., 2004, Three-dimensional Laramide deformation of the Colorado Plateau: competing stresses from the Sevier thrust belt and the flat Farallon slab: Tectonics, v. 23, TC1008, doi:10.1029/2002TC001424, 15p.

Davis, G. H., 1998, Fault-fin landscape: Geological Magazine, v. 135, no. 2, p. 283-286.

Davis, G. H., 1999, Structural geology of the Colorado Plateau region of southern Utah, with special emphasis on deformation band shear zones: Geological Society of America Special Paper 342, 157p.

Davis, G. H., Bump, A. P., Garcia, P. E., and Ahlgren, S. G., 2000, Conjugate Riedel deformation band shear zones: Journal of Structural Geology, v. 22, p. 169-190.

Davis, G. H., and Bump, A. P., 2009, Structural geologic evolution of the Colorado Plateau, *in* Kay, S. M., Ramos, V. A., and Dickinson, W. R., (eds.), Backbone of the Americas: Shallow subduction, plateau uplift, and ridge and terrane collision: Geological Society of America Memoir 204, p. 99-124.

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