

## Plan Overview

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*A Data Management Plan created using DMPTool*

**Title:** Evidence for Dynamic Weakening Mechanisms in the San Andreas Fault: Microgeochemistry and microthermometry of Fault-related Rocks from SAFOD core and Exhumed Fault

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## **Evidence for Dynamic Weakening Mechanisms in the San Andreas Fault: Microgeochemistry and microthermometry of Fault-related Rocks from SAFOD core and Exhumed Fault**

### **Types of data**

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**Preservation of all data, samples, physical collections and other supporting materials needed for long-term earth science research and education is required of all EAR-supported researchers.**

The data for this project primarily derive from the SAFOD borehole, from which we have ~70 samples, all compiled in TAMU IODP database, 50 samples from the USGS Core research lab in Denver, and field samples collected from 3 sites in California. The data sets consist of:

1. Thin sections, which will be recorded with IODP, USGS, or in our database
2. Thick sections used for Raman and Fluid Inclusion analyses
3. Geochemical datasets - whole rock geochemistry, mineralogical data, spectroscopic data and other related data, including location data.
4. Where possible, we will use USGS whole rock standards for analyses; Many of these analyses do not have standards, but analyses will be performed on calibrated instruments

### **Data and metadata standards**

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**Data archives must include easily accessible information about data holdings, including quality assessments, supporting ancillary information, and guidance and aids for locating and obtaining data.**

Most of the archives are in the form of Excel Spreadsheets, and will have a readme file or explanatory text. Our goal is to produce research results in journal articles, so we will adhere to standards for data repositories for these journals (AGU, GSA). The data will largely be in the form of tabulated analytical results; raw geochemical data; corrected data; spectra of analyses with Raman analyses; images from microscopy.

### **Policies for access and sharing**

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**It is the responsibility of researchers and organizations to make results, data, derived data**

products, and collections available to the research community in a timely manner and at a reasonable cost. In the interest of full and open access, data should be provided at the lowest possible cost to researchers and educators. This cost should, as a first principle, be no more than the marginal cost of filling a specific user request. Data may be made available for secondary use through submission to a national data center, publication in a widely available scientific journal, book or website, through the institutional archives that are standard for a particular discipline (e.g. IRIS for seismological data, UNAVCO for GP data), or through other EAR-specified repositories. Data inventories should be published or entered into a public database periodically and when there is a significant change in type, location or frequency of such observations. Principal Investigators working in coordinated programs may establish (in consultation with other funding agencies and NSF) more stringent data submission procedures.

Where published, the data will be provided as supplementary data files for the appropriate journals. In addition, we house our data in a publically accessed open access repository operated by the USU Libraries system Digital Commons:

<http://digitalcommons.usu.edu/do/search/?q=james%20p.%20evans&start=0&context=656526>

This system is an open, web searchable archive of all files we provide, and all NSF-funded data sets will be loaded to this system. Digital Commons has a primary and two backup archives "in the cloud" at servers in 3 sites.

## **Policies and provisions for re-use, re-distribution**

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For those programs in which selected principle investigators have initial periods of exclusive data use, data should be made openly available as soon as possible, but no later than two (2) years after the data were collected. This period may be extended under exceptional circumstances, but only by agreement between the Principal Investigator and the National Science Foundation. For continuing observations or for long-term (multi-year) projects, data are to be made public annually.

The topic area of interest in this work is evolving at an almost daily basis - new papers are coming out very fast, primarily from experimentalists and modelers. To provide these communities with use of our data, we propose to release our data 1 year after we collect, analyze, and collate the data into a usable format.

## **Plans for archiving and preservation of access**

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**Remember - Data may be made available for secondary use through submission to a national data center, publication in a widely available scientific journal, book or website, through the institutional archives that are standard for a particular discipline (e.g. IRIS for seismological data, UNAVCO for GP data), or through other EAR-specified repositories.**

The data will be archived at three sites:

Utah State University Digital Commons <http://digitalcommons.usu.edu/do/search/?q=james%20p.%20evans&start=0&context=656526>

USGS <http://geology.cr.usgs.gov/crc/>

SAFOD Data site: <http://www.icdp-online.org/projects/world/north-and-central-america/san-andreas-fault/details/>

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