



# San Joaquin Geological Society

**Date:** Tuesday, October 9, 2018

**Time:** 6:00 PM Social Hour  
7:00 PM Dinner  
8:00 PM Lecture

**Place:** **\*\*NEW LOCATION\*\***  
American Legion Hall  
2020 H Street, Bakersfield, CA 93302

**PSAAPG Members**  
\$25 with reservation  
\$30 without reservation

**Non PSAAPG Members**  
\$30 with reservation

**Full-time Students with ID:**  
\$10 - Courtesy of  
California Resources Corporation

**\* RSVP \***

**By: noon Monday,  
October 8, 2018**

Register online:  
<http://www.SanJoaquinGeologicalSociety.org/>

Pay online or at the door

**SJGS WEBSITE**

<http://www.SanJoaquinGeologicalSociety.org/>

**SJGS OFFICERS**

**PRESIDENT**

**Jonathan Goodell**  
California Resources Corp.  
[Jonathan.Goodell@crc.com](mailto:Jonathan.Goodell@crc.com)

**VICE PRESIDENT**

**Kristy Whitaker**  
Berry Petroleum  
[kwhitaker@bry.com](mailto:kwhitaker@bry.com)

**SECRETARY**

**Lindsey Thompson**  
EnviroTech Consultants,  
Inc.  
661-377-0073 x 17  
[lthompson@envirotechteam.com](mailto:lthompson@envirotechteam.com)

**TREASURER**

**Jennifer Prosser**  
EnviroTech Consultants,  
Inc.  
[jprosser@envirotechteam.com](mailto:jprosser@envirotechteam.com)

**PRESIDENT-ELECT**

**Jeff Kimber**  
DOGGR  
[Jeff.Kimber@conservation.ca.gov](mailto:Jeff.Kimber@conservation.ca.gov)

**PAST-PRESIDENT**

**Cameron Campbell**  
DOGGR  
[Cameron.Campbell@conservation.ca.gov](mailto:Cameron.Campbell@conservation.ca.gov)

## Spatial and Geochemical Characterization of an Anomalous, Map-Scale Dolomite Breccia in the Monterey Formation, Santa Maria Basin, California

Presented by: Maia Davis

**Abstract:** An approximately eighteen-square-kilometer dolomite breccia mapped by Dibblee and Ehrenspeck in 1988 outcrops at or near the base of the Monterey formation in the southern margin of the Santa Maria Basin (SMB). Although not recognized as such by the original mappers, it marks the location of an extensive detachment surface, along which large amounts of fluids flowed which dolomitized and cemented an undulating fault zone. This surface is key to allowing excess folding of Monterey strata relative to older strata. The dolomite breccia exposed in the old Grefco Quarry road cut is analyzed in detail using outcrop description, macro- and micro- rock fabric description, thin section petrography, X-ray diffraction data, carbon and oxygen isotopes, and trace element geochemistry. Deformation, mineralogy, and isotope signatures are consistent with hydrothermal dolomite (HTD) emplacement from evolved, Monterey-sourced connate fluids which ranged in temperature from 36.6 to 99.5 degrees celcius. Clasts of dolomite, Monterey siliceous rocks and sandstone from underlying formations are locally supported by >35% micritic dolomite and microcrystalline quartz cement in a dilation breccia. A minimum of 128,000-231,000 cubic centimeters of fluid per cubic centimeter of breccia volume were required to deposit the dolomite cements.

**Biography:** Maia Davis began her journey in geology at Santa Barbara City College and received her B.S. in geology from UC Santa Barbara. After college, she traveled the world acquiring and processing marine seismic data with WesternGeco. She left the doodlebugger life to focus her energy on solving geologic problems and entered a graduate program at CSU Long Beach with Dr. Richard Behl in the Monterey and Related Sediments (MARS) Project. While working on her master's degree, Maia served as President and Community Outreach Liaison for the CSULB AAPG Student Chapter and was Secretary for the Los Angeles Basin Geological Society (LABGS). She received her M.S. in geology in May 2018, shortly after becoming a California Professional Geologist. Maia currently lives in Bakersfield working as a Geologist for CRC.

October Sponsor:

***Mike Riddle***