Calderas, Arches and Student Success: The Peaks and Potholes of Implementing a Field Course at a Two-Year College

Jessica Barone   Amanda Colosimo
Monroe Community College
Department of Chemistry and Geosciences
Field Studies in the Geosciences
Course Structure

• 10 weeks, 3.5 hours of lecture and lab exercises
• 10-day field days
Spring 2012: Geology of the Grand Canyon
Spring 2013: Arches, Canyons and Pinnacles, Geology of the Colorado Plateau
• Student engagement
• Utilize available resources
• Don’t reinvent the wheel!
• Schedule down time
• Improvement of field notes
Antelope Island, Utah, 6/6/11

4:30 PM, cloudy, windy
Temp 72°F.
Ph 8.0
8 is basic
0-14, one is most acidic
N 41°3'34"
W 112°15'2.7"
Conductivity or
Range is 0-1990
Greater than 1990 NS
Playsa lake
Dry desert area
33 ft depth
Waterhatch mnts
Quirch - Oaker mnts surround
Laramide orogeny
Rocks are old no remains young 100
Orogeny mountain building event
Bonneville salt flats drains to NE
through Canada, man at sea
called scab lands
42.35 ft (elec)

Mud volcanoes stop.

6/10/11 8:05 AM

A) Dragon mouth spring
44°3'30.3"N
110°26'.568"E
125°F
7790 ft

The outlet has orange to white
thermophiles. Also orange-brown
Metallophacera
Thiemonas
acidD microbium
Desulfonella
The acid sulfate spring is steaming
The creek coming into the spring
is causing hydrothermal erosion
and alterations.

B) Mud Volcano - 127°F
44°37'28.1"N
110°28'.429"W

Where its bubbling there are yellow
thermophiles.

Hydrogenobaculum
Large mud cracks
Potholes

- Geologic time

![Geologic time chart](image)
• Spatial literacy
• Assessment challenges
• Novelty of field sites
• Environmental and safety factors
Potholes

Wild Caves

Beware of Hazards

Unstable footing
Falling rocks
Low ceilings
Dark areas

Proceed with Caution

Craters of the Moon National Monument
Summary

Peaks

• Student engagement
• Utilize available resources
• Don’t reinvent the wheel!
• Schedule down time
• Improvement of field notes

Potholes

• Geologic time
• Spatial literacy
• Assessment challenges
• Novelty of field sites
• Environmental and safety factors