

Oregon TECH

Enhancing a Classroom Experience with a Field Trip
– Moving Beyond the Yellow Bus and Sack Lunch

A CCT sponsored Geology 201 trip to
Fort Rock, OR
Matthew Sleep
January 20, 2015

Thank you CCT!



Guiding theme

- Field trips are beneficial for student learning
 - There is significant research to support this
 - Informal vs. Formal learning
 - Learner-Centered
 - Yellow school bus, sack lunch, museum tour
 - Even this has been found to be very beneficial! (Greene et al. 2014)
- **Model the trip as a research project**

A brief presentation...

- Geology 201
 - Trip overview
- Goals of a field trip versus classroom instruction
- Logistical implementation



Geology 201 Introduction to Geology

- 4 credit, laboratory based science
- Currently taught in Spring quarter
- Required course for civil engineering majors
 - Spring 2014 had 40 students enrolled
 - 32 students attended the field trip
- “At least four credits must be completed from a laboratory based science course in BIO, CHE, GEOG, GEOL or PHY.”

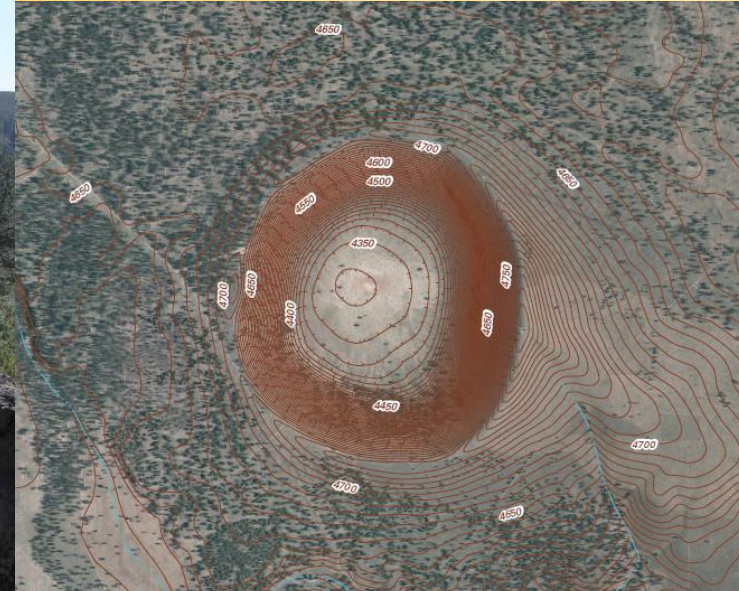
Fort Rock Volcanic Complex Field Trip



- Depart on Friday, June 2
- Camping at Horserock Campground
- Depart 7AM Saturday, June 3
- Three stops:
 - Hole-in-the-Ground
 - Fort Rock
 - Table Rock Volcanic Complex

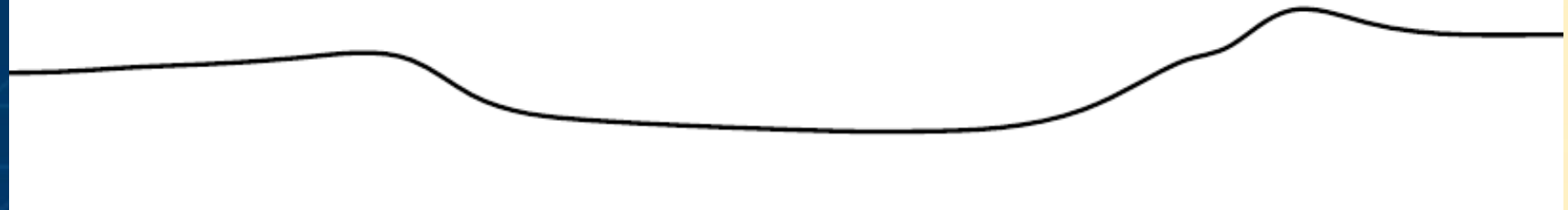
Hole-in-the-Ground

Study of
hydromagmatic
eruptions



North

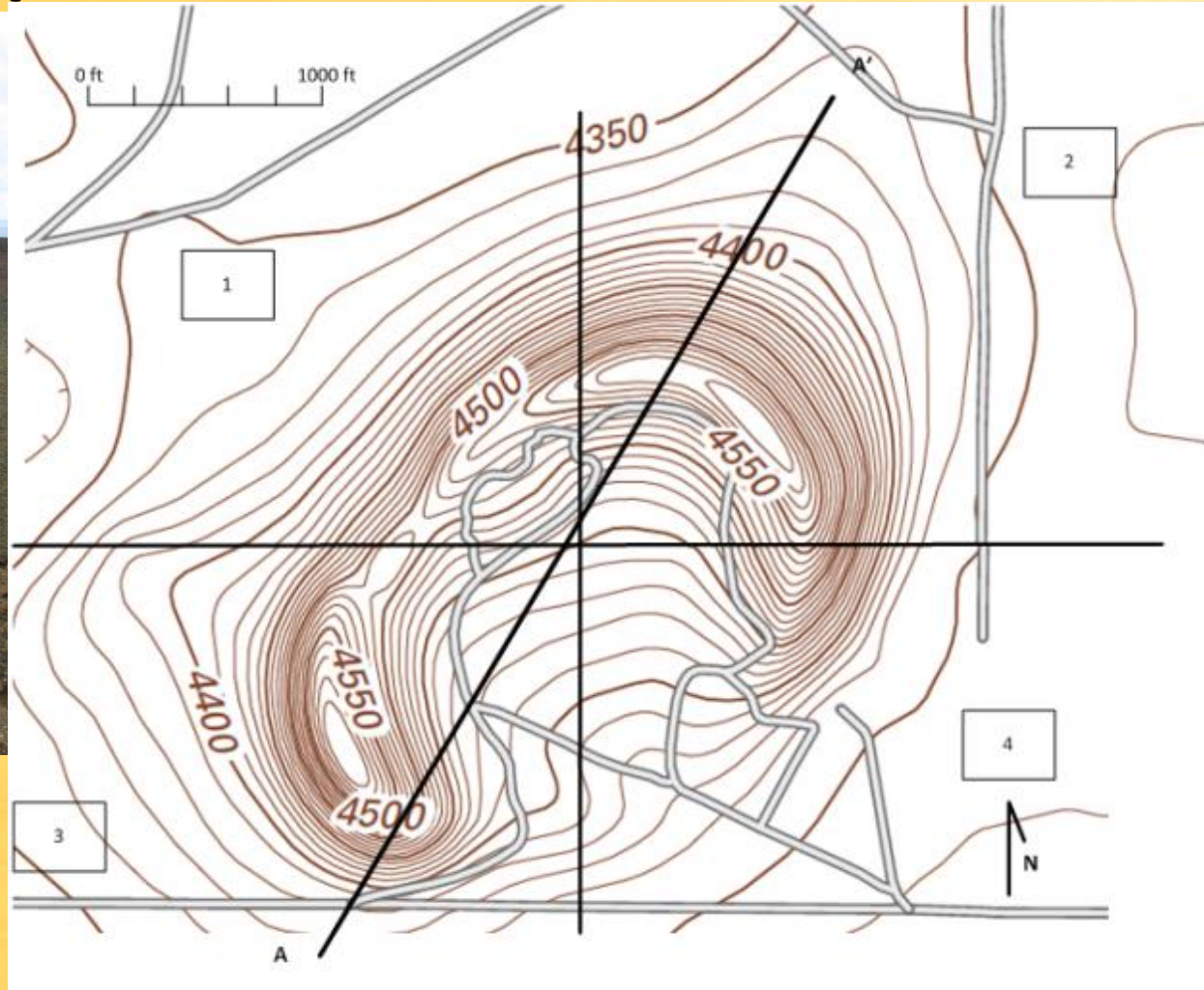
South (our
location)



Least effective
“Why are we here?”

Fort Rock

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- Very effective
- **Research project/data collection**
- Student driven activity

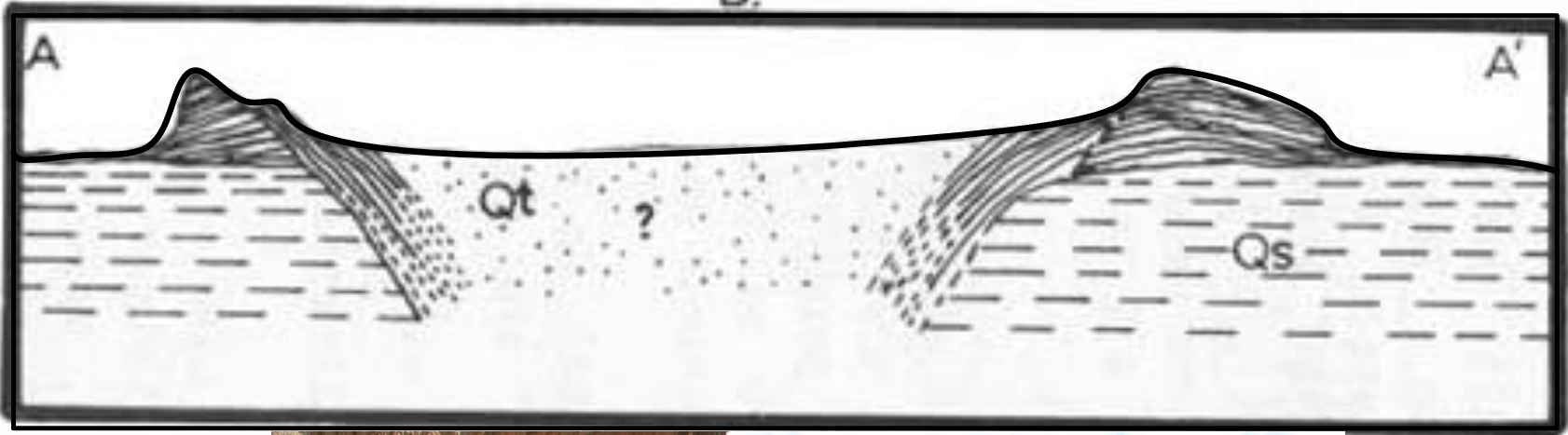
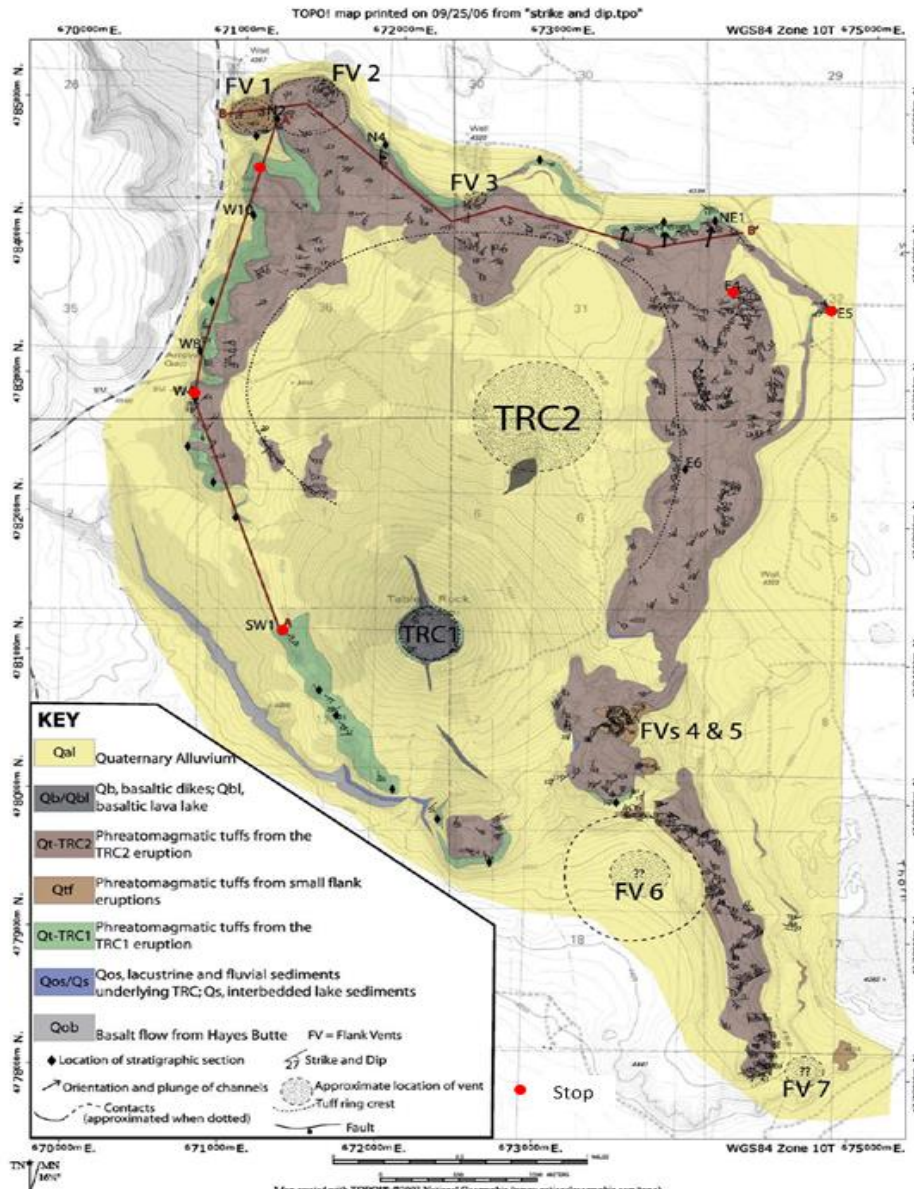


Table Rock Volcanic Complex



- By identifying geology and measuring structure determine eruptive centers



Prior Research

- Four trips to the Fort Rock Volcanic Complex
 - Literature review was key to identifying learning objectives at each site
 - Physical trips were necessary to verify the literature and make logistical decisions
- Field trip guidebook
 - One source of material for the entire trip with blank data tables and drawings
 - Promoting the trip as a research project was effective

Key logistical issues

- Transportation and parking
 - 8 vehicles
 - Students can drive!
- Camping
 - Costs and space
- Food
- Informal TA's



Informal and Formal Learning

(Post trip implementation report available)

- Students should not be learning new skills in the field
 - Prior trips to Ponderosa Junior High, Moore Park, pace and compass map to familiarize students with structural geology
- Hydromagmatic eruptions, igneous geology, structural geology were all covered in the classroom
- Whenever possible, in-class lectures mentioned the field trip

Suggestions for trip implementation

- Well defined tasks
- Trip expectations
- If you are trying to illustrate a classroom concept, it should be visible
- Student buy-in is incredibly important
- Students must be trusted

Trip improvement

- Elect group leaders
- Group reports instead of individual reports
- More opportunities for students to work on the report during the trip
- More is possible



- Field trips enhance student learning
 - Hands-on, real-world
- Give the students a tangible and memorable experience
- Promote social/community aspects of Oregon Tech
- Thanks to Kathy Stanek, Michael Hughes and Sean St.Clair