Bighorn Basin Coring Project (BBCP) Workshop Itinerary

Saturday, June 23 - Check in at Simpson Hall between 5:00 and 7:00 PM at Simpson Hall, Northwest College, Powell, WY. Dinner on your own. Late check in will also be available after 9:00 PM.

Sunday, June 24 (Day 1): Determining the Scientific Questions

Framework

Q1.1 What are the critical scientific questions that can be addressed by coring an early Paleogene continental section like that of the Bighorn Basin?

Q1.2 What specific hypotheses can be tested with the records that will be produced by the coring project and what kinds of observations/measurements will need to be made to carry out those tests?

Q1.3 How do these "scientific drivers" relate to ongoing research in other areas and in other fields?

Itinerary

Breakfast: 7:30-8:30: Cafeteria (Dewitt Student Center)

Morning:
- 9:00-9:15: Welcome, overview of agenda, goals, expectations (Clyde)
- 9:15-9:45: Geological context of Bighorn Basin (Kraus)
- 9:45-10:15: Paleontological context of Bighorn Basin (Gingerich)
- 10:15-10:30: Break
- 10:30-11:00: Update on global PETM and other events (Bowen and Sluijs)
- 11:30-12:00: The PETM in the Bighorn Basin (Wing)
- 12:00-12:30: Group discussion

Lunch: 12:30-1:30: Cafeteria

Afternoon:
- 2:00-2:15: Working group assignments
- 2:15-3:45: Disciplinary Working Groups (Answer Q1-Q3)
  - Paleoclimate
  - Paleobiology
  - Geology
- 3:45-4:00: Break
- 4:00-5:15: Group discussion and consensus on the list of answers for Q1-Q3

Dinner: 5:30-6:30: Cafeteria

Monday, June 25 (Day 2): Methodologies, Coring Logistics and Site Planning

Framework

Q2.1 How many cores should we plan to drill and how long should they be?
Q2.2 How can we best integrate these cores into the existing outcrop framework?
Q2.3 How can we acquire high resolution seismic data for drilling safety and to augment our core data?
Q2.4 What are the necessary steps associated with permits, permissions, drill rig contracting, and environmental impact statements etc.
Q2.5 What kind of scientific equipment will we want to have on site for core logging and sampling?
Q2.6 What methodologies, sampling protocols and sampling resolution will we want to apply?

Itinerary

Breakfast: 7:30-8:30: Cafeteria

Morning:
8:45-9:00: Overview of day's agenda and summary of Day 1 (Clyde)
9:00-9:30: Background on continental coring technologies and costs (Nielson)
9:30-10:00: Continental coring example: Denver Basin (Raynolds)
10:00-10:30: Bighorn Basin geology: a perspective from industry (May)
10:30-10:45: Break
10:45-12:30: Background on methods (15-20 minutes each)
- XRF and core logging (Rohl)
- Cyclostratigraphy I (Westerhold)
- Cyclostratigraphy II (Locklair)
- Isotope Geochemistry-Inorganic (Koch)
- Isotope Geochemistry-Organic I (Freeman and Cesca Smith)
- Isotope Geochemistry-Organic II (Schouten)
- Paleomagnetism (Clyde)

Lunch: 12:30-1:30: Cafeteria (Subgroup meets with Mike Bies [BLM] over lunch to discuss permitting, permissions, and site selection)

Afternoon:
2:00-2:30: Background on methods (cont.)
2:30-3:30: Methodological working groups (Geochemistry, Geophysics, Sedimentology, Paleobiology) address Q2.1-Q2.6
3:30-3:45: Break
3:45-4:30: Group discussion, consensus, and summary of Q2.1-2.6
4:30-5:00: Potential coring sites in basin and field trip preview (Wing and Gingerich)

Dinner: 5:30-6:30: Cafeteria

After dinner trip to Polecat Bench (Personal Vehicles)

Tuesday, June 26 (Day 3): Field Trip to Potential Coring Sites

Framework

• Visit potential coring sites around the basin

• Familiarize the scientists new to the Bighorn Basin with local geology, stratigraphy, and paleontology.

Q3.1: What is the prioritized list of sites for coring in the Bighorn Basin and what is the rationale behind this pioritization?

Breakfast: 7:30-8:30: Cafeteria

Leave on Bus at 8:30AM from parking lot.

Tentative Stops

- West of Basin (organic rich PETM site)
- Sand Creek Divide (well documented, nicely exposed PETM)
- Cabin Fork (marginal Basin PETM site)
- View of Tatman Mountain (potential Phase II coring site)
- Red Butte and Gilmore Hill (potential ELMO site)

Lunch: Box lunch provided by NWC

Dinner: 5:30-6:30: Cafeteria

Wednesday, June 27 (Day 4): Scientific Administration and Post-Drilling Scientific Plan

Framework

Q1; What will be the administrative structure and scientific organization for the BBCP?
Q2; How will scientific responsibilities be delegated?
Q3; How will action items from the workshop be accomplished?
Q4; What kind of budget is going to be necessary to accomplish the project and what funding sources will be targeted?
Q5; What kinds of outreach efforts will be most effective at informing and educating the public about results of this project?

Itinerary

Breakfast:	7:30-8:30: Cafeteria
Morning	8:45-9:30: Day's agenda, summary of field trip, and consensus on Q3.1 (Clyde) 9:30-10.00: Presentation on ODP/IODP scientific structure, sampling protocol, core repository (Rohl) 10:00-10:15: Break 10:15-10:45: Presentation on outreach strategies (K. Johnson) 10:45-12:00: Group discussion of proposed BBCP administrative and scientific structure
Lunch	12:30-1:30: Cafeteria
Afternoon	2:00-2:30: List of assigned action items 2:30-3:30: Disciplinary working groups meet to determine Q2&Q4 and begin written drafts of action items 3:30-3:45: Break 3:45-4:30: Disciplinary working groups (cont.) 4:30-5:00: Wrap up and summary
Dinner	5:30-7:00: Cookout at Churchill Farm

Thursday, June, 28 - Breakfast in cafeteria from 7:30-8:30, check out of room by 9:00 AM