

Sequence Stratigraphy and Facies Architecture of fluvial and deltaic depositional systems, Cretaceous Ferron Notom Delta, Capitol Reef, Utah
*University of Houston Quantitative Sedimentology Research Consortium Field Trip,
 Sunday August 4th – Friday August 9th.*

Dr. Janok P. Bhattacharya

Robert E. Sheriff Professor of Sequence Stratigraphy
 Geosciences Department
 SR1 Rm 312, University of Houston
 4800 Calhoun Rd., Houston, Texas 77204-5007
 E-MAIL: jpbhattacharya@uh.edu
 Wk: 713/893-1290; Cell: 713/742-3032

Purpose of Trip

This trip will provide an overview of fluvial and deltaic systems in the Ferron Notom Delta in Central Utah. The trip will show examples of fluvial, storm and wave-influenced deltaic and shoreline systems and the associated feeding fluvial deposits. We will show examples of incised valleys and discuss how they differ from distributary channels and from transgressive and highstand fluvial systems. The trip will also examine the interaction of sedimentary processes and the generation of growth faults. This trip will showcase recent results from our ongoing research program on the Ferron “Notom” Delta near Capitol Reef, Utah.



Getting There

You should plan to arrive in Grand Junction, CO or Salt Lake City by Sunday evening. Each participant is responsible for transportation to The Best Western. I recommend that you vehicle pool. 4WD vehicles are required! The fastest way to get to Salina is to take Highway 15 south to Salina and from Salina through I70 to Highway 24. It will take about 4 hours (see map at the back of this document). Grand Junction is about 3.5 hours to Torrey. Take I70 to Highway 24, head south on 24 and then west on 24 to Torrey. The field trip will officially leave at 8am Monday Morning from the Best Western parking lot. The field trip will officially end at about noon, Friday August 10th near Hanksville. We will have an optional early afternoon stop to visit some spectacular growth faults just south of previous stop. It is about a 4 hour return drive to Salt Lake City from Hanksville (see map at end) and 2 1/2 hours to Grand Junction.

Hotels

Book Your Rooms Before July 4th, 2013!

I have reserved a block of 10 rooms at the Best Western, Capitol Reef Resort and 10 rooms at the Rec Sands Motel. To book your rooms call the number below and advise them that you are with the University of Houston Group. The group is set up for 6 nights. Each pays with their own credit card. The rooms are being held until July 4th, 2013, so please book by July 4th. There is a large bicycling group coming into Torrey on August 6th, so rooms are very tight that day and I was unable to book a block of rooms at any one hotel. If rooms become unavailable, you may have to share for that one night (August 6th). Book your rooms early!!

Best Western Capitol Reef Resort

(August 4th-9th)

Chris Johnson

General Manager

2600 E Highway 24, Torrey, UT,
84775

Phone: (435) 425-3761

Toll Free: 1-800-780-7234



Red Sands Hotel

670 E Highway 24

Torrey, UT 84775

Kelli Hansen, General
Manager

Phone: 435-425-3688

www.RedSandsHotel.com



RECOMMENDED FIELD EQUIPMENT

Here is a list of suggested equipment and supplies that will be needed for the field trip. Note that we will be working in a desert. Expect temperatures to be 85-100°F during the day and 50 - 80°F at night. Clothing worn during the day should be light-colored, loose fitting, and cover as much of your body as is comfortable to reduce exposure

Clothing

- Pants – the desert environment is replete with a variety of thorny plants and rattlesnakes (rare).
- Hiking boots (essential)
- Hat – Wide-brimmed to shade neck and face.
- Light weight rain jacket
- Swim trunks or swimsuit. Hotel has both pool and hot-tub.

Gear

- Backpack or waistpack for carrying raingear, water bottle, field guide, lunches
- Sunglasses/Sunscreen/Lip balm
- Insect repellent (gnats can be bothersome)
- Canteen or hydration pack
- Rock Hammer (useful to cut footholds on steep shale slopes)



SAFETY AND FIRST AID

You may wish to carry a small first aid kit, although we will have them available, and BP HSC personnel usually have additional safety gear. The main safety considerations are:

- Road safety: most roads are single lane with no passing lanes, through Capitol Reef National Park. Cyclists, RV's, and motorcycles are common. There are deer throughout the park, and especially around the abandoned town of Fruita.
- Road field stops: Although these are limited, take care crossing roads, keep off the roadway.
- Dehydration, Heat Exhaustion and Heat Stroke: This is a desert. It may be cool in the mornings but may exceed 100°F in the afternoon, carry plenty of water and keep hydrated!
- Sunburn and chapped lips are common, wear a hat, and use lipbalm, and sunscreen.
- Loose rocks, steep cliffs, overhangs, watch out for people below you. Avoid climbing. If you do climb, spread out laterally, so that there are no folks below you. On shale slopes or loose surfaces, use your rock hammer to cut steps.
- Land surface: Good hiking boots are essential, no sneakers, flip-flops, or sandals please! Cacti will puncture these.

- Snakebite (very unlikely, but there are Black Widows and Rattlesnakes in the field area).
- There are no hospitals in Hanksville or Torrey. The nearest full hospital is in Price, Utah or Richfield, Utah, both a bit over 1.5 hours drive from the field area (see map at end of document). There is a medical clinic in Green River, Utah, about 1 hour from Hanksville.



Itinerary:

Day 1. Sunday, August 4th: Arrive Grand Junction, CO or Salt Lake City, Drive to Torrey Utah

Check into Best Western, Capitol Reef Resort. Supper on your own.

Recommended Restaurant–Best Western or Rimrock Restaurant, or the Patio bar across the street. There are numerous good places in Torrey, a few miles west of the hotel. Cafe Diablo is highly recommended.

Day 2. Monday, August 5th: Ferron Sandstone, Notom Delta

Stop 1. Introduction to Ferron Facies and Sequence Stratigraphy.

- Examine fluvio-deltaic transition.
- Examine non-marine facies



Prodelta to delta front transition, Caineville South.

Stop 2. Middle Caineville

- Deformed storm-dominated delta fronts.
- Rooted floodplain mudstones and paleosols.
- Incised valleys

Stop 3. Caineville North

- Prodelta shales and bentonites
- Storm-flood-dominated delta front
- Distributary-channels
- Shorefaces
- Transgressive lag facies
- Ferron-Blue Gate contact



Multi-storey valley fill overlying rooted floodplain, Middle Caineville.

Day 3. Tuesday, August 6th

Stop 1. Steamboat

- Bentonite datum and prodelta shelf mudstones
- Deltas and Shorefaces with transgressive lags

Stop 2. Compound Incised valleys and Fluvial Facies, Neilson Wash, Factory Butte Road

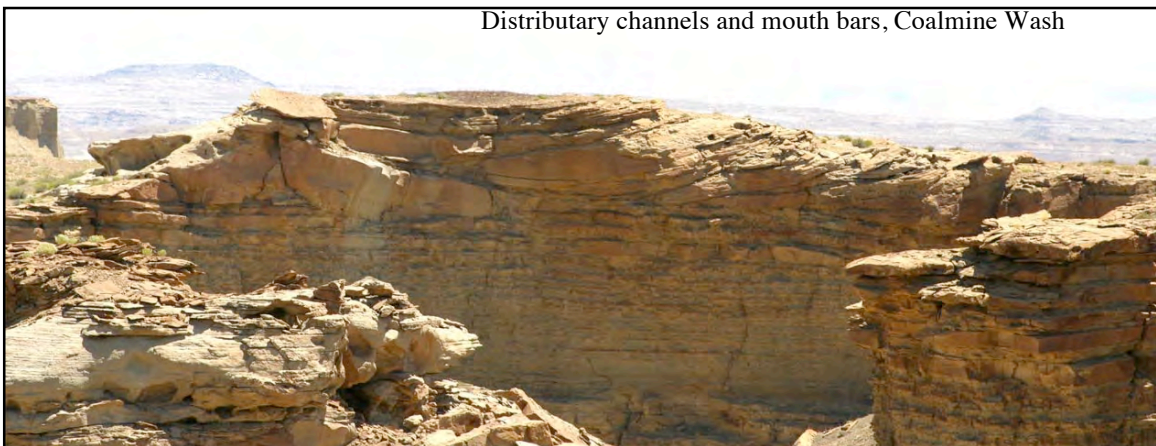
- Incised valley fills



Day 4. Wednesday, August 7th

Stop 1. Coalmine Wash South Gully

- Prodelta and delta-front heterolithics
- Terminal distributary channels and mouth bars in fluvial dominated deltas (PS 6 and PS 5).
- Composite incised valleys.



Day 5. Thursday August 8th*Stop 1. Sweetwater Wash South*

- Low ntg highstand and transgressive fluvial systems
- Paleosols



Field photo of river cutbank in highstand fluvial deposits, Ferron Sandstone, Sweetwater Wash, Utah

Stop 2. Sweetwater Wash North

- Amalgamated meanderbelts
- Coals and paleosols
- floodplain architecture

Stop 3. Freemont River

- incised valleys

Day 6. Friday, August 9th: Nielsen Wash North*Stop 1. River deposits in plan view**Stop 2. (Optional) Growth Faults in plan view*