Five Islands Field Excursion

August 18th, 19th, & 20th of 2013

Department of Earth Sciences, Dalhousie University, Halifax, Nova Scotia

DALHOUSIE UNIVERSITY
Inspiring Minds

Basin & Reservoir Lab

Participants

From left to right; Michael Clutson, David Brown, Darragh O'Connor, Jillian Haynes, Grant Wach, Naomi Plummer, Carlos Wong & Trevor Kelly. [Photo by Plummer, 2013]

Data Collection Methods

Handheld Gamma-Ray Spectrometer [Photo by Wach, 2013]

Handheld Air Permeameter [Photo by Wach, 2013]

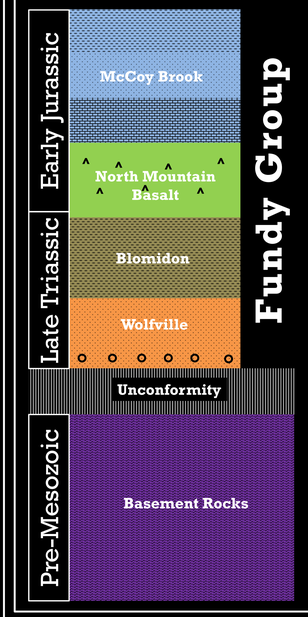
Lithology & Grain Size Determination [Photo by O'Connor, 2013]

Location Map

(1); Location of the Diamond Shores Campground. (2); Entrance to the Five Islands Provincial Park. (3); Entrance/exit to the beach nearest the parking lot. (4); Location of the Five Islands Provincial Park. (5); Old Wife Point. (6); Red Head Point. (7); Entrance/exit point used on the final day. [Google Earth, 2013]

Panoramic Images

Strat. Column

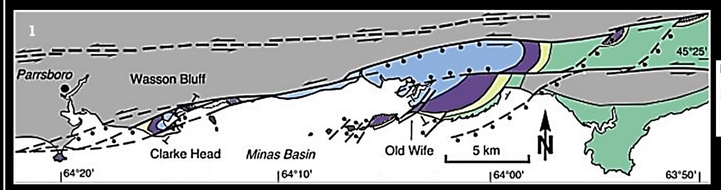


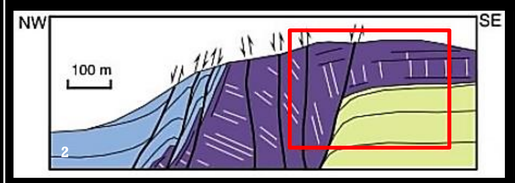
(1); Image showing the McCoy Brook Formation to the left, the North Mountain Basalt at center and the Blomidon Formation to the right. (2); Image of the eolian dune facies at Red Head Point. (3, 4 & 5); Images of the Wolfville Formation at various locations after Red Head Point. [Photo (1) by Wong, 2011; Photos (2, 3, 4 & 5) by O'Connor, 2013]

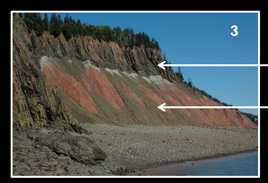
Caught in the Act

(1); A discussion about the McCoy Brook Formation. (2); Developing a data collection strategy with the Wolfville Formation as the backdrop. (3); Attempting to identify fossilized fish scales within the McCoy Brook Formation. (4); David Brown indicating a sedimentary structure near Red Head Point. (5); Grant Wach with a gypsum nodule. (6); Michael and David indicating features within the Wolfville Formation. [Photo (1) by Clutson, 2013; all others by O'Connor, 2013]

Geological Map





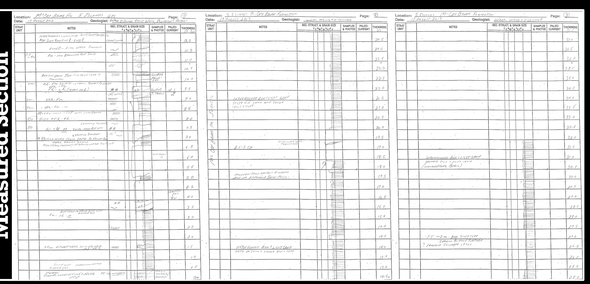


(1); Geological map of the Five Islands area with arrows indicating the sense of fault movement during rifting. (2); Cross section through Old Wife Point showing the normal fault zone that exists in the area. The red box indicates the approximate location of the photo shown in (3). [From Schlische et al., n.d.; Photo (3) by O'Connor, 2013]

Lithology/Origin

The McCoy Brook Formation is composed of mainly red beds that are fluvial to lacustrine in origin. The North Mountain Basalt is composed of subaerial, tholeiitic basalt; massive, columnar, vesicular and amygdaloidal flow basalts. The Blomidon Formation is composed of shales, claystones, siltstones and sandstones consistent with cyclical lacustrine and eolian environments. The Wolfville Formation is composed of medium- to coarse-grained arenites with pebbly and conglomeratic units; also arkosic, subarkosic and orthoquartzitic sandstones.

McCoy Brook Formation Measured Section



(1); At the parking area in Five Islands Provincial Park receiving the rundown for the day. (2); David Brown points to features on the other side of the Minas Basin while standing on top of the North Mountain Basalt. (3); The group making their way towards Red Head Point. [Photo (1) by O'Connor, 2013; Photos (2) and (3) by Clutson, 2013]

References: Clutson, M. (2013). *Five Islands Photos* [Digital photographs]. / Google Earth. (2013). Google Earth Images. [Aerial and Satellite Images]. / O'Connor, D. (2013). *Five Islands Photos* [Digital photographs]. / Plummer, N. (2013). *Five Islands Photos* [Digital photographs]. / Schlische W., Withjack, M., Austin, J., Brown, D., Contreras, J., Gierlowski-Kordesch, E., Jansa, L., Malinconico, M., Smoot, J., Wintsch, R. (n.d.). Magmatism, Rifting and Drifting: Basin Evolution (Supercontinent Breakup). Retrieved from http://www.ldeo.columbia.edu/~polsen/nbcp/basinevolution.html. / Wach, G. (2013). *Five Islands Photos* [Digital photographs]. / Wong, C. (2011). *Five Islands Photos* [Digital photographs].