

## **Patrick Kirkham – Mapping in Wyoming, Summer 2013**

*A five week trip to the USA with the primary objective of making a geological map*

### Geological Mapping

**Group members:** Fiona Seaton (Selwyn), Daphne Dijkman (St John's), Lee Dawson (Girton), Conor O'Malley (Robinson) and Melanie Mertesdorf (Downing)

After arriving in Wyoming, via a flight to Salt Lake City and a coach up, we settled in at Camp Davis, our home for the coming weeks. Located just south of Jackson Hole, in Hoback Junction, Camp Davis is a University of Michigan Rocky Mountain Field Station. We stayed in tents pre-ordered online, and used the computer room, classroom and washroom facilities of the camp, where undergraduates were doing a variety of courses related to the geology, wildlife, and culture of the area.

We had a few days settling in before we began. These were spent acclimatizing to the altitude, purchasing and constructing bikes and buying other necessary materials. We also accompanied Professor John Geissman and his class on a day out to see some of the lithological units we would be examining, which was very beneficial later in our project.

When mapping did start we cycled into the area, which was approximately 8 miles away, each day. There were some access issues with our area, resulting from a thin border of private land which was not shown on the maps we had had access to. This meant that we had to all map the same area, which was not what we had planned. Nonetheless we spent the time afterwards in this area examining the different rocks. These were all sedimentary and ranged from glauconitic sandstones to poorly sorted conglomerates. The area was highly faulted, due to regional contraction in the Cenozoic. This provided some very varied structural geology and the sedimentary sequence itself was also very variable. Particularly unusual were the phosphatic deposits which none of us had ever seen before. A personal geological highlight were the range of fossils we were able to see, including a wide range of trace fossils and one or two instances of gryphaea. We were also able to ascertain some very convincing paleocurrent information, which was useful for describing the changes in paleoenvironment.

### Travel

Following the geological mapping, I was fortunately able to visit some very interesting sites in America. Whilst not part of my University education, I found this trip very interesting and intellectually satisfying as it gave me the opportunity to examine a culture so similar in some ways and yet so alien in others to our own. From visiting Golden Gate Bridge to standing outside the White House to exploring Boston's freedom trail, I learnt a lot about American culture and history. The travel was a perfect end to a very unique trip.