

# JAMES RENNIE BEQUEST

## REPORT ON EXPEDITION/PROJECT/CONFERENCE

**Expedition/Project/Conference Title:** Work Experience, as a technician in Hyperion Research Ltd. Testing water samples for *Cryptosporidium* and *Giardia*.

**Travel Dates:** 16<sup>th</sup> June - 23<sup>rd</sup> September 2003

**Location:** Medicine Hat, Alberta, Canada

**Group Members:** Ruth Milne

### **Aims:**

- To gain invaluable laboratory experience
- To be immersed in another culture

### **OUTCOME:**

This summer I spent three months in Canada, two of which were spent in Hyperion Research Ltd, under the guidance of Dr Peter Wallis. Dr Wallis's laboratory has been running for 20 years and employs five regular staff and three students during the holidays.

Within the laboratory I had a variety of duties, from general duties e.g. reagent preparation, cleaning cages and faecal workup. I was also trained to test the water samples that we received from water treatment works all over Canada, for *Cryptosporidium* and *Giardia*, two water parasites.

The water samples came in three different types of filter, each of which had a slightly different work-up technique using either the ICR or 1623 methodologies, where the filter would be eluted, the runoff clarified and spread it on a slide. The slide was then stained with DAPI and Cy3, two fluorescent dyes before being transferred to the microscope room for further analysis.

However as well as the standard workups I was got to help with Dr Wallis's experiments. Presently he is working on the improvement of the *Cryptosporidium* and *Giardia* oocysts from the faecal workup and then from each other, using gradient columns. As yet this has not been achieved, but I found it fascinating that we were going back to the standard techniques used all over Canada and trying to improve them. It made me realise that you shouldn't assume that just because a technique is used widespread and works fine that it can't be improved upon. This did however give me plenty of practise with haemocytometer reading.

We also went on laboratory fieldtrips, on one occasion going on a 'dinosaur dig'. We

were palaeontologists for the day and managed to unearth some pieces of bone. The area around Medicine Hat is very rich in fossilised remains, with Drumheller Dinosaur Park only 40 minutes away.

The laboratory is located in Medicine Hat, famous for owning the worlds largest tepee and originally home to the Blackfoot First Nation People, from whom it got its name. Medicine Hat is a small city surrounded by prairies, in the bottom right hand corner of Alberta, it is a really beautiful area to live and its inhabitants are so friendly - I enjoyed many a huge pancake breakfast!

Due to the location of the laboratory, and the generous nature of the bequest I had the chance to explore further reaches of Alberta as well as areas of Saskatchewan and British Columbia at the weekends. Therefore I got to gather a real feel for the different West Coast landscapes, from the temperate rainforest in British Columbia to the Rockie Mountains on the Albertan border with BC and my favourite environment the prairies, which stretch through Alberta, Saskatchewan and Manitoba. One of the slightly mocking local sayings is that standing on the edge of Saskatchewan you can let your dog go and watch it still running away two days later. The prairie landscape is amazingly flat, and I was fortunate to see it in full bloom as this year there were quite high levels of rain, so instead of dusty yellowness, there were rolling seas of grass, with a variety of beautiful wildflowers dotting it with colour.

The timing of my trip was perfect, as I managed to attend the 2003 Canadian Nature Federation Conference “Gifts of the Grasslands” which helped give me yet a greater appreciation of the prairies, with fascinating lectures focusing on a variety of topics from Richardson’s Ground Squirrels (gophers), and their effects on local agriculture, to the plight of the Sage Grouse. The conference also included a variety of fieldtrips, where I canoed down the South Saskatchewan River, spotting a rattlesnake, and also a trip to a buffalo ranch which was very educational and we were able to get so close to the herd.

All in all the bequest money granted me the opportunity to gain fantastic laboratory experience, it helped me realise what it is like to work in a professional lab, and what it is like to be a member of that sort of team. However it also gave me the chance to experience life on a different continent, one which appears so similar to our own and yet has its differences, I shall never forget the Calgary Stampede where all the businessmen come out in all seriousness dressed up in their cowboy leathers, hat and boots!

### *Acknowledgements*

Thank you to all the various people who helped and guided me through my first independent and slightly daunting trip. I would not have been able to go without your help.

Funding:

- James Rennie Bequest
- Barnson Bequest

Employment:

- Helping me find the placement Dawn Dickenson and Bob Mutch (Dean of Science at Medicine Hat College)
- Employment Dr Peter Wallis
- Everyone in the lab for their continued patience and helpfulness in teaching me the necessary techniques, and supplying me with Canadian delicacies, I.e. dilly bars and ice-cream cake.

Personal:

- Also thanks to Kevan Berg guide and fellow explorer of many a mountainous trail!
- The widespread McKensie family for putting me up in Saskatchewan, and teaching me how to make choke cherry jelly (jam!).

**Accounts**

Money received from:

James Rennie Bequest	£300
Barnson Bequest	£500
Money Earned from working in the lab	£1000
Total	= £1800

Sums approximated using the exchange rate C\$2.19 = £1.

Flights	£520
Travel insurance	£170
Accommodation	£450
CNF conference	£90
Food / general living expenses	£275
Total	= £1505*

\* This total however does not take into account my travelling within Canada and the expenses for other such activities as white water rafting, surfing etc because I felt these were more holiday rather than work related expenses so should not be covered by the bequest.

**Canadian Trip Timeline**

18-23 <sup>rd</sup> June	Gifts of the Grasslands Conference
24 <sup>th</sup> June-22 <sup>nd</sup> August	Hyperion Research Ltd. Employment, including many weekend jaunts.
22-29 <sup>th</sup> August	Saskatoon with the McKensies
1-23 <sup>rd</sup> September	traveling through the Rockies, Vancouver, Seattle and Vancouver Island.