

Ellis Elliott
 E-mail: elliott.ellis@yahoo.co.uk
 Date of Birth: 25/09/1991

Personal Profile:

First class honours student in Geology and Environmental Hazards at Undergraduate level at the University of Derby. Currently undertaking an MSc in Applied Petroleum Geoscience also at the University of Derby, and beginning a dissertation on the Bowland Shale formation based in Lancaster.

Current Details

Current UK University	University of Derby
Project Supervisor	Martin Whiteley (University of Derby)
Current Source of Funding	PESGB MSc Petroleum Geoscience scholarship (Full bursary covering tuition fees for MSc)
Other sources of funding applied for	London Petrophysical Society: Iain Hillier Academic Award scheme (Application for University Grant for project work).
Financial background for project	US\$4,000 contributed from industry for the project towards geochemical analysis.

Academic Skills

- **Undergraduate dissertation:** Sedimentary logging and interpretation of the Carboniferous sediments of Bude, North Cornwall
- **Petrophysics coursework (MSc):** Analysis and interpretation of logs and well data and calculation of porosity and permeability using well logs.
- **Geochemistry module (MSc):** Analysis of source rock parameters using geochemical parameters (Total organic content, Hydrogen index, maturity evaluation, Gas chromatography etc.) in order to assess and evaluate source rock potential.
- **Core logging:** Visit to the BGS in Keyworth, working alongside other Geologists to produce sedimentary logs using core to evaluate the sedimentary environment and any changes/repetition to assess the change in energy levels.

Intrapersonal Skills

- **Student Representative for Geology Department:** Regularly liaised between lecturers and students as a Geology student representative during my undergraduate degree, and ultimately delegated to both parties of any concerns related to the course.
- **Part-time waitressing:** Improved ability to work efficiently under pressure and use initiative in challenging situations alongside the public and colleagues alike.

Academic Qualifications and Awards

Undergraduate degree (degree classification)	Geology and Environmental Hazards (Awarded a 1 st degree classification)
University studied	University of Derby
Academic Awards	Beryl Whittaker Bursary for best field-based independent study (Sedimentary and Structural interpretation of Westphalian sedimentary deposits in Bude, Cornwall).

Proposed research study

The study is a geochemical analysis of the Bowland Shale formation, coupled with sedimentary logging and petrophysical work including SEM/XRD data to evaluate mineralogy and porosity/permeability of this potential gas reservoir.

Shale gas in the UK is becoming increasingly more significant, and is an area which is yet to be fully understood. The study will include an initial field study in Lancaster, logging the deposits and describing the shale beds with complete lithological descriptions. Heterogeneities within the shale will be recorded in the field as well, and form the basis for correlations between lithology and geochemical characteristics. By using a gamma ray tool during the excursion, the proportions of Thorium, Uranium and Potassium will be recorded and plotted to form a composite log against the shale facies. Samples of these facies will be taken in order to run geochemical analyses, including: Total organic content, hydrogen index and vitrinite reflectance. This will help to evaluate the Bowland shale formation as a viable organic source rock, and by looking from a petrophysical perspective through the use of SEM analysis to analyse porosity and permeability. This will ultimately become the main factor when assessing the Bowland shale not only as a potential source rock, but as a reservoir for shale gas exploration.

As an organisation based on growing research and emphasis on helping sedimentologists, I believe The British Sedimentological Research Group would be an invaluable contribution to my work. Your growing interest in other areas including hydrocarbon exploration in the North Sea emphasises your willingness to evolve and actively participate in a changing world, and I believe this field study based on a potential gas reservoir reflects the values you express as an organisation. Additionally, the BSRG aim their research opportunities at particular individuals in the industry and create a niche for younger researchers to encourage their personal growth, all of which are values I strive for in my work.

Personally, the funding for this project would allow me to spend valuable time in the field to study these shale outcrops. There are still gaps in current research related to shale gas and their diverse nature. Shale is not simply an organic-rich, fissile rock formation, and often has a complex mineralogy which may ultimately pose problems during hydraulic fracturing. Not only would this research enrich my data analysis skills through correlation of different data sets, but would also be contributing to important and relevant research towards the shale gas spectacle which is occurring in the UK today.

Budget Details

The sole purpose for this financial aid is to pay towards travel and accommodation for the field excursion, of which there shall be two trips with two field members (including myself). The rest of the money for this project will be contributed from industry to pay for geochemical analysis as well as hiring a gamma ray tool.

Travel	Mileage: Derby-Barnoldswick: 108.1 miles= £15 (4 car trips)= £15*4 £60
Accommodation	£30 per night (per person) £30*4 (4 nights for 2 excursions)= £120 £120*2 (2 people)= £240
Food (evening meal)	Approximately £10 a day (per person): £10*4=£40 £40*2 (2 people)= £80
Total	£380

Thank you, I look forward to hearing from you

Ellis Elliott (University of Derby)

From: Dorothy Satterfield <D.Satterfield@derby.ac.uk>
Sent: 31 January 2014 12:13
To: chair@bsrg.org.uk
Cc: Martin Whiteley
Subject: Gill Harwood grant application - Ellis Elliott

I can confirm that Ellis Elliott is a student in good standing of the Applied Petroleum Geoscience MSc programme at the University of Derby. Ellis is carrying out a 4-month research project on shale gas potential in the UK, the final and required phase of her course. She is a bright, hard-working and determined student who will produce a good body of work.

Her data sponsor will cover the geochemical analysis costs, but Ellis will be required to do fieldwork for logging, rock sampling and gamma ray logging, crucial aspects of this project. Due to the intensive nature of the programme, she is unable to work many hours, restricting her earning potential. As a new programme, we have limited funds to support fieldwork so the responsibility falls mainly to Ellis. Her family is supporting her non-tuition costs and her tuition for the programme is covered, but additional costs such as module fieldwork and research fieldwork are not covered. Ellis has funded her own module fieldwork, now completed, which depleted her personal funds.

Ellis has presented a budget which covers all field research costs that her data sponsor and the University are unable to cover, so she should not need funding additional to the request she submitted to you. We support her request which will enable her to carry out the full amount of fieldwork in a timely fashion. Fieldwork done early in the research time frame will also permit geochemical analyses to be carried out quickly and, thus, the interpretation to be integrated with the other aspects of the work.

Please feel free to contact me if I have not covered all the aspects that you require to make a decision on Ellis' request.

Regards
Dorothy Satterfield

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