Summer placement report 2014

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Company: SRK Consulting

Between the 30th of June and the 22nd of August I undertook a summer internship with SRK Consulting (UK) at their Cardiff office. SRK provide consulting services to the Mining and Metals sectors worldwide with over 40 offices worldwide. During my placement I was located within the Geochemistry department, working alongside the Principle Geochemical Engineer who mentored me and shadowed my projects.

I was primarily tasked with two main projects; the creation of a set of certified reference materials for quality assurance and quality control (QA/QC) of laboratory test work and the sample preparation, test work and analysis of material from a client’s mine in Africa. I created thorough health and safety risk assessments and work plans for both tasks, however the certified reference material creation was put on hold halfway through because of the client work I was required to complete.

The mine in Africa is operated by one of the world’s largest gold mining companies, producing copper with trace gold and uranium present. Previous test work on site material has shown potential acid generation from sulfide minerals present and bulk neutralisation potential from carbonates and silicate minerals. I was tasked with further quantification of the silicate neutralisation potential and its availability in different size fractions of material. Twelve sample bags of approximately 10 kg each were size screened and particle size analysed to four size fractions where half of each was riffle split (representative sub-sampling), crushed and pulverised. Modified Sobek NP titrations were conducted after sample material of the four size fractions had been left overnight in diluted hydrochloric acid, being titrated to pH 7.00 using a pH probe and monitor. The data was recorded and transferred to Excel for analysis.

My placement with SRK has shown me how steep the step up from University studies to the professional workplace is. I have learnt the significance of thorough work planning and health and safety practices, how to thrive in the professional workplace and additionally where my skills as a Chemical Engineer can be applied successfully within the extractive industries.