

STATEMENT OF QUALIFICATIONS for MINE CLOSURE PLANNING SERVICES

1.0 Introduction

This Statement of Qualifications (SOQ) summarizes the specialized services provided by Robertson GeoConsultants Inc. (RGC) with respect to mine closure planning. This SOQ is organized into four sections with an overview of RGC as a company, followed by a presentation of our in-house technical skills, the relevant experience of our personnel and a summary of relevant mine closure planning projects.

2.0 Robertson GeoConsultants Inc.

Robertson GeoConsultants Inc. (<http://www.robertsongeoconsultants.com/>) is an employee-owned consulting firm specializing in hydrogeology, geotechnical and environmental engineering for the mining industry. Our firm is based in Vancouver, B.C. and consists of a small team of specialty consultants with expert knowledge in hydrology, hydrogeology, geochemistry, geotechnical engineering and their application to mining. Since incorporation in 1995, we have worked on over 70 projects in 10 countries, including some of the largest mining projects in the world. Our experience, integrity and quality of work is widely recognized in the environmental mining community, as demonstrated by our broad client base which includes many international mining companies, government regulatory agencies and other consulting firms.

Our international experience has given us recognition as leading experts in mine closure planning, whether on start-up projects or abandoned mines. As a result, our senior staff now assist other consulting firms in their mine closure planning needs and carry out independent third-party reviews of mine closure plans and closure liabilities on a regular basis.

Robertson GeoConsultants Inc. plays an active role in the advancement of new technologies applied to mining, including those for mine closure, through participation in various research projects, industry initiatives and editorial sponsorship of technological websites such as ENVIROMINE, (www.infomine.com/technology/enviromine/), HYDROMINE (www.infomine.com/technology/hydromine/) and GEOMINE (www.infomine.com/technology/geomine/).

3.0 Mine Closure Planning

RGC offers a broad range of consulting services related to mine closure planning, including:

- Site Characterization & Investigation
- Long-term Environmental Strategic Planning
- Contaminant Characterization, Prediction and Control
- Risk Assessment and Risk Management
- Environmental Liability Assessments and Audits
- Alternatives Evaluation and Decision Analysis
- Closure Plan Development

Robertson GeoConsultants Inc. provides a full suite of technical services related to site investigations, data management and interpretation, various modeling methodologies, engineering and design, alternatives evaluation and strategic planning. Our staff has experience with closure planning for projects in the feasibility stages of mining to abandoned mines, with the view to developing a post mining sustainable land use for each project. We take pride in the development of site-specific solutions to complex systems and believe that through upfront and/or continually updated planning combined with progressive planning and implementation of closure measures, costs and impacts can be minimized.

In closure planning, our team keeps four broad objectives for mine closure in mind. These are:

1. The protection of public health and safety;
2. The alleviation or elimination of environmental damage;
3. The achievement of a productive use of the land, or a return to its original condition or an acceptable alternative; and,
4. To the extent achievable, the provision for sustainability of social and economic benefits resulting from mine development and operations.

RGC has international experience with the assessment of mining related impacts and closure requirements and through this experience has gained an appreciation that mine closure must address components of the site as well as the region and must select closure measures and allocate resources to address the major issues of impact. In order to minimize the various impacts, risks and liabilities, it is necessary to anticipate, as early in the process as possible, potential future liabilities and risks, and to plan for their elimination or minimization. Robertson GeoConsultants has the skills and depth of experience required to identify and manage the impacts, risks and liabilities related to closure. In many areas, much of the liability or risk is associated with the uncertainty of the requirements for closure and rehabilitation from the succeeding custodian (be it a government agency, community organization or corporate entity). Therefore it is often advantageous for the mining company to identify and include the succeeding custodian in the closure planning process. The involvement of all stakeholders in closure planning is becoming a requirement in many countries. RGC has developed a methodology (the Multiple Accounts Analysis, or MAA) by which mining companies can involve all stakeholders, including the succeeding custodian, in the planning and decision making process while remaining in control of the process itself. RGC has successfully utilized the MAA as a platform, or forum in which stakeholders voice their concerns and issues, learn the various issues and take part, and therefore a share in the responsibility, of decisions made.

4.0 Personnel

This section summarizes our key personnel with experience in mine closure planning. Brief descriptions of the key individuals with particular emphasis on each member's experience in mine closure are provided below. Detailed resumes for the key project team members can be found on the company website (<http://www.robertsongeoconsultants.com/personnel/personnel.asp>).

Andrew MacG. Robertson, Ph.D., P.Eng.: **Dr. Robertson** has a B.Sc. in Civil Engineering, a Ph.D. in Rock Mechanics, and over 30 years of experience in geotechnical and environmental engineering. He was the lead investigator and/or designer for numerous project teams for mining companies and provides review, senior evaluation, and counseling to a number of mining companies, research establishments, professional associations and provincial, state and federal agencies. Dr. Robertson has an international reputation as a specialist in the prediction/control of acid rock drainage and closure planning.

Dr. Robertson is president of Robertson GeoConsultants Inc. He serves as lead investigator and engineer for all RGC's mine closure projects.

Christoph Wels, Ph.D., M.Sc.: **Dr. Wels** has a M.Sc. in Watershed Hydrology and a Ph.D. in Hydrogeology and has over 15 years of experience in groundwater related studies. Dr. Wels has led numerous groundwater investigations and groundwater modeling studies for international and local clients. He is experienced in the use of a wide range of modeling tools ranging from specialized models to simulate infiltration and percolation in unsaturated soils to simulating complex, regional aquifer systems. Dr. Wels also assists other consulting firms as an advisor and has participated on review boards and carries out peer reviews for hydrogeological projects. Dr. Wels has authored numerous publications on various aspects of groundwater flow modeling and is currently editor of the HYDROMINE website.

Dr. Wels is Principal and Senior Hydrogeologist with Robertson GeoConsultants Inc. He serves as lead investigator in most hydrogeological projects and as the lead investigator for groundwater and water management issues related to mine closure projects. His responsibilities include project management, supervision of modeling studies and senior review.

Shannon Shaw, B.Sc. M.Sc.: **Ms. Shaw** has a B.Sc. in Chemistry and Geological Sciences, a M.Sc. in Geological Sciences and more than 6 years of consulting experience in geochemical related studies. Her specialization is in the assessment of the geochemical impacts of mining to the surrounding environment, (in particular to surface and groundwater resources) and the development of contaminant control strategies for impacted areas. Ms. Shaw has extensive field and modeling related experience and assists other consulting companies as a third party reviewer for geochemical projects. Ms. Shaw was instrumental in the development of the alternatives evaluation methodology called the Multiple Accounts Analysis that is utilized extensively by RGC in closure planning and multi-stakeholder decision analysis.

Ms. Shaw is the Senior Geochemist with Robertson GeoConsultants Inc. and serves as the lead investigator in most geochemical studies and geochemical aspects of closure planning projects as well as multi-stakeholder, multi-disciplinary facilitator for closure alternatives assessments. Her responsibilities include project management, all aspects of geochemical and load balance studies and third-party review.

The key personnel pull on the strengths of the other RGC staff and associates when required. Their resumes can be viewed on the company website.

5.0 Relevant Experience

This section provides links to the company website where summaries of several mine closure projects, which Robertson GeoConsultants Inc. has successfully completed in recent years can be found.

- *Zortman and Landusky Mines, USA.*
<http://www.robertsongeoconsultants.com/projects/zortsky.asp>
- *Faro, Vangorda and Grum Mining Complex, Canada*
<http://www.robertsongeoconsultants.com/projects/vangrum.asp>
- *Questa Tailings, USA*
<http://www.robertsongeoconsultants.com/projects/questatails.asp>
- *Wismut Mines, Germany*
<http://www.robertsongeoconsultants.com/projects/helms.asp>