



REQUEST FOR PROPOSALS

Title: Peace Project Airborne Electromagnetic Survey,
Northeast BC

Date Issued: Tuesday, January 20, 2015

Solicitation Closes: Tuesday, February 10, 2015

Enquiries to: Christa Pellett
Project Manager, Geoscience BC

Email: pellett@geosciencebc.com

THE ORGANIZATION

Geoscience BC is an independent, not for profit, geoscience organization with a mandate to attract new mineral and oil and gas investment to British Columbia through geoscience. Geoscience BC works in partnership with industry, academia, government, First Nations, and communities to fund innovative applied geoscience projects.

INTRODUCTION

The Montney gas play, located within the greater Peace Region of British Columbia, contains significant volumes of gas. This region of BC is also an important agricultural area. Water, therefore an important resource within this region, supports a variety of domestic and commercial uses and activities, as well as First Nation traditional activities. A wide range of stakeholders including provincial ministries and agencies, local governments, commercial water users and First Nations, as well as the general public, need detailed and unbiased information about existing water resources to make appropriate policies, regulations and permit decisions as well as to support public discussion on issues related to water use.

Several initiatives have been, and are being, carried out within the Fort Saint John region to increase the understanding of the surface and ground water resources. For example, the BC government has completed a combined ground time-domain EM and shallow seismic investigation within the Groundbirch paleovalley designed to map the bedrock topography and to locate potential aquifers within the Quaternary sediments. A monitoring well was installed and lined with PVC casing and gamma and resistivity logs were run.

Another example is a recently issued Geoscience BC RFP (www.geosciencebc.com/s/RequestsforProposals.asp?ReportID=690342) which looks to correct gamma logs within the shallow cased sections of petroleum wells for casing and cement effects, use these corrected logs to map the Quaternary sediments, and provide a depth to bedrock map of the region.

Although these initiatives provide useful information on groundwater aquifers, for example bedrock topography within the Groundbirch paleovalley, there is no overriding survey that ties the entire Peace Region together. The gamma log study will partially fill this gap; however the well spacing is concentrated around producing fields with limited coverage between them. What is needed is a technique that can provide regional maps of bedrock topography and the location of potential Quaternary and bedrock aquifers within the entire region. An airborne electromagnetic (AEM) survey is expected to provide this regional picture for the Peace Region.

OBJECTIVES

The objective of this RFP is to fly a regional time-domain AEM and magnetic survey that will provide data that can be subsequently used in future phases of this project to 1) interpret potential Quaternary and bedrock aquifers within the area 2) provide a map of the Quaternary-bedrock interface, i.e. Quaternary thickness and 3) generate a magnetic structure map of the basement. The Montney play area is very large so the entire region will have to be flown in several phases. This RFP covers the phase 1 area outlined on the enclosed map.

The AEM depth of interest in the study area is from zero to 300 m depth. Airborne AEM suppliers bidding on this RFP must provide all raw data, processed data, conductivity depth sections and conductivity depth slices to directly support future interpretation and mapping of potential Quaternary and bedrock aquifers, buried channels, and depth of Quaternary sediments, if these have an expression in the AEM results. Specifically, companies bidding should provide all necessary technical system

information so that an independent consultant can re-compute conductivity-depth sections and conductivity depth slices to check these results based on additional ground truthing information.

The airborne system must be a time-domain EM system. Since this is a large regional survey the platform will most likely be fixed-wing due to cost. However, airborne contractors can suggest the use of a helicopter system if they feel a helicopter system can offer the same or additional information for the same, or minimal increase in, price.

The traverse line spacing is to be 600 m, with tie lines flown at a spacing of 2400 m to provide proper leveling of the survey. A map and UTM coordinates of the survey area is included in Appendix 1.

The magnetic data should have standard processing carried out (diurnal removal using base station data, application of IGRF, levelling, cultural removal if the area has significant culture, and then re-levelling of the data if required, etc.) before generating gridded maps.

DELIVERABLE ITEMS

Unless otherwise specified, digital data and summary maps in an appropriate format shall be provided..

The following items will be delivered to Geoscience BC, Suite 440 – 890 West Pender Street, Vancouver, BC, Canada, V6C 1J9:

1. Daily progress reports and weekly progress reports, and regular field data uploaded to ftp facilities for QA/QC.
2. Location and flight line map.
3. Aircraft/instrument height map.
4. Raw field data in a suitable digital format
5. Processed data in a suitable digital format
6. Resistivity sections and depth slices in suitable digital formats
7. Raw and corrected magnetic data in a suitable format
8. Corrected total magnetic intensity (TMI), first vertical derivative and horizontal gradient gridded data in hard copy and a suitable digital format
9. Final logistics and processing report to accompany maps and digital data. This report will contain information on processing strategy, testing and selection of final processing parameters. Two (2) print copies and one digital copy in PDF format, which must include the following:
 - i. A report number supplied by Geoscience BC;
 - ii. The name and location of the survey;
 - iii. The name and address of the contractor, the phone and fax numbers of the company and the date of the survey;
 - iv. A list of contents;
 - v. Complete descriptions of all processing algorithms used;
 - vi. Methodology used for generating resistivity depth sections and resistivity depth slices; and
 - vii. Field procedures and any problems encountered during acquisition and/or processing.

Final deliverables must be received by Geoscience BC no later than December 31, 2015.

CONTENT OF PROPOSAL

The proposal **should** contain:

1. A summary of the proponent's relevant past project work, including any previous projects completed for Geoscience BC.
2. A specification of the airborne system to be used, including the aircraft/helicopter platform, system geometry, transmitter frequencies and waveforms, and transmitter power as well as the type of magnetic system to be used.
3. A specification of the data processing methodology to be used. Examples of the successful use of the proposed AEM system for this type of work will be considered positively.
4. A timeline for the project, including undertaking to start the project in a timely manner with weekly reporting of the status of the individual aircraft and EM system to be used, both before and during the survey operations. The contractor will commit to maintaining an open dialogue with Geoscience BC with respect to the location of the system to be used for the survey, the backlog of work for the system before the Geoscience BC survey, and the availability of the system and aircraft required to complete the survey. Geoscience BC will protect the confidential nature of this information to the contracting company, but retains the right to visit the aircraft and system in the field to assess the availability of the system to do the work. The contractor will assist in providing the necessary permissions from their clients to allow Geoscience BC to make these visits should it desire to do so.
5. A price for the survey in Canadian dollars. This will be an all-inclusive price, including all mobilization, logistical support and aircraft costs, and including the final presentation of the data in maps and digital formats. Also, a cost to fly additional line kilometres should be included. The contractor will be obliged to fly additional line kilometres up to an additional 25% of the total contracted line kilometres if Geoscience BC should desire to do so. Further increases in the size of the survey will be by mutual agreement.
6. A list of the deliverables in the all-inclusive price.
7. Digital and hard copy products that can be provided at additional costs.
8. A commitment to work with Geoscience BC on community outreach and engagement activities in local communities in the vicinity of the project.

The submission of standard business development or promotional materials published corporate profiles, annual reports, standard marketing or sales brochures and other like materials is discouraged.

Each Proponent is solely responsible for conducting their own independent research, due diligence, and any other work or investigation, and seeking any independent advice necessary for the preparation of the Proposal. Nothing in this RFP is intended to relieve the Proponents from forming their own opinions and conclusions with respect to the matters addressed in this RFP.

CONFIRMATION OF INTEREST

Each Proponent who intends to submit a Proposal in response to this RFP shall confirm its intention and provide a single point of contact, phone number, fax number and e-mail address to Christa Pellett at Geoscience BC.

Contact:	Christa Pellett
E-Mail:	<i>pellett@geosciencebc.com</i>

SUBMISSION OF PROPOSALS

Proposals will be accepted in the form of an electronic submission in PDF format to

pellett@geosciencebc.com by the time and date indicated on page 1 of this RFP document. Proposals submitted in response to this RFP will not be returned, and will be kept confidential. Original Proposals submitted after this deadline will not be accepted. Each Proponent shall be responsible for the timely delivery of its Original Proposal. All components of a proposal must be received by the submission deadline.

Geoscience BC may extend the Submission Deadline by issuing an Addendum prior to the Submission Deadline. Proponents who have confirmed their intention to submit a Proposal will be advised directly of any extension to the Submission Deadline.

ENQUIRIES / TIME EXTENSION TO THE RFP CLOSING DATE

All enquiries and other communications related to this RFP throughout the solicitation period shall be directed in writing only, by email, to Christa Pellett.

To ensure the equality of information among Proponents, answers to enquiries which are relevant to the quality of the proposals will be communicated to all proponents who have confirmed their interest in submitting a proposal. Such enquiries must be received at least two (2) working days before the submission deadline. A request for a time extension to the RFP submission deadline WILL NOT be considered.

VALIDITY OF PROPOSAL

Any cost estimates associated with the proposals must remain valid for acceptance for a period of not less than ninety (90) days after the submission deadline of the RFP. After the RFP closing date, no amendments to the proposal will be accepted. However, during the evaluation the Technical Authority may require clarification from or conduct interviews with the Proponents.

AMENDMENT OF PROPOSAL

A Proponent may amend its Proposal prior to the Submission Deadline by withdrawing its original Proposal and submitting a revised Proposal.

Geoscience BC may, in its sole discretion, seek clarification of any matter in a Proposal in any manner it considers appropriate including investigating the abilities and experience of a Proponent, seeking information from other parties about a Proponent, requiring Proponents to submit supplementary documentation and seeking a Proponent's acknowledgement of Geoscience BC's interpretation of the Proponent's Proposal.

APPLICABLE LAWS

Any contracts subsequently negotiated and awarded with respect to this RFP shall be interpreted and governed, and the relations between the Parties determined, by the laws in force in the province of British Columbia and the parties attorn to the jurisdiction of the British Columbia courts.

RIGHTS OF GEOSCIENCE BC

Geoscience BC reserves the right to:

- a) Reject any or all proposals received in response to this RFP
- b) Enter into negotiations with one or more Bidders on any or all aspects of its proposal;
- c) Accept any proposal in whole or in part;
- d) Cancel and/or reissue this requirement at any time;
- e) Award one or more contracts;
- f) Verify any or all information provided with respect to this requirement;

- g) Award contracts without competition for follow-on-work if any, to the successful Proponent for this requirement;
- h) Reduce or increase the overall RFP scope by up to 20%.

INFORMATION PROVIDED BY GEOSCIENCE BC

No representation or warranty, expressed or implied, is made and no responsibility of any kind is accepted by Geoscience BC, or its advisors, employees, consultants or agents, for the completeness or accuracy of any information contained in the RFP Documents or that is provided during the RFP process or contract negotiation process, or under a contract that may be entered into, if any.

CHANGES TO THE RFP DOCUMENTS

Geoscience BC may, prior to the Submission Deadline, without liability, cost or penalty, alter the Submission Deadline and amend or supplement the RFP Documents by Addenda only. No other communications of any kind whatsoever will modify the RFP Documents.

COSTS OF PROPOSAL

The Proponent shall bear all costs and expenses with respect to the preparation and submission of its Proposal and any other activity pertaining to its Proposal, including its participation in the RFP process and contract negotiation, if any. Geoscience BC shall not be liable to pay any such costs/expenses regardless of the conduct or the outcome of the RFP process.

CONFIDENTIALITY

Geoscience BC and its partners will take all reasonable precautions to maintain the confidentiality of the information submitted by the Proponents, subject to any disclosure required by law. Geoscience BC reserves the right, however, to disclose the Proposal to employees, servants, agents, advisors and consultants of Geoscience BC and its partners and affiliates for the purpose of assisting Geoscience BC in evaluating the Proposal. The employees, servants, agents, advisors and consultants of Geoscience BC and its partners and affiliates will not be liable for any damages resulting from any disclosure before, during or after the issuance of this RFP and the submission of a Proposal.

Proponents will take all reasonable precautions to maintain the confidentiality of any information provided by Geoscience BC, subject to any disclosure required by law. Proponents reserve the right, however, to disclose the Proposal to employees, the servants, agents, advisors and consultants of the Proponent and its affiliates for the purpose of assisting the Proponent in preparing the Proposal.

NO PUBLIC STATEMENTS

Recipients of and Proponents to this RFP shall not issue any public statement or news release pertaining to this RFP without the prior written consent of Geoscience BC.

ABSENCE OF CONTRACTUAL OBLIGATIONS DURING RFP PROCESS

- (a) Geoscience BC shall have no obligation to enter into a contract with a Proponent in respect of the provision of Services that are the subject of this RFP. Geoscience BC shall only have obligations to a Proponent if it decides to execute a written agreement with a Proponent and such obligations shall be in accordance with the terms and conditions of that agreement as finalized between Geoscience BC and the Proponent.
- (b) Geoscience BC may, in its sole discretion, for any reason and at any time, take any action in respect of the Proposals it receives including:

- (i) Entering into further discussions or clarification meetings with one or more of the Proponents;
- (ii) Entering into any contract or contract negotiations with one or more of the Proponents;
- (iii) Inviting any of the Proponents to participate in another competitive process to carry out the Services;
- (iv) Requesting one or more of the Proponents to supplement and resubmit their Proposal;
- (v) Accepting or rejecting any Proposal;
- (vi) Annulling this RFP process and rejecting all Proposals; or
- (vii) Annulling this RFP process and commencing a new process;

at any time without incurring any liability to any Proponent and without any obligation to inform Proponents of the reasons for Geoscience BC's actions. Nothing in this subsection or elsewhere in the RFP Documents shall impact or affect the validity of (a) and (b).

FURTHER INFORMATION, CLARIFICATION AND CONTACT INFORMATION

Requests for further information, clarification or for any other purpose related to this RFP are to be made by e-mail to:

Christa Pellett
E-Mail: pellett@geosciencebc.com

- (a) Proponents are responsible for seeking any clarification that they require well in advance (at least 2 working days) of the Submission Deadline. Geoscience BC shall not be responsible for any misunderstanding of the RFP Documents.
- (b) For all purposes related to this RFP, Proponents shall not contact or attempt to contact:
 - (i) Any Geoscience BC officer, employee, subcontractor, agent, representative, consultant or volunteer with respect to this RFP, **other than the Geoscience BC contact set out in subsection (a) above; and**
 - (ii) Any other prospective Proponent except for the purpose of discussing the possibility of submitting a Proposal as a Joint Venture.

METHOD OF SELECTION

Geoscience BC shall, in its sole discretion, use any evaluation criteria (whether subjective or objective), it deems suitable to evaluate the Proposals. In the event that Geoscience BC selects a Proponent for the provision of the Services, Geoscience BC will notify each Proponent in writing, and Geoscience BC's method of selecting the Proponents will remain confidential to Geoscience BC.

AGREEMENTS

Geoscience BC will confirm the business arrangement in the form of a Project Agreement to be drafted after selection of the successful Proponent(s).

APPENDIX 1: COORDINATES AND MAP

Position	CoordSys	X	Y
LowerLeft	NAD83_UTMz10	566524	6218217
LowerRight	NAD83_UTMz10	618136	6257086
UpperLeft	NAD83_UTMz10	481368	6331223
UpperRight	NAD83_UTMz10	533119	6370221

