



REQUEST FOR PROPOSAL

Title: Peace Region Magnetics Structural Interpretation
Northeast BC

Date Issued: May 31st, 2016

Solicitation Closes: June 13th, 2016 12:00PM PST

Enquiries to: Janice Fingler
Project Manager, Geoscience BC

Email: fingler@geosciencebc.com

Geoscience BC is a non-profit organization established in 2005 through an investment from the Province of British Columbia. We generate earth science information in partnership with First Nations, the resource sector, universities, governments and communities. We deliver this information to the public to encourage investment and to enable informed land use decisions for the benefit of all British Columbians. We gratefully acknowledge the financial support of the province of British Columbia.

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

Aquifers in the Peace Region are poorly understood. 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.

In order to gain additional information on aquifers in the region, an airborne electromagnetic (EM) survey conducted by SkyTEM, was carried out in the north Peace Region of NE British Columbia to locate potential shallow groundwater aquifers within the area. The airborne EM survey was designed to provide the data required to interpret potential Quaternary and bedrock aquifers within the survey area and to provide a map of the Quaternary-bedrock interface, i.e. Quaternary thickness. Following standard airborne EM practices, SkyTEM also collected magnetic data during the survey.

RFP SCOPE

This RFP will accept proposals that fulfill the below scope for the area indicated:

The objective of this RFP is to use the SkyTEM collected magnetic data over the study area, to interpret crystalline basement with respect to structure, lineaments, faults, intrusions, lithology (i.e. magnetic susceptibility) and, if possible, calculate depth-to-basement. The traverse lines for the approximately 20,000 line-km survey were flown approximately east-west, with 600 m line-spacing and tie lines flown approximately north-south with a spacing of 2400 m. The survey was drape-flown at an altitude of approximately 50 m above ground.

Survey information, processed data and results can be found in Geoscience BC Report 2016-03: <http://www.geosciencebc.com/s/Report2016-03.asp>. Original source data from SkyTEM will be made available to confirmed proponents, by email request to Janice Fingler, fingler@geosciencebc.com.

Specifically, companies bidding should indicate how they will evaluate the SkyTEM processing of the magnetic data and, if deemed necessary, how they will re-process the data in order to carry out the interpretation. They should provide all necessary technical information so that an independent consultant can re-compute the gridded maps used for the interpretation. It is expected that the scope and scale of proposed work and deliverables will be consistent with the magnetic data collected during the survey.

A map of the study area, together with a list of bounding UTM coordinates is included in Appendix 1.

ELIGIBILITY

1. Proponents are expected to have the necessary professional expertise and experience to complete the proposal submitted within the scope, quality, schedule and budget defined.
2. Proponents with demonstrated experience in application of their expertise to projects in the Western Canadian Sedimentary Basin of British Columbia, are preferred.

Each Proponent is solely responsible for conducting its own independent research, due diligence, and any other work or investigations, and for seeking any other independent advice necessary for the preparation of its 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.

SUBMISSION REQUIREMENTS

CONTENT OF PROPOSAL

The proposal should contain:

1. A specification of the data processing methodology and workflow to be used. SkyTEM produced the total magnetic intensity from the raw magnetic data using the following steps:
 - *Processing of static magnetic data acquired on magnetic base station*
 - *Pre-processing of airborne magnetic data*
 - *Stacking of data to 10 Hz in SkyLab.*
 - *Moving positions to the center of the sensor in SkyLab.*
 - *Processing and filtering of airborne magnetic data*
 - *Standard corrections to compensate the diurnal variation and heading effect*
 - *IGRF correction*
 - *Advanced levelling (careful levelling and micro levelling)*
 - *Gridding*

This section must include a discussion of any reprocessing of the magnetic data considered necessary to obtain the reduced-to-the-pole (RTP) total magnetic intensity data. It should include an evaluation of any cultural effects that may affect the interpretation and, if deemed necessary the methodology applied to remove these affects.

The gridding methods utilized should be discussed in detail. The set of derived (gridded) maps used for the interpretation (i.e. vertical and horizontal gradient maps, band pass, low pass, and high pass maps, analytic derivative, residual maps, etc.) must be specified. The methodology used to obtain lithological information should also be included.

If depth estimations are carried out, the methodology used for calculating depth to basement (for example Euler) must be provided.

Submitted examples of the successful use of the proposed methodology mentioned above will be considered positively

2. A summary workflow and schedule of the main tasks required to carry out this interpretation should also be provided. Key milestones should be identified.
3. A price for the project in Canadian dollars. This will be an all-inclusive price, including all processing, gridding and mapping costs. The price should also include the cost for all final maps and interpretations in digital formats as well as the final report.
4. A list of the Deliverables in the all-inclusive price. This list should include at least below-listed Deliverable items. The contractor can add additional items deemed necessary.

DELIVERABLE ITEMS

Unless otherwise specified, digital data and summary maps in GIS format shall be provided, in addition to other formats, where specified.

The deliverables should include, at least, the following items. Additional deliverables can be added at your discretion.

- Final RTP total magnetic intensity (TMI) database in Geosoft GDB format
- All generated grids in Geosoft GRD format
- All generated maps in Geosoft , Geotiff and PDF formats, including all associated Shapefiles for any GIS data
- All structural and lithological interpretation maps in Geosoft, Geotiff, and PDF formats, including all associated Shapefiles for any GIS data
- Depth-to-basement maps, where possible, should be supplied in Geosoft, Geotiff and PDF formats, including all associated Shapefiles for any GIS data. A description of the methodology used along with any assumptions should be included
- Report will include, at minimum
 - Complete descriptions of all processing algorithms used
 - Methodology used for generating the basement structural and lithological interpretation, and depth-to basement if the computations have been carried out
 - Lithological interpretations
 - A discussion of the interpretation results along with any issues that may have complicated or distorted the interpretation

SUBMISSION GUIDELINES

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 Janice Fingler at Geoscience BC.

Contact:	Janice Fingler
E-Mail:	fingler@geosciencebc.com

SUBMISSION OF PROPOSALS

Proposals will be accepted in the form of an electronic submission in PDF format to **fingler@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.

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:

Contact: Janice Fingler
E-Mail: fingler@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.

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 Janice Fingler.

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 Geoscience BC, through its employees or designated consultants, 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;

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.

Any employees, servants, agents, advisors and consultants of GBC and its partners and affiliates who assist Geoscience BC in the evaluation of the Proposal will also be required to take all reasonable precautions to maintain the confidentiality of the information submitted by the Proponents, subject to any disclosure required by law. 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).

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

Vertex ID	Position	Project Area	X	Y	Coordinate System
1	Lower Left	Peace, Sikanni	542,794	6,357,287	NAD83_UTMz10N
2	Lower Right	Peace	618,135	6,257,086	NAD83_UTMz10N
3	Lower Left	Peace	566,524	6,218,217	NAD83_UTMz10N
4	Top Left	Peace	499,754	6,306,824	NAD83_UTMz10N
5	Top Left	Peace	495,723	6,342,034	NAD83_UTMz10N
6	Top Left	Peace, Sikanni	533,170	6,370,265	NAD83_UTMz10N
7	Top Right	Sikanni	553,234	6,385,392	NAD83_UTMz10N
8	Lower Right	Sikanni	562,939	6,372,484	NAD83_UTMz10N
9	Lower Right	Doig	657,481	6,275,344	NAD83_UTMz10N
10	Lower Left	Doig	653,523	6,270,370	NAD83_UTMz10N
11	Top Left	Doig	640,907	6,280,636	NAD83_UTMz10N
12	Top Right	Doig	644,802	6,285,398	NAD83_UTMz10N
13	Lower Right	Charlie Lake	631,073	6,233,907	NAD83_UTMz10N
14	Lower Left	Charlie Lake	615,675	6,233,933	NAD83_UTMz10N
15	Top Left	Charlie Lake	615,675	6,244,331	NAD83_UTMz10N
16	Top Right	Charlie Lake	631,073	6,244,305	NAD83_UTMz10N

