



PROPOSED Alberta Cardium Seismic Response Study

Within the confines of West Central, ALBERTA

T43-51 R10-19 W5M

Sigma Explorations Inc. in partnership with Geo-Reservoir Solutions proposes to determine and document the utility of seismic data for exploiting the Cardium reservoir and serve as a template for use of 3D seismic in future drilling in the area. At the end of the study, several known pools will have been examined on existing 2D and 3D seismic data and the seismic structural, stratigraphic and rock physics attribute responses for the zone will be documented and demonstrated on the 2D and 3D volumes.

Overview: The existing Cardium oil production at West Pembina is currently being exploited by horizontal drilling strategies. 3D seismic data exist over many of the producing horizontal wells, suggesting that seismic could be utilized at least some Cardium operators to potentially position horizontal wells.

Processing: The processing sequence is yet to be determined based upon the initial findings of this study. That being stated, it is anticipated that all data being used in the study will be reprocessed using an AVO compliant flow to a pre-stack time migrated volume stage. Further attribute volume processing using rock physics parameters is anticipated.

Commitment Date:

Companies who wish to qualify as original participants are requested to return the attached reply form by October 15th, 2014.

Deliverables:

A final interpretation report, describing the limits, applicability and optimal usage of 3D seismic for guiding horizontal drilling will be produced. The report will contain key images derived from the study to discuss project findings. No digital SEGY data will be provided to project participants. Quantitative results will be included along with an analysis of the applicability of the methodology to other pools in the area including the applicability to extend the play to the west of current production. Geological information immediately proximal to the seismic data control will be incorporated into the study to facilitate rock property calibration. Deriving these properties may include but not be limited to log interpretation, petrophysical analysis, integration of core data and petrography.

Price Schedule/Commitment:

Entire Program \$49,000.00 plus 5% GST will added
Post October 15th the cost of the study will be \$59,000.00 plus 5% GST

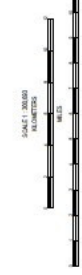
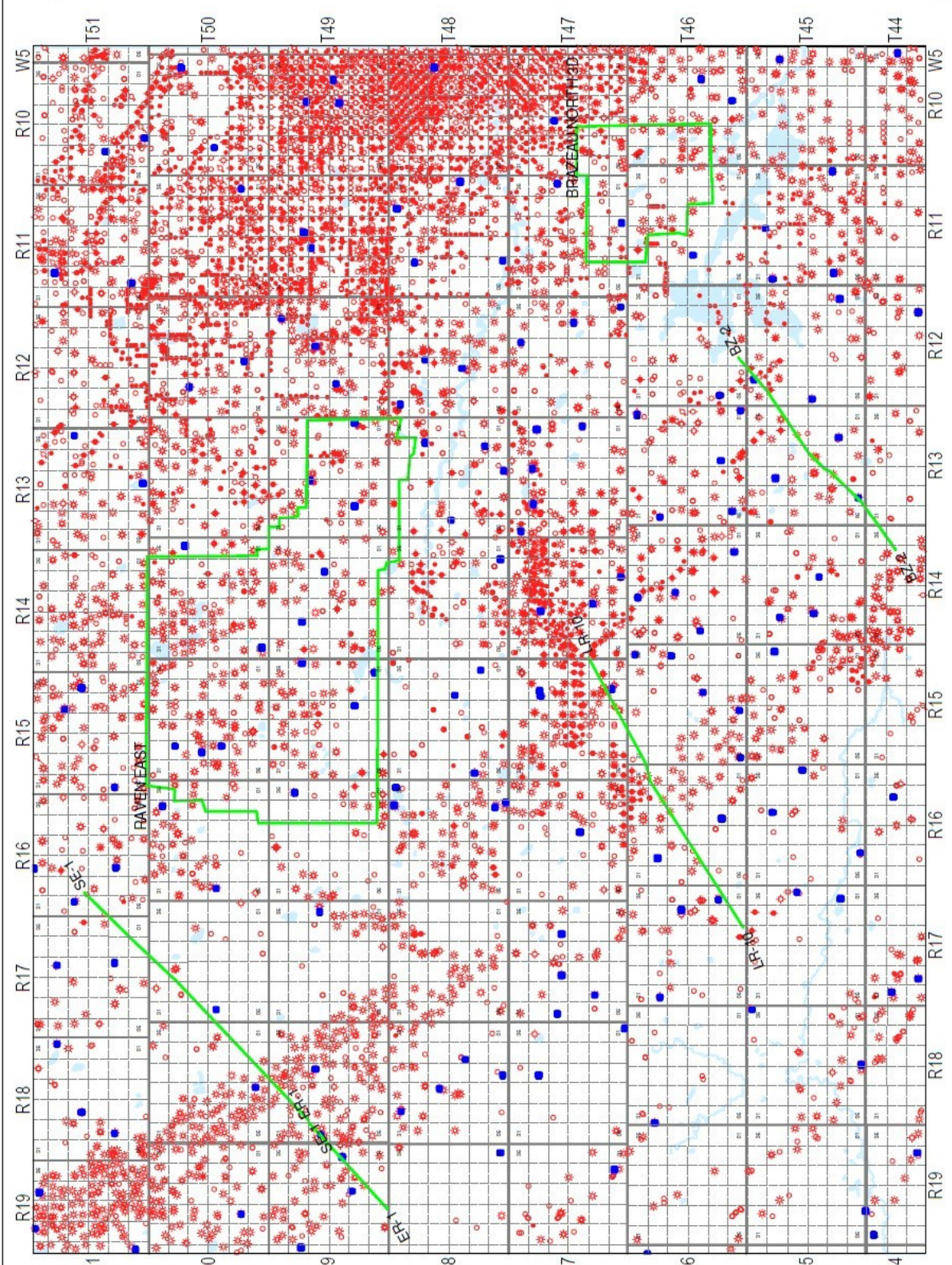
Billing Dates:

60% on commencement of study and reprocessing

30% on completion of study

10% on delivery of final processed data

**For further information, please contact James Lamb
at 403-264-7865 or Doug Uffen at 403-669-9238**



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CARDIUM	
Projection: WGS84 UTM ZONE 12N	Nicole Harris
Date: 05-29-2014	