

10. Outlook for Phase II

Although sufficient well, seismic data and outcrop information allow us to make a reasonable initial assessment of conditions for petroleum formation in the Cenozoic Queen Charlotte Basin, more robust, complete and refined models are possible.

Our 1D models could be improved by a more detailed biostratigraphy that studies of pollen, ichthyoliths, foraminifers in Cenozoic and Mesozoic strata would provide. Of particular interest are better dates on initiation of rifting, deposition of potential source, reservoir, and cap rocks. Only the incorporation of such additional information will allow definition of more detailed burial histories.

In Phase I of the project, no detailed predictions regarding the Mesozoic units are made. This will be attempted in Phase II, recognizing however the large uncertainties in the geophysical and geologic data. In general, sediments deeper than 4,800 m today are likely to be overmature, but nevertheless these units have passed through the oil and gas window during burial and generated hydrocarbons. A complete treatment of the QCB and the Hecate Basin therefore requires careful consideration of these Mesozoic source rocks.

It is also important to note that our Phase I assessments did not address the migration or trapping histories in the QCB, and thus makes no predictions as to potential reservoir locations, frequency or sizes. In Phase II we will construct 2D models based on our 1D models, which will incorporate migration and trapping histories using Temis 2D software (provided by IFP/ Beicip-Franlab, France). Refined interpretation of the seismic reflection data and age assignment to seismic reflectors will be necessary to define additional marker horizons to improve 2D basin models.