

Crown Minerals has executed a contract with GNS Science for delivery of the Petroleum Exploration and Geosciences Initiative (PEGI) project, a major two year work programme aimed at the promotion of oil and gas exploration around New Zealand. Crown Minerals' contribution to the cost of the project is \$4,002,000. The Foundation of Research Science and Technology has contributed approximately \$3,600,000 to the project through past and present programme grants to GNS Science.

The project, which will be undertaken by GNS Science, comprises a suite of 14 individual but broadly inter-related projects to be delivered over the next 2 years, which are focused primarily on the Taranaki region, currently New Zealand's only producing region. The following projects will be undertaken:

Petroleum Basin Explorer: Browser-based digital data delivery system comprising a map-based front end and search functionality, with selected packaged data sets and products, provided on DVD;

Enhanced Frontier Basin Screening: Compilation, integration, interpretation and digital delivery of metadata on Google Earth to define presence of active petroleum systems between the Extended Continental Shelf territory and the New Zealand coastline;

Seismic Legacy Data QC: To provide a quality check and data loading service for navigation and post-stack seismic data into the Crown Minerals Data Management System;

NZ Stratlink Project: Utilization of software Timescale Creator to develop interactive graphical depiction of chronostratigraphy of selected sedimentary basins;

Offshore Prospectivity Atlas: Systematic evaluation and integration of various geoscientific evidence, ideas and predictions of petroleum occurrence in basins that could become economically productive in the medium term;

CONOP Correlation Taranaki: Utilising the constrained optimisation (CONOP) statistical correlation technique on a range of stratigraphic data to develop an improved understanding of regional chronostratigraphic framework for the Taranaki Basin;

Offshore Taranaki Basin Seismic Sequence Stratigraphic Framework: Sequence stratigraphic and facies interpretations on ~5 representative composite seismic lines across the basin;

Well Depth-TWT Calibration: A reference dataset comprising standardised and quality-controlled checkshot and other velocity

information, and derivative conversions of well depth to TWT (two-way travel time);

Taranaki Reservoir Quality Database–Analytical Supplement:

Enhancement of the existing digital reservoir quality database for Taranaki Basin through compilation and collection of additional data such as core plug descriptions and Special Core Analysis (SCAL) from open-file petroleum reports, plus new thin section analyses;

Digital Well Log Evaluation Database and Petrophysical Atlas:

Wireline log evaluation of wells over several basins in NZ to develop a consistent framework for assessing rock properties and petrophysical parameters reservoir and seal rock intervals;

NZ petroleum PVT database: Development of an Excel database of all open-file PVT (pressure-volume-temperature) data contained in Crown Minerals' Petroleum Report archive;

NZ Oil Shows Database: Development of a standardised geochemical database for up to 88 key oil show samples from Taranaki, Canterbury and Great South basins from well material archived by Crown Minerals by Applied Petroleum Technology (Norway);

Extension of NZ oils database: Addition of molecular geochemical data for 50 oils (and gas condensates) to the existing standardised geochemical database of 80 NZ oils;

NZ petroleum isotope database: This project will establish and interpret a database of compound-specific isotope profiles for at least 180 gases, condensates, oils and source rocks in NZ basins to help understand source, kitchen and migration paths.

In summary, the PEGI projects are a range of evaluations and upgrades of knowledge on Taranaki and other key basins along with specialist studies of the geochemistry of oils and gases and their source rocks, detailed paleontology control of wells, and screening of frontier basins.