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| Title: Uncertainty analysis of diverse petrophysical data for injectivity prediction  Project Leader: | | Demonstration Project:  CTSCo |
| Project Number:  Status: Under Development | Commencement: 2020  Completion: | Total Budget:  ANLEC R&D Contribution: |

***The Context***

The Surat Basin represents a highly prospective area for GHG storage in Eastern Australia, with a thick, relatively undisturbed sedimentary sequence providing large potential storage volume adjacent to major emission sources from coal-fired power stations. The Southern Surat is the preferred location for upscaled storage trials and the primary Precipice and secondary Hutton storage reservoirs are deeper (>2000 m). The project plans drilling of two deep exploration wells in the southern part of the EPQ10 tenement. The proposed wells will include coring of the entire Precipice Sandstone along with wireline logging evaluation. There are very few local sources of offset wireline log data, and much of that dates from wells drilled in the 1960’s and 1970’s. The first CTSCo well represents the first opportunity to assess the reservoir intervals in the south of EPQ10. Information gathered there and what is available will be used to predict properties in the second well and assess the injectivity and flow.

***Unknowns***

Reservoir related fluid dynamic properties, diagenesis related petrophysical changes, variation of properties between the two wells, injectivity as well as other properties that will influence assessment of fluid dynamic properties uncertainties and sensitivities.

***Research Objectives***

Use of novel uncertainty and artificial intelligence routines that will provide sensitivity range of possible outcomes for dynamic and petrophysical properties incorporating wireline logs of multiple vintages with an initial training set based on the first CTSCo well.