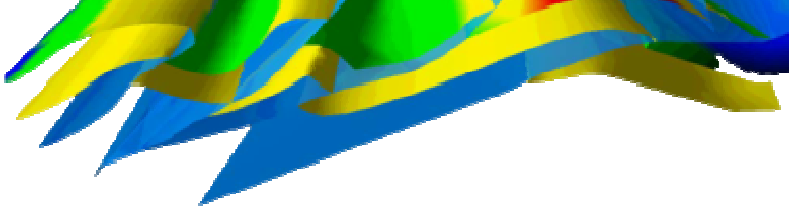

3D GEO

Southern Rural Water

Otway Basin

Dilwyn Formation Aquifer Study

3D-GEO Pty Ltd

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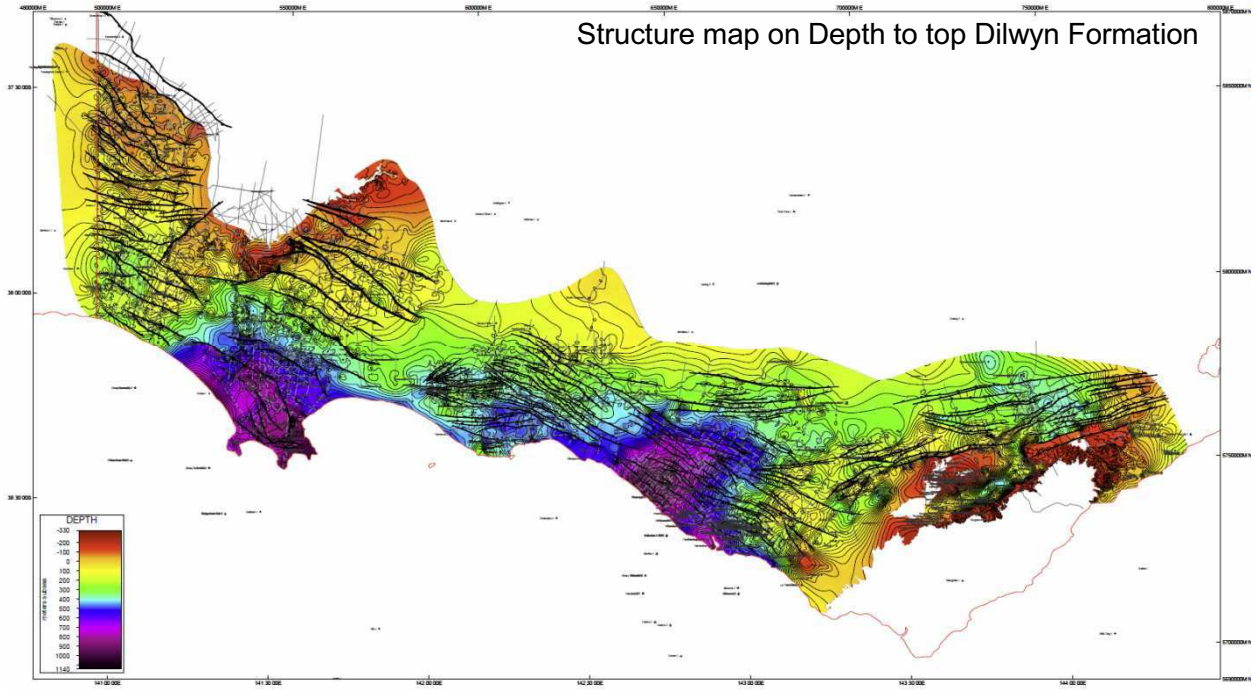
Executive Summary

To facilitate the understanding of the Dilwyn Formation in the Otway Basin, 3D-GEO was commissioned by Southern Rural Water (SRW) in December 2010 to generate a structural horizon map for the top Dilwyn Formation. The focus of the study was to incorporate the abundant 2D seismic previously acquired within the Otway Basin with the available petroleum and water bores to generate an understanding of the aquifer unit, its distribution and its architecture.

Previous work on the Dilwyn Formation Aquifer was conducted using the water bores across the basin. Whilst abundant, the water bores are not as well distributed as the seismic, and they do not provide as clear an understanding of the structure as the seismic does.

From the seismic data, a structural pattern was established that showed the orientation of the major faulting to trend NW-SE in the west and central portions of the basin to a near E-W trend in the far-east. These faults subsequently controlled large blocks or compartments that created small sub-troughs within the basin. Growth units against faults at the Dilwyn Formation level coincided with growth patterns at deeper levels along the same faults, showing that whilst the activity on the faults is not large in terms of deformation, but is long lived.



Discharge zones for the unit were hard to identify as the formation extends offshore. In the offshore extent, the Dilwyn Formation does not return to surface within the span of the seismic and as such cannot be imaged or modelled. Onshore, in the east of the basin, the contemporary inversion has uplifted and eroded a large portion of the sediments exposing the Dilwyn Formation around the base of the Otway Ranges. This is one of the few areas in which the Dilwyn formation aquifer can be seen to discharge. The other region is the northern extent of the basin, where the Dilwyn surfaces.

Understanding the compartments and the potential for leakage and contamination provides a basis for developing a holistic fluid model for the Dilwyn Aquifer in Victoria.