

Hydrocarbon distribution: petroleum composition, Phanerozoic and Neoproterozoic basins of Western Australia

by

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Abstract

The Energy Systems Atlas is a collection of new geological map layers designed to help explorers identify each of the essential elements and processes of a petroleum system: source, reservoir, seal, burial, maturation, stratigraphic framework, structure, trap formation and migration. A set of layers have been compiled to show the known distribution of hydrocarbons. This layer shows petroleum composition including a list of percentage of petroleum components analysed from fluid and gas samples including hydrocarbons (C1 to C12+), CO₂, helium, hydrogen, oxygen, nitrogen, H₂S, CO and argon from petroleum wells within the Phanerozoic and some Proterozoic basins of Western Australia. These data have been compiled from new and legacy data submitted to or generated by the Geological Survey of Western Australia (GSWA). Petroleum composition data are useful for assessing trends in the geographic and stratigraphic distribution of oil, hydrocarbon gas and other petroleum components. The compositional data have been compiled from reports submitted to GSWA including from petroleum companies, other government departments, academic institutions and research bodies as well as new analysis arranged by GSWA covering the majority of Western Australian sedimentary basins. New petroleum composition data will be added as they become open file.

The descriptions of the data and methods of data collection and analyses are outlined in the original reports, which are included in the attribute tables for all data in the Energy Systems Atlas. GSWA publications are available from the [DMIRS eBookshop](#). Unless otherwise stated the depths are given as metres measured depth.

How to access

The **Energy Systems Atlas** is best accessed using the Western Australian Petroleum and Geothermal Information Management System ([WAPIMS](#)). This online interactive mapping system allows data to be viewed and searched together with other datasets. The Energy Systems petroleum composition data are also available as a data package on request from WAPIMS/requests form.

Recommended reference

Brooks, DM and Irimies, F 2021, Hydrocarbon distribution: petroleum composition, Phanerozoic and Neoproterozoic basins of Western Australia: Geological Survey of Western Australia, digital dataset, <www.dmirs.wa.gov.au/wapims>.

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