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The Digital Core Atlas for petroleum well Theia 1 provides a detailed view of 779.90 m (867.00 – 1646.90 m) of HQ-sized core (63 mm diameter) drilled by Finder Exploration on the Broome Platform, Canning Basin in July 2015. This Digital Core Atlas project is a collaboration between the Geological Survey of Western Australia (GSWA) and Finder Exploration and combines core photographs with the raw datasets in one fully integrated package. The GSWA portion of the study was funded by the State Government's Exploration Incentive Scheme (EIS).

This well has been divided into three sections based on depth and geological formation. These Sections are presented as three separate flip-books that comprise the Theia 1 Core Atlas.

	Depth range (m)	Tray numbers	Formations identified in the core
Section 3	867.00 – 1188.00	1–85 and cuttings	Carribudy Group, Bongabinni Formation and Nita Formation
Section 2	1188.00 – 1466.41	85–158	Goldwyer Formation
Section 1	1466.41 – 1646.90	158–205	Lower Goldwyer Formation and Willara Formation

Each Section has an identical structure and is presented in an electronic flip-book design with interactive links that enable the user to view the results of multiple datasets in one convenient and user-friendly location. Each tray of core has two photos: a field photo with depths marked and a HyLogger photo with the core rotated 180° to show the other side. The photos are annotated with icons that link to the results of analyses conducted on core samples. Each page indicates the location of the core tray being displayed and contains a link to a detailed stratigraphic log for the interval containing that core tray. A schematic stratigraphic log is located on each page to indicate the stratigraphic location for the core tray being displayed. Each of the three Sections contains a summary list of all samples collected in that Section. Section 3 also contains results of analyses from cuttings (10–860 m) for some inorganic and organic geochemistry datasets.

Datasets presented in the Theia 1 Digital Core Atlas include:

#### 1. Biostratigraphy

Conodonts  
Graptolites  
Miscellaneous fossils  
Palynomorphs  
Trilobites

#### 2. Geochronology

Chemical abrasion isotope dilution thermal ionization mass spectrometry

#### 3. Inorganic geochemistry

Fourier transform infrared spectroscopy  
Inductively coupled plasma mass spectrometry  
Multi-element geochemistry  
Stable isotopes  
X-ray diffraction  
X-ray fluorescence

#### 4. Organic geochemistry

Desorption gas  
Extractable organic matter  
Fluid inclusion stratigraphy  
Gas chromatography mass spectrometry  
Headspace gas  
Kerogen kinetics  
Total organic carbon and Rock-Eval

#### 5. Petrography

Argon-ion milled scanning electron microscopy  
Cathodoluminescence  
Organic matter reflectance  
Scanning electron microscopy  
Thin sections

#### 6. Petrophysics

Adsorption isotherm  
Computer tomography, full core  
Computer tomography, core plug  
Desorption capacity  
Porosity and permeability  
Rock mechanics  
Shale rock properties  
Tight rock analysis  
Tight rock analysis — liquids

Data within the Digital Core Atlas are presented in a format that has been slightly modified from the original raw data and reports. The original documents can be accessed via the Access Data tab.

## Theia 1, Canning Basin — Digital Core Atlas Series

Free (online): <<https://wapims.dmp.wa.gov.au/WAPIMS/Search/CoreAtlas>>.

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Cost: \$55 [inc. GST]