



# 125 years of legacy data at the Geological Survey of Western Australia: Capture and delivery



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## ABSTRACT

For over a century the Geological Survey of Western Australia has been accumulating an enormous amount of information on the geology, mineral resources, and petroleum fields of Western Australia, either through the activities of State-employed regional mappers or the submission of mineral and petroleum reports mandated by State legislation. Recognizing the importance of this legacy for future exploration and research, in the last 25 years the Survey has been digitally capturing this information into custom-designed systems/databases that collate data on, amongst others, field observations (WAROX, for 'Western Australia Rocks'), mineral exploration reports (WAMEX), and petroleum exploration information (WAPIMS). Data are made available to the public through the GeoVIEW.WA web application, designed in-house to view and query these integrated geoscientific and related datasets.

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## 1. Introduction

Since its foundation in 1888, the Geological Survey of Western Australia (GSWA) has been responsible for collecting and collating geological information about the westernmost State of the Australian continent. With a surface area of just over a million square miles (2,645,615 km<sup>2</sup>), a complex geological history spanning 4 billion years, and a rich exploration and mining heritage, the amount of geological information collected in over 125 years of geological investigations is simply gigantic – with datasets that were recorded in a variety of media and formats.

The drive toward capturing and delivering this staggering amount of legacy data developed momentum in the late 1990s and early 2000s, and is now a routine program at GSWA. Through the Industry Liaison Committee, the mineral and petroleum industries have been strong supporters of GSWA's initiatives in this area. This paper reviews several aspects of the GSWA legacy data capture programs. It describes the various approaches used for different sets of data, with particular emphasis on the capture of:

- field observations from regional mapping,
- maps and reports of diverse thematic nature,

- mineral resources information such as exploration reports and data therein (e.g. drillholes), and
- petroleum exploration data.

The paper also details how GSWA legacy data are delivered to the public, both in standalone products and online.

## 2. Infrastructure overview

The Department of Mines and Petroleum (DMP) is the Western Australian Government's lead agency in attracting private investment in resources exploration and development through the provision of geoscientific information on minerals and energy resources, and management of an equitable and secure titles system for the mining, petroleum and geothermal industries. The mineral and petroleum resources of Western Australia are owned by the Crown and the royalties paid by mining and petroleum producers form a significant proportion of the income of the State. The Geological Survey of Western Australia is a division within DMP that publishes reports, maps, and state-of-the-art databases documenting the geology of Western Australia. This information provides the building blocks for the design of resource exploration programs in Western Australia. It is also critical in Government decision making, particularly on economic and land-use issues. Since the 1880s GSWA has been gathering, synthesizing, and

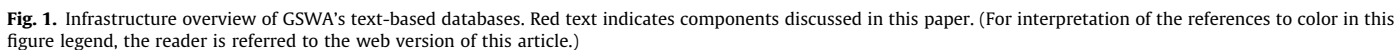
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Microsoft (MS) SQL Server® is the endorsed corporate database platform for DMP, with MS SQL Server 2012 R2 on Windows Server 2012 R2 being the standard platform used since the beginning of

- DEV – for development activity at a corporate level
- TST – where users test application behavior
- PRD – production for internal and/or external users.

DMP's spatial environment is based on Esri ArcGIS Server® and Geocortex®. ArcGIS Server is a spatial information management



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