Accessing geoscience information: 2021–22 update

Tracey Rogers[1,2]

The Northern Territory Geological Survey (NTGS) data capture of legacy drilling and geochemical data from the priority area primarily covering the Barkly Region is nearly complete. Since April 2021, a further six 1:250 000 map sheets have been completed and the data released. The digitising of hardcopy seismic sections and well logs continued with digital data now available for another 15 wells and 14 surveys (**Figure 1**). The backlog of open filing for reports due for release after five years has been cleared and 25 interpretive petroleum reports were gazetted and released in November 2021. A new user guide, easily accessible via a tab within STRIKE, was launched. Delivery of larger datasets is now easier with the implementation of a new FTP platform and use of specific, persistent URLs to directly access the products and data. The platform delivering NVCL download and other web services has been upgraded giving faster response times and better performance. A new PetroleumTenementsML web service has been added.

New drilling and geochemistry data

The legacy data capture focusing on the capture of geochemistry and drilling data in the priority area from Tennant Creek and surrounds to the Queensland border and throughout the Barkly Region is nearing completion. During 2021–22, data has been captured from the WALHALLOW[3], BAUHINIA DOWNS, ROBINSON RIVER, BEETALOO, TANUMBIRINI, and HELEN SPRINGS 1:250 000 mapsheets. Data for WALHALLOW was released on STRIKE in July 2021, for BAUHINIA DOWNS and ROBINSON RIVER in November 2021, and most recently data for BEETALOO, TANUMBIRINI, and HELEN SPRINGS mapsheets in February 2022. Data capture from the BONNEY WELL mapsheet is in progress.

Since the commencement of the *Resourcing the Territory* initiative, some 120 400 drillhole collars, 561 700 drillhole samples and 256 100 surface samples with the associated sample results from 3201 reports have been captured.

The next focus for data capture is the Pine Creek area. A very large number of reports on the PINE CREEK 1:250 000 and surrounding mapsheets have been identified for data capture, the largest concentration in the Territory. At present rates, it will take several years to complete just four 1:250 000 mapsheets, but it is a large proportion of the reports remaining to be captured across the NT.

Additional data from routine open filing and captured from early reports on active titles are also released during the year. Since April 2021, a further 8500 drillholes and 40 000 drillhole samples and associated data have been released. These comprise data from both routine open filing and a large batch of previously captured legacy data from the SHORT RANGE 1:100 000 mapsheet. There has also been a revision of sample categorisation within the database that reduced the number of surface samples and increased the number of drillhole samples.

STRIKE

The restructured and updated STRIKE user guide was fully incorporated into STRIKE and released in July 2021. The new guide is accessible via a clearly labelled tab at the top of the map window, next to the Downloads tab. The guide is split into categories and sub-categories accessed through the main contents menu, which is displayed after choosing the user guide tab. The main menu also has options to print the guide and view the guide in a separate window.

Downloading large products and data by FTP

Timely access to large NTGS products and data has been facilitated by a new FTP platform. It provides instant download access without the need to log in, an improved client experience, and is more cost effective and efficient than physical mail. Those products and data that are too large to download via the GEMIS platform and are requested via the Request Cart are now able to be delivered using the FTP site. InfoCentre staff will email a persistent URL enabling a client to directly access and download the product or dataset ordered. Requests to the InfoCentre for a large number of reports or products can also be loaded to the FTP site as a group and accessed by a specific URL. For effective site management and performance, an expiry date is set for these requests, usually 14 days. The files are automatically deleted after this time and the link will no longer work.

Web services and National Virtual Core Library

NTGS has upgraded the infrastructure serving the Open Geospatial Consortium (OGC) compliant web services, including the National Virtual Core Library (NVCL) download functionality. The new server was successfully deployed in December 2021 with the latest software stacks. Performance and response times have significantly improved and the NVCL data download module is also further improved with cached datasets for even faster download performance.

In February 2022, a new web service was established for petroleum tenements (PetroleumTenementML). The new service provides basic information on petroleum titles and utilises a common vocabulary used by all the Australian jurisdictions to facilitate discovery and viewing at the national level. This service and the other OGC compliant web services (including boreholes, mineral occurrences) can be accessed through desktop software or via a number of spatial web portals, in particular, the Australian Geological Survey Organisations Network (AGSON) portal, previously known as AUSGIN.

[1] Northern Territory Geological Survey, GPO Box 4550, Darwin NT 0801, Australia
[2] Email: tracey.rogers@nt.gov.au
[3] Names of 1:250 000 and 1:100 000 mapsheets are shown in large and small capital letters respectively, eg WALHALLOW, SHORT RANGE

Industry reports

The project to reduce the backlog of reports due for release under the five year 'sunset clause' in the *Mineral Titles Act* (MTA) has been completed. In July 2021, the remaining 118 reports from 2015 were published.

Steady progress in the reviewing of older petroleum tenure reports to identify and prepare reports and data for release has continued. Twenty-five reports with interpretive information were gazetted and released in November 2021.

Digitising of older, hard copy seismic sections and well logs from petroleum industry reports is continuing. The newly digitised data has been added to records in the Petroleum Exploration Reports (PEX) collections on GEMIS.

In the last 12 months, various logs of 15 wells in the McArthur Basin/Beetaloo Sub-basin, and Amadeus,

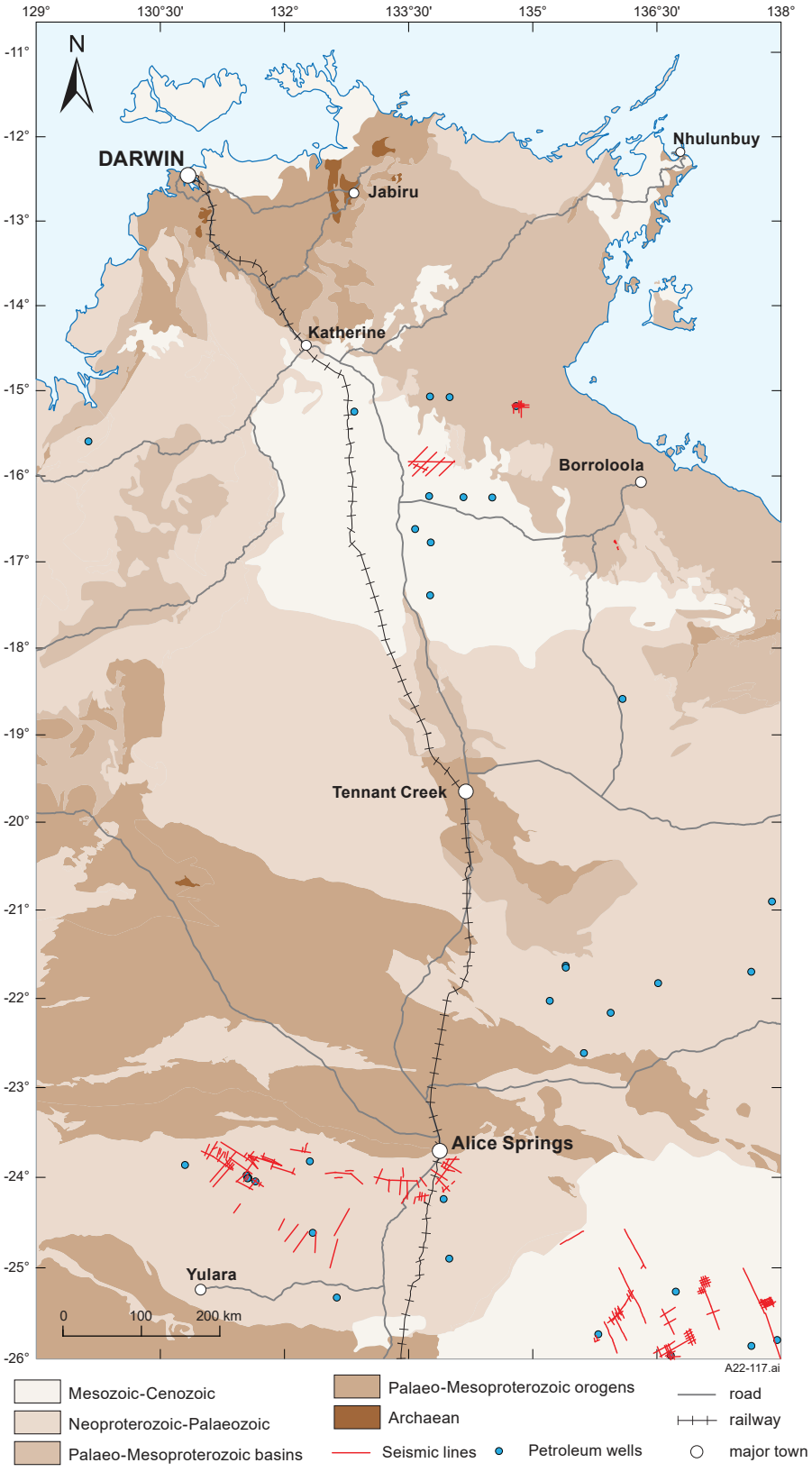

Figure 1. Wells and seismic surveys digitised and released as at February 2022.

Georgina and Pedirka basins, as well as around 200 sections from 14 seismic surveys in the McArthur, Amadeus and Eromanga basins, were digitised and released. Work on digitising further seismic surveys in the Eromanga/Pedirka basins and wells in the Amadeus Basin is in progress.

The wells and seismic surveys that have been digitised and released as at February 2022 are shown in **Figure 1**.

Resourcing the Territory website and NTGS Monthly Alert

The *Resourcing the Territory* website continues to evolve. The maps showing titles and mineral/petroleum resources have been refreshed and news items are regularly added. Subscribers to the NTGS Monthly Alert email newsletter have been increasing steadily, growing more than 60% since November 2019. One can subscribe to the newsletter via the links on the website at https://resourcingtheterritory.nt.gov.au.

New NTGS products

New or updated NTGS products released since April 2021 include 9 Records, 4 new and 1 revised HyLogger Data Packages (HDP), 3 updated and 2 new Digital Information Packages (DIP), preliminary data for the NTGS Brunette Downs Ground Gravity Survey and 2 new and 5 revised geological GIS datasets.

Records released cover geochronology results, epigenetic copper-tungsten mineralisation in the Aileron Province, lithology and petrology of the Rover Field, and x-ray diffraction data of shales in the greater McArthur Basin.

DIP 033 containing analysis and interpretation of historical AEM datasets as part of the CSIRO–NTGS McArthur Basin Project was released in September 2021. DIP 034, a compilation of petroleum geoscience data from the stacked Warburton, Pedirka and Eromanga basins, was also released in September 2021.

Corrections to the GIS datasets for the 1:250 000 mapsheets are ongoing. Revised data for PINE CREEK, DARWIN, ALICE SPRINGS, GREEN SWAMP WELL and HUCKITTA datasets have been released since April 2021. Digitising of legacy 1:100 000-scale geological maps is also progressing. GIS datasets for the Elkedra Region and Geology of the Northeastern Amadeus Basin maps were released in February 2022.

Reference

Rogers T, 2021. Improving access to geoscience information: Recent highlights: in *'Annual Geoscience Exploration Seminar (AGES) Proceedings, Alice Springs, Northern Territory, 20–21 April 21'*. Northern Territory Geological Survey, Darwin, 30–31.