

Unlocking the data vault: Accelerating delivery and increasing accessibility of data and drill core collections

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A key aim of the Northern Territory Government's \$9.5 million per annum *Resourcing the Territory* (RTT) program is to modernise its system of geoscience data provision, to support a digitally enabled industry. The Northern Territory Geological Survey (NTGS) is undertaking a range of projects designed to ensure its data is easily discoverable and extensively used, with the aim of facilitating increased resource exploration and investment (see also Close 2026, Rogers 2026). Projects include accelerating its industry legacy drilling and geochemistry data capture, improving access to geological materials (drill cores, samples and their associated data), improving the availability of large datasets for download, and continuing with open-file provision of mineral and energy company reports as per Northern Territory (NT) resources legislation. Herein, we provide a snapshot of the new industry data and geological collection materials available from NTGS.

Drill-core facilities and collection

NTGS core facilities located in Darwin and Alice Springs house drill cores submitted by industry as required by NT legislation, or acquired through Australian and Territory government drilling initiatives. The collection consists of 448 km of core and 376 km of cuttings, split between the two locations. The collection includes exploration and stratigraphic cores, along with cuttings from petroleum wells and water bores. The facilities also hold a small number of reverse-circulation (RC) drilling chips from the NT Government's competitive grants program, the \$4 million per annum *Geophysics and Drilling Collaborations* (GDC) program (see Mornane and Ellis 2026). The collection is available to clients for viewing and sampling. A condition on sampling is the provision to NTGS of the ensuing data and associated sample metadata. These data are made publicly available via NTGS core sampling reports, found on GEMIS (Geoscience Exploration and Mining Information System).

To assist explorers with selecting intervals of interest prior to visiting the core facilities, cores in the collection can be searched by viewing the COREDAT spatial layer on *STRIKE* (Spatial Territory Resource Information Kit for Exploration; strike.nt.gov.au). In addition, cores that have been scanned through the NTGS HyLogger™ program have associated high-resolution imagery, downloadable via the link in *STRIKE* along with basic datasets where available.

In 2025, the core facilities received ~8900 m of drill core submitted by industry and a further ~6200 m acquired via co-funded drilling under the GDC program (**Figure 1**). Diamond cores targeting a range of commodities were acquired from the western Aileron, western Warumpi, Musgrave and Warramunga provinces, the Pine Creek

Orogen, the East Tennant region and the Wiso, Georgina and Ngalia basins. All these are available at the core facilities for viewing and sampling.

Legacy drilling and geochemistry data capture

Since October 2017, NTGS has been undertaking a major program to capture all remaining legacy open-file drilling and geochemistry data from mineral exploration company reports from across the Territory (see Rogers 2017). The program began with data from the McArthur Basin, followed by capture for the Tennant Creek and Barkly regions and is now significantly advanced with data from the Pine Creek Orogen. NTGS is accelerating its data capture program, with the aim of completing the capture of all legacy drilling and geochemistry data from across the Territory by 2030.

This key pre-competitive dataset is providing explorers with immediate access to a complete and spatially located dataset of all historic drilling and geochemistry in areas of interest. This allows for rapid assessment and interpretation of past exploration in areas of interest, to underpin decision making on exploration programs.

In the Pine Creek Orogen, data capture for the MCKINLAY RIVER³ and PINE CREEK 100k mapsheet areas has been completed and the data are available for download via *STRIKE* or in Digital Information Package 001 (DIP 001; **Figure 1**). The MCKINLAY RIVER and PINE CREEK capture programs have resulted in the addition of >884 000 assays (consisting of surface and drillhole data) and >12 900 drillholes to the DIP 001 dataset. Data for KATHERINE and RANFORD HILL are currently being captured and will be delivered in the September 2026 release of DIP 001.

Provision of open-file reports and data, and improved access to large industry datasets

NTGS continues the process of making mineral and onshore petroleum reports and samples open file in accordance with NT legislation. NTGS is also working on improving access to large datasets associated with technical reports. The initial focus is on mineral reports and making datasets larger than 1 GB, previously available only on request, available for download via GEMIS.

Minerals

Open-file releases of more than 1240 reports were made in 2025 and the first quarter of 2026. Collectively, these reports provide geophysical survey data including results from over 151 000 line-kilometres of airborne and ground acquisitions and more than 20 000 ground-station measures. Also contained in these reports were 140 000 assay results

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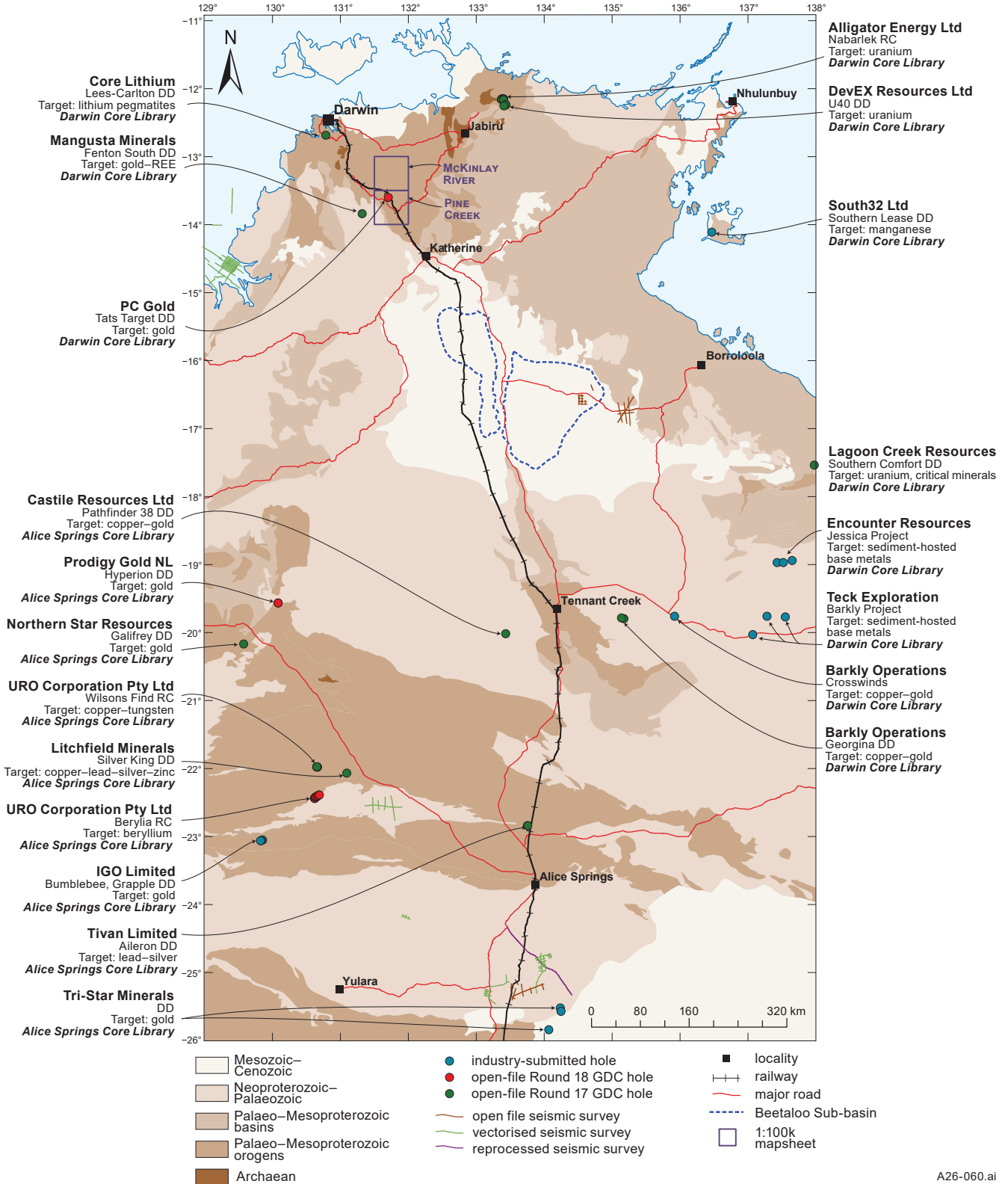
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³ Names of 1:100 000 mapsheets are shown in small capital letters, eg MCKINLAY RIVER

and over 400 kilometres of drilling data. All datasets are available for download through STRIKE and in DIP 001.

Additionally, large geophysical datasets (each >1 GB in size) associated with historical technical reports are now available for download via GEMIS. These data were previously available only on request from the NT

Government’s Minerals and Energy InfoCentre, which would provide a link to the NTGS FTP (file transfer protocol) site or request the client to provide a hard drive for upload. This project has resulted in an additional 3.08 TB of data now available for download from GEMIS.



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Petroleum

NTGS has continued the process of digitising and conversion to vector format of onshore and near-offshore petroleum data. In 2025 and the first quarter of 2026, a total of 1133 km of 2D seismic survey line data was converted to vector images, relating to the Amadeus and Ngalia basins, and onshore and near-offshore Bonaparte Basin. An additional ~207 line-km of seismic survey data was made open file for the Amadeus Basin, McArthur Basin and Beetaloo Sub-basin (**Figure 1**). Also provided in open file were well-completion reports for Amungee NW-2H, Amungee NW-3H, Carpentaria 4 and Shenandoah S-1/S-1H. Interpreted well-completion reports for Dukas 1/ST1, Kyalla 117 N2-1 and Kyalla 117 N2-1H ST2 were also made available as open file.

NTGS is also reprocessing AMSAN13B-06, a 152 km 2D seismic line extending northwest–southeast in the southeastern Amadeus Basin. Originally acquired by Santos (see Santos QNT Pty Ltd 2013; **Figure 1**) as part of the South Amadeus 2D Survey, reprocessing of this line aims to better resolve geology and structure in areas of seismic complexity in the line. This will provide insights on the subsurface architecture, geological evolution and resource potential of the southeastern part of this petroleum-producing basin.

Summary

NTGS has a strong focus on increasing the findability and accessibility of open-file industry datasets to ensure these can be easily consumed and integrated by explorers within their own platforms. Programs underway by NTGS to meet these objectives include increasing the visibility of the NTGS drill-core collection, fast-tracking legacy drilling

and geochemistry data capture and ensuring all large mineral datasets are directly downloadable from GEMIS or STRIKE. In the future, we will also identify large datasets associated with petroleum reports that can be made available for download to increase their accessibility to explorers.

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