

ASX ANNOUNCEMENT

18th September 2025

NSW Doherty Project Exploration Update

HIGHLIGHTS

- Advanced geophysical filtering and modelling to refine Mn prospectivity models
- HyLogger-3 spectral scanning and petrographic studies underway to characterise high grade Mn deposits
- Geochemical and mineralogical analyses to validate emerging model
- Program designed to enhance exploration targeting and unlock district-scale potential

Great Dirt Resources Limited (ASX:GR8) (“Great Dirt” or “the Company” is pleased to provide an update on its ongoing exploration and research programs at the Company’s 100% owned Doherty Manganese Project in NSW, within tenement EL9527. These programs are designed to enhance geological understanding and refine manganese prospectivity models at Doherty to unlock district-scale potential.

The objective is to develop a refined mineral system model that integrates geochemical, geophysical, and petrological datasets to test whether the Doherty manganese deposit’s characteristics may reflect an exhalative origin rather than solely secondary enrichment.

This multi-phase program will combine advanced geophysical data processing, HyLogger-3 spectral scanning, geochemical and petrographic analyses with hypothesis-driven geological research to improve exploration targeting. The initiative aligns with Australia’s Critical Minerals Strategy 2023–2030, supporting the identification and development of manganese resources for metallurgical and battery-grade applications. Importantly, eligible research associated with these programs may be claimable under the Australian Governments Research and Development Tax Incentive Scheme.

Managing Director Marty Helean commented:

“Ongoing work programs at the Doherty Project continue to strengthen exploration and research efforts, with recent activities enhancing both targeting precision and the genetic understanding of mineralisation. These advancements are expected to unlock further value across the broader project area.”

Geophysical Data Filtering and Review

As part of our commitment to leveraging advanced geoscientific methods the company has commenced a multi-faceted review focused on applying advanced filters to enhance magnetic and radiometric data. These state-of-the-art proprietary filtering techniques should highlight structures and possible intrusive influences. The enhanced data sets, combined with limited gravity data will be integrated into existing geological and geochemical data to develop a manganese prospectivity model.

Geophysical Modelling and Structural Interpretation

Aeromagnetic, radiometric, and gravity data will be analysed to detect deep-seated structures that could have functioned as conduits influencing hydrothermal fluid flow. This data will be integrated into a 3D model, refining the understanding of subsurface mineralisation controls. The team will apply advanced geophysical inversion techniques to test whether detected anomalies corresponded to prospective manganese mineralisation zones.

HyLogger-3 Spectral Scanning of RC Drill Chips and Petrographic Studies

GR8 successfully completed its maiden drilling campaign, comprising 19 holes for a total of 1,701m (ASX release 28 January 2025).

Highlights include:

- Manganese zones up to 5m wide traced to depths exceeding 30 metres vertical.

Key intercepts include:

- GRCD015: 5m @ 21.30% Mn from 22m including 2m @ 29.65% Mn
- GRCD007: 3m @ 18.74% Mn from 25m including 2m @ 24.98% Mn, including 1m @ 33.20% Mn
- High grade intersections, including single metre intervals of 36.10% and 33.20% Mn
- Evidence of multiple, shallow, stacked manganese lodes from shallow lode discovery above Junior lode (GRCD007).

The RC drill chips from the 19 holes have been delivered to the safe custody of the W. B. Clarke Geoscience Centre managed by the Geological Survey of New South Wales. The drill holes samples are scheduled to be analysed by the HyLogger-3 system advanced spectroscopic technology.

The HyLogger-3 system is an advanced spectroscopic technology that uses semi-automated drill sample tray handling to rapidly identify and map the minerals. Measurements are made using non-destructive visible and infrared light transmitted and reflected from the sample surface, from a sampling spot area about 10 mm in diameter. The system can identify the spectra of many mineral groups, if present in appreciable amounts within a sample.

The HyLogger-3 includes state-of-the-art Fourier Transform Spectrometers that continuously measure calibrated spectral reflectance from nominal 10 by 18 mm fields of view. These spectra are in turn passed through a series of automatic and semi-automatic pre-processing and mineralogical unmixing algorithms. These output a variety of mineralogical and image products for use by scientists in many branches of the earth sciences. The HyLogger-3 delivers imaging and hyperspectral characterisation of RC drill chips in their original trays and the interpretation of their contained oxide, carbonate, hydrous and anhydrous silicate mineralogy.

The HyLogger-3 incorporates a high-resolution digital camera with visible near-infrared (VNIR, 380–1000 nm) and shortwave-infrared (SWIR, 1000–2500 nm) sensors capable of detecting common ore and alteration minerals (e.g. iron oxide, kaolin, mica, smectite, chlorite, epidote, amphibole, and sulphate groups). It also includes a thermal-infrared (TIR, 6000-14500nm) sensor. The measurement of TIR wavelengths allows the detection of common rock-forming minerals in drill samples (e.g. feldspar, quartz, pyroxene, garnet, olivine, carbonate, and phosphate groups), as well as several hydroxyl-bearing minerals also measurable at VNIR and SWIR wavelengths.

This methodology has the potential to determine the nature of the alteration footprint associated with the high grade manganese deposits.

Geochemical and Mineralogical Analysis

Fieldwork is currently underway at the Girraween and Basin prospects to map and sample high grade manganese occurrences. XRF and petrographic studies from these deposits will be used to test the emerging mineral exploration model.

Mineral System Research

In parallel, the Company is undertaking a hypothesis-driven investigation to determine whether stratiform manganese deposits in the region originated as primary exhalative manganese oxide systems, rather than through conventional supergene enrichment processes.

This research integrates geochemical assays, geophysical refinements, and structural modelling to reconstruct the 3D architecture of hydrothermal conduits within accreted terranes. If validated, this model may indicate the presence of deeper, well-preserved manganese oxide zones with implications for resource potential.

These initiatives represent a strategic step forward in our exploration program aligning with our goal to delineate potential targets and unlock the full potential of our tenements.

Authorised for release to the ASX by the Board of Great Dirt Resources LTD.

For further information, please visit or contact:



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About Great Dirt Resources Ltd

Great Dirt's **Doherty and Basin Projects** are contained within EL 9527, located near the Barraba township, in northern NSW. These projects are prospective for high-grade manganese, with both projects having produced metallurgical and battery grade manganese historically. The Doherty Project comprises the old Doherty and Junior Mines, plus other workings and occurrences of manganese. The Basin Project contains several smaller manganese workings.

From 1941, for two decades, mines of the Doherty Project produced around 9,000 tonnes of battery and metallurgical grade manganese, both from opencut and underground operations. The battery grade ore was delivered to Eveready in Sydney for use in dry cell batteries, the metallurgical grade ore was purchased by BHP for use in steel production.

Great Dirt believes that historical work, while having discovered manganese, is unlikely to have located all sources in the area. Floaters, large rock fragments in the soil profile, of high-grade manganese ore reported outside known mine areas are a direct indication of unidentified manganese mineralisation. Additionally, notes on the mineral occurrences of the area refer to extensions and deposits along strike that were not mined.

A program of modern, systematic, geochemical and geophysical surveys will test known targets and their extents and could locate previously unrecognised blind deposits. Subsurface geophysical methods and drilling is likely to yield further targets that could be developed into projects to produce metallurgical and battery grade manganese.



Great Dirt has significantly expanded its manganese exploration portfolio following the acquisition of two tenements (E45/6949 and E45/6950 – the '**Nullagine Project**'), ~ 50km northeast of Consolidated Minerals Woodie Woodie manganese mine, in the Shire of East Pilbara, Western Australia.

Following a successful ballot application and exploration licence grant, Great Dirt has expanded its WA portfolio to include a position in one of the most prominent lithium regions in Western Australia and worldwide. Tenement E45/6863 – '**Pilbara Project**' is located approximately 43km from Pilbara Minerals (ASX:PLS), Pilgangoora Lithium Project, one of the largest hard-rock lithium deposits in the world.

Competent Person's Statement

Information in this announcement that relates to exploration results is based on and fairly represents information and supporting documentation prepared and compiled by Mr Michael Leu, who is a Member of the Australian Institute of Geoscientists and a Member of the Australasian Institute of Mining and Metallurgy. Mr Leu is the geological consultant for Great Dirt Resources Ltd. Mr Michael Leu has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person, as defined in the 2012 Edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves. Mr Michael Leu consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

No New Information

Except where explicitly stated, this announcement contains references to prior exploration results, all of which have been cross-referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements.

Forward Looking Statement

This report contains forward looking statements concerning the projects owned by Great Dirt Resources Ltd. If applicable, statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties and other factors. Forward looking statements are based on management's beliefs, opinions and estimates as of the dates the forward looking statements are made and no obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.