Geophysics and Drilling Collaborations Program INNOVATIVE TARGETING – Final Report

Round 16 - Geophysics and Drilling Collaborations program

Title Page

Recipient (Company Name)	**DPG Resources Australia Inc (DPG), a wholly owned subsidiary of GPM Metals Inc, a company listed on the Toronto Venture Exchange.**
Project title	**Walker River Airborne Gravity Gradiometry (AGG) survey**
Granted exploration licence number(s) where this work was undertaken	**EL 385, 24305 & ELA 30956** **The Walker River Project in eastern Arnhem Land has been held under application (EL 385) by Rio Tinto Exploration Pty Ltd since 1972. The surrounding area was granted to DPG as EL 24305 in late 2015. In 2020, application was made for ELA 30956 covering the area to the SW of EL 24305. An initial consultation meeting with Traditional Landowners was facilitated by the Northern Land Council in September 2021 where DPG Resources was granted consent to negotiate access.**
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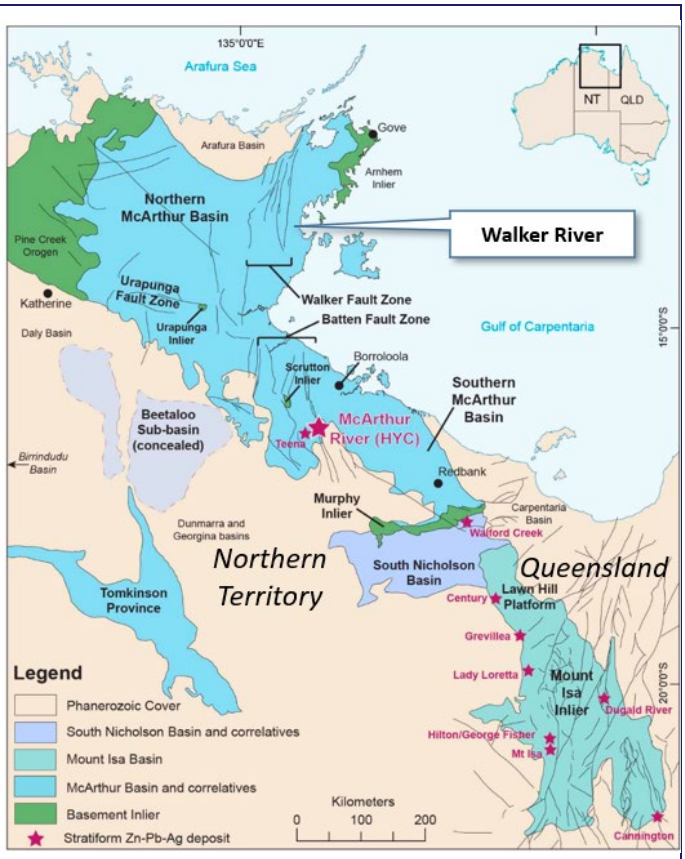
Primary contact	**Peter Walsh CEO, DPG Resources (04 3238 9210)**
Date of survey	**27-30 October 2023**
Date of submission	**7 February 2024**
250k Map sheet	**Blue Mud Bay SD 53-7**
Datum	**UTM Zone 53S projection, referenced to WGS84**

Copyright statement

Summary/Abstract

Late Paleoproterozoic rocks in northwest Queensland and the Northern Territory host world-class stratiform sediment-hosted Zn-Pb-Ag deposits. These orebodies occur in intracontinental rift or rifted margin (marine) basins. Host rocks to these deposits are carbonaceous and/or pyritic black and grey (dolomitic) siltstone, mudstone and shale, often with a significant clastic carbonate (dolomite) component. The same lithologies occur within the McArthur Basin which hosts the world class HYC deposit and the Walker River Project, ~300 km to the north.



Mineralisation at HYC is in part controlled by the Batten Fault Zone, a prominent north-south aligned eastward-deepening half-graben (aka the Batten Fault Trough). The Walker Fault Trough, a north continuation of the Batten Fault Trough, hosts the Walker River Project. The lithological and structural settings for the Walker River Project are thought by NTGS and Geoscience Australia to be analogous to the HYC deposit.

Economic stratiform sediment-hosted Zn-Pb-Ag deposits are often associated with recognisable residual gravity responses, either directly related to mineralisation or associated pyritic sediments. Gravity is therefore a primary exploration tool.

Government gravity stations have been acquired over the project area at roughly a 4 km density and due to land access restrictions, only one "exploration" gravity survey has been conducted on the project since the discovery of the Walker Gossan in 1972 (2.7% Pb from rock chip). The 2016 gravity survey consisted of 160 stations acquired on six widely spaced traverses at 100 m spacing. Despite these limitations three unexplained gravity and/or soils geochemical anomalies were identified in structurally favourable locations.

The Walker River AGG survey (Figure 1) over the highly prospective project area has expedited the geological knowledge and the exploration potential of the area. Several targets of interest have been identified from the AGG survey. Due to the short survey duration, the airborne survey minimised the impact to the local community and negate the need for extensive ground gravity surveys (to acquire the equivalent coverage) and the precursor archaeological clearance campaign/s. Discussions with local communities over access to AGG features of interest will commence shortly.

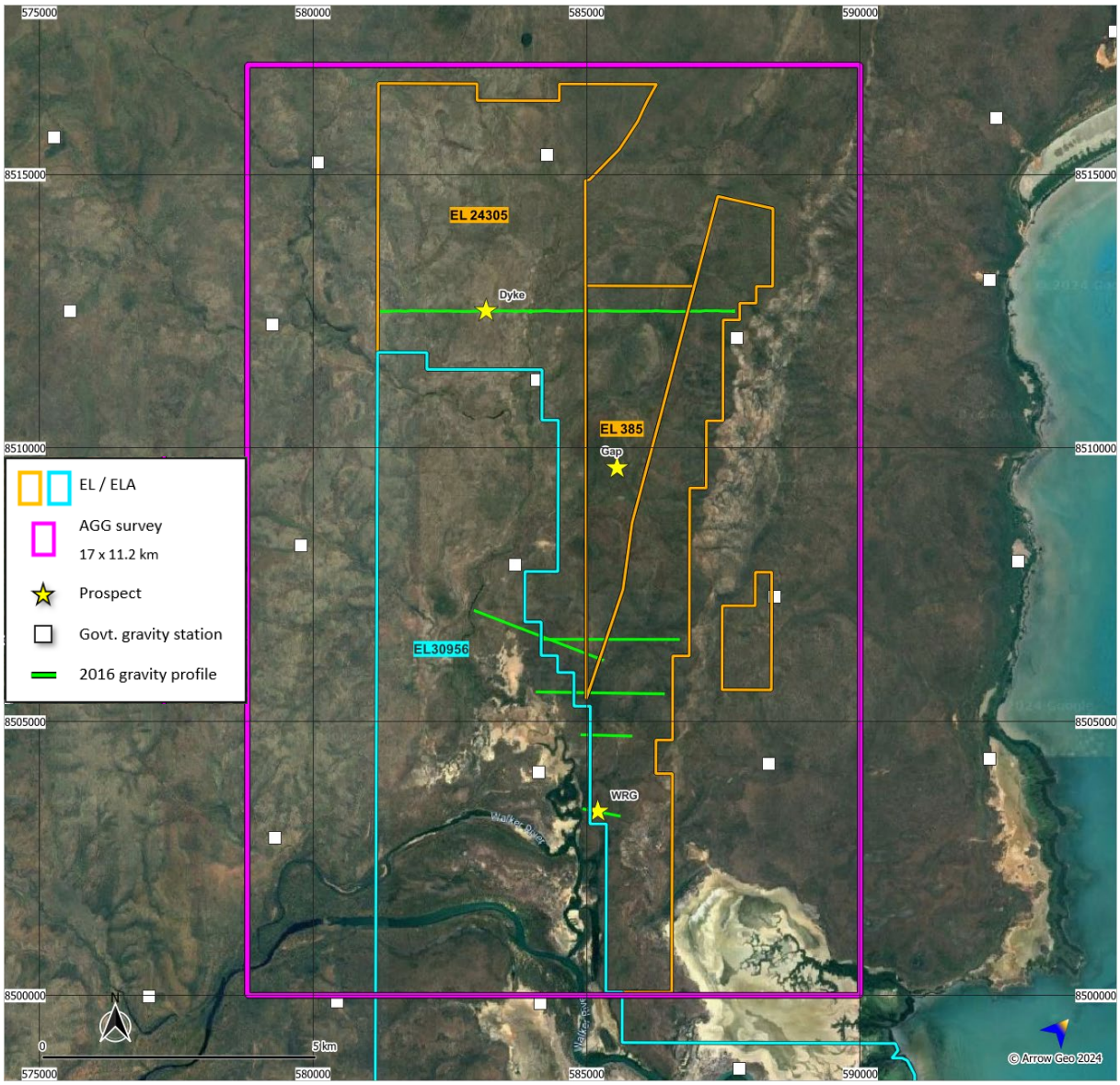


Figure 1 AGG survey layout with tenement, elevated geochemical and/or gravity anomalies with the 2016 gravity traverses.

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Introduction

The Walker River group of EL and ELA are located in eastern Arnhem Land, approximately 180 km SW of Nhulunbuy and 700 km east of Darwin. The tenement lies within the Arnhem Land Aboriginal Land Rights Act Land. In 2023, DPG was successful in obtaining funds from the NTGS, as part of the Geophysics and Drilling Collaborations Program - Innovative Targeting; Round 16, 2023–2024, to fly an Airborne Gravity Gradiometry (AGG) survey over the prospective Walker River area.

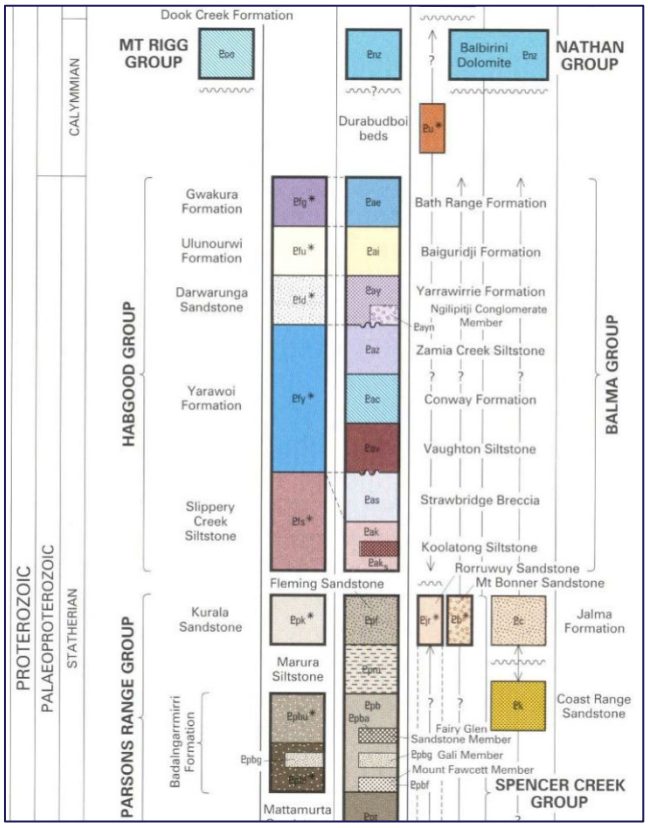
The aims of the AGG survey were twofold. Firstly to acquire high quality gravimetry over the project area with minimal impact to the Traditional Land owners and secondly to fast track the identification of geological features warranting further exploration.

Surveying with the FALCON® AGG system was completed over a four day period in late October and final data were delivered to DPG in January 2024. A QA/QC review of the data indicated the data is of high quality and this was supported with comparisons to previously acquired ground gravity traverses in the area.

The survey has enhanced the geological understanding of the area and has identified areas of exploration interest.

Regional context

The Walker Gossan Project area lies within the McArthur Basin which extends from the Queensland border to western Arnhem Land. The McArthur Basin sequence comprises of stratigraphic groups with similar ages, stratigraphic positions, rock types, and style and composition of volcanic rocks. The sediments are dominated by shallow-water sandstones and evaporitic, stromatolitic carbonates.



Locally, the Coast Range Sandstone forms the bulk of the Coast Range. It comprises a white, medium to coarse-grained, thick-bedded quartz sandstone. Lenticular pebble or cobble conglomerates occur at the base, unconformably overlying the Grindall Formation and Bradshaw Complex and rhyolite dykes and extrusives (refer to Figures 3 & 4).

The Jalma Formation is a sequence of sandstone, mudstone and minor carbonate. The basal pebble to cobble conglomerate lies unconformably on the Coast Range Sandstone and is unconformably overlain by the Balbirini Dolostone. The lower moderately resistant unit crops out as low undulating ridges of ferruginous sandstone, interbedded with silicified and leached carbonate and ooidal ironstone.

The Balbirini Dolostone comprises interbedded, silicified cherty dolomite, gently dipping to the WNW and forms the range of low hills to the west of the southern Coast Range. On the western side of the range, the slope is considered to largely follow geologic dip and the dolomite is intensely ferruginised.

Geological and structural analysis undertaken by Mark Hinman, of Hinman GeoSolutions Pty Ltd, indicated that there is either a condensed McArthur Group package along the eastern margin of the

Northern McArthur Basin at the particular stratigraphic level of the base-metal-productive "Barney" package (found at HYC), or significant Balbirini Formation onlap over the regionally-prospective "Barney" stratigraphy.

Structurally, the area is situated on the edge of a basement high, east of the Koolatong Fault, which lies ~8 km to the west of the AGG survey, (refer to Figure 5). The basement high is composed of tightly folded rocks of the Grindall Formation. These were interpreted to have been intruded by granites of the Bradshaw Complex and metamorphosed to greenschist facies. The younger Proterozoic sediments that host the Walker River Project are only mildly deformed on the eastern side of the Koolatong Fault.

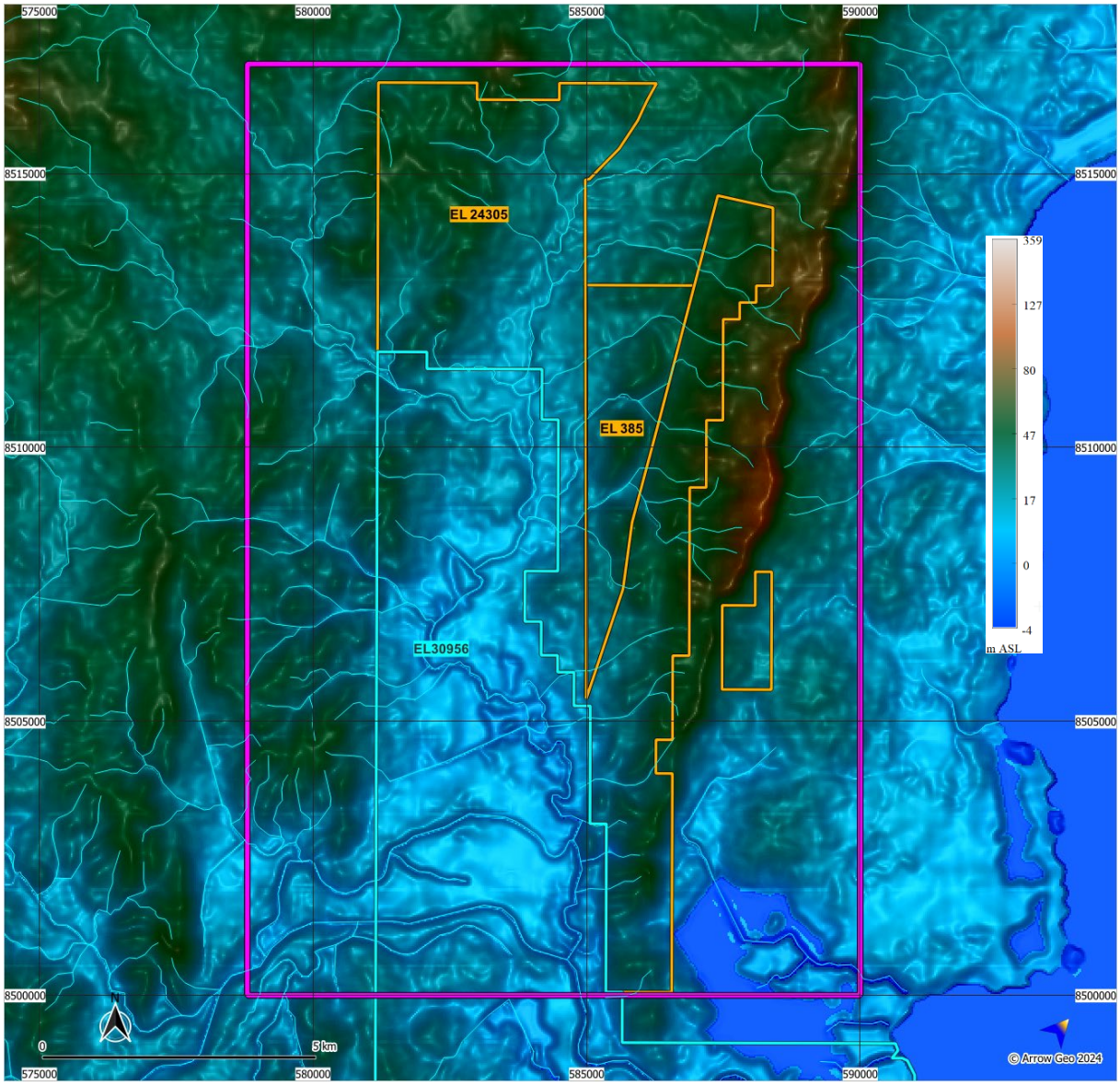


Figure 2 Hydrological Enforced 1 second DEM with drainage over the Walker River project area EL and ELA.

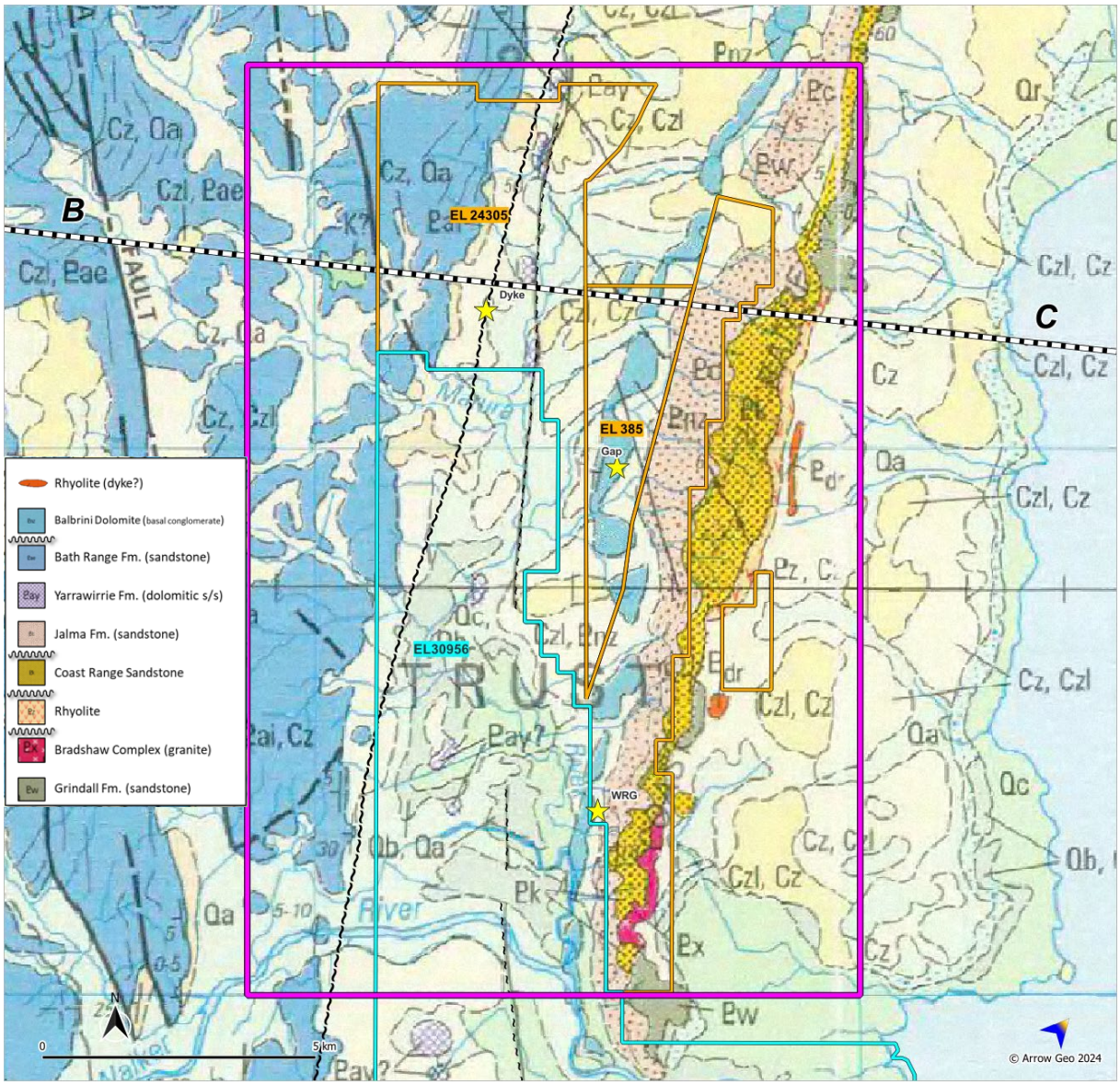


Figure 3 AGG survey layout on 250k Blue Mud Bay geology sheet (Haines, P.W. et al 1998). The inferred NNE oriented major fault (passing beneath the Dyke prospect) does not appear on the 1:250k geology map. It has been taken from the 1:2.5M "Geo Faults" GIS layer, (available online from the NTGS STRIKE web site), and added to this figure.

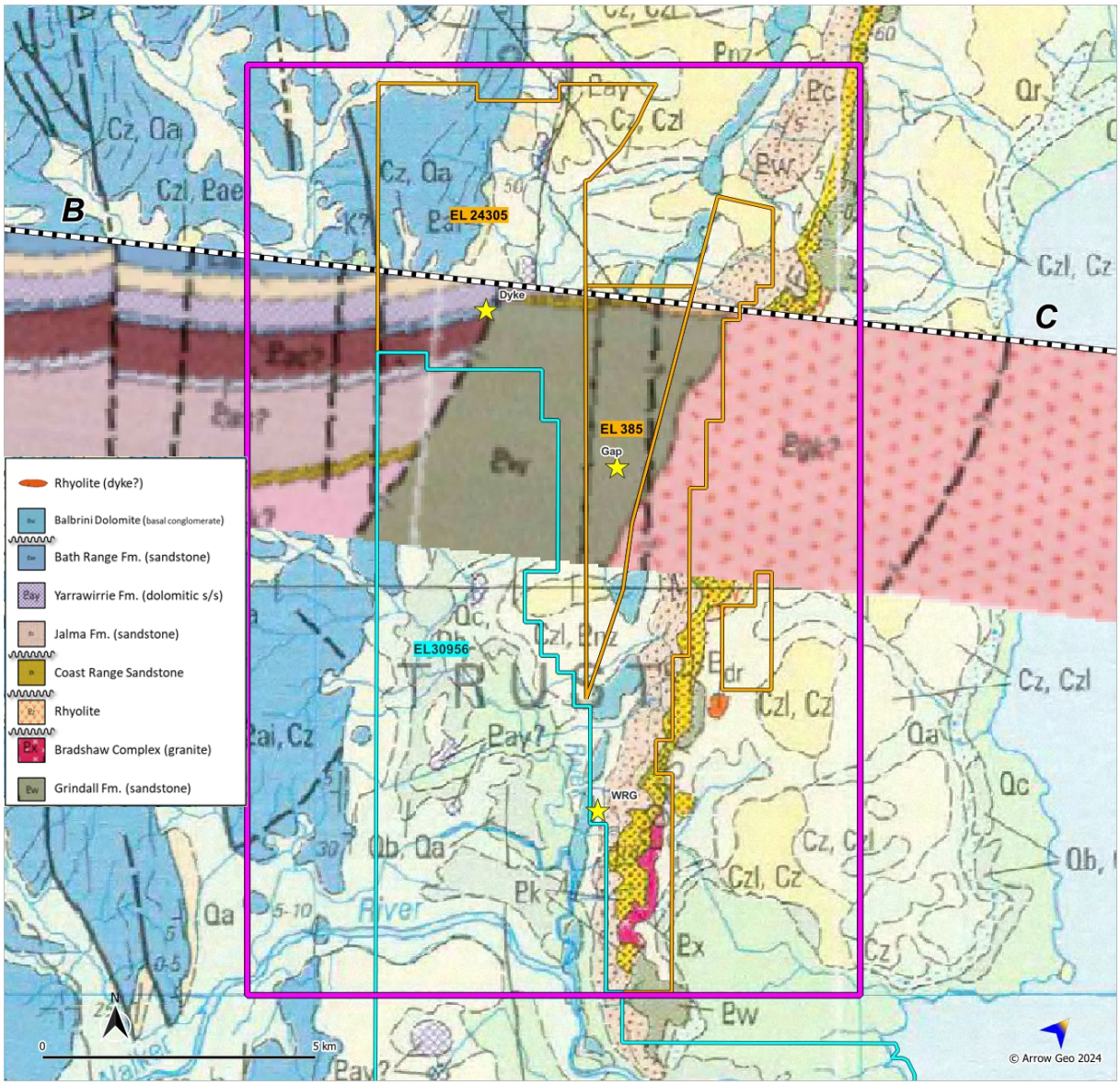


Figure 4 Interpreted NTGS geological cross section B-C (on 250k map sheet) depicting a major basement fault (part of the Walker River Fault Zone) in close proximity to the coincident gravity, radiometric, Thallium (soil) and vegetation anomaly at the Dyke prospect (refer to Figure 4). The Gap and Walker Gossan prospects were interpreted to lie close to the fault zone separating the Bradshaw Complex and Grindall Formation.

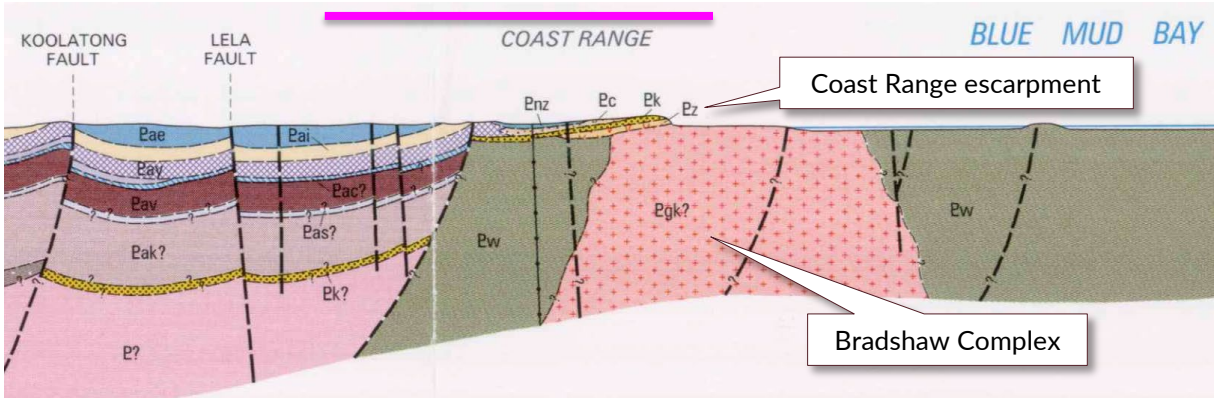


Figure 5 Interpreted NTGS geological cross-section B-C (refer to Figure 4) with the approximate spatial extent of the AGG survey represented by the magenta line.

Previous Exploration

A 1972 CRAE (now Rio Tinto Exploration- RTX) reconnaissance stream sediment, soil and rock chip geochemical sampling program returned elevated Pb values of up to 2.7% Pb (rock chip) from outcrop of a silicified, ferruginous gossan hosted within the Balbirini Dolostone. Further work on the Walker Gossan was limited due to land access restrictions.

In 2004 a small portion of the original ELA 385 was granted to RTX. The 2004 field season was directed at locating strata bound base metal mineralisation however soil with limited rock chip and stream sediment sampling of the ferruginous dolostone did not identify anomalous metal levels. In 2005, an auger drilling campaign aimed to test the bedrock adjacent to the outcropping Balbirini Dolostone also failed to return anomalous geochemical signatures of Pb-Zn or bauxite mineralisation.

No further ground exploration was undertaken on the Walker River Project however, RTX were granted a number of ELs in 2006 including 24305. Under a 2015 earn-in agreement, DPG took on operation of the RTX tenement and conducted an IP survey which showed a strong chargeable dipping steeply anomaly in the Jalma Formation. The "gossan" was associated with a shallow flat lying anomaly.

In the following year, DPG conducted a soil and rock chip sampling campaign, geological mapping, an airborne magnetic/radiometric survey followed by modest gravity survey of six wide-spaced traverses predominantly around the Walker Gossan (Figure 6). In addition, DPG conducted a drilling program of seven diamond and 11 RC drill holes (954 and 1228 m respectively) which drilled through the Balbirini Dolostone into the Jalma Formation. The results were generally disappointing with a maximum Pb assay returned of 4587.7 ppm over a 9 m interval starting from 35.5 m below surface.

The 2004 RTZ soil samples showed a discrete and large Thallium (+Manganese) anomaly at the "Gap" prospect, on-strike to the north from the Walker Gossan; previous research in the MacArthur River Basin (e.g. Large et.al., 2000) has established that even weakly anomalous Thallium is detectable for several hundred meters above "SEDEX" type deposits in the overlying sedimentary rocks.

Re interpretation of soil geochemistry and geophysical datasets was undertaken in 2022 leading to the generation of the Gap and Dyke prospects. The Gap prospect lies close to an unnamed interpreted west dipping fault separating the older and upthrust Grindall Formation (Pw) and Coast Range units on the east from younger sediments of the Balma Group, (Haines, P.W. et al 1998). Within the Walker River project area, this unnamed fault is concealed beneath Quaternary sediments and therefore not mapped on the 250k Blue Mud Bay geological map. To facilitate later discussion, the fault has been overlain on Figure 3. The fault is prominently shown in the accompanying cross-sections (refer to Figures 4 & 5).

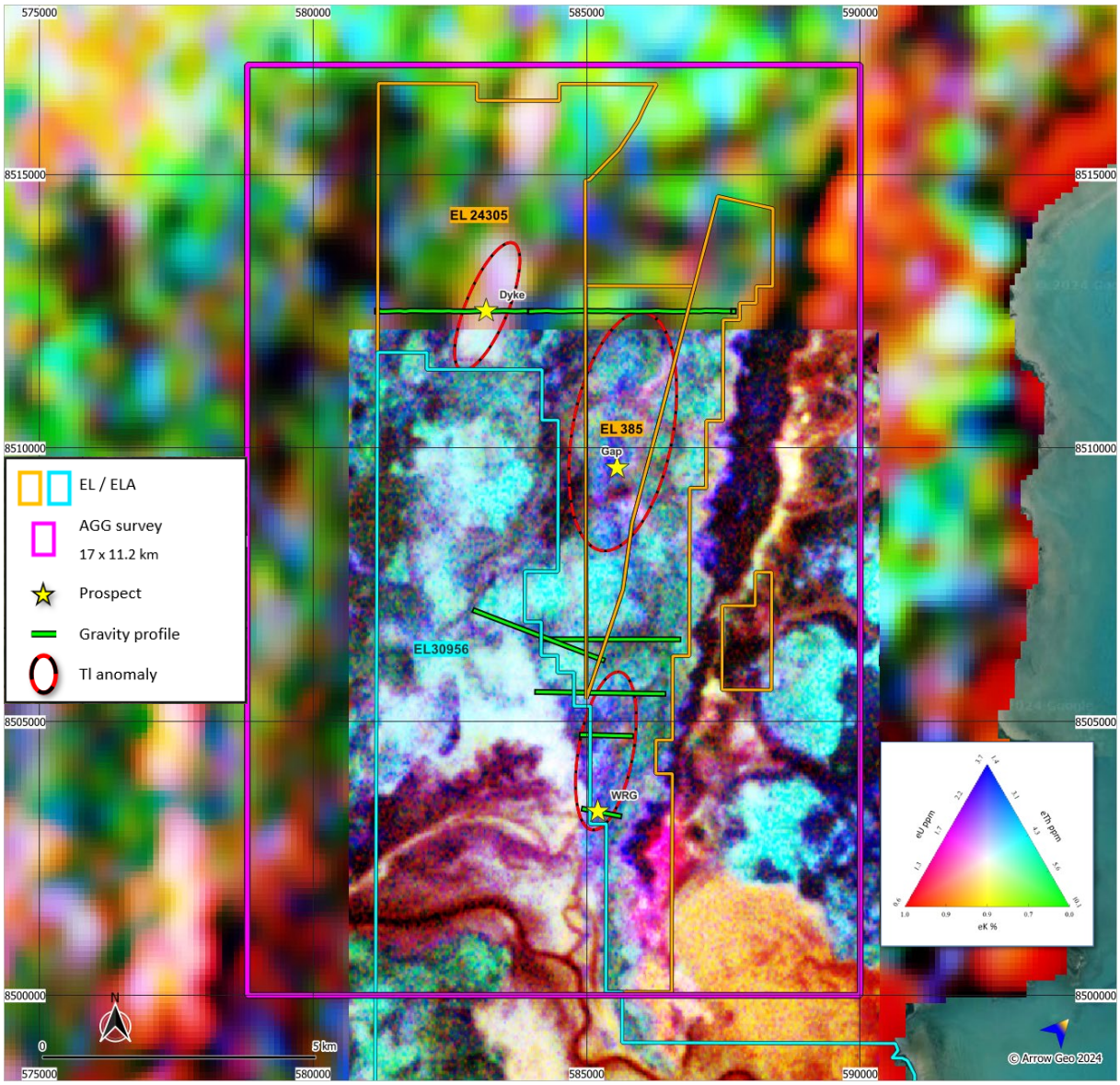


Figure 6 Government and DPG ternary radiometric images of the Walker River Prospect area with previously identified geochemical anomalies and ground gravity profiles. The radiometrics suggest thin cover occurs over the three original prospect areas. The outcropping portion of the Bradshaw Complex is easily identifiable as the hot pink (potassium) zone SE of the WRG (Walker River Gossan) prospect.

8. Exploration concept

Structurally controlled, stratiform, (dense) base metal deposits are ideally suited for detection with Airborne Gravity Gradiometry (e.g. Teena discovery in 2013) as the method is designed to detect discrete density variations. Flat-lying host sediment packages reduce the amount of background "geological noise" allowing for the responses of economic mineralisation to be more easily detected.

Re processing and interpretation of the lone exploration scale gravity survey conducted over the Walker River Project was able to delineate anomalies in structurally favourable locations. Due to the paucity of data in the project area, the regional context of these gravity anomalies was unknown. The AGG survey was flown to determine the relevance of the existing gravity anomalies and potentially delineate other responses such as tracing density variations due to lithological changes and structural overprinting.

Survey details

Xcalibur Multiphysics (Xcalibur) conducted a high-sensitivity aeromagnetic and FALCON® AGG survey over the Walker River survey area under contract with GPM Metals Inc. Production flights took place during October 2023 with the first flight taking place on October 27th and the final flight taking place on October 30th. To complete the survey area coverage a total of 4 production flights were flown.

General survey details are summarised in Table 1 below. Further survey specifications are available in the Xcalibur logistics report attached to this document.

The AGG datasets were assess by Mark Dransfield Consulting and found to be of high quality. This was later corroborated with comparison to the 2016 ground gravity traverses.

Survey Specifications

Total Kilometres	*km*	856
Survey size	*km*	17.0 x 11.2
Clearance Method		Drape
Minimum Drape Height	*m*	80
Traverse Line Direction	°	0/270
Traverse Line Spacing	*m*	250
Traverse Line Length	*km*	11.2
# Traverse Lines		69

Datum	UTM Zone 53S projection, referenced to WGS84	
SW vertex	578 800 E	8500 000 N
NW vertex	578 800 E	8517 000 N
NE vertex	590 000 E	8517 000 N
SE vertex	590 000 E	8500 000 N

Table 1 – Walker River AGG survey specifications

Results and interpretations

While the FALCON® system directly acquires the NE and UV curvature components of gravity, these are transformed to the vertical (down) direction (aka GDD or Gravity Down Down) which is essential the first vertical derivative of gravity. The data is then integrated to produce gD which is equivalent to Gz, i.e. gravity as typically acquired by ground gravity instruments.

Xcalibur provided "non-conformed" and "conformed" datasets where the later dataset is improved by incorporating ancillary information from of the Geoscience Australia "2019 Australian National Gravity Grids" (ANGG19). As a result the conformed data have longwave regional trends removed, e.g. compare Figures 7a & 7c. The long wavelength removal is less prominent in the GDD datasets as the long wavelength has largely been removed already, e.g. Figures 8a & 8c.

Typically AGG data is provided with a Bouguer correction density of 2.67 g/cc (average density of the crust). In consultation with GPM, the data were also corrected with an unrealistic[1] bedrock density of 1.75 g/cc in an effort to subdue a prominent gravity low, (refer to Figures 7b, 7d, 8b & 8d), coincident with the Coast Range topographical escarpment and a thin zone of rhyolite (Ꝑz on Figure 5). Alternatively, this linear gravity low may represent a fault zone. The 2.67 g/cc conformed gD grid (Figures 7d & 9) was considered the most appropriate datasets for comparison to the 2016 gravity.

[1] For reference, unconsolidated sand has a density of ~1.75 g/cc.

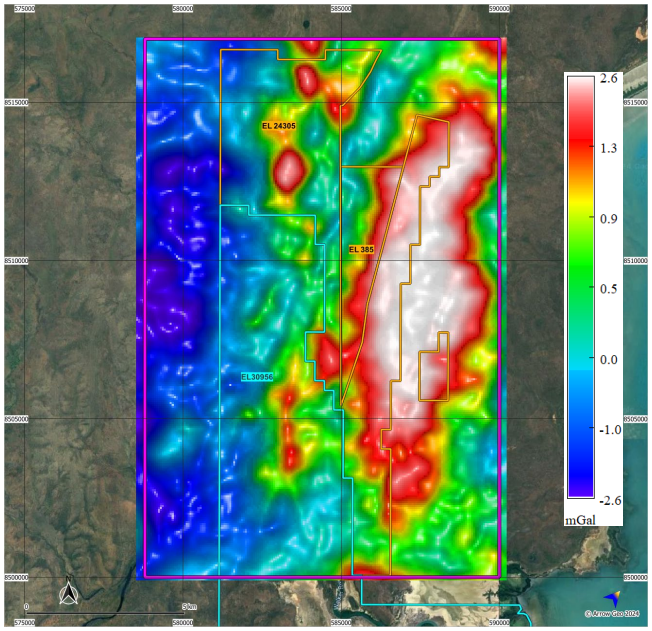


Figure 7a Nonconformed gD @ 1.75 g/cc.

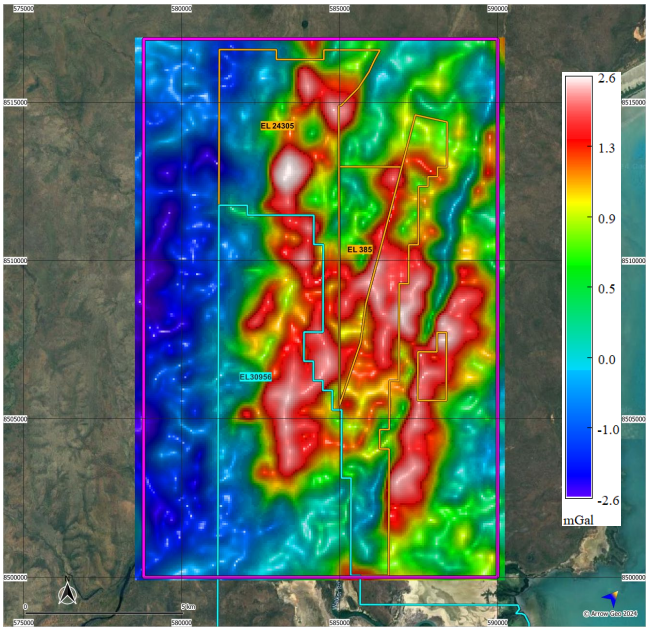


Figure 7b Nonconformed gD @ 2.67 g/cc.

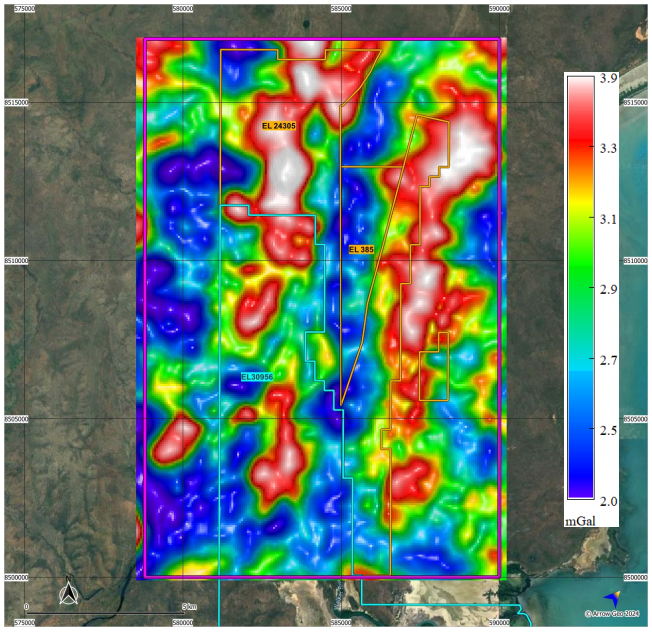


Figure 7c Conformed gD @ 1.75 g/cc.

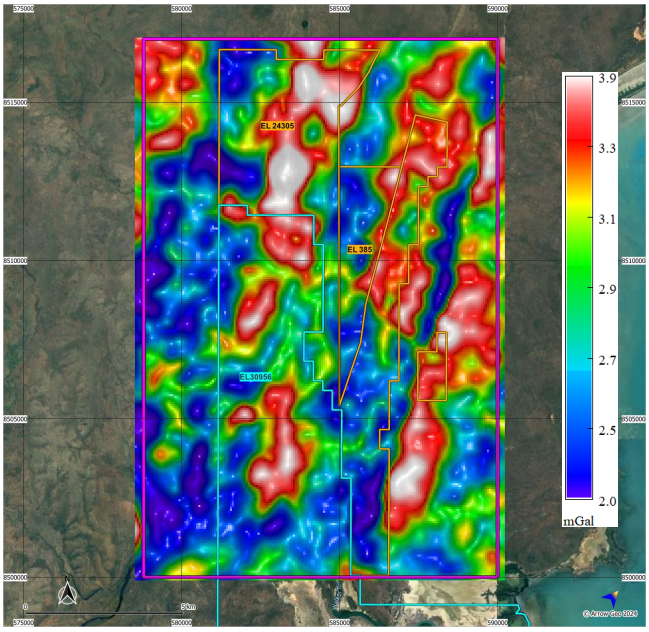


Figure 7d Conformed gD @ 2.67 g/cc.

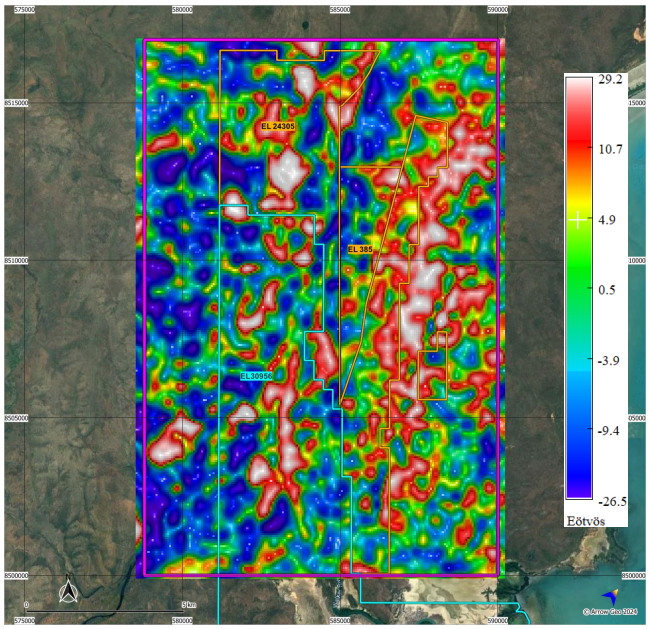


Figure 8a Nonconformed gDD @ 1.75 g/cc.

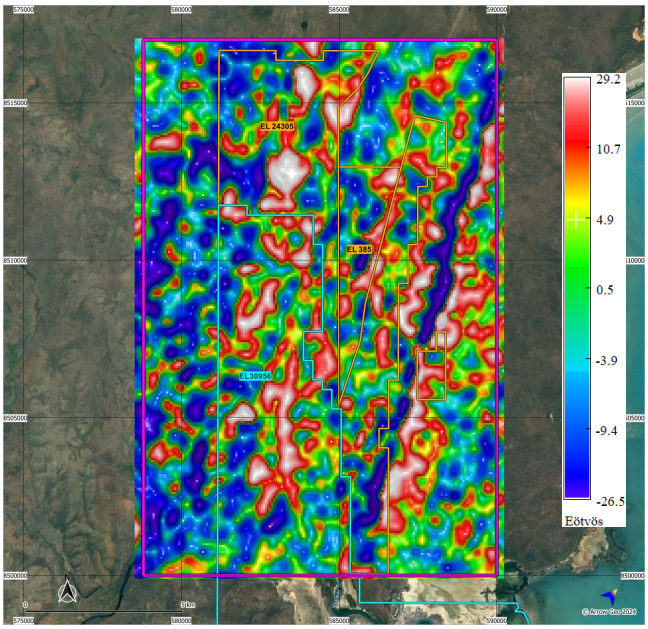


Figure 8b Nonconformed gDD @ 2.67 g/cc.

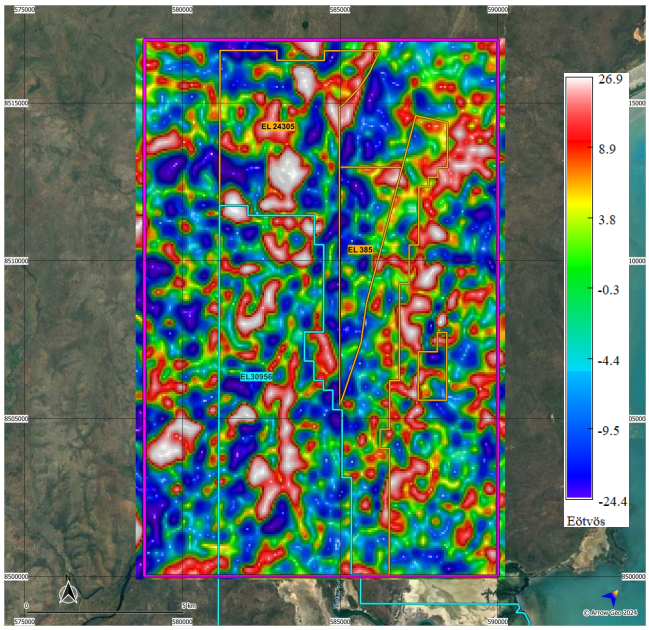


Figure 8c Conformed gDD @ 1.75 g/cc.

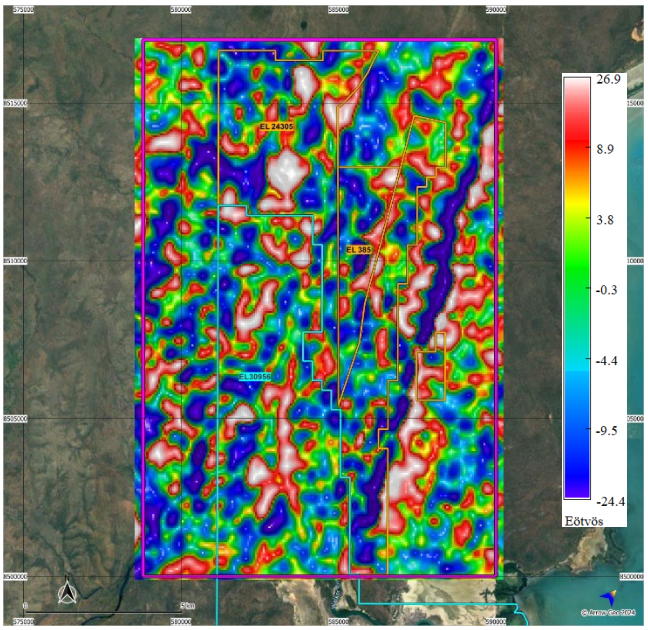


Figure 8d Conformed gDD @ 2.67 g/cc.

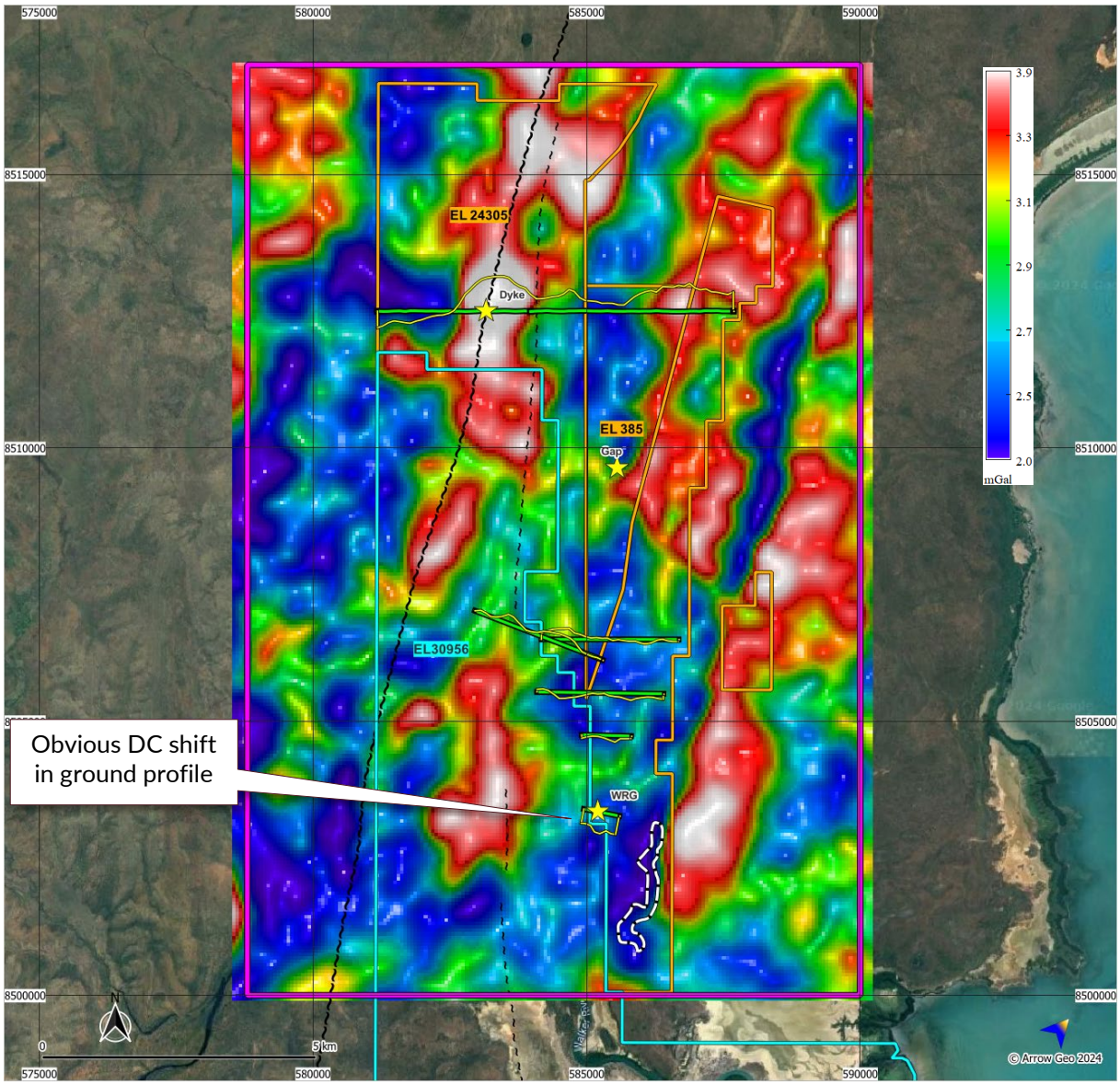


Figure 9 Conformed gD @ 2.67 g/cc with ground gravity traverses (green) and associated stacked Gz profiles (yellow). The white dashed polygon represents the approximate location of the Brashaw Complex as mapped on the 250k Blue Mud Bay geological map sheet.

With the exception of the ground gravity traverse at WRG, all other features, including the 2 mGal ground gravity response at the Dyke prospect, are intricately captured by the airborne survey. The DC offset on the short WRG gravity profile had originally been interpreted as a possible indication of a low density alteration associated with a yet to be discovered alteration halo. The AGG survey reveals the profile has been affected by an erroneous processing DC shift by the ground gravity contractor. As such, the alteration hypothesis at WRG is now abandoned.

Zones of higher density appear to be controlled by the NNE oriented faults in the area which may represent areas of silica alteration associated with economic mineralisation. These areas are the focus of further exploration. The low density zone coincident with the Coast Range escarpment and the rhyolite may represent an unmapped fault zone. Younger cross-cutting NW oriented faults are also evident in the AGG data.

The AGG survey strongly suggests the Bradshaw Complex is not as wide spread as interpreted in the Blue Mud Bay geological cross-section (refer to Figures 4 & 5).

Conclusions

AGG offers a rapid and non-intrusive means to acquire high quality gravimetry data. The Walker River AGG survey has provided DPG a greater understanding of the geological structures in the project area and has highlighted areas warranting further attention.

Based on the comparison to the limited 2016 ground gravity dataset, the AGG dataset is considered by DPG to be vastly superior resource which has fast tracked future exploration.

References

Haines, P.W. et al 1998, Blue Mud Bay, Northern Territory – 1:250,000 Geological Series SD 53-7. Northern Territory Geological Survey

Large, R.R. et al 2000, Lithogeochemical halos and geochemical vectors to stratiform sediment hosted Zn–Pb–Ag deposits: part 2. HYC deposit, McArthur River, Northern Territory. Journal of Geochemical Exploration V68 Issue 1-2 pp 105-126

Xcalibur Muliphysics, FALCON® Airborne Gravity Gradiometer and Magnetometer Survey Walker River, Northern Territory. Project Number: 2205127. Logistics and Processing Report

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Xcalibur Multiphysics logistics report

Project Number: 2205127

Xcalibur Job 2205127 Logistics Processing Report Walker River.pdf