

MARiNDiMETALS
LTD

**Group Annual Report GR179/12,
Tenements EL28006, EL28007, EL28951, EL28952 and
EL25313**

1st of October 2017 to 30th September 2018

Caranbirini Project

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ABSTRACT

During the reporting period 34 stations of infill gravity was completed around previously defined gravity anomalies I and A. A total of 662 soil samples were taken mostly on the western side of the project on a 400x400m grid. No anomalous base metals were found. A drill program was completed for 2429.6m. Two diamond drill holes CPDH006 (1127.7m) and CPDH007 (1198.9) were drilled targeting SEDEX style mineralisation. Neither drill hole intersected the target HYC member of the Barney Creek Formation. Epigenetic sphalerite mineralisation was intersected in the Reward Formation in both drill holes. Best results are 0.5m @ 18.6% Zn from 284.4m, and 0.6m @ 7.6% Zn, 0.1% Cu from 214.82m in drill hole CPDH007.

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1.0 INTRODUCTION

This report is a record of the exploration activities completed on tenements in the combined reporting group GR179-12. The tenements in the combined reporting group are EL28006, EL28007, EL28951, EL28952 and EL25313, these tenements form most of the Caranbirini Project.

In the early months of 2018 Marindi Metals entered into a joint venture agreement for the Caranbirini project with Japanese Oil and Gas National Corporation (JOGMEC). The joint venture was an earn in arrangement and Marindi manage the exploration.

Drill targets in the Barney Creek Formation were establish in the 2016 and 2017 with the assistance of CSIRO and Geodiscovery. A geological and structural model was produced by CSIRO for the project area using historic drilling, the 2011 VTEM survey, and the 2017 gravity survey. Peter Gregory and Graeme Mackee from Geodiscovery reviewed the CSIRO work and established 10 drill targets. All drill targets are a combination of favourable structural setting and coincident gravity and VTEM anomalies. The top of the Barney Creek Formation for all the target areas range from 450m to 700m below surface.

During the combined reporting period infill gravity around targets A and I was completed. A soil geochemistry program was done over the western side of the project and no significant base metal anomalism was identified. Three drill holes CPDH005 to CPDH007 totalling 2429.6m and two water bores WB002 and WB003 totalling 113m were drilled in September-October. The drill holes were targeting Anomalies B and A. No base metal mineralisation was intersected and reasons for gravity and VTEM anomalies are yet to be assessed by a geophysicist.

An application for a collaborative drilling program with the Northern Territory government for drill hole CPDH006 was submitted in June. The application was granted for a value of \$89 000. Heritage surveys were completed over large portions of the tenement. Rehabilitation has not been completed as yet.

2.0 TENURE

EL 25313 was granted on 30 May 2007. Compulsory partial surrenders were completed at the end of the second year with 20 blocks being relinquished, at the end of the third year with 5 blocks being relinquished and at the end of the fourth year with seven blocks being relinquished. Most of the surrendered area of EL 25313 was applied for again and was granted under new tenure, EL 28006 and EL 28007 was applied for on 29 March 2010 and EL 28951 and EL 28952 on 11 August 2011 (Figure 1). Application for renewal of tenements EL28006 and EL28007 were submitted in late October 2018. Tenement details are shown below in Table 1.

Lease	Grant Date	Expiry Date	Blocks
EL25313	28-May-07	27-May-19	8
EL28006	02-Nov-10	01-Nov-18	19
EL28007	02-Nov-10	01-Nov-18	13
EL28951	07-Mar-12	06-Mar-20	3

Table 1 – Tenement Details

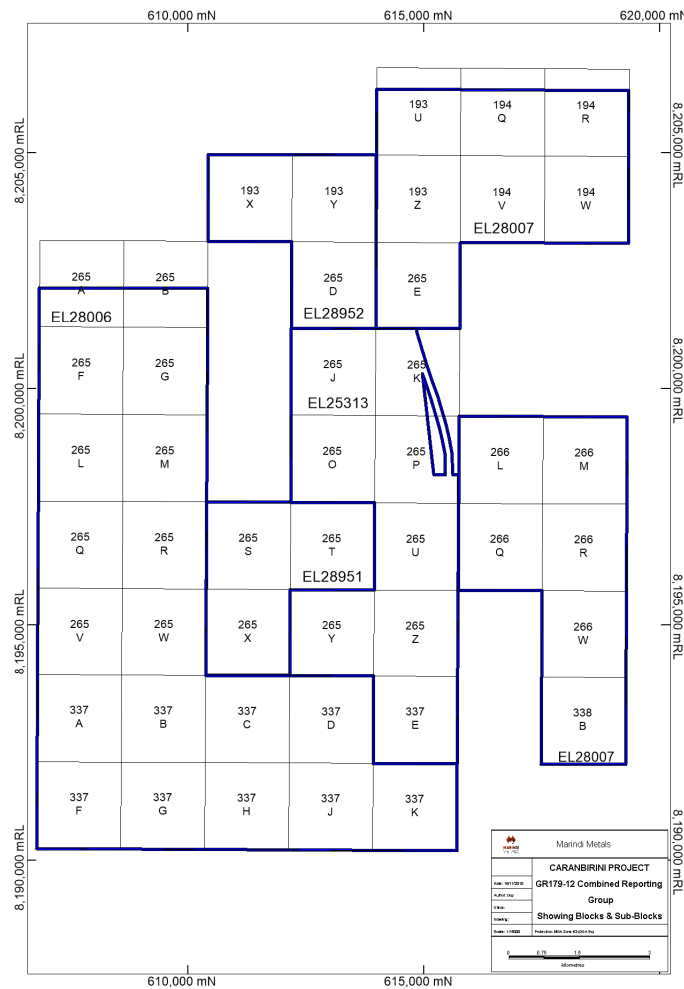


Figure 1 - Tenement Blocks

3.0 GEOLOGY

The below geology description is from Multiproxy 3D Geophysical and Geochemical Characterisation of the McArthur Group Stratigraphy; Caranbirini Project, McArthur Basin, Northern Territory, (Spinks et al, 2017).

3.1 McArthur Basin

The McArthur Basin in northern Australia is a laterally-extensive intracontinental Paleoproterozoic-Mesoproterozoic (1.85–1.45 Ga) succession of non-metamorphosed marine, shallow-marine to fluvial sediments and interbedded volcanics, 5–15 km in thickness (Fig. 2, Rawlings, 1999; Ahmad et al., 2013). Overlying the metamorphosed Paleoproterozoic Pine Creek Orogen, the McArthur Basin is exposed over more than 180,000 km² in NE Northern Territory and extends toward the Isa Superbasin in northern Queensland. It is overlain by the Neoproterozoic Georgina and onshore Cretaceous Carpentaria basins to the south (Fig. 2, Ahmad et al., 2013). The McArthur Basin is separated into the northern and southern McArthur Basin, which are divided by the Urupanga Fault Zone (Fig. 2). The ascending stratigraphy in the northern McArthur Basin is divided into the Groote Eylandt, Katherine River, Donydji, Parsons Range, Habgood, Balma, Mount Rigg, Nathan and Roper groups. In the south, the stratigraphy comprises the Tawallah, McArthur, Nathan, and Roper groups (Rawlings, 1999; Ahmad

et al., 2013, Fig. 2). The stratigraphy is further categorised into simplified ‘packages’, which in the southern McArthur Basin comprise the Redbank (Tawallah Group), Glyde (McArthur Group), Favenc (Nathan Group), and Wilton (Roper Group) packages (Fig. 2, Rawlings, 1999). A more detailed account of the McArthur Basin is given in Ahmad et al. (2013).

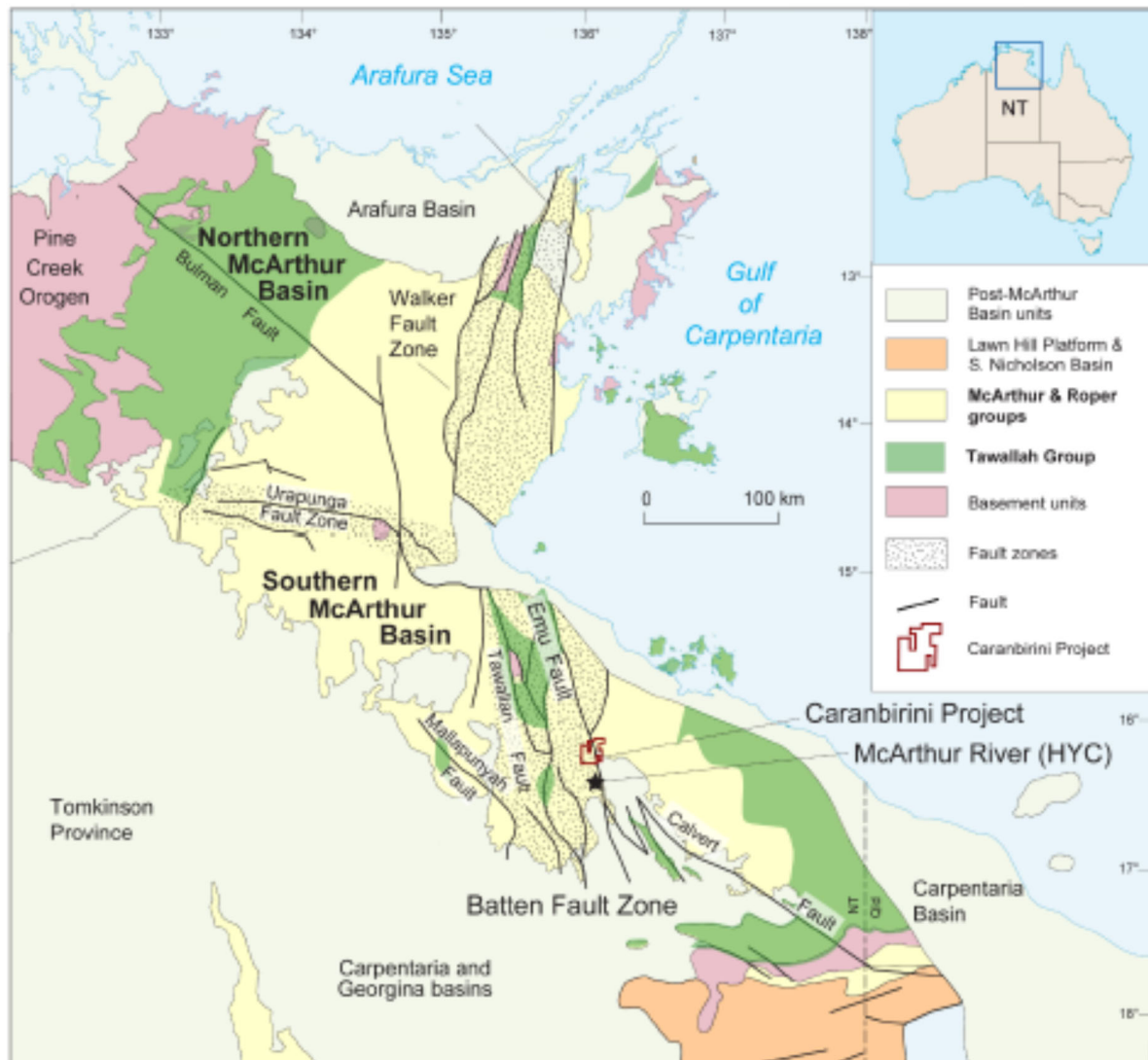


Figure 2 - Simplified geological map of the McArthur Basin, divided into lower Tawallah Group, and undifferentiated McArthur and Roper groups. The locations of the Caranbirini Project and McArthur River (HYC) deposit are also indicated. Modified after Ahmad et al. (2013)

3.2 McArthur Group

The ~5 km thick McArthur Group unconformably overlies the Tawallah Group, and comprises predominantly carbonate and siliciclastic sedimentary units with localised carbonaceous siltstone packages that formed in sub-basins. The stratigraphy of the McArthur Basin has been divided into the Umbolooga and Batten subgroups, separated by a possible unconformity (Rawlings 1999; Ahmad et al. 2013). A full description of the McArthur Group is given by Ahmad et al. (2013).

3.3 Umbolooga Subgroup

The late-Paleoproterozoic Umbolooga Subgroup comprises the basal Teena Dolostone, Barney Creek Formation, and the Reward Dolostone.

3.3.1 Teena Dolostone

The Teena Dolostone was deposited in a shallow-to emergent-marine environment during basin subsidence and is carbonate-dominated. Lithologies include thick bedded to finely laminated dololite interbedded with dolomitic siltstone and dolarenite. The unit can be stromatolitic in places, include karst features contains potassium-rich, tuffaceous mudstones. The Coxco Dolostone Member represents the upper part of the Teena Dolostone and shows characteristic 'coxco needles'; radiating clusters of evaporitic pseudomorphs after gypsum. The Teena Dolostone is conformably overlain by the Barney Creek Formation.

3.3.2 Barney Creek Formation

The Barney Creek Formation was deposited in a series of small actively subsiding restricted sub-basins, and has three recognised members; the Cooley Dolostone Member, the W-fold Shale Member and the HYC Pyritic Shale Member. The Cooley Dolostone Member is a chaotic breccia/debris flow of clasts mainly derived from the Emmerugga and Teena Dolostone. The W-fold Shale Member comprises mainly dolomitic siltstone and claystone (dololite), volcanoclastics and thin tuff horizons. The HYC Pyritic Shale Member is a thinly bedded to laminated carbonaceous, dolomitic, pyritic siltstone and dololite, which also contains tuffaceous beds and tuffs. The Barney Creek Formation is conformably overlain by the Reward Dolostone.

3.3.3 Reward Dolostone

The Reward Dolostone was deposited in a localised high-energy, peritidal shallow-marine environment with upward shallowing cycles. Lithologies in the Reward Dolostone comprises of siltstones, minor breccia, dololite, stromatolitic dololite, silty dololite and dolarenite with lesser sandy dolarenite, dolorudite and sandstone, pseudomorphs after sulfate evaporates, onkoids, ooids, and small silica spheroids. The Reward Dolostone is generally unconformably overlain by the Lynott Formation of the Batten Subgroup, but may be locally transitional into the siltstones of the Caranbirini Member of the lower Lynott Formation.

3.4 Batten Subgroup

The Batten Subgroup disconformably overlies the Reward Dolostone of the Umbolooga Subgroup and comprises the Lynott Formation, Yalco Formation, Stretton Sandstone, Looking Glass Formation, and the Amos Formation. In this project we focus only on the Lynott Formation, which is the only unit detailed here.

3.4.1 Lynott Formation

The Lynott Formation was deposited in a supratidal sabkha to shallow marine environment, and has three recognised members; the basal Caranbirini, the Hot Spring and Donnegan members. Lithologies of the Lynott Formation comprise dolomitic siltstone, dolarenite, stromatolitic dolostone and lesser dolomitic sandstone.

3.4.2 Caranbirini Formation

The Caranbirini Formation overlies the Reward Dolostone and consists of thinly bedded, laminated dolomitic mudstone, which is locally carbonaceous and/or pyritic, dololomite, intraclast breccia and pink tuffaceous mudstone. The unit was deposited in an upward-grading to intertidal environment in actively subsiding sub-basins.

4.0 PREVIOUS EXPLORATION

Previous exploration is summarised in Appendix 1.

5.0 2018 EXPLORATION

2018 exploration includes infill gravity around targets A and I. A soil geochemistry program was done over the western side of the project and no significant base metal anomalism was identified. Three drill holes CPDH005 to CPDH007 totalling 2429.6m and two water bores WB002 and WB003 totalling 113m were drilled in September-October. The drill holes were targeting Anomalies B and A.

6.0 GRAVITY

During late May, Atlas Geophysics completed the extension and infill gravity survey that was designed and interpreted by Graeme Mackee from GeoDiscovery. A total of 34 gravity stations were completed in three tenements. The gravity stations are summarised in the below table and shown in Figure 3. The gravity data is in Appendix 2 along with geotifs.

Tenement	Stations
EL28951	18
EL25313	14
EL28007	2

Table 2 - Gravity station summary

7.0 SOIL GEOCHEMISTRY SURVEY

A soil sampling program was completed in June by XM Logistics and took three weeks to complete. The historic shallow percussion geochemistry from 1977 was done on 500m X 100m lines. Part of the 2018 surface geochemistry program extended or infilled these lines and the remainder of the soil samples were taken on 400m x 400m grid. The samples were collected from the top 10cm and were sieved through a -1.6mm mesh.

No significant base metal anomalies were located. The highest Zn value was 73ppm and the highest Pb was an isolated value of 512ppm. See Figures 4, 5 and 6 for sample locations and Zn, Pb and As values. The assay values in these Figures are coloured by 98th, 95th, 87.5, 75th and 50th percentiles. The groupings of the most elevated results, likely reflect regolith.

The raw assay data and processed assay data are in Appendix 3.

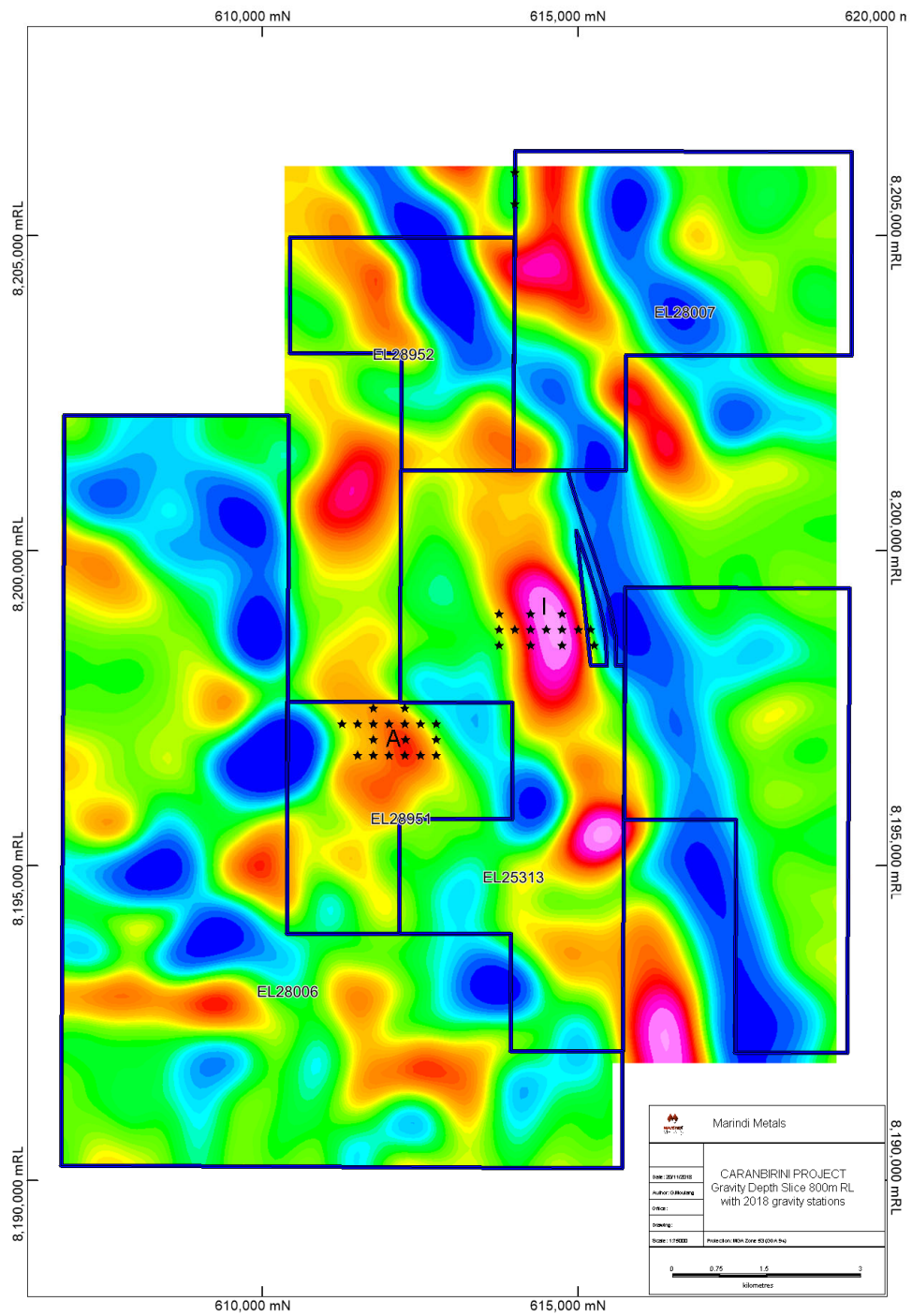


Figure 3 - 2018 infill gravity stations on gravity depth slice RL 800m. Infill gravity stations are mostly around targets A and I

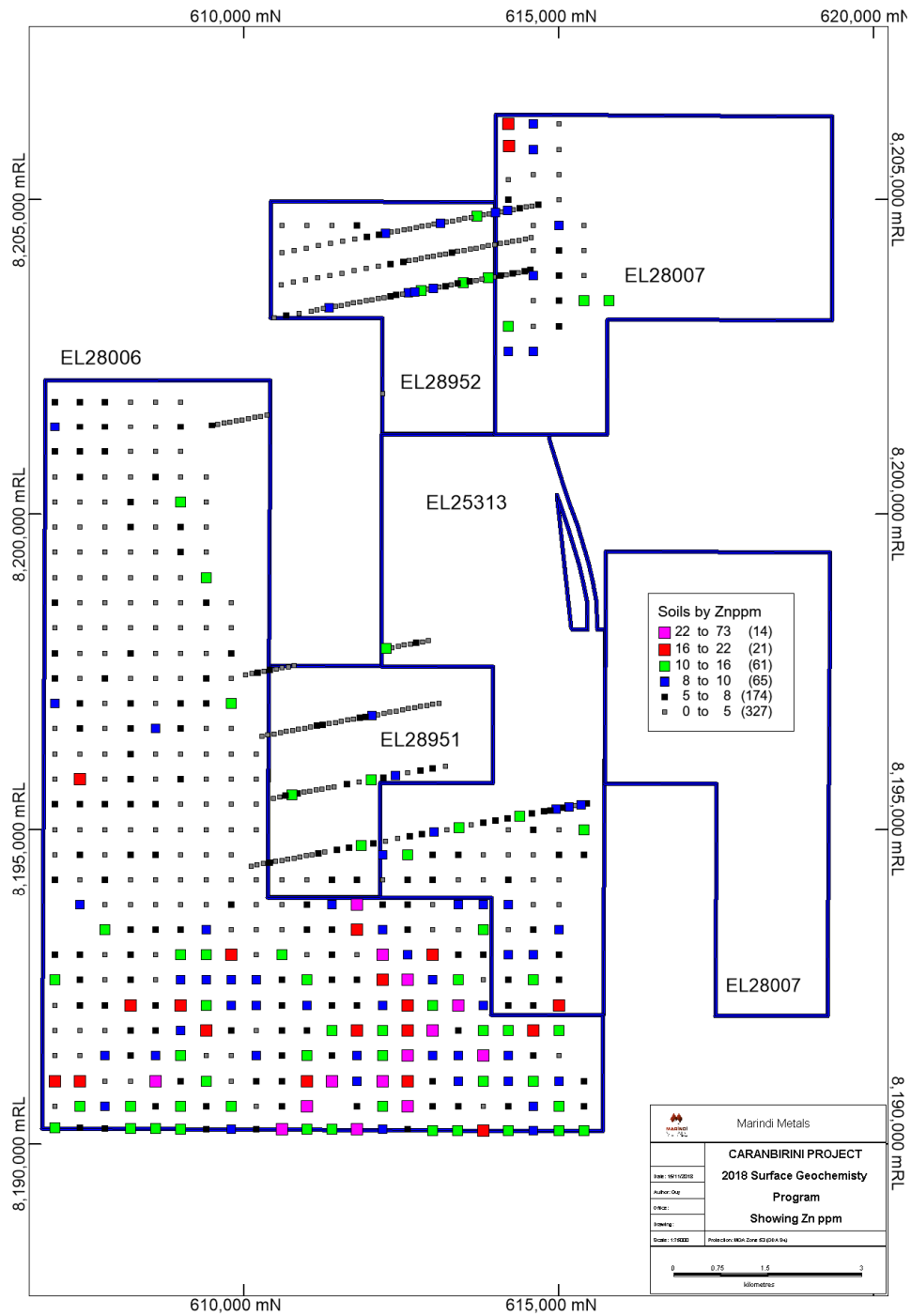


Figure 4 - 2018 soil geochemistry results, showing Zn ppm percentiles 98th, 95th, 87.5, 75% and 50%

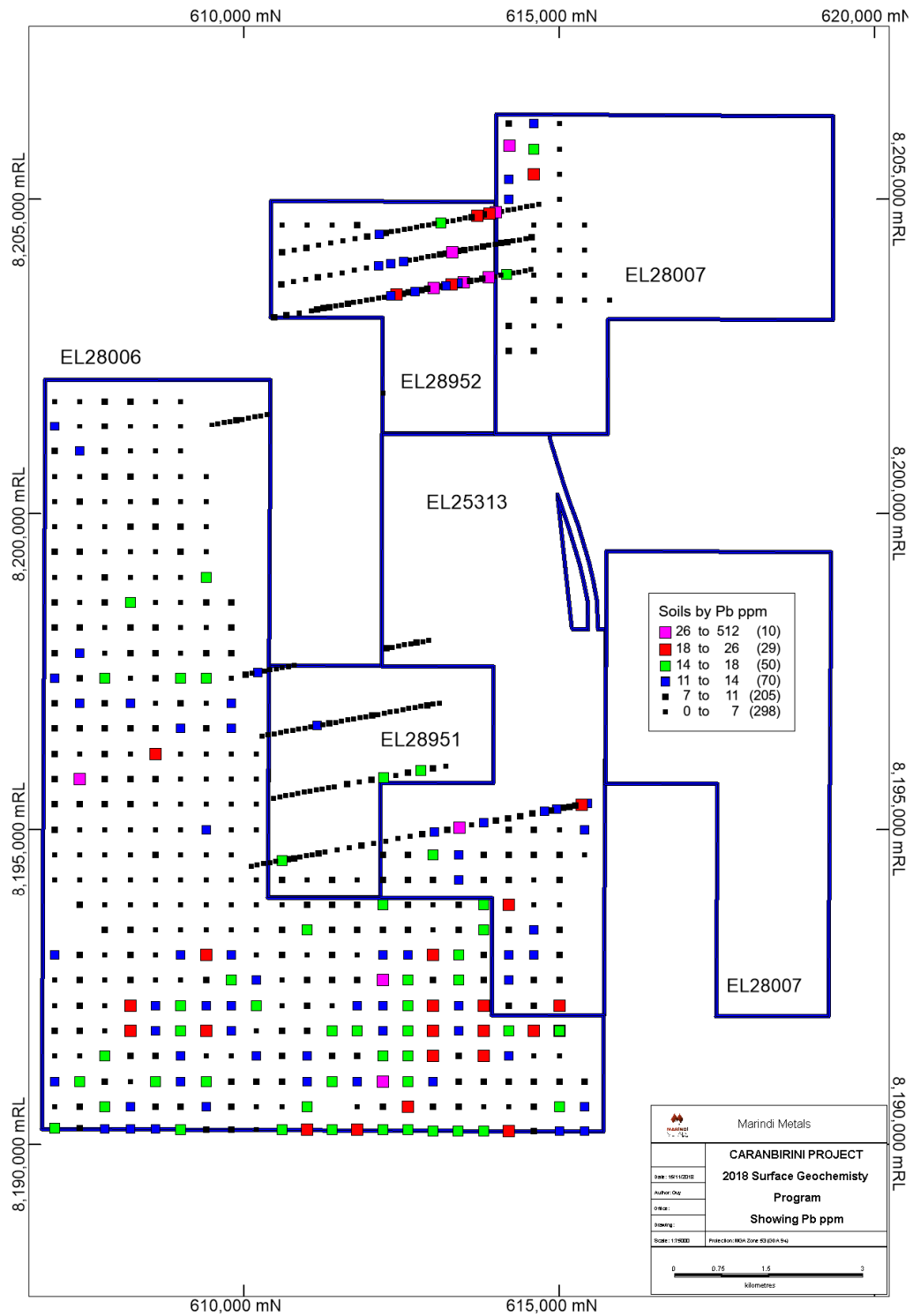


Figure 5 - 2018 soil geochemistry, showing Pb ppm percentiles 98th, 95th, 87.5, 75% and 50%

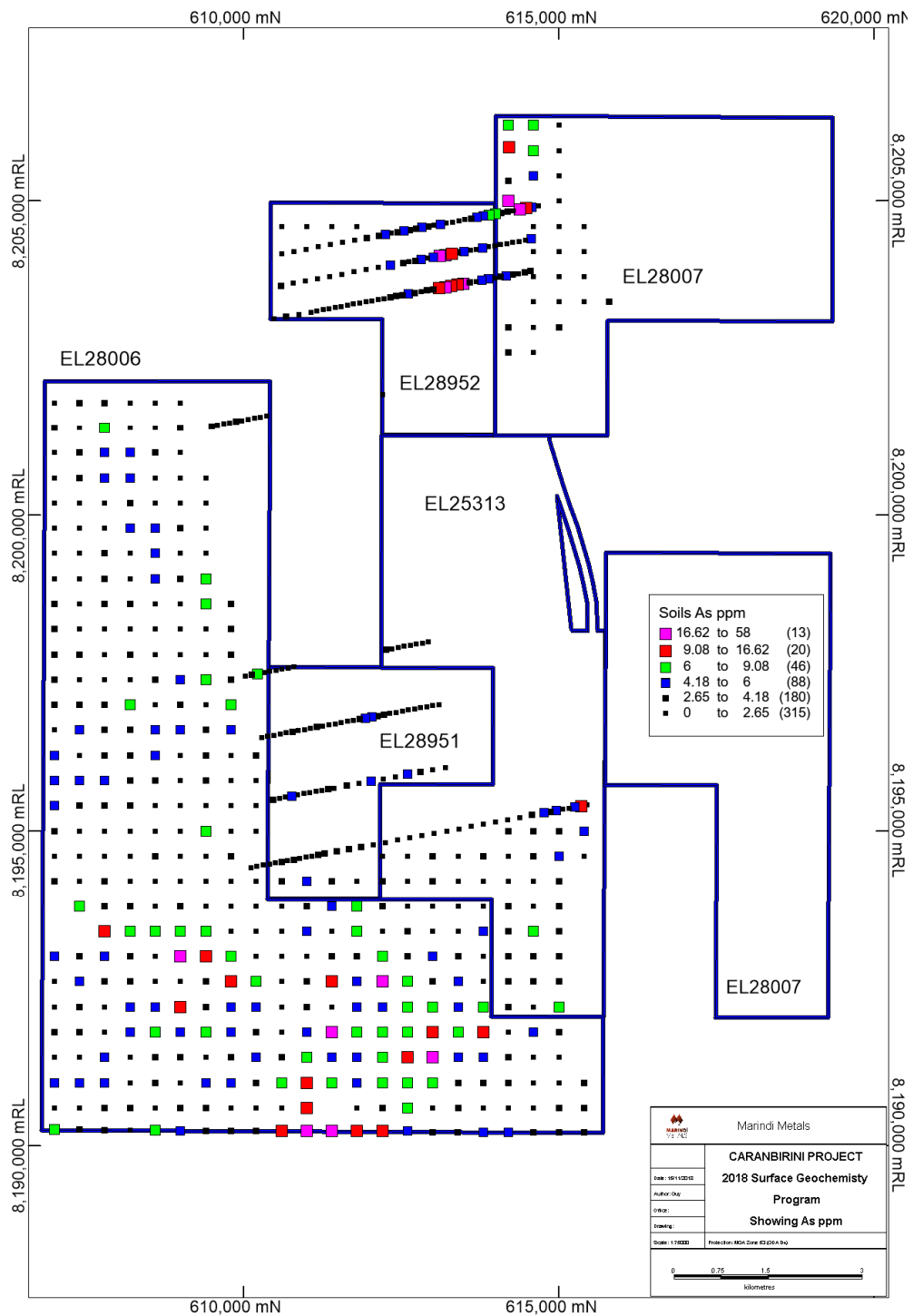


Figure 6- 2018 soil geochemistry, showing As ppm percentiles 98th, 95th, 87.5, 75% and 50%

8.0 DRILLING

Three drill holes and two water bores were drilled and details are in Table 3 and locations are shown in Figure 7. The first drill hole CPDH005 was stopped at 103m due to excessive azimuth movement. Drill hole CPDH006 targeted anomaly B and CPDH007 targeted anomaly A. Geological descriptions are below. Water bore WB002 was abandoned due to insufficient water flow. WB003 was used as the water source for CPDH007.

Drill Hole	Easting	Northing	RL m	Azimuth	Dip	Total Depth
CPDH005	615278	8195594	80	86	-85	103
CPDH006	615276	8195594	80	86	-85	1127.7
CPDH007	612152	8197020	90	40	-85	1198.9
WB002	612118	8197004	90	220	-90	52
WB003	612568	8197361	90	80	-90	61

Table 3 - Drill collar details, GDA94 MGA Zone 53

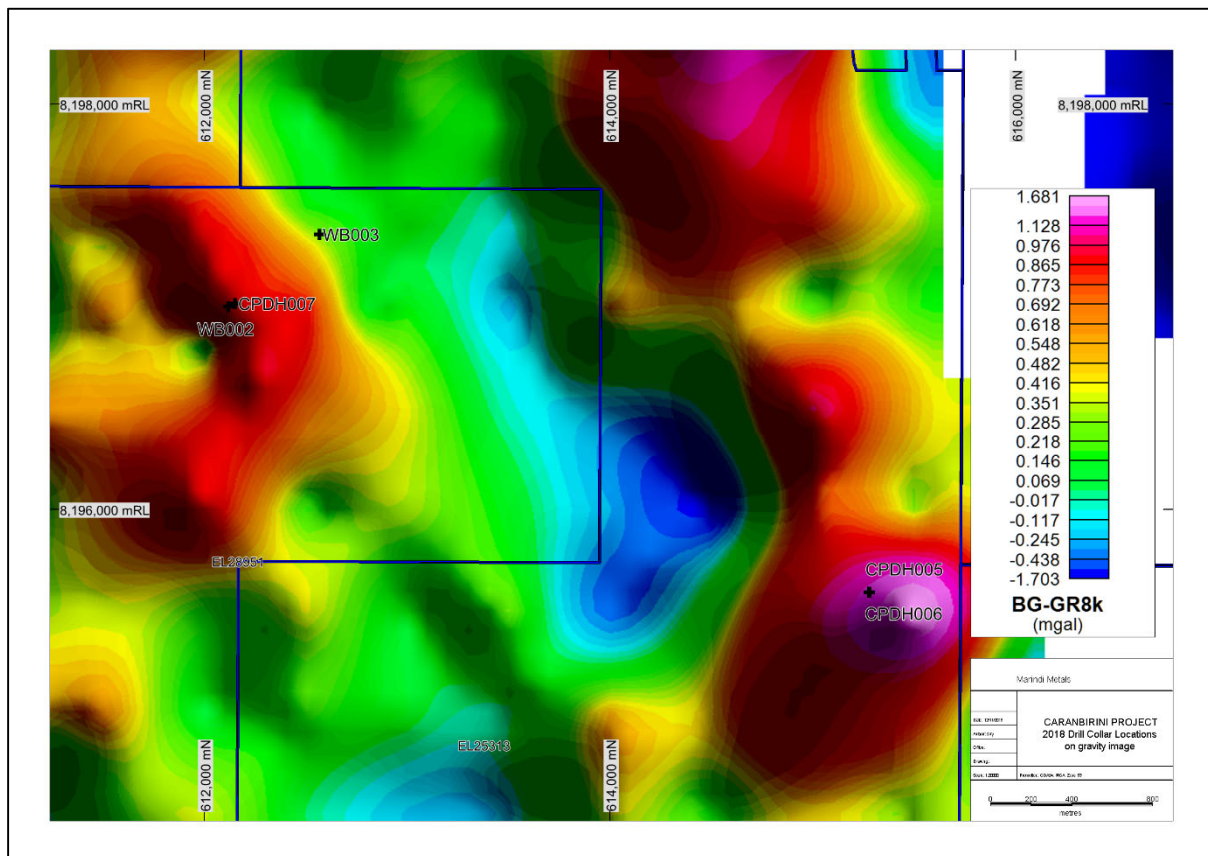


Figure 7 - Drill Hole Locations on Gravity

All data associated with the drilling is in Appendix 4. Appendix 4 contains the collar file, lithology logs, structural Logs, down hole survey file, portable XRF tables, assay ledger, geotechnical log and drill sections. A majority of the drill holes have been orientated and basic geotechnical measurements were also collected. Core photography has also been done on each core tray. Portable XRF analysis have been done every 10m and every 1m in areas of interest. Areas with least veining and alteration were chosen for analysis. Standards were shot before and after each analytical session.

A total of 69 samples of half core were submitted to the ALS laboratory in Perth and were assayed for a full element suite using a 4 acid digest with ICP-MS finish. Multi element samples were taken every 50m on average. The lower 27m of CPDH006 is being assayed for gold and 4 intervals with elevated sphalerite from hole CPDH007 have been sampled as well.

Down hole logging has been completed and the results will assist the geophysicist in explaining the gravity and VTEM anomalies, or lack thereof. The probs that were sent down the drill holes take measurements every 2cm. The measurements that were collected are resistivity, inductive conductivity, density and gamma. The logging was completed after the reporting period and will be submitted in next years annual report.

8.1 Drill Hole CPDH006 Geology Description

HQ3 core was drilled from surface down to 216.8m and NQ2 core followed to end of hole at 1127.7m. Formations that were drilled through are the Lynott Formation, Reward Formation and the Barney Creek Formation.

Hole	From (m)	To (m)	Formation
CPDH006	0	73.9	Lynott
CPDH006	73.9	486.35	Reward
CPDH006	486.35	985	Barney Creek, Carbonaceous Siltstone
CPDH006	985	1127.7	Cooley Dolostone Member

Table 4. CPDH006 Formation Summary

8.1.1 Lynott Formation

The Lynott Formation was drilled from surface to 73.9m. The upper oxidised portion has common core loss and is ferruginous with abundant limonite. The upper 5.4m of fresh formation from 24.6m to 30m is carbonaceous laminated sulphidic siltstone with 15% very fine pyrite as shown on Figure 8. The remainder of the Lynott Formation is carbonaceous siltstone. Carbon content was used to interpret the contact between the Lynott Formation and the Reward Formation. The Lower contact with the Reward Formation is gradual over metres as the carbon content decreases with depth.

Portable XRF (pXRF) analysis showed elevated Zn, Pb, Cu and As as shown in GR179-12_2018_GA_14_pXRFAnalysis in Appendix 4. The elevated base metals are the likely source of soil anomalies in the project area.



Figure 8 - Hole CPDH006, Lynott Formation, laminated pyrite in carbonaceous siltstone

8.1.2 Reward Formation

The Reward Formation is from 73.9m to 486.35m and has conformable contacts with the Lynott Formation above and the below Barney Creek Formation. The rocks are variably bedded fine grain dolostone with patches of silty dolostone. Bedding is flat lying to shallow dipping to the west. Soft sediment textures are abundant and include sedimentary breccias to the metre scale. Bitumen is common on fractures and as stylolites. Carbonate veining and fracture fill is abundant. There are several narrow occurrences of epigenetic pale to honey coloured medium grain sphalerite with minor galena and chalcopyrite occurring in brecciating carbonates. The highest concentration of sulphides is at 141.45-141.78m with 5% sphalerite. No sphalerite in the Reward Formation has been sampled for analysis.

Micro faulting is abundant and veins and beds being displaced by centimetres are common. The orientation of a single larger fault from 401.4m to 410.85m is unknown. The lower contact with the Barney Creek Formation is gradual over metres as the carbon content increases.

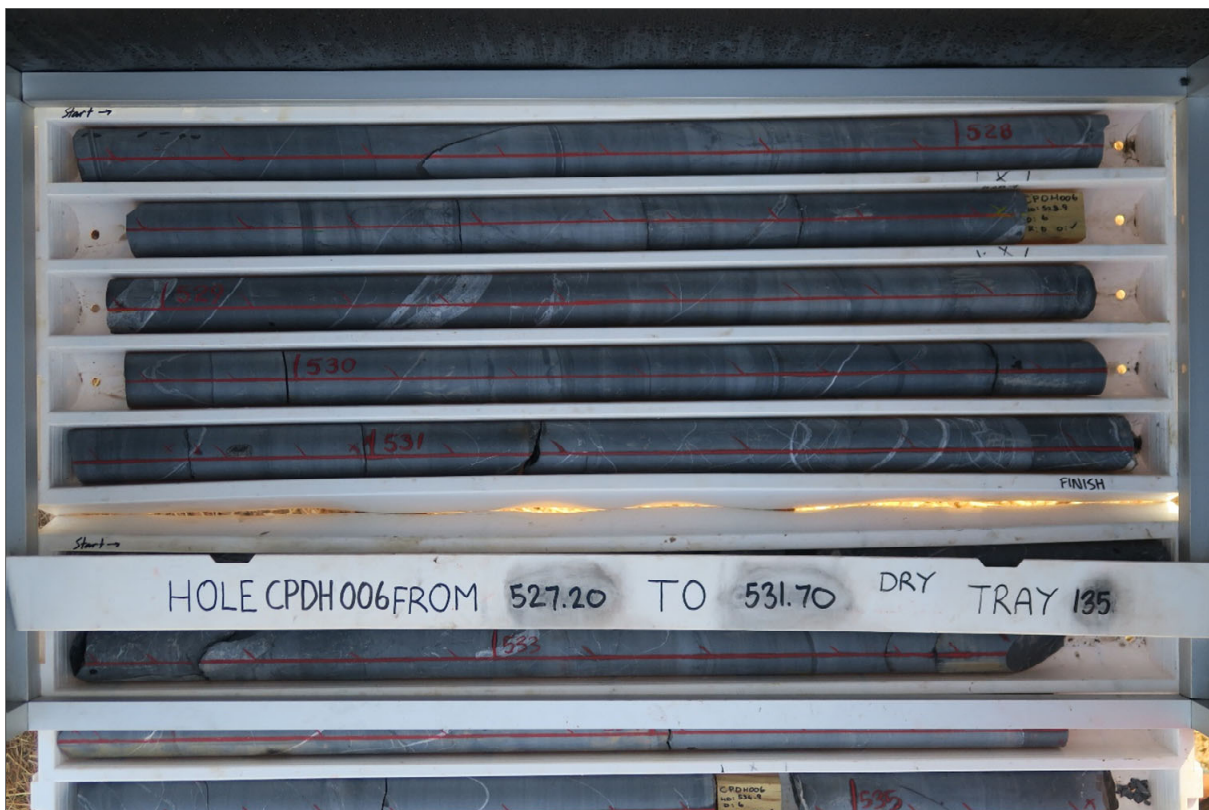


Figure 9 - Hole CPDH006, Reward Formation, typical looking Reward Dolomite

8.1.3 Barney Creek Formation

The Barney Creek Formation (BCF) is from 486.35m to end of hole at 1127.7m with the lower 142.7m being the Cooley Dolostone Member. Portable XRF analysis and assays shows no base metal anomalism. There is 0.5% to 5% carbonate veining throughout and micro faulting is common.

The upper BCF from 486.35m to 702.3m is carbonaceous dolomitic siltstone. Carbon content is weak to moderate. Bedding is planar and varies from laminated to >10cm beds with <5cm coarser grain to conglomeritic beds becoming more common with depth. Bedding is flat lying to shallow dipping to the east or west. There is a single minor occurrence of pale medium grain diagenetic sphalerite in a bleached ?carbonate altered siltstone at 624m. A polymictic talus breccia from 685.1m to 702.3m has a sharp contact with the below sulphidic BCF and contains angular clasts of centimetres to decimetres.

The first of two sulphidic carbonaceous siltstone intervals is from 702.3m to 853m. Pyrite content is highly variable from minor to 10% and is occurring as very fine>>medium grain disseminations in the siltstone. Higher concentrations of pyrite are laminated. Planar beds are <1mm to 20cm and are shallow dipping to the west. Coarser sandy beds are not uncommon and often have blue quartz grains and coarse grain pyrite. The lower contact is marked by a 1.75m fault zone from 851.25m with strong silicification and brecciation.



Figure 10 - Hole CPDH006, Barney Creek Formation, sulphidic carbonaceous siltstone

A 63m non-sulphidic carbonaceous calcareous siltstone is from 853m to 906m. Planar >1-50mm often sandy siltstone beds are moderately dipping to the west. The pyrite content has dropped below 0.5% and is occurring as spars very fine disseminations.

Pyrite content increased to 1% from 906m to 978.3m. Then decreases in the lower metres from 978.3m to 985m. In this lower interval the carbonaceous calcareous siltstone becomes more calcareous, brecciated and folded indicating later tectonic movement on the contact with the Cooley Dolostone Member.

The final 142.7 metres to end of hole at 1127.7m is the Cooley Dolostone Member. The unit is a brecciated dolostone. There is a localised irregular fabric possibly related to bedding. Common patchy disseminated fine to medium grain pyrite with silicification. This unit could be the Teena Formation.



Figure 11 - Hole CODH007, Cooley Dolostone Member, brecciated dolostone

8.2 Drill Hole CPDH007 Geology Description

RC was drilled down to 80.5m, HQ3 followed down to 286.2m and NQ2 core was used to end of hole at 1198.9m. Formations that were drilled through are the Lynott Formation, Reward Formation and the Barney Creek Formation.

Hole	From (m)	To (m)	Formation
CPDH007	0	122.7	Lynott
CPDH007	122.7	719.2	Reward
CPDH007	719.2	1198.9	Barney Creek, Carbonaceous Siltstone

Table 5. CPDH007 Formation Summary

8.2.1 Lynott Formation

The Lynott Formation was drilled from surface to 122.7m. Base of oxidation was at 31m. The formation is a carbonaceous siltstone with a single strongly sulphidic interval at 87.85 to 104.65m. The interval has 20% very finely laminated pyrite. The lower contact with the Reward Dolostone is gradual.



Figure 12 - Hole CPDH007, Lynott Formation, laminated pyrite in carbonaceous siltstone

8.2.2 Reward Formation

The Reward Formation is from 122.7m to 719.2m. The rocks are poorly bedded fine grain dolostone with patches of silty dolostone. Bedding is moderately dipping to the east. Soft sediment textures and sedimentary breccias are common. There are 4 large sedimentary breccias with the largest being 45m wide from 358m. The breccias are probable talus breccias and consist of dolomite clasts with occasional laminae, rare trace remobilised sphalerite and common carbonate veining. In the upper 15m of the breccia from 511.3m to 548.8m, are common laminated sulphidic carbonaceous siltstone clasts. Clasts have spot values of arsenic up to 6000ppm and 200ppm Pb, but no anomalous Zn. The source of the clasts is unknown, but it's likely they are from the HYC member in the Barney Creek Formation. The Reward Formation in CPDH007 is more fractured than CPDH006 and has several large intervals of abundant carbonate filled fractures around smaller fault intervals where there are narrow poorly healed crush zones. The orientation of these fault zones are unknown, but structural indicators are suggesting subvertical. Micro faulting with centimetres displacement is common.

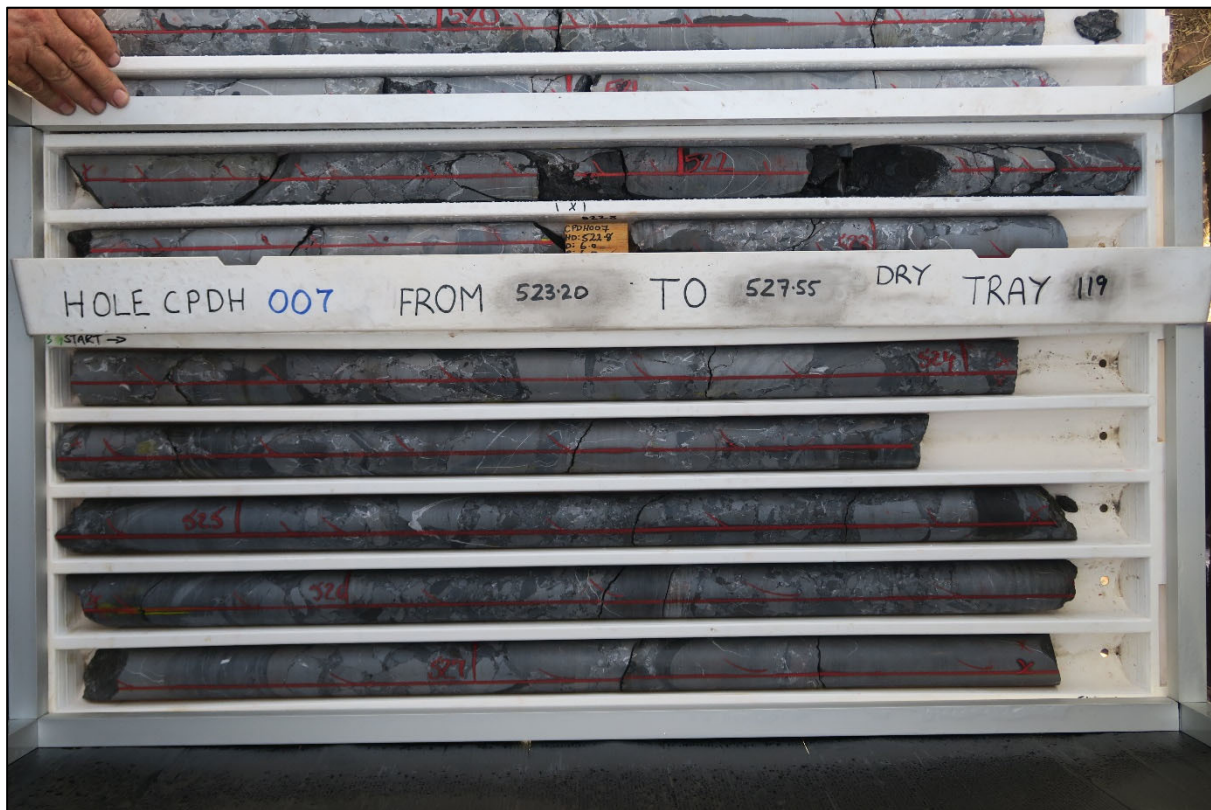


Figure 13 - Hole CPDH007, Reward Formation, Sedimentary breccia with sulphidic carbonaceous clasts

Bitumen is seen on fractures, as stylolites and as blebs in carbonate veins. Carbonate veining and fracture fill is abundant. There are several narrow occurrences of epigenetic pale to honey coloured medium grain sphalerite with minor galena and chalcopryrite occurring in brecciating carbonates. Four sphalerite patches were assayed and the most significant results are 0.5m @ 18.6% Zn from 284.4m, and 0.6m @ 7.6% Zn, 0.1% Cu from 214.82m. The upper contact of the Barney Creek Formation is very difficult to pick and 719.2m was nominated where there is a slight increase in carbon content.

8.2.3 Barney Creek Formation

The Barney Creek Formation (BCF) is from 719.2m to end of hole at 1198.9m. The formation is a weakly silty dolomite with discrete carbonaceous intervals and rare sulphidic zones. Portable XRF analysis and assays shows no base metal anomalism.

Two intervals of carbonaceous dolomitic siltstone were intersected at 846m to 876m and 1019.7m to 1046.7m. These intervals are weakly to moderately carbonaceous and dolomitic as shown in Figure 14. Both intervals have minor disseminated fine pyrite and the lower interval has localised stronger disseminations for example at 1035.8m. Intervals are poorly bedded.

The remainder of the Barney Creek Formation is a mid-grey poorly bedded weakly carbonaceous dolostone. There is 0.5-3% carbonate veining and fracture fill throughout, with higher concentrations up to 25% around brecciating veins at 1086m and around a 5m fault from 1186.9m. Bedding is expressed as sparse laminae over <10cm intervals and are moderately to steeply dipping to the south east.



Figure 14 - Hole CPDH007, Barney Creek Formation, sulphidic carbonaceous siltstone

The hole is interpreted to have stopped in Barney Creek Formation. The subtle variations in the lithologies make it difficult to identify the contacts between the formations. Hylogger analysis will help determine the lithology and formation.

9.0 HERITAGE

A heritage survey that covers all the priority targets was commissioned to Aboriginal Areas Protection Authority (AAPA). AAPA completed the previous heritage survey in 2011 over the Emu Fault area. The area with the pink outline in Figure 15, is the area requested for survey.

Two areas were identified as having cultural significance and have resulted in restricted access for exploration activities. The two areas are shown in red in Figure 15.

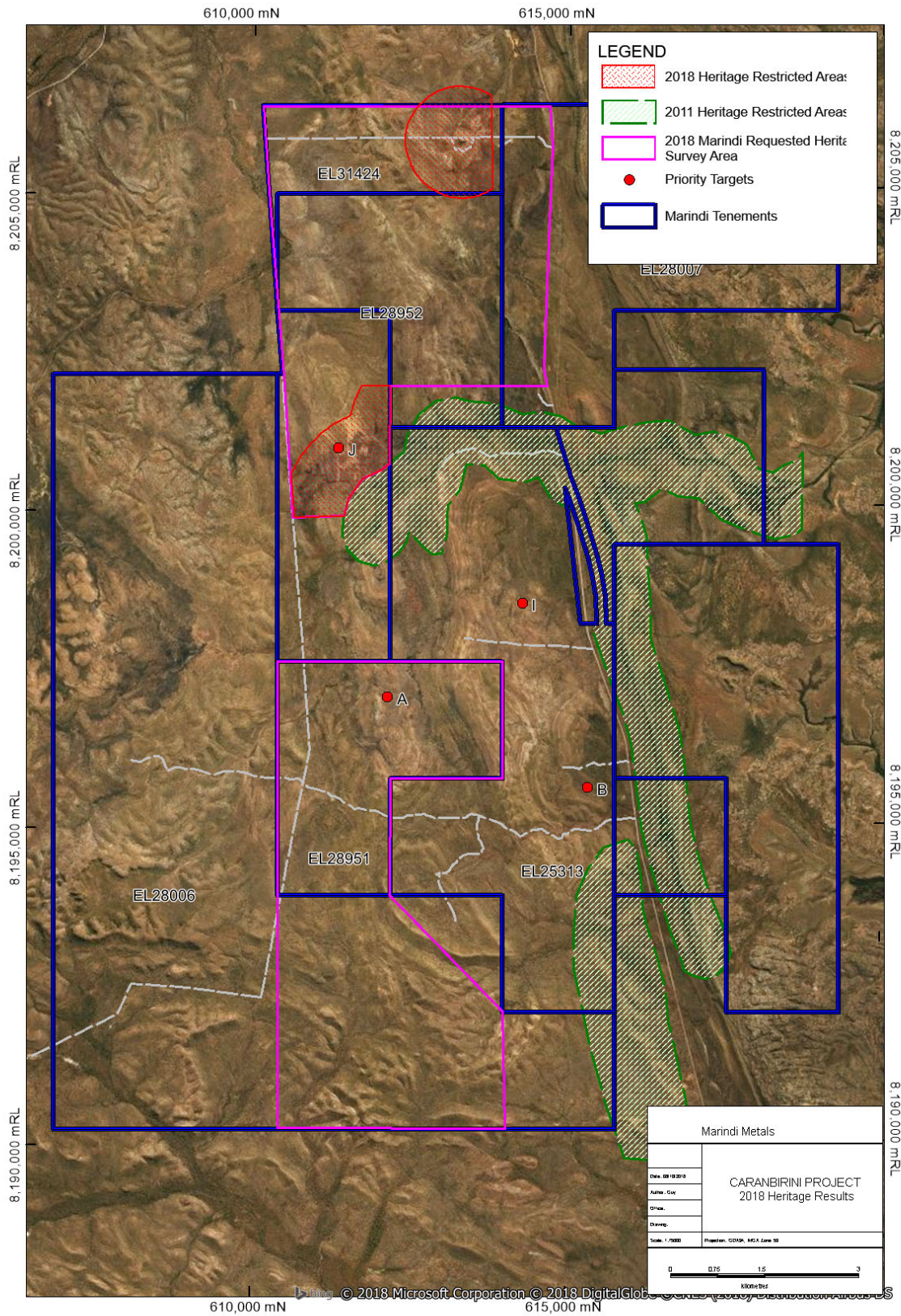


Figure 15 - 2018 Heritage Survey Area and Restricted Areas

10.0 ENVIRONMENTAL

Rehabilitation of drill sites and tracks have not been done. This will occur after the wet season in 2019.

11.0 CONCLUSION

Results from the drilling program were disappointing. Neither drill hole intersected the targeted HYC member in the Barney Creek Formation. Hole CPDH007 had several fault zones and may have drilled through a faulted off block. The presence of HYC clasts in a talus breccia in the Reward Formation suggests there may be a block of BCF in the upper 500m proximal to the drill hole. Both drill holes have significant epigenetic sphalerite in the Reward Formation which may be an indication of proximity to sedimentary hosted base metals. Down hole logging will aid the geophysicist in reinterpreting the VTEM and gravity surveys.

12.0 REFERENCES

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