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Muscadel Group

MCC's 5, 6, 21 – 23 & 1426 and MLC's 204 – 209 & 52

MINERAL TITLES ACT COMPLIANCE REPORT

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Table of Contents

FIGURES 3

TABLES 3

1. SUMMARY 1

2. INTRODUCTION..... 2

3. LOCATION..... 3

4. TENURE 4

5. GEOLOGY 5

 5.1 REGIONAL GEOLOGY 5

 5.2 LOCAL GEOLOGY 5

 5.3 MINE GEOLOGY 5

6. EXPLORATION 6

 6.1 HISTORICAL EXPLORATION 6

7. CONCLUSIONS 12

8. MTA COMPLIANCE RECOMMENDATION 12

FIGURES

- Figure 1. Muscadel Group Location
- Figure 2. Muscadel Group Tenure
- Figure 3. Muscadel Group Historical Mines
- Figure 4. Conventional Magnetics
- Figure 5. VRMI
- Figure 6. Muscadel Group vs. VRMI
- Figure 7. HeliTEM Block 2
- Figure 8. Gecko Corridor vs. VRMI
- Figure 9. Gecko Corridor vs. HeliTEM
- Figure 10. Goanna Identified Shear Zones

TABLES

- Table 1. Muscadel Group Tenure
- Table 2. Muscadel Group Historical Mines

1. SUMMARY

This report details the review of the Muscadel Group of tenements MCC's 5, 6, 21 – 23 & 1426 and MLC's 204 – 209 & 52, the titles cover the Pup historical Mines and are located nearby the historical Dolomite and Argo Mines, as detailed in table 2 and displayed in figure 4, and two potential prospects Muscadel (Explorer 38) and R2. The aim of this report is to identify, reassess and review historical work conducted of the titles to make a determination on the prospectivity of the titles, identify the presence of any anomalous zones or deposits and then make a determination on the validity of the titles and then a recommendation to the DME on the compliance of the titles to the Mineral Titles Act.

It is recommended that Emmerson amalgamate all 13 titles into a single title and renew the title for future resource definition and exploration activities to explore in more detail the identified anomalous zones to determine its potential to host economic deposits, as detailed below.

As described below the Muscadel Group remains highly prospective for the discovery of economic mineralisation, specifically following the breakthrough's with exploration techniques and knowledge obtained from the HeliTEM exploration in the Gecko Corridor.

In long section a significant absence of drilling exists between the upper oxidized blanket tested by MUGD03 and the first tier of deeper holes, where presently 110m remains untested down pitch from Geopeko's best intercept in MUGD01. Additional potential exists beneath the area defined by RAB drilling where elevated bedrock samples were recorded for elements such as gold, bismuth, silver and copper.

The footwall dolomite unit intersected by holes MUGD02 and 12 can be used to define the orientation of the mineralized structure, which again reveals wide untested zones. If this deposit is similar to Argo style mineralization which was last recorded as 250,000 tonnes at 14.8 g/t, then barren areas and down plunge extensions certainly require follow up drilling.

The traverse of three RAB holes namely EMUB01 – 02 – 03 is an excellent example of surface oxide detection with gold values up to 940ppb, copper 845ppm and bismuth 4680ppm in a four meter composite sample. These elevated values obtained in the centre hole EMUB02 are justified, given elevated halo detection values achieved in sister holes either side. Signalling the southerly extension of known high grade ironstone, this target warrants testing at depth with one bedrock RC hole to at least 150m after geophysical modelling is complete.

Emmerson considers the Muscadel Group to be of high value for its further exploration potential, further to this and following the success and leaps in knowledge acquired from the 'Proof of Concept' drilling at Gecko the Muscadel Group requires a future EM survey followed by detailed analysis and interpretation of that data and re-evaluation of past exploration with the aim of identifying further drill targets for testing and evaluation.

2. INTRODUCTION

This report details the review of the Muscadel Group of tenements MCC's 5, 6, 21 – 23 & 1426 and MLC's 204 – 209 & 52, the titles cover the Pup historical Mines and are located nearby the historical Dolomite and Argo Mines, as detailed in table 2 and displayed in figure 4, and two potential prospects Muscadel (Explorer 38) and R2. The aim of this report is to identify, reassess and review historical work conducted on the titles to make a determination on the prospectivity of the titles, identify the presence of any anomalous zones or deposits and then make a determination on the validity of the titles and then a recommendation to the DME on the compliance of the titles to the Mineral Titles Act.

Figure 1 shows the location of the Muscadel Group with respect to the Tennant Creek Township and figure 2 details the tenure of the Muscadel Group.

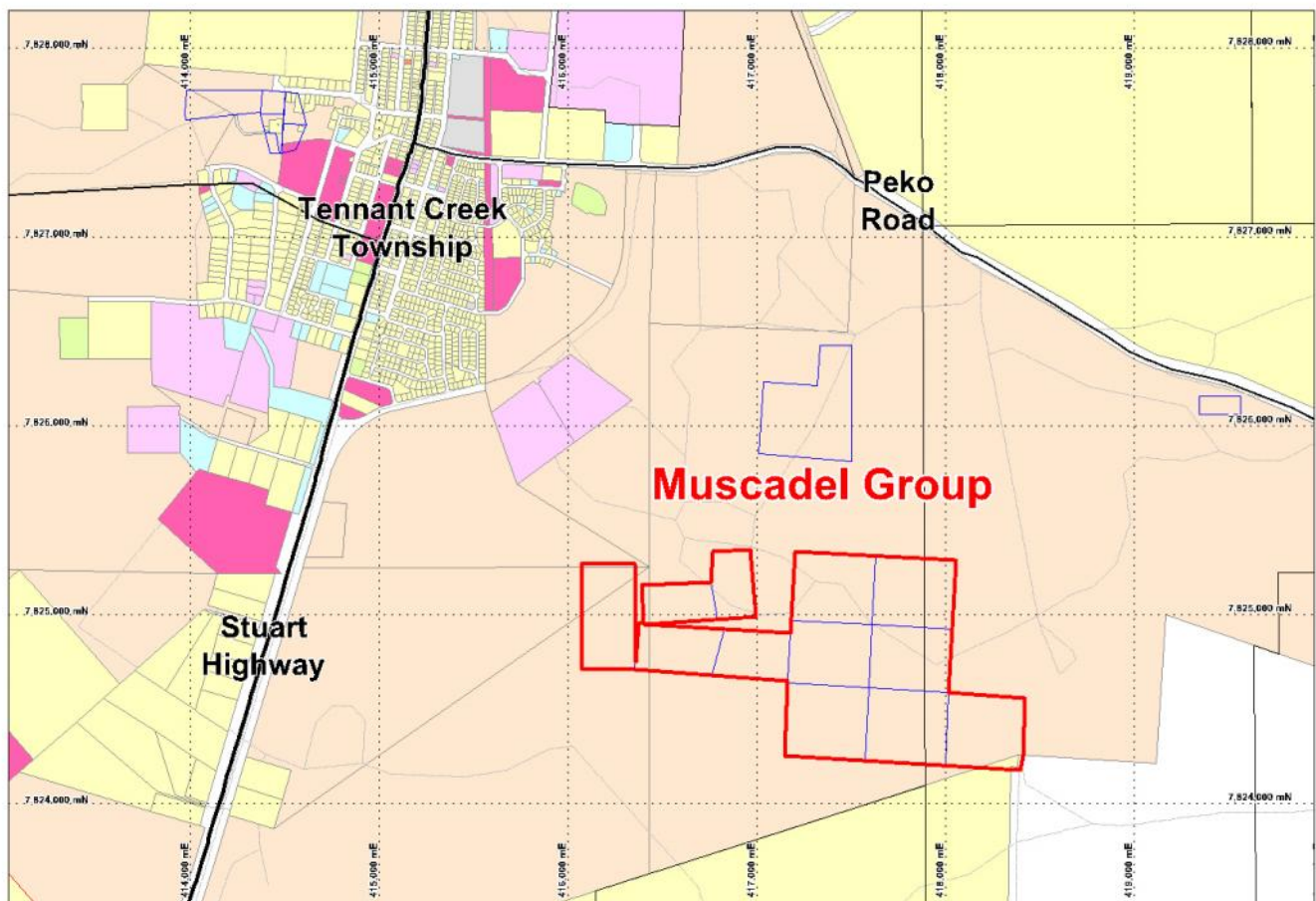


Figure 1: Location of Muscadel Group with respect to the Tennant Creek Township

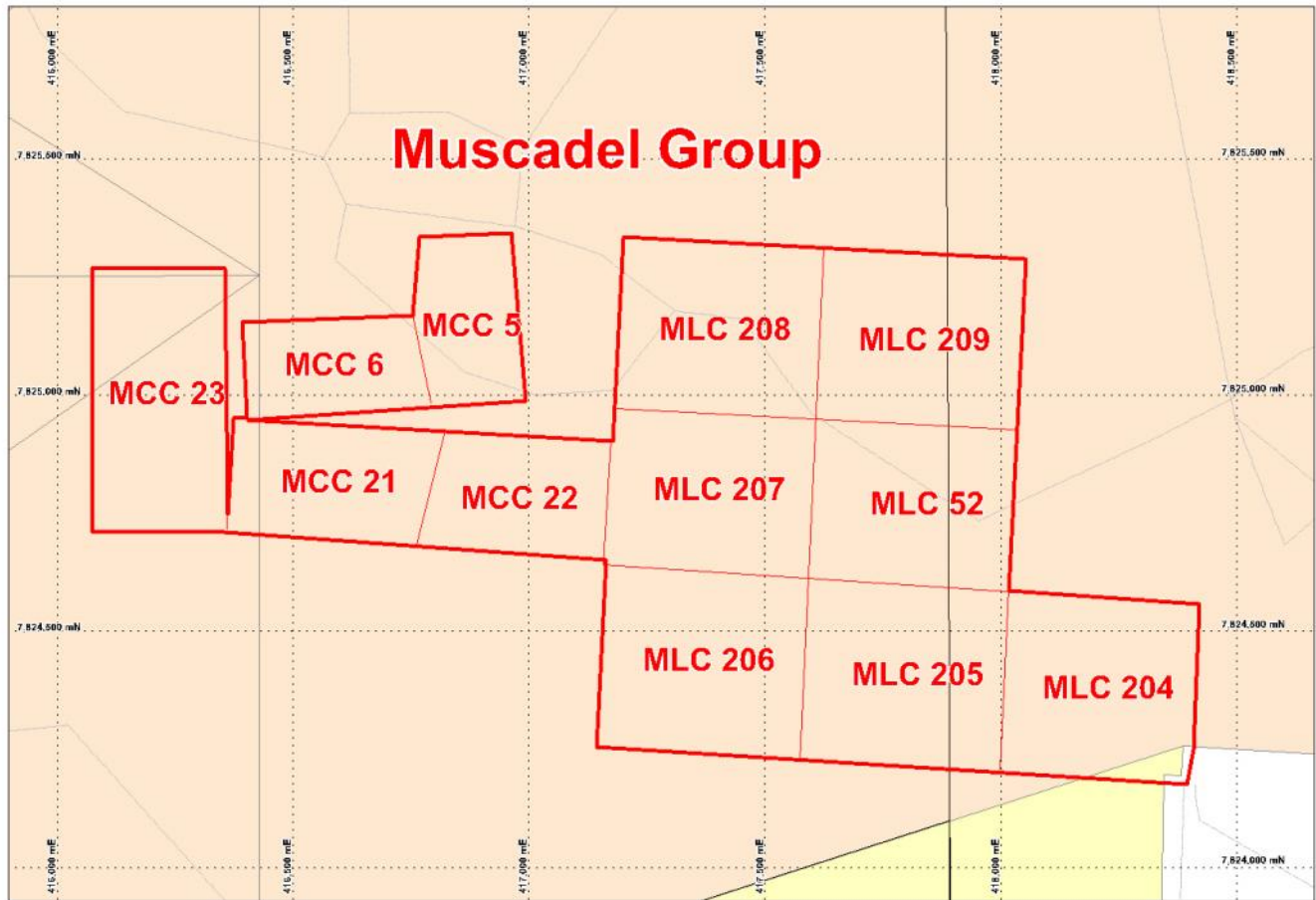


Figure 2: Muscadel Group tenure

3. LOCATION

The Muscadel Group are tenure located east of the Stuart Highway and south of the Peko Road. The tenure group is located approximately between 2km and 4.5km south east of the Tennant Creek Township. The Group falls on the Tennant Creek (5758) 1:100,000 scale map sheet. The Muscadel Group lies within Emmerson's Eastern Project Area (EPA).

Access to tenure area is gained east via Peko Road then south via a series of unsealed and 4WD tracks leading to the historical Argo mine. Further access to the area is via a series of unsealed, 4x4 and fence line tracks, which during and immediately after rain the area is generally inaccessible.

Figures 1 and 2 further display access and location.

4. TENURE

The tenure details of the Muscadel Group are detailed in the following table;

Tenement ID	Tenement Name	Holder	Interest	Grant Date	Effective Date	Expiry Date	Area (Ha)
MCC1426	Pinnacles South	San	100	17/06/2003	17/06/2003	16/06/2013	23
MCC21	Battery Hill	San	100	21/07/1983	21/07/2008	20/07/2018	11
MCC22	Battery Hill	San	100	21/07/1983	21/07/2008	20/07/2018	11
MCC23	Battery Hill	San	100	21/07/1983	21/07/2008	20/07/2018	16
MCC5	The Pup	GRE	100	21/09/1983	1/01/2009	31/12/2013	8
MCC6	The Pup	GRE	100	21/09/1983	1/01/2009	31/12/2013	8
MLC204	Argo West	San	100	12/12/1974	8/07/2005	31/12/2014	16
MLC205	Argo West	San	100	12/12/1974	8/07/2005	31/12/2014	16
MLC206	Argo West	San	100	12/12/1974	8/07/2005	31/12/2014	16
MLC207	Argo West	San	100	12/12/1974	8/07/2005	31/12/2014	16
MLC208	Argo West	San	100	12/12/1974	8/07/2005	31/12/2014	16
MLC209	Argo West	San	100	12/12/1974	8/07/2005	31/12/2014	16
MLC52	Muscadel	San	100	21/04/1966	21/04/1966	31/12/2011	16

Table 1: Muscadel Group Tenure Details

The Muscadel Group comprises 6 granted Mineral Claims and 7 granted Mineral Leases, refer to figure 2 and table 1, covering an area of 189 hectares.

The tenure is held by Santexco Pty Ltd and Giants Reef Pty Ltd, which are wholly owned subsidiaries of Emmerson Resources Ltd.

The leases are located on –

- NT Parcel 02088, Crown Land
- NT Parcel 02087, Crown Land
- NT Parcel 04440, Crown Land

The Muscadel Group has no AAPA registered sacred site or CLC Exclusion Areas.

5. GEOLOGY

5.1 Regional Geology

The reader is referred to AusIMM Monograph 14 (Geology of the Mineral Deposits of Australia and Papua New Guinea), Volume 1, pp. 829-861, to gain a good introduction to the regional geology and styles of gold-copper mineralisation of the area.

In 1995 the Northern Territory Geological Survey released a geological map and explanatory notes for the Flynn 1:100,000 sheet, which covers the area of the licenses.

The rocks of the Warramunga Formation host most of the orebodies in the region and underlie most of the Exploration Licenses.

5.2 Local Geology

The Muscadel Group is dominated by Cainozoic dissected colluvium fan deposits and colluvium scree with less extensive alluvial deposits in active channels and on flood plains in the northern region of the licence. Ridges and isolated hills are also evident within the group and comprise scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation, which most likely underlies the dominate Cainozoic sediments.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the tenure.

5.3 Mine Geology

The Muscadel Group contains the Pup historical mine but also a number of historical mine workings located nearby that remain relevant to the prospectivity of the group, they are all detailed in the table below;

Mine Name	Operating Period/s	Production	Grade	Produced Metal
The Pup	1951	120t	10g/t Au	38.6oz Au
Argo	1986 – 88	309,945t	8.3g/t Au	82,864oz Au
Dolomite	1937, 1984 – 89	2,061.7t	9.7g/t Au	640.1oz Au

Table 3: Historical Mines of the Muscadel Group

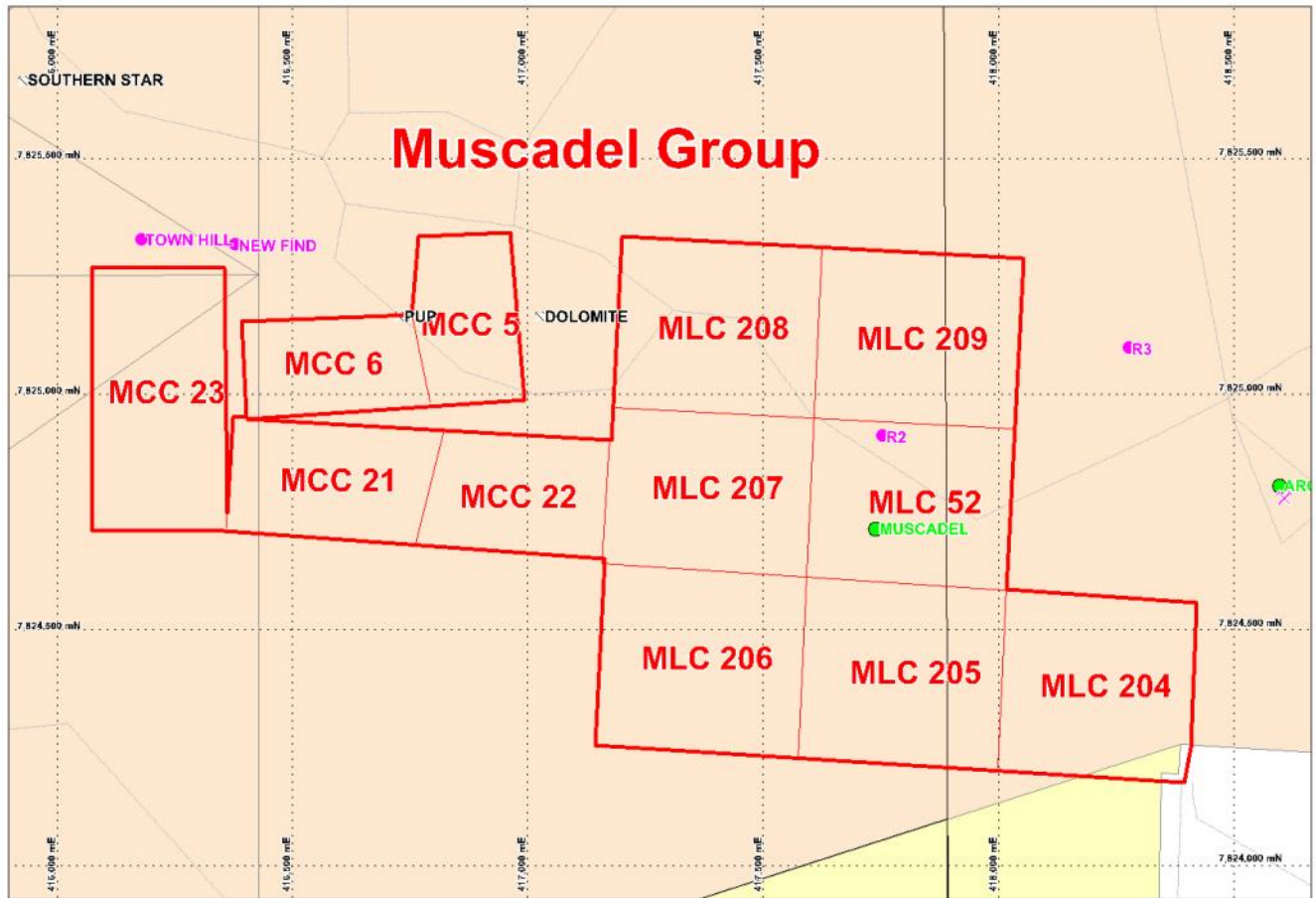


Figure 3: Historical Mines of the Muscadel Group

6. EXPLORATION

6.1 Historical Exploration

The dominant work conducted in the group has been over the Muscadel prospect also known as Explorer 38, this prospect exists over a point style magnetic high in a low ranked tectonic setting. South of a major D1 structure the prospect is bordered east and west by a reidel set of north east / south west D3 D4 events placing the prospect some distance from a distinct jog in the D1 fault line, formed by the later events. In 1977 Explorer 38 was modelled by ADL as an elongate feature and core drilled to define a thin ironstone lens in siliceous sediments at 150m from surface. A total of 13 diamond drillholes were completed (including daughter holes from a parent diamond hole) and of these 12 holes intersected magnetite-bearing ironstone, 1 failed to reach below 132m. 6 holes returned gold assays > 1g/t and the best intersection obtained by Peko was 6m (down-hole) @ 5.29 g/t Gold at 220m (vertical) below surface in DDH1(MUGD01). Copper values peaked at 4.8% (DDH12;MUGD12) over thin widths, and strongly anomalous Bi, Pb and Zn values were also returned. 3ppb-Gold/13ppm-

Copper Vacuum (7.3 to 7.6m) other intercepts were, MUGD06 16m @ 1.4 g/t Au and MUGD08 20cm @ 17 g/t Au

This early diamond drill pattern positioned along a north east trending structure was continued south by North Flinders Exploration in 1992 that completed a vacuum drilling grid followed up by RAB drilling. Geochemical anomalies were detected south of MUGD01 in RAB drilling that warrant follow up. Early diamond drilling concluded ironstone is patchy, attributed to the apparent lack of an adequate localizing structure, such as the flexures found at Juno, Peko and Gecko which would have assisted the control of the mineralizing fluids. Logs indicate that late stage porphyry intrusion post dates the ironstone development, overprinting sedimentary features of the Warramunga formation, little veining or structural deformation has been noted.

In long section a significant absence of drilling exists between the upper oxidized blanket tested by MUGD03 and the first tier of deeper holes, where presently 110m remains untested down pitch from Geopeko's best intercept in MUGD01. Additional potential exists beneath the area defined by RAB drilling where elevated bedrock samples were recorded for elements such as gold, bismuth, silver and copper. This southern zone has been ear marked in early reports for follow up but no work has continued since the last RAB program in 1992.

The footwall dolomite unit intersected by holes MUGD02 and 12 can be used to define the orientation of the mineralized structure, which again reveals wide untested zones. It has been noted that the Argo magnetite body was encased in a carbonate envelope ranging from 2m to 15m thickness and that some high grade zones occurred within the carbonate zone. If this deposit is similar to Argo style mineralization which was last recorded as 250,000 tonnes at 14.8 g/t, then barren areas and down plunge extensions certainly require follow up drilling.

At Muscadel the geochemical signatures work favourably toward recommending further drilling below bedrock interface anomalies in RAB drilling. The traverse of three RAB holes namely EMUB01 – 02 – 03 is an excellent example of surface oxide detection with gold values up to 940ppb, copper 845ppm and bismuth 4680ppm in a four meter composite sample. These elevated values obtained in the centre hole EMUB02 are justified, given elevated halo detection values achieved in sister holes either side. Signalling the southerly extension of known high grade ironstone, this target warrants testing at depth with one bedrock RC hole to at least 150m after geophysical modelling is complete.

During 2010 Emmerson and contract geophysical consultants, Spinifex Geophysics, further developed a processing technology, Vector Residual Magnetic Intensity (VRMI) aimed at existing magnetic data from Emmerson's Tennant Creek tenure package, figures 4 (pre-VRMI) & 5 (VRMI) represent the success of the VRMI technology. Immediate identification of highly prospective VRMI targets reprioritised Emmerson's target matrix, the Red Bluff Area in Emmerson's Western Project Area became the No. 1 priority area for exploration activities. Drilling during 2010 at Red Bluff confirmed the VRMI technology with significant intercepts of thick ironstones, although assay results were mixed, the successful ironstone intercepts were evidence to support the development and use of VRMI technology. VRMI assessment of the Muscadel Group

clearly displays the prospectivity of the group with significantly strong VRMI anomalism dominant over the Muscadel area, refer to figure 6.

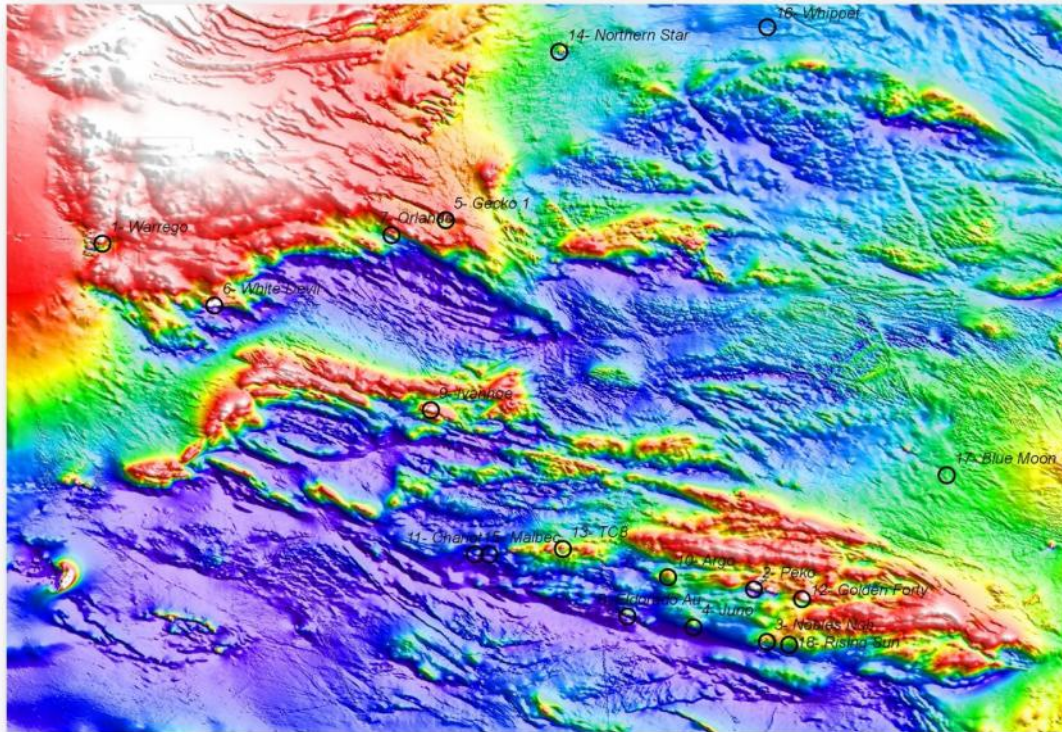


Figure 4: Conventional Magnetics

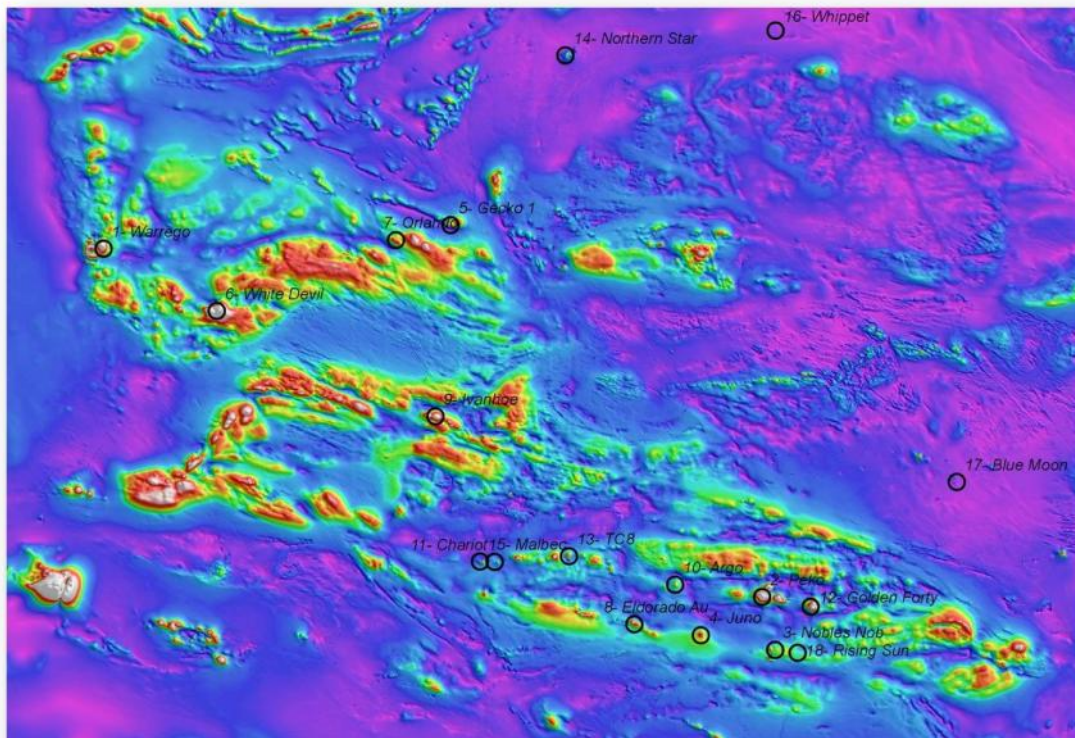


Figure 5: VRMI

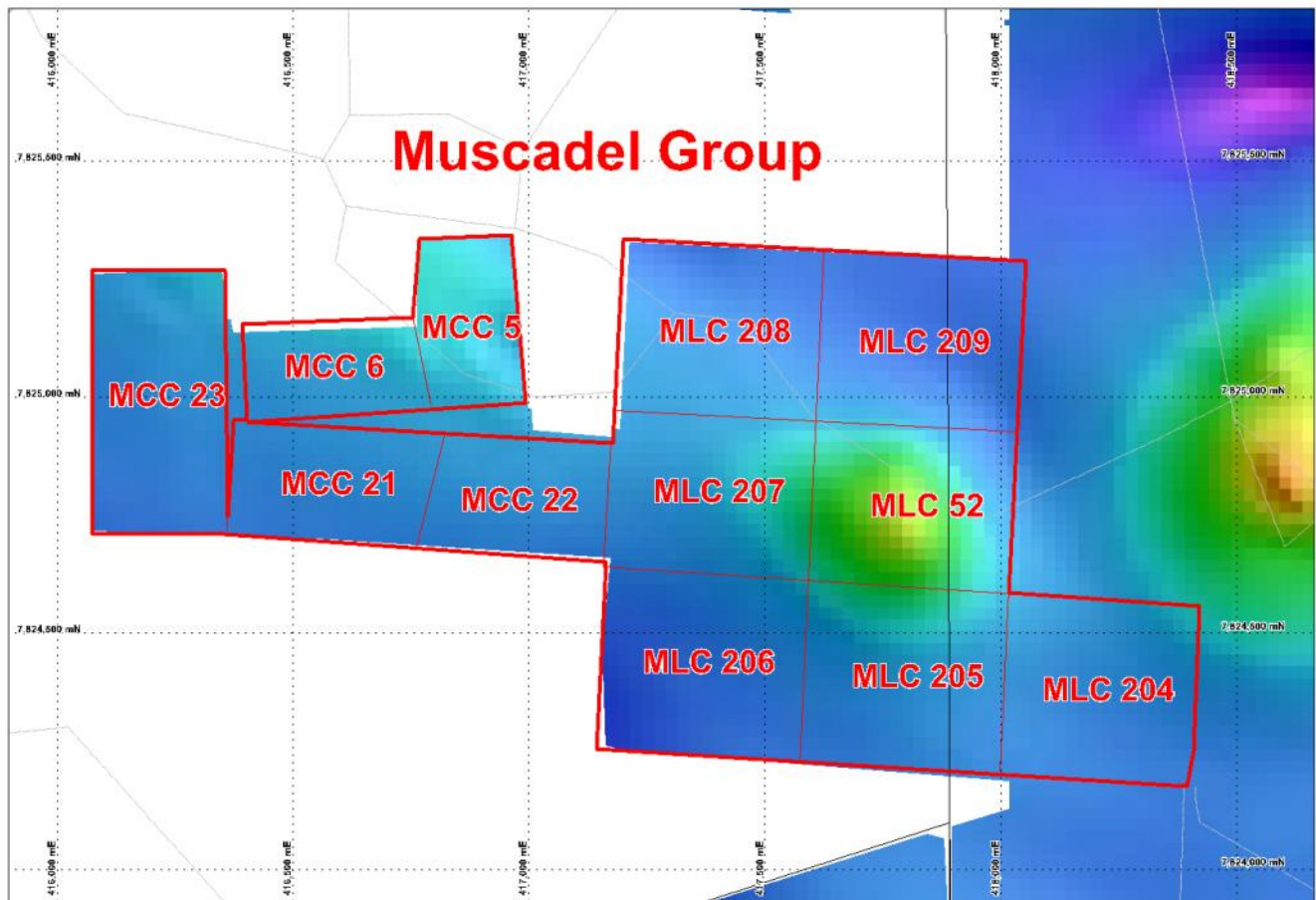


Figure 6: VRMI anomalism displayed at Muscadel Group.

During 2011 Emmerson Resources Ltd (Emmerson) flew a Heli-TEM survey over a number of areas to firstly orientate the survey over known deposits and secondly to fly over the highest priority VRMI target areas. Heli-TEM is a helicopter mounted system capable of measuring the conductivity of the rocks to significant depth and will utilise the world's most powerful airborne, time-domain electromagnetic system. A breakthrough during late 2010 and early 2011 has been the recognition that drill core from the mineralised portions of Tennant Creeks historic deposits is conductive up to 80times the background levels. Emmerson hopes that encouraging results from the Heli-TEM survey will further refine the exploration search workspace within recognised VRMI targets areas.

Although no HeliTEM survey was flown over the Muscadel Group it has direct implications for exploration. Exploration and a 'proof of concept' drilling program for targets generated from the HeliTEM data was initially focused around the Gecko and Orlando Areas (block 1) in Emmerson's Northern Project Area (NPA). Results from this drilling to date have been very successful with intersections of both high grade gold and copper from two new discoveries, Goanna and Monitor, located either side of the historical Gecko Mine Area. Induced polarisation (IP) surveys have also recently been conducted to further define the identified anomalies and help in refining the drill targets.

The drilling of HeliTEM targets at Gecko (the 'Proof of Concept' drilling) has provided the most significant and new exploration breakthrough for exploration in the Tennant Creek Mineral Field for decades. This breakthrough has been the application and drilling of HeliTEM targets at the Goanna and Monitor discoveries (in the Gecko Area) occurs in subdued magnetic signatures, therefore confirming that magnetic anomalies are not the only potential hosts for economic mineralisation in the Tennant Creek Field. Figure 7 below shows the magnetic image (VRMI) of the Gecko Corridor, it can be seen that the drilling at both Monitor and Goanna has focused on the 'blue' area (magnetic low), compare this with the HeliTEM image in figure 8 and it can be seen that the drilling has focused on a HeliTEM anomaly not seen in the magnetics, this has vast implications for exploration in the rest of the field, in particular the Muscadel Group.

Emmerson commenced drilling in a perpendicular to strike of the identified structural orientation, this drilling identified four shear zones, which has subsequently increased to five shear zones (termed northern, central, southern, far southern and far northern shears) through subsequent drilling, as well as defining shear zones the drilling intersected significant mineralisation. Drilling continued in this perpendicular orientation until it was realised that structurally the mineralisation had a plunge component and was likely to occur as pipe like bodies within the shear zones, as displayed in figure 9. Following this realisation the drilling orientation was changed to drill parallel (GODD007 in figure 9) which gives a higher chance of intersecting the mineralisation but also a closer to true thickness.

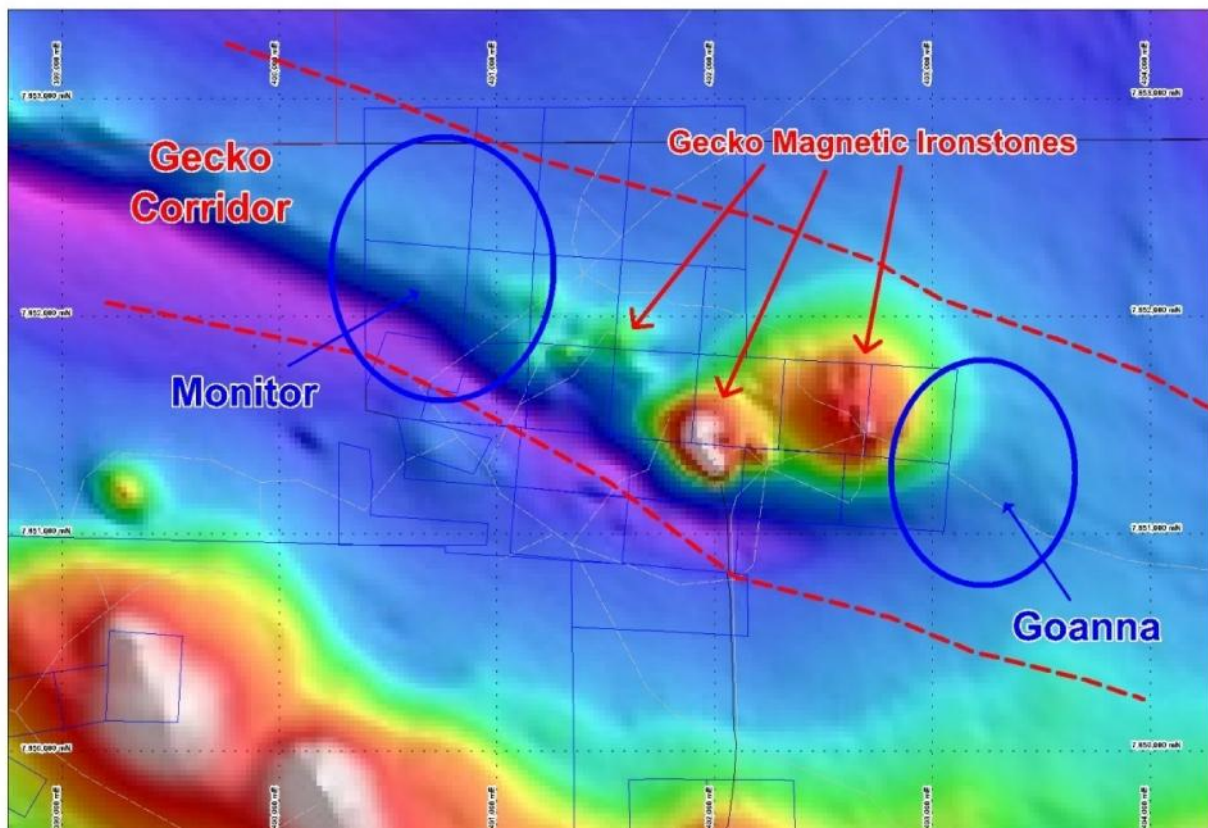


Figure 7: Gecko Corridor vs. VRMI

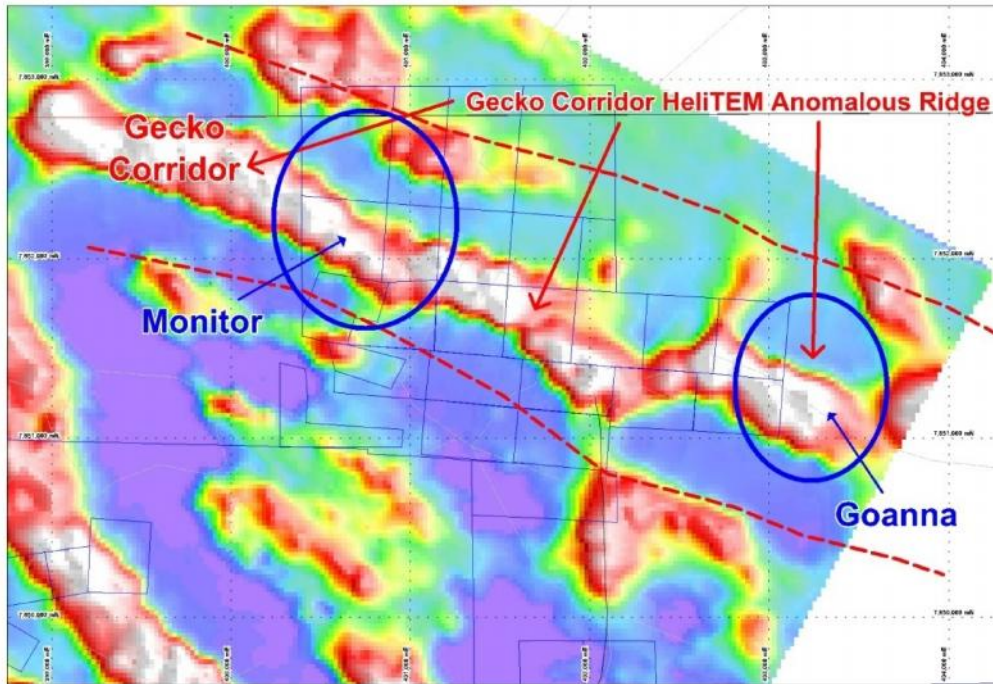


Figure 8: Gecko Corridor vs. HeliTEM (depth Slice at 350m below surface)

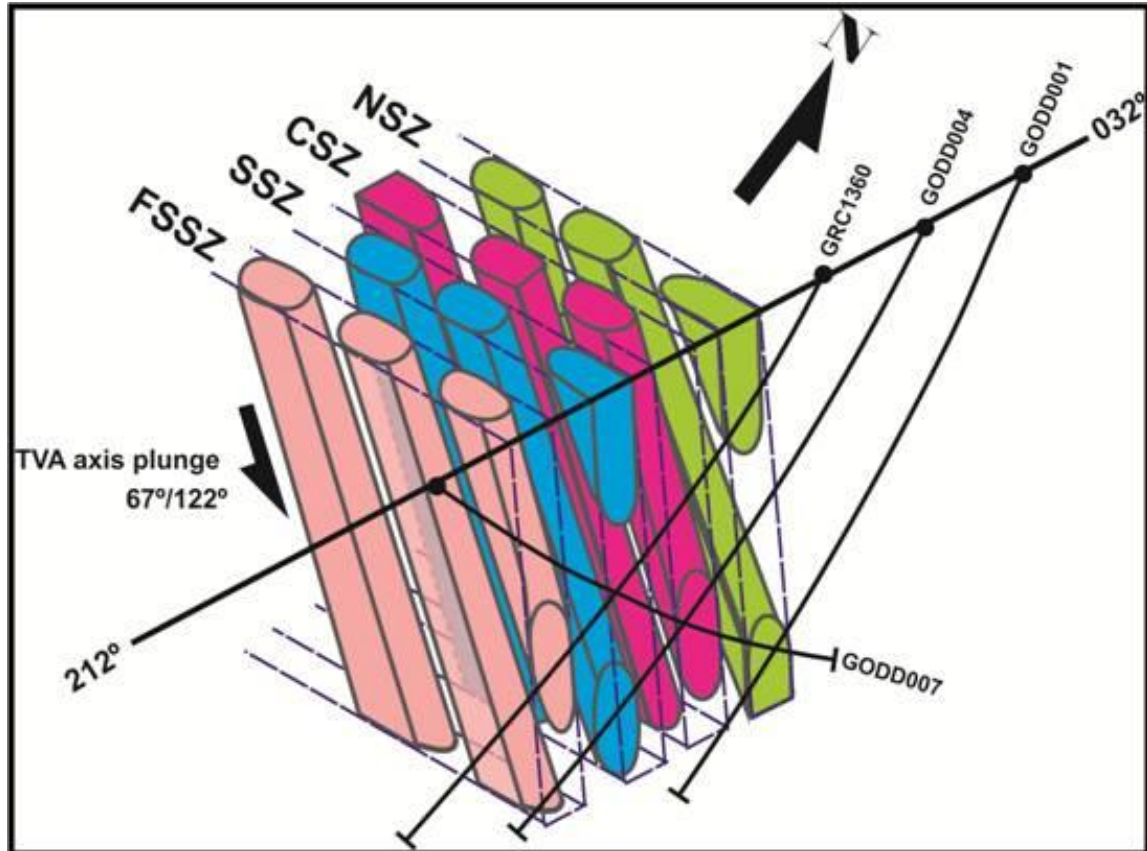


Figure 9: Identified Shear Zones at Goanna and the plunge pipelike mineralisation bodies, within the shear zones.

7. CONCLUSIONS

As described above the Muscadel Group remains highly prospective for the discovery of economic mineralisation, specifically following the breakthrough's with exploration techniques and knowledge obtained from the HeliTEM exploration in the Gecko Corridor.

In long section a significant absence of drilling exists between the upper oxidized blanket tested by MUGD03 and the first tier of deeper holes, where presently 110m remains untested down pitch from Geopeko's best intercept in MUGD01. Additional potential exists beneath the area defined by RAB drilling where elevated bedrock samples were recorded for elements such as gold, bismuth, silver and copper.

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8. MTA COMPLIANCE RECOMMENDATION

It is recommended that Emmerson amalgamate all 13 titles into a single title and renew the title for future resource definition and exploration activities to explore in more detail the identified anomalous zones to determine its potential to host economic deposits, as detailed above.

Planned future activities will be aimed at the following;

- Detailed assessment and interpretation of historical drilling.
- Detailed reassessment of drill core for reinterpretation of the structural environment.
- Where positive result conduct geophysical surveys such as EM and deep IP.
- Drill testing by RC and/or DDH.