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NORSEMAN GOLD Plc

EXPLORATION POTENTIAL

ELs 63/956-957

ALBANY - FRASER PROVINCE

WESTERN AUSTRALIA

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CSA Australia
May 2008

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EXECUTIVE SUMMARY

David Thomas of Norseman Gold Plc commissioned CSA Australia P/L to undertake a review of the exploration potential of the outlying Fraser Range tenements located in the Albany-Fraser Province, which are situated between Norseman and Esperance, in the southern portion of Western Australia.

The Fraser Range Project area consists of six exploration licenses (EL63/952-957 inclusive) straddle the Proterozoic and Archaean stratigraphy across a major crustal suture, which separates the Proterozoic Albany-Fraser Province from the Archaean Yilgarn Province. Thus the tenements are prospective for a range of base metal and precious metals, ranging from Archaean Norseman to Wiluna style gold and base metal mineralisation to Proterozoic Tropicana style gold mineralisation.

The Native Title Claimants covering this area are probably the Narnoobinya Family Group NTC WC97-040.

Previous Exploration includes activities by Pecan Resources (1996), Pan Australian (1998), and BHP–Billiton–Discovery Nickel (2003), which used exploration models based on the Broken Hill type Ag-Pb-Zn and polymetallic VMS type mineralisation.
Calcrete geochemical sampling by BHP highlighted an area of Cu-Au-Zn-Ni anomalism, which was tested by RAB drilled. This geochemical exploration identified a large 3km x 1km Cu+Au+-Zn, Ni anomaly on the contact between the Archaean domain and Palaeo-Meso Proterozoic Fraser Mobile Belt.

The Albany-Fraser Terrane consists of two Proterozoic mobile belts that flank the southern margins of the of the Archaean Southwest Gneiss Terrane and southern and eastern margins of the Yilgarn block. The two Proterozoic mobile belts are characterised by high grade gneisses and granulites, granitoid intrusions and polyphase deformation.

Styles of mineralisation which are considered likely include Yilgarn greenstone hosted gold and nickel mineralisation, Broken Hill Type lead-zinc, VMS polymetallic base metals and Tropicana style gold mineralisation.

Previous exploration techniques include aeromagnetic imaging and subsequent re-interpretation, litho-structural modeling of the district, auger sampling of calcrete horizons, reconnaissance drilling of soil anomalies. This exploration methodology identified a calcrete hosted geochemical anomaly, which was located 15km to the north of the existing E63 / 956-957 tenement measuring 3.4 x 1.3km and reporting 43-171ppm Cu. Strong Au, and weak Zn and Ni anomalies were also located.

The 1: 250,000 geology map highlights the lack of outcrop in all tenements. The area is dominated by transported aeolian cover, with <10% outcrop. Mapped lithologies include granite, gneisses and granulites. World Geoscience flew aeromagnetics over the prospect. Research of open file data does not show evidence of previous drilling in the project area.

The proposed reconnaissance exploration program is similar to that previously used by BHPB. Detailed low-level aeromagnetics would enhance the understanding of the litho-structural controls within these two tenements. This data may possibly be sourced from archival BHPB data or it may have to be re-flown.

CONCLUSIONS

- Exploration potential of the project area is highlighted by the aeromagnetics, which shows the Fraser Range tenements straddling a major northeast trending crustal suture. This suture separates the Proterozoic Albany-Fraser Province from the northwest trending Yilgarn stratigraphy.

- The existing aeromagnetics highlights the structural complexity of the area and gold mineralisation is likely to be associated with dilational structures. The NE trending crustal suture is a highly prospective structural corridor along which reconnaissance exploration ought to be focused for gold mineralisation.

- The detailed aeromagnetics has highlighted additional structural complexity in the form of strong folding and lineament orientations not evident from the 400m spaced World Geoscience aeromagnetic survey.

- Reconnaissance sampling of the calcrete horizon is an effective tool for identifying geochemical anomalies.

- Styles of mineralisation possible within this project area range from Proterozoic Tropicana style gold mineralisation to Archaean Yilgarn nickel, base metal and gold mineralisation.

RECOMMENDATIONS

- The area immediately south of tenements E63-956 is vacant ground and it is strongly recommended that Norseman Gold submits an application to DOIR to gain title and mineral rights to this area.

- Reconnaissance soil sampling of the calcrete horizon for multi-element analyses be implemented on a kilometre square grid, using GPS instrumentation for survey control over the entire project area.

- Detailed aeromagnetics be obtained and detailed litho-structural interpretations undertaken.

1. INTRODUCTION

David Thomas of Norseman Gold Plc commissioned CSA Australia P/L to undertake a review of the exploration potential of the outlying Fraser Range tenements located in the Albany-Fraser Province, which are situated between Norseman and Esperance, in the southern portion of Western Australia.

The Fraser Range Project area consists of six exploration licenses, which are unique in that they straddle the Proterozoic and Archaean stratigraphy across a major crustal suture, which separates the Proterozoic Albany-Fraser Province from the Archaean Yilgarn Province. Thus the tenements are prospective for a range of base metal and precious metals, ranging from Archaean Norseman to Wiluna style gold and base metal mineralisation to Proterozoic Tropicana style gold mineralisation.

2. LOCATION

The tenements are located in the Albany-Fraser Province of Western Australia. And are situated ~150km SE of Norseman and ~175km NW of Esperance.

3. ACCESS

Access to these tenements is generally poor, relying on rarely used station and forestry trails in either marginal wheatbelt areas or heavily vegetated crown land adjacent to national parks.

4. TENEMENTS

Tenements reviewed include exploration licenses 63/956 and 957**.**

TABLE 1: Tenement Statistics

Tenement ID	Area Sub-blocks	Expenditure Commitment	Grant Date	Expiry Date
E63-952	40	40,000	5-10-05	4-10-10
E63-953	70	70,000	8-02-07	7-02-12
E63-954	65	65,000	8-02-07	7-02-12
E63-955	27	27,000	8-02-07	7-02-12
E63-956	47	47,000	5-10-05	4-10-10
E63-957	45	45,000	5-10-05	4-10-10

5. NATIVE TITLE

The Native Title Claimants covering this area are probably the Narnoobinya Family Group NTC WC97-040.
Anthropologist used for the ethnographic survey was Dr Barrie Machin. Survey conducted in 9-12th December 2003.

6. PREVIOUS EXPLORATION

Pecan Resources 1996
Loam samples to the south of Fraser Range were ound to contain gahnites in 30% of the samples collected. There has also been significant mineral sands, bauxite, and coal exploration in the general area.

1998 Pan Australian E63 / 453
Pan Australian exploration concept; testing the southern extension of the Archaean Yilgarn Craton into the formerly interpreted Albany-Fraser Province.

World Geoscience completed aeromagnetics over the area on 400m spaced E-W orientated lines at a flight height of 60m.
45 magnetic target areas identified.
Local rock types include Meso-Proterozoic Coramup Gneiss, in faulted contact with Palaeo-Proterozoic Dalyup complex. Both units consist of para and orthogneisses.
Weak magnetic anomalies in the layered and faulted Proterozoic lithologies were not considered to be worthy of follow up.

2003-2004 BHP– Billiton – Discovery Nickel
Exploration model, Broken Hill type Ag-Pb-Zn , polymetallic VMS type mineralisation.
Calcrete geochemical sampling highlighted an area of Cu-Au-Zn-Ni anomalism, called Zone B, measuring 3km x 1km, centre on the contact between Archaean and Palaeo-Meso Proterozoic Frazer Mobile belt.
Followed by.39 RAB holes drilled along two lines measuring 900m x 1200m, to blade refusal i.e. ranging from 9-56m, for 1,219m on two lines 500m apart. Collar spacing generally 50m, though upto 100m when depth to basement reached 50m. Holes were orientated 60 degrees towards 90 magnetic.
A total of 218 composite samples were taken. Six metre composite samples were taken from the overlying cover sequence and 4m composite samples from the from the cover sequence/saprolite interface. These samples were analysed for Au, Ag, As, Bi, Co, Cu, Mo, Ni, Pb, S, Sb and Zn by ALS-Chemex Kalgoorlie.

This geochemical exploration identified a large 3km x 1km Cu+Au+-Zn, Ni anomaly on the contact between the Archaean domain and Palaeo-Meso Proterozoic Fraser Mobile Belt.

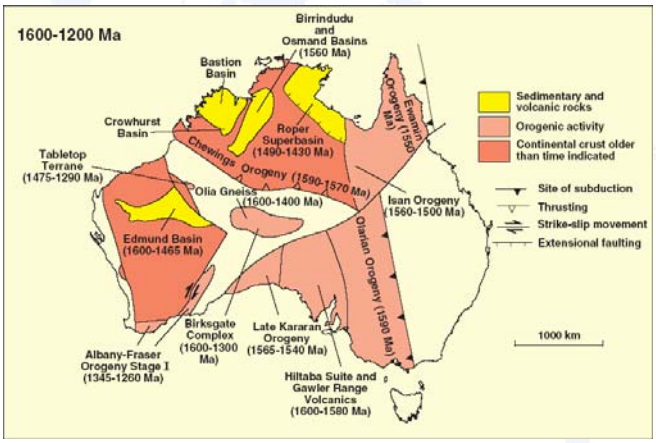
7. REGIONAL GEOLOGY
The Albany-Fraser Terrane consists of two Proterozoic mobile belts that flank the southern margins of the of the Archaean Southwest Gneiss Terrane and southern and eastern margins of the Yilgarn block. The two Proterozoic mobile belts are Palaeo-Meso Proterozoic in age and are characterised by high grade gneisses and granulites, granitoid intrusions and polyphase deformation.

Myers 1990, divided the Albany-Fraser Terrain into the Biranup Complex and Nornalup Complex.

The Fraser Project lies in the Biranup Complex (1600-1700Ma) of the Fraser Mobile Belt and is composed of strongly deformed Palaeo-Meso Proterozoic high-grade quartzo-feldspathic and basic gneisses (para and orthogneisses) with localized granitoids and gneisses of 1130-1350Ma.
The Biranup Complex is divided into to domains the Western Fraser Domain and Dalyup Domain. The Dalyup Domain is interpreted to sit stratigraphically below the Western Fraser Domain and is believed to consist of early rift fill (as evident from the abundant felsic gneisses and widespread amphibolites. The Western Fraser Domain has a higher meta-sedimentary component (psammites and psammo-pelits) with only minor-moderate amphibolites and this mat reflect gradual cooling of the basin/rift.

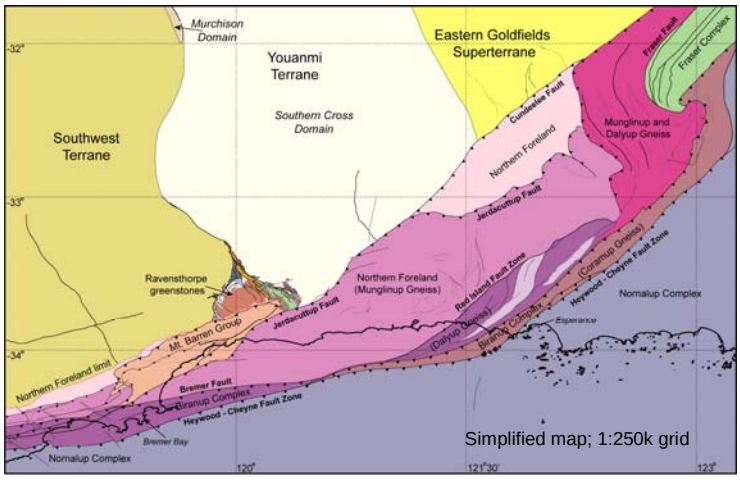
The Nornalup Complex (1100-1300Ma) is less intensely deformed high-grade orthogneisses and paragneisses intruded by sheets of granite-diorite.

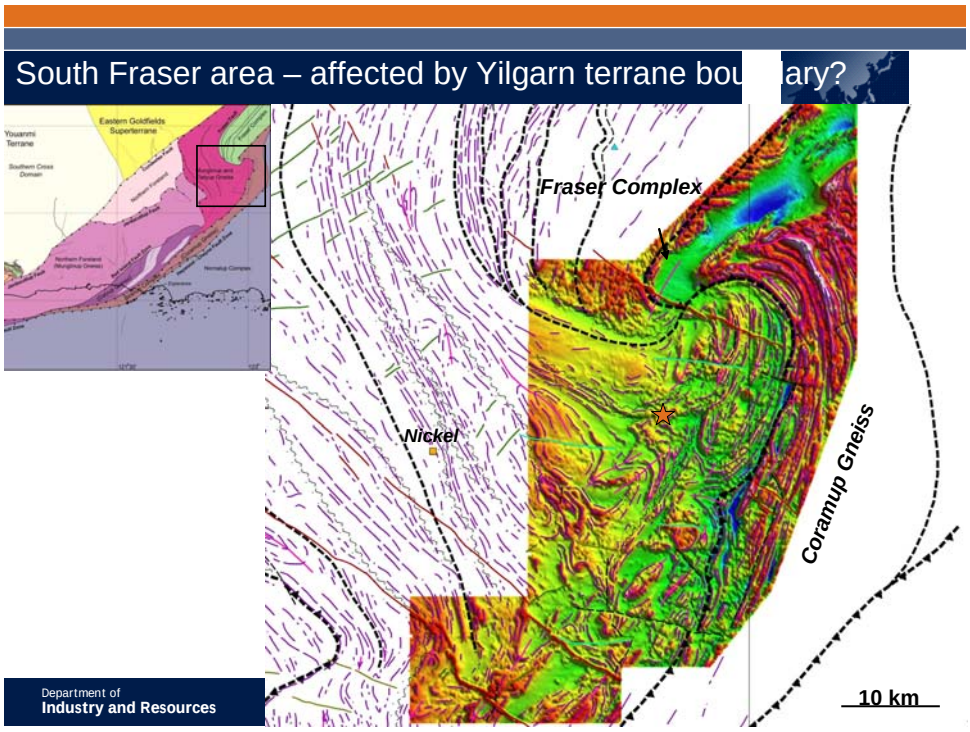
Intracratonic extension



Exploration potential

- Tropicana has highlighted the need to understand the crustal architecture and tectonic subdivisions; in particular – where the craton margin is
- Need to determine structural and metamorphic history, timing of mineralisation





8. REGOLITH GEOLOGY

The Fraser Project contains sub-cropping Proterozoic rocks occurring beneath a stripped insitu laterite profile and overlying Tertiary sediments.

The regolith sequence consists of a truncated Proterozoic saprolite (formed in the Mesozoic), which is variably overlain by sediments of post-Eocene age. These overlying Cainozoic sediments have been modified by lateritic weathering processes during the Oligocene and locally partially stripped due to uplift.
The soil profile reflects the relatively recent onset of aridity (Late Miocene) and formation of an alkaline upper regolith.
The question then arises, " How effective was the calcrete sampling at a depth of 1-1.5m in areas dominated by sequences of younger transported cover".

The Fraser EL's are deeply weathered much like the Yilgarn Craton, and is covered by a veneerof Eocene terrestrial marine sediments. Pedogenic carbonate is extensively developed in soils overlying both Archaean and Proterozoic basement and Tertiary sediments.

9. STYLES OF MINERALISATION

- Yilgarn greenstone gold, nickel mineralisation
- Broken Hill Type lead-zinc, VMS polymetallic
- Tropicana style gold mineralisation

10. PREVIOUS EXPLORATION TECHNIQUES

- Aeromagnetic imaging using the first vertical derivative with several illumination angles.
- Re-interpretation of regional aeromagnetics
- Re-interpretation of regional wide spaced gravity
- Litho-structural modeling of the district
- Auger sampling, reconnaissance drilling, drilling of soil anomalies.
- Calcrete sampling at a grid spacing of 1km.
- Follow up calcrete sampling, spaced 200m x 400m spacing.
- Calcrete sampling was carried out using an auger, drilled to a depth of 1-1.5m, composite samples (1kg) collected of the first material (soil and nodules) that fizzled with dilute HCL acid.
- Calcrete samples were analysed by Genalysis, Perth and analysed for Ag,As, Au, Ca, Cu, Mg, Mn, Ni, Pb and Zn. Analysis involved a 50gm aqua regia digest and mixed GF-AAS and ICPOES/MS finish.
- Anomaly Response ratios were used to identify anomalies.

11. PREVIOUS EXPLORATION RESULTS

BHPB identified a calcrete hosted geochemical anomaly which was located 15km to the north of the existing E63 / 956-957 tenement.
These results indicate that calcrete sampling worked in this area, though drilling of the anomaly failed to identify a primary source.
Anomalism identified and reported (January 2004) included;

- Strong Cu (3.4 x 1.3km), 43-171ppm
- Strong Au (2.2 x 1.8km), 8-25ppb
- Weak Zn (1.2 x 0.9km), 31-66ppm
- Weak Ni (0.9 x 0.5km), 59-78ppm
- Au and Cu anomalism is coincident
- Zn-Ni anomalism is also coincident and within the Cu-Au halo.
- No As or Pb anomalism, but not expected in calcrete.
- Low level manganese
- Cu-Au anomalism is not relaed to iron or carbonate control.

Interpretation of the calcrete geochemical results indicate that significant correlation exists between Cu-Au-Ni (Zn) for anomalous calcrete samples on lines 6394000N and 6393600N at Zone B associated with a subdued magnetic response.

The 25ppb calcrete gold anomaly is located some 15km to the NW of the E63 / 956, though there is a >13ppb anomaly (99 %ile) located within E63 / 956 (BHPB Figure 3 January 2003).

Tropicana Type Mineralisation:

E-W lines 2km apart, hole spacing 250m, intersected granite, gneisses, highly sheared schist, with extensive weathering profiles, moderate to strong sericite alteration has been prevalent in more sheared lithologies, indicating interaction of hydrothermal fluids with host rocks. Pyrite mineralisation in basement and an increase of biotite
Cover sequence 25-40m. The focus of drilling is to ascertain depth of cover and locate geochemical signatures in the weathering profile.

12. PROSPECTS

The Tenements are grouped into three areas;

- Alpha Prospect E63/956 – 957
- Beta Prospect E63/952
- Gamma Prospect E63/953,954, 955.
-

The exploration potential of each contiguous set of tenements are discussed in the following sections.

12.1 Alpha Prospect

12.1.1 Location and Access

The prospect is located 120km southeast of Norseman, 140km NE of Esperance. Salt lakes and sand dunes are evident on the geology plan.
The topographic map shows a Nature Reserve, the boundaries of which remain to be defined. Does it impact on the exploration activities of these tenements?
Access is via the Eyre Hwy, going east for 100km to the Fraser Range homestead, thence south via station tracks for about 120kms.

12.1.2 Tenements

Tenements include 63/956 and 957.

12.1.3 Geology

The 1: 250,000 geology map highlights the lack of outcrop. The area is dominated by transported aeolian cover, with <10% outcrop. Mapped lithologies include granite, gneisses and granulites.

12.1.4 Geochemistry

Previous multi-element geochemical calcrete sampling by BHPB on 1km centres, with auger sampling to a depth of 1-1.5m identified low-level anomalism of upto 25ppb Au in an area to the NW of these tenements.
The geochemistry for the area sampled by BHPB within this project area remains to be captured digitally and interpreted.

12.1.5 Geophysics

World Geoscience flew aeromagnetics over the prospect and the attached image is available from DOIR.BHP flew detailed low-level aeromagnetics over this area and the data may possibly be available, (Contact Tony D’Orazio 08-62182970).

12.1.6 Drilling

Research of open file data does not show evidence of previous drilling in the project area.

12.1.7 Exploration Potential

The aeromagnetics shows the prospect straddling the northeast trending crustal suture which separates the Proterozoic Albany-Fraser Province from the northwest trending Yilgarn stratigraphy.
Thus styles of mineralisation possible within this project area range from Proterozoic Tropicana style gold mineralisation to Archaean Yilgarn nickel, base metal and gold mineralisation.
Given the structural complexity of this area mineralisation is likely to be associated with dilational structures, particularly gold.
The NE trending thrust zone is a highly prospective corridor.

12.1.8 Acquisition Opportunity.

Lineament interpretation of the aeromagnetics has identified a locality immediately south the existing tenements, where two major structural trends intersect. This locality is highly prospective for gold mineralisation associated with brittle ductile deformation.
Secondly, Tropicana style mineralisation (+4million ounces) is most likely associated with linear structural corridors and intense alteration.

The current tenement plans indicate that this area is vacant ground.

Given the prospectivity of this area an EL application should be submitted at the earliest opportunity.

12.1.9 Proposed Exploration Program

The previous calcrete sampling over the western portion of tenement EL63/956 using a kilometre square sampling grid, identified areas of geochemical anomalism. A similar style of reconnaissance geochemical sampling is warranted over the remainder of the adjoining tenements, E63/ 956-957.
The existence of salt lakes in the tenement area impacts on the effectiveness of this program.
After a reconnaissance program is completed, a follow-up infill sampling program is envisaged to delineate areas of discrete anomalism prior to RAB and/or Aircore drilling.

Detailed low-level aeromagnetics would enhance the understanding of the litho-structural controls within these two tenements. This data may possibly be sourced from archival BHP data, or it may have to be re-flown.

12.2 Beta Prospect

12.2.1 Location and Access

The prospect is located in the same general area as the Alpha Prospect, about 120km southeast of Norseman and140km NE of Esperance.
The tenements straddle the wheat belt area north of Esperance and station tracks and fence lines afford reasonable access to the area.

12.2.2 Tenements

Tenements include 63/953, 954 and 955.

12.2.3 Geology

The 1: 250,000 geology map highlights the lack of outcrop.

12.2.4 Geochemistry

There is no documented previous geochemical exploration in the area.

12.2.5 Geophysics

Regional World Geoscience aeromagnetic coverage exists over the tenement.

12.2.6 Drilling

Research of open file data does not show evidence of previous drilling in the project area.

12.2.7 Exploration Potential

As for the Alpha Prospect the regional aeromagnetics shows the prospect straddling the northeast trending crustal suture, which separates the Proterozoic Albany-Fraser Province from the northwest trending Yilgarn stratigraphy.

Thus styles of mineralisation possible within this project area range from Proterozoic Tropicana style gold mineralisation to Archaean Yilgarn nickel, base metal and gold mineralisation.
Given the structural complexity of this area mineralisation is likely to be associated with dilational structures, particularly gold.
The NE trending thrust zone is a highly prospective corridor.

12.2.8 Proposed Exploration Program

The previous calcrete sampling over the western portion of tenement EL63/956 using a kilometre square sampling grid, identified areas of geochemical anomalism. A similar style of reconnaissance geochemical sampling is warranted over these tenements. The impact of cultivation activities on the design of the geochemical program needs to be taken into consideration. A vehicle mounted

helical auger is probably required to sample below the disturbed soil profile. The impact of the use of fertilizers is also a consideration.

After a reconnaissance program is completed, a follow-up infill sampling program is envisaged to delineate areas of discrete anomalism prior to RAB and/or Aircore drilling.

Detailed low-level aeromagnetics would enhance the understanding of the litho-structural controls within these two tenements. This data may possibly be sourced from archival BHP data, or it may have to be re-flown.

12.3 Gamma Prospect

12.3.1 Tenement

This is a single tenement EL63/952.

Comments for the Alpha and Beta Prospects concerning geology, geochemistry, geophysics, drilling and exploration potential also pertain to this prospect.

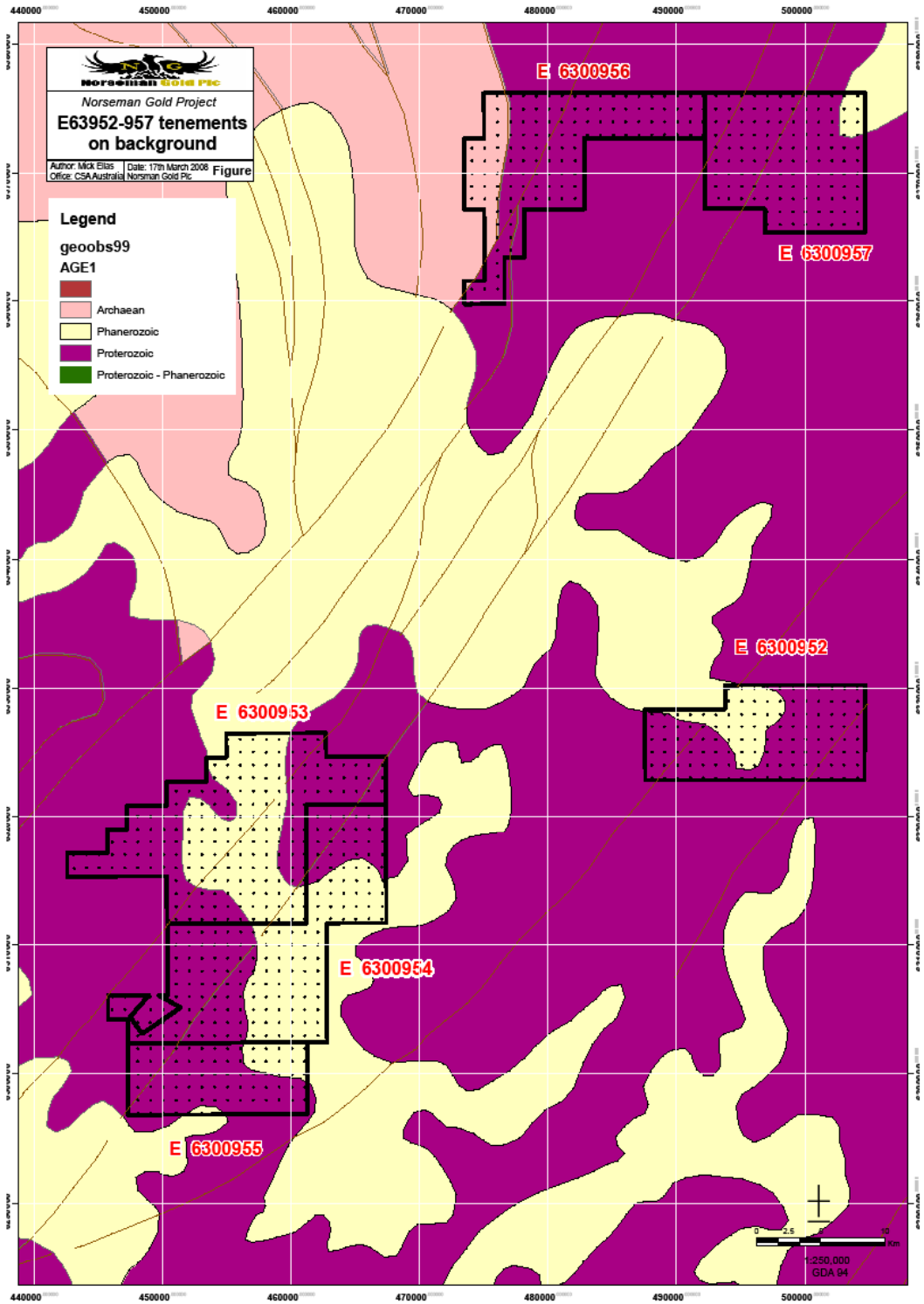
13. References

Read J. 2004 Exploration Licences E63/706-746, Southern Fraser Project, Western Australia; Combined Final Report For The Period Ended 29th January 2004, Discovery Nickel Ltd

Robinson P. 1998 Yilgarn Extension Project, E63/453 Surrender Report; Pan Australian Exploration P/L. DOIR Reference M9749/4, Item 10624A 54560

White M 2004 Exploration Licences E63/706-746, Southern Fraser Project, Western Australia; Combined Final Report For The Period Ended 29th January 2003, Combined Reporting number C33/2003. BHP Billiton Minerals P/L DOIR Reference CR10650, A66276

White M 2004 Exploration Licences E63/706-746, Southern Fraser Project, Western Australia; Combined Final Report For The Period Ended 20th December 2004, Combined Reporting number C33/2003. BHP Billiton Minerals P/L DOIR Reference CR10864.


Norseman Gold Plc
Norseman Gold Project
E63952-957 tenements on background
Author: Mick Elias
Office: CSA Australia
Date: 17th March 2006
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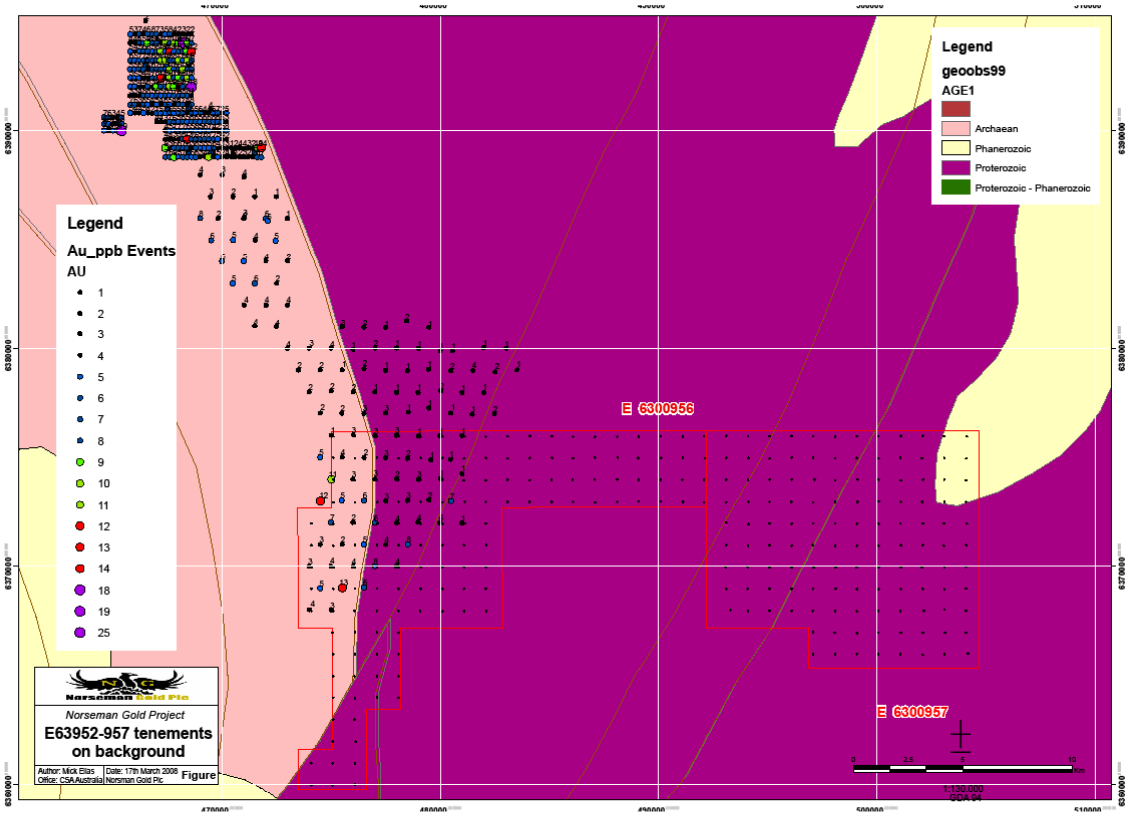
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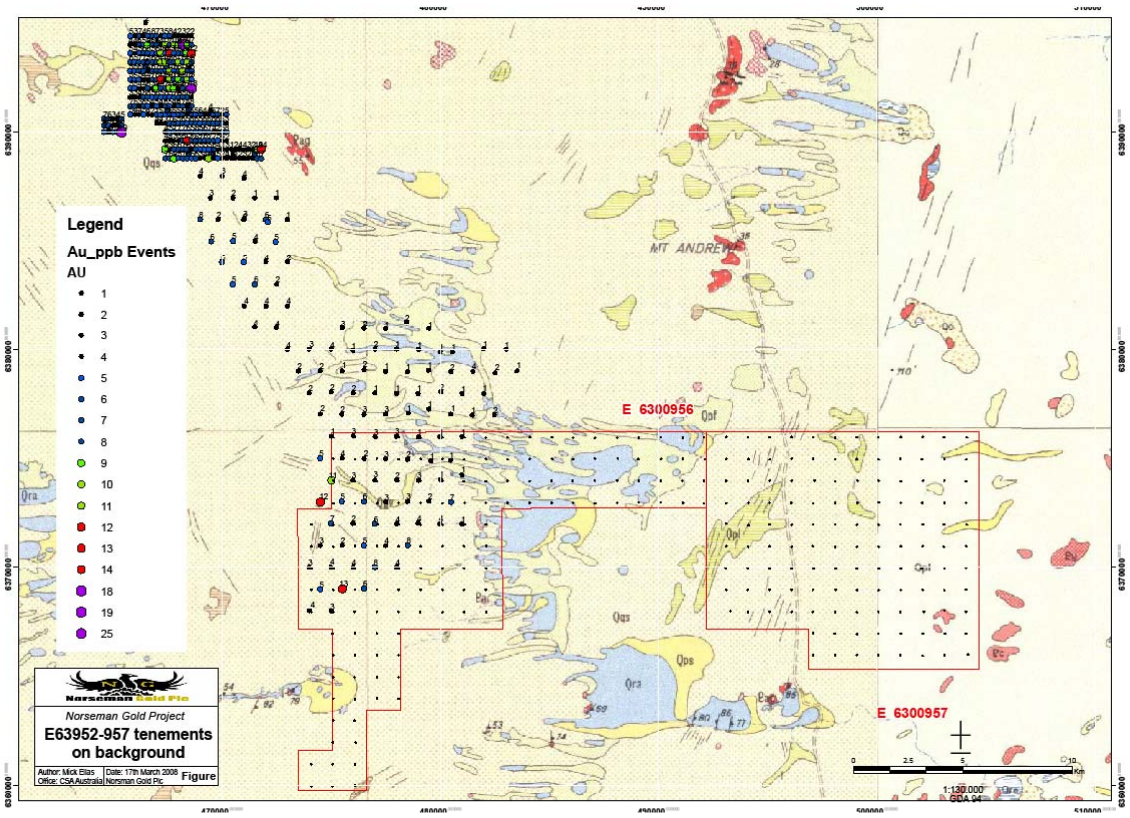
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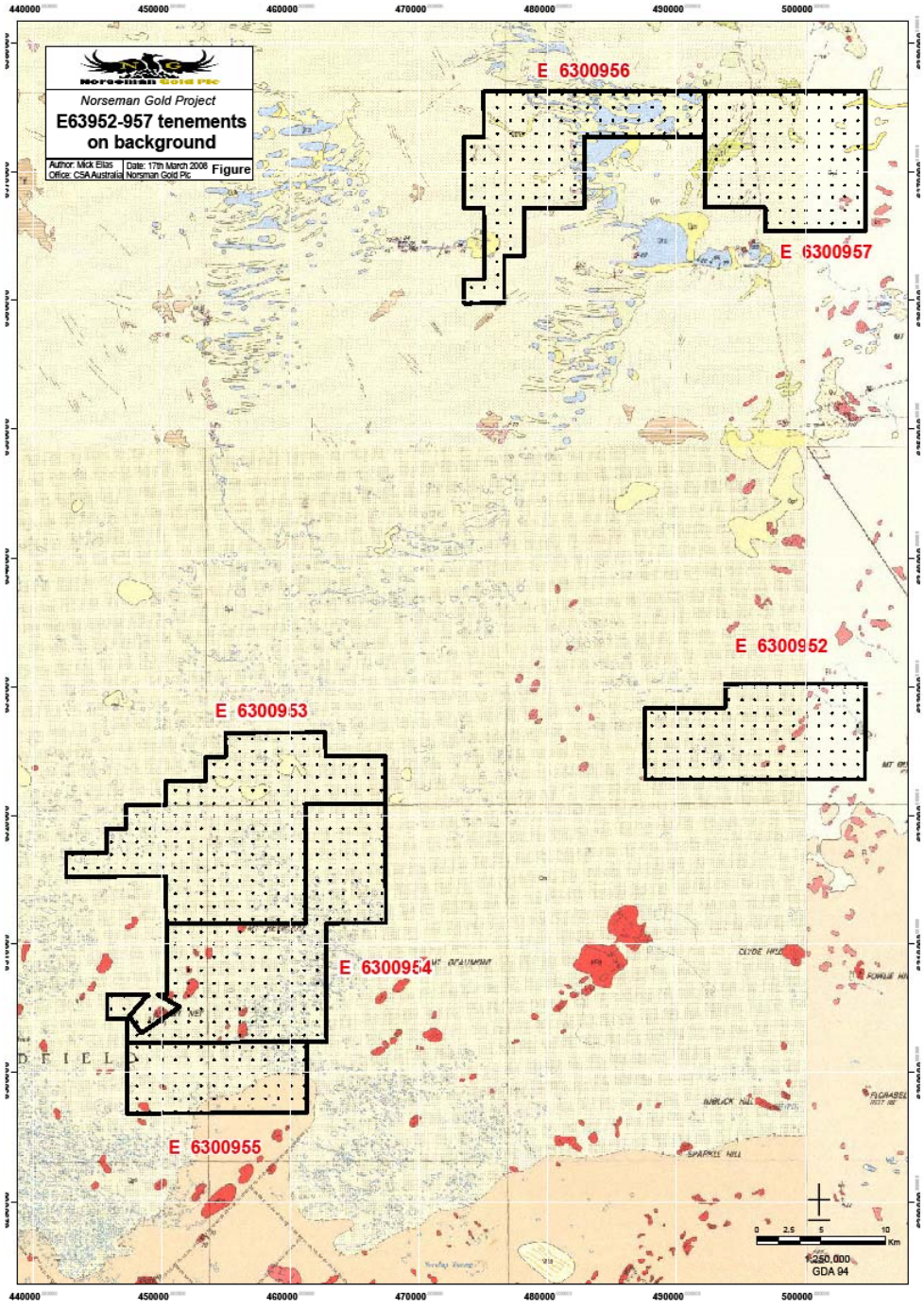
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