Geophysics and Drilling Collaborations

Report Title Page

RECIPIENT
Consolidated Global Investments Limited

PROGRAM TITLE
Airborne Geophysical Survey Flora River, Northern Territory

TENEMENT COVERED
EL26899

TECHNICAL CONTACT
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DATE OF REPORT
19 October 2012

MAPSHEETS
1: 250 000-Fergusson River SD52-12
1: 100 000-Flora 5168
1: 100 000-Bowman 52

ABSTRACT
In September 2012 the Flora River NT Airborne Geophysical Survey was flown over EL26899 which is held by Century Hill Pty Ltd., a subsidiary company of Consolidated Global Investment Limited (CGI). It is an airborne magnetic/radiometric survey which was flown at 200m line spacing. This survey was conducted in collaboration with the Northern Territory Government.

The objective of the survey was to upgrade magnetic/radiometric coverage over the tenement from a current coverage of 1500m line spacing. The survey was flown between 11 September and 14 September 2012 and it included 1,835 line km. The work was proposed by CGI to extend the quality of data coverage further into this greenfields area to enable assessment and further exploration to proceed on the basis of necessary data density.

The survey has provided high quality data which has enabled detailed identification of geological structure. Radiometric data has been interpreted and elevated values of U²/Th have been identified. These anomalies are proposed to be indicators of potential Heavy Rare Earth Elements (HREE) mineralisation based on similar anomalies documented to the north.
1. Summary

- This survey was conducted in collaboration with the Northern Territory Government. It is an airborne magnetic/radiometric survey which was flown at 200m line spacing. The survey was flown over EL26899 which is held by Century Hill Pty Ltd. Century Hill is a subsidiary company of Consolidated Global Investment Limited (CGI).

- The objective of the survey was to upgrade magnetic/radiometric coverage over the tenement from a current coverage of 1500m spacing. The survey was flown between 11 September and 14 September 2012 and it included 1,835 line km.

- Following recent discoveries of Heavy Rare Earth Elements (HREE) mineralisation in sandstone hosts by TUC Resources Ltd, the south-eastern basin margin of the Daly Basin has newly recognised potential for HREE discoveries. The work was proposed by CGI to extend the quality of data coverage further into this greenfields area to enable assessment and further exploration to proceed on the basis of necessary data density.

- The survey has provided high quality data which has enabled detailed identification of geological structure. Radiometric data has been interpreted and elevated values of $U^2/Th$ have been identified. These are proposed to be indicators of potential Heavy Rare Earth Elements (HREE) mineralisation based on similar anomalies documented to the north.

- Overall the combination of favourable lithologies, faulting, coincident $U^2/Th$ anomalies and proximity to known HREE mineralisation makes the entire tenement EL26899 prospective for HREE mineralisation.

- Follow-up on ground geological assessment and comprehensive rock chip sampling will be undertaken over identified areas of prospectivity.
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3. Introduction

The survey plan and tenement locality are shown on Figure 1 below. Access is from Katherine 90 km to the east north east by air.

Figure 1 – Survey Plan
The boundary coordinates that define the Flora River survey area are in GDA94 MGA Zone 52:

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4. Regional Context

Summary of regional geology

The project is located within the Daly Basin, a gently dipping intracratonic Cambro-Ordovician Basin which lies unconformably over the Pine Creek Orogen and the Birrindudu Basin to the north and east and the Victorian Basin to the west. It in turn overlies the Carpentaria Basin on its southern Margin.

The south-west margin of the project area is located on the dominant northwest trending Dorisvale Fault which separates the Daly Basin Middle Cambrian shallow marine sediments from Lower Cambrian Antrim Plateau tholeiitic plateau basalts. Evidence of epithermal-style mineralisation has been located along the Dorisvale Fault by a number of explorers since the 1980’s. The basin sediments are interpreted to be up to 1km thick.

Carbonate hosted base metal and barite has been located within the Dorisvale Fault. Historically the area has been explored for gold, phosphate, coal, diamonds, manganese, copper-lead-zinc, tin, nickel, uranium, bulk commodities such as limestone and industrial minerals including barite.

Current exploration in the project area has focused on heavy rare earth elements (HREE) with the TUC Resources discovery of their Stromberg and Scaramanga Prospects. These discoveries have introduced a completely new mineral potential for basin margin sandstone formations.

Summary of Project Area Geology

EL26899 occupies a fault bounded grabin bounded to the south by the Dorisvale Fault along which occurrences of barite have been historically mined. The fault is down-thrown on the north-eastern side and up-thrown on the south-western side. The Exploration Licences show extensive outcropping of Jinduckin Formation together with overlying Quaternary pisolitic laterite and ferruginous rubble. The Jinduckin Formation is described as ferruginous sandstone and siltstone with minor marl, dolomite and siltstone with halite pseudomorphs. Project and district geology is shown in Figure 2.
Figure 2 - Project and district geology
5. Previous Exploration

The majority of the exploration carried out in the Daly Basin in and around EL26899 has been for diamonds, gold, base metals, uranium and limestone (for cement manufacture). The Dorisvale Fault which lies along the western edge of EL26899 hosts barite and minor base metal mineralisation.

A significant amount of base metal exploration has been carried out in and around this fault. Four major barite veins with traces of galena have been identified 9km SW of Dorisvale Homestead in Pony Pocket Creek on the extreme edge of the Daly Basin. A resource of 1,458,000 t of barite was identified by Mineral Deposits Ltd (1974) and a proven reserve of 508,000t to 24m @ 90% BaSO$_4$ was identified by Fischer in 1971. Mining took place between 1977 and 1981 with a total of 58,295t being extracted.

Drill testing of anomalous Pb/Zn mineralisation indicated that the veining is thin and inconsistent and insufficient to host economic concentrations of mineralisation.

Detailed below are summaries of the only specific phosphate exploration carried out within the Daly Basin on record within Open File.

1967–IMC Development Corporation–Dorisvale Area (Over EL26899)

IMC investigated an area which encompasses EL26899 to test for phosphate mineralisation. The company tested cuttings from two BMR drill holes and rock chip sampled outcrops of Tindell Limestone, Jinduckin Formation, Manbullo Limestone and Oolloo Limestone. Samples were tested in the field with acid ammonium molybdate solution with anomalous samples were sent for assay. A total of 116 samples were assayed with the following results returning phosphate mineralisation:

* **Tindell Limestone** - 27 samples with an average of 0.21% P$_2$O$_5$ and a maximum of 0.53% P$_2$O$_5$.

* **Jinduckin Formation** - 4 samples with an average of 0.13% P$_2$O$_5$ and a maximum of 0.16% P2O5.

* **Manbullo Limestone** - 2 samples assayed for 0.23% and 0.26% P$_2$O$_5$.

* **Oolloo Limestone** - 11 samples assayed with an average of 0.24% P$_2$O$_5$ with a maximum of 0.75% P$_2$O$_5$.

**BMR Bore Holes** returned values between 0.07-0.14 % P$_2$O$_5$ from Jinduckin Formation.

1993 – Poseidon Exploration Ltd– Mathison Creek SE of Dorisvale

Poseidon believed the area south-east of Dorisvale to be prospective for carbonate hosted Pb/Zn/Ag mineralisation, Poseidon carried out detailed soil and rock chip sampling, airborne magnetics, radiometrics and gradient array IP. A zone of Pb mineralisation was identified however the soil samples were also assayed for P. Maximum P was 2850ppm P from laterite over Jinduckin Formation (0.65% P$_2$O$_5$) and maximum over Tindell Limestone was 10175ppm P (0.28% P$_2$O$_5$). These values are reflective of IMC’s test work in 1967-68. Regionally samples with <4% P$_2$O$_5$ are not considered anomalous.
Current Exploration by TUC Resources to the North

TUC Resources have identified a number of HREE exploration targets defined by airborne radiometric anomalies directly to the north of the Century Hill ELs along the Daly Basin margin. These include the Stromberg Prospect and the Scaramanga Prospect as well as another along the Dorisvale Fault and another further east into the basin. These are shown in Figure 3 below.

Figure 3 – Prospects and Targets to North
6. Exploration Concept

Recent RC drilling at the Stromberg Prospect has intersected near surface coherent zones of Heavy Rare Earth Elements (HREE) mineralisation. Results included the following intersections:

- **STRC53**: 8m @ 0.72% TREO (93.5% HREE, Dy 7.9%/TREO)
- **STRC27**: 3m @ 0.74% TREO (81.5% HREE, Dy 8.8%/TREO)
- **STRC20**: 5m @ 0.47% TREO (80.5% HREE, Dy 8.7%/TREO)
- **STRC16**: 5m @ 0.42% TREO (81.2% HREE, Dy 8.8%/TREO)

Mineralisation is hosted in flat, tabular bodies within sandstone units. Drilling has shown mineralisation extends over a strike length of over 2 km, and it remains open in cross section and along strike. Mineralisation appears to thicken around fault zones indicating that faults have acted as feeder conduits into the sandstone units. Drilling also indicated that mineralised zones are stacked. Grade of mineralisation increases in areas of interpreted faulting. A schematic representation of mineralisation style is presented in Figure 4.

CGI will explore on EL26899 for similar mineralisation settings to Stromberg. The targeting will identify coincidence of:

- Radiometric anomalies
- Sandstone bodies at surface (Jinduckin Formation outcropping extensively)
- Mobile XRF uranium anomalies
- Major and Localised faulting

With the identification by TUC of Scaramanga and other targets in the region, the potential for similar settings of mineralisation is seen as regional.

![Figure 4 – Conceptual Mineralisation Style (Source TUC Ltd website)](image)

Figure 4 – Conceptual Mineralisation Style (Source TUC Ltd website)
7. Details of the Collaborative Program

In September 2012, GPX Surveys commenced a fixed wing airborne magnetic and radiometric survey for Consolidated Global Investments Ltd over the Flora River survey area in the Northern Territory. The survey consisted of one area and was flown using a Cessna 210 fixed wing aircraft with registration VH-STB.

Client: Consolidated Global Investments Ltd  
GPX Project Number: 2495  
Survey Areas: Flora River, Northern Territory  
Field Base: Katherine, N.T.  
Mobilisation: 8-9-2012 – 9-9-2012  
Production: 11-9-2012 – 14-9-2012  
Demobilisation: 15-9-2012  
Total Line km surveyed: 1,835.4 km

The report summarising procedures, details and equipment used by GPX Surveys in the acquisition, verification and processing of the airborne geophysical data is contained fully in Appendix 2.

8. Results and Interpretation

Flora Mag/Rad REE Targeting

International Geoscience has identified 68 uranium anomalies, 31 of which are located within CGI's tenement (EL 26899). Elevated uranium can be an indicator of potential REE mineralisation. The anomalies are largely based on elevated values of $\text{U}_2/\text{Th}$ and ranked into three groups.

- Rank 1: $\text{U}_2/\text{Th}$ anomaly within the Dorisvale Fault Zone
- Rank 2: $\text{U}_2/\text{Th}$ anomaly east of the Dorisvale Fault Zone
- Rank 3: $\text{U}_2/\text{Th}$ anomaly with no structural control

The mineralisation style expected in the survey area is based on the results from TUC Resources. TUC have several REE’s prospects to the north and northwest of CGI’s tenements. TUC propose a roll-front and/or unconformity style uranium model for their Stromberg and Scaramanga prospects. Each prospect appears to be contained within different formations:

- **Scaramanga**: Proterozoic Waterbag Creek Formation (Ferruginous sandstone and siltstone; minor dolomite and marl; halite pseudomorphs)
- **Stromberg**: Proterozoic Hinde Dolomite (Dolomite and minor limestone, dolomitic siltstone)
- **Skyfall**: Lower Cambrian Antrim Plateau Volcanics (Massive and vesicular basalt, minor agglomerate)

Assuming the mapping is correct in the prospect areas then it appears the mineralisation is not confined to the Proterozoic and therefore younger rocks of Cambrian age are also
prospective. The main controls on mineralisation are likely lithological and structural. Based on the NTGS mapped geology the host rock of the anomalies appears to be Cambrian aged ferruginous sandstone and siltstone of the Jinduckin Formation. This is similar to the lithologies of the Proterozoic Waterbag Creek Formation (Scaramanga Prospect).

Within CGI’s tenement the Dorisvale Fault Zone appears to be controlling the majority of the anomalies and is likely acting as a fluid conduit for mineralisation of unconformity uranium style mineralisation. These faults propagate to the east and form the western portion of the Daly Basin. Many of the faults appear to be very pronounced and may have a considerable depth extent. The U$_2$Th anomalies within the Dorisvale Fault Zone are considered more prospective due to the added structural complexity of the area and shallower basement source. The faults to the east of the Dorisvale Fault Zone are also considered prospective as they too are large scale features which can act as fluid conduits.

The size of each U$_2$/Th anomaly is not in itself important but each anomaly should be viewed as a ‘window’ into the subsurface. As the radiometric signature for each anomaly is only representing the upper 30cm of material each should be investigated with the understanding that the mineralisation extends underground.

*The combination of favourable lithologies, faulting, coincident U$_2$/Th anomalies and proximity to known REE mineralisation makes CGI’s entire tenement EL 26899 prospective for REE mineralisation.*

InterGeo J0106

October 5, 2012
Figure 5 – Structural Interpretation and U²/Th Anomalies
**9. Conclusion**

The combination of favourable lithologies, faulting, coincident U²/Th anomalies and proximity to known REE mineralisation makes CGI’s entire tenement EL 26899 prospective for REE mineralisation.

Follow-up on ground geological assessment and comprehensive rock chip sampling will be undertaken over identified areas of prospectivity as soon as practicable.

**10. References**

- Geological Survey Record-NT-2007/003-M Khan, PA Ferenczi, M Ahmad, PD Kruse-Phosphate testing of water bores and diamond drill core in the Georgina, Wiso and Daly basins, Northern Territory
- Open File Company Records-NT Geological Survey
- TUC Resources website
ACQUISITION PARAMETERS

Consolidated Global Investments Ltd
FLORA RIVER, N.T.
AIRBORNE GEOPHYSICAL SURVEY
DIGITAL ELEVATION MODEL

Flown September 2012

CONSORTIUM GLOBAL INVESTMENTS LTD
APPENDIX 2

Airborne Geophysical Survey
Flora River, Northern Territory
Surveyed September 2012
Logistics and Processing Report
Prepared for
Consolidated Global Investments Limited

GPX Surveys Pty Ltd
Job Number 2495
E_file Folder

APPENDIX 3
GRIDS
E_file Folder

APPENDIX 4
IMAGES
E_file Folder

APPENDIX 5
MAPS
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APPENDIX 6
LOCATED DATA
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# APPENDIX 7

## FILE VERIFICATION LISTING

### Hardcopy File Verification Listing

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**Regional**

**Reconnaissance**

**Prospect**

**Underground**

**Costean**

**Ground geophysics**

**Radiometrics**

**Magnetics**

**Gravity**

**Digital terrain modelling**

**Electromagnetics**

**SP/AP/EP**
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