| April 2014                    | il 2014  |  |  |  |  |
|-------------------------------|--|--|--|--|--|
| Title Holder                  | Territory Resources Limited                                    |  |  |  |  |
| Operator                      | Territory Iron Pty Ltd   |  |  |  |  |
| Tenement Manager / Agent      | Australian Mining & Exploration Titles Services                |  |  |  |  |
|                               | (AMETS) Darwin office  |  |  |  |  |
| Titles / Tenements            | EL22856  |  |  |  |  |
| Mine / Project Details        | Saddles Extended   |  |  |  |  |
| Demography Tide               | EL22856 Saddles Extended Annual Report for the Period          |  |  |  |  |
| Reporting Title               | 5 <sup>th</sup> February 2013 to 4 <sup>th</sup> February 2014 |  |  |  |  |
| Personal Authors              | Andy Burgess   |  |  |  |  |
| Corporate Authors             | Territory Resources Limited                                    |  |  |  |  |
| Company Reference Number      |  |  |  |  |  |
| Target Commodity              | Iron Ore, Manganese Ore  |  |  |  |  |
| Report Date                   | 3 April 2014   |  |  |  |  |
| Datum / Zone                  | GDA94 / Zone 52  |  |  |  |  |
| 250k Mapsheet                 | Pine Creek SD52-08 1:250,000 Sheet                             |  |  |  |  |
|                               | Pine Creek 5270 1:100,000 Sheet,                               |  |  |  |  |
| 100k Mapsheet                 | McKinley River 5271 1:100,00 Sheet                             |  |  |  |  |
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#### TERRITORY RESOURCES LIMITED

A.C.N. 100 552 118

#### **EL22856 SADDLES EXTENDED**

#### ANNUAL REPORT

For the Period

 $5^{th}$  February  $2013 - 4^{th}$  February 2014

Pine Creek SD52-08 1:250,000 Sheet Pine Creek 5270 1:100, 000 Sheet McKinley River 5271 1:100,000 Sheet

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#### **SUMMARY**

This report details exploration activities for iron and manganese mineralisation conducted by Territory Iron Pty Ltd (TIPL) during the period 5<sup>th</sup> February 2013 to 4<sup>th</sup> February 2014 on EL22856. The location of the tenement is shown below (*Figure 1*).

Significant work was undertaken during the reporting year within EL22856 (Saddles Extended tenement) targeting Frances Creek style hydrothermal hematite mineralisation and comprised:

- One hundred and nine (109) Reverse Circulation (RC) drill holes specifically targeting the hematite-goethite iron ore mineralisation at the Elizabeth-Marion prospect, for **6,509** metres;
- A total of 29.74 line kilometres consisting of 1,212 gravity stations took place within the tenement. This was part of a significant ground gravity geophysical survey programme at the Frances Creek Project;
- An airborne electromagnetic survey was flown over part of the Frances Creek Project area (including part of EL22856) to assist in mapping the structure of the host stratigraphy of the Frances Creek mineralisation. This survey was flown by GPX Surveys using their proprietary XTEM electromagnetic system during August and September 2013.

In addition, on 21 January 2014 tenement ML27226 was granted. This partially overlies EL22856 over the Elizabeth Marion deposit.

Expenditure for the reporting period was \$659,308.

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#### 1. INTRODUCTION

This report is submitted by Territory Resources Ltd to meet statutory reporting commitments on tenement EL22856 for the year ending 4<sup>th</sup> February 2014. Exploration within the tenement is focussed on iron ore mineralisation, although the manganese potential for the Koolpin Formation on the west of the tenement has yet to be fully reviewed.

EL22856 is located about 1km north west of the old Frances Creek iron ore mining district from which about six million tonnes was produced during the period 1967-74. The mining district lies 23km north of the township of Pine Creek which is located on the Stuart Highway about 220km south of Darwin (Figure 1). Access from Pine Creek is along the sealed Kakadu Highway for 2km and then along the graded Frances Creek Mine road for 23km to the old iron ore mine site (Figure 2).

Access from Frances Creek Mine through to the tenement is generally poor. Presently it is via the Ochre Hill-Millers Road which was re-established by Territory Iron Ltd during 2004-05 to access these prospects. This road runs mainly outside and along the eastern boundary of the tenement. It is not maintained by either leaseholders or the NT authorities and use of 4WD vehicles is advisable at most times. Vehicular access off this road is usually not possible between the December to May tropical monsoon wet season.

#### 2. TENURE

#### 2.1 Mineral Rights

EL22856 was granted to Territory Iron Limited on 5 February 2003. The original 6 year term of the tenement expired on 4 February 2009. Renewal was applied for on 20 October 2008 for a term of 2 years, and this was subsequently granted on the 26 November 2008. A renewal was applied for on 29 October 2010 for a term of 2 years; this was granted on 9 September 2013. A subsequent renewal was applied for and granted; the current expiry date for the tenement is 4<sup>th</sup> February 2015.

The tenement covers 56.5 km<sup>2</sup> or approximately 17 graticular blocks. The covenant for the 2013-14 reporting year was \$52,500.

In the reporting period, on 21 January 2014, Mineral Lease 27226 was granted. This partially overlies EL22856 over the Elizabeth Marion deposit (Figure 2).

#### 2.2 Land Tenure

The tenement includes parts of the following land tenure:

• Ban Ban Springs Pastoral Lease

#### 2.3 Aboriginal Sacred Site Clearance & Native Title

- A search of the Aboriginal Areas Protection Authority's sacred site digital register carried out prior to the commencement of drilling indicated no Registered or Recorded sites within the tenement area;
- Prior to ground-disturbance an archaeological team was deployed over the area to identify
  artefact scatter sites that were duly avoided, with access tracks relocated and drill hole
  locations moved away from identified sites;
- A Registered native title claim DC01/21 Ban Ban Springs, lodged on 13 March 2001, covers the tenement area.

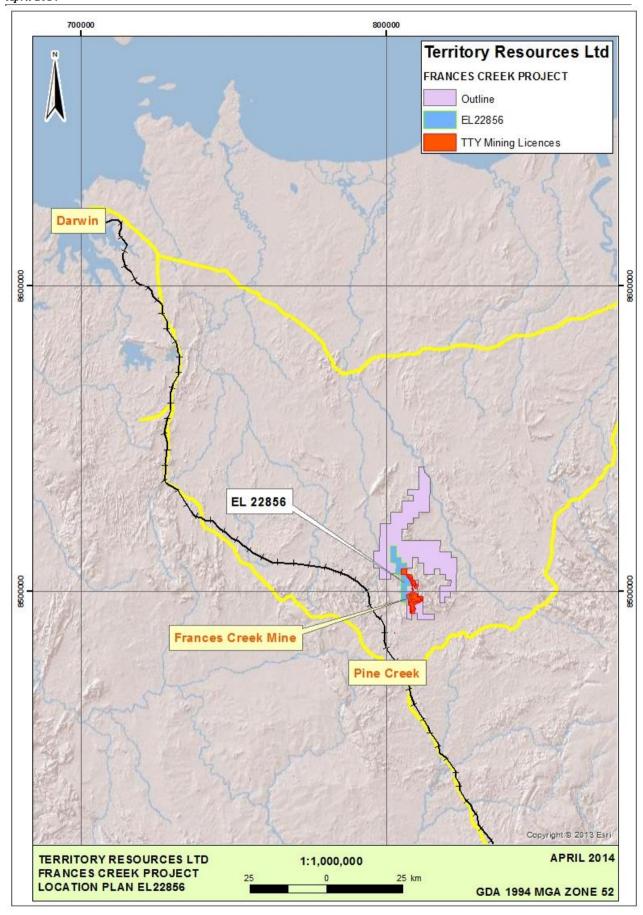


Figure 1: Frances Creek Project - Location Plan

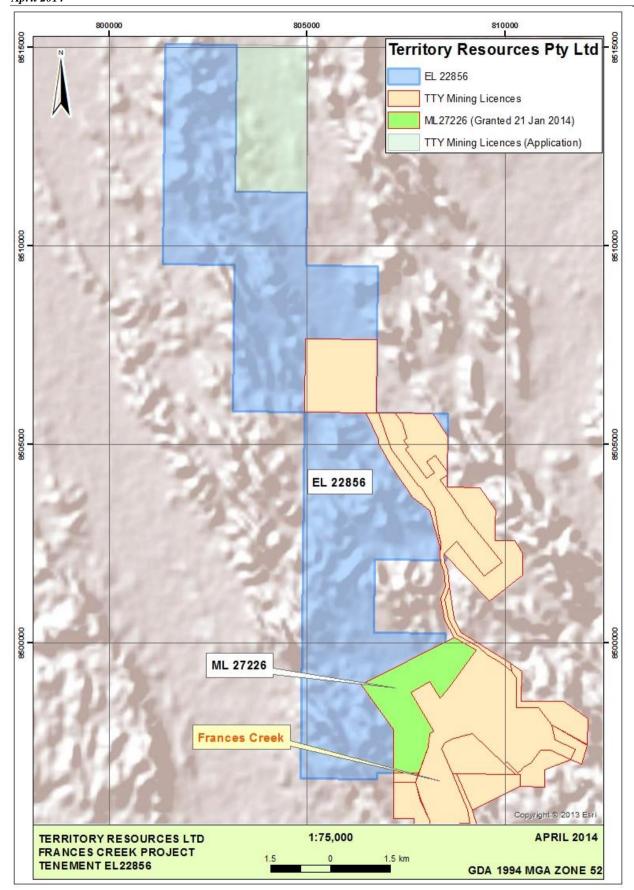


Figure 2: EL22856 (blue) Tenement Location Plan. ML27226 (green) was overlies EL22856 and was granted during the reporting period.

#### 3. LOCAL GEOLOGY

Palaeoproterozoic sediments of the Mt Partridge and the overlying South Alligator Groups occur within the tenement area. The Wildman Siltstone Formation of the Mt Partridge Group predominates while rock units of the Koolpin Formation and Gerowie Tuff occur along the western boundary of the tenement (Figure 3).

The Wildman Siltstone comprises two informal sequences. The lower sequence consists of carbonaceous phyllite, hematite breccias, siltstone and phyllite, which at depth is reported to be pyritic and carbonaceous. The upper sequence consists of similar rock units, but also contains minor sandstone and rare dolarenite. Ironstone, and hence the development of iron occurrences, is absent from this sequence.

The Koolpin Formation consists of carbonaceous pelites, carbonates and iron formation, and is subdivided into three informal members. The Lower Member comprises carbonaceous mudstone, mudstone, siltstone and limestone. The Middle Member is characterised by the first appearance of banded iron formation. The Upper Member comprises thinly laminated carbonaceous shale and mudstone with abundant fine pyrite and pyrrhotite and shows up prominently on aeromagnetic imagery.

The Gerowie Tuff is composed of siltstone, phyllite, tuff and minor chert nodules.

Numerous conformable sills of pre-orogenic Zamu Dolerite have preferentially intruded the pelitic units of the Gerowie Tuff, Koolpin Formation and the underlying Wildman Siltstone.

These sediments, volcanics and dolerite sills have been moderately to tightly folded about NNW trending axes into a series of synforms-antiforms with vertical dips or steep dips to either side of vertical. On a regional scale, these structures form an anticlinorium with a dominant westerly dip within the tenement area.

Regional lower greenschist grade metamorphism accompanied the folding event during a major deformation period between 1870-1810 Ma.

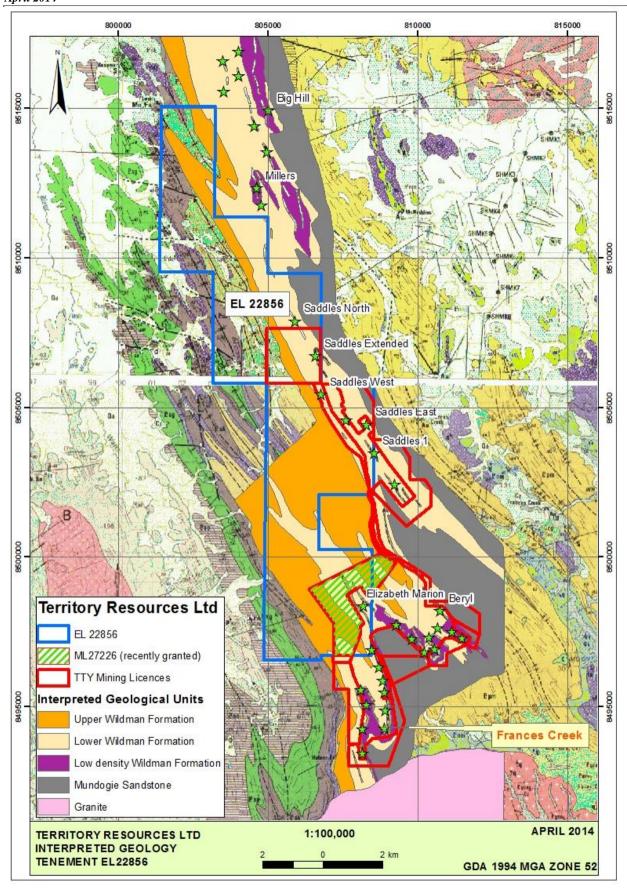


Figure 3: EL22856 (blue outline) over Pine Creek and McKinley River 250k Geology Maps, overlain by interpreted geology.

#### 4. MINERALISATION

Iron occurrences within EL22856 are known north west of Elizabeth Marion and Saddles Extended. Saddles Extended is the only occurrence that could be considered of sufficient size and quality (at present) to potentially represent an economically viable iron ore resource.

At Frances Creek, iron ore mineralisation occurs mainly in the lower Wildman Siltstone Formation as haematite or hematite-goethite-manganese mineralisation. Hematite deposits are believed to have formed by low temperature hydrothermal replacement of brecciated Wildman Siltstone. Breccia zones, and hence usually hematite mineralisation are frequently stratiform, with their distribution controlled by D3 folds and associated axial planar faults. Hematite-goethite-manganese deposits possibly have a similar hydrothermal origin but may have undergone extensive weathering related hydration, or may have had a sulphide rich parent rock (probably the abundant black shale units known from the region).

While the Koolpin Formation is not reported to host iron occurrences within the tenement area, Ahmad et al (1993) describe the banded iron formation of the Middle Member as forming near surface gossanous, haematite-limonite bodies which give way at depth to ferro-actinolite, Fe-rich chlorite, garnet, siderite, quartz, carbonates and sulphides. Small iron and manganese ore occurrences occur in the Koolpin Formation within EL22856. These will be examined in far greater detail during geological reconnaissance programmes planned for 2014.

Only one gold occurrence, the Watts Creek alluvial gold prospect (near 805780mE 8499630mN Zone 52), is recoded within EL22856. Gold mineralisation is known on a regional scale to occur in: the Wildman Siltstone, the middle and upper Koolpin Formation, the Gerowie Tuff and Mount Bonnie Formation, and in sills of the Zamu Dolerite which intrude the Koolpin Formation and Gerowie Tuff. Gold mineralisation within the Pine Creek Inlier is probably associated with intrusion of the syn-orogenic granites (e.g. Cullen Batholith). It is certainly feasible that the bulk of the anticline-associated vein-type deposits relate to structural reactivation of regional fold structures during intrusive events.

Possible gold mineralisation styles and targets related to these rocks are according to Goulevitch (1980): sheeted and stock-work quartz-sulphide veins systems with mineralisation preferentially

associated with a strong carbonaceous and/or sulphide in the host sequence (e.g. Woolwonga, Moline) or with competency contrasts between greywacke and shale (e.g. Union Reef, Spring Hill); sediment-hosted stratiform mineralisation and quartz-sulphide vein-hosted stratabound mineralisation associated with chert iron formation and carbonaceous mudstone mainly in the Koolpin Formation (e.g. Mount Porter); stratiform, massive to banded, sulphide-silicate-carbonate mineralisation in the Mount Bonnie Formation (e.g. Mt Bonnie, Moline).

The focus in the coming year will be on exploration for, and the proving up of the tenement's DSO iron ore and manganese potential.

#### 5. WORK COMPLETED FOR 2013-14

Territory conducted field mapping and reconnaissance visits in and around the drill programs to confirm the mineralisation and also if mineralisation extended outside the drilled areas.

#### 5.1 Reverse Circulation Drilling

Reverse Circulation (RC) drilling during the reporting year totalled **109 holes** for a total of **6,509 metres.** RC drilling was conducted at the Elizabeth Marion deposit. The drilling was carried out by three separate companies during the reporting period: WJ Drilling, Drillwest and Calidad Drilling. A drillhole location plan is presented in Figure 4. He associated text files are located in Appendix 4.

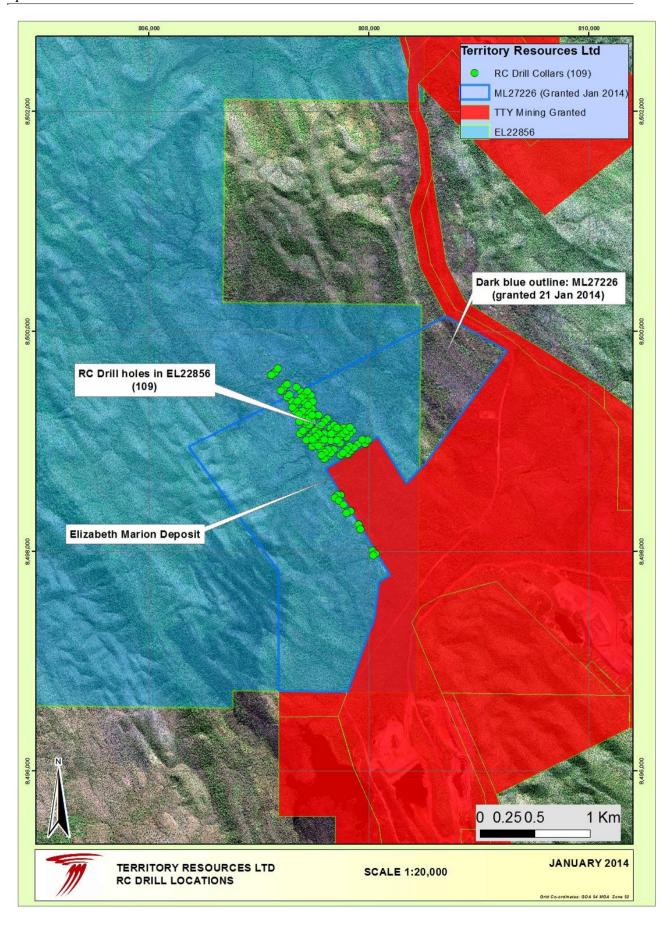


Figure 4: RC Drill Hole Locations in EL22856

#### **5.2** Ground Gravity Geophysical Survey

During September and October 2013, Territory Iron Pty Ltd undertook a significant ground gravity geophysical survey programme at the Frances Creek Mine operation, and also at the northern end of the Frances Creek Project.

Gravity data were collected by Daishsat Geodetic. A total of 29.74 line kilometres consisting of 1,212 gravity stations took place within EL22856 on a nominal 200x25m station spacing and were staggered to infill existing surveys collected in the Frances Creek mine area. All data was then passed onto Hawke Geophysics Pty Ltd for analysis and interpretation. Gravity station locations are shown in Figure 5.

Local survey and gravity base stations were established in the survey area by Daishsat. Stations were tied to the Australian Gravity Network by a direct loop tie to a known base station. Historic gravity surveys in the Frances Creek area that were not previously levelled to this datum have been subsequently matched to the 2013 data.

Survey locations are recorded in GDA94 Zone 52 coordinates and Australian Height Datum (AHD). Observed gravity has been levelled to Isogal71 values. Gravity data are levelled to the Isogal 84 datum were reduced to Bouguer Anomaly values using formulas supplied by Geoscience Australia to a density of 2.40 g/cc.

Data have been merged with historic data collected in the Frances Creek area and were gridded to a 25m grid cell size. Standard image products were created including the Bouguer Anomaly and first vertical derivative. An image of the first vertical derivative is shown in Figure 6. The survey files are in ASEG format and are located along with the contractors report in Appendix 1.

#### 5.3 Airborne EM Survey

An airborne electromagnetic survey was flown over part of the Frances Creek Project area to assist in mapping the structure of the host stratigraphy of the Frances Creek mineralisation. This survey was flown by GPX Surveys using their proprietary XTEM electromagnetic system during August and September 2013 as Job Number 2511. The area that was flown over part of EL22856 is shown in Figure 5.

Flying specification used for the survey was:

Line spacing: 100m
 Flying direction: 90 – 270
 Survey size: 848 km

• Coordinate datum: GDA94 MGA Zone 52

#### XTEM equipment specifications were:

• Nominal EM array height: 35 m

• Array configuration: In-loop

• Waveform: 25% duty cycle square wave, 25 Hz

• Tx loop size: 340m2

• Effective Rx area: 10,000m2

• Sampling interval: ~10m

Magnetometer: Geometrics G822A Cesium vapour

Nominal sensor height: 35 mSampling interval: 1-2m

EM data was field checked, field processed to reduce the effects of birdswing, parallax, reverse negative decays, spline to a uniform data spacing and smoothed using a Butterworth filter.

The cleaned EM data was conductivity-depth inverted (CDI) to produce depth sections using the both the EMFlow modelling code distributed by Emcom and the EMaxAIR algorithm developed by Fullagar Geophysics. Depth slices were extracted from the inversion products at ten metre

intervals ranging from 10m to 160m. Area with a null CDI modelled response are shown as grey in the depth slice imagery. An image of the 30m depth slice generated from the inversion of the EM data is shown in Figure 7.

Magnetic data were collected at a 50 Hz sampling frequency but was averaged down to 25 Hz to minimise the effect of the EM system on the magnetic field measurements. Magnetic data from this survey were not used for interpretation as a more detailed magnetic survey had been previously collected over the Frances Creek Project area.

The survey files are in ASEG format and are located along with the contractors report in Appendix 2.

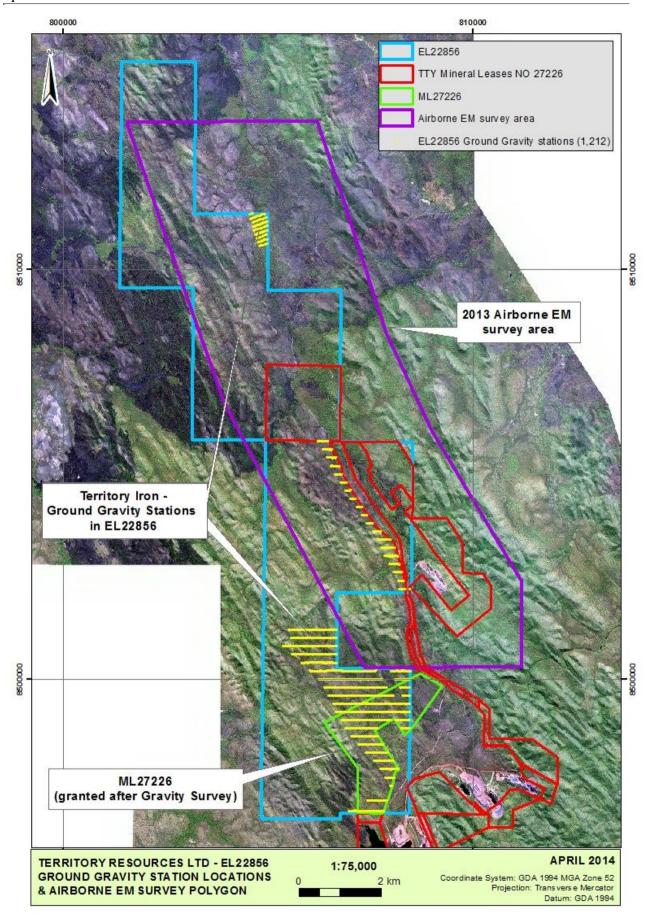
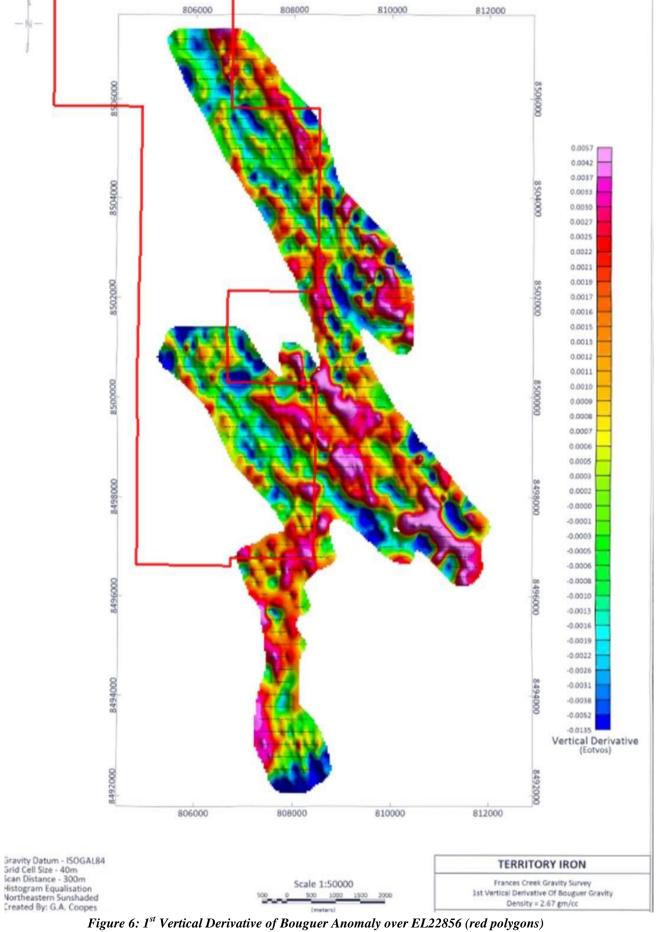


Figure 5: Ground Gravity Station Locations and Airborne EM survey area within EL22856



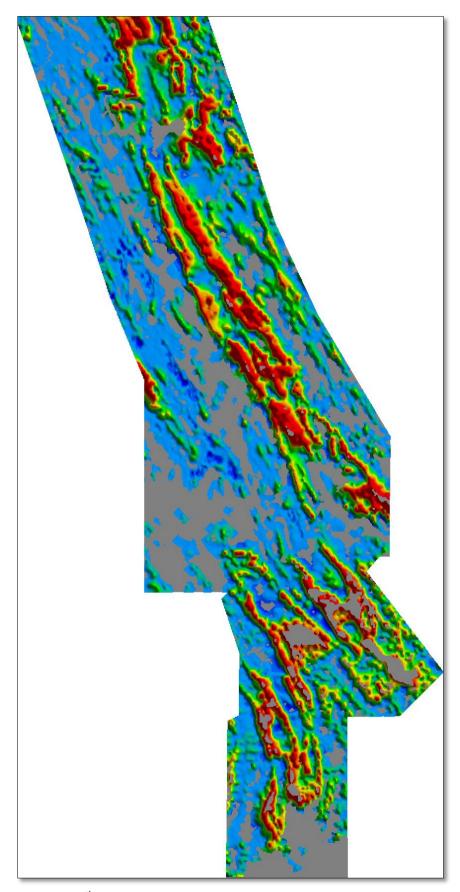


Figure 7: 1st Airborne EM response over Frances Creek, 30metre depth slice

#### 6. EXPENDITURE DURING REPORTING PERIOD

Total Expenditure on the tenement during the reporting period was \$659,348. The principal costs were associated with the RC drilling and geophysics surveys.

#### 7. CONCLUSIONS & RECOMMENDATIONS

The detailed interpretation and targeting study completed by Hawke Geophysics covers potential mineralisation in the lower Wildman Formation between the Ochre Hill Pit and the Millers Prospect. Several parallel trends of the prospective host shale were identified. Each of these is inferred to represent a synclinal fold structure, with the main fold axis roughly parallel with bedding. Structural complexities such as faulting or refolding of these stratigraphic trends may be important triggers in the development of iron mineralisation.

From this, six high priority untested target areas for (perhaps concealed) iron mineralisation were identified. It is recommended to follow up on theses geophysics targets with ground trothing and possible drill testing.

Drilling during the reporting period at the Elizabeth Marion prospects seems to indicate encouraging goethite and hematite enrichment that would require further investigation.

In particular, it is recommended to continue to investigate possible strike extensions to mineralisation at the Elizabeth Marion prospect, as work to date work indicates there is potential for blind mineralisation with a shallow northwest plunge.

#### 8. REFERENCES

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Burgess, A. 2013. Annual Report EL22856 Saddles Extended for the period 5<sup>th</sup> February 2012 to 4<sup>th</sup> February 2013. (*Annual Report for Northern Territory Government*).

## APPENDIX 1 2013 Ground Gravity Survey Files (ASEG format) Plus Contractors Report

# APPENDIX 2 Airborne EM survey Data (ASEG format, on separate disc) Plus Contractors Report

### APPENDIX 3 Hawke Geophysics Report

## APPENDIX 4 NT DME TEXT FILES (includes verification list)