

**Gossan Resources Pty Ltd**

**Annual Report on Exploration for Exploration Licence EL30583**

**Burrundie Project**

**For the Period 03 June 2017 – 02 June 2018**

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Target Commodity: Iron Ore

MAP SHEETS:  
1:250 000 Map Sheet – Pine Creek  
1:100 000 Map Sheet – Pine Creek

## **1. SUMMARY**

Exploration Licence EL30583 (Burrundie) is located 180 km south south east of Darwin in the Northern Territory. It is 6 km north of the Emerald Springs Road House, on the northern side of the Stuart Highway.

The Burrundie licence was granted on the 03 June 2015, and comprised of 9 blocks, and a total of 29.62 square kilometres.

Gossan Resources is exploring for iron ore within the tenement. Field work was conducted in late August 2017. Attempts to access the tenement in April 2017 failed, due to inclement weather adversely affecting access into the tenement. Field work completed included mapping a suitable access route into the tenement; locating and sampling previously unknown gossan outcrops; resampling of previously discovered gossan outcrops.

## **2. LOCATION AND ACCESS**

EL 30583 located approximately 6 km due north of the Emerald Springs Road House, on the northern side of the Stuart Highway (Figure 1). The northern end of the tenement is bounded by the Darwin to Alice Springs rail line. The Saunders Creek water course dominates the centre of the tenement.

Access to the area is by 4WD using old tracks, although the use of quad bikes proved most productive. Access to the southern part of the tenement was via the Stuart Highway, directly opposite Emerald Springs Road House. Access to the northern part was via the Darwin to Alice Springs rail access road. Access is only possible during the dry season.

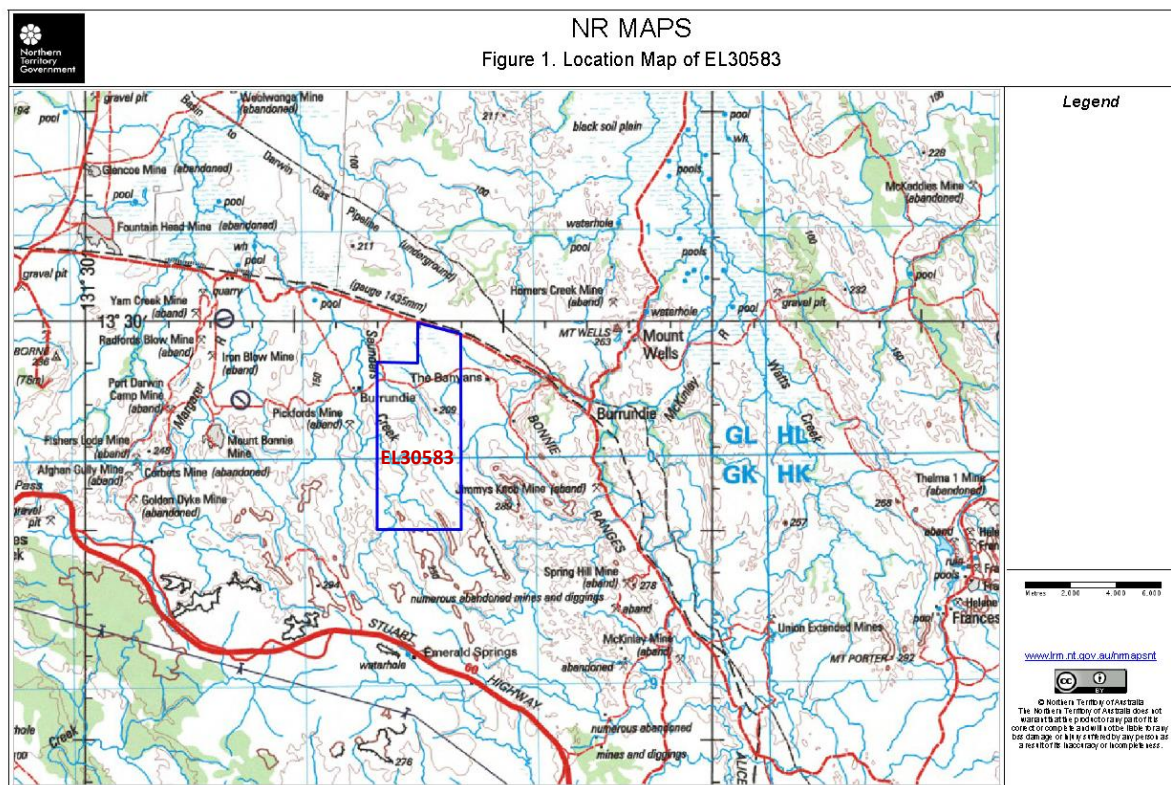
Topography for the southern and central part of the tenement is rugged and hilly. The northern part is flatter and much easier to traverse. Dry creek beds with steep sides are almost impossible to traverse in a 4WD vehicle. Recent fires had burnt the grass right down making off road travel much easier and faster.

A key objective of the August 2018 field work was to define access into the tenement from the Stuart Hwy, in the south. This was achieved. An All Terrain Vehicle, was utilised. It is doubtful if a Landcruiser (or similar) would be able to access the tenement on this route. No earthworks to improve the access, were done.

### 3. TENEMENT STATUS AND OWNERSHIP

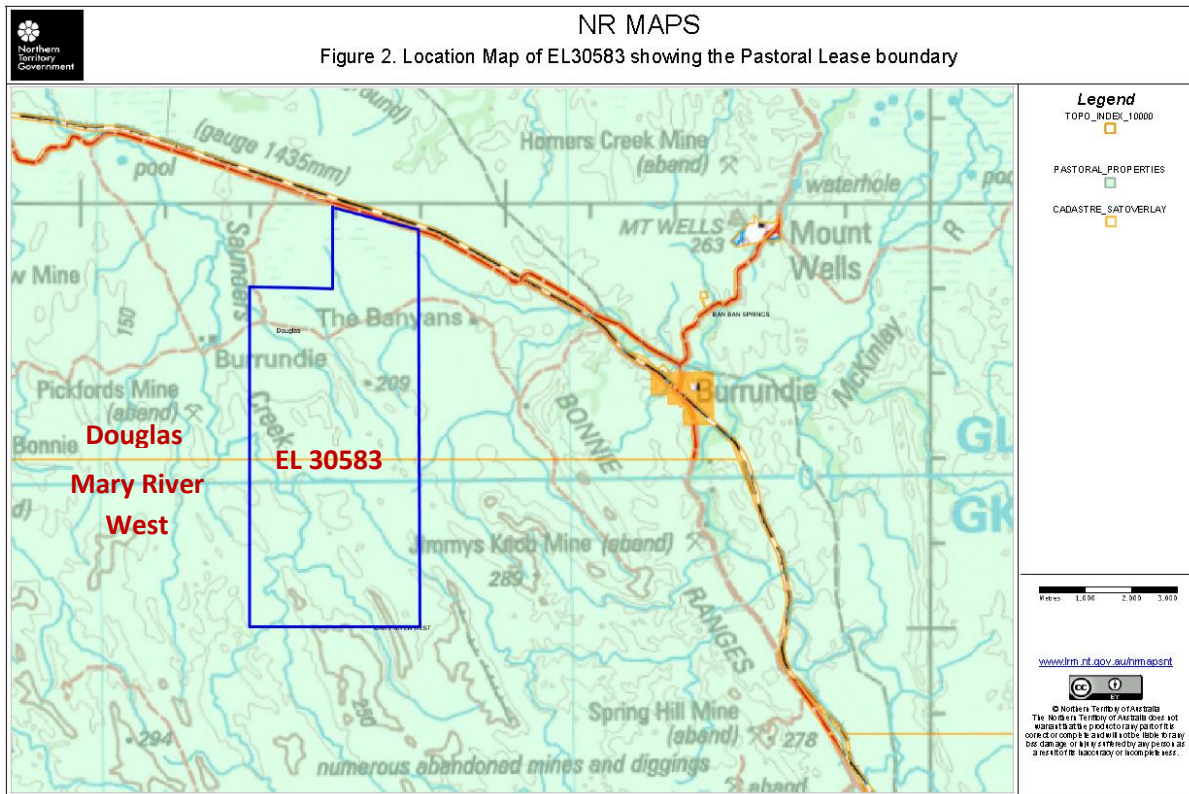
EL 30583 was granted on 03 June 2015 for a term of 6 years. It comprises of 9 graticular blocks, consisting of 29.62 sq km (Figure 2). There are no other mineral claims or mining leases within the EL.

Figure 2. Topographic map showing the location of EL30583



The cadastre is all Perpetual Pastoral Lease. The Pastoral Leases being Douglas to the north, and Mary River West to the South. The Pastoral Lease boundary runs east west, cutting the EL almost equally in half (Figure 2).

The expenditure covenant for the third year (this reporting period) was \$22 000. Actual spend was \$26 351.



#### 4. REGIONAL GEOLOGY

EL 30583 is located within the Pine Creek Geosyncline. The 1:100 000 Pine Creek Geological Map (Smith, Needham, Bagas and Wallace, 1987) provides a full and detailed description of the geology and stratigraphy of the area.

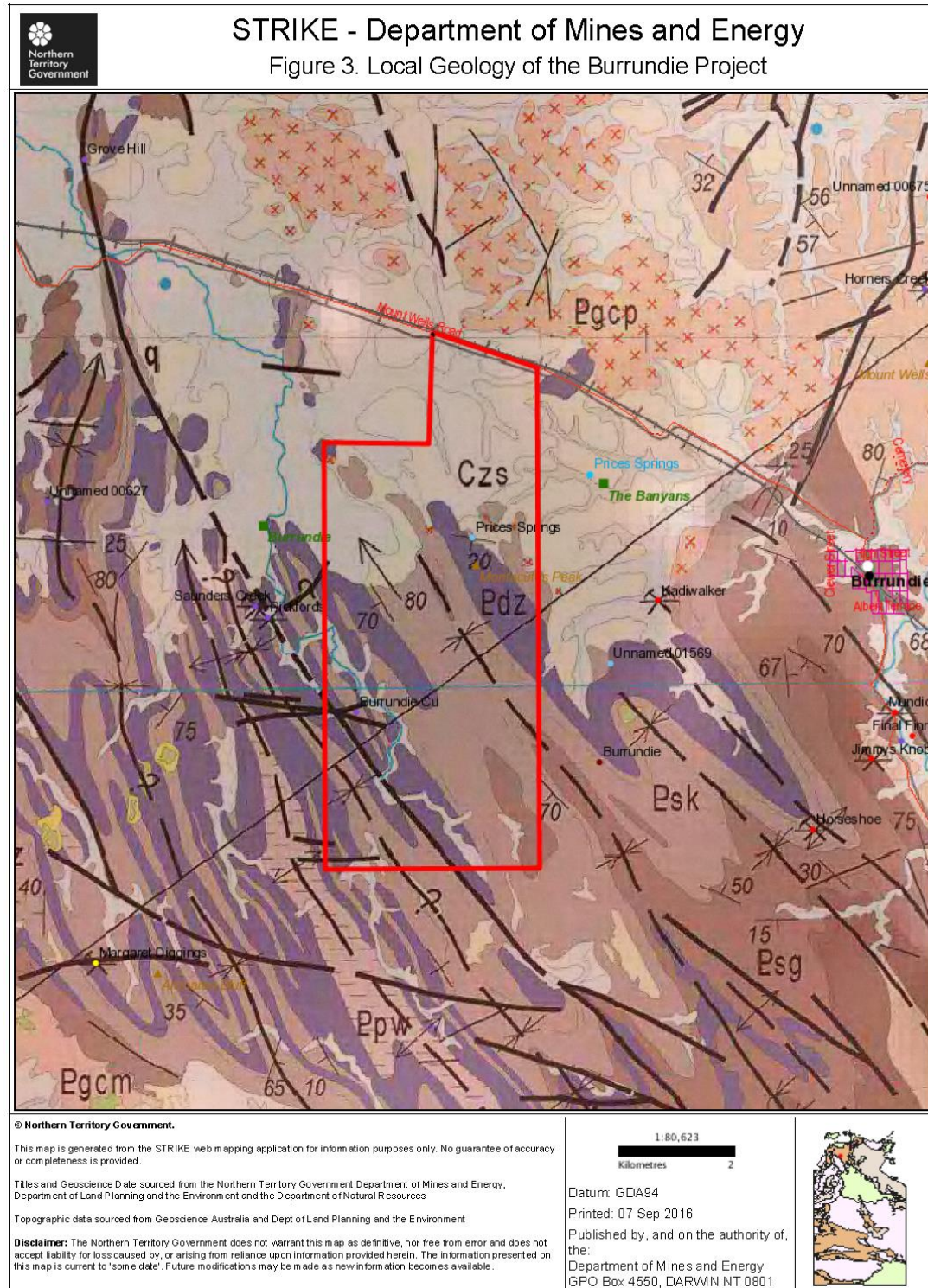
The tenement is located to the western side of the Burrundie Dome and contains units of the South Alligator Group (Koolpin and Gerowie Formations); and the Zamu Dolerite (Figure 3). The Koolpin Formation and the Zamu Dolerite are the most abundant units in the tenement. Minor packets of the Gerowie Formation are located in the south east part of the tenement. Although the rocks are tightly folded, the main orientation of the units is NW-SE. Morowa (2013) reported lithologies dip moderate to steeply to the west south west and are isoclinally folded and plunge south south east. A major fault, the Saunders Creek Fault orientated NW-SE, cuts through the south west part of the tenement.

Morowa (2013) reported a gossan outcrop located in the western part of EL25026, striking in a north north west direction, paralleling the strike of the lithologies. The gossan outcrops intermittently in



several locations along the western base of a prominent hill along 800 m of strike (Morowa, 2013); and is located at the contact of the dolerite and the siltstone sequence (BMR mapping, 1954).

Figure 3. Local Geology of the Burrundie Project.



## 5. PREVIOUS EXPLORATION

Excluding Morowa (2013), all of the exploration to date has been focused around gold and base metals. Mookhey (1971) reported a chip sample from a gossanous outcrop assayed 24.6% Cu. To date no one has been able to locate the outcrop or the copper mineralisation. During 1954-55, the BMR discovered and mapped two gossan bodies in the tenement (Morowa, 2013). Since then, there has been minimal data found covering the tenement. Morowa (2013) reported that no historical geochemistry or drilling has been found across the tenement (EL 25294).

In 2009, Great Western Exploration (GTE) formed a joint venture with Morowa to explore for uranium over EL 25294. Although detailed airborne magnetic and radiometric surveys were flown, the gossan outcrops were not located. The joint venture ceased in 2010 (Morowa, 2013).

In 2011, Morowa rediscovered two BMR gossans. Rock chips collected returned over 60% iron, with the two massive hematite horizon extending discontinuously for over 800 m. At its widest point two massive hematite horizons parallel each other, approximately 25 m apart over a distance of 150m. Each horizon has an average width of 10 m, with the highest exposed height being 20 m on a cliff face. Other gossanous outcrops occur along strike and are inferred to be the same horizons and are in the tens of meters in dimensions. The gossan outcrops are generally massive in nature, and have completely altered to hematite. Their texture indicates a sulphide rich, sub-aqueous origin. There are very fine grained sulphide pseudomorphs, flow banding, rip-up clasts; and clast replacement is visible in many instances. In some areas matrix supported silica clasts or pebbles are observed within the gossan.

On 2010, Great Western flew an aeromagnetic and radiometric survey over EL25294. The magnetic data suggests the gossans lie along the western contact of a magnetic unit that extends for a further 4 kilometers to the south south east. Morowa (2013), suggests major potential for the continuation of mineralisation under cover and at depth.

Morowa (2013), collected 17 rock chips and submitted them for assay. All but one result returned assays between 52.3 - 60.8% Fe and CaFe ranged from 55.69-63.66%. Average results for the rock chip samples are summarised below

Al <sub>2</sub> O <sub>3</sub>	CaO	Cr <sub>2</sub> O <sub>3</sub>	Cu	Fe	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	P	Pb	S	SiO <sub>2</sub>	TiO <sub>2</sub>	Zn	LOI	CaFe
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
3.09	0.05	0.04	0.01	56.90	0.35	0.06	0.07	0.02	0.14	0.01	0.14	7.87	0.55	0.08	5.99	60.54

Elemental averages for 16 gossanous samples

Morowa (2013) believed the tenement has the potential for a rapid definition of a small 1 Mt iron ore resource within the gossan. The view is supported by good widths, and good average CaFe. The project was never drilled due to the down turn in the iron ore industry.

In September 2015 attempts were made to locate the 24.6% Cu from the banded gossanous outcrop identified by BMR at 783729mE 8499561mN (Zone MGA 52), but it could not be located.

During April 2017, an attempt was made to access the tenement. Unfortunately, due to a prolonged wet season access was not possible.

## 6. RECENT EXPLORATION

In late August 2017, the site was accessed using an All Terrain Vehicle. A route into the tenement, from Stuart Hwy, was defined. The purpose of the visit was to;

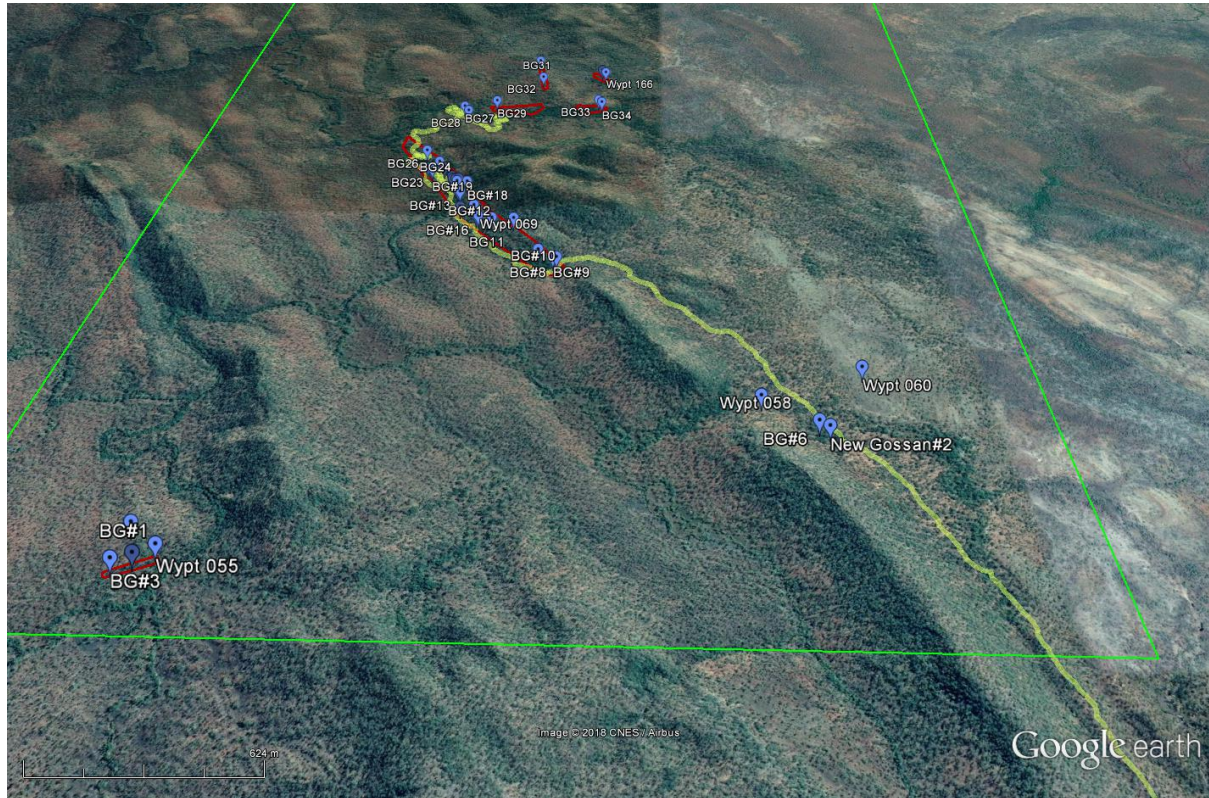
1. Resample existing known gossanous outcrops to confirm the DSO grade of Morowa (2013) assays.
2. Map and sample new gossanous outcrops.
3. Identify locations of potential drill pads and access for drill equipment.

The gossan outcrops previously sampled by Morowa (2013), were identified. A further four new outcrops were identified, to the north west of Morowa's original gossan discovery (Figure 5).

A total of 30 samples (BG1-20, and B21-34) were assayed for DSO iron ore grade. Samples were sent to the Northern Australian Laboratories, Pine Creek. Assay results and sample locations are summarised in Table 2.



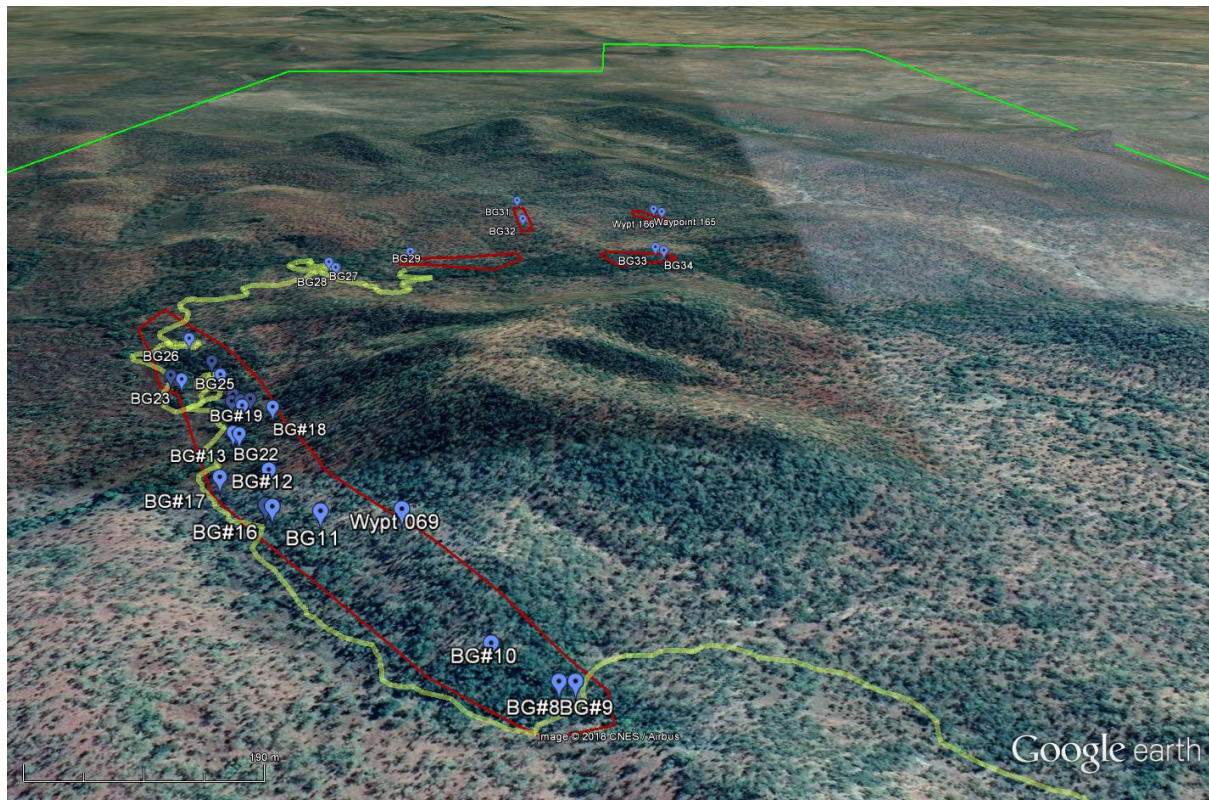
Figure 4. Google Earth image showing the access track, sample locations, and significant gossan outcrops, outlined in red.



The results that were returned were very disappointing and did not replicate the grades that Morowa reported. This maybe as a result of the analytical method being different. Morowa used XRF analysis for the iron ore grade, where as we used a G400I which is a HCl/HNO<sub>3</sub>/HClO<sub>4</sub>/HF digestion in teflon with an ICP-OES reading of the element, other method used was a G120I digestion which is a sodium peroxide fusion in a Zr crucible followed by dissolution of the melt in dilute HCl acid solution and the element again read by ICP-OES. The LOI was determined by a thermo-gravimetric method at 1000 C



Figure 5. Main Gossan body outlined in red, and sample locations



The difference between the assay results of Morowa's and our samples maybe be due to;

1. Significant grade variation and distribution in the gossans
2. Accuracy of either one or both of the labs used
3. Different analytical method used, ie: XRF compared to an ICP-EOS.

As a result of the above, the entire economic potential of the project is in doubt. To be confident of the grade of the gossans, a repeated sampling program will be done in the 2018 field season, and the DSO grade determined using XRF analytical method.



Figure 6. Photo of Sample BG20



Figure 7. Photo of Sample BG26



Figure 8. Photo of Sample BG29



## **7. CONCLUSIONS AND RECOMMENDATION.**

The location of the gossan outcrops identified by Morowa (2013), have been confirmed and resampled in the field, with new undiscovered gossans identified and sampled. A preferred access routes into the project area from Stuart Hway in the south has been proven. Although samples were assayed, the results do not replicate the grades and the DSO potential that previous reports suggest. This may be as a result of the wrong analytical method being used.

It is recommended that rock chips be taken that replicate those taken in this report and assay for the DSO potential using XRF method of analysis.

## **8. COPYRIGHT**

I, as a Director of Gossan Resources, am the owner of copyright of the report, and give the Minister the authority to publish all of the contents of this annual report.

## **9. REFERENCES**

Mookhey, 1971. Completion Report, Exploration – Burrundie Copper Project, Northern Territory of Australia. IMC Development Corporation

Morowa (2013). Annual Report , Exploration Licence 25026.

Smith PG, Needham RS, Bagas L and Wallace DA, 1987. Pine Creek 1:100 000 Geological Map Commentary, Northern Territory Geological Survey.