



# GENESIS

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## RESOURCES LTD

Suite 4, 19 Ellingworth Parade, Box Hill VIC 3128

Tel: +61 3 9898 8518

Fax: +61 3 9898 8518

[www.genesisresourcesltd.com.au](http://www.genesisresourcesltd.com.au)

## **EIGHTH ANNUAL TECHNICAL REPORT**

**FOR THE REPORTING PERIOD ENDING  
)<sup>th</sup> May 2016**

### **EL 24839**

## **FENN GAP IRON-MANGANESE PROJECT**

**Amadeus Basin/ Warumpi Province Mineral Field**

**NORTHERN TERRITORY**

ALICE SPRINGS	SF5314	1:250 000
HERMANNSBURG	SF5313	1:250 000
Alice Springs	5650	1:100 000
Macdonnell Ranges	5550	1:100 000

**COMMODITIES: Iron Ore and Manganese**

**Author: Jon Poulsen**  
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**DISTRIBUTION:**

1. Northern Territory Department of Mines and Energy
2. Genesis Resources Limited

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*Information in this report that relates to exploration activity and results was compiled under the guidance of Jon Poulsen who is a Member of the Australasian Institute of Geoscientists. Mr Poulsen has sufficient experience relevant to the styles of mineralization and to the activities which are being reported to qualify as a Competent Person as defined by the JORC code, 2004. Mr Poulsen consents to the release of the information compiled in this report in the form and context in which it appears.*

## 1. HISTORY

Manganese mineralisation at Fenn Gap was first defined by an NTGS reconnaissance mapping program in 1970. The known manganese mineralisation occurs in the central part of the licence area and subsequent mapping and rock-chip sampling has outlined a strata-bound dolomite-hosted manganese-rich zone over several kilometres in length. Historical rock-chip sampling returned manganese grades up to 50.9% Mn (average 39% Mn).

## 2. LOCATION AND ACCESS

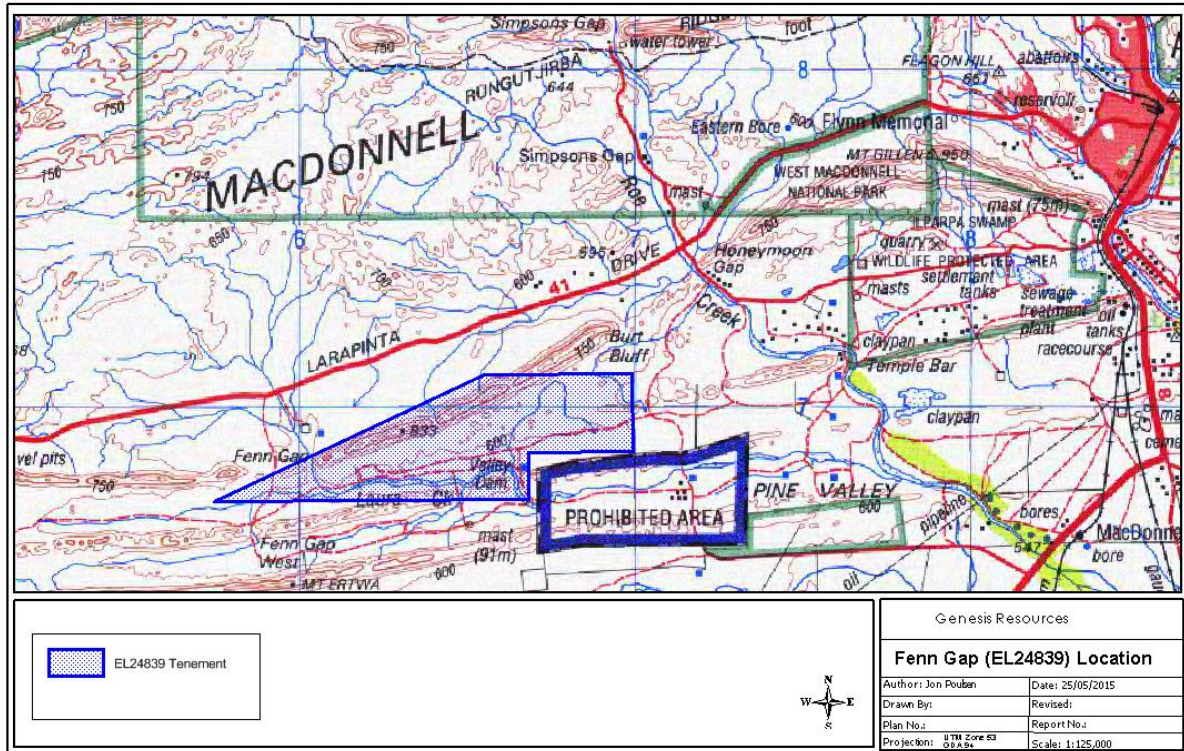
The Fenn Gap project is located approximately 25 kilometres south west of Alice Springs in the Northern Territory. The project is 25 kilometres from major infrastructure such as the Stuart Highway and Darwin to Adelaide railway line. The project comprises one Exploration Licence (EL24839) which covers a total area of 26.93 sq km.

## 3. TENEMENT

The exploration licence (EL24839) tenement details are summarised in Table 1 and the location is shown in Figure 1. A partial relinquishment report – Loss of Block Penalty was lodged on the 30<sup>th</sup> June 2014. 13 sub blocks were relinquished, with 14 sub blocks remaining for 26.93 sq km. The Partial Relinquishment Report - Loss of Block Penalty was accepted as satisfactory on the 22 July 2014. An application for Renewal of a Mineral Exploration Licence was lodged on the 26 April 2016 for a further two years.

**Table 1: Fenn Gap Project - Tenement Summary.**

Project	Tenement Number	Status	Current Area		Current Holder	Granted Date	Renewal Due
			Blocks	(sq km)			
<b>Fenn Gap</b>	EL24839	Granted	14	26.93 sq km <sup>2</sup>	Genesis Resources Ltd	06/05/2008	05/05/2016



**Figure 1. Fenn Gap EL24839 Location Map (14 blocks = 26.93 sq km).**

#### 4. PREVIOUS EXPLORATION

A field visit was completed in December 2008 and 37 rock chip samples were collected in the significant zones of alteration. Moderate to high grade iron assay results were obtained along the 9.9 kilometres strike length and moderate to high grade manganese mineralisation was outlined in the Table Prospect area (Kastellorizos, 2009).

During March 2009, Genesis completed a ground gravity survey over 7 kilometres along the main outcropping mineralisation that represented large ore zones required for iron ore mining. The gravity survey was completed by Daishat Surveyors and consisted of 200m spaced lines orientated north-south with data collected every 50m along line, totalling 622 stations (Appendix 1 in Kastellorizos, 2009).

The survey was successful in defining broad scale gravity anomalies which could be correlated in most instances to mapped outcrop and goethite/manganese mineralisation. The residual filtering and modelling highlighted local areas of gravity anomalism which indicated areas of higher density.

Genesis completed a 13 hole Reverse Circulation drilling program (1,024m) between 14<sup>th</sup> and 29<sup>th</sup> June 2010, testing the outcropping iron-manganese and gravity models. The drill holes intersected predominantly limestone and dolomite with several holes intersecting of hematite, goethite and limonite associated with chert. Fe results from drilling were generally of low to moderate grade, including:

- FGRC001 - 2m @ 12.0% Fe from surface, 4m @ 5.8% Fe from 27m and 10m @ 11.0% Fe from 67m
- FGRC002 - 10m @ 26.2% Fe from 9m.
- FGRC007 - 4m @ 14.1% Fe from 1m, 6m @ 15.7% Fe from 7m and 4m @ 17.7% Fe from 15m

No significant Mn results were returned from any of the drill holes.

All thirteen drilled holes were rehabilitated in December 2010. An environmental rehabilitation report was prepared and forwarded to the Department of Mines on February 2011.

#### 4.1 Environmental Audits and Inspections

John Howard (Exploration Manager) visited the area and inspected the drill-hole sites on 24<sup>th</sup> of March 2011, followed by Baheta Enday (Senior Geologist) on 15<sup>th</sup> and 16<sup>th</sup> of November 2011. The inspection results are summarised as follows:

- All tracks and drilling pads are stable.
- All new tracks and drill pads are covered by natural regeneration.
- No drill-holes failed after being tapped.
- All waste has been removed.
- No flora and fauna were damaged - no vulnerable or endangered species were identified.
- No evidence of weeds was found on the site.
- No further work was required on return to the site.

Two brief site visits were made during May and September 2014. Checks were made on the location of RC holes drilled during 2011 and three, short geological mapping traverses were made across the area of high gravity response north of the known manganese - iron mineralization. Four representative rock samples were collected for specific gravity measurement as reference against results of the previous gravity survey, refer Table 2: Fenn Gap Rock Chip Sample Locations (2014).

**Table 2. Fenn Gap Rock Chip Sample Locations (2014)**

Sample	GDA94_E	GDA94_N	RL	Comments
G00601	365157	7368724	611	Mn+Go outcrop at Hole Hill. Pyrolusite as breccia fill in goethite
G00602	363155	7368367	631	Mass Go in brecciated chert unit. MnO on weathered surfaces
G00603	365021	7368882	658	Dolomite on ridge crest.
G00604	366979	7369265	638	Dolomite on south flank of steep ridge.

Two samples were collected from goethite – manganese mineralised outcrops and two samples were collected from dolomite outcrops on ridges that correspond to the area of the gravity high, refer Figure 2: Fenn Gap 2014 Rockchip Sampling and Mapping on Gravity.

All 4 samples were submitted to ALS Laboratories for a calculated bulk density analysis from wet/dry method, specific gravity measurements (OA-GRA09s). The 2 mineralised samples were assayed for Fe, Mn, Al, Ba, Ca, Cr, K, Mg, Na, P, S, Si, Sr and Ti by fused disc XRF (ME-XRF26s).



**Samples G00601 and G00602: Fe + Mn mineralisation.**



**Samples G00603 and G00604: Dolomite from gravity anomaly area.**

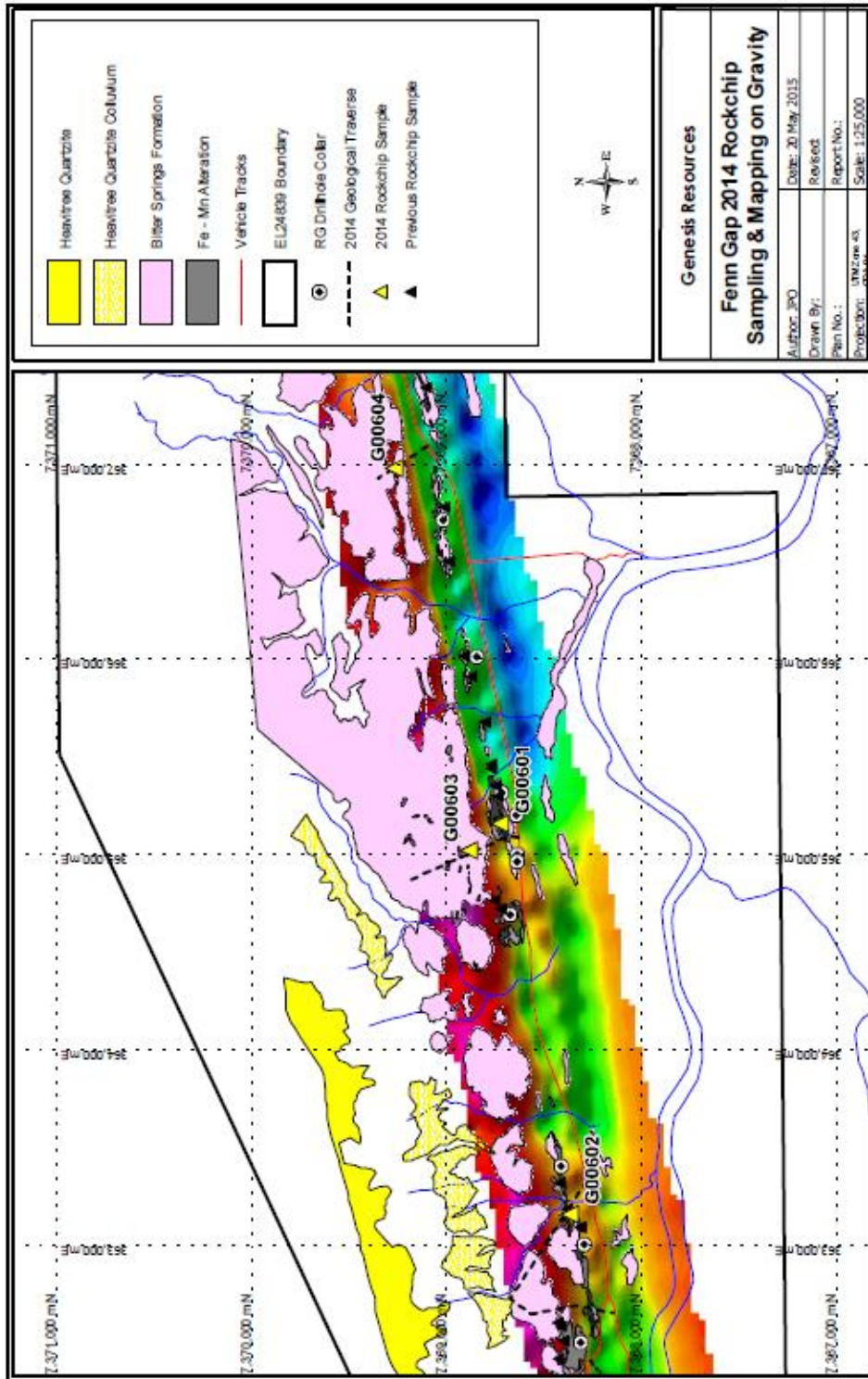


Figure 2: Fenn Gap 2014 Rockchip Sampling and Mapping on Gravity

The two goethite – manganese mineralised rock chip samples returned moderate to high grade results for Fe. Despite the presence of pyrolusite in sample G00601 it returned only 14.5% MnO. The pyrolusite in this sample was present as breccia and fracture fill in goethite. Refer Table 3: Table 5: Fenn Gap Rock Chip Sample Assay Summary.

**Table 3. Fenn Gap Rock Chip Sample Assay Summary (full results in Appendix 2)**

Sample	CaO %	Fe2O3 %	MgO %	MnO %	P2O5 %	SO3 %	SiO2 %	SrO %	TiO2 %	B.D. g/cm3
G00601	3.04	54.63	0.49	14.05	0.12	0.05	12.55	0.05	0.03	<b>3.07</b>
G00602	0.06	41.34	0.03	0.06	0.17	0.15	52.3	<0.01	0.04	<b>2.89</b>
G00603										<b>2.82</b>
G00604										<b>2.8</b>

Full results and ALS Certificate in Appendix 1: EL24839 Rock chip sample results from ALS and Appendix 2: EL24839 Rock chip sample ALS lab report.

The bulk density measurements for Fe – Mn mineralised samples and those for the host Bitter Springs Formation dolomite do not show a marked density contrast which may have some implications for interpretation and modelling of the gravity survey data. More bulk density samples are however required to provide a more robust sample population size.

The three geological mapping traverses across the gravity high anomaly that lies north of the mineralised Fe-Mn horizon indicate that the geology in this area is almost entirely dolomite of the Bitter Springs Formation. Occasional, very thin, beds of goethite were noted but these are generally less than 30cm thickness and have very limited strike extent. The Fe – Mn horizon forms a relatively low lying east-west trending ridge along the Bitter Springs Valley floor. Bitter Springs Formation dolerite forms steep ridges between the mineralised horizon and the prominent ridge of Heavitree Quartzite.

## 5. WORK CARRIED OUT

The potential takeover of Genesis Resources Ltd by the Blumont Group did not proceed as planned and Genesis is now in talks with other investors from Asia. As a result Genesis was not able to spend capital on its Australian tenements until these transactions are finalised.

There was no exploration work conducted in the field during this reporting period.

- A Mining Management Plan (MMP) update was approved on the 16 September 2015.

## 6. CONCLUSIONS

Genesis intends to resume work in this area during the next field season.

## 7. PROPOSED WORK PROGRAM

Collection of further rock chip samples. Collection of 30 representative samples should provide an adequate population size of samples for bulk density measurements. Representative samples will be selected from the Mn – Fe mineralised horizon, the Bitter Springs dolomites and the Heavitree Quartzite.

More detailed field mapping, particularly more detailed structural mapping will also be carried out in association with the rock chip sampling program.



## **8. REFERENCES**

Kastellorizos, P. 2009. *First Annual Technical Report on EL24839, Fenn Gap Project*  
N.T. Genesis Resources Ltd Report, April 2009.

Cooper, M. 2009. *Fenn Gap Gravity Survey*. Resource Potentials Report for Genesis Resources.

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