



# Hemisphere Resources Limited

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## QUARTERLY ACTIVITY REPORT

**FOR THE PERIOD ENDING 30 JUNE 2011**

### HIGHLIGHTS

#### **Yandicoogina South Iron Project:**

- Project development timeline established, with Targeted First Production by early 2013
- Discussions commenced with potential off-take and synergy partners
- Prefeasibility study in progress with approvals process initiated
- Ethnographic and archaeological surveys conducted to facilitate further drilling

#### **Hancock Range Iron Project:**

- Preliminary Davis Tube (magnetic recovery) results received, generating composited concentrate values between 66% Fe and 68% Fe
- Magnetite concentrate low in contaminants, with grades averaging 5.5% SiO<sub>2</sub>, 0.1% Al<sub>2</sub>O<sub>3</sub>, and 0.02% P
- Ethnographic and archaeological field surveys conducted to facilitate further drilling

#### **Mt Goldsworthy Iron Project:**

- Full review of previous work on the tenement
- Detailed ground gravity survey commenced to identify potential hematite targets under recent and Cretaceous cover rocks

#### **Mt Tinstone Iron Project**

- Field visit and rock chips collected for assay
- Rock chip grades up to 56% Fe and low Phosphorus
- Further exploration planned

#### **Lakeside Iron and Base Metals Project:**

- Soil samples collected over a conceptual fluid-flow aeromagnetic target on recently granted tenement E59/1659 and E21/136

## EXECUTIVE SUMMARY

Hemisphere continued to consolidate significant milestones at its portfolio of iron ore projects, with progress achieved at the Company's Yandicoogina South, Hancock Range, Mount Goldsworthy, and Mount Tinstone projects, all of which are strategically located to established major iron-ore producers and related infrastructure in Western Australia's Pilbara region.

At **Yandicoogina South (E47/1904)** mining studies progressed and drilling programs were submitted to the Western Australian Government to allow testing for extensions to mineralisation under recent alluvial cover in Yandicoogina Creek. Additionally, the programs submitted will also test outcropping bedrock mineralisation in Weeli Wolli Iron Formation in hills surrounding the identified Channel Iron Deposit. Field heritage surveys were conducted covering the proposed drilling programs.

Discussions were commenced with potential off-take and synergy partners with a view to commercialising the Yandicoogina South deposit, with initial production targeted in early 2013 for small, but scalable delivery into niche iron ore markets

At **Hancock Range (E47/2110)**, Davis Tube magnetic recovery work yielded positive results for bench-scale magnetite concentrate generated from Dales Gorge and Joffre Member Banded Iron Formation. A grind size of 38 µm was used to yield the fine grained magnetite particles from within silica gangue. Heritage work was also conducted over this tenement to provide access and clearance for future drilling programs to identify potential ground targets for assessment.

In a field visit to the **Mount Goldsworthy (E45/3376)** tenement, rock chip samples were collected over a number of banded iron formation outcrops. A ground gravity survey commenced subsequent to the end of the Quarter. Results from the ground gravity will be used in conjunction with aeromagnetic data to identify potential hematite mineralisation targets under recent and Cretaceous cover material.

A field visit was made to the **Mount Tinstone (E45/3188)** tenement, with rock-chip samples collected along outcropping Channel Iron Deposit mesas. The assay results yielded medium grade mineralisation with low phosphorous, and further exploration is planned.

A new tenement was granted at **Lakeside (E59/1684)**, increasing the project area footprint west of the existing tenement (E21/136), and covering a conceptual fluid-flow aeromagnetic target. Soil samples (140) were collected on a 400x400 metre grid over the anomaly, and submitted for a broad range element assay to identify potential anomalous levels of base metals, gold, and steel-making minerals.

The Company also continues to assess other projects that have potential to add shareholder value.

## Pilbara Iron Projects

Hemisphere has an exciting portfolio of properties within the Pilbara iron province of Western Australia. Yandicoogina South and Hancock Range are located in the Central Pilbara and the location is shown as Figure 1. The recently acquired Mt Goldsworthy Project which is located to the east of Port Hedland enhances the Company's Iron portfolio.

### Yandicoogina South – (Hemisphere 100%)

**Yandicoogina South** is located 6km south of Rio Tinto's major Yandicoogina Iron Ore mine. Drilling during 2010 demonstrated the presence of high grade channel iron mineralisation over a strike length of 800 metres. The deposit is open to the south and south west and the company is actively testing the target area. A mining lease application has been submitted over the Project and Hemisphere is currently progressing the mining approvals process to allow for future commercialisation of the area.

An Indicated JORC-compliant maiden resource of 4.3 million tonnes at 55.8% Fe (50% Fe cut-off), 7.7% SiO<sub>2</sub>, 3.3% Al<sub>2</sub>O<sub>3</sub>, 0.07% P and 8.9% LOI was reported in 2011. Inclusive within this is a continuous higher grade zone of 1.9 million tonnes at 58.0% Fe, 5.8% SiO<sub>2</sub>, 2.8% Al<sub>2</sub>O<sub>3</sub>, 0.08% P, and 8.1% LOI. Preliminary metallurgical testwork results have shown that the high grade, high quality portion has DSO capacity.

In addition to the CID, outcrop basement hematite has been identified with grades up to 66% Fe, 1.8% SiO<sub>2</sub> 1.2% Al<sub>2</sub>O<sub>3</sub> and 0.05% P. This outcrop is within the current mining lease application area and will be tested by drilling on completion of heritage surveys currently underway.

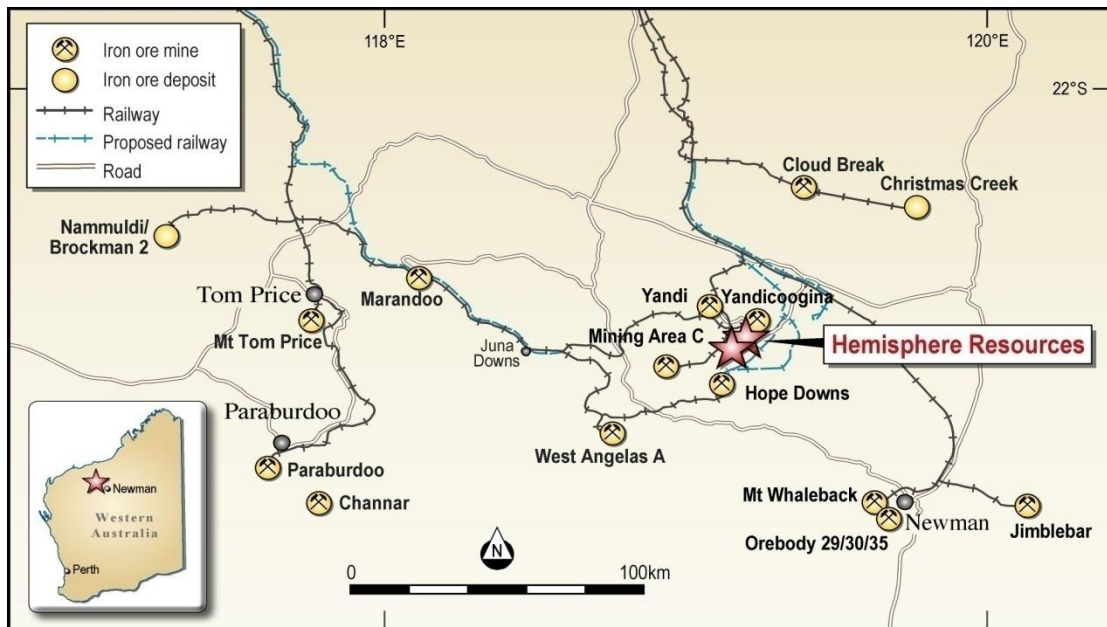


Figure 1: Location of Central Pilbara Iron Projects – Yandicoogina South & Hancock Range.

During the Quarter Hemisphere generated a targeted development timeline for commercialisation of the Yandicoogina Channel Iron Deposits. This significant step starting with a Pre-Feasibility Study, has the goal of achieving first ore production during the March Quarter of 2013 (Figure 2).

Scheduling scenarios are currently being developed, comparing production profiles of between 0.5 Mt and 1.0 Mt per annum at various mine head grades to identify the optimum production profile for the

deposit. Ultimately, this work is targeted to result in the generation of a Mineral Reserve for the deposit.

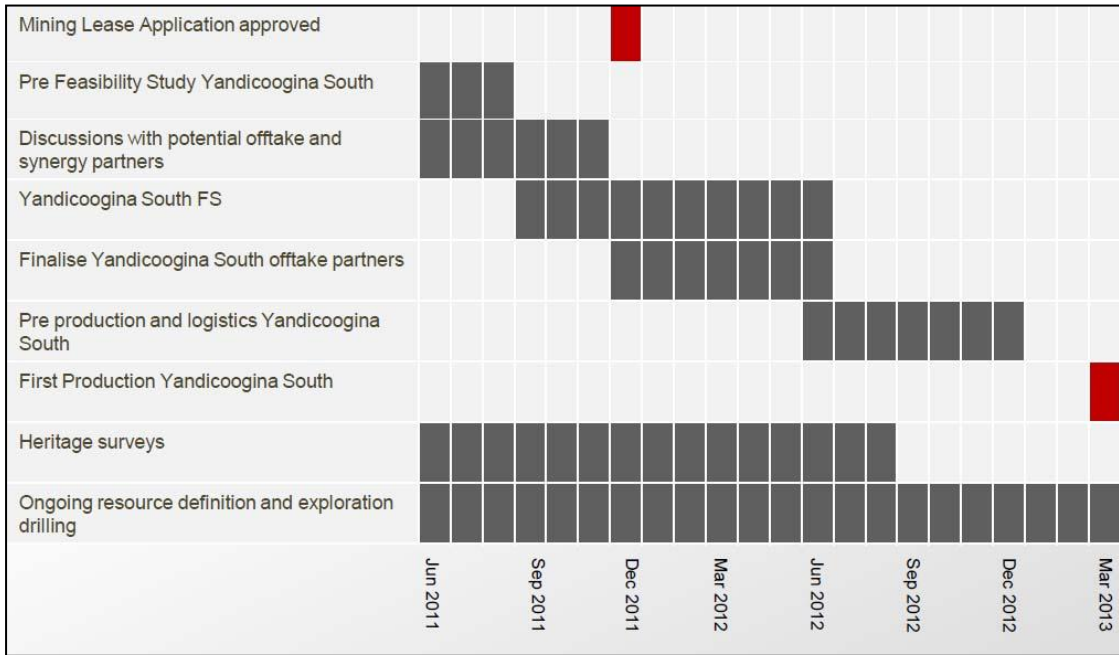


Figure 2: Yandicoogina South Targeted Development Timeline.

During the quarter, discussions with various off-take and synergy partners commenced with a view to commercialising the Yandicoogina South Channel Iron Deposit.

**Hancock Range – E47/2110 (Hemisphere 100%)**

*Hancock Range is located 1.8km south of Hemisphere’s Yandicoogina South Project (E47/1904), approximately 15km north east of Mining Area C (BHPB) and some 5km north of the recently established Hope Downs Operation (Hancock/RIO) in the Pilbara region of Western Australia.*

*The Hancock Range Iron Project is located 5km north of Hope Downs and overlies the Brockman Iron Formation, the host rock to significant iron ore mineralisation in the Pilbara Province. Initial diamond drilling for stratigraphic purposes also tested for iron mineralisation in the Joffre and Dales Gorge Members. Initial drilling has confirmed the stratigraphy and further drilling is currently planned.*

(See Figure 1).

During the Quarter the Company conducted metallurgical testwork on selected Hancock Range core samples to establish the magnetite potential of magnetite-bearing Banded Iron Formation at Hancock Range. This bench-scale testwork is intended to give an indication of magnetite concentrate that could be generated at Hancock Range.

The composited results showed a concentrate of between 66% to 68% Fe could be generated, with relatively low contaminants of 5.5% SiO<sub>2</sub>, 0.1% Al<sub>2</sub>O<sub>3</sub>, and 0.02% Phosphorous (Appendix 1). Overall magnetic recoveries increased with depth below surface.

## Mt Goldsworthy Project – E47/3376 (Hemisphere 100%)

The **Mount Goldsworthy Project** is located 5km north of the historic Mt Goldsworthy Iron Ore mine, 45km east of Atlas Iron's Pardoo operations and 105km from Port Hedland. The BHP Billiton Port Hedland to Yarrie railway line passes along the southern boundary of the tenement. Hemisphere understands that this railway has been declared open to third parties subject to commercial negotiations with BHP Billiton.

The favourable rock unit on the project is the Nimingarra formation which locally hosts Yarrie, Shay Gap, Nimingarra and the Mt Goldsworthy mines. Hemisphere is exploring for DSO hematite and will be targeting drill sites by applying gravity surveys to highlight favourable parts of the Nimingarra.

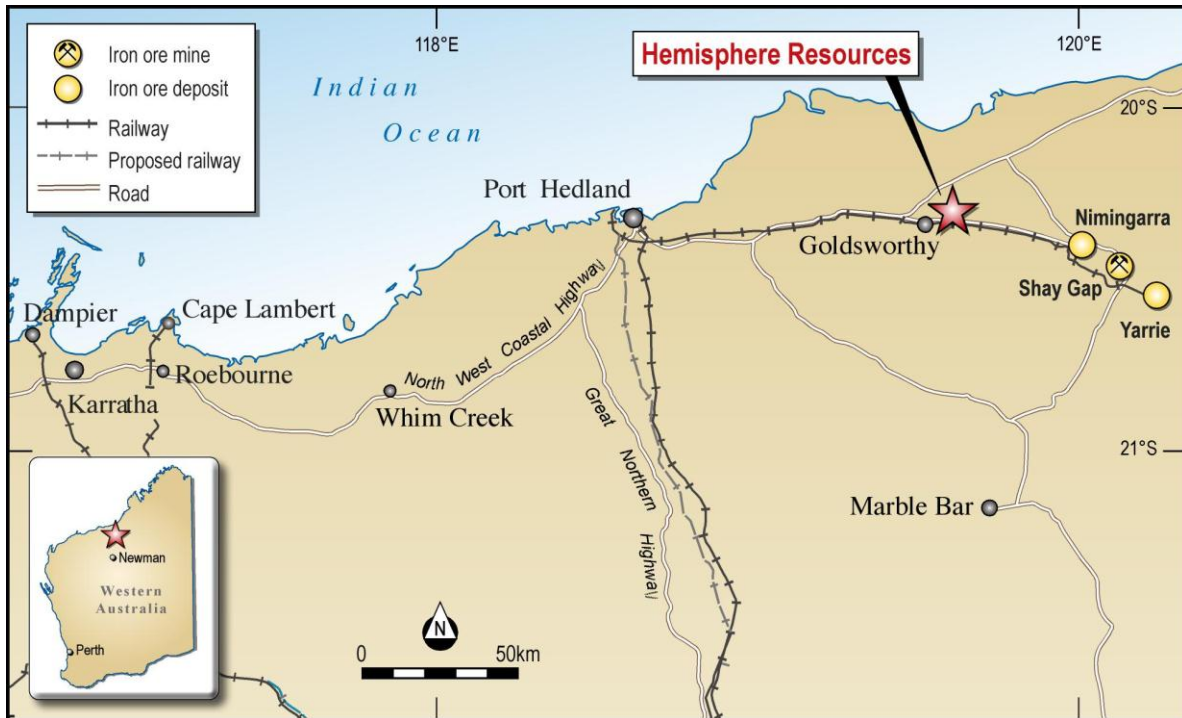


Figure 3: Location of Mt Goldsworthy Iron Project.

A field visit was made to the area, and a full review of available geological and exploration data conducted to generate base-data for exploration planning. An initial focus for Hemisphere is to generate hematite exploration targets using aeromagnetic and ground gravity data to identify anomalies for drill testing.

An initial **ground gravity survey** commenced subsequent to the end of the quarter, with an area of sparsely outcropping Nimingarra Iron Formation identified as a potential target for concealed hematite deposits.

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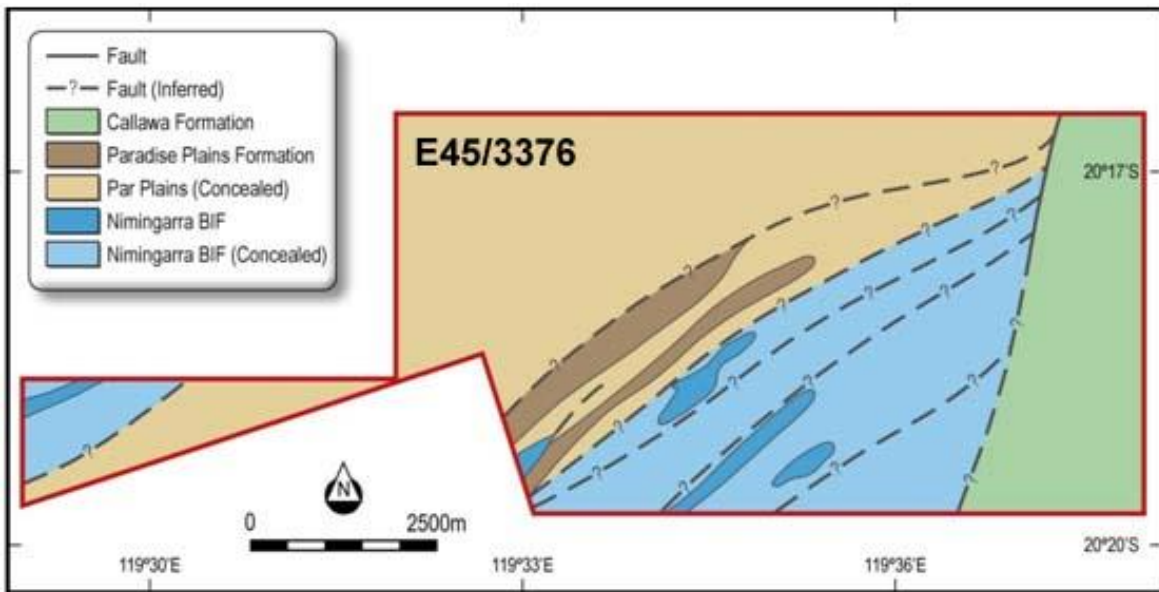


Figure 4: Mount Goldsworthy Project E45/3376 showing subsurface and Outcropping Geology (based on GSWA Pardoo 1:100 000 map), with the initial ground gravity area located over pale-blue shaded Nimingarra Iron Formation.

### Mt Tinstone (Hemisphere 100%)

**Mount Tinstone** is strategically located on the Great Northern Highway 100km south of Port Hedland and 5km south of Atlas Iron's Mount Wodgina iron ore mine. The area is comprised of a number of low-lying Channel Iron Deposit mesas. Surface inspection indicates the quality is generally not as good as the Yandicoogina South deposits. Government approval is in place, allowing Hemisphere to assess the resource potential in the future, probably as part of its Mount Goldsworthy drilling campaign during 2011-2012.

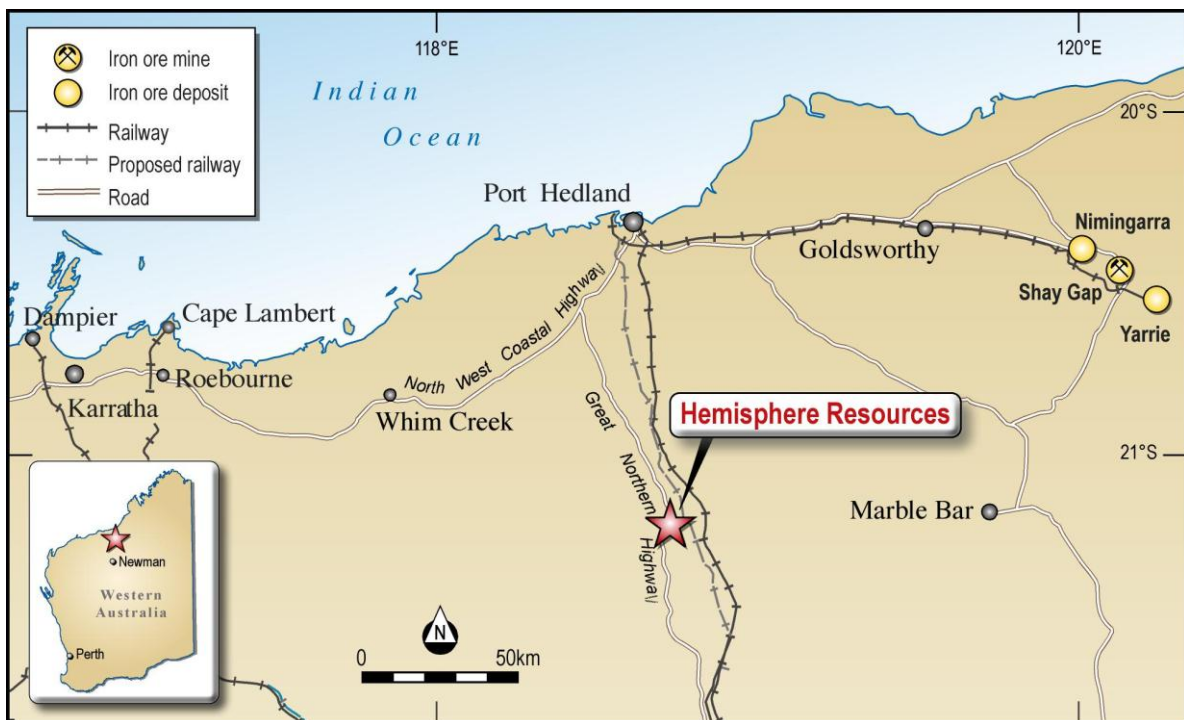


Figure 5: Location of Mt Tinstone Iron Project

Mount Tinstone rock chip results yielded moderately good results, with varying degrees of channel iron quality and sand content. Whole rock assays at a 45% Fe cut-off are presented as Figure 1. Of note is the low phosphorous content. In addition to the iron potential, Mt Tinstone presents as the site of an alternative staging post for material from the southern tenements.

Sample ID	East	North	Fe %	Calcined Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	LOI (950) %
MT008	674978	7649679	56.2	62.3	7.6	1.9	0.03	9.8
MT009	674960	7649633	46.3	50.0	19.3	6.5	0.02	7.6
MT010	675052	7649568	55.9	60.1	10.6	2.2	0.02	7.0
MT011	675030	7649569	55.3	59.4	11.1	2.5	0.02	6.9
MT014	675094	7649521	45.9	50.3	20.2	5.0	0.02	8.8
MT015	675120	7649501	51.9	56.0	14.4	3.6	0.03	7.3
MT019	675234	7649507	49.9	56.7	10.4	5.9	0.02	11.9
MT020	675258	7649517	48.4	54.4	13.3	6.2	0.02	11.1

*Table 1: Mount Tinstone Rock-Chip Assay Results, reported at a 45% Fe cut-off*



*Figure 6: Sampling on the Mt Tinstone Iron Project, with CID mesas on tenement.*

## Lakeside Project (Hemisphere 100%)

The Lakeside project tenement footprint increased during the Quarter, with the granting of E59/1659 covering an area to the west of the initial project area.

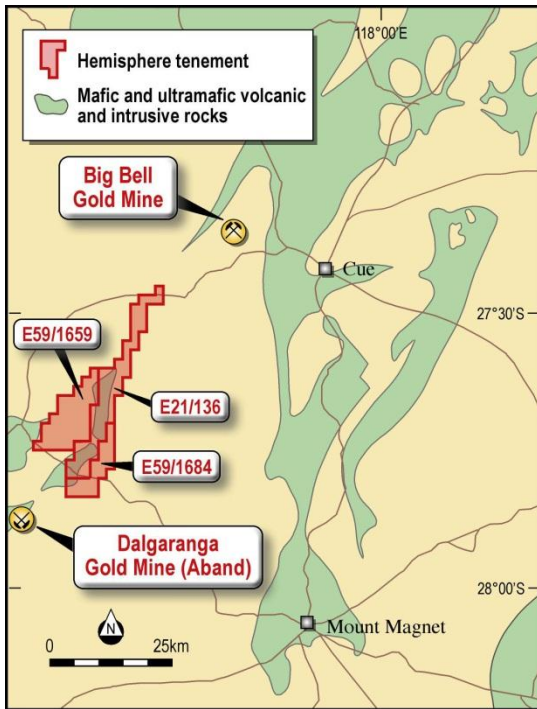


Figure 7: Increased tenement holding at Lakeside.

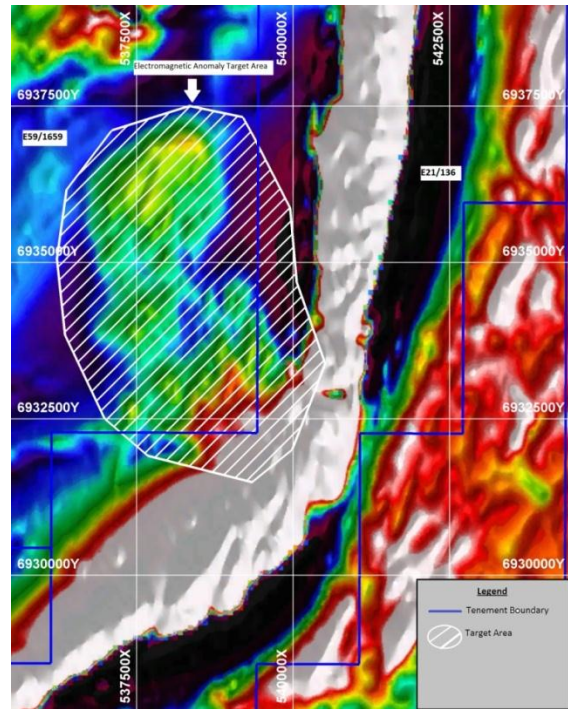


Figure 8: Aeromagnetic image of interpreted base metal / gold target at Lakeside

Interpretation of existing aeromagnetic data showed a potential fluid-flow target that may be prospective for base metal and gold mineralisation on the western side of the Lakeside gabbro intrusive.

An area of approximately 5km x 2km was soil sampled on a regular grid, with 140 samples collected and submitted to the laboratory for assaying a range of elements. Any identified geochemical anomalies arising from the work will be sampled at a closer sample density and drilled to investigate the cause of anomalies at depth.

## Mulgarrie Nickel Project (Hemisphere 70%)

During the Quarter Hemisphere's interest in the Mulgarrie Nickel Project E47/314 expired. Additional wholly owned tenements with nickel potential are held by the Company and these will be maintained as a low priority with the main focus being iron ore development.

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***Competent Person's Statement***

*The information in this report that relates to Exploration Results is based on information compiled by Mr Ian Hassall, who is a Member of the Australian Institute of Mining and Metallurgy. Mr Hassall is a full-time employee of Hemisphere Resources. Mr Hassall has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Hassall consents to the inclusion in the reports of the matters based on his information in the form and context in which it appears.*

Appendix 1

Hole ID	Lat°	Long°	Rock Unit	Depth From	Stratigraphic Thickness	Head Grade Assays					Davis Tube Concentrate				
						Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	LOI 950 %	Mass Recovery %	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
HRDD001	22.860	119.124	J6 to J4	50m	190m	31.0	47.15	0.65	0.097	2.8	17.0	67.6	5.1	0.1	0.012
HRDD001	22.860	119.124	J2 to J1	300m	60m	28.7	44.54	1.15	0.073	6.7	34.7	66.8	5.8	0.2	0.008
HRDD001	22.860	119.124	D4 to D3	403m	37m (EOH)	31.9	40.28	0.23	0.116	7.7	30.7	68.0	4.6	0.0	0.013
HRDD002	22.863	119.125	J6 / J5	Surface	150m (EOH)	29.0	49.59	1.15	0.109	2.1	19.0	67.4	5.3	0.2	0.013
HRDD003	22.856	119.127	J6 / J5	Surface	150m (EOH)	32.2	45.00	1.11	0.191	2.6	14.7	67.5	5.1	0.1	0.022
HRDD004	22.859	119.124	J6 / J5	Surface	150m (EOH)	29.2	50.15	0.97	0.129	3.0	15.2	66.0	7.0	0.2	0.036

Table A1: Hancock Range Davis Tube magnetic concentrate results.

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