

# Activity Report for the Quarter Ended 30 June 2009



## OVERVIEW

### MT THIRSTY COBALT-NICKEL PROJECT – WA (Barra 50%)

- ❖ Primary nickel sulphide mineralisation intersected in the first diamond hole to test a substantial electromagnetic (EM) anomaly adjacent to the Joint Venturers' Mt Thirsty Cobalt-Nickel-Manganese Oxide Deposit.
- ❖ Drill assay results indicate further southern extensions to the Mt Thirsty Cobalt-Nickel-Manganese Oxide Deposit with a JORC compliant mineral resource update to commence shortly.
- ❖ Mt Thirsty has a current JORC Inferred Resource of 14,800,000 tonnes at 0.14% cobalt, 0.59% nickel and 0.99% manganese and a JORC Indicated Resource of 14,230,000 tonnes at 0.11% cobalt, 0.52% nickel and 0.77% manganese.
- ❖ Consultants from Independent Metallurgical Operations Pty Ltd have been engaged to review previous metallurgical test results. They will also be carrying out further detailed test work prior to the commencement of a feasibility study.

### BURBANKS UNDERGROUND GOLD MINE – WA (Barra 100%)

- ❖ Mining operations recommenced at the Burbanks gold mine following a new tribute mining and profit-share arrangement between the Company and Mulgabbie Mining Pty Ltd ("Mulgabbie") with the potential to generate Barra between A\$1.0 million and A\$2.5 million in revenue over the next 6-12 months.
- ❖ Following the end of the quarter, first tribute ore parcel of 2,075 tonnes of Burbanks underground ore was successfully treated at the Ramelius Burbanks mill. From that parcel of ore a total of 323.214 oz's has been sold on the spot market for \$375,754.99. Tribute mining continues.
- ❖ Burbanks has a current JORC Inferred Resource of 141,000 tonnes at 2.92g/t gold for 13,240 ounces and a JORC Indicated Resource of 250,000 tonnes at 3.43g/t gold for 27,570 ounces at a 1.0g/t lower gold grade cut-off.

### PHILLIPS FIND GOLD PROJECT – WA (Barra 100%)

- ❖ Successful completion of 105 hole RAB drilling program for 3,977 metres at Mason, Bob Hope and Diablo prospects to test highly responsive gold auger geochemical anomalies with results pending.
- ❖ A reconnaissance field program highlighted the significant scope to extend the known gold mineralisation at Tiarna Prospect and rock chip sampling returned assays indicative of nickel sulphide mineralisation at Dunns Prospect.

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#### FOR FURTHER INFORMATION

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## EXPLORATION

### 1. Mt THIRSTY PROJECT (50% Barra; 50% Fission)

The 45km<sup>2</sup> Mt Thirsty Cobalt-Nickel-Manganese Oxide Project is located 20km north-northwest of Norseman in southern Western Australia. It is a 50/50 joint venture between Barra Resources Limited ("Barra") and ASX listed Fission Energy Limited ("Fission") (collectively referred to as the "Joint Venture").

The Mt Thirsty Deposit has the potential to emerge as one of the world's most significant cobalt suppliers. Metallurgical testwork indicates that high recoveries of cobalt, nickel and manganese can be achieved through low temperature atmospheric leaching.

Recent diamond drilling has also intersected primary nickel sulphide mineralisation in the first hole designed to test a substantial electromagnetic anomaly adjacent to the joint venturers' Mt Thirsty Cobalt-Nickel-Manganese Oxide Deposit.

#### Cobalt- Nickel Oxide Aircore Drilling Program

Assay results from a 30 hole (MTAC322-351) aircore drilling program for 1,089m completed in the March quarter have been returned and have effectively extended the mineralisation to the south of the current resource outline (Figure 1).

A further 12 holes for 676m (MTAC352-363) were drilled within the current resource outlines to better define selected areas of exceptional thickness and often higher grade which appear to be related to deeper weathering associated with cross-cutting structural features.

In most cases, the drilling confirmed good lateral continuity to these areas of thicker mineralisation which had been tested previously by limited drilling. Best intersections include **43m at 0.14% cobalt, 0.69% nickel and 0.72% manganese** in MTAC352 and **31m at 0.18% cobalt, 0.75% nickel and 1.73% manganese** in MTAC363.

All results have been received and are presented in Table 1.

#### Resource Estimation

A JORC compliant resource update is due to commence shortly and is to be undertaken by independent mining consultants Golder and Associates Pty Ltd. This update will include the results of this most recent aircore drilling which will allow the estimation of any additional Inferred Resource that may be present within the 600m strike length to the southern tenement boundary.

Mt Thirsty currently contains a JORC Inferred Resource of 14,800,000 tonnes at 0.14% cobalt, 0.59% nickel and 0.99% manganese and a JORC Indicated Resource of 14,230,000 tonnes at 0.11% cobalt, 0.52% nickel and 0.77% manganese over an apparent strike of 1.3 km and a width of around 800m. This equates to a potential mine life of 15 years at a throughput rate of 2 million tonnes per annum ("tpa").

#### Feasibility Study

Consultants from Independent Metallurgical Operations Pty Ltd (IMO) were engaged during the quarter to review the previous metallurgical test work and flow sheet development. IMO have also commenced further detailed test work and evaluation and a program to facilitate timely preparation of a feasibility study.

These consultants were specifically selected by the joint venturers for their particular experience and expertise in the processing of nickel – cobalt oxide deposits as well as broader commercial aspects of these businesses.

#### Nickel Sulphide Diamond Drilling Program

Diamond hole MTDD8 was drilled during July to the depth capacity of the rig at 1,070m to test a substantial EM anomaly adjacent to the Joint Venturers' Mt Thirsty Cobalt-Nickel-Manganese Oxide Deposit (Figure 2).

This hole intersected several zones of sulphide mineralisation including a 16m thick hanging wall zone of stringer and heavily disseminated nickel sulphides at a down hole depth of 308m, coincident with the EM conductor's modelled depth of 320m.

Between these zones of nickel sulphide mineralisation and the final depth, a very thick sequence of originally olivine-rich cumulate textured ultramafics was intersected. These rocks contain variable amounts of disseminated, vein and stringer-style sulphide mineralisation which becomes stronger towards the end of the hole.

Spot readings with a Niton XLT 592 portable XRF analyser which have confirmed the presence of nickel sulphides with readings up to 3.4% nickel but generally around 1% nickel are shown in Figure 3. These spot estimates are indicative only and are not considered a substitute for conventional analytical methods. Representative laboratory assay results are pending.

The hole was continued to this depth due to the continuing presence of sulphide, including nickel sulphides, with the aim of intersecting the footwall contact where the best concentration of nickel might be expected (e.g. as at Kambalda). In addition, in excess of 700m of the interpreted basal ultramafic unit

has so far been intersected down the hole (Figure 3). The footwall contact has yet to be intersected due to likely thickening of the unit which is also considered highly encouraging (e.g. at Mt Keith, the host ultramafic unit is up to 650m thick).

Figure 3 shows that despite the target in MTDD8 being below 1,000m, there is strong potential for any mineralised zone to extend upwards to much shallower depths. This possibility is currently being tested by a follow up down hole EM survey and possible drilling. This survey will determine if there are any strongly conductive bodies (e.g. large nickel sulphide accumulations) close to or beneath the drill hole. If a positive response is obtained, consideration will be given to deepening the hole with a higher capacity drill rig.

Surface EM is also planned to test the up-dip extension of the interpreted footwall zone of interest. Any near-surface conductors would be immediately tested with shallow drilling.

The Joint Venture partners also plan to drill test the highest priority EM target at the Woodcutters Prospect approximately 6km to the west-northwest of Mt Thirsty which is associated with a surface gossan which has returned nickel assays up to 0.4%.

## 2. BURBANKS (100% Barra)

Late in the quarter, the Company recommenced mining operations at the Burbanks gold mine in Western Australia under a new tribute mining and profit-sharing arrangement with Mulgabbie.

The new tribute mining arrangements between Barra and Kalgoorlie-based Mulgabbie have the potential to generate Barra between A\$1.0 million and A\$2.5 million in revenue over the next 6-12 months.

Under the new tribute agreement, Mulgabbie will undertake development, stoping, transportation and milling of the ore at its own cost with profits shared 50/50 between Barra and Mulgabbie. During the initial stages of production, Mulgabbie will take an 80% share in profits for the first 1,000 tonnes of ore mined and treated. This will reduce the initial economic risk to Mulgabbie whilst ensuring maximum on-going viability and long-term profitability for both Mulgabbie and Barra.

Mining will focus on the higher grade components of Burbanks' Tailor Shoot, Dahmu Reef, Eastern Reef and Jesson Reef, utilising hand held and smaller mechanised mining and stoping methods. These techniques limit dilution and maximise grade, significantly reducing mining costs.

Mulgabbie have estimated mining costs in the order of A\$600-\$700 per ounce, providing for a potential profit margin in the order of A\$500-\$600 per ounce based on current gold prices of around A\$1,200 per ounce.

Underground mining by Mulgabbie recommenced at the Burbanks operation on 15th June of 2009. Following the end of the quarter, a **2,075 tonne** batch of Burbanks underground ore was toll treated at the Ramelius Burbanks mill. From that parcel of ore a total of **323.214 oz's** has been sold on the spot market for **\$375,754.99**. A quantity of Burbanks gold remains in the Ramelius circuit stock inventory that is yet to be finally calculated.

Burbanks has a current JORC Inferred Resource of 141,000 tonnes at 2.92g/t gold for 13,240 ounces and a JORC Indicated Resource of 250,000 tonnes at 3.43g/t gold for 27,570 ounces at a 1.0g/t lower gold grade cut-off. Mulgabbie will concentrate its initial mining efforts within the 3g/t cut-off resource which comprises 108,000t @ 5.23g/t in the Indicated category and 51,000t @ 4.34g/t in the Inferred category (Table 2). Mulgabbie is aiming to produce between 5,000 to 7,000 ounces in the next 6-12 months.

**Table 1: Mt Thirsty Air Core Drill Results (based on 0.06% Cobalt cut off)**

Hole No.	East	North	Total Depth (m)	From (m)	To (m)	Interval (m)	Cobalt (%)	Nickel (%)	Manganese (%)
<b>AGD84 Zone 51</b>									
<b>Southern Resource Drilling</b>									
MTAC323	371278	6445898	52	27	33	6	0.11	0.45	1.54
MTAC324	371358	6445897	35	20	22	2	0.18	0.41	0.51
MTAC326	371519	6445901	31	23	26	3	0.09	0.37	0.35
MTAC327	371201	6446190	43	29	30	1	0.08	0.32	0.39
MTAC328	371285	6446199	40	24	27	3	0.13	0.31	0.74
				31	32	1	0.06	0.16	2.23
MTAC329	371360	6446206	41	18	26	8	0.09	0.46	0.57
MTAC330	371449	6446202	42	18	25	7	0.09	0.36	0.56

Hole No.	East	North	Total Depth (m)	From (m)	To (m)	Interval (m)	Cobalt (%)	Nickel (%)	Manganese (%)
MTAC330				28	31	3	0.09		0.40
MTAC331	371532	6446193	34	19	23	4	0.08	0.38	0.33
MTAC332	371601	6446211	29	1	3	2	0.13	0.45	0.52
MTAC333	371684	6446200	34	10	11	1	0.26	0.58	0.68
				33	34	1	0.08	0.10	0.19
MTAC334	371761	6446196	36	14	17	3	0.11	0.69	0.29
MTAC336	371760	6446102	27	3	4	1	0.13	0.35	0.93
MTAC338	371596	6446104	39	21	25	4	0.14	0.62	0.59
MTAC339	371521	6446104	42	29	33	4	0.14	0.61	0.57
MTAC340	371443	6446113	41	28	30	2	0.10	0.64	0.36
MTAC344	371508	6445998	45	32	34	2	0.12	0.43	0.53
MTAC345	371432	6446001	39	26	32	6	0.07	0.44	0.30
MTAC349	371602	6446001	42	8	14	6	0.10	0.34	0.30
<b>Infill Drilling</b>									
MTAC352	371459	6447002	65	14	57	43	0.15	0.69	0.72
MTAC353	371420	6446997	62	31	51	20	0.08	0.48	0.47
MTAC354	371423	6446939	58	22	33	11	0.10	0.69	0.56
MTAC355	371444	6446943	56	24	33	9	0.14	0.58	1.10
MTAC356	371443	6447048	55	29	43	14	0.09	0.37	0.63
MTAC357	371460	6447054	56	10	12	2	0.06	0.42	0.66
				23	56	33	0.11	0.49	0.79
MTAC358	371886	6447112	61	29	43	14	0.08	0.77	0.50
MTAC359	372224	6447454	38	16	29	13	0.14	0.62	0.80
MTAC360	372150	6447459	56	15	45	30	0.17	0.75	0.94
MTAC361	372188	6447449	50	16	35	19	0.14	0.59	1.02
MTAC362	372255	6446859	62	21	45	24	0.18	0.54	1.75
MTAC363	372294	6446841	57	26	57	31	0.18	0.75	1.73

Note: Only nickel and manganese average assays within intervals selected using a cobalt cut-off of 0.06% are reported.

**Table 2: Burbanks Gold Resource at Various Gold Grade Cut-offs**

Gold Cut-Off	Indicated Resource Category		Inferred Resource Category		Total Resource		
	Tonnage	Ave/G	Tonnage	Ave/G	Tonnage	Ave/G	Ounces
<b>1.0g/t</b>	<b>250,000</b>	<b>3.43</b>	<b>141,000</b>	<b>2.92</b>	<b>391,000</b>	<b>3.24</b>	<b>40,800</b>
1.5g/t	224,000	3.68	126,000	3.12	349,000	3.48	39,100
2.0g/t	184,000	4.10	105,000	3.39	289,000	3.84	35,700
2.5g/t	143,000	4.63	77,000	3.81	219,000	4.34	30,600
<b>3.0g/t</b>	<b>108,000</b>	<b>5.23</b>	<b>51,000</b>	<b>4.34</b>	<b>159,000</b>	<b>4.95</b>	<b>25,400</b>
4.0g/t	66,000	6.38	22,000	5.53	88,000	6.17	17,500
5.0g/t	43,000	7.43	11,000	6.80	53,000	7.31	12,500

Note: Table above show rounded tonnages. This may cause some apparent computational discrepancies.

<sup>1</sup> The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Resources Committee, The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia as at 9 March 2005.

**Figure 1: Mt Thirsty Aircore Drill Hole Location Plan with Existing Resource Outline**

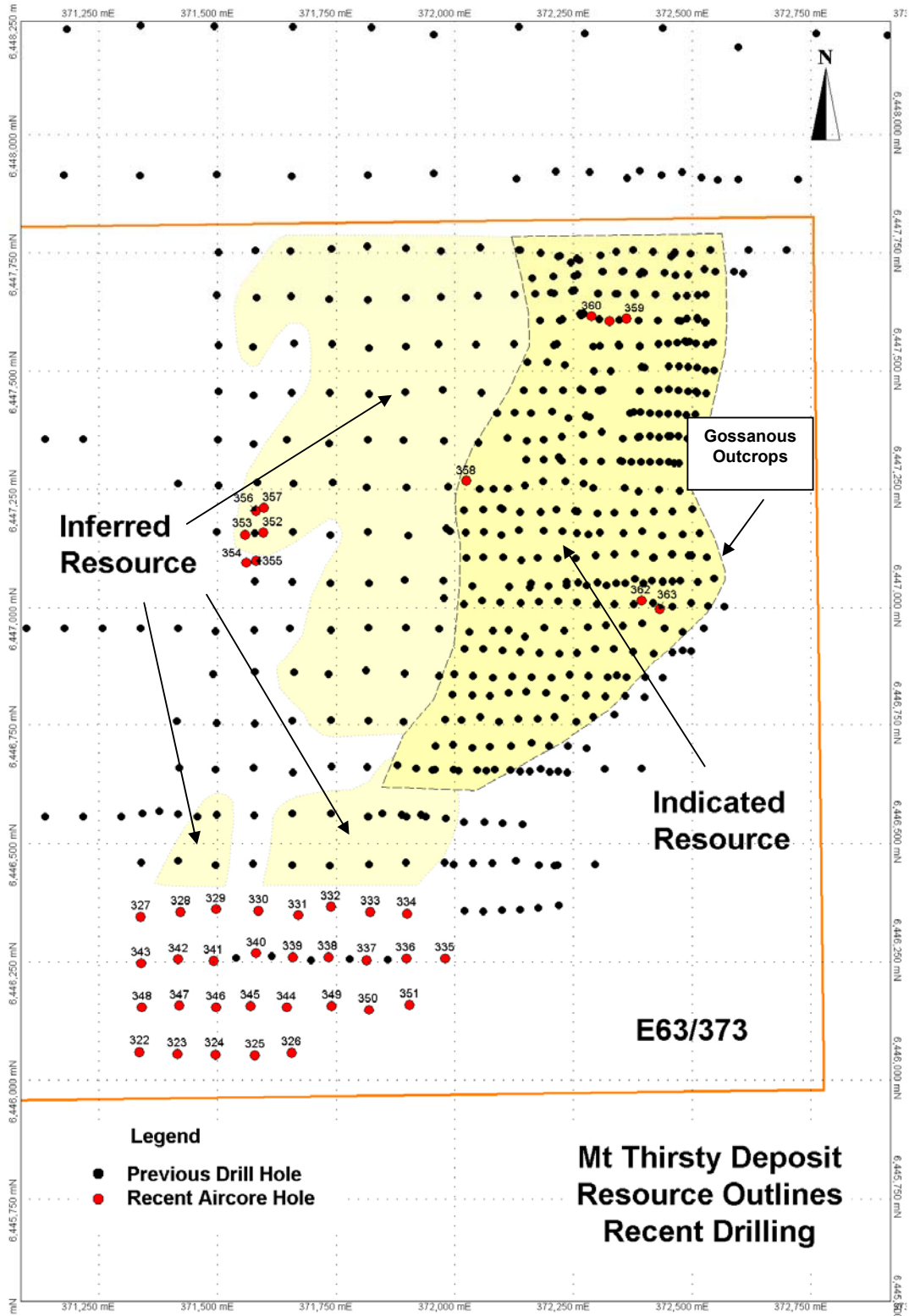
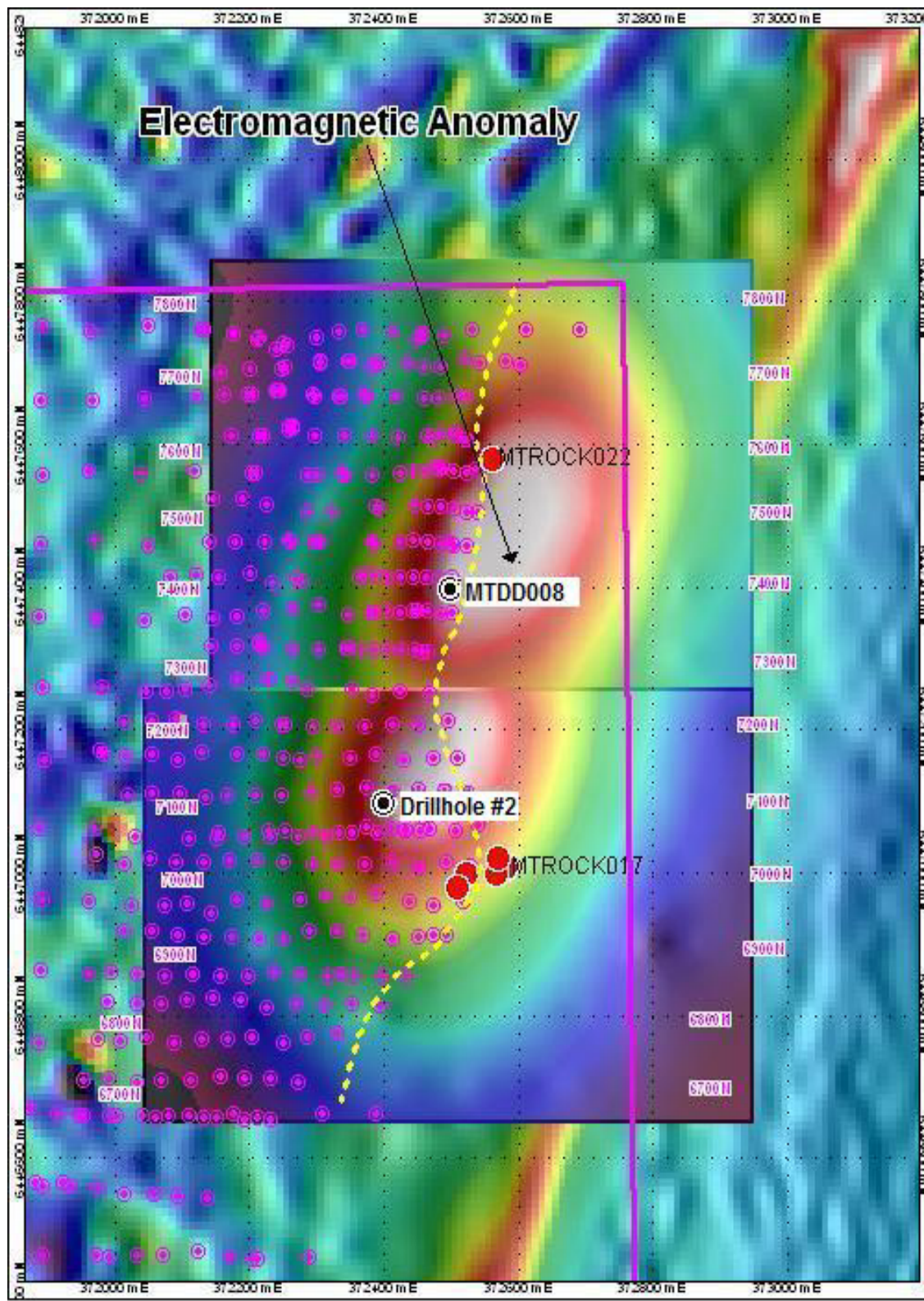


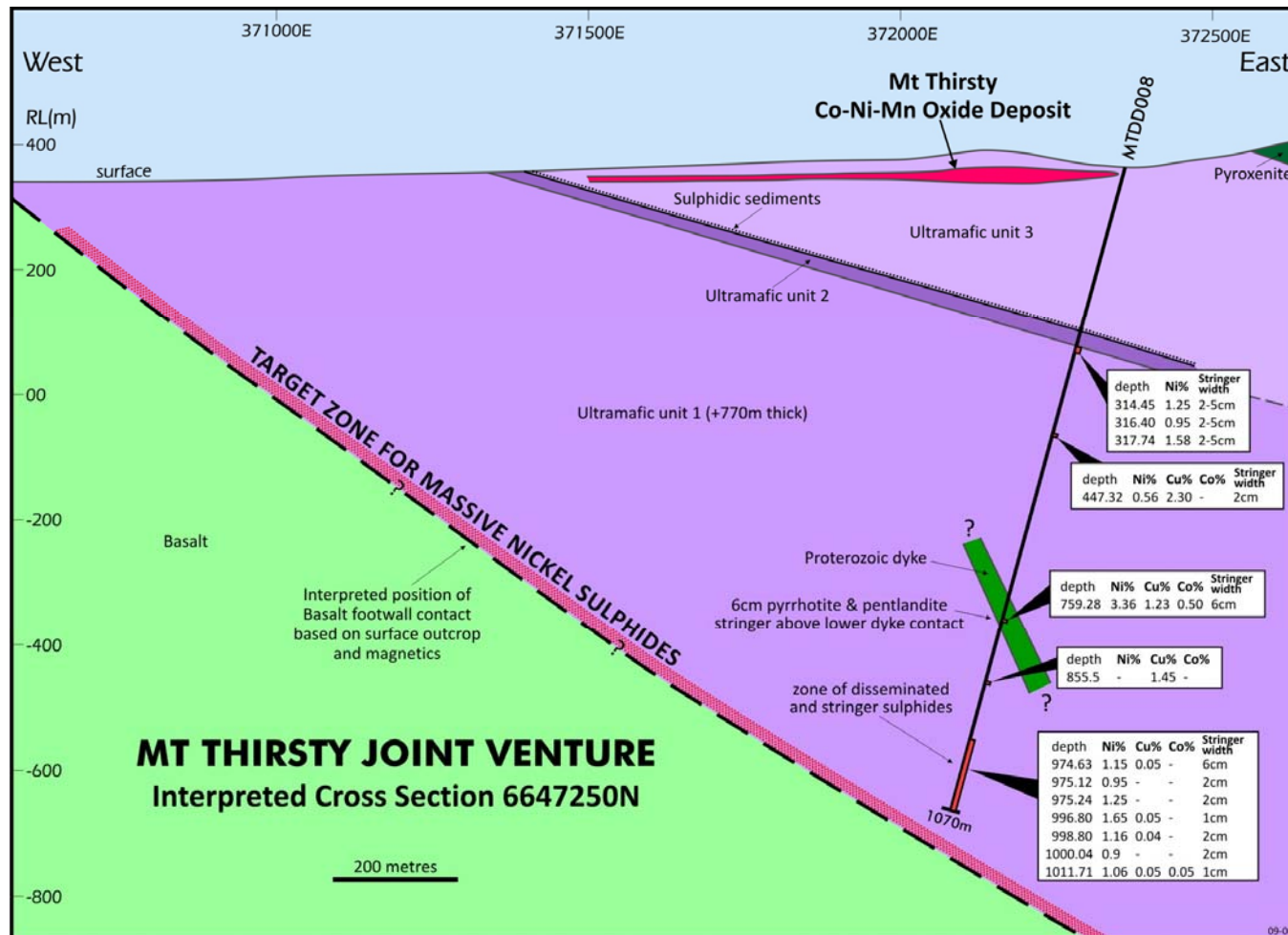


Figure 2: Mt Thirsty Electromagnetic Anomaly and Diamond Drill Hole Location



Note: Barra/Fission previous aircore drill holes are identified by pink dots and nickel sulphide gossan locations are identified by red dots.

Figure 3: Mt Thirsty Interpreted East-West Geological Cross Section Through Drill Hole MTDD8 Showing Spot Niton Readings of Stringer Sulphide Veins and Interpreted Basal Footwall Target Zone.



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### **3. PHILLIPS FIND PROJECT (100% Barra)**

The Phillips Find Project is located some 50km north of Coolgardie. The tenement package contains the Phillips Find Mining Centre where 40,000 ounces of gold has been mined. The Newminster Prospect, within the Phillips Find Mining Centre, has a current JORC Inferred Resource of 32,265 tonnes at 2.50g/t for 2,600 ounces and a JORC Indicated Resource of 84,111 tonnes at 4.62 for 12,500 ounces at a 0.8g/t lower gold grade cut-off.

Regionally, the Phillips Find Mining Centre is located at the intersection of several major gold producing structures. Controls on gold mineralisation are both lithologically and structurally complex. Alteration is intense throughout the system. Open pit mining is relatively shallow at 50m depth below surface. Previous drilling to over 100m depth clearly indicates gold mineralisation continues at depth.

#### **Mason**

During the quarter, 71 RAB holes for 2,563m (PFRB1-34) were drilled at Mason Prospect (Figure 4) to test auger geochemical anomalism along the strike extension of the shallow north dipping thrust identified at Newminster. A further 700m of additional strike to the west of Newminster Prospect was also tested. Results are pending.

#### **Bob Hope/Diablo (formerly Carbine)**

A further 71 RAB holes for 2,563m (PFRB35-105) were drilled at Bob Hope and Diablo prospects within the Carbine tenements (Figure 4). Holes were designed to target a highly responsive auger geochemical anomaly over a strike length of about 2.5km between the historical workings at Bob Hope and encouraging mineralisation intersected in historic RC and diamond drilling at Carbine. Results are pending.

#### **Reconnaissance Field Work**

During the quarter, reconnaissance field work was carried out to investigate the Dunns, Doncaster and Tiarma prospects (Figure 4). At Dunns, historical drilling intersected anomalous gold mineralisation in RAB drilling associated with sheared felsic porphyry along an ultramafic/basalt footwall contact. During the field reconnaissance program, two rock chip samples returned assays indicative of nickel sulphide mineralisation.

At Doncaster, mineralisation is confined to a buried palaeochannel system. Historically, approximately 5,000ozs of gold were produced from 5,000 tonnes of ore. Further work is required to determine the extent of the palaeochannel system and how best to test for additional gold resources.

An inspection of historic drilling at Tiarma confirmed that existing gold mineralisation is associated with quartz veining and sheared felsic porphyry intruded within basalt. Historical intersections include 3m at 16.46g/t gold and 4m at 30.07g/t gold. There is significant scope to extend the known mineralisation to the north with RAB and RC drilling.

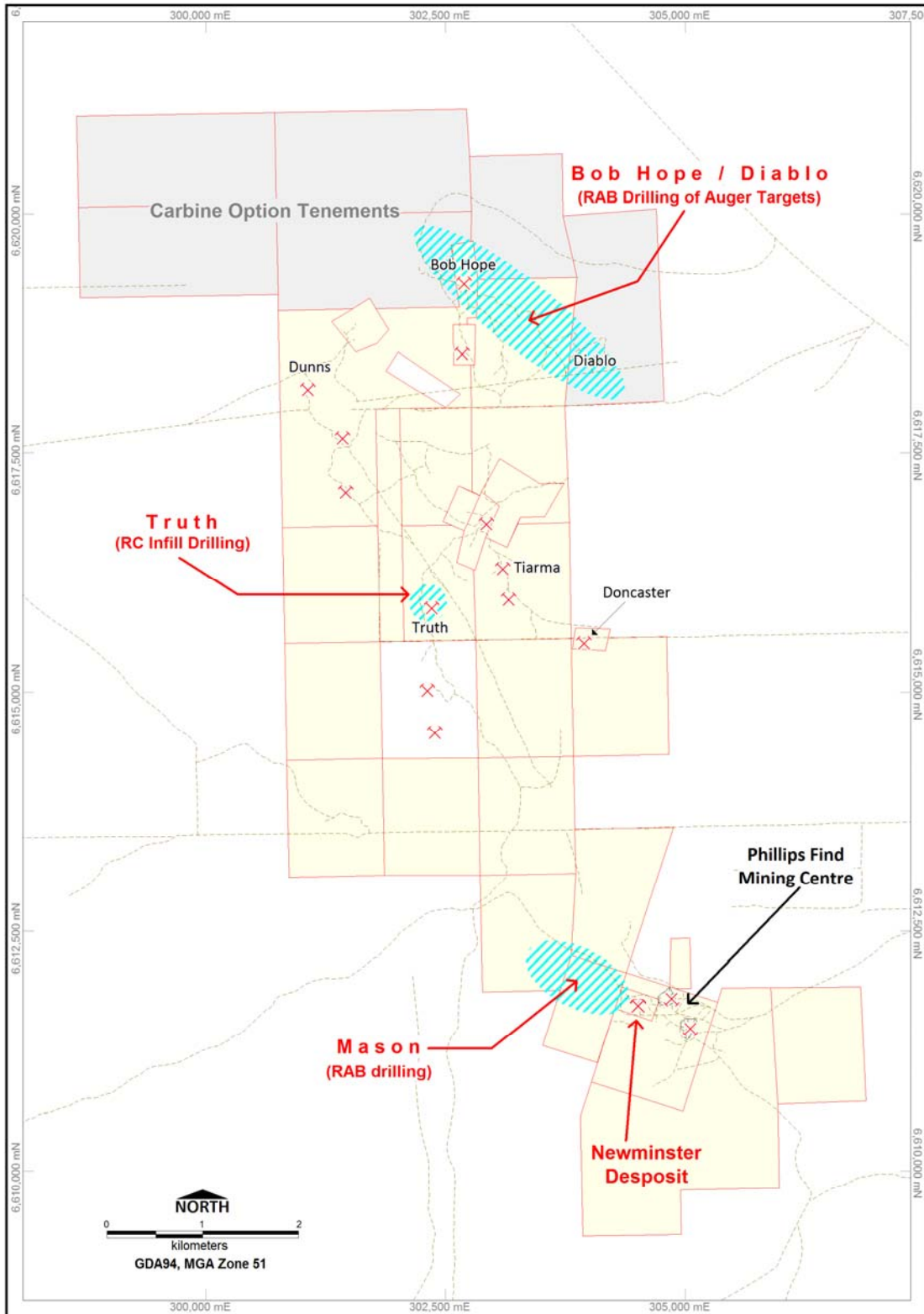
### **4. RIVERINA NICKEL PROJECT (30% Barra, 70% Riverina Resources Pty Ltd - Managers)**

#### **Martins Zone Nickel Sulphide**

No significant work was carried out during the quarter.



Figure 4: Phillips Find Proposed Drilling Location Map



## CORPORATE

### Announcements

Date	Announcement
07/04/2009	Trading Halt Request
07/04/2009	Trading Halt
09/04/2009	Amended Activities Update
09/04/2009	Activities Update
09/04/2009	Share Purchase Plan to Shareholders
09/04/2009	Capital Raising
14/04/2009	Appendix 3B
20/04/2009	Secondary Trading Notice
30/04/2009	Quarterly Cashflow Report
30/04/2009	Quarterly Activities Report
06/05/2009	Letter to Shareholders
06/05/2009	Burbanks Gold Mine To Re-Open
19/05/2009	Mt Thirsty Project - Exploration Update
20/05/2009	Change of Director's Interest Notice
20/05/2009	Issue of Share Purchase Plan Shares
20/05/2009	Appendix 3B
27/05/2009	Response to ASX Price and Volume Query
02/06/2009	Change in Substantial Holding
09/06/2009	Mt Thirsty Nickel Sulphide Drilling to Commence
22/06/2009	Burbanks Recommences Gold Production
29/06/2009	Request for Trading Halt
29/06/2009	Trading Halt

Note: All announcements are available on the Company's website.

## INVESTOR INFORMATION

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### Capital Structure

281,727,078 listed ordinary shares  
25,625,000 listed options  
4,500,000 unlisted options (various)

### Company Directors

Gary Berrell - Non-Executive Chairman  
Dean Goodwin - Managing Director  
Grant Mooney - Non-Executive Director and Company Secretary

### ASX Codes

Shares: BAR  
Options: BARO



**DEAN GOODWIN**  
Managing Director

**Abbreviations** t=tonnes, mm=millimetre, m=metres, km=kilometres, ozs=ounces, %=percent, g/t=grams per tonne, Au = gold, Ni=nickel, Co=cobalt, Mn=manganese, @=at, ppm=parts per million, ppb=parts per billion, RC=Reverse Circulation, RAB=Rotary Air Blast, RL=Reduced Level

The information in this report which relates to the Mt Thirsty and Burbanks Mineral Resources is based on information compiled by Alan Miller, a full time employee of Golder Associates Pty Ltd and who is a member of the Australasian Institute of Mining and Metallurgy. Alan Miller has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the January 2005 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Resources Committee, the Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and the Mineral Council of Australia." Alan Miller consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Dean Goodwin who is a Member of the Australian Institute of Geoscientists. Dean Goodwin is a full-time employee of the Company. Dean Goodwin has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the January 2005 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dean Goodwin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.