

**ASX QUARTERLY REPORT
FOR PERIOD ENDED 30TH JUNE 2009**

HIGHLIGHTS

MT THIRSTY PROJECT (WA)

Nickel Sulphide Exploration

- **Diamond drill hole testing substantial EM anomaly confirms several zones of disseminated and stringer nickel sulphide mineralisation in very thick ultramafic sequence.**
- **Down hole EM survey in progress to test for deeper basal sulphide mineralisation at footwall contact.**
- **Second diamond hole to test strong EM anomaly beneath outcropping gossan at Woodcutters prospect to commence early August.**

Mt Thirsty Co-Ni-Mn Oxide Resource

- **Assay results from recent resource drilling indicate mineralisation extends to southern tenement boundary.**

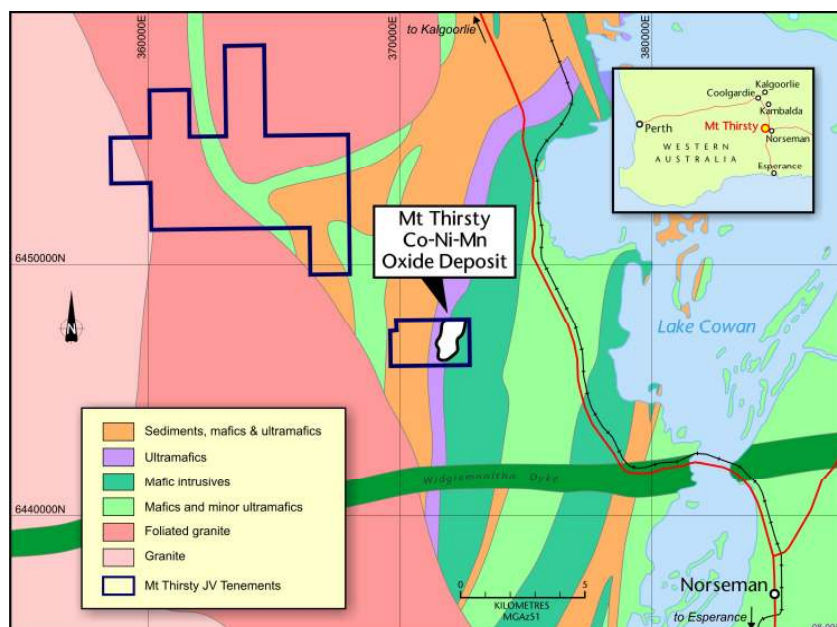


Figure 1: Mt Thirsty project location and regional geology.

MT THIRSTY Co -Ni -Mn PROJECT (Fission 50%)

The Mt Thirsty Cobalt –Nickel -Manganese oxide project covering an area of 45km² is located 20km north-northwest of Norseman (Figure 1). Fission through its wholly owned subsidiary Meteorite Metals Limited owns 50% of the project in joint venture with Barra Resources Limited. The Mt Thirsty deposit has the potential to emerge as a significant world cobalt supplier. Metallurgical testwork indicates that high recoveries of cobalt, nickel and manganese can be achieved through low temperature atmospheric leaching.

Mt Thirsty has a current JORC Indicated Resource of 14.8 million tonnes at 0.14% Cobalt, 0.59% Nickel and 0.99% Manganese and a JORC Inferred Resource of 14.2 million tonnes at 0.11% Cobalt, 0.52% Nickel and 0.77% Manganese over an apparent strike of 1.3 kilometres and a width of around 800 metres.

As well as the Cobalt-Nickel–Manganese oxide resource, the Mt Thirsty joint venture tenements have potential for nickel sulphide mineralisation at greater depth within the same ultramafic sequence which hosts the near surface oxide deposit.

Nickel Sulphide Exploration

EM Survey Delineates Strong Conductors

A surface electromagnetic (EM) survey was completed during the quarter to follow-up on several gossanous rock-chip samples representing possible massive to disseminated nickel sulphide mineralisation associated with an ultramafic contact adjacent to the Mt Thirsty oxide deposit. A large EM anomaly (Figure 2) was delineated by the survey.

An EM survey was also carried out over the Woodcutters prospect 6km to the northwest of the Mt Thirsty deposit where potential nickel gossans have also been located within a komatiitic sequence. Two conductors were located in this area and the highest priority one, associated with a surface gossan which has returned nickel assays up to 0.4%, will be tested by a 250m diamond drill hole in early August.

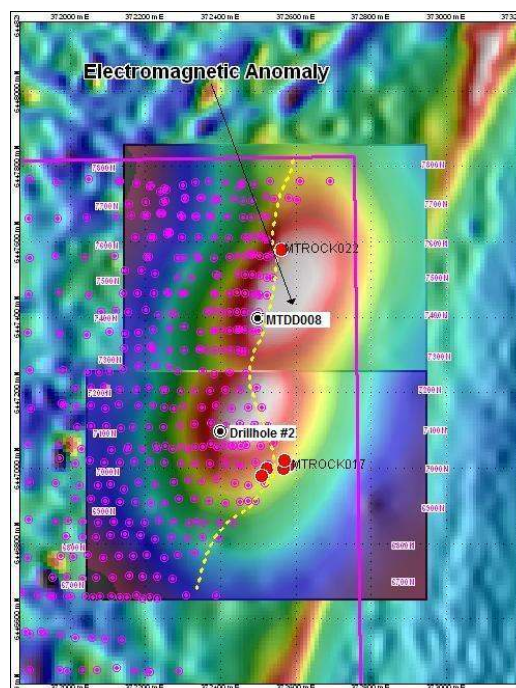


Figure 2: Electromagnetic anomaly showing diamond hole MTDD008, Fission-Barra previous aircore drilling (pink dots) and gossanous surface outcrop locations.

Diamond Drill Testing Intersects Disseminated Nickel Sulphides

Diamond hole MTDD008 was initially drilled to test the strong EM conductor referred to above and intersected a 16 metre thick hangingwall zone of stringer and heavily disseminated sulphides, at a down hole depth of 308 metres, coincident with the EM conductor's modelled depth of 320 metres. The zone of sulphide mineralisation contains visible sulphide minerals (refer photos Figure 4) including pyrrhotite, chalcopyrite, pentlandite (nickel-iron sulphide), pyrite and magnetite.

MTDD008, collared at 372355E and 6447255N (AGD84 Zone 51) was initially orientated at 75° to the west. Based on the current geological interpretation down hole intercepts are believed to be close to true width.

This hole has recently been completed at the depth capacity of the drill rig at 1,070 metres and has intersected a very thick sequence of originally olivine-rich, cumulate textured ultramafic rocks. These rocks contain variable amounts of disseminated, vein and stringer-style sulphide mineralisation, which becomes stronger towards the bottom of the hole. Spot readings with a Niton* device have confirmed the presence of nickel sulphides, with readings up to 3.4% Ni, but generally around 1% Ni as shown on the attached cross section (see Figure 3). However, representative, laboratory assays from the entire hole are still awaited, and are expected shortly.

The joint venturers drilled the hole to this depth due to the continuing presence of sulphides, including nickel sulphides, with the aim of intersecting the footwall contact where the best concentration of nickel might be expected (eg. as at Kambalda). In addition, in excess of 700 metres of the interpreted basal ultramafic unit has so far been intersected down the hole (Figure 3), however the footwall contact has yet to be intersected due to likely thickening of the unit. This interpreted thickening is also considered highly encouraging (eg. at Mt Keith the host ultramafic unit is up to 650 metres thick).

Figure 3 shows that despite the target in MTDD008 being below 1,000m, there is obviously strong potential for any mineralised zone to extend upwards to much shallower depths. This possibility will be tested by a follow up surface EM survey and possibly drilling.

It is worth noting that the highest Niton reading (3.4% Ni) is associated with visible nickel sulphides near the base of a later, Proterozoic dyke (see photo Figure 4) at around 750m depth. These sulphides may have been remobilised upwards from a more significant sulphide accumulation on the basal contact some distance below.

Follow up Program

A down hole electromagnetic (EM) survey is currently in progress. This survey will determine if there are any strongly conductive bodies (eg. 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.

**Note: The nickel grade estimates for diamond hole MTDD008 quoted in this release have been estimated using a Niton XLT 592 portable XRF analyser. These spot estimates are indicative only and have been provided to demonstrate that some highly anomalous nickel values are present throughout the hole. Niton XRF analysis is not considered a substitute for conventional analytical methods.*

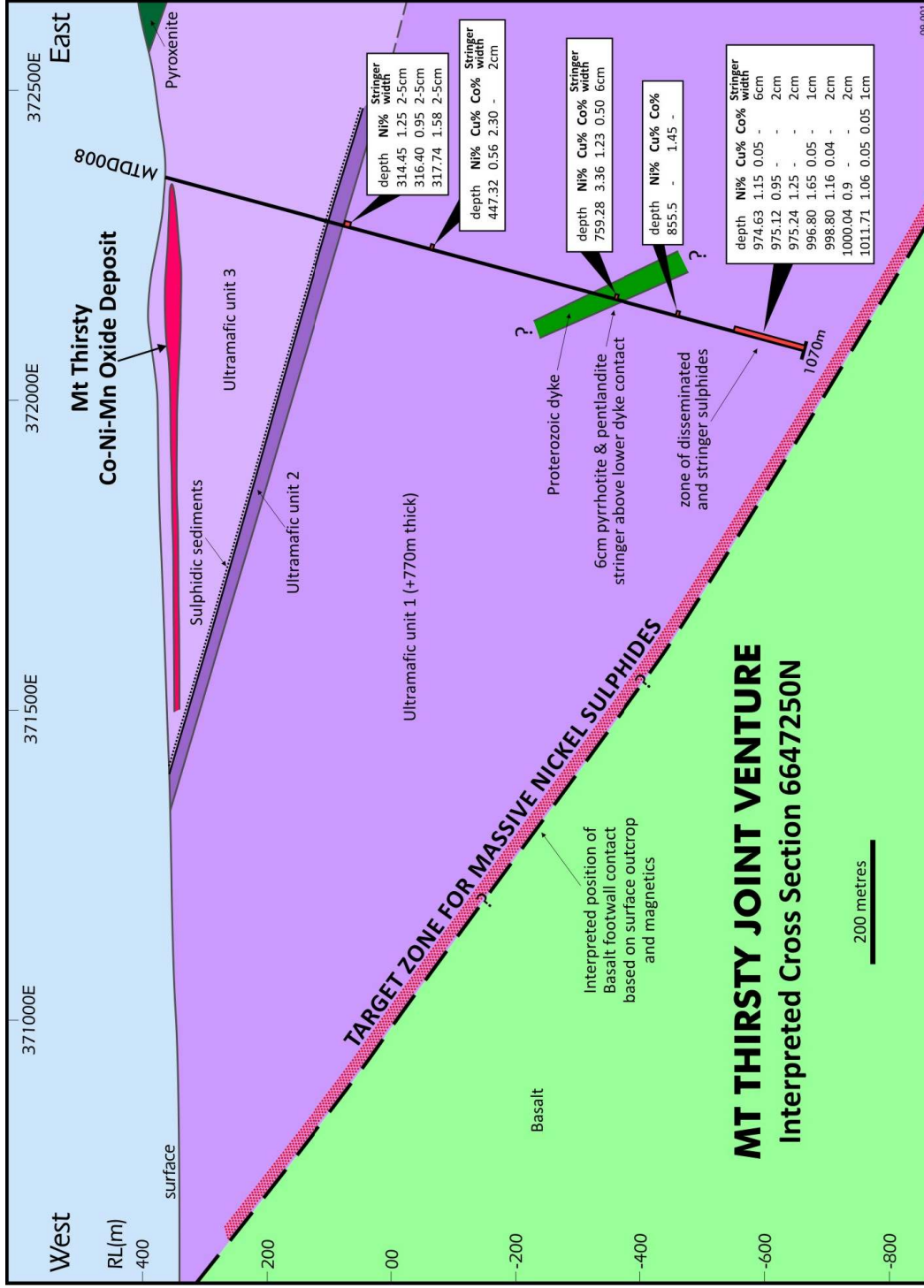
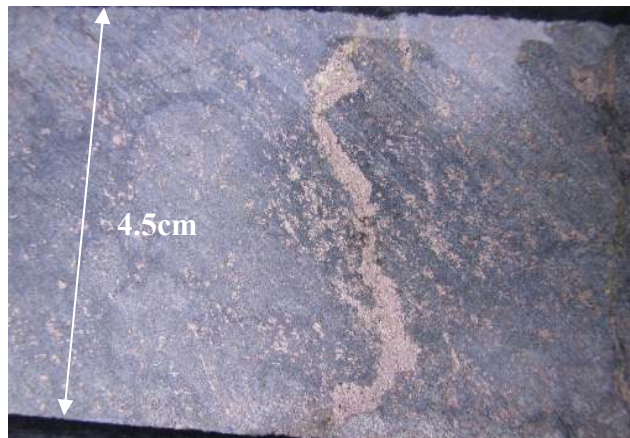
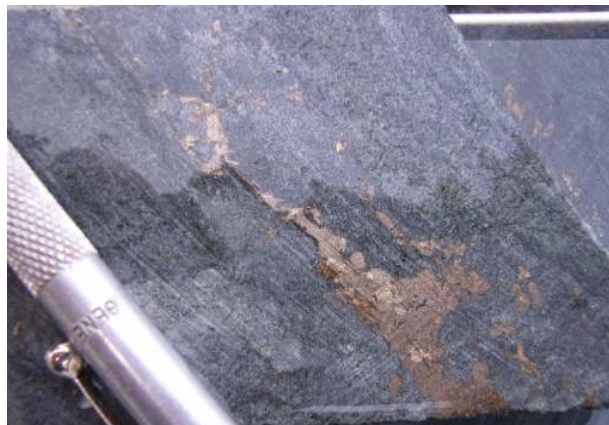


Figure 1: Interpreted east-west geological cross section through drill hole MTDD008, showing spot Niton readings of stringer sulphide veins and interpreted basal footwall target zone.



MTDD008 Disseminated and stringer sulphide mineralisation in half NQ core, 318m depth.



MTDD008 Stringer sulphide mineralisation showing lighter coloured pentlandite? grains within pyrrhotite in half NQ core.



MTDD008 6cm wide massive sulphide stringer (pyrrhotite and pentlandite) near lower contact in Proterozoic dyke (NQ Core), 759m depth.

Figure 4: MTDD008 core photos showing sulphide mineralisation.

Mt Thirsty Ni –Co- Mn Oxide Deposit***Mineral Resource Extended***

Step out air core drilling at 80m intervals along 4 lines spaced 100m apart (30 holes for 1,089m, holes MTAC 322 to 351) to the south of the current Indicated and Inferred Resource outlines was completed last quarter and assay results were received during the current quarter. An additional three air core holes (MTAC 430 to 432) to follow up this drilling were also recently completed. Significant cobalt intervals (based on 0.06% cut off) with associated nickel and manganese values are listed in Table 1. Holes were drilled vertically and sampled in 1m intervals; locations are shown in Figure 3.

The assay results indicate that the cobalt - nickel - manganese oxide mineralisation continues southwards from the existing resource but is lower grade towards the tenement boundary. The new results will allow estimation of an additional Inferred Resource within the 600m strike length to the southern tenement boundary.

A further 12 holes for 676m (holes MTAC 352 to 363) were mostly drilled in places within the existing Indicated and Inferred Resources outlines to better define selected areas of exceptional thickness and often higher grade which appear to be related to deeper weathering (results in Table 1).

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.

Table 1
Significant Drilling Results (based on 0.06% Co cut off)

Hole No	East	North	Total Depth	From	To	Interval	Co %	Ni %	Mn%
AGD84 Zone 51			m	m	m	m			
Southern Resource Drilling									
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
MTAC330				28	31	3	0.09	0.72	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
MTAC430	371603	6445904	39	14	18	4	0.09	0.44	0.31
MTAC431	371679	6445902	37	17	22	5	0.10	0.55	0.42
MTAC432	371837	6446206	29	11	15	4	0.21	0.87	0.52
Infill Drilling									
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 Ni and Mn average assays within intervals selected using a Co cut off of 0.06% are reported.

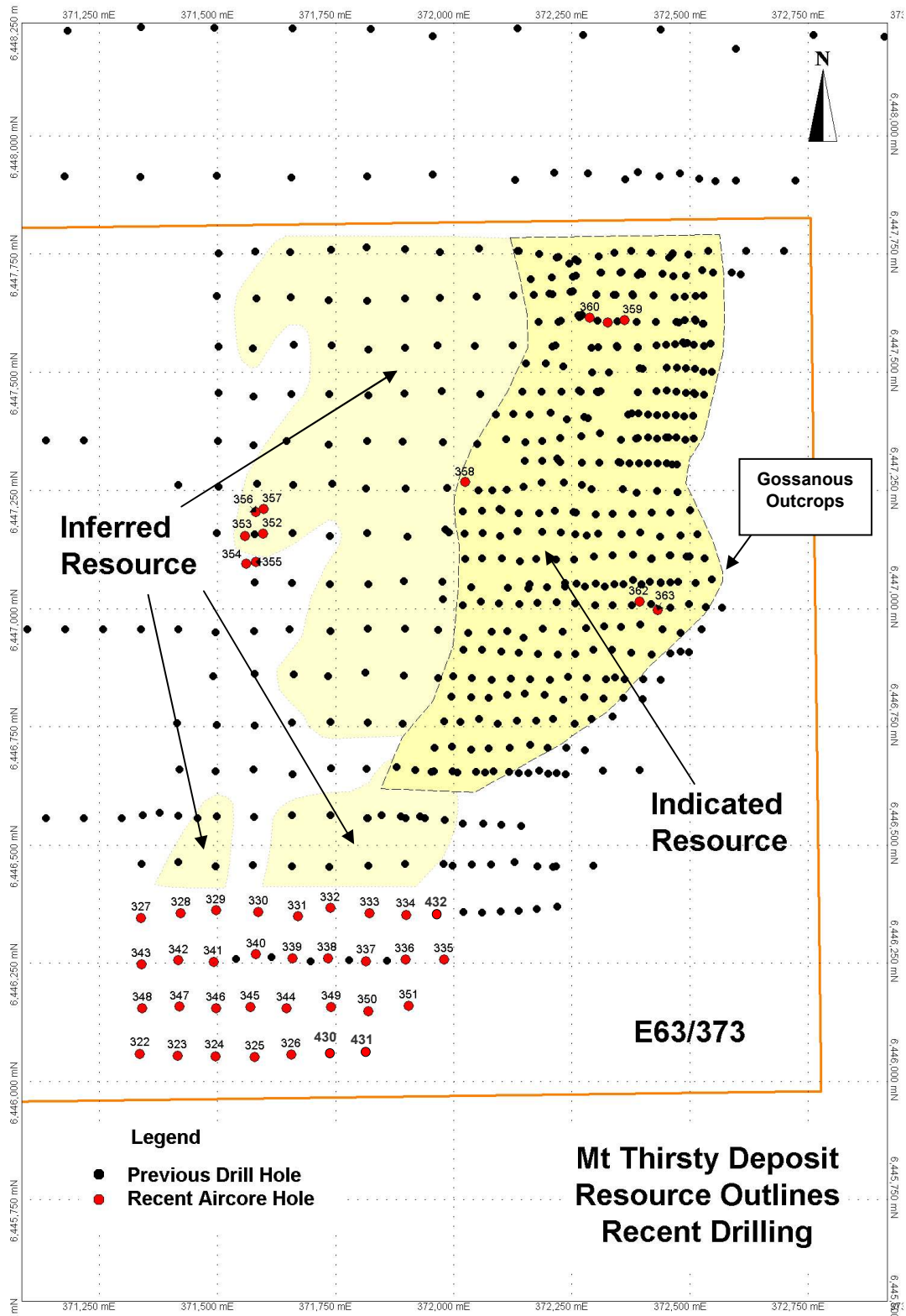


Figure 3: Mt Thirsty deposit resource drilling locations and hole numbers.

URANIUM EXPLORATION (SOUTH AUSTRALIA)

Wynbring Project (Fission 100% uranium rights)

The Wynbring project is located within EL 3306 on the Gawler Craton approximately 100km west northwest of Tarcoola in South Australia (Figure 3). It covers a Tertiary palaeochannel 25km to the northwest of the Warrior uranium deposit.

Previous exploration by Fission has discovered uranium mineralisation (up to 5m at 850ppm U_3O_8) at the Pundinya prospect associated with reduced fluvial sands at the base of the Wynbring palaeochannel.

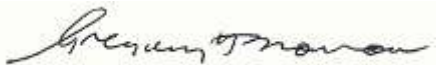
No work was carried out at Wynbring during the quarter.

Parkinson Dam Project (Fission 100% uranium rights, Mega Hindmarsh earning 51%)

Fission has a joint venture with Mega - Hindmarsh Ltd, a wholly owned subsidiary of Mega Uranium Ltd of Canada to explore the Parkinson Dam Project (ELs 3307 & 3739) for uranium. The Parkinson Dam tenements, located 60 km west of Port Augusta in South Australia are held by Tasman Resources NL (ASX: TAS), and Fission Energy has the uranium rights. Tasman is currently exploring these tenements for epithermal gold mineralisation.

The area is considered prospective for unconformity - associated uranium deposits close to the contact between the Mesoproterozoic Corunna Conglomerate and the underlying Palaeoproterozoic metasedimentary rocks. Outcropping uraninite (uranium oxide) mineralisation discovered in EL 3307 by an earlier explorer was reported by Tasman in 2006.

Mega-Hindmarsh is currently interpreting the results of a 400m spaced airborne EM survey and a HyVista survey, which shows some interesting alteration anomalies.



Greg Solomon
Executive Chairman

The interpretations and conclusions reached in this report are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken on the basis of interpretations or conclusions contained in this report will therefore carry an element of risk.

The information in this announcement, insofar as it relates to Mineral Exploration activities, is based on information compiled Michael J. Glasson and Robert N Smith, who are members of the Australian Institute of Geoscientists, both of whom have more than five years experience in the field of activity being reported on. Mr Glasson and Mr Smith are consultants. Mr Glasson and Mr Smith have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Glasson and Mr Smith consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

It should not be assumed that the reported Exploration Results will result, with further exploration, in the definition of a Mineral Resource.

Appendix 5B

Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001.

Name of entity

FISSION ENERGY LTD

ABN

49 119 057 457

Quarter ended ("current quarter")

30 June 2009

Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter \$A'000	Year to June (12 months) \$A'000
1.1	Receipts from product sales and related debtors	2	42
1.2	Payments for (a) exploration and evaluation (b) development (c) production (d) administration	(82)	(905)
1.3	Dividends received	(221)	(721)
1.4	Interest and other items of a similar nature received	18	222
1.5	Interest and other costs of finance paid		
1.6	Income taxes paid – GST Refunds Received	15	126
1.7	Other (provide details if material)-		
Net Operating Cash Flows		(268)	(1,236)
Cash flows related to investing activities			
1.8	Payment for purchases of: (a)prospects (b)equity investments (c)other fixed assets	(2)	(6,150)
1.9	Proceeds from sale of: (a) prospects (b)equity investments (c) other fixed assets		(55)
1.10	Loans to other entities	(23)	(23)
1.11	Loans repaid by other entities		
1.12	Other (provide details if material)		
Net investing cash flows		(25)	(6,228)
1.13	Total operating and investing cash flows (carried forward)	(293)	(7,464)

1.13	Total operating and investing cash flows (brought forward)	(293)	(7,464)
Cash flows related to financing activities			
1.14	Proceeds from issues of shares, options, etc.		1,175
1.15	Proceeds from sale of forfeited shares		
1.16	Proceeds from borrowings		
1.17	Repayment of borrowings		
1.18	Dividends paid		
1.19	Other (provide details if material) Share Application Monies		1,000
Net financing cash flows		-	2,175
Net increase (decrease) in cash held		(293)	(5,289)
1.20	Cash at beginning of quarter/year to date	2,533	7,529
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	2,240	2,240

**Payments to directors of the entity and associates of the directors
Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	156
1.24	Aggregate amount of loans to the parties included in item 1.10	0

1.25 Explanation necessary for an understanding of the transactions

Management Fees, as per agreement, were paid during the quarter to a company of which Mr GH Solomon and Mr DH Solomon are directors.
Legal Fees were paid during the quarter to a firm of which Mr GH Solomon and Mr DH Solomon are partners.
Consulting Fees were paid during the quarter to a company of which Mr GT LePage and Mr J Richardson are directors.
Directors Fees and Superannuation paid during the period.

Non-cash financing and investing activities

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

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2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

Not applicable

Financing facilities available

Add notes as necessary for an understanding of the position.

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities	Nil	Nil
3.2 Credit standby arrangements	Nil	Nil

Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	250
4.2 Development	
Total	250

Subsequent to end of quarter additional capital has been raised to fund part of this expenditure.

Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.

	Current quarter \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank	2,240	2,533
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	2,240	2,533

Changes in interests in mining tenements

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed			
6.2	Interests in mining tenements acquired or increased			

Issued and quoted securities at end of current quarter

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

		Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	Preference +securities (description)	NOT APPLICABLE			
7.2	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3	+Ordinary securities	119,280,258	109,760,258		
7.4	Changes during quarter (a) Increases through issues (b) Increase release from Escrow (b) Decreases through returns of capital, buy-backs				
7.5	+Convertible debt securities (description)	NOT APPLICABLE			
7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7	Options	1,000,000 40,999,992 1,000,000 511,508 500,000	NIL 40,999,992 NIL NIL NIL	<i>Exercise price</i> 20 cents 20 cents 20 cents 19 cents	<i>Expiry date</i> 18 June 2010 28 February 2011 31 March 2011 16 April 2012 26 May 2013
7.8	Issued during quarter	511,508	NIL	20 cents	16 April 2012
7.9	Exercised during quarter				
7.10	Expired during quarter				
7.11	Debentures (totals only)	NOT APPLICABLE			
7.12	Unsecured notes (totals only)	NOT APPLICABLE			

Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 4).
- 2 This statement does give a true and fair view of the matters disclosed.

AARON PHILIP GATES
JOINT COMPANY SECRETARY/CFO
Date: 30 July 2009

Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities.** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, *AASB 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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