

**ASX QUARTERLY REPORT
FOR PERIOD ENDED 30TH SEPTEMBER 2010**

HIGHLIGHTS

MT THIRSTY PROJECT (WA)

Nickel Sulphide Exploration

- ***Further RC drilling intersects high grade nickel in two holes:***
MTRC020 - 2m @ 5.9% nickel
MTRC022 - 2m @ 3.5% nickel, including 1m @ 4.7% nickel
- ***Follow up RC drilling in progress***

Mt Thirsty Co-Ni-Mn Oxide Resource - Pre Feasibility Study

- ***Infill resource drilling in progress***
- ***Mt Thirsty project showcased at Cobalt Conference in Capetown***

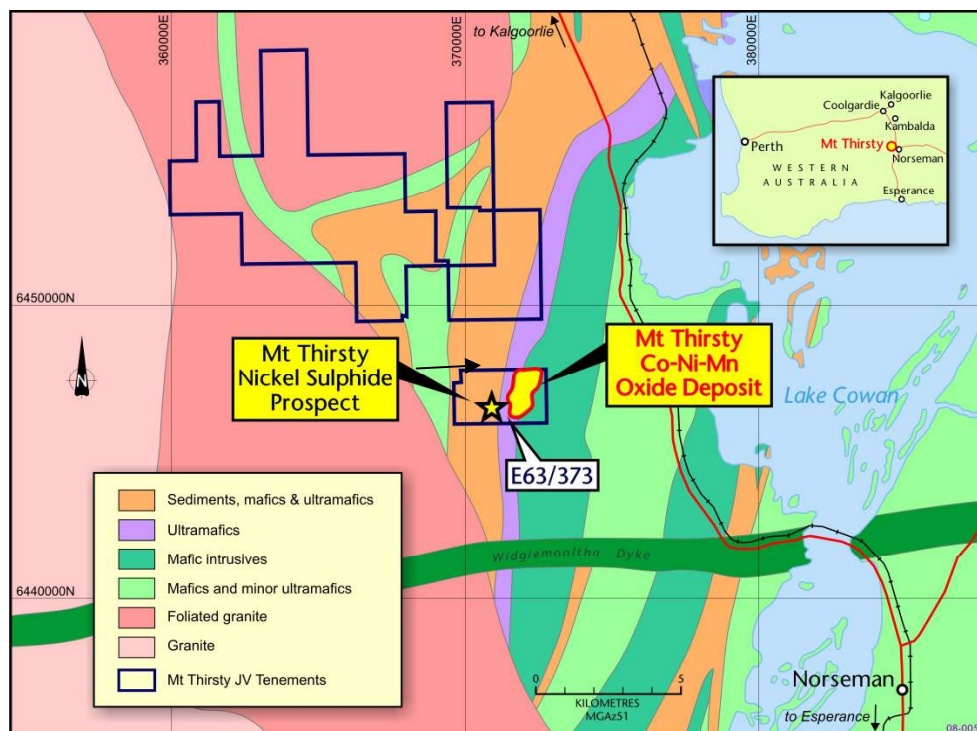


Figure 1: Mt Thirsty project location and regional geology.

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

The Mt Thirsty Cobalt –Nickel -Manganese oxide project covering an area of 58km² is located 20km north-northwest of Norseman in the southern goldfields of Western Australia, a well endowed nickel terrain (see Figures 1 & 2). Fission through its wholly owned subsidiary Meteore 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. Based on the current flowsheet design, approximately 27,000 tonnes of mixed sulphide precipitate (containing 2,700t Co & 10,000t Ni) and 33,000 tonnes of manganese carbonate could be produced annually from Mt Thirsty.

Mt Thirsty has a current JORC compliant Indicated Resource of 14.8 million tonnes at 0.14% Cobalt, 0.59% Nickel and 0.99% Manganese and a JORC compliant Inferred Resource of 14.2 million tonnes at 0.11% Cobalt, 0.52% Nickel and 0.77% Manganese over a length of 1.3 kilometres and a width of up to 850 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. A potentially significant nickel sulphide discovery was made by the joint venture earlier this year (refer below).

Nickel Sulphide Exploration

A very thick sequence of originally olivine-rich, cumulate - textured ultramafic rocks has been intersected at Mt Thirsty. These rocks contain variable amounts of disseminated, vein and stringer-style sulphide mineralisation. Basal lava channel embayments located on ultramafic-basalt contacts are a preferred location for nickel sulphide accumulations eg. in the Kambalda region. Several of these basal embayment type structures have been identified within the project area and are currently being evaluated at Mt Thirsty.

In May this year RC hole MTRC015 intersected a thick zone of nickel sulphides assaying **3.4% nickel** over 6m from a down hole depth of 201 metres, adjacent to the footwall ultramafic contact within an interpreted lava channel embayment. An initial six hole RC drilling program to follow up this intersection was completed in August (Table 1 and Figure 2). All holes were inclined at 60° towards the west. Based on the current geological interpretation, down hole intercepts are less than true width (refer cross section Figure 3). A 10 hole follow up shallow RC drilling program is currently in progress.

Drilling Results

- The first two holes (**MTRC018 & 019**) in the follow up program were drilled 25 and 50m respectively to the south of MTRC015 on the same easting and intersected only a weakly mineralised footwall contact at shallower depth, suggesting the channel has closed out in this direction and further potential lies to the north.
- **MTRC020** was drilled 50m to the north of MTRC015 on the same easting, and intersected nickel sulphide stringers over a 2m interval from 208 to 210m down hole averaging **5.9% nickel**. This intersection occurs at the base of a 40m thick serpentinised cumulate ultramafic, immediately above a footwall pyroxenite contact, and is most likely on the same contact as the sulphides in hole MTRC015.

- **MTRC021** was drilled midway between holes MTRC015 & 020 on the same easting, confirming the presence of the favourable lava channel environment, but intersected a barren footwall contact.
- **MTRC022** also intersected significant nickel sulphide stringers between 118 and 120m down hole averaging **3.5% nickel** including 1m @ 4.7% nickel. This intersection is about 100m up dip from the MTRC020 intersection and may be partly remobilised. This intersection is very encouraging as the mineralisation is interpreted to have been affected by a pegmatite intrusion which has disrupted the footwall contact and has probably removed some of the nickel sulphides, as often occurs at Kambalda.
- **Hole MTRC023**, drilled 50m further to the north of hole MTRC020, also intersected the channel environment but was barren of sulphides on the footwall contact. This hole however indicates that the prospective channel environment is still open to the north and it is believed that structural complexity may be affecting local nickel sulphide distribution.

The geology appears quite complex (Figure 3) with several flat dipping pegmatite sills breaking up the stratigraphy into segments similar to the geological setting of Western Areas Flying Fox Nickel Deposit at Forrestania.

In late September, an additional follow-up program commenced to further test the footwall contact at shallower depths. Four holes (MTRC024 to 027; 785m) were completed by the end of the quarter with the program interrupted due to logistical reasons; the program has recently resumed. Results for MTRC024 to 027 are pending.

Table 1: Mt Thirsty Infill RC Drilling Collar Details

Hole No	Easting	Northing	Depth	Az	Incl
	GDA94 Zone 51		(m)		
MTRC018	370966	6446440	220	270	-60
MTRC019	370969	6446416	204	270	-60
MTRC020	370970	6446514	234	270	-60
MTRC021	370969	6446494	234	270	-60
MTRC022	370898	6446513	132	270	-60
MTRC023	370972	6446564	234	270	-60

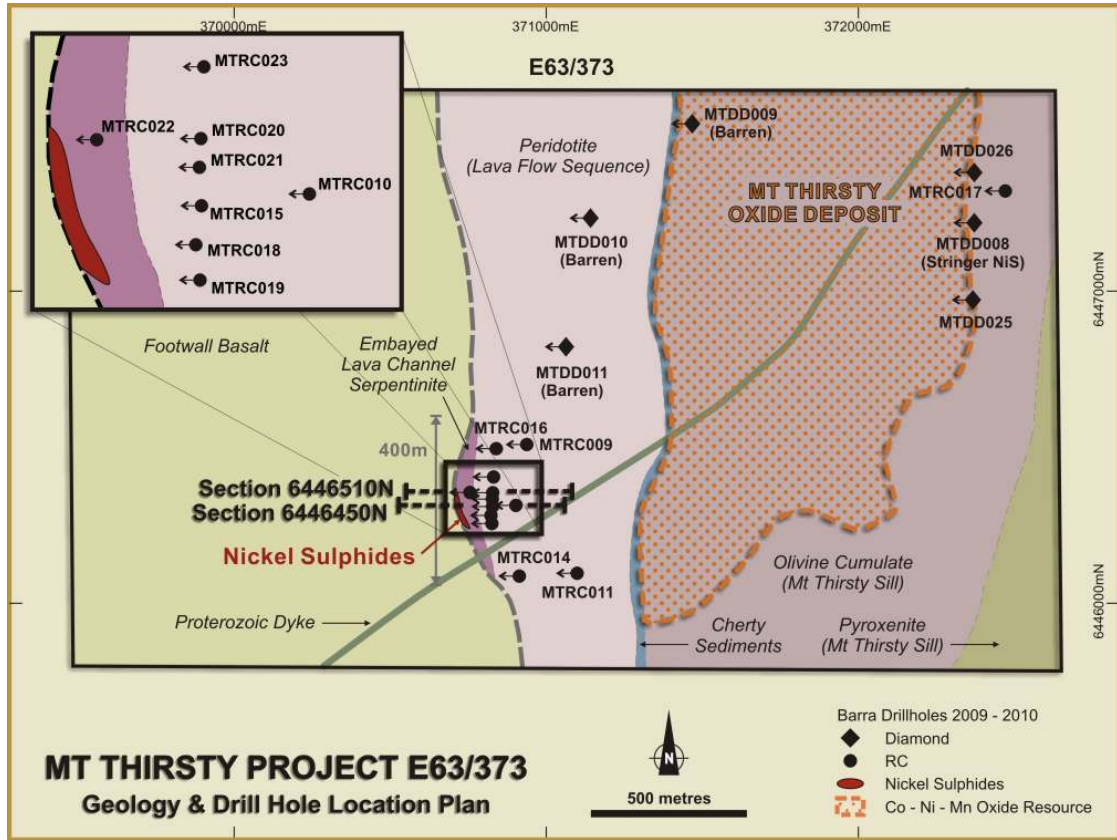


Figure 2: Mt Thirsty Nickel Sulphide Prospect - Drill Hole Location Plan

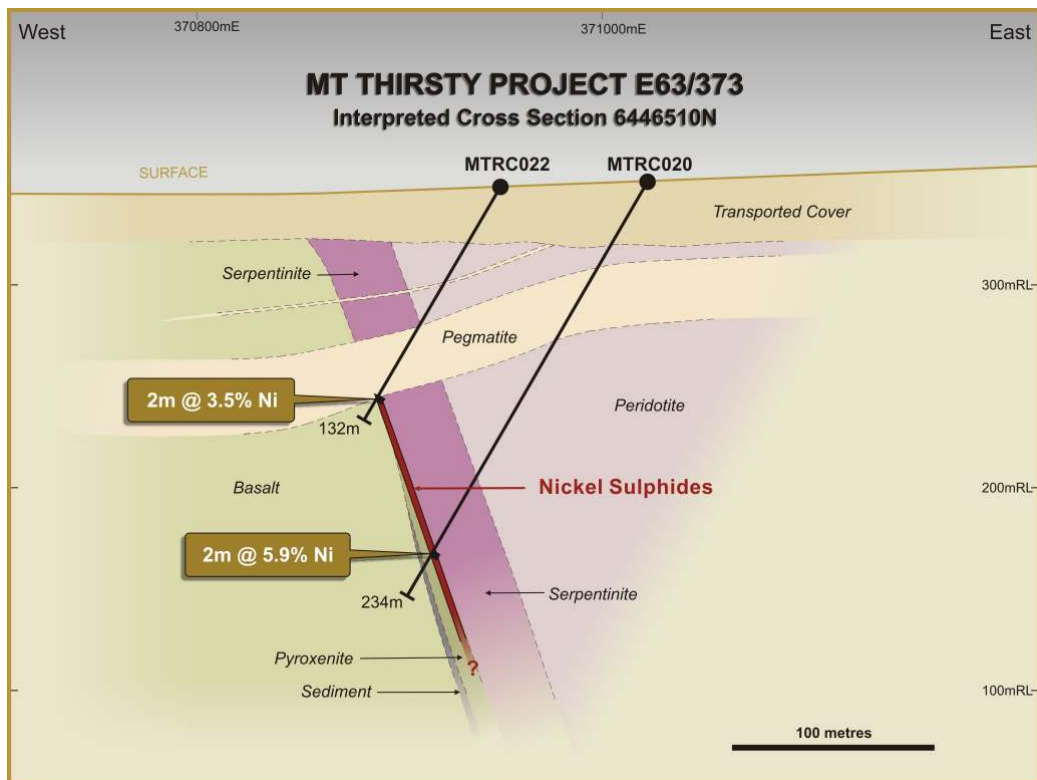


Figure 3: Drill Hole Cross Section 6446510N through Holes MTRC020 & 22 Showing Interpreted Geology and Ni Assays

Mt Thirsty Ni –Co- Mn Oxide Deposit*Infill Resource Drilling*

Infill resource drilling has finally commenced and should be completed by mid November. Approximately 150 holes will be drilled for about 7,500m mostly on the western side of the deposit within the current inferred resource. This will allow an updated resource estimation and enable open pit optimisation and mine scheduling studies to be carried out prior to commencement of the PFS.

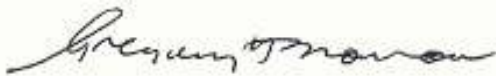
WYNBRING URANIUM PROJECT, SOUTH AUSTRALIA

Fission has sold its uranium rights over the Wynbring Project (Exploration Licence 4526, formerly 3306) on the Gawler Craton in South Australia to Marmota Energy Ltd (“Marmota”). Fission has received a cash consideration of \$350,000.

Tasman has also sold to Marmota its residual interest in EL 4526 and received 500,000 Marmota shares as consideration, escrowed for 12 months.

The consideration to each party is based on the relative exploration expenditures of Tasman and Fission on EL 4526.

Divestment of Wynbring will allow Fission to focus on nickel sulphide exploration and development of the Mt Thirsty Co-Ni oxide project near Norseman in Western Australia.



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 by 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, 01/06/10.

Name of entity

FISSION ENERGY LTD

ABN

49 119 057 457

Quarter ended ("current quarter")

30 September 2010

Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (3 months) \$A'000
1.1 Receipts from product sales and related debtors	34	34
1.2 Payments for (a) exploration & evaluation	(313)	(313)
(b) development	-	-
(c) production	-	-
(d) administration	(164)	(164)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	15	15
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other (R&D Tax Rebate)	101	101
Net Operating Cash Flows	(327)	(327)
Cash flows related to investing activities		
1.8 Payment for purchases of: (a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	(1)	(1)
1.9 Proceeds from sale of: (a) prospects	350	350
(b) equity investments	-	-
(c) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other (provide details if material)	-	-
Net investing cash flows	349	349
1.13 Total operating and investing cash flows (carried forward)	22	22

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	22	22
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	-	-
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)	-	-
	Net financing cash flows	-	-
	Net increase (decrease) in cash held	22	22
1.20	Cash at beginning of quarter/year to date	1,351	1,351
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	1,373	1,373

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	118
1.24	Aggregate amount of loans to the parties included in item 1.10	-

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.
Consulting fees were paid during the quarter to a company of which Mr GT Le Page is a director
Directors Fees paid during the period.
Reimbursement of bona-fide expenses

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

-

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

-

+ See chapter 19 for defined terms.

Financing facilities available

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

Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	350
4.2 Development	-
4.3 Production	-
4.4 Administration	150
Total	500

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	1,373	1,351
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	1,373	1,351

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	P 63/1490	Direct	50%	0%
	P 63/1492	Direct	50%	0%
	P 63/1493	Direct	50%	0%
	P 63/1494	Direct	50%	0%
	P 63/1495	Direct	50%	0%
	P 63/1496	Direct	50%	0%
	EL 4526	Indirect	100% ¹	0%
6.2 Interests in mining tenements acquired or increased				

1 – Fission sold its uranium rights over EL 4526.

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

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 <i>(description)</i>				
7.2 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3 +Ordinary securities	126,930,258	126,930,258		
7.4 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs				
7.5 +Convertible debt securities <i>(description)</i>	NOT APPLICABLE			
7.6 Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7 Options <i>(description and conversion factor)</i>	44,824,992 1,000,000 511,508 3,000,000 888,888 500,000	44,824,992 NIL NIL NIL NIL NIL	<i>Exercise price</i> 20 cents 20 cents 20 cents 13.75 cents 12 cents 19 cents	<i>Expiry date</i> 28 February 2011 31 March 2011 16 April 2012 20 Nov 2012 12 Feb 2013 26 May 2013
7.8 Issued during quarter				
7.9 Exercised during quarter				
7.10 Expired during quarter				
7.11 Debentures <i>(totals only)</i>	NOT APPLICABLE			
7.12 Unsecured notes <i>(totals only)</i>	NOT APPLICABLE			

+ See chapter 19 for defined terms.

Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act.
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here:



(Company secretary)

Date: 27 October 2010

Print name: Aaron Gates

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.

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