

**ASX QUARTERLY REPORT
FOR PERIOD ENDED 31ST MARCH 2010**

HIGHLIGHTS

MT THIRSTY PROJECT (WA)

Mt Thirsty Co-Ni-Mn Oxide Resource

- Metallurgical process development study completed with favourable results
- Go ahead given for prefeasibility study; completion by end of 2010
- 10 large diameter diamond core holes drilled to supply samples for further variability metallurgical testwork
- Mt Thirsty project to be showcased at two international conferences

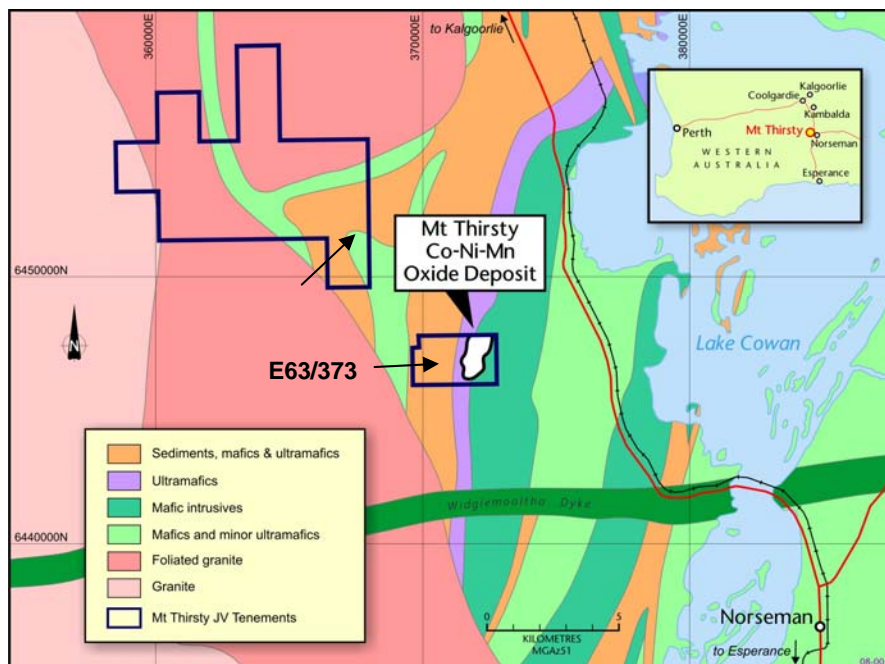


Figure 1: Mt Thirsty project location and regional geology.

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

The Mt Thirsty Cobalt –Nickel -Manganese oxide project covering an area of 54km² is located 20km north-northwest of Norseman (Figure 1). 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.

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 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.

Mt Thirsty Ni –Co- Mn Oxide Deposit*Process Development and Feasibility Study*

Metallurgical consultants Independent Metallurgical Operations Pty Ltd (IMO) completed a process development study during the quarter which has demonstrated that there are no significant impediments in the production of a nickel-cobalt mixed sulphide precipitate (MSP) and a separate manganese carbonate product from Mt Thirsty oxide ore using low temperature atmospheric leaching. Product samples produced from Mt Thirsty oxide ore in recent testwork based on IMO’s proposed flowsheet are shown in Figure 2.

Based on the current flowsheet design, approximately 27,000 tonnes of MSP and 33,000 tonnes of manganese carbonate could be produced from Mt Thirsty each year.

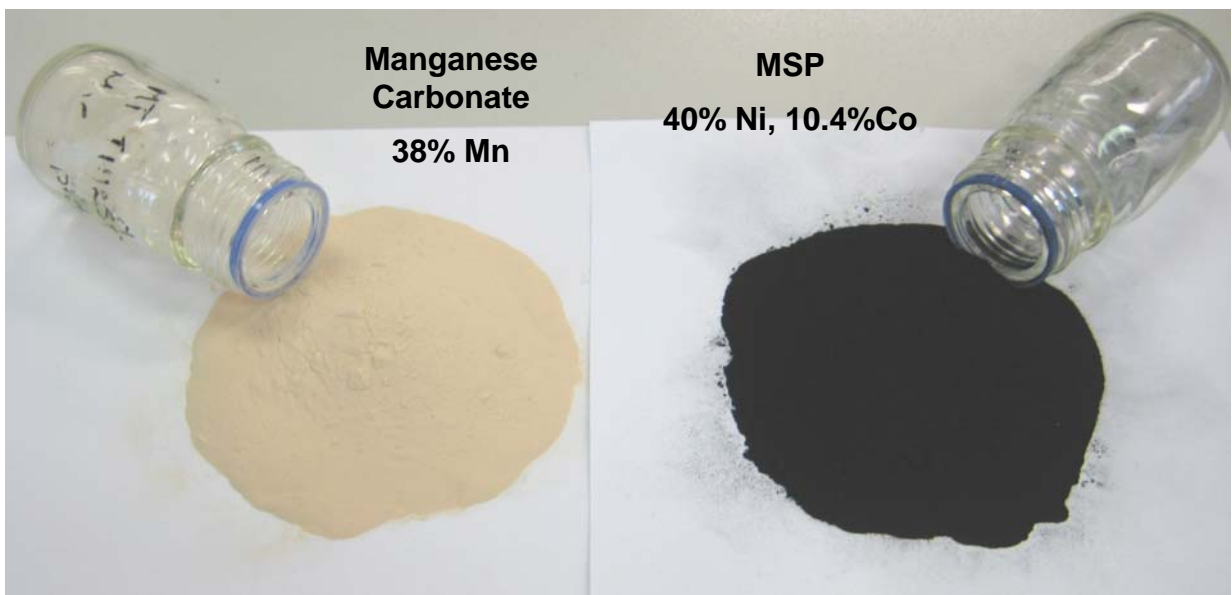


Figure 2: Mt Thirsty testwork products.

A process package to be distributed to selected globally recognised process engineering companies is currently being prepared by IMO. Following selection of the successful tenderer the PFS should commence in August and be completed by the end of 2010. Further infill drilling to upgrade resource categories and confirmatory metallurgical testwork to produce additional information and additional samples of the likely products will be completed prior to commencement of the PFS.

Pending a favourable outcome to the PFS the joint venturer partners are confident the project has all of the necessary ingredients to attract a major international cobalt refiner/off-take partner to fund a final feasibility and project construction.

Metallurgical Testwork

10 large diameter triple tube PQ diamond core holes totalling 466.4m were drilled adjacent to existing air core holes within the oxide orebody during the quarter. This core (see Figures 3 a & b) will be used to further determine the metallurgical response across the deposit and the ore sensitive aspects of the flow sheet.



Figure 3a: Hole MTDD013 - 29.8 to 32m, dark cobalt-nickel bearing manganese oxides in broken strongly oxidised ultramafic rock.



Figure 3b: Hole MTDD013 - 54.1 to 56.4m, - dark cobalt - nickel rich manganese oxide veins in oxidised ultramafic rock.

Process Water

A ground water consultant has been engaged to carry out a hydrological review and identify suitable process water sources in the area for an oxide ore treatment plant. Several RC holes drilled during the quarter intersected strong water flows with favourable salinities (56,000 to 86,000 TDS) at shallow depths in both a palaeochannel and in fractured pegmatites.

Infill Resource Drilling

Infill resource drilling is scheduled to commence during the forthcoming quarter following completion of an aboriginal heritage survey. Approximately 150 holes will be drilled for about 7,500m mostly on the western side of the orebody within the current inferred resource. This will allow an updated ore resource estimation and enable open pit optimisation and mine scheduling studies to be carried out in conjunction with the prefeasibility study.

Advantages of the Mt Thirsty Project

IMO consultants will be making presentations on behalf of the Mt Thirsty Joint Venture at the forthcoming Cobalt Conference in Capetown in April and the China Nickel Conference in Shanghai in May. These presentations will highlight Mt Thirsty as having the following advantages compared to other nickel-cobalt oxide projects elsewhere in the world:

- ✓ World class cobalt orebody, with
- ✓ Favourable metallurgy, single stage leach which requires no autoclaves for high recoveries and has low acid consumptions
- ✓ Large proportion of revenue from cobalt which is perceived to have strong future price fundamentals
- ✓ Located in a developed country with low sovereign risk
- ✓ Located in a mining friendly state with very significant experience in the operation of hydrometallurgical treatment plants for nickel laterites
- ✓ Low rainfall area which allows disposal of tailings without the requirement for ocean disposal of plant effluents (compared with many global laterite projects)
- ✓ Good infrastructure – close to main highway, railway, gas and potable water pipelines, Esperance port etc.

Nickel Sulphide Exploration

A very thick sequence of originally olivine-rich, cumulate - textured ultramafic rocks comprising at least three separate units was intersected in hole MTDD008 which was drilled in mid 2009. These rocks contain variable amounts of disseminated, vein and stringer-style sulphide mineralisation. The footwall contact where the best concentration of nickel might be expected was not reached in the drill hole due to likely thickening of the unit and limitations on the depth capacity of the drilling rig.

Basal lava channel embayments located on ultramafic-basalt contacts are a preferred location for nickel sulphide accumulations eg. in the Kambalda region.

Diamond Drilling

Hole MTDD008 (Figure 4) was extended during the quarter to 1,441m from the 1,084m reached in mid-2009. The hole continued through thick cumulate textured ultramafics, and was finally abandoned after unexpectedly penetrating 100m of steeply dipping sediments. These sediments are very similar to those intersected in both the upper portion of the same hole as well as those intersected in hole MTDD009 (refer Figure 4) suggesting there is considerable structural complexity in this area which, in view of the limited deep drilling, is not well understood. The latest drilling results suggest that locally the footwall contact is still at considerable depth.

RC Drilling

Three RC holes (MTRC 009, 010 and 011) all inclined at 60° to the west were drilled to 210, 204 and 252m respectively in the vicinity of the footwall contact to the south of hole MTDD011 (refer Figure 4) to test an interpreted embayment. All three intersected thick magnetic, serpentinite altered ultramafics but did not reach the footwall contact. The lower portions of the hole will be assayed for Ni, Cr, Mg and other elements that can act as vectors towards nickel sulphide mineralisation.

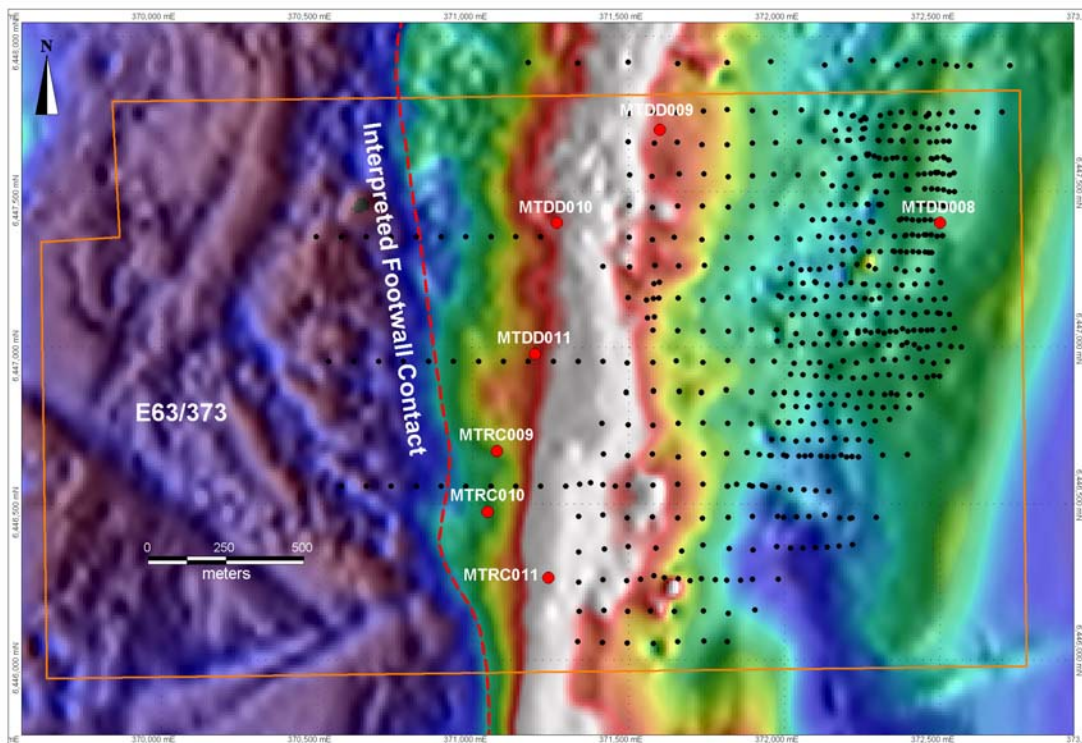
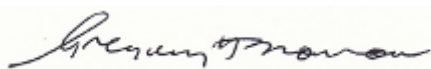


Figure 4: Mt Thirsty drill hole locations over TMI magnetic image showing interpreted footwall contact. Black dots are previous holes testing the oxide resource.



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.

Name of entity

FISSION ENERGY LTD

ABN

49 119 057 457

Quarter ended ("current quarter")

31 March 2010

Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter \$A'000	Year to December (6 months) \$A'000
1.1	Receipts from product sales and related debtors	13	46
1.2	Payments for (a) exploration and evaluation (b) development (c) production (d) administration	(254)	(908)
1.3	Dividends received	(103)	(450)
1.4	Interest and other items of a similar nature received	18	55
1.5	Interest and other costs of finance paid		
1.6	Income taxes paid – GST Refunds Received	29	93
1.7	Other (provide details if material)-		
Net Operating Cash Flows		(297)	(1,164)
Cash flows related to investing activities			
1.8	Payment for purchases of: (a)prospects (b)equity investments (c)other fixed assets		(405) (1)
1.9	Proceeds from sale of: (a) prospects (b)equity investments (c) other fixed assets		
1.10	Loans to other entities		30
1.11	Loans repaid by other entities		
1.12	Other (provide details if material)		
Net investing cash flows		-	(376)
1.13	Total operating and investing cash flows (carried forward)	(297)	(1,540)

1.13	Total operating and investing cash flows (brought forward)	(297)	(1,540)
Cash flows related to financing activities			
1.14	Proceeds from issues of shares, options, etc.		1,147
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		
Net financing cash flows		-	1,147
Net increase (decrease) in cash held		(297)	(393)
1.20	Cash at beginning of quarter/year to date	2,144	2,240
1.21	Exchange rate adjustments to item 1.20		-
1.22	Cash at end of quarter	1,847	1,847

**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	110
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.
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

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	500
4.2 Development	
Total	500

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	1,847	2,144
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	1,847	2,144

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	P63/1749 Direct	0%	50%

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	126,930,258	126,930,258		
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 44,824,992 1,000,000 511,508 3,000,000 888,888 500,000	NIL 44,824,992 NIL NIL NIL NIL NIL	<i>Exercise price</i> 20 cents 20 cents 20 cents 20 cents 13.75 cents 12 cents 19 cents	<i>Expiry date</i> 18 June 2010 28 February 2011 31 March 2011 16 April 2012 20 Nov 2012 12 Feb 2013 26 May 2013
7.8	Issued during quarter	888,888	NIL	12 cents	12 Feb 2013
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
COMPANY SECRETARY / CFO
Date: 27 April 2010

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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