



ACN 119 057 457

**ASX QUARTERLY REPORT
FOR PERIOD ENDED 31ST MARCH 2011**

HIGHLIGHTS

MT THIRSTY PROJECT (WA)

Nickel Sulphide Exploration

- Deeper diamond drilling in progress

Mt Thirsty Co-Ni-Mn Oxide Resource

- **New Resource estimate:**
 - 10% increase in contained nickel and cobalt contents
 - 7% increase in contained manganese content
 - Increased confidence in Ni-Co-Mn Inferred Resource

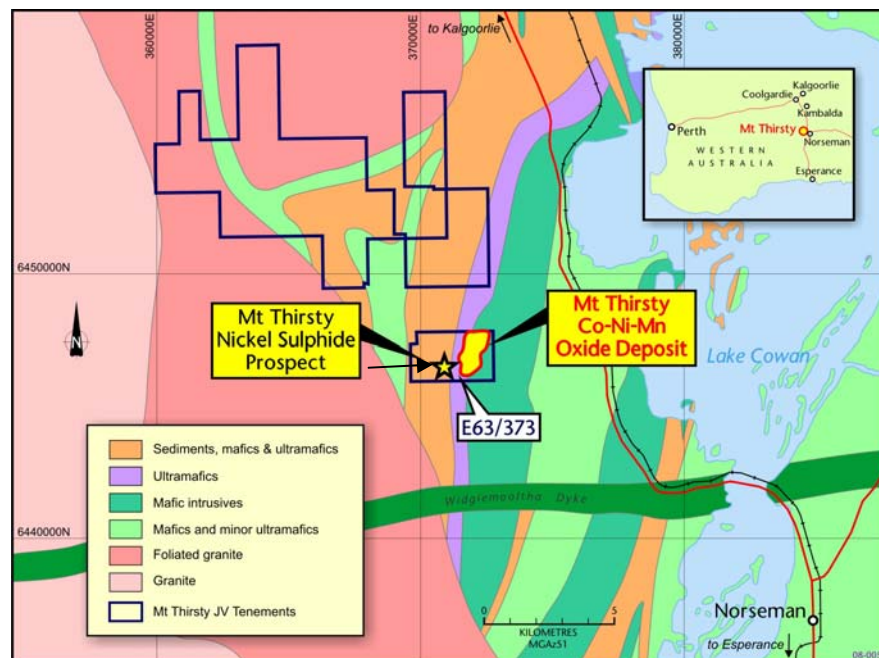


Figure 1: Mt Thirsty Project Location and Regional Geology.

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 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. 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.

Prior to the recent resource estimate (refer below) Mt Thirsty had a 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 last year (refer below).

Nickel Sulphide Exploration

A very thick sequence of originally olivine-rich, cumulate - textured ultramafic rocks has been intersected in holes drilled at Mt Thirsty. These rocks contain variable amounts of disseminated, vein and stringer-style sulphide mineralisation. The primary exploration target at Mt Thirsty is nickel sulphides associated with basal lava channel embayments located on ultramafic-basalt (footwall) contacts similar to those in the Kambalda region. A possible basal embayment type structure has been identified within the project area and is currently being evaluated.

In May last 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 an ultramafic contact within an interpreted lava channel embayment. Follow up RC drilling returned nickel sulphide intersections o, **2m at 5.9% Ni, 2m at 3.5% Ni and 1m at 4.0% Ni** in holes MTAC 20, 22 & 30 respectively (refer Figure 2).

A deeper diamond drilling program initially consisting of two diamond core tails totalling approx. 400m extending previous RC holes MTRC 010 and 032 (Figure 2) is in progress. The diamond coring is aimed at testing the down plunge extension of the nickel sulphide mineralisation discovered in 2010 as well as a deeper footwall position. Geological interpretation indicates that the mineralisation discovered to date most likely occupies a “hanging wall” position and potential still exists at depth for stronger nickel sulphide mineralisation at the footwall contact.

Drilling progress has been delayed due to drilling contractor personnel issues.

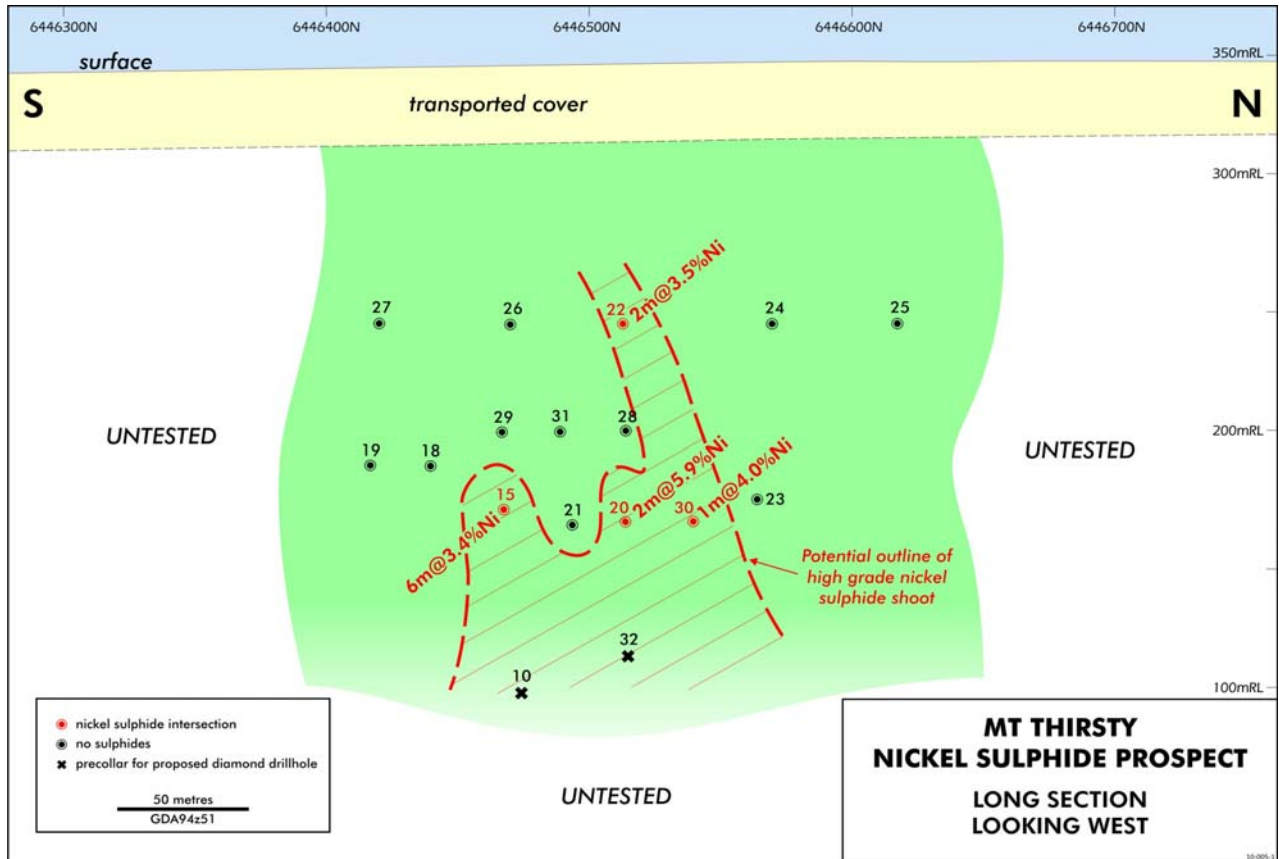


Figure 2: Longitudinal Section Showing Nickel Sulphide Intersections

Mt Thirsty Ni –Co- Mn Oxide Deposit

Resource Upgrade

Independent mining and geological consulting firm Golder Associates Pty Ltd were engaged to estimate a new JORC⁺ compliant Indicated and Inferred Resource within E63/373 which is summarised in Table 1. The figures shown in this table were estimated within a wireframed mineralised envelope which was based mostly on a 0.06% Co cut off. In some places where Co was less than 0.06% a Ni cut off of 0.7% was used. The location of the Indicated and Inferred Resources is shown in Figure 2.

Table 1

Mt Thirsty Oxide Resources February 2011

Category	Tonnes	Co%	Ni%	Mn%
Indicated Resource	16,600,000	0.14	0.60	0.98
Inferred Resource	15,340,000	0.11	0.51	0.73
Total Resource	31,940,000	0.13	0.55	0.86

⁺Joint Ore Reserves Committee - Resource compiled in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2004.

The total Indicated and Inferred Resource above contains approximately 177,000 tonnes of nickel, 40,000 tonnes of cobalt and 274,000 tonnes of manganese. This is a 10% increase in cobalt and nickel

and a 7% increase in manganese on the 2008 resource estimate which previously had an Indicated Resource of 14.8 million tonnes at 0.14% Co, 0.59% Ni and 0.99% Mn and an Inferred Resource of 14.2 million tonnes at 0.11% Co, 0.52% Ni and 0.77% Mn (Total Indicated and Inferred Resource 29.0 mt at 0.12% Co, 0.56% Ni and 0.88% Mn).

The upgraded resource is based on 6,507m of infill aircore drilling (151 holes) completed in November 2010, mostly on the western side of the deposit within the existing Inferred Resource and 1,870 m (45 holes) of mostly extensional drilling completed in mid 2009 at the southern end of the deposit. The most recent drilling has improved confidence in the inferred resource as the drilling density within the area of the inferred resource was increased from a 100m by 80m to a 50m by 80m spacing.

The classification of this near surface resource is shown in Table 2 at varying cobalt cut-off grades with a summary of the estimation methodology utilised included below.

Table 2
Mt Thirsty Resource 2011 at Varying Cobalt Cut-off Grades
(estimated within wireframed mineralised envelope)

Resource at Varied cut-offs	Indicated Resource Category		Inferred Resource Category		Total Resource	
	Million Tonnes	Co%/Ni%/Mn %	Million Tonnes	Co%/Ni%/Mn %	Million Tonnes	Co%/Ni%/Mn %
0.00%*	16.60	0.14/0.60/0.98	15.34	0.11/0.51/0.73	31.94	0.13/0.55/0.86
0.06%	16.28	0.14/0.60/1.00	15.21	0.11/0.51/0.74	31.49	0.13/0.55/0.87
0.08%	14.18	0.15/0.60/1.07	12.94	0.12/0.52/0.79	27.12	0.13/0.56/0.94
0.10%	10.90	0.16/0.61/1.21	8.51	0.14/0.53/0.91	19.41	0.15/0.57/1.08
0.20%	2.16	0.28/0.66/2.06	0.61	0.25/0.66/1.72	2.77	0.27/0.66/1.98
0.30%	0.57	0.39/0.73/2.79	0.07	0.36/0.78/0.73	0.65	0.39/0.74/2.73

Note: The table above shows rounded tonnages. This may cause some apparent computational discrepancies.

* Where Co was less than 0.06% a 0.7% Ni cut off was used.

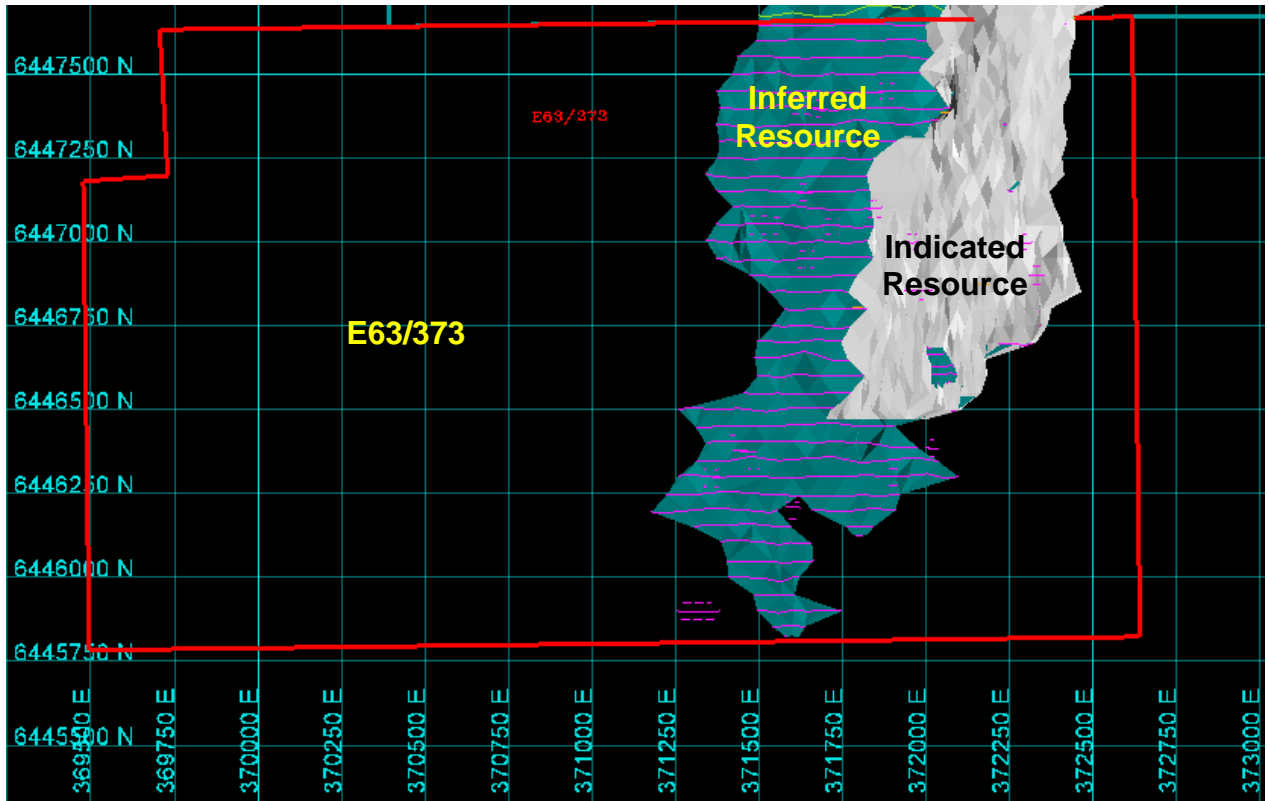


Figure 2: Distribution of Mt Thirsty Co-Ni-Mn Oxide Resources (AGD84 Zone 51)

Interpretation of the mineralisation was carried out by the Mt Thirsty Joint Venture, in conjunction with Golder Associates Pty Ltd, on 50 metre spaced sections through the deposit. The cut-off grades used to define the mineralised envelopes are similar to those used for the previous estimate. These interpretations were digitized and wireframed in 3D using Vulcan software.

Internal waste was also interpreted and wireframed. Domain codes were assigned to each wireframe. The wireframes were used to capture the 1 metre drill hole assays within each domain code.

The block model utilized a block size of 25 metres wide by 25 metres long by 5 metres high. Sub-blocks with dimensions 5 metres wide by 5 metre long by 1 metre high were also used when required.

Domain statistics were generated and variography was conducted on the main domain.

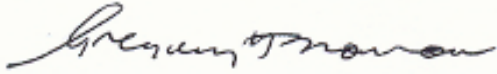
The Mt Thirsty resource grades were estimated using the ordinary kriging method. The elements estimated were Ni, Co, Mn, Fe, Mg & Al.

Bulk densities are based on data collected from PQ diamond core holes drilled prior to the 2008 resource estimate and average densities were applied on a domain basis. This resulted in an average bulk density of about 1.89 for the main mineralized domain as for the previous model.

The resource estimate has been classified based on data quality, data density, geological continuity and confidence in the estimation.

Feasibility Study

At present, the Mt Thirsty Joint Venture partners are seeking a joint venture partner that would help to fund the feasibility study and enter into a suitable off-take agreement for the Ni, Co and Mn that will be produced.



Greg Solomon
Executive Chairman

The information in this report which relates to the Mt Thirsty Mineral Resource 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 2004 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 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")

31 March 2011

Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (9 months) \$A'000
1.1 Receipts from product sales and related debtors	-	34
1.2 Payments for (a) exploration & evaluation	(77)	(825)
(b) development	-	-
(c) production	-	-
(d) administration	(160)	(479)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	9	32
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other (mainly R&D tax rebate)	288	389
Net Operating Cash Flows	60	(849)
Cash flows related to investing activities		
1.8 Payment for purchases of: (a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	(1)
1.9 Proceeds from sale of: (a) prospects	-	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
1.13 Total operating and investing cash flows (carried forward)	60	(500)

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	60	(500)
	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	60	(500)
1.20	Cash at beginning of quarter/year to date	791	1,351
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	851	851

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	113
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.
Directors Fees paid during the period.
Legal Fees were paid during the quarter to a firm of which Mr GH Solomon and Mr DH Solomon are partners.

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	100
4.2 Development	-
4.3 Production	-
4.4 Administration	150
Total	250

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	851	791
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	851	791

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			

+ 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>	511,508 3,000,000 888,888 500,000	NIL NIL NIL NIL	<i>Exercise price</i> 20 cents 13.75 cents 12 cents 19 cents	<i>Expiry date</i> 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	44,824,992 1,000,000	44,824,992 NIL	20 cents 20 cents	28 February 2011 31 March 2011
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: 20 April 2011

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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+ See chapter 19 for defined terms.