



DE GREY MINING LTD

The Bold Explorer

QUARTERLY REPORT

FOR THE QUARTER ENDING 31 DECEMBER 2010

ASX CODE: DEG

Shares on Issue

258,862,350

Board of Directors

Darren Townsend
Chairman

Gary Brabham
Managing Director

Jason Brewer
Non-Executive Director

Company Secretary

Dennis Wilkins

Exploration Manager

Glenn Martin

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A.B.N. 65 094 206 292

Highlights

Argentina Projects (gold, silver)

- Exploration work commenced on 6 of the company's 14 projects all located within the world class gold-silver mining province in Santa Cruz.
- Successful first pass prospecting work completed over the Sierra Morena, La Evelina, Bajo Grande, Aguada del Cuero, Cañadon Langostura and Cerros Tres Picos Projects.
- A number of anomalies have been identified which may be indicative of the upper levels of low sulphidation epithermal systems.
- Evaluation of other properties in Argentina continues with key executive management on site during January and February to accelerate the program.

Pilbara Iron Assets (iron ore)

- Substantial exploration work completed by joint venture partner Emergent Resources (De Grey 20% free carried) with aircore, RC and diamond drilling programs completed during the quarter.
- Potential "bedded" hematite source identified and metallurgical test work commenced to establish a saleable product.
- Additional iron ore sources identified, in the form of hematite-enriched gravels, may provide early positive cash flow.

Queensland Projects (gold, base metals)

- Two diamond core holes completed as planned.

Corporate

- De Grey continues to assess new project opportunities, seeking additional high quality exploration assets.
- Restructure of Board with key appointments completed.



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010

Argentina Projects

Santa Cruz Province

De Grey has secured a significant portfolio of exploration projects and landholdings of over 2,193 sq km of ground in Santa Cruz Province, Argentina (Figure 1).

De Grey's portfolio of 14 exploration projects lie within the highly prospective Deseado Massif, a world class gold-silver mining province, which over the past 20 years has seen a prolific number of new and high-grade gold and silver discoveries as well as major new mine developments.

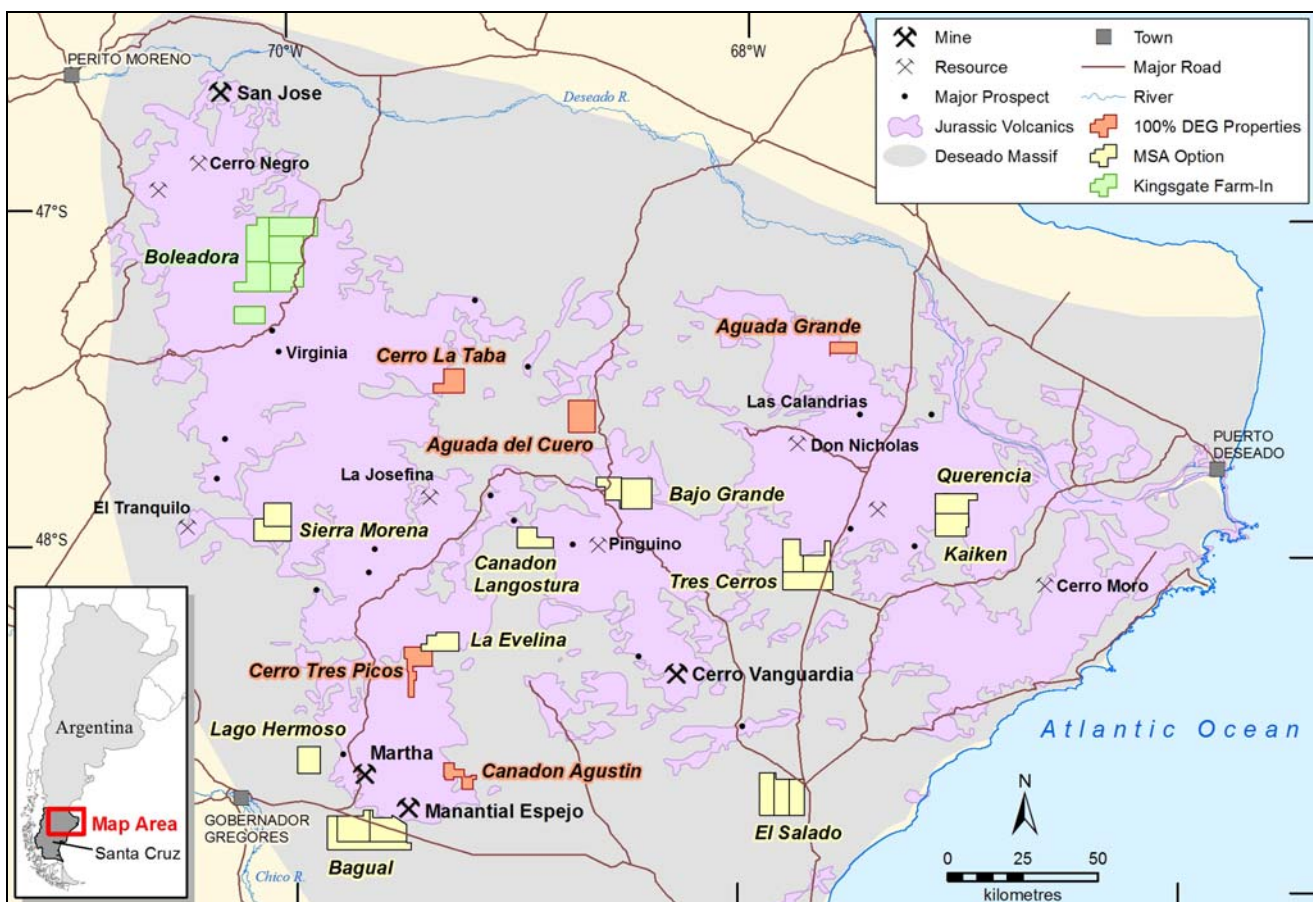


Figure 1: Locations of De Grey's projects, Santa Cruz, Argentina

During the Quarter a number of significant exploration results from some of the world's largest gold and silver producers and mid-cap North American listed exploration mining companies with nearby projects, highlighted the excellent potential that exists for the discovery of world-class gold-silver deposits within De Grey's portfolio. The completion during the quarter of the all-cash US\$3.4 billion acquisition by Goldcorp Inc. of ASX listed Andean Resources, whose principal asset is the Cerro Negro gold project in the Santa Cruz Province, further supports De Grey's early stage exploration focus in the region.



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010

Exploration in the December 2010 quarter commenced on the Sierra Morena, Cañadon Langostura, La Evelina, Bajo Grande, Aguada del Cuero and Cerro Tres Picos projects. These projects are all located in the central and west Deseado Massif.

Exploration work consisted of surface prospecting and mapping for outcropping vein systems. This targeted work will be complemented by systematic reconnaissance of all outcropping areas of prospective Jurassic volcanic rocks within the projects to identify any additional unrecognized vein, alteration or breccia systems. Systematic soil and stream sediment geochemical sampling will also provide an initial assessment of less well exposed areas where there is potential for more subdued or partially concealed mineralisation.

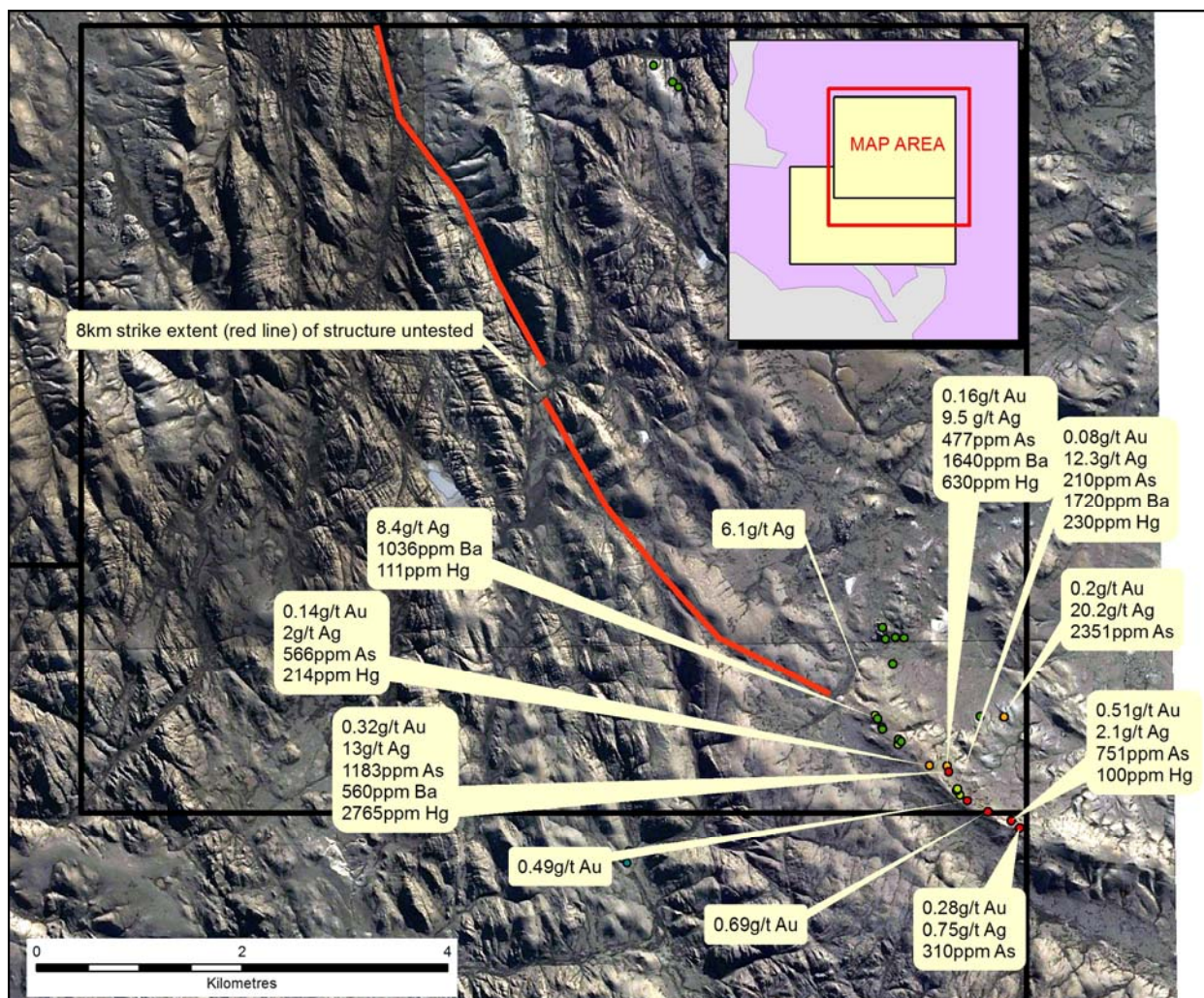


Figure 2: Anomalous rock chip results along NW trending structure, Sierra Morena Project

At the **Sierra Morena Project**, mapping and rock chip sampling continued over a major NW trending structure where earlier sampling by De Grey returned anomalous Au and Ag values over a 1km strike length (Table 1). Further multi-element anomalism (Ag-As-Pb-Zn) is indicative of the upper levels of a low sulphidation epithermal system, and has extended the anomalous geochemistry to over 2km strike length, with a further 8km of strike length along this (and other parallel) NW structure(s) yet to be evaluated (Figure 2). Systematic surface geochemical sampling and detailed mapping will be



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010

completed in the next quarter to progress the project to drill ready status by the end of the field season (approximately May).

At the **La Evelina Project**, rock chip sampling along a 4km long NW trending structure has returned anomalous As-Ba-Mn-Sb-Hg, indicative of the upper levels of a low sulphidation epithermal system. Further sampling and detailed mapping will be completed in the next quarter to progress the project.

At the **Bajo Grande**, rock chip sampling along a 12km long structure with numerous vein breccias exposed at surface has returned anomalous As-Ba-Hg, indicative of the upper levels of an epithermal system. Further work is planned for the next quarter.

At **Cañadon Langostura**, rock chip sampling along a series of structures with a combined strike length of approximately 7km has returned anomalous Ba-Hg-Sb anomalism and low level Au. The results are considered encouraging and a program of systematic geochemical sampling is being planned.

At the **Aguada del Cuero Project** rock chip sampling along a 4km long N trending structure has returned elevated As-Ba-Hg and low level Au, warranting further work.

Project	Sample	East	North	Gold g/t	Silver g/t	As (ppm)	Ba (ppm)	Hg (ppm)	Sb (ppm)
Sierra Morena	A-0008	2423553	4689060	0.009	8.4	94	1036	111	31
Sierra Morena	A-0009	2423531	4689092	0.017	6.1	123	402	73	33
Sierra Morena	SC003	2424933	4688000	0.28	0.75	310	39.8	25	12.81
Sierra Morena	SC004	2424425	4688266	0.49	0.27	94.6	13.3	34	21.26
Sierra Morena	SC006	2424246	4688552	0.32	13.0	1183	560	2765	82.45
Sierra Morena	SC007	2424058	4688612	0.14	2.0	566	88.8	214	63.09
Sierra Morena	SC008	2424784	4689078	0.20	20.3	2351	121	15	75
Sierra Morena	MSA_072	2424852	4688073	0.51	2.1	751	280	100	26.2
Sierra Morena	MSA_073	2424627	4688164	0.69	0.8	32.1	130	20	29.1
Sierra Morena	MSA_075	2424330	4688383	0.08	12.3	210	1720	230	46.5
Sierra Morena	MSA_077	2424229	4688608	0.16	9.5	477	1640	630	82.6
La Evelina	A-0031	2480105	4650569	0.01	<0.5	1373	343	182	675
La Evelina	A-0035	2479905	4650684	<0.005	<0.5	771	2581	419	45
Bajo Grande	A-0074	2537173	4698206	0.018	0.7	145	372	2727	<5
Bajo Grande	A-0075	2537149	4698132	<0.005	<0.5	84	876	2226	<5
Bajo Grande	A-0076	2537017	4698056	<0.005	<0.5	86	91	2040	10
Cañadon Langostura	A-0092	2507304	4683683	0.008	<0.5	16	781	1077	62
Cañadon Langostura	A-0094	2511646	4681260	0.006	<0.5	66	2225	3102	26
Aguada del Cuero	A-0084	2524259	4726320	<0.005	<0.5	71	1019	601	<5
Aguada del Cuero	A-0090	2524270	4728119	<0.005	<0.5	80	626	110	<5

Table 1: Anomalous rock chip results, Santa Cruz projects

Note: Coordinates are Gauss Kruger, Campo Inchauspe datum, Argentina Zone 2. Samples are surface rock samples. Analysis is by Acme Analytical Laboratories Ltd, Mendoza, using Aqua Regia digest and ICP-MS analysis.



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010

In the March 2010 quarter, exploration is proposed to commence on the Boleadora, Lagos Hermosa, Tres Cerros and Querencia/Kaiken Projects. In addition, systematic geochemical sampling and detailed mapping will continue over the areas that have yielded encouraging results to date.

A number of other opportunities in the region are also currently being assessed and key executive management, including Managing Director Gary Brabham are currently on site to progress these discussions and to further review results from the current exploration program.

PILBARA IRON ASSETS

Beyondie Iron Joint Venture

De Grey retains a 20% free carried interest up to a decision to mine in the Beyondie Iron Ore Project through a Joint Venture with ASX listed Emergent Resources Limited. Emergent is operator of the joint venture.

In November 2009, Emergent announced that drilling had established an Inferred Resource of 561Mt @ 27.5% Fe¹ in magnetite mineralisation at Beyondie and an Exploration Target comprising potential for a further 480-510Mt @ 27-28.5% Fe in immediate extensions.

In June 2010, Emergent announced that surface sampling and geophysics had indicated hematite iron mineralisation ("DSO")². Initial RC drill testing of the target commenced on 14 September and initial results were released in December³.

In the December quarter Emergent reported that it had completed 4,684 metres of aircore drilling in shallow holes designed to test, on nominal 800 metres line spacing, potential iron resources hosted by shallow, hematite-enriched, detrital material that is distributed along the flanks of the Beyondie magnetite deposit. In addition, Emergent completed 1,730 metres of RC drilling in 28 holes to target near-surface, bedded hematite mineralisation in a target area located about 20km east of the Beyondie magnetite resource⁴.

Also in the December quarter, Emergent completed 883 metres of diamond core drilling in seven holes to obtain samples of weathered, transitional materials that overlie the Beyondie magnetite resource for metallurgical testing³.

Under a Split Commodity Agreement, De Grey retains the rights to all non-iron ore minerals on the 841 sq km covered by the joint venture tenements.

¹ Refer to Emergent Resources ASX release dated 25 November 2009

² Refer to Emergent Resources ASX release dated 2 June 2010

³ Refer to Emergent Resources ASX release dated 23 December 2010

⁴ Refer to Emergent Resources ASX release dated 24 December 2010



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010

QUEENSLAND PROJECTS

Apex Project

The Apex Project, comprising EPM14142, is located north of Cloncurry in northwest Queensland. The tenement covers a geophysical feature informally called the Apex Magnetic Complex, located 55km north of Xstrata's Ernest Henry copper-gold mine and 90km south of Falcon Minerals/Anglogold Ashanti's Saxby project, in the covered northern extension of the Eastern Succession of the Mount Isa Inlier. The area is considered highly prospective for IOCG-style copper-gold mineralisation.

A detailed ground gravity survey was undertaken in mid-2010, modelling of which confirmed a significant gravity anomaly coincident with the magnetic signature at Apex. Target locations were selected for two vertical diamond drill holes located approximately 2.5km apart to test the geophysical features.

Drilling commenced in November and the two holes were completed as planned. APDD001, the northern hole, was pre-collared through 356 metres of Mesozoic cover rocks and then encountered predominantly gabbroic rocks in the Proterozoic basement to end of hole at 584 metres depth. The basement rocks feature widespread epidote-carbonate alteration indicative of hydrothermal alteration but sulphide mineralisation is limited to traces of disseminated pyrrhotite and pyrite.

Hole APDD002 was pre-collared through 349 metres of cover sequence and then drilled a sequence of alternating gabbro and leucogabbro basement rocks to end of hole at 542 metres depth. The interval 362 metres to 397 metres features strong "red-rock" alteration typically associated with oxidising hydrothermal systems (Figure 3) but visible mineralisation in the interval comprises only traces of disseminated pyrite and clusters of magnetite. The remainder of the hole features pyrite and hydrothermal magnetite over short intervals, especially associated with zones of quartz-carbonate-epidote alteration.

Core from both holes was cut in entirety and submitted for multi-element analyses. Despite the strong alteration visible in portions of core from both holes, no samples reported grades of potential economic significance.

De Grey has qualified for funding of up to \$80,000 under the Queensland Government's Cooperative Drilling Initiative (CDI) to drill test the Apex Magnetic Complex.

De Grey has entered into a farm-in agreement with Teck Australia Pty Ltd (Teck) under which De Grey can earn 100% interest in the Apex Project (EPM14142) by sole funding \$2 million exploration expenditures over 4 years, including a commitment to spend \$250,000 in the first year with a work program to include at least two drill holes to basement. Should De Grey complete the earn-in, Teck retains a 1% NSR royalty and the right to earn back to 70% interest by incurring a significant premium on De Grey's expenditures at any time up until De Grey has spent \$7.5 million.



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010



Figure 3: “Red-rock” alteration in Apex drill core, APDD002 366-375 metres

TURNER RIVER PROJECT

De Grey is presently at an advanced stage of discussions with a party seeking to earn an interest in the Turner River gold and base metals projects. Details will be announced when terms are finalised.

PATERSON PROJECT

Utilising the recently released results of a regional airborne electromagnetic (AEM) survey by Geoscience Australia, De Grey has applied for exploration licences over 2,100 sq km of ground in the Paterson region, south of Rudall River National Park.



DE GREY MINING LTD QUARTERLY OPERATIONS REPORT FOR THE QUARTER ENDING 31 DECEMBER 2010

This frontier exploration region represents the southern extension of geological units that host, variously, the Telfer gold mine, Nifty copper mine, Kintyre uranium deposit, Maroochydore copper deposit and Encounter Resources' recent BM1 copper discovery. Cauldron Energy has also recently announced the discovery of indications of gold and base metals mineralisation in close proximity to De Grey's tenement applications.

De Grey is presently considering strategies to optimise the value of its Paterson region assets.

The information in the report to which this statement is attached that relates to Exploration Results is based on public information and on information compiled by Mr Glenn Martin, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Martin 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 JORC Code Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Martin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

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

De Grey Mining Limited

ABN

65 094 206 292

Quarter ended ("current quarter")

31 December 2010

Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter \$A'000	Year to date (6 months) \$A'000
1.1	Receipts from product sales and related debtors	-	-
1.2	Payments for (a) exploration & evaluation	(139)	(418)
	(b) development	-	-
	(c) production	-	-
	(d) administration	(275)	(563)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	46	72
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Other (provide details if material)	(3)	2
Net Operating Cash Flows		(371)	(907)
Cash flows related to investing activities			
1.8	Payment for purchases of: (a) prospects	-	-
	(b) equity investments	-	-
	(c) other fixed assets	(4)	(4)
1.9	Proceeds from sale of: (a) prospects	-	-
	(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		(4)	(4)
1.13	Total operating and investing cash flows (carried forward)	(375)	(911)

Appendix 5B
Mining exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	(375)	(911)
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	(30)	1,350
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 issue transaction costs	(66)	(66)
	Net financing cash flows	(96)	1,284
	Net increase (decrease) in cash held	(471)	373
1.20	Cash at beginning of quarter/year to date	3,233	2,389
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	2,762	2,762

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	109
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

Item 1.23 includes aggregate amounts paid to directors including salary, directors' fees, consulting fees and superannuation.

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

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
3.2	Credit standby arrangements	Nil

+ See chapter 19 for defined terms.

Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	475
4.2 Development	-
4.3 Production	-
4.4 Administration	380
Total	855

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	634	1,561
5.2 Deposits at call	2,128	1,672
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	2,762	3,233

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	E45/2611		80%	0%
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

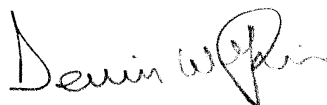
Description includes rate of interest and any redemption or conversion rights together with prices and dates.

	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	258,862,350	258,862,350		
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>				
7.6 Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7 Options <i>(description and conversion factor)</i>	2,500,000 3,250,000 3,000,000 3,250,000		<i>Exercise price</i> 7.5 cents 20 cents 25 cents 25 cents	<i>Expiry date</i> June 2011 June 2011 July 2011 June 2012
7.8 Issued during quarter				
7.9 Exercised during quarter				
7.10 Expired during quarter	2,000,000		20 cents	December 2010
7.11 Debentures <i>(totals only)</i>				
7.12 Unsecured notes <i>(totals only)</i>				

+ 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 [or other standards acceptable to ASX \(see note 4\)](#).
- 2 This statement does ~~/does not~~* *(delete one)* give a true and fair view of the matters disclosed.



Sign here:

(Company secretary)

Date: 31 January 2011

Print name: **Dennis Wilkins**

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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+ See chapter 19 for defined terms.