

Report for the Quarter Ending 31st March, 2011

29th April, 2011

Highlights

- Significant magnetite potential has been identified within the tenements held by the Sinosteel PepinNini Joint Venture in the Curnamona Province of South Australia. Three priority target areas have been identified within the Joint Venture tenements that have the potential to host a very large magnetite iron ore resource which could be beneficiated to a high grade blast furnace feed product at a very competitive cost relative to other magnetite prospects currently under development consideration elsewhere in Australia.
- Drilling continued during the quarter targeting base metal mineralisation within the PepinNini Sinosteel Joint Venture tenements of the Curnamona Province Project.
- The first of seven tenement applications in the Argentine province of Salta has been granted to PepinNini S.A., a subsidiary of PepinNini Minerals Limited. Salta Province is recognised as one of the most mining friendly provinces in Argentina and is a province where mining rights are well regulated. The geology is prospective for copper-gold porphyries; precious and base-metal epithermal systems and breccia-complexes associated with the Andean volcanic belt. Primary exploration targets are gold, silver and copper.
- Execution of a Native Title Heritage Agreement with the Traditional Owners of the main project area within the seven tenements that comprise the Robinson Range Iron Ore Joint Venture in the Midwest Region of Western Australia.
- Approval by the WA Department of Mines and Petroleum of a Program of Works to undertake a drilling program of approximately 5,000m with the objective of defining an initial Inferred JORC compliant resource of DSO iron ore and to investigate the potential for additional iron ore resources within the tenements of the Robinson Range Joint Venture.
- The Company successfully placed 11.5 million ordinary fully paid shares in the Company, at 27 cents per share, raising a total of \$3.1 million before costs.
- At the end of the quarter the Company held \$5.4 million in cash.







Project Locations

WESTERN AUSTRALIA

Robinson Range Iron Ore Project

PepinNini Minerals has a 50% interest in the iron ore contained within three tenements and a 40% interest in the iron ore contained within another four tenements located in the Midwest region of Western Australia. Collectively the tenements cover approximately 700km² and contain a 40kms strike length of the Robinson Range Formation considered highly prospective for iron ore. Joint Venture Agreements have been executed to facilitate the exploration and development of the iron ore potential of the tenements. PepinNini Minerals manage exploration on behalf of the Joint Venture partners.

Supergene enriched haematite and haematite-goethite mineralisation associated with banded iron and granular iron formation units of the Robinson Range Formation form the primary target of the project.

The Joint Venture is currently focused on exploration of the identified Direct Shipping Ore (DSO) potential of the tenements. Twelve prospect areas from which surface samples containing >60% Fe have been collected are targeted for priority investigation. Statutory formalities are currently being completed prior to commencing an extensive RC drilling program of approximately 5,000m with the objective of defining an initial Inferred JORC compliant resource and to investigate the potential for additional iron ore resources.

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During the quarter a signed Heritage Agreement was received from the traditional owners of the area and approval for a program of work relating to the proposed drilling program was received from the Western Australian Department of Mines and Petroleum on 8th April, 2011. A draft Conservation and Management Plan has been submitted to the Department of Environment and Conservation for consideration and approval.



Figure 1. Robinson Range Iron Ore Project - Prospect Location & Surface Sample Results

NORTH QUEENSLAND

PepinNini currently has a 100% interest in 20 tenements covering approximately 1,670 kms². The tenements are prospective for high grade gold and silver, copper, base metals, uranium, phosphate and potash.

No field activity was undertaken during the quarter. Results from a reverse circulation (RC) drilling program of 25 boreholes for a total of 3,256 metres undertaken at the Forsayth and Percyville Projects during the previous quarter are being assessed.

Encouraging results were reported in the previous quarter for both project areas and include the following high grade gold, silver and copper intersections;

 Borehole RC10RT004 intersected a 2 metre interval grading 10.1g/t gold, 33g/t silver and 0.6% copper at a depth of 21 metres.

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- Borehole RC10RT010 intersected a 3 metre interval grading 2.04g/t gold and 6g/t silver at a depth of 45 metres, a 3 metre interval grading 7.16g/t gold, 12.6g/t silver and 0.21% copper at a depth of 63 metres (including a 1 metre interval grading 20.3g/t gold, 35g/t silver and 0.6% copper) and a 2 metre interval grading 1.3g/t gold, 3.2g/t silver at 152 metres.
- Borehole RC10RT013 intersected a 1 metre interval grading 8.1g/t gold at a depth of 36 metres.
- Borehole RC10PV003 intersected a 2 metre interval grading 0.93g/t gold at 20 metre depth, a 4 metre interval grading 4.65g/t gold and 69.75g/t silver at a depth of 33 metres (including 1 metre at 14.85g/t gold and 223g/t silver), and a 1 metre interval grading 4.66g/t gold and 9g/t silver at 52 metre depth.
- Borehole RC10PV006 intersected a 2 metre interval grading 6.45g/t gold and 1.35g/t silver at a depth of 13 metres.
- Borehole RC10PV007 intersected a 2 metre interval grading 3.48g/t gold and 4.66g/t silver at a depth of 14 metres.

SOUTH AUSTRALIA

Musgrave Province Project

The Musgrave Project is currently targeting nickel-copper sulphide mineralisation and base metal mineralisation in the Musgrave Province of South Australia. PepinNini has four granted exploration licences (EL3536, EL3931, EL4048, EL4587) covering ~5,669 km² and six exploration licence applications (ELA118/96, ELA185/96, ELA278/82, ELA491/94, ELA367/09, ELA368/09) covering ~3,932 km² (Fig. 2). PepinNini subsidiary PepinNini Resources Pty Limited is earning a 51% interest in EL3931 and ELA278/82 and ELA491/94 under a Farm-in and Joint Venture Agreement with Rio Tinto Ltd subsidiary Rio Tinto Exploration Pty Limited.

Previous exploration activities within the Musgrave Province have primarily targeted nickel-copper-PGE sulphide mineralisation within Giles Complex mafic-ultramafic rocks, base metal mineralisation within Birksgate Complex metavolcanic and metasedimentary sequences and shear-hosted gold mineralisation. The Giles Complex is considered to be highly prospective for nickel-copper sulphide and PGE mineralisation following the discovery of the Nebo-Babel deposit in Western Australia by WMC (392Mt @ 0.3%Ni and 0.33%Cu).

There were no field-based exploration activities conducted within the tenements of the Musgrave Project during the Quarter. PepinNini is currently compiling and assessing all exploration data collected to date and are in the process of prioritising regions for follow-up exploration.

PepinNini has now completed 56 diamond boreholes in the Musgrave Province for 18,354.98m.

The majority of drilling has occurred in the vicinity of the Giles Complex Caroline Intrusion within EL4048 Mt Caroline and EL3931 Woodroffe (Fig. 3). Sulphides have been intersected in the



majority of the diamond boreholes. Locations of boreholes from which anomalous assays were returned are presented in Fig. 4.

A total of 2,649 vacuum boreholes, for 23,954.95m, have also been completed by PepinNini in the Musgrave Province. The majority of vacuum drilling has occurred within EL4048 Mt Caroline and EL3931 Woodroffe. Locations of boreholes from which anomalous assays were returned are presented in Fig. 4.



Figure 2. PepinNini Minerals Limited tenement distribution in the Musgrave Province, SA.



Figure 3. Diamond and vacuum borehole localities, EL3931 Woodroffe and EL4048 Mt Caroline.





Figure 4. Locations of anomalous borehole with respect to the Giles Complex Caroline Intrusion.

Curnamona Province Project

Exploration within the Curnamona Province Project area, which includes the Crocker Well Uranium Deposit, is being managed by Sinosteel PepinNini Curnamona Management Pty Ltd (SPCM) on behalf of the Joint Venture partners Sinosteel Corporation (60%) and PepinNini Minerals (40%). SPCM currently has funds of approximately \$4.6million to expend on exploring the tenements held by the Joint Venture.

A number of potential magnetite prospects have been identified within the tenements held by the Sinosteel PepinNini Joint Venture. The Joint Venture has prioritized the investigation of the iron ore potential by committing to undertake an initial drilling program to assess the potential magnitude of the resource and metallurgical characteristics of the magnetite.

Recent publicity surrounding the magnetite iron content of the Braemar Iron Formation (BIFm) has resulted in a marked increase of iron exploration within the Adelaidean sequences in the Nackara Arc and along the southern boundary of the Curnamona Province. Promising iron grades, low impurities and potentially large tonnages make the BIFm an exciting target for magnetite iron deposits. Very encouraging positive exploration drilling and metallurgical results have recently been announced by other explorers in the area.

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Three priority target areas have been identified within the Joint Venture tenements and have been designated as the Mt Victor Iron Ore Prospect (ELA928/04 Mt Victor); the Macdonald Corridor Iron Ore Prospect (EL4375 Bimbowrie); and the Outalpa Iron Ore Prospect (EL3472 Outalpa & ELA928/04 Mt Victor). Each of the prospects identified have the potential to host a very large magnetite iron ore resource which could be beneficiated to a high grade blast furnace feed product at a very competitive cost relative to other magnetite prospects currently under development consideration elsewhere in Australia.

The Magnetite Prospects have been identified within outcropping to shallow glacial BIFm of Neoproterozoic age by interpretation of detailed regional magnetic data and geological mapping of the area. The BIFm consists of a series of alternating and interbedded tillitic and magnetite units representing cycles of glacial advances and retreats.

Following completion of statutory approvals and heritage clearance surveys the Joint Venture intend to undertake a Reverse Circulation (RC) and diamond core drilling program to confirm the magnetite potential and delineate a resource exploration target. Subject to favourable results an extensive resource definition program will be undertaken.

The area is favourably located with regard to current infrastructure being between the towns of Broken Hill and Peterborough and 20kms to 40kms from the heavy duty trans-Australian railway and adjacent sealed Barrier Highway.



Figure 5. Regional Braemar Ironstone magnetite prospects (green stars) and prospective Braemar Ironstone prospect regions in relation to Sinosteel PepinNini Joint Venture tenements (black polygons).



Figure 6. **Major Iron Prospects identified within Joint Venture tenements.** (*Backdrop image is regional aeromagnetic*)

A drilling program of four deep precollared diamond boreholes to investigate priority drill targets defined by ground gravity data over EL3587 (Scott Hill) commenced during the previous quarter but was shut down due to inclement weather and difficult drilling conditions. Drilling recommenced in early February, 2011 and continued throughout the current quarter.

Results from 76 aircore boreholes completed during the previous quarter at three target areas within EL4239 (Kalabity) to investigate uranium and base metal targets have been received. An intersection of 11m at 44% Fe from a depth of 2m to base of hole at 13m in a borehole located over a high amplitude magnetic response interpreted to represent Ernest Henry type IOCG mineralisation will be investigated further by a deeper cored borehole. Drilling intersected abundant to common magnetite in metasediments to gneissic units and interpreted BIF units. Drilling also returned anomalous to highly anomalous Ce-La+Y and elevated copper grades.

ARGENTINA Salta Project

The first of seven tenement applications in the Argentine province of Salta was granted to PepinNini S.A., a subsidiary of PepinNini Minerals Limited during the quarter.

Salta Province is recognised as one of the most mining friendly provinces in Argentina and is a province where mining rights are well regulated. The geology is prospective for copper-gold



porphyries; precious and base-metal epithermal systems and breccia-complexes associated with the Andean volcanic belt.

A number of advanced mineral projects have recently been discovered in Salta including:

- El Quevar Intermediate Epithermal Silver Project (60.5Moz silver) Golden Minerals Company - in development;
- Lindero Gold Porphyry Project (2.2Moz gold) Mansfield Minerals Inc. in feasibility;
- Diablillos Au-Ag Epithermal Project (0.6Moz gold, 77.1Moz silver) Silver Standard Resources Inc. - in feasibility;
- Taca Taca Cu-Au-Mo Porphyry Project (11.2Blbs copper, 3.77Moz gold, 459Mlbs molybdenum) Lumina Copper Corporation - in pre-feasibility.

The area targeted by PepinNini for copper-gold-silver mineralization is in Salta's Puna region, a high-altitude plateau adjacent to the Chile border which forms part of the Atacama Alti-plano. Whilst typically over 4,000m in altitude it predominantly has only a moderate relief that is generally easily accessible by 4WD vehicles and a semi-arid environment that is conducive for work all year round.

The region is traversed by an international gas pipeline, high-transmission power lines extending from Salta across to Chile and the Salta-Antofagasta railway, which is currently partially operational.

Table 1 summarises the current tenure situation of PepinNini's Salta Project which comprises two separate areas designated as Santa Ines and Chivinar. Figure 7 locates the two areas relative to the significant recent discoveries described above.

Name	File No	Application	Area (ha)				
	Chivinar Project						
Guanaquero	20438	30/06/10	7,899	Granted 12/4/2011 for 750 days commencing 12/5/2011			
Santa Maria	20439	30/06/10	3,599				
Oscara	20440	30/06/10	1,055				
Olajacal	20461	14/07/10	2,643				
Chibinar	20462	14/07/10	9,529				
Santa Ines Project							
Mina Santa Ines	1201	27/09/10	18				
Santa Ines	20613	13/10/10	8,225				

Table 1: Salta Project Tenure Summary



Santa Ines

The Santa Ines Project comprises one mina (mining licence) and one cateo application (exploration licence) situated in the Los Andes Department of Salta ~35km south of Socompa and 65km southwest of Tolar Grande. This project logistically benefits by being only 5km from the Salta-Antofagasta railway and is easily accessed using existing roads and tracks.

The Santa Ines Project lays within a crustal scale NW trending mega-lineament, which in Andean geology are widely recognised as being major long-lived structural corridors that are fundamental in the control of the distribution of porphyry-epithermal deposits. The "Archibarca" NW lineament extends from Cerro Galán (Argentina's largest ignimbrite caldera complex) in the southeast through to the Pacific coast of Chile.

Known mineralization along this lineament to the immediate southeast of Santa Ines includes Mansfield's Lindero Gold Porphyry project (2.2 Moz. Au) that is currently in feasibility and advanced Cu-Au exploration projects including Rio Grande, Arizario and Samenta. Situated some 100km to the northwest along the same lineament is BHP's giant Escondida Cu-Au porphyry (~5 billion tonnes at 1% Cu and 0.25 g/t Au) which also was deposited contemporaneously with the Santa Ines Formation event during the Late Eocene-Oligocene.



Figure 7: Location Map (digital terrain) showing PepinNini Project Areas and significant discoveries.

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Figure 8: Historic workings of haematite and secondary copper mineralisation at Santa Ines

Santa Ines mina comprises a number of small artisanal diggings consisting of shallow pits exploiting abundant secondary copper and specular haematite mineralisation associated with haematite-silica veining within a broader envelope of albitic alteration. Orientated to the NE this steeply dipping vein system extends across a low outcropping hill. More recent shallow pits indicate that mineralisation is evident for at least 400m across strike whereas along strike it becomes lost under thin cover at the base of a hill after a few hundred metres. Published reports by SEGEMAR (Argentine Geological Survey) describe the mineralisation at Santa Ines as being gold bearing with mineralisation present dominantly as malachite, azurite, chrysocolla and specular haematite with minor primary mineralisation occurring as chalcopyrite and chalcocite.

There is no evidence of any modern exploration work having been undertaken at Santa Ines and no historical data is available. PepinNini initially intend to target a potentially larger concealed ironoxide copper-gold target at depth beneath the surface mineralization evident at Santa Ines. Proposed exploration will incorporate the use of geophysical techniques including both potential field and electrical methods to delineate targets for drill testing.

Chivinar

The Chivinar Project comprises 5 cateo applications situated in the Los Andes Department of Salta ~40km north of the Puna township of Tolar Grande. The first of these cateos (Guanaquero No. 20438) was granted on 12 April, 2011.

The geology of the general Chivinar area is centred on the Ordovician Chachas Eruptive Complex, which is characterised by granites, granodiorites and quartz porphyries with associated metavolcanics and pyroclastics.

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As with the Santa Ines Project this area is also coincident with a smaller but well-defined northwest lineament that extends from the El Quevar Silver Project in the southeast along a line of three closely spaced Pliocene volcanos and through the northern tenure block before passing across the border into Chile in the northwest where a number of small iron ore deposits have been exploited in the past.

Within the Chachas Complex area itself are various known copper, base metal, manganese and iron-ore mineral occurrences. The copper occurrences are present as minor vein and disseminations within the porphyritic granitic suite but are also associated with the contact of hornfelsed metasediments and overlying Tertiary rhyolites. Significant zones of alteration (generally argillic and pyrophillitic) are evident in the Aster imagery and are visible along sides of the hills that flank the central valley that divides the Chachas Complex. These zones are often associated with well-developed manganese veining.

Rare earth bearing hydrothermal breccias on the eastern side of the complex have in the past been targeted for uranium by CNEA (Comisión Nacional de Energía Atómica) and are possibly related to younger volcanic events. Present also on the eastern side are a number of travertine mines.

Whilst the central portion of the older Chachas Eruptive Complex is covered by existing minas and cateos, PepinNini has targeted the flanks of this complex that it considers prospective for structurally controlled mineralisation related to the younger Tertiary overprint. There is no evidence of any systematic prior exploration in these areas and no existing data is available. A program of systematic exploration using geophysics, detailed mapping and sampling will commence as tenure is granted.

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Norman Kennedy BSc MAusIMM. Norman Kennedy is the Chairman and Managing Director of PepinNini Minerals Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration 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". Norman Kennedy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

For further information please contact: Mr Norman Kennedy Chairman and Managing Director, PepinNini Minerals Limited Phone: (08) 8218 5000

Note: Additional information on PepinNini Minerals Limited can be found on the website: <u>www.pepinnini.com.au</u>

Rule 5.3

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

PepinNini Minerals Limited

ABN 55 101 714 989 Quarter ended ("current quarter")

Year to date

March 2011

Consolidated statement of cash flows

Cash f	lows related to operating activities	Current quarter \$A'000	(_ .9 _months) \$A'000
1.1	Receipts from product sales and related debtors	30	65
1.2	Payments for (a) exploration & evaluation (b) development	(687)	(2,676)
13	(c) production (d) administration	(463)	(1,202)
1.4	Interest and other items of a similar nature received	28	182
1.5	Interest and other costs of finance paid		
1.6 1 7	Income taxes (paid)/refund Other (Government Grants)	50	58
		(1.042)	(3 573)
-	Net Operating Cash Flows	(1,042)	(3,573)
	Cash flows related to investing activities		
1.8	Payment for purchases of:		
	(a) prospects		
	(b) equity investments		
1.9	Proceeds from sale of:		
	(a) prospects		
	(b) equity investments		
1.10	(C) other fixed assets		
1.11	Loans repaid by other entities		
1.12	Other (provide details if material)		
	Net investing cash flows	0	0
1.13	Total operating and investing cash flows (carried forward)	(1,042)	(3,573)

⁺ See chapter 19 for defined terms.

1.13	Total operating and investing cash flows (brought forward)	(1,042)	(3,573)
1.14 1.15 1.16	Cash flows related to financing activities Proceeds from issues of shares, options, etc. Proceeds from sale of forfeited shares Proceeds from borrowings	3,105	3,105
1.17 1.18 1.19	Repayment of borrowings Dividends paid Other (provide details if material)		
	Net financing cash flows	3,105	3,105
	Net increase (decrease) in cash held	2,063	(468)
1.20 1.21	Cash at beginning of quarter/year to date Exchange rate adjustments to item 1.20	3,351	5,882
1.22	Cash at end of quarter	5,414	5,414

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	115
1.24	Aggregate amount of loans to the parties included in item 1.10	

1.25 Explanation necessary for an understanding of the transactions

Wi	thin Item 1.2	
1.	Managing Director, Administration Director and non-executive directors' remuneration\$106,783.00	
2.	Managing Director and Administration Director 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		
3.2	Credit standby arrangements		

⁺ See chapter 19 for defined terms.

Estimated cash outflows for next quarter

		\$A'000
4.1	Exploration and evaluation	800
4.2	Development	-
4.3	Production	-
4.4	Administration	200
	Total	1,000

Reconciliation of cash

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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	1,414	1,351
5.2	Deposits at call	4,000	2,000
5.3	Bank overdraft		
5.4	Other (provide details)		
	Total: cash at end of quarter (item 1.22)	5,414	3,351

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	EPM 15419 EPM 15523 EPM 15571	Surrender Surrender Surrender	25 sub-blocks 8 sub-blocks 15 sub-blocks	0 sub-blocks 0 sub-blocks 0 sub-blocks
6.2	Interests in mining tenements acquired or increased	EPM 18048	Granted	0 sub-blocks	24 sub-blocks

⁺ See chapter 19 for defined terms.

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				
7.2	Changes during				
1	quarter				
	(a) Increases				
	(b) Decreases				
	through returns				
	of capital, buy- backs.				
	redemptions				
7.3	+Ordinary securities	89,702,499	89,702,499	N/A	N/A
7.4	Changes during				
	(a) Increases	(a)11,500,000	(a)11,500,000	27cents	27cents
	through issues				
	through returns				
	of capital, buy-				
7.5	+Convertible				
1.2	debt securities				
<i>.</i>	(description)				
7.6	quarter				
	(a) Increases				
	through issues (b) Decreases				
	through				
	securities				
	converted				
7.7	Options (description and				
	conversion				
- 8	<i>factor)</i> Issued during				
7.0	quarter				
7.9	Exercised during				
7.10	Expired during				
/	quarter				
7.11	Uebentures (totals onlv)				
7.12	Unsecured				
	notes (totals				
	July/				

⁺ 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.

(d. A. Hall - Kennegy

Sign here:

.....Date: .. Friday 29th April 2011.... (Director/Company secretary)

Print name: ... Rebecca Holland-Kennedy.....

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.