

VITAL METALS' JUNE 2021 QUARTERLY REPORT

HIGHLIGHTS

- Vital commences rare earth production at Nechalacho in June 2021 with commencement of ore crushing
- Vital becomes Canada's first rare earths producer and the second in North America
- Blasting and mining activities ramped up first blast completed in May, first ore mined
 28 June 2021, ore stockpiled for crushing
- Installation of ore sorter complete and commissioning underway
- Vital intersects high-grade rare earth mineralisation in drilling at Tardiff zones, which it plans to mine in Stage 2 operations
- Close-spaced drilling at Zone 1 defined a strong zone of REO mineralisation with wide intersections greater than 2% TREO
- Vital receives positive results from Stage 2 metallurgical testwork, highlighting potential to continue a similar process flowsheet as used in Stage 1
- Vital receives formal product acceptance of product sample from offtake partner REEtec
- Canadian Northern Economic Development Agency ("CanNor") provides C\$1.26M funding for Vital's Nechalacho ore sorter

Vital Metals Limited (ASX: **VML**) ("**Vital Metals**" or "**the Company**") is pleased to report on its activities during the June 2021 quarter, including at its 100%-owned Nechalacho Rare Earth Project in Yellowknife, Northwest Territories, Canada,

Vital Metals Managing Director Geoff Atkins said: "We worked incredibly hard during the June quarter to ensure we could deliver on our goal of rare earth production at Nechalacho, which we did with first ore blasted and crushing commencing in late June. We are completing commissioning of the ore sorter at Nechalacho and expect to ramp up to full production capacity by the end of July.

"We are so proud to become Canada's first rare earths producer – bringing Nechalacho into production has been our ambition since Cheetah Resources completed its acquisition of the Upper Zone at Nechalacho in 2019.

"Other achievements such as the positive results from both drilling and metallurgical testwork for our Stage 2 operations have given us greater confidence that we can develop Nechalacho into a larger scale, long life rare earths operation and we look forward to creating a rare earths supply chain that can support the demand seen in North America and Europe."



NECHALACHO RARE EARTHS PROJECT, CANADA (JORC RESOURCE: 94.7MT @ 1.46% REO)

Rare earth production commences at Nechalacho

On 6 July 2021, Vital announced it had commenced rare earth production at its Nechalacho Project in Canada with mining contractor Nahanni Construction Limited completing first ore blast on 28 June and ore mining on 29 June. Ore crushing commenced on 30 June. With achievement of this milestone, Vital became Canada's first rare earths producer and only the second in North America.

Following first blast at Nechalacho on 9 May, mining activities at Nechalacho's North T pit are now more than 30% complete, and Vital is ramping up crushing and ore sorting and expects to reach full production rates during July. Beneficiated material is being stockpiled for transport to Vital's extraction plant in Saskatoon.

Installation of the ore sorter is complete with commissioning underway.

Mining activities are scheduled for completion during the September quarter with the first shipment of beneficiated ore prepared for transportation to Saskatoon.



Overhead image of site with ore sorter in the foreground and pit in the background



Crusher stockpiles



Loading ore





Drone image of pit



Drone image of the ore sorter as at June 24

Saskatoon rare earth extraction plant

In May, Vital announced it had signed a lease for its rare earth extraction plant in Saskatoon, Canada, where it will process materials from Nechalacho. The lease provides Vital with a custombuilt facility to house the extraction plant.

An initial 10-year lease agreement between Vital Metals' subsidiary Cheetah Resources Saskatchewan Corp and Northstar Innovative Developments Inc. ("Northstar") will see Vital Metals' extraction plant located adjacent to Saskatchewan Research Council's (SRC) rare earth separation facility, creating a rare earth processing hub in Saskatoon. Northstar also owns the land where SRC is developing its project. SRC's rare earth processing facility will be the first-of-its-kind in Canada and will begin to establish a fully commercial Rare Earth Element (REE) technology hub in Saskatchewan, forming an industry model for future commercial REE initiatives and supply chain development.

Vital expects to deliver first product from Nechalacho to Saskatoon in November 2021. Key terms of Vital's lease with Northstar can be found in the ASX Announcement dated 21 May 2021.

High-grade REO intersected in Tardiff Zone drilling

Vital completed a 1,800m drill program at Nechalacho to test three high-grade targets in the Tardiff deposit and evaluate potential expansion of additional zones which lie adjacent to the planned North T pit, where Vital has commenced production.

Vital is developing Nechalacho in stages, with Stage 1 underway. Stage 2 will involve the development of the Upper Zone, which boasts a world class resource of 94.7mt at 1.46% TREO¹. Drilling aims to enable Vital to develop a mine plan for the Nechalacho Stage 2 mine development, as well as define additional resources in the vicinity of the current pit. Vital's drilling program targeted three high-grade REO zones previously identified in wide spaced historic drilling by Avalon Materials Inc, known as Tardiff Zones 1, 2 and 3.

Tardiff Zones 1 and 3 were drilled on a close spacing (25m x 25m) to enable their resource confidence levels to be upgraded so mining and processing studies can be carried out on these

¹ ASX Announcement 13 December 2019: Vital Announces JORC 2012 Compliant Resources for the Nechalacho Rare Earth Deposit



zones. The drilling at Tardiff Zone 2 was designed to get a better understanding of high-grade REO mineralisation that is not currently in the resource estimation released in 2019. All drill holes were drilled to a maximum depth of 72m.

Close-spaced drilling at Zone 1 has defined a strong zone of higher grade REO mineralisation with wide intersections greater than 2% TREO. The higher grade mineralisation in Zone 1 has been drilled on a 25m grid over a distance of 300m x 100m is open in all directions. More importantly the highest grades have been intersected on the most northern and southern sections.

Hole Name	From (m)	To (m)	Interval (m)	TREO Grade (%)
L21-551	35.75	50.3	14.55	2.48
L21-555	36.0	49.0	13.0	3.12
L21-559	15.3	41.1	25.8	2.56
L21-563	11.4	72.3	60.9	1.92
L21-564	16.0	56.0	40.0	2.54
L21-565	11.5	43.3	31.8	4.35
L21-566	15.5	56.0	40.5	2.35

Significant intersections are shown below.²

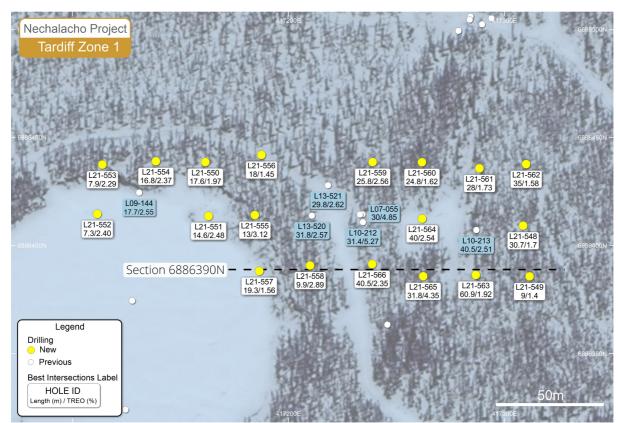
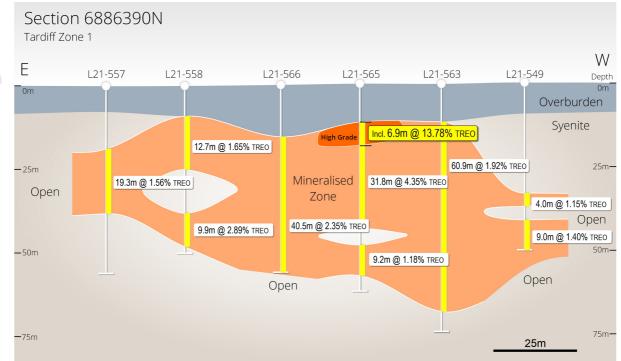


Figure 4 – Tardiff Zone 1 Drill Plan

² ASX Announcement 26 May 2021: Vital Intersects broad high grade REO in near surface drilling at Tardiff Zone





Section along southern boundary at Tardiff 1. Tardiff 1 remains open with holes 566 and 549 ending in mineralisation

Results from Tardiff Zones 2 and 3 are on track to be available during the September quarter.

Positive results from Stage 2 metallurgical testwork

In June, Vital announced positive results from metallurgical testwork completed on samples from the Tardiff zone, which demonstrated the potential to continue a similar process flowsheet in Stage 2 at Nechalacho, with the introduction of an additional beneficiation process due to the finer nature of rare earth mineralisation at Tardiff. A similar process flowsheet in Stage 2 has potential to produce a beneficiated product with a REO grade greater than 35%.

Vital aims to mine the much larger Tardiff Zone, which has a total resource of 95 million tonnes @ 1.46% total rare earth oxides (TREO) (1.3 million tonnes of contained TREO)³, after North T during Stage 2 of the development strategy. Development of the Tardiff Zone is targeted for commencement in 2025.

In its metallurgical scouting test program, Vital aimed to test the amenability of ore from the Tardiff Zone 1 area to the North T zone process flowsheet. Using a 770kg sample taken from Tardiff Zone 1, the program tested grindability, ore sorting via X-ray transmission, several separation methods – heavy liquid, gravity and magnetic, and acid leaching.

The sample also underwent flotation testwork, which is not part of the Stage 1 flowsheet, and returned promising results. A report on the testwork concluded the sample demonstrated amenability to each step of the Stage 1 process flow sheet.

³ ASX Announcement 13 December 2019: Vital Announces JORC 2012 Compliant Resources for the Nechalacho Rare Earth Deposit



The results of the scouting testwork program achieved results which were better than expected. The composite sample demonstrated amenability to each step of the North T process flow sheet.

As expected due to the finer grain sizes at Tardiff, than exist at North T, the testwork has indicated that a flotation circuit, or some other additional beneficiation technique, will likely be required to achieve the required feed grade into the kiln. Flotation showed great promise in terms of high REO grade, low mass pull and reasonable REO recovery.

The best flowsheet may include, ore sorting, DMS on +0.6 mm crushed ore to reduce the mass of ore feeding the mill by ~50%, followed by milling of the DMS concentrate and the -0.6 mm ore to a grind size of 100% passing ~ 75 μ m. The mill product would then be upgraded to final concentrate grade by flotation, but could also include gravity and or magnetic separation for certain process streams.

Of note was that with optimisation, flotation demonstrated the potential to achieve a 35% REO grade as a standalone process treating ore with a grade of 2.3% REO. When preconcentration steps of ore sorting, HMS and shaking table circuits are added, the testwork indicates that a grade of 7-8% REO should be achievable going into the flotation circuit. This should improve the final concentrate grades and recoveries even further. It should be noted however that further testwork on representative samples is required to optimise this flowsheet, which Vital will commence during the September quarter.

In addition to the beneficiation testwork, the confirmation that Tardiff Zone 1 material will also be amenable to the North T leaching process is also extremely promising. The ability to maximise the utilisation of existing processing infrastructure provides the opportunity to greatly reduce capital costs as we transition from processing North T ore to Tardiff Zone 1 in Stage 2.

Details of the testwork and results are included in the ASX announcement dated 23 June 2021.

Vital achieves formal acceptance from REEtec

After executing a definitive Offtake Agreement with REEtec AS ("REEtec") on 2 February 2021, Vital announced that REEtec had formally accepted its rare earth carbonate sample produced at Nechalacho, satisfying Stage 2: Qualification of Specification, in May 2021. The 12kg sample was produced in March 2021.

Under the definitive Offtake Agreement Vital Metals will provide REEtec mixed rare earth carbonate product containing an annual volume of 1,000 REO (ex-Cerium) over 5 years. Both parties have an option to increase this offtake volume by up to 5,000 tonnes REO per annum over 10 years (subject to a corresponding supply agreement).

Funding agreement with Canadian Northern Economic Development Agency

Vital's Canadian subsidiary, Cheetah Resources Corp. ("Cheetah"), signed a funding agreement with the Canadian Northern Economic Development Agency ("CanNor") for C\$1.26 million relating to the Nechalacho ore sorter.

Cheetah will use the funding to demonstrate the environmental, technical, and economic



advantages of single step sensor-based sorting of rare earth ore to produce a value added mixed rare earth concentrate in the NWT, which it will transport to Saskatoon and then ship to offtake partner REEtec.

Compared to other REE beneficiation processes, this scalable mechanically based process significantly reduces the environmental footprint. It uses much less diesel, little or no water, involves no additives or chemicals and eliminates tailings ponds that typically accompany metal mining.

Cheetah is developing production capacity to concentrate REE ore for export from the NWT for downstream processing. It is estimated that the project will create 22 jobs and expand and maintain seven others during the demonstration phase.

The Canadian Northern Economic Development Agency (CanNor) is the Government of Canada's Regional Economic Development Agency for the Territories. CanNor works with Northerners and Indigenous peoples, communities, businesses, organizations, other federal departments, and other orders of government to help build diversified and dynamic economies that foster long-term sustainability and economic prosperity across the Canadian territories – Nunavut, Northwest Territories, and Yukon.

Terms of the CanNor Repayable Contribution are as follows:

- Amount of the repayable contribution: C\$1.26 million;
- Term of the repayable contribution: 10 years beginning in FY 2023/24;
- Interest rate: 0%;
- Repayment terms: monthly instalments over 10 years, commencing FY2023/24;
- Funds will be disbursed within the next 12 months, they are repayable at any time without penalty, there is no security associated with the repayable contribution.

WIGU HILL PROJECT, TANZANIA

During the June quarter the Company has continued discussions with the Tanzanian Government regarding the issuance of a Mining Licence for the Wigu Hill rare earth project. The Company is working towards a meeting with Government in Tanzania however, this is currently impacted by COVID-19 travel restrictions.

NAHOURI GOLD PROJECT, BURKINA FASO

Vital Metals has suspended all exploration activity in Burkina Faso.

AUE COBALT PROJECT, GERMANY

There were no exploration activities on the Aue project in the June quarter.



CORPORATE

As of 30 June 2021, the Company held approximately \$34.9 million in cash and cash equivalents.

During the quarter, the Company made payments of \$119,167 to related parties and their associates. These payments relate to existing remuneration agreements for the Chairman, Managing Director, and Non-Executive Director.

During the quarter, Vital spent \$7.3 million on exploration and evaluation expenditure, development and production. Details of activities carried out during the quarter are set out in this report.

Results of General Meeting

At a General Meeting of Vital Shareholders on 18 May 2021, all resolutions put to the meeting were decided by poll and approved by the required majority. Resolutions were:

- 1. Ratification of Prior Issue of Shares Under Placement Listing Rule 7.1
- 2. Ratification of Prior Issue of Shares Under Placement Listing Rule 7.1A.

Location	Tenement	Status	Interest at beginning of quarter	Interest acquired or disposed	Interest at end of quarter
Canada	Nechalacho	100%*	100%	0%	100%
	Nahouri	100%	100%	0%	100%
Burkina Faso	Kampala	100%	100%	0%	100%
1 450	Zeko	100%	100%	0%	100%
Germany	Aue	100%	100%	0%	100%
Tanzania	Wigu Hill	0%**	0%	0%	0%

TENEMENT SCHEDULE

* Vital owns 100% of the mineral rights of the Nechalacho Project above the 150 m elevation level.

** Vital has entered into an agreement to acquire this licence. The Company is awaiting the issuance of the licence by the Tanzanian Government.

- ENDS-

Contact: Mr Geoff Atkins Managing Director Vital Metals Limited Phone: +61 2 8823 3100 Email: vital@vitalmetals.com.au

This announcement has been authorised for release by the Board of Vital Metals.

ABOUT VITAL

Vital Metals Limited (ASX: VML) is Canada's rare earths producer following commencement of production at its Nechalacho rare earths project in Canada in June 2021. It holds a portfolio of rare earths, technology metals and gold projects located in Canada, Africa and Germany.



Nechalacho Rare Earth Project - Canada

The Nechalacho project is a high grade, light rare earth (bastnaesite) project located at Nechalacho in the Northwest Territories of Canada and has potential for a start-up operation exploiting high-grade, easily accessible near surface mineralisation. The Nechalacho Rare Earth Project hosts within the Upper Zone, a measured, indicated and inferred JORC Resource of **94MT at 1.46% TREO**.

Compliance Statements

This announcement contains information relating to Mineral Resource Estimates in respect of the Nechalacho Project extracted from ASX market announcements reported previously and published on the ASX platform on 13 December 2019 and 15 April 2020. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the original market announcements continue to apply and have not materially changed.

This announcement contains information relating to results extracted from ASX market announcements reported previously and published on the ASX platform on 26 May 2021 and 23 June 2021. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements.

Forward Looking Statements

This release includes forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production output.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources or reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company's business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company's control.

Although the company attempts to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements in this release are given as at the date of issue only. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity				
VITAL METALS LIMITED				
ABN	Quarter ended ("current quarter")			
32 112 032 596	30 JUNE 2021			

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(24)	(134)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(713)	(1,714)
	(e) administration and corporate costs	(484)	(1,880)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	5	9
1.5	Interest and other costs of finance paid	-	(6)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	90	309
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(1,126)	(3,416)

2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	(188)	(1,727)
	(d) exploration, evaluation and development	(7,209)	(11,072)
	(e) investments	-	-
	(f) other non-current assets	(292)	(292)

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	45
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(7,689)	(13,046)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	51,000
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	333	1,605
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(924)	(2,889)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (repayment of lease liabilities)	(43)	(103)
3.10	Net cash from / (used in) financing activities	(634)	49,613

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	44,357	1,757
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,126)	(3,416)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(7,689)	(13,046)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(634)	49,613

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	34,908	34,908

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	33,971	43,445
5.2	Call deposits	937	912
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	34,908	44,357

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000		
6.1	Aggregate amount of payments to related parties and their associates included in item 1	119		
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-		
	Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.			

7.	Financing facilities Note: the term "facility' includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	-	-
7.5	Unused financing facilities available at qu	arter end	-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	Estim	nated cash available for future operating activities	\$A'000
8.1	Net ca	ash from / (used in) operating activities (item 1.9)	(1,126)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))		(7,209)
8.3	Total r	relevant outgoings (item 8.1 + item 8.2)	(8,335)
8.4	Cash and cash equivalents at quarter end (item 4.6)		34,908
8.5	Unused finance facilities available at quarter end (item 7.5) -		
8.6	Total a	available funding (item 8.4 + item 8.5)	34,908
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)		4.2
	Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.		
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:		
	8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?		
	Answer:		
	8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?		
	Answer:		

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

- This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 30 July 2021

Authorised by: The Board (Name of body or officer authorising release – see note 4)

Notes

1

- This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.