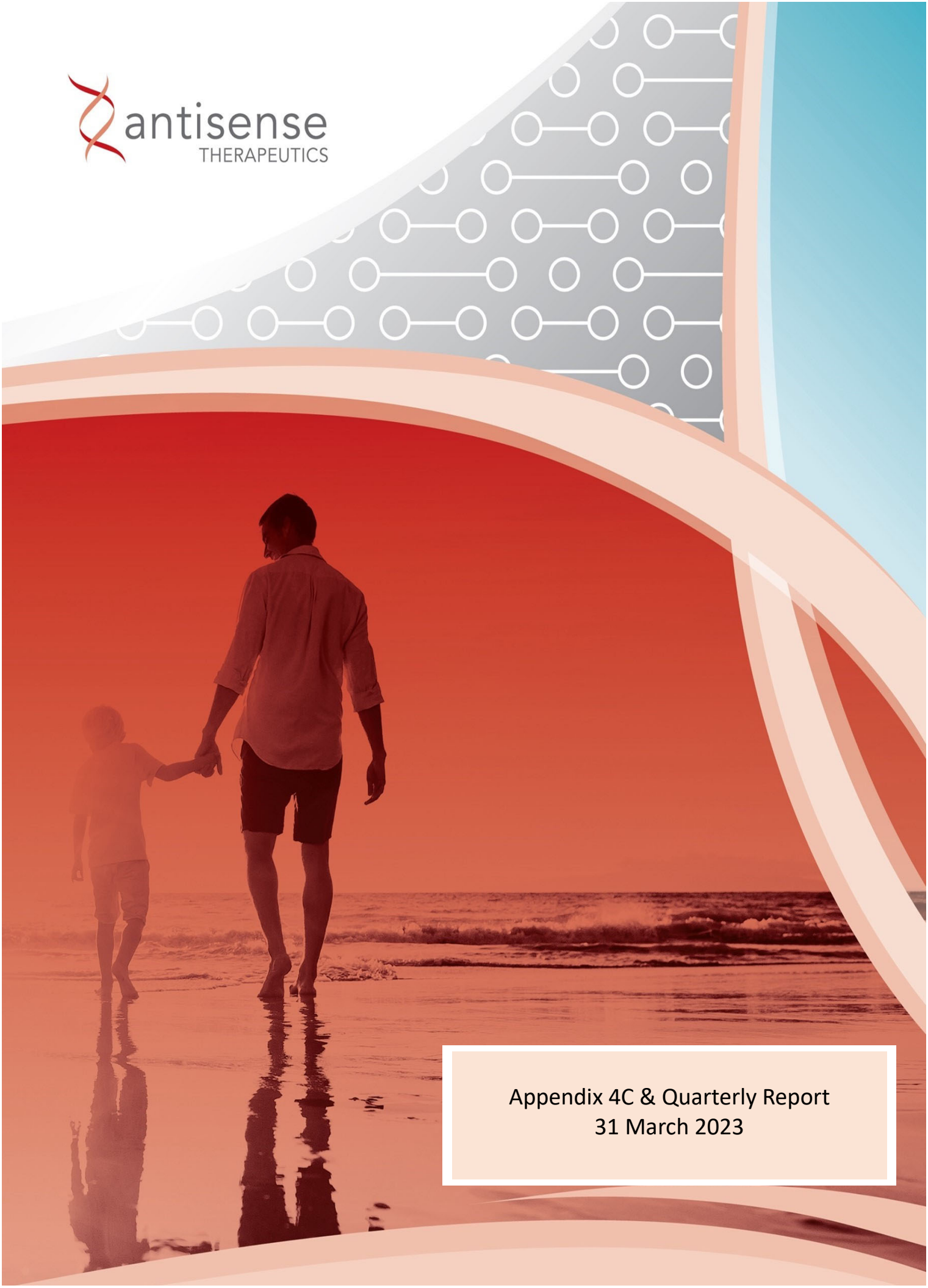
antisense THERAPEUTICS



Appendix 4C & Quarterly Report
31 March 2023

ASX Announcement

17 April 2023

Quarterly Activities Report & Appendix 4C

Antisense Therapeutics Limited (Antisense or Company) is pleased to provide its Appendix 4C and quarterly update for the period ended 31 March 2023.

Positive outcomes in DMD combination therapy animal study

During the quarter the Company released positive initial data from a Duchenne muscular dystrophy (DMD) mdx animal study investigating the potential for ATL1102 in combination with a dystrophin exon skipping restoration drug. The combination therapy of antisense oligonucleotide (ASO) to CD49d and the dystrophin restoration agent showed statistically significant effects on the specific maximum force of the extensor digitorum longus muscle and the eccentric muscle force remaining following induced damage to the muscle compared to saline control. The study results suggest the potential for ATL1102 in combination with dystrophin restoration drugs to improve therapeutic outcomes in DMD patients. Further investigations are ongoing to determine the possible mechanisms by which the combination approach is providing the observed functional benefits.

Under the collaborative research agreement with the Murdoch Children's Research Institute's (MCRI), six groups of DMD mdx mice were treated for 6 weeks with antisense oligonucleotide to CD49d, or control oligonucleotide mismatch or saline treatments, or the morpholino exon skipping dystrophin restoration drug alone and in combination. The study design and functional endpoints assessed featured in many mdx mouse studies published in the scientific literature, and as such supports the validity of the study and its outcomes.

A provisional patent application titled "Combination Compositions and Methods for Treatment of Muscular Dystrophy" has been filed to cover the use of the ASO to CD49d and the morpholino exon skipping drug combination to seek protection of the combination of ATL1102 with the dystrophin restoration/exon skipping drugs to 2044, well beyond the patent life of the registered dystrophin restoration drugs. Further investigations are ongoing with the assessment of muscle dystrophin levels and other cellular markers.

Subsequent to the end of the quarter

To further understand the potential biological mechanisms behind observed functional benefits, muscle tissue samples have been processed for conducting additional investigations. These investigations include analysing the levels of dystrophin present in the muscle tissue in the mdx model (note that mdx mice have no or very low dystrophin levels). An initial analysis of dystrophin levels was undertaken by MCRI. While dystrophin protein signals were observed in the muscle tissues of the treated mice, the results were inconclusive as the method used to analyse the dystrophin levels was insufficiently sensitive, accordingly the muscle tissue is now to be re-analysed to assess dystrophin levels using a more sensitive assay method with the results of this analysis anticipated in May.

In parallel, plasma samples from the mice have been analysed for a preliminary view of the safety profile of the combination treatment in this model. While this animal study was not run as a toxicology study, it is providing helpful insights into the future clinical safety profile of the combination treatment approach. The Company is prioritising the assessment of markers of potential liver and kidney toxicity since antisense drugs like ATL1102 and the dystrophin restoration agents are known to concentrate in these organs. Notably there were no adverse physical changes

(e.g. body weight) or safety 'signals' in animals or in the blood markers assessed to date with the combination treatment.

The MCRI has prioritised its resources towards muscle dystrophin level analysis, accordingly the work on identifying other potential cellular mechanisms will commence in May. The Company continues to be highly encouraged by the positive functional benefits observed with the combination approach and by the prospect of elucidating the underlining biological mechanisms and will provide updates to the market as new information becomes available.

Limb Girdle Muscular Dystrophy R2 animal study commenced

In February 2023 the Company commenced the second phase of its study to investigate the effects of an antisense oligonucleotide (ASO) to CD49d in a mouse model of dysferlin deficiency. The chronic study will assess the longer duration treatment effects on disease progression endpoints, including reduction in muscle adipose levels. The study is being conducted in collaboration with the Murdoch Children's Research Institute in Melbourne and the Jain Foundation in the USA, In this blinded and controlled study, mice are being treated for four months with results to follow mid-2023.

LGMDR2, or dysferlinopathy, is a rare genetic muscle disease caused by mutations in the dysferlin gene, leading to a reduction or absence of dysferlin protein levels in muscle fibers. To date, no treatments have proven to be beneficial in slowing LGMDR2 disease progression. Antisense Therapeutics' use of ATL1102 as a treatment for dysferlinopathy is covered in its patent application PCTAU2020/050445, which is directed at modifying muscle performance by reducing muscle adiposity.

The Company expects to be eligible to apply for additional market exclusivity protection via Orphan Drug Designation in the US and Europe if the outcomes from this chronic study in the dysferlin deficient animal model are positive. The company is looking forward to the results of the follow-on study, which, if positive, could support advancement into a future clinical trial in patients with dysferlinopathy.

First approval received for ATL1102 Phase IIb DMD clinical trial

During the quarter the Company received approval from the Turkish Medicines and Medical Device Agency (TMMDA) to conduct a Phase IIb trial of its drug ATL1102 in non-ambulant boys with Duchenne muscular dystrophy (DMD). The trial is expected to enrol 45 participants from multiple sites in Europe and Australia and will involve a six-month regimen of either placebo, 25 mg or 50 mg of ATL1102 once weekly. Following this, participants will continue into a further six-month open-label treatment period. Trial approvals in Bulgaria, the UK, and Australia are expected to come through in a staggered manner.

This regulatory approval is a significant milestone for ANP as it affirms the quality and acceptability of the trial design and provides the green light for trial initiation at high patient-enrolling sites.

Subsequent to the end of the quarter

The Board remains committed to advancing the Phase IIb trial and bringing this much-needed therapy to benefit patients with DMD, which continues to be our top priority. Despite the complex process, we are pleased to advise that the work to initiate the trial sites in the first country is progressing well and is expected to be completed during the week commencing 17 April. Following the shipment and customs clearance of equipment required for the assessment of patients, site activation for the screening of patients will commence. In parallel, Professor Haluk Topaloğlu, National Coordinating investigator, is preparing for the screening of his patients in the last week of April. Dosing would then commence after the requisite screening period (up to 28 days).

Dosing commenced in the ATL1102 toxicology study

In March 2023 the Company announced the start of the nine-month chronic monkey toxicology study of ATL1102 for treatment of Duchenne muscular dystrophy (DMD). Dosing of all animals will be completed by November 2023 with study outcomes expected to be reported in the first half of 2024. Successful completion of the toxicology study is necessary for the FDA to allow dosing of ATL1102 for a term longer than six months in the US, and could lead to expedited program status, including Fast Track or Breakthrough Therapy designation.

ANP has already been granted Orphan Drug Designation and Rare Pediatric Disease Designation by the FDA for the treatment of DMD, and the completion of the toxicology study could pave the way for discussions on accelerated regulatory pathways to registration. The Company may also be eligible to receive a Pediatric Review Voucher (PRV), subject to meeting the eligibility criteria, which could have significant financial value.

The reporting of key study findings from the toxicology study in 1H'24 is expected to coincide with the results from the blinded phase of the ATL1102 Phase IIb DMD clinical study. If the results of both studies are compelling, ANP could share the data package with regulatory bodies for potential discussions on accelerated regulatory pathways to registration.

Subsequent to the end of the quarter

Dosing of animals is proceeding smoothly with all animals having received their 5th (once weekly) dose.

Long Neural COVID-19

The Company has continued discussions with targeted companies to explore interest in licensing/commercialising our Long Covid- 19 Intellectual Property (IP), these discussions include an ongoing dialogue with a diagnostic company on a potential development collaboration. Australian patent application 2023900242 was lodged in February entitled "Biomarkers and uses thereof" following discussions with the diagnostic company that continue. We continue to work collaboratively with Professor Koralnik and with his input and his team's assistance have prepared a scientific manuscript on some of the key research findings for submission to a high impact scientific journal. We are also exploring other potential collaborations including with Research Institutes trialling new therapies for subjects with Neural Long Covid, with these groups expressing interest in accessing our IP for use as a companion diagnostic in the development of their potential treatments.

CEO succession

As announced on 15 November 2022, following his significant tenure as the Company's Chief Executive Officer and Managing Director (CEO), Mark Diamond advised of his retirement as CEO. Mark will continue his responsibilities as CEO until a successor is appointed. The Board has commenced executive search activity both externally and internally, for a new Chief Executive Officer that can build on Mark's legacy and spearhead the Company's next phase of growth. Mark will continue as CEO providing leadership and continuity until the appointment of a successor, to ensure a smooth transition. The process is well advanced. The Company will advise the market once the appointment is confirmed.

Ongoing engagement with DMD community, investors and pharmaceutical companies

The Company continued its communication and active engagement with key opinion leaders, potential collaborators, investors and commercial partners as a key operational priority. During the quarter the Company presented and participated at the following events:

- Attendance at the JP Morgan Healthcare Week – San Francisco, USA, 9 - 11 January 2023
- US Institutional virtual roadshow – various dates January, February, March 2023
- Biotech Day, Spark Plus – Singapore, 24 February 2023
- US IR and Media engagements – January - March 2023

Cash Flow

As at 31 March 2023 the Company reported cash of $14.9 million.

During the quarter the Company made payments to related parties of the entity and their associates as disclosed in Item 6 of the Appendix 4C amounting to $176,627. The payments are related to salaries, directors' fees and consulting fees on normal commercial terms.

This announcement has been authorised for release by the Board.

For more information please contact:

Antisense Therapeutics
Mark Diamond
Managing Director
+61 (0)3 9827 8999
www.antisense.com.au

Investment Enquiries
Gennadi Koutchin
XEC Partners
gkoutchin@xecpartners.com.au
1300 932 037

Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity	
Antisense Therapeutics Limited	
ABN	**Quarter ended ("current quarter")**
41 095 060 745	31 March 2023

Consolidated statement of cash flows		**Current quarter $A'000**	**Year to date (9 months) $A'000**
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) research and development	(1,649)	(3,476)
	(b) product manufacturing and operating costs	-	-
	(c) advertising and marketing	(314)	(436)
	(d) leased assets	(35)	(88)
	(e) staff costs	(458)	(1,323)
	(f) administration and corporate costs	(324)	(1,186)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	135	270
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	872	1,781
1.8	Other (provide details if material)	38	126
1.9	**Net cash from / (used in) operating activities**	**(1,735)**	**(4,332)**

Consolidated statement of cash flows		Current quarter $A'000	Year to date (9 months) $A'000
2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	(1)	(14)
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.2	Proceeds from disposal of:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) 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**	**(1)**	**(14)**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
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 (provide details if material)	-	-
3.10	**Net cash from / (used in) financing activities**	-	-

Consolidated statement of cash flows	Current quarter $A'000	Year to date (9 months) $A'000

4.	**Net increase / (decrease) in cash and cash equivalents for the period**		
4.1	Cash and cash equivalents at beginning of period	16,623	19,233
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,735)	(4,332)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(1)	(14)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	**Cash and cash equivalents at end of period**	**14,887**	**14,887**

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	387	423
5.2	Call deposits	14,500	16,200
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)**	**14,887**	**16,623**

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	176
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 quarter 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.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (item 1.9)	**(1,735)**
8.2	Cash and cash equivalents at quarter end (item 4.6)	**14,887**
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	14,887
8.5	**Estimated quarters of funding available (item 8.4 divided by item 8.1)**	9

Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.

8.6 If item 8.5 is less than 2 quarters, please provide answers to the following questions:

8.6.1 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: N/A

8.6.2 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: N/A

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

Answer: N/A

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

Compliance statement

1 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: 17 April 2023

Authorised by: 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 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 standard applies 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.