

23 October 2018

## Quarterly Activities Report – September 2018

ASX/TSX: CLQ  
OTCQX: CTEQF

### Corporate Information:

Ordinary shares: 745.4M  
Unlisted options: 13.7M  
Performance rights: 5.3M  
Cash at bank: A\$134.4M

### Co-Chairmen

Robert Friedland  
Jiang Zhaobai

### Chief Executive Officer

Sam Riggall

### Non-Executive Directors

Li Bingham  
Judith Downes  
Eric Finlayson  
Ian Knight  
Stef Loader  
Mike Spreadborough

### Company Secretary

Melanie Leydin

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## HIGHLIGHTS

- **Appointment of Metallurgical Corporation of China Ltd (MCC) as a key project delivery partner for Clean TeQ Sunrise**
- **National Instrument 43-101 Technical Report completed for Clean TeQ Sunrise, supporting the strong technical and financial outcomes of the Definitive Feasibility Study**
- **Ongoing project financing and offtake discussions with a range of counterparties including global automobile and consumer electronics manufacturing companies**
- **Clean TeQ Water nearing completion of several key projects including the waste water treatment projects in Oman and at the Fosterville Gold Mine in Australia**
- **Formation of joint venture with Ionic Industries to progress graphene oxide membrane development**

### About Clean TeQ Holdings

Our vision is to empower the clean revolution by providing specialty materials and clean solutions to a range of industries using our proprietary Clean-iX® continuous ion exchange technology.

### Clean TeQ Sunrise

The Clean TeQ Sunrise Project is an advanced nickel, cobalt and scandium project in New South Wales which, when combined with our proprietary continuous ion-exchange processing technology, provides Clean TeQ with the opportunity to become a leading global supplier of nickel and cobalt sulphate to the lithium-ion battery industry. The Project also positions Clean TeQ to provide scandium for production of the next generation of lightweight aluminum alloys for key transportation markets.

### Clean TeQ Water

Clean TeQ's water division delivers cost effective water treatment solutions to the power, mining, oil and gas and municipal industries using our proprietary technologies including Continuous Ionic Filtration & Exchange (CIF®) and DeSALx®. These technologies are designed to cope with the most demanding waters to provide best in class performance in water recovery and operability.

## CLEAN TEQ SUNRISE PROJECT

During the quarter, Clean TeQ Holdings Limited (**Clean TeQ** or **Company**) continued to progress development of the Clean TeQ Sunrise Project (**Clean TeQ Sunrise** or **Project**), with a significant milestone being the appointment of Metallurgical Corporation of China Ltd (**MCC**) as a key project delivery partner. Pre-development activities continue to be focused on project engineering and design, as well as ongoing work toward securing financing and offtake agreements required prior to a final investment decision.

### **Metallurgical Corporation of China (MCC) appointed as project delivery partner**

An important milestone was achieved during the quarter, with MCC and Clean TeQ signing a Heads of Agreement (**HOA**) for a fixed-price Engineer-Procure-Construct (**EPC**) contract covering detailed engineering and construction of the Clean TeQ Sunrise processing plant.

Selecting an EPC delivery model and the appointment of MCC is expected to deliver significant benefits to the Project, including:

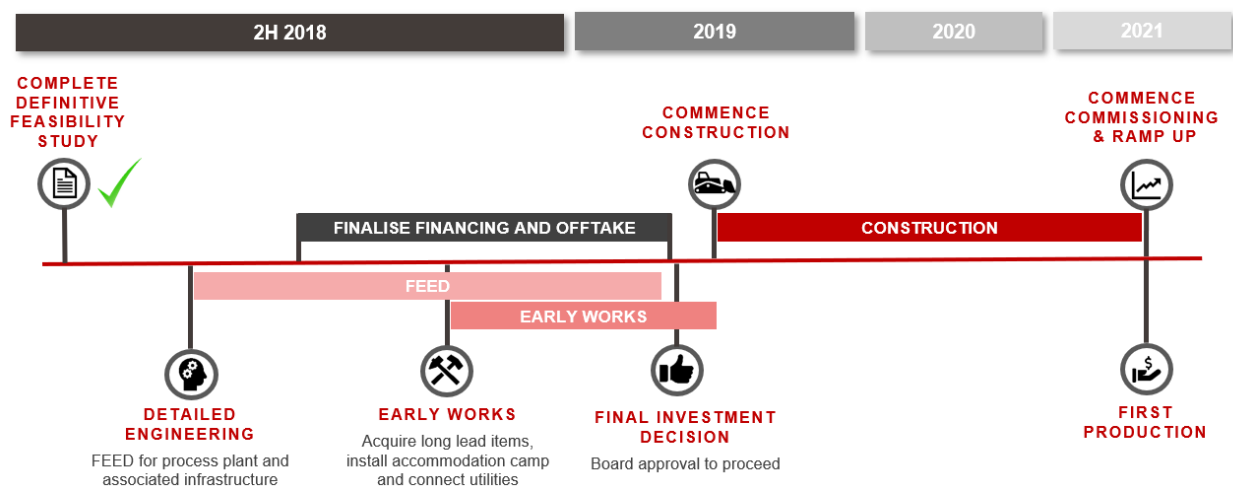
- The ability to leverage MCC's strong experience in the design, construction and operation of lateritic nickel/cobalt mining, processing and refining operations
- Decreasing the financial and project execution risk to Clean TeQ via the transfer of risk to MCC through the EPC contracting arrangements
- Providing enhanced opportunities for low cost procurement and pre-assembly through MCC's extensive network of suppliers, and
- Potential to increase the debt-carrying capacity of the Project and opening up additional opportunities for Chinese-sourced financing to support development of Clean TeQ Sunrise

Clean TeQ and MCC are currently negotiating a definitive fixed-price EPC contract for detailed engineering and construction of the process plant infrastructure, based on the summary terms and conditions contained in the HOA. The MCC scope (processing plant) is approximately two-thirds of the total estimated capital development cost of the Project. Several critical commercial aspects of the EPC contract have already been agreed as part of the HOA negotiation, with a final detailed and binding EPC contract containing a lump-sum price expected to be agreed during the first half of 2019.

In addition, Clean TeQ and MCC are currently finalising the terms of a Front-End-Engineering and Design (FEED) contract, which is expected to commence during the fourth quarter of 2018 and is structured on a reimbursable cost basis. Under the FEED contract, MCC and one of its subsidiaries, China ENFI Engineering Corporation (ENFI), will work with Clean TeQ's owners' team to manage project scope, critical design criteria

and equipment and materials selection during the FEED phase, prior to commencement of the EPC phase. The close collaboration between MCC and Clean TeQ's owners team is expected to help ensure good alignment between activities in China and Australia during the phase in which the optimal plant design and selection of critical materials and equipment is determined. Most of the key work involved in the FEED phase is expected to be undertaken in Clean TeQ's Perth office by Clean TeQ and MCC engineers and project personnel. As the project progresses to detailed engineering, work will increasingly migrate to engineering offices located in China.

During the quarter, the Clean TeQ engineering team began undertaking a handover of engineering information and activities to MCC, with the transition resulting in a delay to the overall Project schedule of around 3 months. Formal construction is now targeted to commence by mid-2019, and an indicative project schedule is shown below:



Early works activities are expected to begin during the fourth quarter of 2018, with activity primarily focused on design and planning for the construction of the water pipeline, and the commencement of site works relating to the construction of the accommodation camp. These early works will continue into 2019, in support of full construction which is targeted to commence in mid-2019.

### Financing and offtake

During the quarter, Clean TeQ continued its engagement with numerous potential investors and offtake partners in the industrial sector, including major vehicle and consumer electronics manufacturers and participants across the lithium ion battery supply chain. These parties recognise the strategic importance and value of Clean TeQ Sunrise and have shown strong interest in securing long-term supply of the raw materials which are critical to their businesses.

Discussions to date have contemplated various transactions which align with Clean TeQ's project financing strategy. These include potential project joint ventures, a sale of

strategic interests in the project and/or metal streaming or prepayment transactions. Technical and commercial due diligence and site visits have been conducted and discussions have been highly encouraging. Discussions are ongoing, and the Company looks forward to keeping the market informed of developments.

In addition to these discussions, the four mandated lead arranger (**MLA**) banks – Societe Generale, National Australia Bank, Natixis and Industrial and Commercial Bank of China (ICBC) – continued to work towards arranging and syndicating a finance facility including debt finance, working capital and other credit facilities. As announced in November 2017, the MLA banks have made a best efforts undertaking to provide a total of US\$500 million of the total credit facilities required for the development of the Project, with the balance of the debt facilities to be raised through a syndication process. The debt financing will be contingent upon completion of a successful due diligence process, agreement of terms and conditions, credit approval and syndication. During the quarter, the MLA banks appointed their technical advisor and due diligence is continuing.

### Site visit by senior Members of Parliament

Demonstrating the strong support the Project enjoys from all levels of government, the Company was delighted to host a delegation of senior Members of Parliament at the Clean TeQ Sunrise Project in July. The delegation included Senator the Hon. Matthew Canavan, Minister for Resources & Northern Australia, the Hon. Michael McCormack MP, Deputy Prime Minister and Member for Riverina, and the Hon. Mark Coulton MP, Member for Parkes, as well as the Mayors of the Shires of Lachlan, Parkes and Forbes.



Figure 1 - Senior Members of Parliament, local Mayors and Clean TeQ representatives on site

The tour followed the completion of the Definitive Feasibility Study, which highlighted the global significance of the Clean TeQ Sunrise Project and its ability to generate substantial economic returns for shareholders as well as communities in the Central West region of New South Wales.

### **NI 43-101 Technical Report Completed for Clean TeQ Sunrise**

Following the release of the Definitive Feasibility Study in the previous quarter, and pursuant to its obligations as a TSX-listed company, Clean TeQ released a National Instrument 43-101 Technical Report (NI 43-101) relating to Clean TeQ Sunrise titled Sunrise Nickel Cobalt Project, New South Wales, Australia NI 43-101 Technical Report (the “**Technical Report**”). The Technical Report, prepared independently by SRK Consultants, supported the outcomes of the DFS which demonstrated the Project’s strong technical and economic potential.

The full Technical Report was released on 7 August 2018 and is available on the Clean TeQ website.

### **Pilot Plant Operation**

During the quarter, Clean TeQ’s technical team successfully conducted a test work program at the pilot plant in Perth. The objective of the test work was to gather additional operating and detailed design data prior to the project entering the engineering phase, and to provide the operational readiness team a valuable opportunity to deepen their understanding of the flowsheet.

A full suite of results is currently being generated however preliminary data has again confirmed the very high metal extractions and recoveries and reduced risks that the Clean TeQ process flowsheet brings to the production of battery-grade nickel and cobalt sulphates from nickel laterites. In some cases, performance has surpassed the base case operating assumptions used in the Definitive Feasibility Study and recently released NI 43-101 Technical Report.

## **CLEAN TEQ WATER**

Clean TeQ Water further progressed delivery of its existing contracts, with a number of projects approaching completion over the next 6 months.

### **Oman – Waste water treatment project**

As previously announced, construction of the Clean TeQ waste water treatment plant was completed in May 2018 and first stage cold commissioning was completed in June 2018. Construction of the mineral processing plant, to which the Clean TeQ waste water treatment plant is attached, was completed during the third quarter. The Company is

currently waiting for the mineral processing plant to be fully commissioned before adequate waste water can be available for Clean TeQ to complete final commissioning and hand over. This final commissioning phase is expected during the fourth quarter of 2018.

### **Africa – Metals processing plant in Democratic Republic of Congo**

In the Democratic Republic of Congo, Clean TeQ is currently delivering a +A\$2 million contract to design, supply and commission a metals processing plant using the Company's proprietary Continuous Ion Exchange processing. As with the Oman contract, the project is being delivered to Multotec Process Equipment (Pty) Limited, Clean TeQ's South African based distributor. During the quarter, works focused on procurement and manufacturing with construction on site expected to commence before the end of 2018.

### **Australia – Fosterville Gold Mine waste water treatment project**

At the Fosterville Gold Mine, Clean TeQ has been engaged to design, supply and commission a 2 million litre-per-day Clean TeQ DeSALx® mine water treatment plant. During the quarter, the major equipment for the precipitation plant had been installed (see Figure 2), with construction expected to continue through until the end of 2018, before commissioning in early 2019.

The plant is designed to deliver a more sustainable water management solution by treating mine process water for reuse in the mine operations.



Figure 2: Clean TeQ's mine water treatment plant under construction at the Fosterville Gold Mine, Victoria

## **China – Joint Venture with Hoyo for municipal waste water treatment**

Clean TeQ's work towards delivering a 13,000 tonne per day waste water treatment plant in Qi County, China, has slowed due to Chinese administrative and regulatory approvals processes. The project, to be delivered via a joint venture between Clean TeQ and Jinzhong Hoyo Municipal Urban Investment & Construction Co., Ltd (**Hoyo**), is now construction ready with completion of detailed design and the necessary environmental assessments. With a ban on construction activity during the winter months (until 1 April 2019), construction of the Clean TeQ plant is now expected to commence during the second quarter of 2019.

## **Clean Bio® Encapsulated Bacterial technology**

Clean TeQ expanded its water technology platform during the quarter with the acquisition of an encapsulated bacteria technology from LentiKats, comprising technology licences and a production plant for the manufacture of encapsulated bacteria 'CleanBio lenses'.

The LentiKats technology is focused on encapsulated bacteria, which is useful in water treatment applications given the bacteria's ability to break down and remove over 90% of harmful nitrates and ammonia from waste water. Through the application of the LentiKats technology, the bacterial organisms are coated in a PVA-gel, providing protection against other chemicals in the water stream which would otherwise harm the bacteria.

CleanBio lenses are an important and high potential reagent used in Clean TeQ's existing proprietary water purification processes. The acquisition of the LentiKats technology will enable Clean TeQ to produce CleanBio lenses in-house, removing the reliance on using a third-party supplier and improving reliability, quality control and reducing cost. Internal production will also deliver improved efficiency by further customizing the product for different uses.

Clean TeQ is setting up a production facility for CleanBio lenses in China for applications in its growing pipeline of global projects including its project with the Hoyo Water treatment company.

## **Business Development**

Clean TeQ Water continued to develop new opportunities during the quarter, with several feasibility and pilot programs underway to allow clients to assess the benefits of Clean TeQ's ion exchange technology.

In particular, a pilot demonstration plant has been shipped to site in Northern China, with commissioning, testing and demonstrations to be undertaken during the fourth quarter

of 2018. The pilot plant is designed to remove hardness from brines produced by reverse osmosis.

## TECHNOLOGY DEVELOPMENT

Clean TeQ's technology development team remained focused on development of CIF<sup>®</sup> for water treatment and metals recovery, graphene oxide nanofiltration membranes and encapsulated bacteria technology.

### Graphene Oxide Membranes

Following encouraging progress towards development of a graphene-oxide based water filtration membrane, Clean TeQ announced its intention to form an incorporated joint venture with Ionic Industries Pty Ltd (**Ionic**).

Over the past 18 months, Clean TeQ and Ionic have successfully developed a process to manufacture high purity graphene oxide that can be applied to a membrane support to create a highly efficient graphene nanofiltration membrane (**GO-Membrane**). Significantly, the GO-Membrane manufacturing process has been demonstrated on commercial scale industrial equipment.

The joint venture with Ionic will be structured as a newly incorporated joint venture (JV Co) owned 75% by Clean TeQ and 25% by Ionic. Ionic will grant a sub-licence of its GO technologies to JV Co in the field of water purification. Both partners will fund pro-rata expenditure in JV Co to progress development and commercialization of the technology.

Once established, JV Co will be focused on achieving commercial scale production of graphene oxide and GO-Membranes, as well as water purification modules targeted at wholesale and retail customers.

## CORPORATE

In late September, Clean TeQ announced the appointment of Judith Downes to the Board as a Non-Executive Director. Judith has over 20 years of senior management experience, with a strong background in finance, audit and risk management with large ASX listed companies, as well as strong experience in governance, equity and debt markets, acquisitions, divestments and financial reporting.

Shortly after the end of the quarter the Company filed its Notice of Annual General Meeting. Details of the 2018 Annual General Meeting of Shareholders are below:

**Place of Meeting:** Stamford Plaza Melbourne, 111 Little Collins Street, Melbourne  
**Date:** Thursday, 22<sup>nd</sup> November 2018  
**Time:** 10.00am AEDT



The Notice of Annual General Meeting has been mailed to shareholders and includes details of the resolutions which will be voted on at the meeting as well as proxy voting instructions.

At the end of the quarter, the Company's cash balance was A\$134.4 million.

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## **FORWARD-LOOKING STATEMENTS**

Certain statements in this Quarterly Activities Report constitute “forward-looking statements” or “forward looking information” within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of the Company, the Clean TeQ Sunrise Project, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. These statements reflect the Company’s current expectations regarding future events, performance and results, and speak only as of the date of this Quarterly Activities Report.

Statements in this Quarterly Activities Report that constitute forward-looking statements or information include but are not limited to, statements regarding: the completion of project financing; the timing and commencement of construction at the Project; the making of a final investment decision in early 2019; finalisation of product offtake agreements; estimates for construction, commissioning and ramp up timing at the Project, including first production in mid-2021; and anticipated construction and/or completion of the various Clean TeQ Water projects.

Readers are cautioned that actual results may vary from those presented.

All such forward-looking information and statements are based on certain assumptions and analyses made by Clean TeQ’s management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believe are appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward looking information or statements including, but not limited to, unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; the failure of parties to contracts to perform as agreed; changes in commodity prices; unexpected failure or inadequacy of infrastructure, or delays in the development of infrastructure, and the failure of exploration programs or other studies to deliver anticipated results or results that would justify and support continued studies, development or operations.

Other important factors that could cause actual results to differ from these forward-looking statements also include those described under the heading “Risk Factors” in the Company’s most recently filed Annual Information Form available under its profile on SEDAR at [www.sedar.com](http://www.sedar.com).

Readers are cautioned not to place undue reliance on forward-looking information or statements.

Although the forward-looking statements contained in this Quarterly Activities Report are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this Quarterly Activities Report and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this Quarterly Activities Report.

## Appendix 4C

### Quarterly report for entities subject to Listing Rule 4.7B

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

**Name of entity**

CLEAN TEQ HOLDINGS LIMITED

**ABN**

34 127 457 916

**Quarter ended ("current quarter")**

September 2018

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	1,508	1,508
1.2 Payments for		
(a) research and development	(140)	(140)
(b) product manufacturing and operating costs	(1,654)	(1,654)
(c) advertising and marketing	(226)	(226)
(d) leased assets	(120)	(120)
(e) staff costs	(3,189)	(3,189)
(f) administration and corporate costs	(5,173)	(5,173)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	863	863
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(8,132)</b>	<b>(8,132)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	(1,053)	(1,053)
(b) businesses (see item 10)	-	-
(c) investments	(376)	(376)

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
(d) intellectual property	(250)	(250)
(e) other non-current assets	(8,613)	(8,613)
<b>2.2 Proceeds from disposal of:</b>		
(a) property, plant and equipment	-	-
(b) businesses (see item 10)	-	-
(c) investments	-	-
(d) intellectual property	-	-
(e) other non-current assets	-	-
<b>2.3 Cash flows from loans to other entities</b>	-	-
<b>2.4 Dividends received (see note 3)</b>	-	-
<b>2.5 Other (provide details if material)</b>	-	-
<b>2.6 Net cash from / (used in) investing activities</b>	<b>(10,292)</b>	<b>(10,292)</b>

<b>3. Cash flows from financing activities</b>		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	141	141
w3.4 Transaction costs related to issues of shares, convertible notes or options	-	-
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)	-	-
<b>3.10 Net cash from / (used in) financing activities</b>	<b>141</b>	<b>141</b>

<b>4. Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1 Cash and cash equivalents at beginning of quarter/year to date	152,637	152,637
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(8,132)	(8,132)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(10,292)	(10,292)
4.4 Net cash from / (used in) financing activities (item 3.10 above)	141	141

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of quarter</b>	<b>134,354</b>	<b>134,354</b>

<b>5. Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>	
5.1	Bank balances	134,354	152,637
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>134,354</b>	<b>152,637</b>

<b>6. Payments to directors of the entity and their associates</b>	<b>Current quarter \$A'000</b>	
6.1	Aggregate amount of payments to these parties included in item 1.2	184
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3	Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

<b>7. Payments to related entities of the entity and their associates</b>	<b>Current quarter \$A'000</b>	
7.1	Aggregate amount of payments to these parties included in item 1.2	-
7.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3	Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

8. <b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

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9. <b>Estimated cash outflows for next quarter</b>	\$A'000
9.1 Research and development	(613)
9.2 Product manufacturing and operating costs	(295)
9.3 Advertising and marketing	(101)
9.4 Leased assets	(120)
9.5 Staff costs	(2,015)
9.6 Administration and corporate costs	(671)
9.7 Syerston Project Costs	(19,170)
<b>9.9 Total estimated cash outflows</b>	<b>(22,985)</b>

10. <b>Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above)</b>	Acquisitions	Disposals
10.1 Name of entity	N/A	N/A
10.2 Place of incorporation or registration	N/A	N/A
10.3 Consideration for acquisition or disposal	N/A	N/A
10.4 Total net assets	N/A	N/A
10.5 Nature of business	N/A	N/A

