

Melbourne, 11 January, 2016

## Syerston Scandium Feasibility Study Update

Clean TeQ Holdings Limited (**ASX: CLQ**) is pleased to provide an update on the progress of the Feasibility Study (“**FS**”) for the Syerston Scandium Project in central New South Wales. The FS is currently underway and on track for completion at the end of Q2, 2016. The FS will verify the economic parameters of the Project outlined in the Scoping Study completed in May 2015 and be used as the basis for a decision to proceed with Project construction as well as development financing.

### **Syerston Scoping Study**

Clean TeQ completed a scoping study in May 2015 to determine the broad project economics of a scandium operation at Syerston. The study evaluated the use of high pressure acid leach (“**HPAL**”) followed by Clean TeQ’s Resin-in-Pulp (“**RIP**”) technology for scandium extraction with a purification process to produce a high quality scandium oxide ( $\text{Sc}_2\text{O}_3$ ) product.

The Scoping Study proposed a base case conceptual mine plan as follows:

- 64,000tpa processing plant throughput at an average scandium head grade of 510g/t;
- Average scandium oxide production of 42.5tpa; and
- Assumed mine life of 20 years.

The Scoping Study cost estimate completed by CPC Project Design, and internal financial analysis indicated a capital cost estimate of AUD\$78.4M, an average operating cost of USD\$446/kg  $\text{Sc}_2\text{O}_3$ , a post-tax NPV of AUD\$279M and a post-tax IRR of 53%<sup>1</sup> with a 8% discount rate applied.

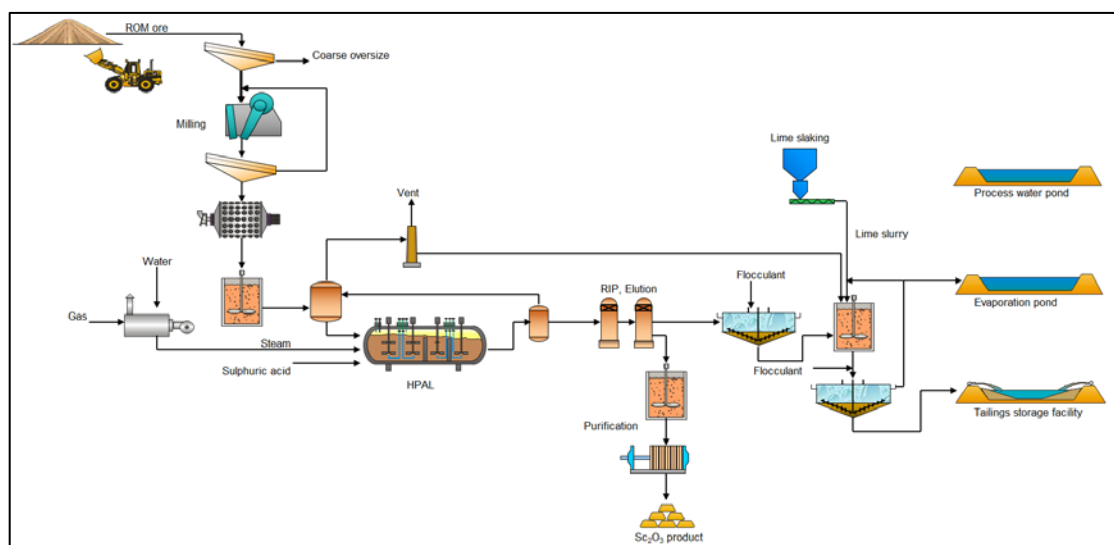


Figure 1: Scoping Study Flowsheet of Syerston Scandium Processing Plant

<sup>1</sup> For details on the Scoping Study, please see Clean TeQ’s ASX Announcement dated 25 May, 2015.

The Scoping Study was developed on a Measured, Indicated and Inferred Resource<sup>2</sup>, completed by OreWin Pty Ltd (“OreWin”), based on over 1,200 historical drill holes. The Scoping Study was also supported by information drawn from two feasibility studies completed on Syerston in 2000 and 2005 by SNC-Lavalin, both investigating a 2 to 2.5Mtpa operation recovering nickel and cobalt.

Subsequent to completion of the Scoping Study in May 2015, Clean TeQ has completed two drilling programs<sup>3</sup> to better define the high grade scandium zones on the Syerston deposit. Additionally, significant metallurgical test work and a large scale demonstration<sup>4</sup> program of works have been completed on Syerston ore to confirm the process parameters for the project.



*Figure 2: Drill rig on site at Syerston and Clean TeQ's Demonstration Plant in Perth, Australia*

### **Syerston Feasibility Study**

The FS is expected to confirm the financial performance of the Project based on the technical and financial assumptions adopted in the Scoping Study, with detailed investigation and optimisation of all aspects of the Project including mining, processing plant, infrastructure, operations and economics.

The key objective of the FS is to determine the capital and operating costs of a +20-year operation producing an average of 40tpa  $Sc_2O_3$  to an accuracy of  $\pm 15\%$ . An important outcome of the study is to design the scandium mine and plant within the existing footprint of the historical nickel/cobalt development approvals while also allowing for the potential development of a nickel and cobalt operation at a later time.

### **Geology & Mining**

OreWin has been selected as the geology and mining consultant for the FS. OreWin will combine the current scandium Resource with the drilling data from the two 2015 drilling programs to produce an updated scandium resource model. Based on this model a revised scandium resource statement will be produced.

<sup>2</sup> For further details on the Scandium Resource see ASX announcement dated 23 Jan 2015

<sup>3</sup> For further information on the drilling campaigns and results see the ASX announcements dated 25 Jun 2015 and 21 Dec 2015.

<sup>4</sup> For information on the Scandium Demonstration Plant, please see our video at: <https://youtu.be/3xW5M2s2Aag>

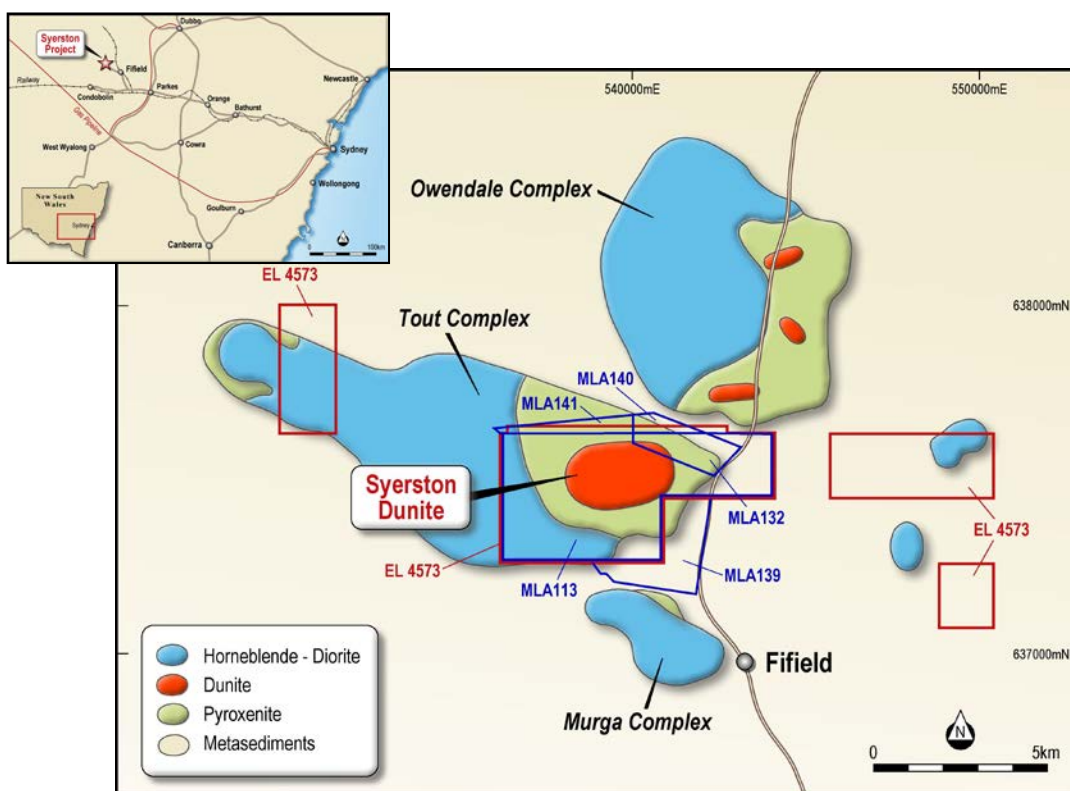
Based on the revised scandium resource model, mining studies will be undertaken. Pit optimisation studies will focus on determining optimal pit dimensions and strip ratios and estimate ore reserves. The studies will determine the following:

- Optimal production rates;
- Scheduling parameters;
- Mine equipment selection; and
- Overburden stockpile design.

Detailed mine schedules will be prepared for:

- FS mine and project designs;
- Mineral reserve statement including mining dilution impacts; and
- Mining capital and operating cost estimation.

For more information on OreWin, please visit: [www.orewin.com](http://www.orewin.com).



**Figure 3: Syerston Project Location and Geological Setting**

### **Processing Plant, Infrastructure and Tailings**

GR Engineering Services Ltd (“GRES”) has been selected as the lead engineer for the FS and will complete the engineering work, focusing on design of the processing plant from ROM pad to tailings slurry discharge to the tailings storage facility. The engineering study will also include power generation, fuel storage and handling, reagent supply and storage, water supply from Syerston’s established borefield to

the south of the Project area, as well as all offices, workshops, warehouses and supporting infrastructure required for the operation of the facility.

For more information on GR Engineering, please visit: [www.gres.com.au](http://www.gres.com.au).

Due to the specialist nature of the HPAL process, SNC-Lavalin (“SNCL”) has been selected to provide the design inputs and optimisation of the HPAL section of the plant. SNCL has extensive experience with HPAL design and construction, as well as a detailed understanding of the metallurgical aspects of Syerston through the two previous feasibility studies completed by SNCL for the Project.

For more information on SNC-Lavalin, please visit: [www.snclavalin.com](http://www.snclavalin.com).

Golder Associates Pty Ltd (“Golder”) has been selected as the engineer for the tailings storage facility (“TSF”) and to undertake geotechnical studies for the mine and process plant/infrastructure. Golder completed the geotechnical and TSF design on the previous two Syerston feasibility studies. Design outputs from Golder will be used by GRES in the capital and operating cost estimate.

For more information on Golder, please visit: [www.golder.com.au](http://www.golder.com.au).

The engineering studies will determine the following:

- Project design criteria;
- Equipment specifications;
- Processing plant and infrastructure layout and footprint; and
- Organisational structure requirements for the operation of the site.

Engineering outputs will be prepared for processing plant capital and operating cost estimation.

### **Environment & Community**

An Environmental Impact Statement (“EIS”) was completed in 2000 and Development Consent (“DC”) granted in 2001 for the Project. Minor Development Consent modifications have been approved since 2001 and another modification is required for the addition of scandium oxide as a product as part of the FS. Resource Strategies Pty Ltd (“RSPL”) has been selected to provide input into the environmental, community and permitting sections of FS document and consent modification. RSPL completed the EIS for Syerston for the Project’s previous owners.

For more information on RSPL, please visit: [www.resourcestrategies.com.au](http://www.resourcestrategies.com.au).

The FS will include a summary of key plans and permits required to be obtained once the Project proceeds to implementation. These items will be added to the overall Project Implementation Schedule.

### **Capital and Operating Cost Estimates & Financial Performance**

A detailed work breakdown structure will be generated for the Project as part of the FS, including an indicative development schedule. This will allow a comprehensive capital and operating cost estimate to be developed to a typical final feasibility study ( $\pm 15\%$ ) level of accuracy.

Financial modelling will be undertaken to determine the economic performance of the proposed Project, including a sensitivity analysis to test a range of key project variables.



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**About Clean TeQ Holdings Limited (ASX: CLQ)** – Based in Melbourne, Clean TeQ, using its proprietary Clean-iX<sup>®</sup> continuous ion exchange technology, is a leader in metal recovery and industrial water treatment. Clean TeQ owns the Syerston Scandium Project, located in New South Wales. The Syerston Project, globally one of the largest and highest grade scandium deposits, is expected to be the world's first dedicated scandium mine.

For more information about Clean TeQ please visit the Company's website at [www.cleanteq.com](http://www.cleanteq.com).

*This release may contain forward-looking statements. The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain material factors or assumptions were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information.*