

ASX

ANNOUNCEMENT



POSITIVE RESULTS FROM TICK HILL TAILINGS METALLURGICAL WORK

Diatreme Resources Limited is an Australian based diversified mineral explorer with significant projects in WA and QLD.

The Board and senior personnel exhibit wide experience, ranging through the exploration, development and financing phases of resource project management.

Australian Securities Exchange
Codes: DRX, DRXO

Board of Directors - Non-Executive:
William Wang - Chairman
Andrew Tsang
Daniel Zhuang

Executive:
Neil McIntyre – Chief Executive
Tuan Do – CFO & Co. Secretary
Ian Reudavey – Chief Geologist

Key Projects:

- Cyclone Zircon Project
- Tick Hill Gold Project
- Cape Bedford Silica/HMS Project
- Clermont Copper Project

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HIGHLIGHTS

- * **First stage metallurgical testwork shows significant water-soluble gold content (11-15% of gold) in Tick Hill tailings samples, with cyanide leach testwork confirming gold highly amenable to leaching**
- * **Cyanide leach testwork on washed tails residue reground to <15um reported 95 – 98% extraction (recovery) of gold.**
- * **Further metallurgical testwork underway to determine optimal grind size to balance gold extraction and energy input.**
- * **Head grades for bulk samples calculated at 1.27 g/t Au for the project's eastern tailings paddock and 0.71 g/t Au for western tailings paddock, reconciling with estimated average grades of 1.33 g/t Au and 0.77 g/t Au from bulk drilling samples**

Diatreme Resources Limited (ASX:DRX) announced today another boost for its Tick Hill Gold Project, with first stage metallurgical testwork results strengthening prospects for the reprocessing of tailings from the former mine near Mount Isa, Qld.

Diatreme's CEO, Mr Neil McIntyre said the latest tests added to recent positive infill drilling results which confirmed significant gold mineralisation in the tailings dam at the historically rich mine.

"These results have strengthened confidence in the project's potential, showing that gold in the tailings can be readily extracted by cyanide leaching, and we are now conducting further metallurgical studies to determine the optimal grain size for re-grinding," Mr McIntyre said. "Amid rising Australian dollar gold prices, Diatreme is determined to unlock this project's potential to deliver cash flow for shareholders."

TICK HILL TAILINGS METALLURGICAL WORK

Two bulk samples, one from each tailings paddock, were compiled by riffle splitting exploration drill samples from the infill drilling program undertaken by Diatreme Resources at the Tick Hill Gold Project in September 2015. For this first stage metallurgical work, samples from a single N-S oriented drill line through the centre of each tailings paddock were composited to give an approximate 50kg bulk sample (see Figure 1). Comp 1 is from the eastern tailings paddock and Comp 2 from the western tailings paddock.

As the presence of cyanide had been noted in previous environmental sampling of the tailings material, a 20kg sub-sample of the bulks was re-pulped with water for 24 hours and then pressure filtered. Analysis of the solids and solution returned assays showing gold distribution in solution of 11% for Comp 1, and 15% for Comp 2.

By combining assays from the re-pulping work with earlier assays of the as-received bulk sample, a calculated head grade of 1.27 g/t Au for Comp 1 and 0.71 g/t Au for Comp 2 can be calculated. This correlates well with mass weighted average grades of the included drill samples of 1.33 g/t Au for Comp 1 and 0.77 g/t Au for Comp 2.

Cyanidation leach testwork on the washed tailings residue was undertaken, with generally low gold extraction rates of 24% for Comp 1 and 32% for Comp 2. However, the low extraction is considered consistent with 'as-received' tailings material, and sizing analysis indicated that gold distribution is weighted towards the coarser fractions of the tailings material, with 70% of the gold contained in the +75µm fractions of both Comp 1 and Comp 2.

An ultra-fine re-grind of the samples was then undertaken, with Comp 1 returning 95% gold extraction from a 24 hour leach on a sample with a p80 of 14 µm, and Comp 2 returning 98% gold extraction from a 24 hour leach on a sample with a p80 of 11 µm. For both samples very high levels of gold extraction were achieved within 4 hours (89% and 94% respectively).

The work completed to date indicates that very high levels of gold extraction can be achieved by cyanide leaching, and this coupled with a significant proportion of water soluble gold provides encouragement for efficient processing of the Tick Hill tailings material. Further metallurgical work is now being undertaken to determine an optimal grain size to balance leach extraction rates with energy requirements for regrinding of the tailings.

Diatreme's Mr McIntyre said: "Tick Hill is showing excellent initial results, and with its history as one of Australia's highest grade mines we see an outstanding opportunity for our Company to develop a profitable mining operation. Importantly, this adds to our attractive portfolio of mining projects, led by our flagship Cyclone Zircon Project, and we are focused on delivering maximum value for our loyal shareholders."



Neil McIntyre
CEO

Competent Person Statement

The information in this report, insofar as it relates to Exploration Results is based on information compiled by Mr Ian Reudavey, who is a full time employee of Diatreme Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Reudavey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of 'The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Reudavey consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

TICK HILL BACKGROUND

The Tick Hill Gold Mine operated from August 1991 through to March 1995, with commissioning of the site processing plant in December 1991. The plant comprised crushing and milling circuits delivering a product with a p80 of 70µm to a CIL circuit. Tailings were discharged in to a tailings dam comprising two paddocks of a “turkeys nest” construction in which a perimeter embankment with a clay core retains tailings. Wall heights range from 6m to 10.5m. Since decommissioning the surface has been capped and both the surface and batters seeded, with good vegetation cover now present.

The total published production for the Tick Hill Gold Mine was 705,000t at 22.6 g/t Au for 15,900kg Au at 97% gold recovery. Some initial high grade open pit ore was mined and transported to the Carpentaria Gold operations at Ravenswood to provide early cash flow to the project, which has been estimated at 20,000t based on the reported 19,000oz produced at Ravenswood in the 1991/1992 financial year (with head grades for that year reported as 30.2 g/t Au).

Diatreme’s exploration drilling in July and September 2015 gave a combined grade of 1.08 g/t Au for the tailings dam, with the eastern paddock averaging 1.42 g/t Au and the western paddock 0.81 g/t Au. The tailings dam covers approx. 8 ha and could contain between 600,000-650,000t of tailings material, based on historical records.



Figure 1: Location Map Tick Hill Gold Project – Tailings Dam bulk sample drill holes on Google Earth