



ASX RELEASE

23 April 2019

INDICATIVE OFFTAKE OFFER RECEIVED FOR RAW TOPAZ CONCENTRATE

Chase Mining Corporation Limited ("CML" or "Company") is pleased to announce that it has received a conditional written indicative future offtake offer for the **supply of between 2,000 and 5,000 tonne of topaz concentrate per month.**

This follows exhaustive quality testing of a bulk sample of the nominally 97% topaz concentrate by an international abrasives supply company as a high-pressure water cutting abrasive feedstock. The material supplied by the Company is representative of what would be produced by a proposed gravity recovery plant from the present flowsheet with a minus 1mm silixite feed from Torrington.

The main product quality condition that must be met is the optimisation of the topaz concentrate to ensure that its free silica (quartz) content is <1% to meet respiratory health concerns to ensure a saleable abrasive product is produced.

The Company has been aware of this requirement hence its ongoing topaz concentrate clean-up (free silica / quartz removal) testwork that is being undertaken which includes for example, experimentation with modified electrostatic methods after minor pH changes; and, Heavy Media Separation (HMS) to similarly remove the quartz from the topaz. However, these and other laboratory successes have not proven economically viable on a commercial scale given the relatively low value of abrasive products.

In a recent development in conjunction with Chris Browne who is a consultant extractive metallurgist (with +45-years' experience in the mineral sands industry successfully) it was decided that air-separation may work on the dried 0 to 1mm spiral topaz concentrate product to remove the quartz given its density is 2.65 and that of topaz (the product) is 3.55.

Contact was made with Satake Australia in Penrith who produce and market Air Gravity Tables for grain and other seed cleaning purposes (mainly) and they completed non-quantitative testwork on the topaz using a small demonstration plant they have on site. Although not optimised for mineral separation, it was clear that the dark coloured impurities (tungsten and monazite) reported to the top of the table and the quartz to the bottom portion. The centre five samples (top is on left) from the two tests are displayed in the photo in **Figure 1** below. Microscope studies of these 10 samples indicate that the topaz concentrate is largely free of quartz although there are remaining dark metallic impurities. The samples were not processed though magnetic separation to remove those impurities.

These initial and very basic tests indicated that air separation may be a commercial option for the removal of the free silica (quartz) content of the topaz concentrate to below 1%.



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Figure 1: Satake Air Gravity Table Testwork

Chris Browne and associate Craig Clark then refurbished a larger circa 1950 air table that was in storage at Currumbin Minerals and undertook a range of trial-and-error detail studies (remembering that this equipment was pre-digital control era, see **Figure 2**).



Figure 2: Air Gravity Table Testwork

Once the correct decking cloth was sourced and the correct airflow and table angle settings were determined, the table performed very well as outlined below.

Two stages of trials were completed, the first being quantified repeat tests on an approximately 8kg sample to establish certain experimental parameters. The later or second tests were carried out on a 2.2 tonne bulk sample at a feed rate of approximately 0.25 tonne/hour. Both sets of data below are from one pass processing and the recovery of ~55% of the contained topaz at <1% silica will be increased by reprocessing of the remaining topaz product. What has been proven though is that air table clean-up to remove free silica from the topaz concentrate for abrasive applications does work.

Air Table Trials on Minus 1 mm Topaz-Tungsten Spiral Concentrate – Test Procedure

The magnetic mineral content (predominantly tungsten in the form of ferberite and minor cerium rich monazite) of the feed and then of each product fraction was determined by passage over a Reading Induced Roll Laboratory Magnetic Separator, using a standard separation technique at 18,000 Gauss.

The first air table test was done on a **~8kg sample**. The bulk of the tungsten concentrate was clearly delineated in the top 20% of the table discharge. The balance of the magnetics tended to report to an increasing degree in the lower cuts. It should be noted that the feed used during these tests consisted of unsized minus 1mm topaz and tungsten concentrate indicative of what would be produced at Torrington once in operation.

The non-magnetics from this procedure was then analysed for silica, using a conventional bromoform separation procedure. These separation results are portrayed in **Table 1** and show that recovery of >52.9% of the contained topaz in the concentrate feed can be expected with 1% or less contained free silica (quartz). Only single pass tests were conducted, and it is assumed that reprocessing of the other cuts will result in higher topaz recoveries containing <1% silica.

Table 1: Air Table Test – 1

CUT	Weight (kg)	Weight Distribution (%)	Cumulative Weight (kg)	Cumulative Weight (%)	Cumulative % Silica content
1 (Top)	1.770	23.1	1.77	23.1	0.0
2	0.730	9.5	2.50	32.6	0.8
3	1.549	20.3	4.05	52.9	0.6
Lower cuts	3.600	47.1	7.65	100.0	
TOTAL	7.649	100.0			

In the second air table test a **+2 tonne bulk sample** of the Spiral Concentrate was processed over the same laboratory scale air table with different cloth decking at a controlled rate of approximately 0.25 tonnes/hour. The discharge was split into 7 fractions (**Figure 2** above).

The Bromoform separation results below show that at least a 55% recovery of the contained topaz in the concentrate feed with <1% contained free silica (quartz) can be realised. Again, only single pass tests were conducted, and it is assumed that reprocessing of the other cuts will result in higher topaz recoveries containing <1% silica. The results from these tests are shown **Table 2**.

Table 2: Air Table Test - 2

Table Cut	Distribution By Table Cut			Cumulative weight Distribution		Cumulative % Silica Content
	Total Weight	Weight Silica	Silica Grade (%)	Total	Silica	
1 (top)	2.6	0.0026	0.1	2.6	0.0026	0.1
2	14.9	0.0149	0.1	17.5	0.0175	0.1
3	17.8	0.1958	1.1	35.3	0.2133	0.6
4	11.8	0.2006	1.7	47.1	0.4139	0.9
5	7.6	0.1216	1.6	54.7	0.5355	1.0
6	10.2	1.7136	16.8	64.9	2.2491	3.5
7	35.1	3.7206	10.6	100.0	5.9697	6.0
TOTAL	100.0	5.9697	6.0			

Future planned testwork

The above two tests confirm that at least 50% of the topaz at a silica content meeting blasting media health specification is achievable on an air table. However, the yield can probably be considerably increased by repassing the balance of the topaz over a second table.

A commercial size air table has been built (**Figure 3**) and will be available to optimise the testwork at a future date.

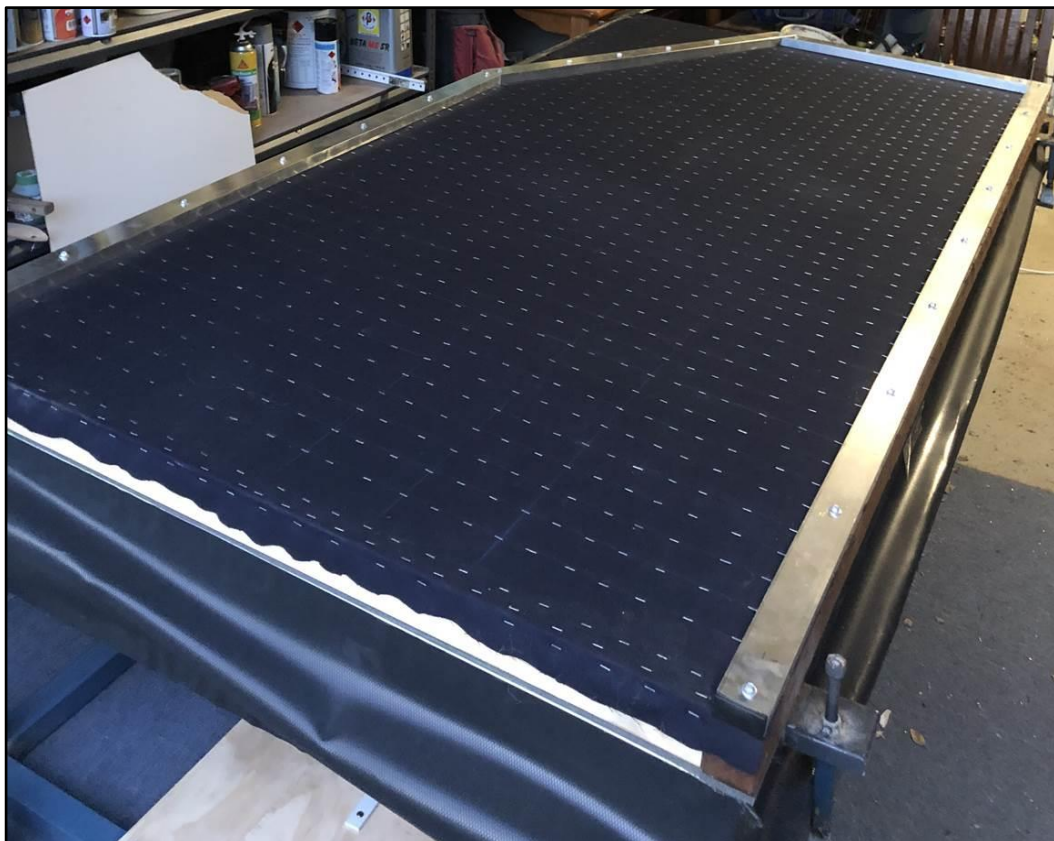


Figure 3: Newly constructed commercial Size Air Gravity Table Testwork

For, and on behalf of, the Board of Directors of Chase Mining Corporation Limited:

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Chase Mining Corporation Limited

23 April 2019

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