

## 1 EXECUTIVE SUMMARY

Ektimo was engaged by Pentarch Pty Ltd to determine emissions to air from the Wet Scrubber (DP4) at the Oaklands, NSW plant.

Monitoring was performed as follows:

Location	Test Date	Test Parameters*
DP4 – Wet Scrubber	15 June 2017	Hydrogen chloride, solid particles, fine particulate matter (PM <sub>10</sub> & PM <sub>2.5</sub> via particle sizing analysis), metals (Type 1 & 2) including zinc, nitrogen oxides, sulfur dioxide, carbon monoxide, carbon dioxide, oxygen, volatile organic compounds (VOC)

\* Flow rate, velocity, temperature and moisture were determined unless otherwise stated.

The sampling methodologies chosen by Ektimo are those recommended by the NSW Office of Environment and Heritage (as specified in the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, January 2007*).

All results are reported on a dry basis at STP. Unless otherwise indicated, the methods cited in this report have been performed without deviation.

Plant operating conditions have been noted in the report.

## 2 LICENCE COMPARISON

The following table compares the results with the limits referenced in NSW EPA Licence 11947 (last amended on 12/06/2015). Analytes highlighted in green are below the licence limits.

EPA	Location Description	Parameter	Units	Licence limit	2017 Detected values
Point 4	Wet Scrubber	Hydrogen chloride	mg/m <sup>3</sup>	100	<0.02
		Solid particles	mg/m <sup>3</sup>	50	21
		Type 1 & 2 substances in aggregate	mg/m <sup>3</sup>	1	≤0.11
		Zinc	mg/m <sup>3</sup>	3	0.11