



Polar Sapphire Marketing & Sales

11 April 2019

ASX Code: PUA, PUAOC

Pure Alumina target, Polar Sapphire, receives strong sales demand from outstanding HPA test results

Numerous sales orders received for 5N HPA produced by Polar Sapphire

Pure Alumina Limited (ASX: PUA) is pleased to announce that Polar Sapphire, the Canadian company which is currently being acquired by Pure Alumina (see ASX release dated March 21, 2019), has received a number of orders for its top-quality 5N high purity alumina (HPA).

The sales orders were received from a number of global sapphire producers as part of the final stage of qualifying Polar's product or from Polar's existing, qualified customers.

The customers represent a range of end-users, including LED lighting and optical lense manufacturers, all of which value the high purity and physical properties offered by Polar's 5N HPA.

One customer which is in the final stages of qualifying Polar's HPA product has sent for testing a sapphire boule grown with Polar's 5N HPA.

The test, undertaken by EAG Laboratories (shown in the attached appendix) show an extremely high-purity (6N) sapphire was achieved. The 6N sapphire will allow the customer to produce a higher-yielding boule than would be possible if it used alternative sources of HPA.

The continued demand and ongoing positive results from customers' qualification processes provide a very high degree of confidence that production from Polar Sapphire's planned commercial HPA plant will be in high demand.



Pure Alumina continues to see strong growth in the sapphire market from LED's and semiconductor wafers to optical markets and also in battery separator markets.

Upon successful completion of the Polar Sapphire acquisition, the planned construction of the commercial-scale production facility will see Pure Alumina become an HPA producer within 12 months capable of supplying the portfolio of customers which will have already qualified its HPA.

This will leave Pure Alumina well-positioned to supply the growing HPA market, with an initial target of 5,000tpa of production capacity and the ability to expand very quickly to meet future increases in demand.

Martin McFarlane
Managing Director

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Polar Sapphire

Polar Sapphire is a private venture capital funded cleantech company located in Ontario, Canada. Polar have developed a patented hydrochloric acid based process for making HPA using various feedstocks including aluminium metal. Polar currently manufacture and sell HPA powder, pellets and beads for various market segments. Polar's customers are reporting excellent quality results from our HPA.

Polar is managed by Scott Nichol who has more than 15 years experience successfully starting and building companies including 6N Silicon, Rand Corporation and Cymat Technologies that focus on high purity materials and metals for specialised high value end uses.

Pure Alumina Limited

Pure Alumina owns 100% of the high grade kaolin deposit at Yendon near Ballarat Victoria and has established a hydrochloric acid based process to extract Aluminium purify it and convert it to HPA. A pre-feasibility study of the Yendon HPA project completed in June 2018 produced robust technical and financial outcomes.

Pure Alumina has announced the acquisition of Polar Sapphire Ltd. Subject to a successful completion of the acquisition, Pure Alumina will become a producer of HPA within 12 months, with an initial targeted production capacity of 5,000tpa within 3 years.

Customer: **Polar Sapphire Ltd.**
Date: 4-Apr-19

P.O.#
Job # H0KBU319

Customer ID: **AI203**
NO ID

Sample ID: H190404001

[Rev: 2019-04-09 09:31:28]

Element	Concentration [ppm wt]	Element	Concentration [ppm wt]
Li	< 0.05	Pd	< 0.5
Be	< 0.05	Ag	< 0.5
B	< 0.05	Cd	< 0.5
C	-	In	< 0.5
N	-	Sn	< 0.5
O	Matrix	Sb	< 0.1
F	< 5	Te	< 0.1
Na	< 0.1	I	< 0.1
Mg	< 0.1	Cs	< 0.1
Al	Matrix	Ba	< 0.1
Si	< 0.1	La	< 0.1
P	< 0.1	Ce	< 0.1
S	< 0.5	Pr	< 0.1
Cl	< 0.1	Nd	< 0.1
K	< 1	Sm	< 0.1
Ca	< 0.5	Eu	< 0.1
Sc	< 0.05	Gd	< 0.1
Ti	< 0.05	Tb	< 0.1
V	< 0.05	Dy	< 0.1
Cr	< 0.5	Ho	< 0.1
Mn	< 0.05	Er	< 0.1
Fe	< 1	Tm	< 0.1
Co	< 0.05	Yb	< 0.1
Ni	< 0.5	Lu	< 0.1
Cu	< 1	Hf	< 0.1
Zn	< 0.5	Ta	Electrode
Ga	< 0.1	W	< 20
Ge	< 1	Re	< 0.05
As	< 0.1	Os	< 0.05
Se	< 0.5	Ir	< 0.05
Br	< 0.5	Pt	< 0.1
Rb	< 0.05	Au	Interference
Sr	< 0.05	Hg	< 0.5
Y	< 0.05	Tl	< 0.1
Zr	< 0.1	Pb	< 0.1
Nb	< 50	Bi	< 0.1
Mo	< 20	Th	< 0.01
Ru	< 0.5	U	< 0.01
Rh	< 0.5		

The purity of this material is higher than 6N+.

B.LI (Analyst)

ISO 17025



Testing Cert. #2797.04

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Analyzed according to WI F rev. 11/10
Reviewed by _____

Linda Li