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'World Class' results from testing of Minotaur's Kaolin products

HIGHLIGHTS:

- Analyses of refined kaolin sample products show '*world class*' chemical purity and physical properties inherent in Minotaur's extensive kaolin deposit
- Independent tests confirm superior quality specifications compared to market leading products
- Global trade in the target markets for Minotaur's quality product range is around 10 million tonnes per year

Minotaur Exploration Limited ('Minotaur') (ASX: MEP) reports significant results from comprehensive physical, chemical and mineralogical characterisation of kaolin products derived from its kaolinised granite deposit, 100km south-east of Ceduna in South Australia (Figure 1). The mineralogical and material characterisation analysis was primarily undertaken by external, nationally recognised laboratories (Ian Wark Research Institute at Uni SA & CSIRO Land and Water), and using in-house expertise and equipment.

Specially selected kaolin grades produced at Minotaur's pilot plant were fully analysed using kaolin industry-standard analytical techniques to determine their commercial potential. Trial product grades were produced for analysis from several tonnes of bulk sample using simple, conventional processing techniques. Process objectives were to maximise recovery of kaolin from the ore to give cost-effective, high yield products.

Results clearly demonstrate that Poochera kaolin is a world-class deposit, having some unique properties that offer very high value to certain markets such as polymers and coatings. A range of kaolins was made with particle size distributions to match each target market sector. All have exceptionally good brightness and high purity that positions each to compete against the best kaolins on the global market. Refer to Table 1 below for comparative technical data.

Poochera Kaolin products are clearly competitive with global market leading products on key quality and purity measures and hence are potentially of commercial value.

Property	Kaolin Grade			
	Poochera Hydrous	Top Quality Hydrous Grade	Poochera Calcined	Top Quality Calcined Grade
Brightness (ISO)	90.7	87.0 – 89.0	92.4	90.0 – 92.0
Yellowness (CIE b)	0.6	3.0 – 5.0	0.9	1.0 – 3.0
Minus 2µm (wt%)	92	90 – 92	88	80 – 85
Kaolinite (wt%)	99	92 - 96	N/A*	N/A*
Quartz (wt%)	0.1	0.1	N/A*	N/A*
Fe_2O_3 (wt%)	0.30	0.50 – 0.70	0.34	0.60 – 0.80
Al_2O_3	43.6	38.0	49.7	43.3
TiO_2 (wt%)	0.07	1.2 – 2.0	0.08	1.5 – 2.0
Lead (ppm)	BDL**	20 - 60	BDL**	30 - 70

Table 1: Typical properties of Poochera Kaolin compared to current Market Leading products

*Notes: * N/A denotes Not Applicable, as calcined grades are amorphous due to the heating process*
*** BDL denotes Below Detectable Limit (<1.6 ppm)*

Commenting on the results Minotaur's managing director, Andrew Woskett, said "All kaolin grades tested are simple to produce, which suggests low production costs, potentially presenting this project with significant advantages as a commercial operation, relatively close to the Asian markets."

"We are mighty excited at Minotaur by these analyses, which are manifestly superior to market leading products and we will soon press on to a formal pre-feasibility assessment."

Representative samples from the pilot plant will be made available to selected customer targets during Q4 2010. Intensive off-take interest is anticipated. Market response will guide design of a commercial product range for the basis of a 2011 pre-feasibility study into future mining and processing options, some 45km from the coastal resort of Streaky Bay.

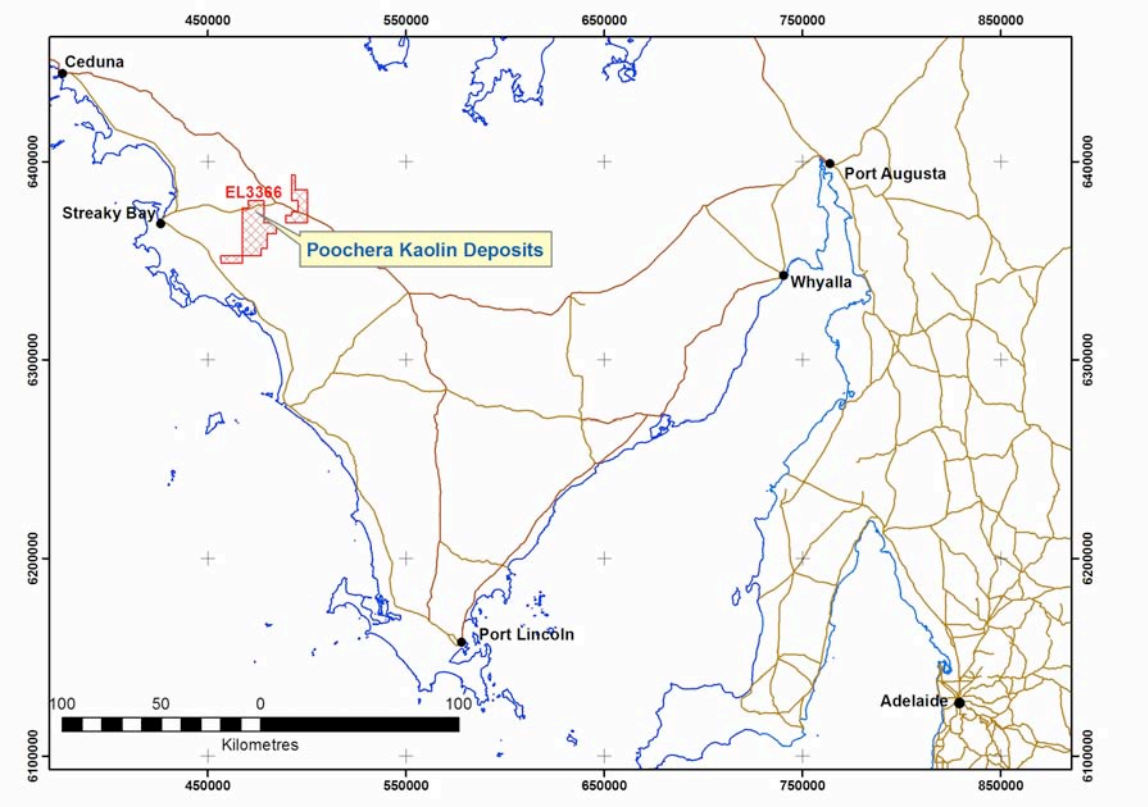

Figure 1: Location Map, Poochera kaolin deposits, South Australia

ABOUT KAOLIN:

Kaolin is a naturally occurring industrial mineral that is an essential ingredient in multiple and extremely diversified applications. As a refined product it exhibits unique properties that make it extremely suitable as a filler, extender, raw material and pigment in applications from paper coating and filling, paints, ink and polymers to food, medicine and ceramics. Global trade in high quality kaolin products, Minotaur's target market, is understood to be about 10 million tonnes per year.

End users source either hydrous or calcined kaolin according to the intended application. Hydrous product is produced through a wet process, dehydrated (capillary moisture is removed) and sold in lump form or as a milled powder. Hydrous material can be further refined through calcining; high temperature interstitial moisture removal and alteration (circa 1000 degrees C) of the crystalline structure into an amorphous phase, enhancing reflectance (opacity) and brightness.

Minotaur's kaolin deposit is classified as a primary kaolin deposit. Intensive, deep tropical weathering of granite (Figure 2) during the Eocene Epoch resulted in complete weathering of microcline feldspar, converting it into kaolinised granite (Figure 3). The decomposed granite has remained *in situ* as a typically 5-15m thick blanket over the unweathered granite. A thin veneer of younger, transported sand and clay sediments overlie the kaolin deposit.

Figure 2: Unweathered granite, surface polished; showing coarse quartz grains, minor mica and feldspar crystals intact

Figure 3: Weathered granite converted to raw kaolin, with residual quartz crystals embedded

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Information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Dr A. P. Belperio, who is a Director and full-time employee of the Company and a Fellow of the Australasian Institute of Mining and Metallurgy. Dr A. P. Belperio has a minimum of 5 years experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr A. P. Belperio consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.