



Final Report for Relinquishment of Part of EL35/2010

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Introduction

Duggans Pty Ltd have now carried out sufficient review of areas within EL35/2010 to enable relinquishment of part of the area and wish to do so according to the areas depicted on the accompanying map.

This report is aimed at enabling this process to take place.

Résumé of the Exploration Philosophy

This EL was originally taken up to investigate potential uses for tailings from previous mining and processing of kaolinite. Subsequently the EL was expanded to include unmined 'satellite' ore bodies.

The 'Exploration Licence' under which Duggans P/L hold the land area is essentially a means of retention of resources for which all the necessary exploration activity has been completed by others in the past and therefore further such activity is not likely to be required. Work therefore focusses on specifics regarding processing options rather than classical exploration field activities.

This issue has been discussed with DMR personnel previously, notably with David Geer and Ben Waining in July 2013. At that meeting it was agreed to continue with an exploration licence.

The 'ore bodies' are defined either as tailings or as unmined decomposed granite. The nature of the materials of interest are known and most of the 'exploration' activity will focus on more accurately defining the minerals present as well as their proportions and processing techniques to provide products of best value.

Although, at the present time, we see no reason to continue with 'classical' physical field work typically associated with exploration activity as would be expected for a 'greenfield' site, we wish to retain a minimal but sufficient area of the EL to ensure availability of reserves should economic processing techniques be identified.

Two grades of tailings have been identified;

- Coarse tailings consisting of silica crystals nominally 2 to 6mm in size and
- Fine tailings consisting of -2mm material.

Both of these grades contain remnant kaolin and feldspar. The coarse tailings have been dumped as dry stockpiles while the fine tailings are contained within a bunded pond structure having been pumped into it as a slurry.

Several, previously evaluated, small bodies of decomposed granite, (satellite ore bodies) have now been included within the extended EL to ensure continuity of supply. With regard to these ore bodies, it is believed that sufficient exploration activity has been undertaken and reported previously by others and further such activity is unwarranted as part of the activities associated with the EL.

The areas identified for relinquishment have been deemed to contain no significant reserves of unmined weathered granite.

Recently the focus has been concentrated on finding economic processing techniques that will ensure separation of the mineral species present to provide two main products, - metakaolin and high grade silica. These activities are ongoing.

Any subsequent mining activity of the tailings will not conform to conventional operations as it will be confined to the tailings dump areas and importantly, in the case of the fine tailings, will be conducted within an already bunded area which will prevent escape of kaolin rich run off to the wider environment. Future mining of the 'satellite ore bodies' will be subject to normal surface mining protocols and environmental controls.

Summary of Exploration Undertaken on the Surrendered Area

Field work associated with identification of areas to be relinquished was simply identification of the geographical locations of the satellite ore bodies, ie the location of areas Duggans Pty Ltd wished to retain.

The access, topographic features, drainage, visual impact, proximity to private land and to previously rehabilitated areas was also considered.

No land disturbance activity was undertaken apart from identification of sub soil type by surface sampling using hand tools only. These minor disturbances were immediately infilled.

Results of this work were not recorded and no analysis of samples was undertaken.

Details of Work Undertaken During the Final Reporting Period

This work does not pertain to exploration field work but to identification of processes/consultants able to assist with processing the identified ore types and marketing of the end products.

Much of this work must be considered 'commercial in confidence' as it involves marketing strategies as well as processes for which patents have been applied for.

Ongoing dialogue between Duggans P/L and potential consultants and interested parties continues.

Conclusions as to the Nature and Distribution of Mineralisation

The nature and distribution of the relevant mineral species of interest was known by others before the EL was taken up and is well documented albeit from the point of view of paper filling Kaolin only.

The difference now is that the weathered granite and the old kaolin processing tailings have been identified as sources of both high grade silica, potentially for use in photovoltaic cell production and metakaolin for use in the cement industry.

Areas of kaolin rich weathered granite previously considered unsuitable due to lack of 'brightness' for paper filler are now considered useful as this criteria is meaningless for production of metakaolin.

The nature of the mineralisation is therefore kaolin and silica which is derived from weathered Devonian granite common in the area and over much of the North East of Tasmania.

Bibliography of Relevant Reports

Reports pertaining solely to the surrendered area are unknown but reports pertaining to the previous exploration activity for kaolin which included the surrendered area as well as the main references used during Duggans Pty Ltd tenure of the area may be listed as follows:

- APPM Exploration Lease 20/70 TONGANAH North East Tasmania – ('KAOLIN IN THE SCOTTSDALE DISTRICT' Ref 77-1195 – April 1971)
- 'Interim report on a groundwater survey of the APPM clay pit area, Tonganah'. – W. R. Moore – May 1975)
- BALLARAT CLAY COMPANY PTY. LTD. Exploration license 21/70 (Dept of Mines Ref 295/79 – Jan 1979)
- BALLARAT CLAY COMPANY PTY. LTD. Exploration license 20/70 ('Drift Face Area – Bore Logs Ref 81-1524 – Jan 1980)
- TONGANAH CLAY MINE – (Kaolin processing paper) – Associated Pulp and Paper Mills Limited – Ref 622.361 TON.
- Industrial minerals in Tasmania – Kaolin (Prepared by C. A. Bacon Tasmanian Department of Mines – July 1992)
- 'A simple method to separate quartz and feldspar and its application to TL/OSL methods' (Daniel Fernandez Mosquera and Jorge Sanjurjo Sanchez - October 2007)
- 'Scottsdale Project – Relinquishment Report and First Annual Report for EL69/2007 for the period 04 March 2008 to 03 March 2009' (Prepared by Paul W Askins, MSc., CP Geo., MAus IMM – Geotech International Pty Ltd)
- 'Techno-Economics of PV Grade Silicon Production via FFC Process' (Prepared by Dr Hudai Kara of 'OAKDENE HOLLINS Research & Consulting' for University of Cambridge – Sept 2010)
- 'Analysis of quartz sample supplied by Burnie Research Laboratories' (Prepared by S W M^cKnight, University of Ballarat – May 2011)
- Information paper on Fused Quartz Glass (Quarld Ltd China – June 2011)
- Paper by CONCRETE INSTITUTE of Australia sub committee – 'Recommended Practice Geopolymer Concrete' – (References included – Sept 2011)
- 'Kaolin Wet – Processing' (Prepared by Eng, Atef Helal - May 2012)

Details of Land Disturbance and Rehabilitation Works

Areas visited are accessed adequately by existing tracks therefore no tracks were constructed. No costeaning or drilling was undertaken apart from a line of hand auger holes across the fine tailings dump, (these were infilled immediately).

Access to Detailed Information, Data Sets, etc.

Duggans Pty Ltd advise that detailed information and data sets previously reported in annual reports may be accessed by release of these reports from confidential files.

