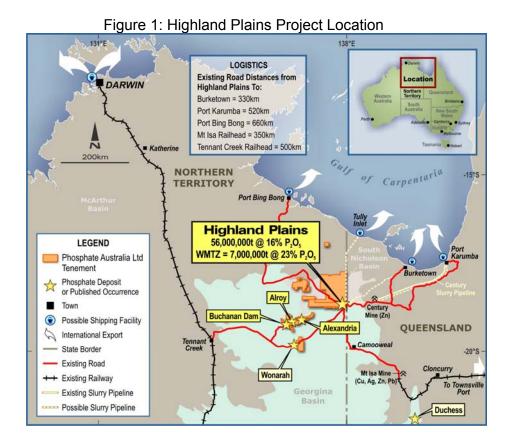
**ASX Code: POZ** 



# Metallurgical Studies Update #1 Highland Plains Phosphate Project

### **Summary:**

- Positive results for the liberation of phosphate material (apatite) at coarse grain size
  has been shown feasible from QEMSCAN analysis (a high quality quantitative
  mineralogical study), which has been undertaken on three initial samples of differing
  grade.
- The favorable degree of liberation may indicate that high recovery at concentrate (product) grade may be achievable (when processing ore represented by the 3 samples in Section 2.0).
- Initial flotation testwork has commenced. There are a large number of variables and inputs for any new test work program; liberation and slimes characteristics, pulp viscosity, pulp density, reagent regimes etc. It is important that time is allowed to achieve optimal results from this program.
- The Board is highly encouraged by the initial QEMSCAN results and is making every effort to expedite the flotation testwork to enable results to be reported.





#### 1.0 Introduction

Phosphate Australia Limited (POZ) is conducting metallurgical testwork on selected reverse circulation and diamond drill core samples from the 2008 program. This work is aimed at giving an indication of phosphate separation and liberation qualities. So far the RC samples have undergone a series of steps which have included:

- Step 1: QEMSCAN Analysis to gauge grain morphology (size and shape) and mineralogical composition. This assists in selecting the input variables for Steps 2 to 4.
- Step 2: Grind Establishment Testing to determine the grind time required to grind the ore to a defined product size for apatite (the phosphate bearing mineral) flotation testing.
- Step 3: Rougher sighter flotation testing on the product from Step 2. This is the first stage of a double flotation process
- Step 4: Cleaner sighter flotation test on the concentrate from Step 3. This is the final step which aims to produce an upgraded apatite concentrate of commercial grade.

Given the large number of variables and inputs into any new testwork program (liberation and slimes characteristics, pulp viscosity, pulp density, reagent regimes etc), as well as assaying each step, it may take some time before meaningful results are available. The nature of this testing is that steps often need to be repeated using different variables in order to establish the optimal operating conditions. Each step is an incremental learning process.

After these sighter tests are complete, a more defined testwork program will be followed to optimize both grade and recovery. Rounds of future test work will also include the diamond core samples from the recent 2009 drilling which will further enhance results.

#### 2.0 QEMSCAN Analysis

QEMSCAN is an important tool in the metallurgical testwork process. It helps identify and quantify specific minerals by size, frequency and association. This in turn allows the next stage of the process to be better planned.

The QEMSCAN system identifies minerals by integrating scanning electron microscope (SEM) hardware with QEMSCAN software.

Results from initial QEMSCAN testwork appear encouraging for the metallurgical characteristics of the Highland Plains phosphatic material. The analysis was done on three sighter samples of differing grades. Mineralogical examination of the 3 samples crushed to sub 600 microns indicated a good liberation of apatite. Therefore, a coarse grind would be expected for processing of this ore.

A coarser flotation feed grind is more desirable as it reduces grinding energy requirements, saving on both capital and operating costs and minimizing the project's carbon footprint.

In addition, the favourable high degree of liberation may indicate that high recoveries at concentrate (product) grade may be achievable (when processing ore represented by these 3 samples).



It is prudent that further mineralogical examination be carried out to confirm these results.

## 3.0 Further Steps

The metallurgical program is ongoing and the input variables are still being adjusted. Once these input parameters have been optimized, meaningful flotation results will become available. This process will take time. Results will be released when a meaningful view on the metallurgical process can be formed.

#### 4.0 Summary and Look Ahead

The Company continues to make excellent progress on all fronts at the Highland Plains Project. For the metallurgical test work to be optimised, a thorough and logical approach is needed. Every effort is being made to expedite this work. However, it is also important to ensure that the program is given the time and resources required for success.

Importantly, POZ has a considerable quantity of stored sample both from the RC and PQ core drilling programs which are allocated for this ongoing metallurgical testwork.

Further results from the recently completed RC drilling program are still pending and will be released in due course.

POZ is focused on continuing to advance our 100% owned Highland Plains Phosphate Project to an independent mining operation.

Andrew James Managing Director

Brian Putland Principal Metallurgist Orway Mineral Consultants (WA) Pty Ltd

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Jim Richards and Ms Lisa Wells, who are both Members of The Australasian Institute of Mining and Metallurgy. Mr Richards and Ms Wells are both Directors of POZ and Ms Wells is also a full time employee. Both Mr Richards and Ms Wells have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Richards and Ms Wells both consent to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report that related to metallurgical testwork is based on information compiled by Bao Nhu and overseen by Brian Putland who is member of the Australian Institute of Mining and Metallurgy. Brian is the Managing Director of Orway Mineral Consultants.