

QUARTERLY REPORT

Period Ending 30 September 2009

Positive Metallurgical Results for Highland Plains Phosphate Project in the Northern Territory

Highlights:

- Encouraging initial metallurgical results from the Highland Plains phosphate project.
- Early flotation tests are very positive from the coarse fraction with a grade of 33.0% P₂O₅ (upgraded from 21.7% P₂O₅) at 64% recovery of phosphate (Commonly traded rock phosphate grades vary from 29% to 32% P₂O₅)
- The ongoing test program aims at continuing to yet further improve recoveries and grades.
- Very encouraging QEMSCAN (imaging) data indicates that the Highland Plains phosphate should be able to be liberated and separated from silica using flotation techniques and that the apatite and silica are not interlocked.

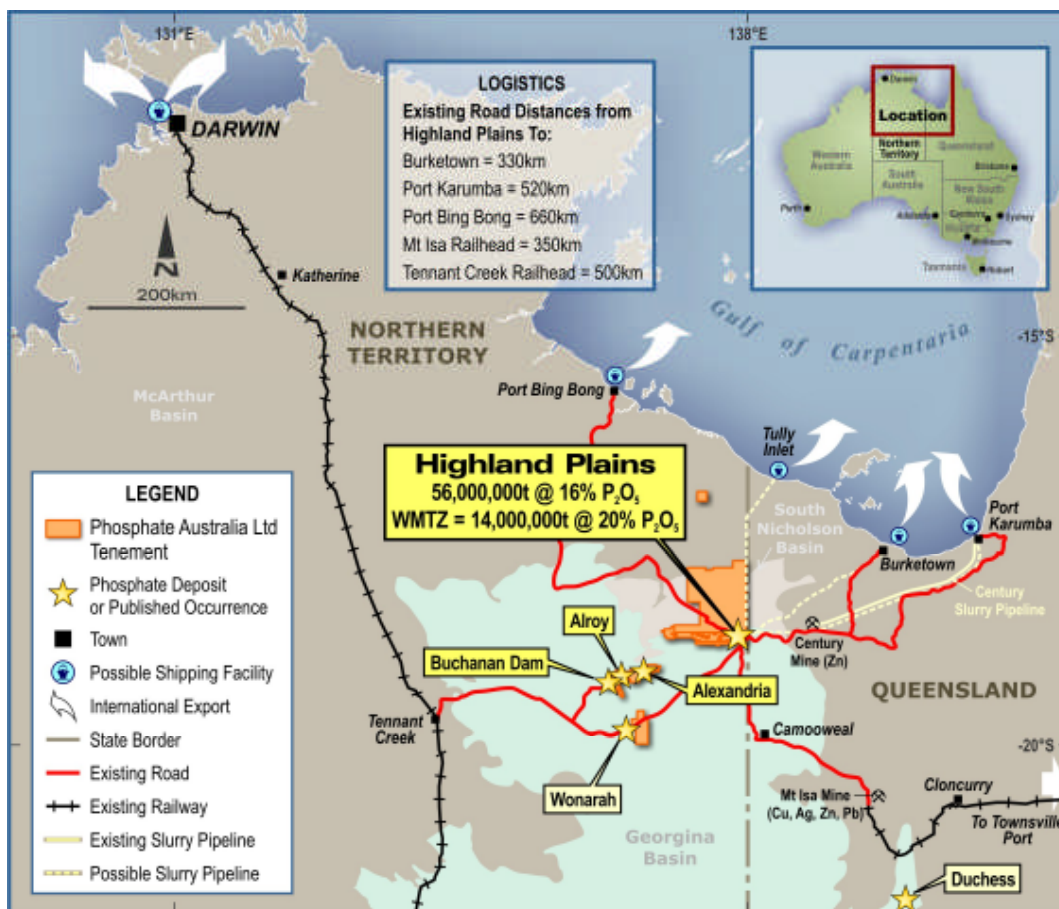


Figure 1: Highland Plains Location and Transport/Barging/Shipping Options

1.0 Metallurgical Results - Overview

Phosphate Australia Limited (ASX: "POZ") is pleased to provide the following update on metallurgical studies on the Company's rock phosphate deposit at its Highland Plains project in the Northern Territory.

The project is located within EL 25068 abutting the NT border with Queensland and 230 km from the Gulf of Carpentaria.

To give an indication as to commercial phosphate grades, internationally traded rock phosphate commonly has a concentration of 29% to 32% P₂O₅.

It is important to stress that the results in this report are initial and part of an ongoing study. Results are encouraging at this point and the material is demonstrating the amenity of Highland Plains' phosphate mineralisation to upgrade through beneficiation testwork. As more is learnt about the properties of the NT material, the Company is anticipating continued improvement in recoveries.

The Board of Phosphate Australia will report ongoing results.

2.0 Background to Metallurgical Testwork

The testwork has a number of phases as follows:

Phase 1: Ore Preparation: scrubbing (washing and agitating the material to disaggregate it) or whole rock grinding.

Phase 2: Rougher Flotation (initial float).

Phase 3: Cleaner Flotation (final float).

These tests aim to beneficiate or enrich the phosphate to produce a saleable product, with good phosphate recovery and low concentrations of silica. The processes can be used in various combinations and repeats to optimise the desired result.

Importantly, the results in this report are based upon individual phases of early stage testwork. The final product will be as a result of combining all of these phases in a streamlined process in which product grade is incrementally improved and enhanced by each step. It is not possible to ascertain what this result will be until the entire process has been completed.

The Company is working with Orway Mineral Consultants and Amdel Laboratories to optimise the product as efficiently as possible.

3.0 Metallurgical Testwork Results

Although metallurgical testwork on the Highland Plains phosphate is still in its early stages, initial results are positive and are reported below.

3.1 Phase 1: Scrubbing and Subsequent Rougher Flotation Tests

The scrubbing test was carried out on material with a head grade of 21.7% P₂O₅ and a silica grade of 40.7% SiO₂. As a result of scrubbing, the product was then able to be split into fine and coarse particle size fractions with the majority of the deleterious elements other than silica reporting to the fine fraction. This is important as it enables different flotation techniques to be employed on the two size fractions to optimise performance.

At 45 microns (0.045 mm) the scrubbed product split approximately 50/50 by weight. Rougher flotation testwork was then undertaken on the fine and coarse fractions with the coarse material ground to less than 250 microns.

The results of the rougher flotation test so far are very positive from the coarse fraction with a **grade of 33.0% P₂O₅ with 13.8% SiO₂** at 64% recovery of phosphate. This is a significant and encouraging increase from the input grade of 21.7% P₂O₅. Further testing is still required on the fine fraction to optimise recoveries and grade.

The CaO:P₂O₅ ratio for this test product at 1.35 was very low compared to typical Middle East product which typically varies from 1.50 to 1.65. This is important – the lower the ratio, the less sulphuric acid is consumed in producing phosphoric acid from the rock phosphate and the less phosgypsum (an unwanted waste product) is produced.

Some reagents tested have also shown encouraging results in regard to selectively rejecting the undesired elements (silica, iron and aluminium).

Table 1: Coarse Fraction Scrubbing and Rougher Flotation Test Results

| | P ₂ O ₅ % | SiO ₂ % | Al ₂ O ₃ % | Fe ₂ O ₃ % | Recovery P ₂ O ₅ % |
|-----------------------|---------------------------------|--------------------|----------------------------------|----------------------------------|------------------------------------------|
| Input Material | 21.7 | 40.3 | 1.4 | 3.1 | - |
| After Rougher Testing | 33.0 | 13.8 | 1.5 | 2.3 | 64 |

The mass pull reporting to concentrate was 42.7% (ie 42.7% of the mass of the original feed reported to the concentrate).

Opportunity also exists to improve the grades and recoveries on the coarse fraction and further rougher testing is ongoing prior to committing to the cleaner float process. The Board is encouraged by these initial results and looks forward to this further testing.

3.2 Whole Ore Flotation Tests (unscrubbed)

The whole ore flotation testwork program is being undertaken using a composite sample made up from PQ diamond core, targeting the area that is most likely to be mined initially. The sample is an unsplit, unsized and unscrubbed product. The composite input material has a head grade of 23.5% P₂O₅ and 29.0% SiO₂.

The composite sample was ground to 80% passing a 75 micron screen. The grind size of the product is important as it affects liberation and recoveries in the flotation stages. Too fine a grind can be expensive in terms of energy input to the process. Optimal grind size is still being determined for Highland Plains, but for the purposes of these tests, this grind size was deemed to be a reasonable starting point based on the QEMSCAN data.

3.2.1 Phase 2: Rougher Flotation Tests

Rougher flotation is a first pass test with the aim of upgrading the phosphate grade while maintaining high phosphate recovery and a reduction in silica, iron and aluminium

concentrations. Tests using different combinations of reagents, additives and conditions are trialled to achieve the best possible outcome.

Various tests using different reagents and flotation conditions have been carried out to select those combinations which show positive upgrade at the first pass rougher flotation testing level.

The best results to date from two different reagents are shown in Table 2:

Table 2: Initial Rougher Flotation Tests – Best Results

| Test Number | P ₂ O ₅ % | SiO ₂ % | Recovery % |
|-------------|---------------------------------|--------------------|------------|
| 10 | 28.2 | 20.1 | 91 |
| 11 | 32.1 | 13.4 | 42 |

NB: Initial material had 23.5% P₂O₅ and 29.0% SiO₂.

These initial rougher results are encouraging because both good upgrade in phosphate grade and good recoveries are shown to be possible, albeit in separate tests. What is now required is to achieve both maximised grade and maximised recovery in the same test.

The significant lowering of silica by over 50% in test 11 is also very encouraging. The cleaner flotation testwork will now be aiming to further increase phosphate grade and lower silica concentration from these levels.

Photo 1: POZ Benchtop Phosphate Flotation Testing



3.2.2 Phase 3: Cleaner Flotation Tests

The cleaner test is undertaken on the product of a favourable rougher test result. The aim is to further optimise the grade and further reduce the deleterious elements to produce a saleable product.

The tests use progressive information collected over time to work towards an optimised product. It is an ongoing process of gathering information step by step. Once one flotation test is carried out all results must be received and analysed before another test is undertaken making the process a lengthy study.

Initial cleaner float work is still targeting reagent choice at this stage.

4.0 QEMSCAN Analysis

QEMSCAN is an automated image analysis system that uses a combination of technology from Scanning Electron Microscopy and Electron Probe Micro Analysis to generate high quality, quantitative mineralogical analysis of rocks and minerals. QEMSCAN is used for understanding the liberation and separation of the grains found in the phosphatic siltstone to provide an indication of the theoretical beneficiation potential of the ore being tested.

The QEMSCAN analysis, by AMDEL in Adelaide, of the composite samples used in the current testwork phase has indicated the following:

- The phosphate occurs mainly as apatite (phosphate mineral).
- There are low amounts of deleterious elements (products for rejection) such as silica, aluminium, iron, magnesium and manganese directly associated with the apatite.
- The apatite (phosphate mineral) is mainly liberated.
- The silicates (product for rejection) is liberated.

N.B. Liberation is defined as >90% of the area of the particle made up of apatite.

These results indicate that the Highland Plains phosphate should be able to be liberated and separated from silica using flotation tests and that the apatite and silica are NOT interlocking crystals.

This is very encouraging, suggesting that good concentrate grades and recoveries should be possible when processing the testwork composite sample.

5.0 Metallurgy Summary

These early flotation tests are very positive. The results from the scrubbing test are particularly pleasing; with the coarse fraction float grading 33.0% P₂O₅ (upgraded from 21.7% P₂O₅) at 64% recovery of phosphate.

The QEMSCAN data is also very encouraging and gives further confidence in the suitability of the Highland Plains material to beneficiation.

This metallurgical testing is an on-going program with many opportunities to greatly improve the process and enhance phosphate recovery. The final aim will be to develop an optimised bench-scale beneficiation flow sheet that will produce a commercial phosphate product. The Company has now made important steps towards achieving this aim.

Each step requires analysis and refinement of previous tests before progressing to the next stage of testing. This progressive approach does take some time before an optimal flowsheet can be defined.

The Board is very encouraged by these initial results and continues to aggressively pursue this on-going process. Further market updates will be provided as testing continues.

6.0 Highland Plains Resource Upgrade (Previously Released)

On 19 October, POZ released the results of the update to the geological model at Highland Plains. This study was performed by the Company's independent resource consultancy, Cube Consulting. The model was updated to include the results of the 2009 drilling and work focused on the area of the Western Mine Target Zone ("WMTZ"). The global Inferred Resource for Highland Plains was not updated and currently stands at 56 Mt grading 16% P₂O₅.

With ongoing exploration drilling, there is further potential for Phosphate Australia to increase the global resource base at Highland Plains.

The WMTZ has been selected as the area most likely to support the early mining operation due to a combination of relatively thick and shallow mineralisation on its western boundary. The new WMTZ Inferred Resource stands at 14 Mt grading 20% P₂O₅ using a cut-off of 15% P₂O₅. The previous Inferred Resource was 7 Mt grading 23% P₂O₅.

As more metallurgical data comes to hand, the resource model will be further updated to account for recovery factors and expected rock phosphate product grades. It is expected that this will allow part of the resource to be upgraded to an 'Indicated Resource' status.

The WMTZ is planned to support an initial start-up mine with the production of 500,000 to 1,000,000 tonnes per annum of beneficiated rock phosphate with trucking to the Gulf of Carpentaria coast for sea traded export.

7.0 Highland Plains Scoping Studies

With progress in the metallurgical investigations, the Board is pursuing the other supporting studies that will underpin the commitment to further pre-feasibility work at Highland Plains.

During the quarter, fauna and flora survey fieldwork was completed to support the application for a mining license. Results from this study are awaited. The road engineering survey has been completed and the report is awaited. This road survey will allow a better definition of the costs and options for product movement to the Gulf of Carpentaria. The initial hydro-geological investigations have now been completed and the report is awaited.

With the latest resource upgrade, work will now commence to target a preliminary pit design to support the first three to five years of operations by making early assumptions about key project planning inputs. The aim of this process is to help frame the work required in the first half of 2010 to feed into feasibility studies and to begin refining project CAPEX estimates.

8.0 Minor Element Assays

Selected samples from the 2009 drilling campaign were assayed for the minor, but potentially deleterious elements carbon, sulphur, fluorine, chlorine and cadmium. Uranium was also assayed for. Some 270 samples were previously assayed from the 2008 drilling and reported to the ASX. The 116 samples from 2009 were selected to provide further coverage for minor elements throughout the Highland Plains Inferred resource area.

Using a 15% P₂O₅ cut-off for all of these minor element assay samples, there was an average grade of 22.9% P₂O₅ with average minor element values as shown in Table 3.

Table 3: Highland Plains Minor Element Assays

| C % | S % | F % | Cl ppm | Cd ppm | U ppm |
|------|------|------|--------|--------|-------|
| 0.20 | 0.06 | 1.82 | 112 | 4 | 38 |

Carbon and sulphur assays by sample ignition and detection by infra-red carbon/sulphur analyser. Fluorine assay by selective ion electrode. Chlorine assay by ammonium thiocyanate / silver nitrate titration. Chlorine detection limit is 100 ppm. 132 samples had values less than 100 ppm Cl but were assumed to be 100 ppm for a "worst case" average. Cadmium assay by ICP. Uranium assay by XRF.

The latest results support the data from the 2008 drilling. The minor element results indicate that a Highland Plains beneficiated rock phosphate product would compare very favourably with material currently trading on the world market. In particular, cadmium levels are very low meaning that phosphate from Highland Plains would be very suitable for blending with material sourced from overseas and which generally has much higher levels of cadmium.

9.0 Summary and Look Ahead

Excellent progress has been made on the Highland Plains phosphate project in the September 2009 quarter.

Over the next few months the Board of Phosphate Australia will assess the masses of data now being generated to finalise the 2010 pre-feasibility study program. Concurrently, work will continue on progressing regulatory permit applications for Highland Plains.

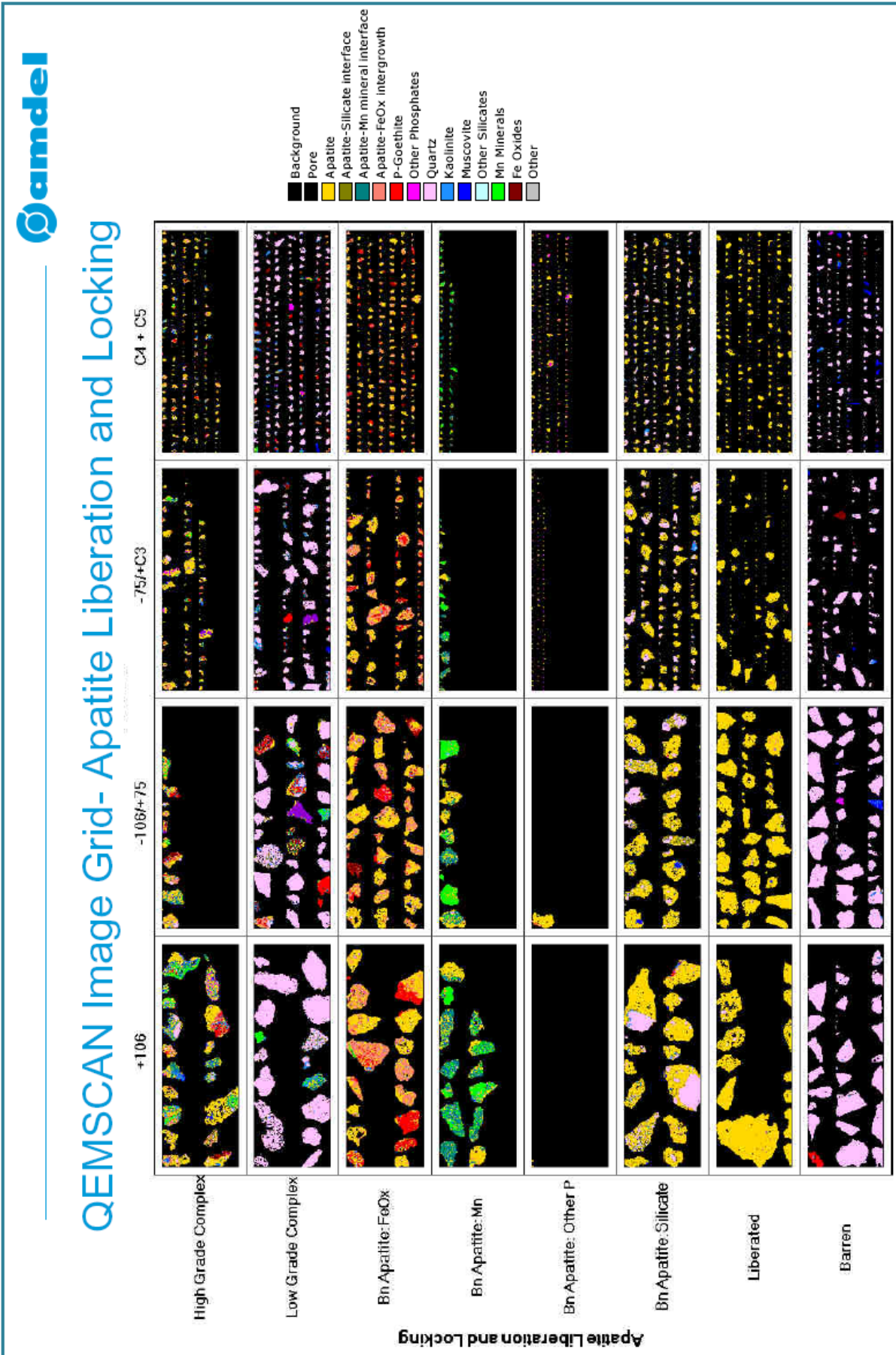
During the quarter, the Company completed a \$3.8 million placement via the issue of 14,201,250 shares at an issue price of 27 cents per share to a select group of sophisticated investors and institutions. The Company is well resourced to pursue its technical objectives at Highland Plains with \$7.9 million cash on hand as at the end of the September quarter.

ANDREW JAMES
Managing Director

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 Mr Fred Kock and overseen by Mr Brian Putland who is a member of the Australian Institute of Mining and Metallurgy. Mr Putland is the Managing Director of Orway Mineral Consultants.

Appendix A: QEMSCAN Image Data - Rougher Flotation Test Composite Sample



Appendix B: Western Mine Target Zone Resource

