ASX RELEASE
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ASX Code: POZ

Further Positive Results from Metallurgical Testing (Report #2) for Highland Plains Phosphate Project in the Northern Territory

Highlights:

- **Continuing improvement in phosphate grades and recoveries from metallurgical testing.**
- **Ongoing positive flotation results utilising the coarse fraction; overall grade of 33.1% P_2O_5 at 90% P_2O_5 recovery (commonly traded rock phosphate grades vary from 29% to 32%).**
- **Potentially high specification product indicated from initial cleaner flotation results on the coarse fraction: 35.9% P_2O_5 at 66% P_2O_5 recovery.**

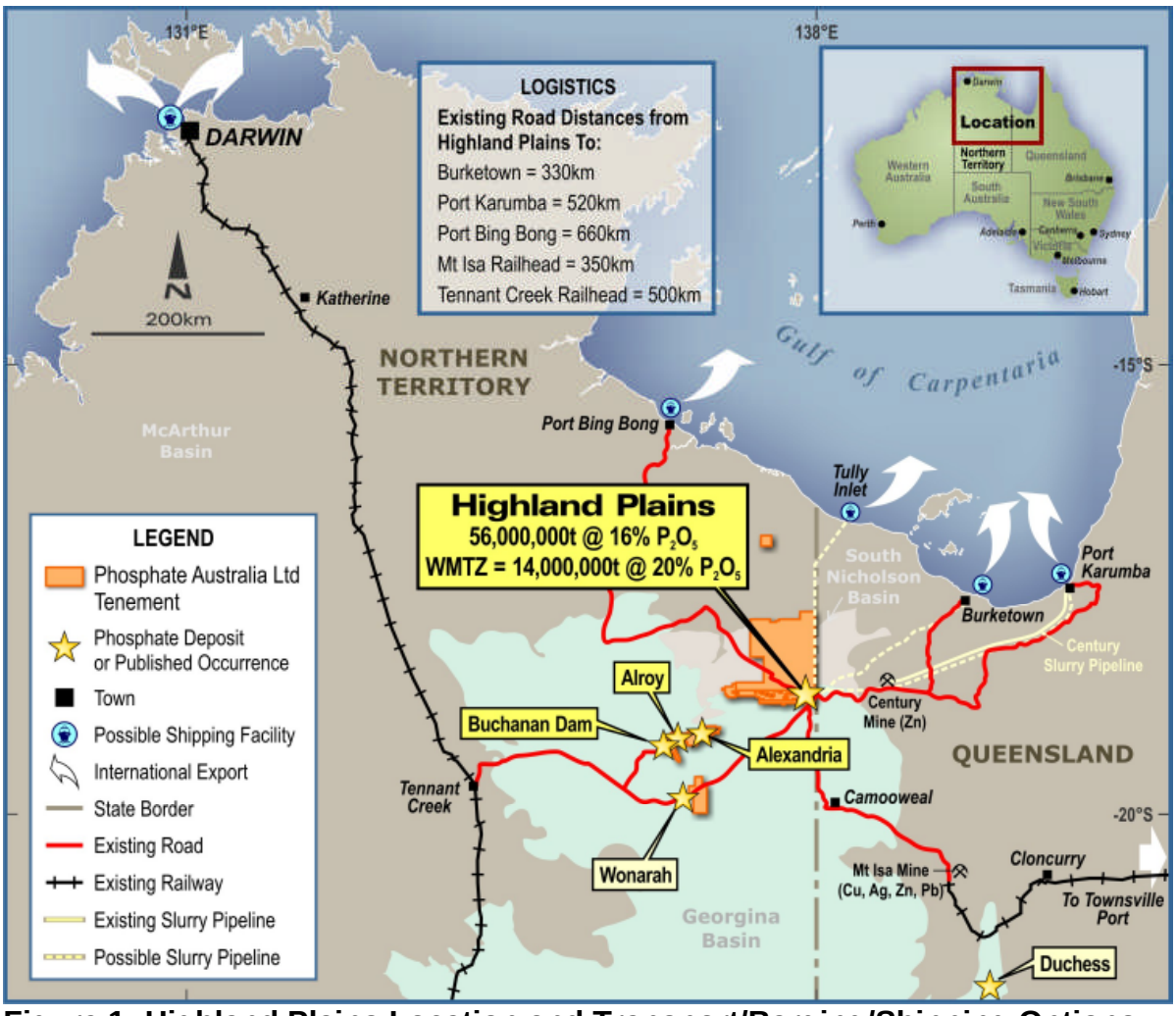


Figure 1: Highland Plains Location and Transport/Barging/Shipping Options.

1.0 Overview of latest metallurgical results

Phosphate Australia Limited (ASX: "POZ") provides the following update on metallurgical studies being carried out on the Company's rock phosphate deposit at its wholly owned 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.

Commercial grades of rock phosphate trade on the international market at concentrations generally between 29% and 32% P_2O_5.

The updated results released today (and detailed below) are part of an ongoing metallurgical study. Results are encouraging to this point and the material is demonstrating the amenity of Highland Plains' phosphate mineralisation to be upgraded to an internationally marketable product.

The Board is pleased to observe the continued improvement in phosphate recovery and product grade in the metallurgical testing.

2.0 Background to Metallurgical Testwork

The testwork has a number of phases as follows:

Phase 1: Ore Preparation: rock grinding and splitting to coarse and fine size fractions and/or scrubbing.
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, as well as the selective discarding of iron and aluminium. The processes can be used in various combinations and repeats to optimise the rock phosphate product.

The Company has achieved good results in the first and second phase of studies. The third phase of cleaner testwork is now underway.

The final marketed product will be the result of combining all of these phases in a streamlined process. In the "flowsheet" product grade is incrementally improved and enhanced by each step. It is not possible to ascertain the full configuration of the flowsheet until all phases of testing are complete.

The Company is working with Orway Mineral Consultants and Amdel Laboratories to optimise the product as efficiently as possible in order to produce an initial flowsheet. This will then be used as the base flowsheet for optimisation in the more detailed Pre-Feasibility studies.

3.0 Metallurgical Testwork Results #2

Early whole ore and scrubbing test results were reported in the Quarterly Report for the company ending 30 September, 2009 (Metallurgical Report #1).

Results included in this report are based on two size fractions of coarse and fine phosphate rock. Splitting the phosphate rock by size optimises the process as the fine material can interfere with the coarse material during flotation to produce less favourable outcomes.

The second phase of rougher flotation testwork has produced sufficient data on coarse and fine material to enable the next phase of studies to commence.

The coarse fraction results have been particularly encouraging with studies on the finer fraction still underway. Two of the flotation reagents are particularly promising.

3.1 Rougher Test Results for Coarse and Fine Fractions

The material is ground to an average 125 micron (0.125 mm) particle size before being split into a coarse fraction of greater than 20 microns and a fine fraction of less than 20 microns. This represents an approximate 50:50 split of coarse to fine material.

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, a grind size of 125 microns was deemed to be a reasonable starting point based on QEMSCAN data (refer to Metallurgical Report #1).

3.1.1 Rougher Test Results Coarse Fraction

Table 1: Coarse Fraction Rougher Flotation Best Test Results

	P_2O_5%	SiO_2%	Al_2O_3%	Fe_2O_3%	Recovery P_2O_5%
Coarse Input Material	22.4	36.1	1.9	4.4	
Coarse Fraction Rougher Testing (after 10 minutes)	35.8	9.1	0.8	1.7	48
Coarse Fraction Rougher Testing (after 16 minutes)	**33.1**	13.2	1.3	2.9	**90**

The above results are very positive with a concentrate grade in excess of 33% being achieved at 90% recovery. This high recovery of 90% is extremely important at the rougher stage of the flotation process and is a significant improvement to the process since Metallurgical Report #1.

Also of considerable positive benefit is the removal of significant quantities of aluminium and iron during the rougher float process. Optimisation studies are currently underway for the conditions which produced these results.

These impressive results are demonstrating both good phosphate enrichment and phosphate recovery before the third phase of cleaner flotation testwork which aims to further upgrade the product.

3.1.2 Rougher Test Results Fine Fraction

Table 2: Fine Fraction Rougher Flotation Best Test Results

	P_2O_5%	SiO_2%	Al_2O_3%	Fe_2O_3%	Recovery P_2O_5%
Fine Input Material	24.2	25.3	7.2	3.9	
Fine Fraction Rougher Testing (after 4 minutes)	30.7	16.7	3.5	2.6	37

Opportunities exist to improve the grade and recovery of the fine fraction and further rougher testing is ongoing prior to committing to the cleaner float process for the fine fraction. Additionally, work in the near future will be focussed on optimising the grind size to increase the proportion of material reporting to the coarse fraction.

3.2 Cleaner Flotation Testwork

Based on the results of the rougher flotation tests, an initial series of cleaner flotation testwork has been programmed utilising the most promising reagents. This phase of testing has only just commenced with multiple optimisation avenues still to be pursued, but early results are encouraging.

Table 3: Coarse Fraction Cleaner Flotation Best Test Results

	P_2O_5%	SiO_2%	Al_2O_3%	Fe_2O_3%	Recovery P_2O_5%
Coarse Input Material	23.3	32.7	1.7	4.9	
Coarse Fraction Cleaner Testing	35.9	7.7	0.8	1.9	66

Repeatability testing is underway.

Importantly, the increase in phosphate grade and the rejection of silica, aluminium and iron compared to the coarse fraction rougher test is particularly impressive.

With further refinements to the process it is expected that recoveries will increase. These possibilities will be studied in future testing.

The key outcome of this test is that the beneficiated rock phosphate specifications targeted by the Board are now confirmed as being technically feasible with the detailed results from the above test being reported in Table 4.

Table 4: Coarse Fraction Cleaner Flotation Test - Detailed Specifications from Table 3

P_2O_5%	SiO_2%	R_2O_3%	$CaO:P_2O_5$	MgO%	MnO%	K_2O+Na_2O%
35.9	7.7	2.7	1.36	0.06	0.42	0.13

3.3 Wet High Intensity Magnetic Separation Testing

Wet High Intensity Magnetic Separation ("WHIMS") testing was carried out on two samples representing a coarse and fine fraction of phosphate rock. The aim of this testwork is to reduce the iron content of the sample without removing excessive phosphate.

Photo 1: Products from fines WHIMS testing. Iron rich residue on left. Samples to right are the non-magnetic fractions (phosphate rich).

Results from an initial WHIMS test are encouraging. For the fine fraction, 23% of the total iron was removed as magnetic material with 3% phosphate loss. For the coarse fraction 49% of the iron was removed with 4% phosphate loss.

It is likely that WHIMS will form part of the final beneficiation flow sheet and further WHIMS testing will be carried out. The Board is targeting a final beneficiated rock phosphate product with low R_2O_3 (Al_2O_3 + Fe_2O_3) and WHIMS will be an important tool to achieve this goal for the combined coarse and fine material.

4.0 Summary

The Board continues to be highly encouraged by the metallurgical testwork produced to date for Highland Plains. Promising results have been achieved from the rougher testwork, particularly in the coarse fraction. Further studies are being carried out in order to achieve a high specification product saleable on the world phosphate market.

The demonstrated ability of the project to produce a high specification rock phosphate product of 35 to 36% P_2O_5 with low R_2O_3 grades is a considerable achievement by the Company's technical group and highlights the potential quality of the Highland Plains resource.

These results underpin the Company's strategy to market Highland Plains beneficiated rock phosphate to fertiliser manufacturers worldwide in early 2010.

ANDREW JAMES
Managing Director

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 are both members of the Australian Institute of Mining and Metallurgy. Mr Putland is the Managing Director of Orway Mineral Consultants.

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.

Phosphate Australia at a Glance

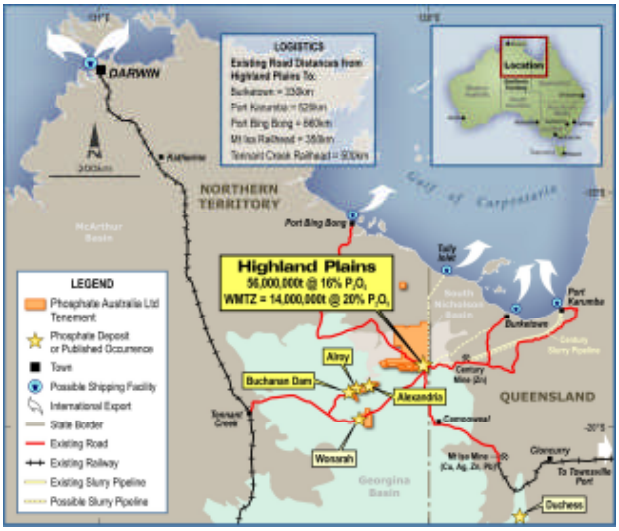
ASX Code: **POZ**

Phosphate Australia Limited is a rock phosphate development company targeting the production and sale of 500,000 to 1,000,000 tonnes per annum of premium grade beneficiated rock phosphate with low contaminants.

Highland Plains is the lead project with a JORC compliant Inferred Resource of 56 Mt at 16% P_2O_5. The permit is 100% controlled by POZ. The Western Mine Target Zone has been targeted for a potential start-up operation at Highland Plains. This is the shallowest part of the deposit, with outcropping mineralisation and comprises a JORC compliant Inferred Resource of 14 Mt at 20% P_2O_5 as a subset of the global Inferred Resource.

The company also controls three other known phosphate occurrences in the Northern Territory at Alexandria, Alroy and Buchanan Dam. Buchanan Dam has a historical intersection of 6.1 m at 25% P_2O_5 from 12.2 m.

Currently un-granted permit applications controlled by the company to the north of Highland Plains are prospective for iron and uranium with access subject to the negotiation of an agreement with the Traditional Owners.



Capital Structure Snapshot 18 December 2009

Ordinary Shares on Issue:	108.9 million
Escrowed Shares:	42.0 million
Top 20 Shareholders:	67.3 million (62%)
Unquoted Options on Issue:	24.6 million
Share Price:	A$0.22
Undiluted Market Cap:	A$24.0 million
Number of Shareholders:	1106
Cash Balance:	$6.8 million

Board of Directors

Chairman:	Jim Richards
Managing Director:	Andrew James
Technical Director:	Lisa Wells
Director/Company Secretary:	Grant Mooney

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