



Drilling intersects substantial widths of key basal sands at Lake Wells Potash Project in WA

Maiden Resource on track for mid-2016

KEY POINTS

- Four of the planned five-hole program successfully completed to +163m at Lake Wells
- All holes have intersected substantial widths (20m - 50m) of the key basal sands which typically yield the highest volumes of the potash-rich brines, far exceeding expectations
- Drilling program continuing over coming weeks, assays expected in May and maiden Resource set for mid-2016

Goldphyre Resources Limited (ASX: GPH) is pleased to advise that it has made a strong start to the Resource drilling program at its Lake Wells Potash Project in WA, with wide intersections of the key basal sands in each of four holes completed to depth.

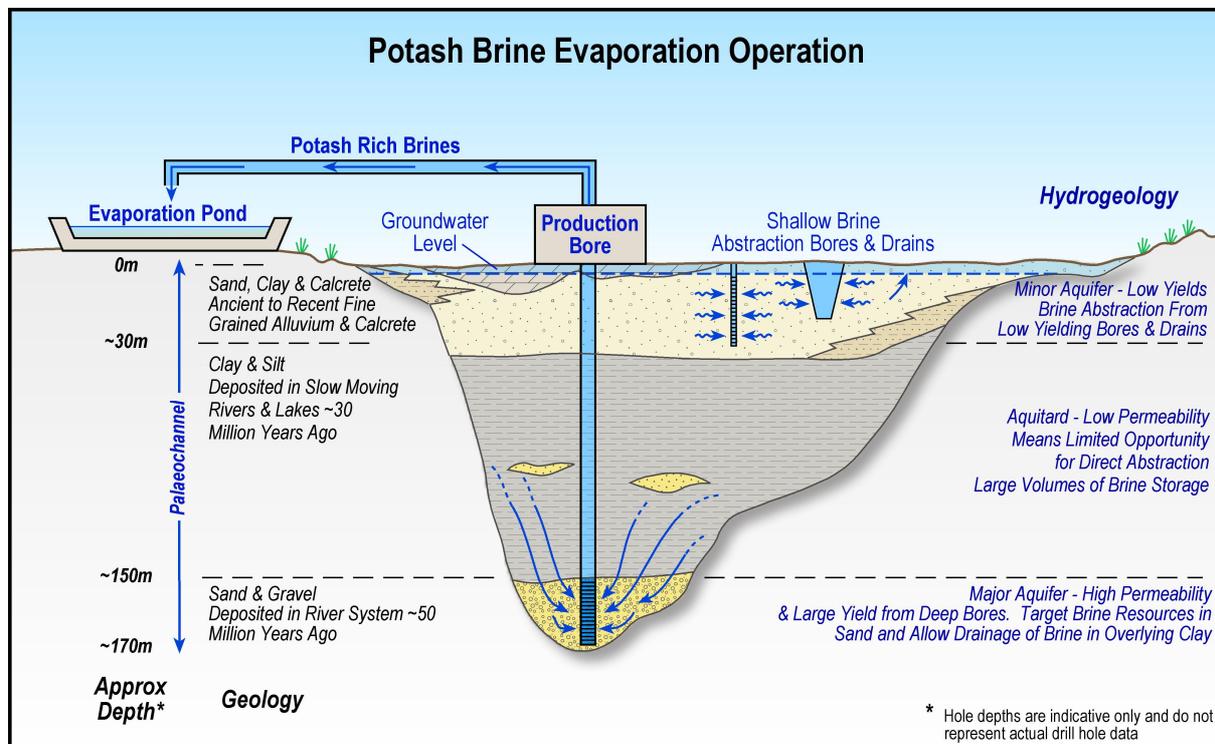


Figure 1: Goldphyre's current diamond drill program is targeting the deepest sections of the extensive palaeovalley, which is where the highly porous basal sand layers are found

The basal sand intersections are considered highly significant because it is from this layer of the palaeochannel sediments that Goldphyre is proposing to abstract the largest volumes of the high-grade potash brines confirmed in previous drillingⁱ.

The mud-rotary and diamond drilling program comprised five holes, with assays expected in May. Further drilling utilising a mud-rotary/air-core drill rig is scheduled out to the end of April. This will ensure Goldphyre is on track to publish a maiden Resource at Lake Wells by the middle of this year.

The interpreted widths of basal sands intersected typically range from 20m to 50m, with down-hole geophysics surveys planned to confirm precise widths. In addition to the basal sands, coarse sand units with widths of between 20m and 40m have been intersected in the upper stratigraphic units. The known drilled depth of the palaeochannel has increased, with four of the five holes ending in basement at 170m, 174m, 163m and 168m. The fifth hole was not completed due to adverse ground conditions, ending at 59m. All holes have been cased.

Goldphyre announced last month that the estimate of total in-situ brine, which is based on extensive seismic and sampling programs, and over 5000m of historic drill data, was 79 - 123 million tonnes of sulphate of potashⁱⁱ.

However, Goldphyre considers that the Exploration Target based on specific yield of 6 - 37 million tonnes is more relevant. This figure represents the recoverable amount of potash, which in turn is the key figure for use in calculating potential production rates and economic returns.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has not yet been sufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target is consistent with Goldphyre's strategy to be a 75,000 - 100,000 tonne-a-year, sub-\$100m CAPEX sulphate of potash producer.

Goldphyre Executive Chairman Matt Shackleton said the widths of the basal sands recorded in the initial holes were comfortably in line with those used to calculate the Exploration Target.

"We have made a strong start to the drilling program and the widths of the basal sands exceed our expectations and the calculations underpinning our Exploration Target," Mr Shackleton said.

"We now await the brine assays to see if they are in line with those returned from previous drilling at Lake Wells."

The current drilling program is being funded in part by a \$108,000 grant provided to Goldphyre under the Department of Mines and Petroleum's Exploration Incentive Scheme.

The drill program was designed to test the presence and width of the basal sand layer at the bottom of the palaeochannel sediments because it is from this highly permeable material that the most brine can be recovered. The brine hosts the potash, which is then recovered through an evaporation process.

Figure 1 above identifies the various sediments typically found in palaeochannels, and the method Goldphyre is proposing to abstract the brine. Abstraction of brines from palaeochannels is a proven practice in the Australian resources industry, and is relied upon to produce process water for many of the largest iron ore, gold, nickel and copper operations in the eastern goldfields, the Pilbara and other regions of the state. Goldphyre therefore considers this to be a low risk method of abstracting brines.

The palaeochannel clays typically have a permeability of 2%-3%, meaning that only a small fraction of the brines held within them can be extracted. However, the basal sands can have permeabilities of 40%-50% meaning that most of the brines held in the sand layers can be extracted. The more high-permeability material present in the palaeochannel, the more brine can be recovered.

The Lake Wells Potash Project

A drilling program conducted at Lake Wells in July 2015ⁱⁱⁱ identified high-grade potash mineralisation both beneath the lake and the low dune areas surrounding the lake. That drilling program generated wide intercepts of high-grade potash to depths of 135m (down-hole), which was the depth capacity of the drill rig used.

Two passive seismic survey programs have been conducted at the Project^{iv} ^v. This data permits the clear targeting of drill holes into the deepest parts of the palaeovalley. This coarse, unconsolidated material often has a high permeability, which facilitates drainage of the overlying hydrogeological units.

Goldphyre has commenced a mud-rotary, air-core and diamond drilling program aimed at understanding the basal sand layer and to confirm deep brine chemistry. The Company plans to release a Maiden JORC Resource Estimate in H1 2016.

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Competent Person's Statement

The information in this report that relates to Exploration results, Mineral Resources or Ore Reserves is based on information compiled by Brenton Siggs who is a member of the Australasian Institute of Geoscientists. Brenton Siggs is contracted to the Company through Reefus Geology Services and is a Non-Executive Director (Exploration Manager) of Goldphyre Resources Limited. Brenton Siggs has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity currently being undertaken to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Brenton Siggs consents to the inclusion in this report of the matters based on his information in the form and context in which it appears. Mr Siggs is a shareholder and director of Goldphyre WA Pty Ltd, a company that holds ordinary shares and options in the capital of Goldphyre Resources Limited (Goldphyre Resources Limited, Annual Report 2015).

Forward Looking Statements Disclaimer

This announcement contains forward-looking statements that involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

ⁱ Refer to ASX announcement 26 August 2015 'Lake Wells Potash Drilling Results'. That announcement contains the relevant statements, data and consents referred to in this announcement. Apart from that which is disclosed in this document, and in the ASX announcement 15 October 2015 'Quarterly Activities Report', Goldphyre Resources Limited, its directors, officers and agents, are not aware of any new information that materially affects the information contained in the 26 August 2015 announcement.

ⁱⁱ Refer to ASX announcement 8 March 2016 'Major Sulphate of Potash Exploration Target at Lake Wells'. That announcement contains the relevant statements, data and consents referred to in this announcement. Apart from that which is disclosed in this document, Goldphyre Resources Limited, its directors, officers and agents, are not aware of any new information that materially affects the information contained in the 8 March 2016 announcement.

ⁱⁱⁱ Refer to ASX announcement 26 August 2015 'Lake Wells Potash Drilling Results'. That announcement contains the relevant statements, data and consents referred to in this announcement. Apart from that which is disclosed in this document, and in the ASX announcement 15 October 2015 'Quarterly Activities Report', Goldphyre Resources Limited, its directors, officers and agents, are not aware of any new information that materially affects the information contained in the 26 August 2015 announcement.

^{iv} Refer to ASX announcement 15 December 2015 'Seismic Survey Defines Extensive, Deep Palaeovalley'. That announcement contains the relevant statements, data and consents referred to in this announcement. Apart from that which is disclosed in this document, Goldphyre Resources Limited, its directors, officers and agents, are not aware of any new information that materially affects the information contained in the 15 December 2015 announcement.

^v Refer to ASX announcement 8 February 2016 'Second Seismic Survey Doubles Size of Deep Palaeovalley'. That announcement contains the relevant statements, data and consents referred to in this announcement. Apart from that which is disclosed in this document, Goldphyre Resources Limited, its directors, officers and agents, are not aware of any new information that materially affects the information contained in the 8 February 2016 announcement.