

SEISMIC SURVEY DEFINES DEEP PALAEOVALLEY HIGHLIGHTING SIGNIFICANT POTENTIAL OF THE LAKE WELLS POTASH PROJECT

HIGHLIGHTS

- **Seismic survey conducted across Goldphyre's Lake Wells Potash Project confirms presence of extensive palaeovalley up to 170m deep**
- **A deep palaeovalley is significant: the sediments that infill the palaeovalley form an alluvial aquifer which hosts the high-grade potash brine**
- **Deeper sediments provide an opportunity for deeper pumping-water levels and potentially increased potash recovery**
- **And pumping from sand, which commonly occurs at the bottom of the palaeovalley sediments, facilitates drainage of the potash brine from the overlying sediments**
- **Peak depths surveyed range from 150m - 170m with the base of sediments clearly delineated, allowing Goldphyre to accurately target the deepest sections of the palaeovalley in planned follow up drilling**

NEXT STEPS

- **Co-funded EIS drilling to commence Q1 2016**
- **Seismic survey currently underway on adjacent tenure recently acquired through the potash agreement with the Mark Creasy controlled Lake Wells Exploration Pty Ltd**
- **Exploration Target for release early 2016: maiden Resource on track for H1 2016**

LAKE WELLS POTASH PROJECT

Goldphyre Resources Limited (ASX: GPH) ("Goldphyre", the "Company") is pleased to advise that a recently completed seismic survey has provided more strong evidence that its Lake Wells Potash Project in WA's eastern goldfields has the potential to host a substantial potash resource.

Confirmation of the palaeovalley's size is important because it will underpin the calculation of an Exploration Target for the project, 500km north-east of Kalgoorlie, early next year.

The results of this seismic survey are also important because they support Goldphyre's theory that the palaeovalley, and the high-grade sulphate of potash ("SOP") mineralisation hosted within the brines in the palaeovalley, extend onto the recently acquired neighbouring tenements. Goldphyre has this week started a seismic program on these adjoining tenements to establish the extent and contour of the palaeovalley on this ground.

Goldphyre announced on 2 December 2015ⁱ that it had tripled the size of the Lake Wells Potash Project by acquiring the potash rights on the adjoining tenements. A company controlled by prospector Mark Creasy holds these tenements.

The transaction will see Mr Creasy's Yandal Investments Pty Ltd emerge with a 19.9% interest in the Company.

The drilling program conducted at Lake Wells in Julyⁱⁱ identified high-grade potash mineralisation both beneath the lake and the low dunes surrounding the lake.

The program generated wide intercepts of high-grade potash (9kg/m³ – 11kg/m³) to depths of 135m (down-hole).

The seismic survey program completed recently generated data and imaging (Figures 2, & 4 – 8) that permits the clear targeting of drill holes into the deepest parts of the palaeovalley, allowing Goldphyre to assess the characteristics of the basal sand layers traditionally found in the bottom strata of the palaeovalley sediments. This coarse, unconsolidated material often has a high permeability, which facilitates drainage of the overlying hydrogeological units.

Following completion of the Exploration Target early next year, Goldphyre plans to commence a core-drilling program and field pumping trials in preparation for a maiden resource estimate by the middle of 2016.

The upcoming drilling program will be used to estimate vital brine resource parameters, including specific yield and permeability. This in-depth assessment is important because it will help determine the percentage of the total brine resource that can be drained and therefore the amount of potash that can be recovered.

Goldphyre believes it is more meaningful to publish resource estimates which reflect only the amount of potash that can ultimately be recovered because this is the figure which will drive the project's production rates, capital and operating costs and other key economics.

Goldphyre Executive Chairman Matt Shackleton said the seismic results supported the Company's view that the Lake Wells Potash Project had strong potential to host a substantial potash resource.

"Confirmation of a major palaeovalley at the Company's project means we have ticked another key box in our strategy to establish a significant potash resource," Mr Shackleton said.

"When the current seismic program on the adjoining tenements is completed and combined with our earlier drilling results, we will have more than enough confidence to set an Exploration Target.

“This will then give us a clear pathway to establishing a maiden resource and undertaking further detailed field and metallurgical test work which will help underpin the project’s economics.”

TECHNICAL DISCUSSION

A passive seismic survey was completed on the 100 per cent held Goldphyre tenure at the Lake Wells Potash Project (Figure 1). The survey work consisted of 120 stations recorded by Tromino 3G units, and processing was completed by Perth based Resource Potentialsⁱⁱⁱ.

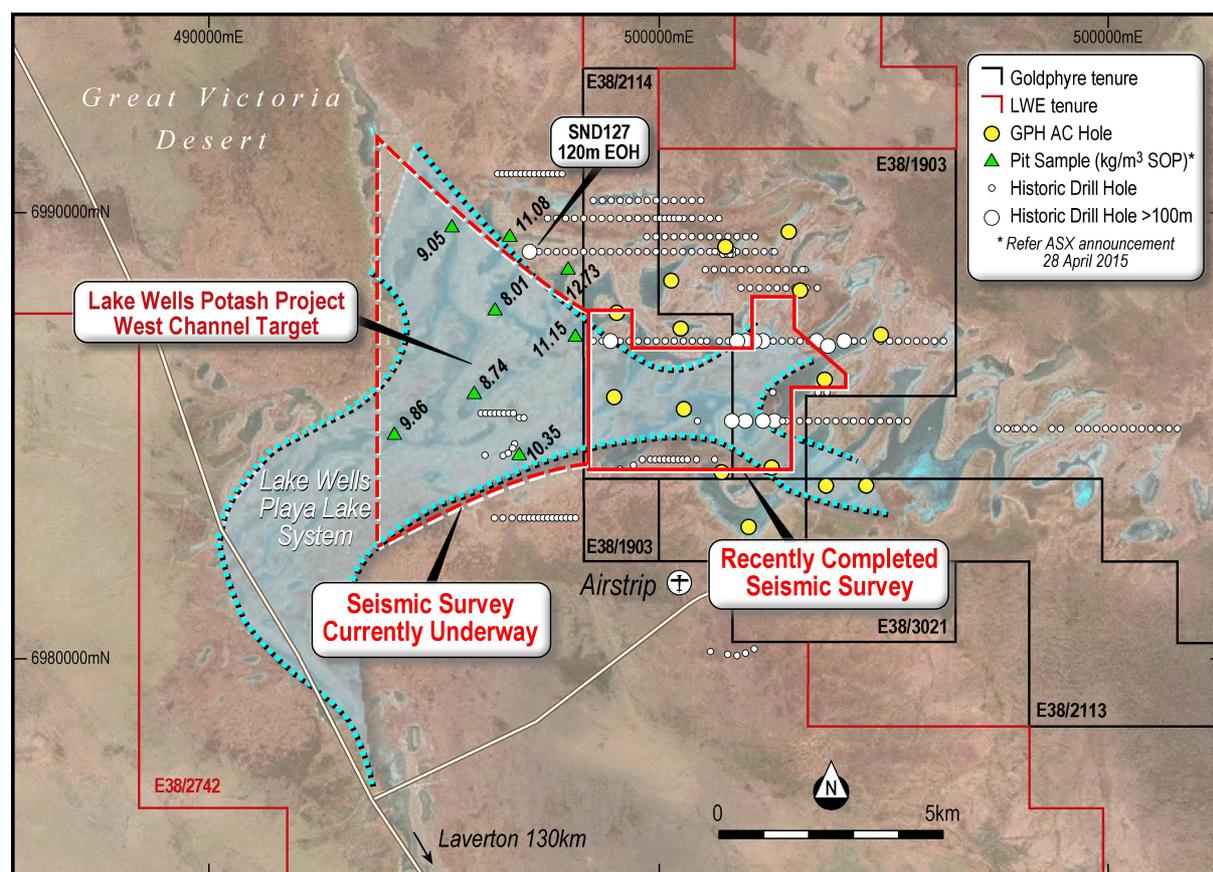


Figure 1: A seismic program has been conducted on existing 100% owned Goldphyre tenure and is currently being conducted on the LWE tenure contiguous and to the west of GPH's ground

The passive seismic survey was aimed at mapping depth of transported cover with the aid of existing historic drill coverage, and if possible, highlight the thalweg, or basal section of the palaeovalley. The Company aimed to vector in on the deepest section of palaeovalley in order to assist deep drill targeting for potash brine. This has been achieved.

The survey data generated was of very good quality and with calibration against existing drill holes with known depths to basement (Figure 3), has successfully delineated an approximately east-west trending palaeovalley on five survey section lines (Figure 2). The section line spacing was approximately 1200m with station centres at 100m-200m. The peak H/V (Horizontal/Vertical) frequencies show an excellent correlation coefficient and also show very uniform shear wave velocity in the palaeovalley fill.

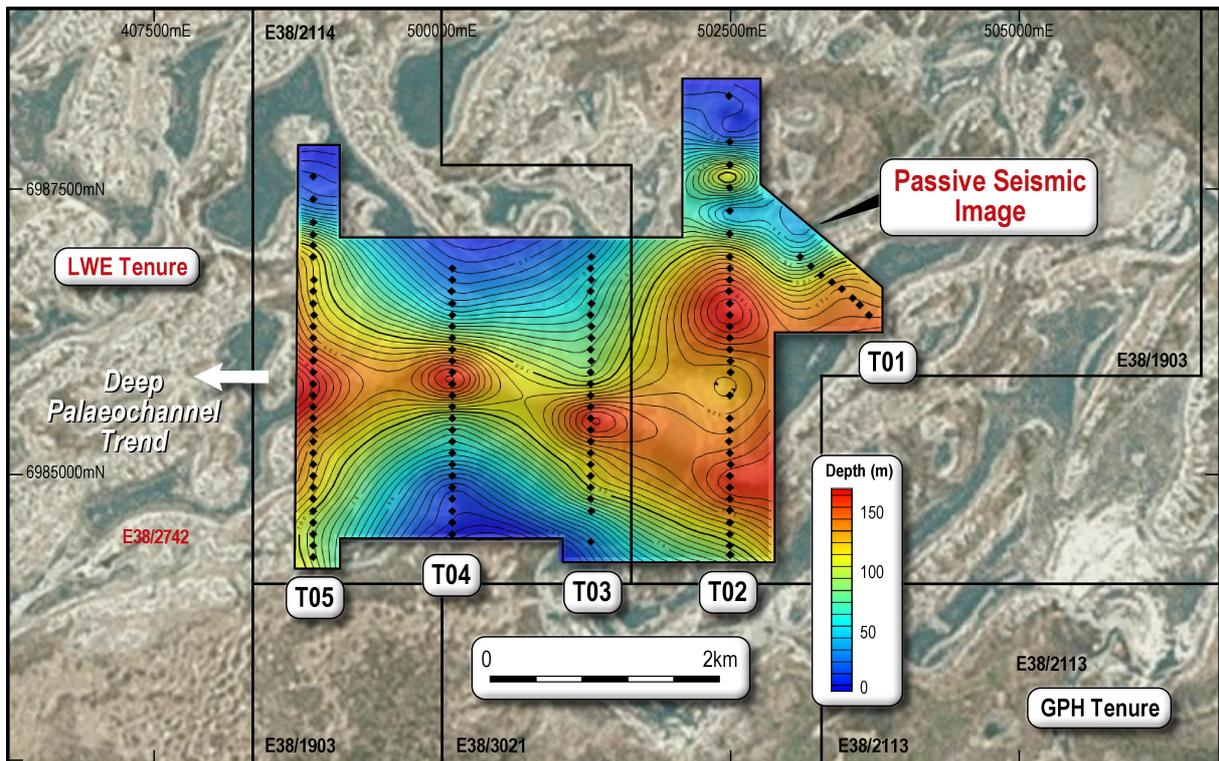


Figure 2: The seismic program delineated an east-west trending palaeovalley with depths up to 170m. The modelling shows that depths of approximately 150m-170m (Figure 4 – 8) for the base of the palaeochannel.

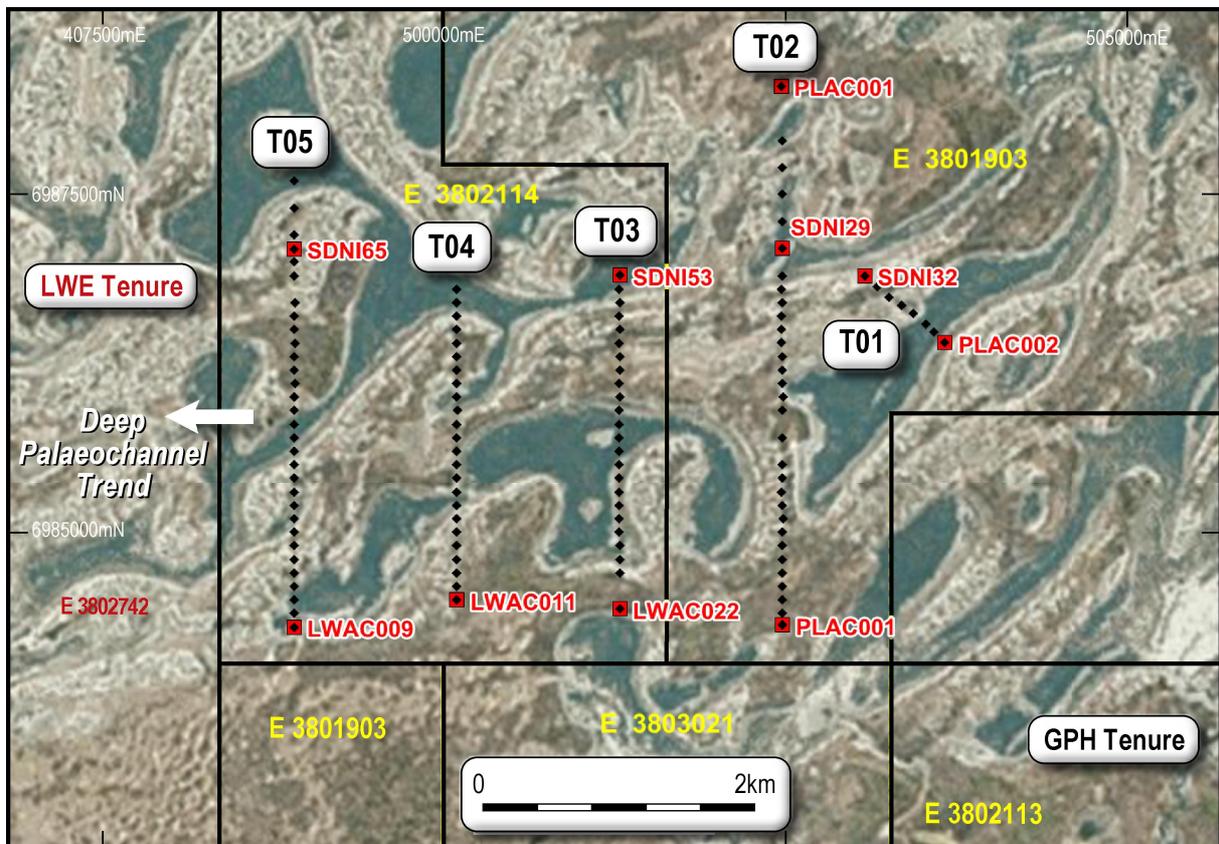


Figure 3: Drill data correlates with seismic depth to basement interpretations

Several aircore (AC) holes completed by Goldphyre in the July 2015 drill program reached depths of 141m (the extent of the drilling rig's depth capacity), and terminated in transported sediments.

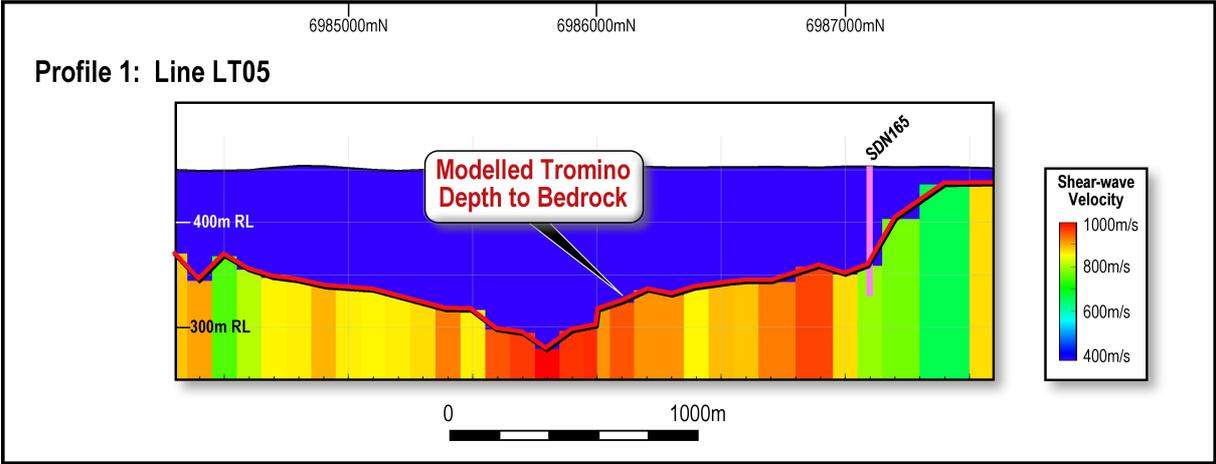


Figure 4: Line 5, the western most survey line & historic drill hole SDN165

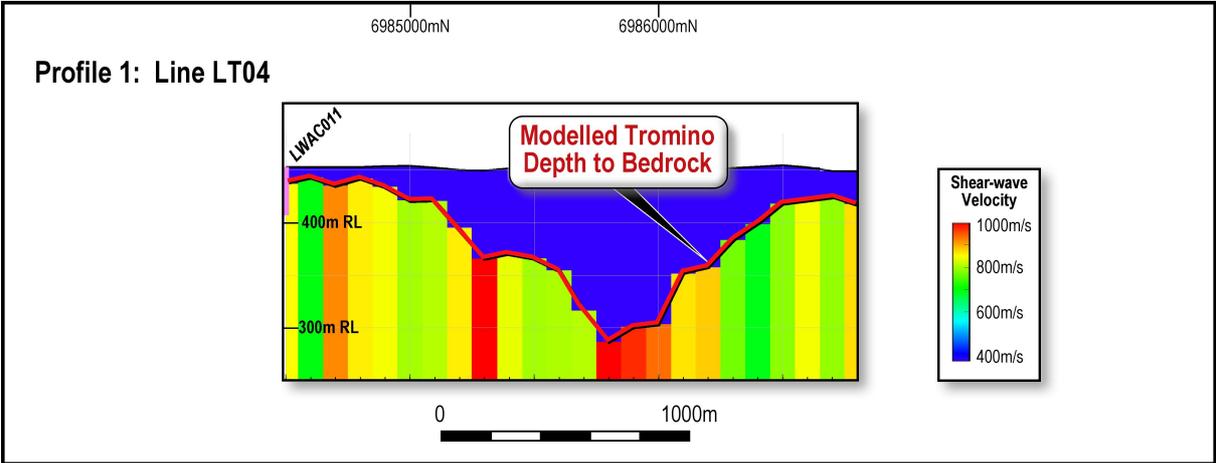


Figure 5: Line 4 & July 2015 air-core hole LWAC011

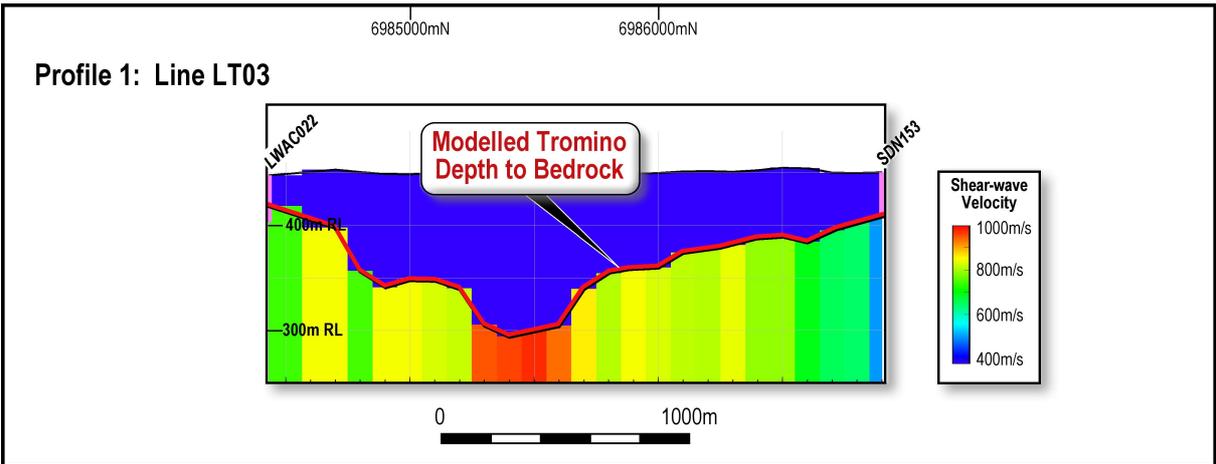


Figure 6: Line 3, July 2015 air-core hole LWA022 & historic drill hole SDN153

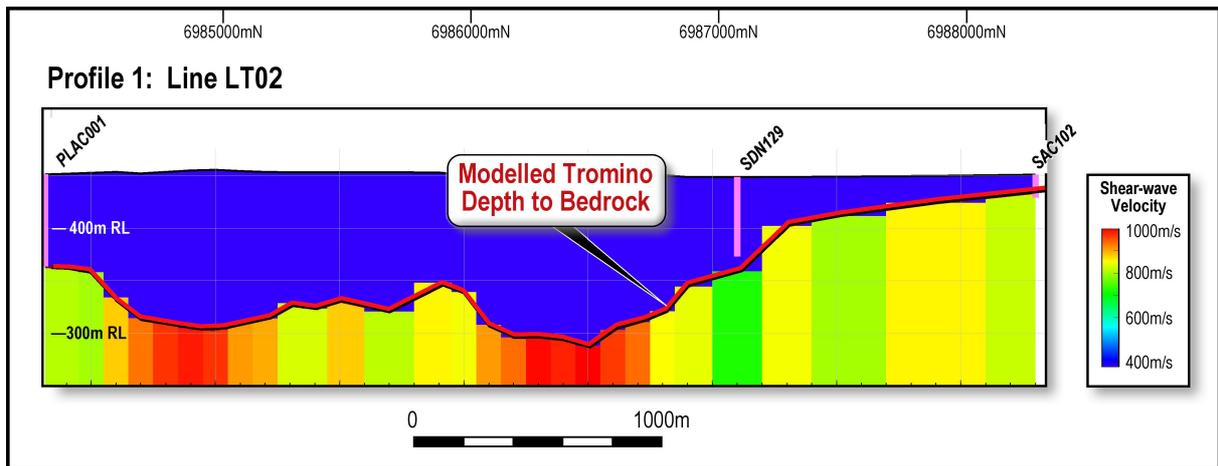


Figure 7: Line 2, historic drill holes PLAC001, SDN129 & SAC102. It is likely the outlying depth reading to the east of this line is an error due to poor data

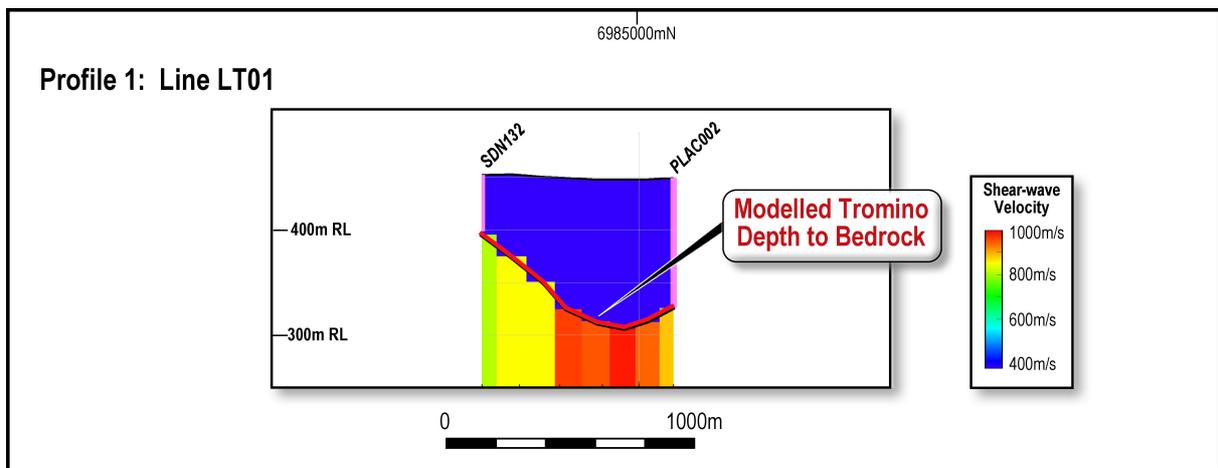


Figure 8: Line 1, historic drill holes SDN132 & PLAC002

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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 2014).

The information in this release that relates to Geophysical Results is based on information compiled by Dr Jayson Meyers who is a Fellow of the Australian Institute of Geoscientists. Dr Meyers is a consultant to Goldphyre Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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. Dr Meyers consents to the inclusion in this report of the matters based on information provided by him and in the form and context in which it appears.

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 2 December 2015 'Goldphyre Triples Lake Wells Potash Project Area'. 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 2 December 2015 announcement.

ⁱⁱ 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.

ⁱⁱⁱ Overs, M., 2015. Processing and Modelling of Tromino passive seismic survey data from Lake Wells, WA. Resources Potentials, Northbridge, Perth. Consultant report prepared for Goldphyre Resources Limited.