

GOLDPHYRE RESOURCES LTD (GPH)

Aussie Potash (SOP) for Aussie Farmers... Oi Oi Oi...

Goldphyre Resources Ltd (GPH) has aspirations of becoming a sulphate of potash (SOP) brine producer, and is progressing exploration at its 100%-owned Lake Wells Potash Project in WA.

Lake Wells has been identified as a high-grade SOP brine salt lake, confirmed both at the salt lake surface and at depth. The project is located ~300km from a bulk rail terminal at Leonora, connected by a network of roads (sealed and unsealed). The climate for the project area is highly conducive to evaporation and receives good annual rainfall (for aquifer recharging). The Company is targeting a brine operation which can initially supply ~75-100Ktpa SOP into the domestic market. Australia currently imports 100% of its potassium fertiliser requirements, and the low chloride and high sulphate content of SOP makes it an ideal and preferred form of potassium (fertiliser) for farmers.

SOP as a premium potash fertiliser attracts a superior price to muriate of potash (MOP), and is underpinned by limited brownfields and greenfields supply and increasing demand (forecast growth of 4%). In addition, brine SOP projects generally occupy the lower end of production cost curve and have significantly lower capital hurdles than rock potash projects.

Expanded footprint, maiden resource mid-2016

Goldphyre's tenure within the Lake Wells area now spans 1,500km², having recently acquired the potash rights to some surrounding tenements held by highly successful prospector, Mark Creasy. Under the terms of the deal, GPH triples its exploration holdings and lake coverage (100% potash rights), and Creasy emerges with 19.9% of the Company.

The Company now controls over 200km² of the playa lake system. Recent exploration (drilling and seismic surveys) has identified an extensive palaeovalley (up to 170m deep) within the system, which highlights significant depth potential for the brines.

Resource definition drilling at the project is expected to commence in early 2016, with GPH well advanced in preparing an Exploration Target for the project area, due February 2016. On the current timing a maiden resource for Lake Wells is anticipated by mid-2016.

Initiate Coverage with a Speculative Buy and 11cps target

We initiate coverage of Goldphyre Resources with a Speculative Buy recommendation and with a 12-month price target of 11cps. We consider the Lake Wells Potash Project to be in the early stages of exploration, with confirmed strong SOP potential and some very high brine grades reported. The addition of more contiguous ground over the lake system is strategically important, expected to add significant new resources and area for future evaporation pond infrastructure.

Our preliminary price target is developed through comparison to the current trading ranges of ASX peers with SOP resources, and modelling simulation for small-scale SOP operation. This assumes capex of less than A\$150m, mine gate operating costs of A\$250/t, mine life of ~10 years. We assume existing infrastructure (roads and rail) can be accessed and domestic SOP prices. We stress our price target is preliminary (highly speculative) and with current estimated cash less than A\$1m, we assume and dilute for new equity, required in the short-term.

21 Jan 2016

Share Price (last):	\$0.064
12Mth Price Target	\$0.11

Brief Business Description

Potash (SOP) and gold, base metal explorer

Hartleys Brief Investment Conclusion

100%-owned potash project at Lake Wells WA. Targeting brine SOP production for the domestic market. High-grade SOP at significant thickness and depths confirmed.

Issued Capital	99.7m
- new equity diluted	147.1m
- new equity+ ITM diluted	147.1m
- new equity+ fully diluted	239.6m
Market Cap	\$6.4m
- new equity diluted	\$9.4m
- new equity+ ITM diluted	\$9.4m
- new equity+ fully diluted	\$15.3m
Cash -est - (incl. new equity)	\$1.5m
Debt -est	\$0.0m
EV	\$5.8m
- new equity diluted	\$7.9m
- new equity+ ITM diluted	\$7.9m
- new equity+ fully diluted	\$5.3m

WA Projects

Lake Wells Potash	SOP (K)
Laverton Downs	Au, Base metals
Berretta	Base metals, Au
Great Central	Au, Base metals
Mailman Hill	Au, Base metals

Board & Management

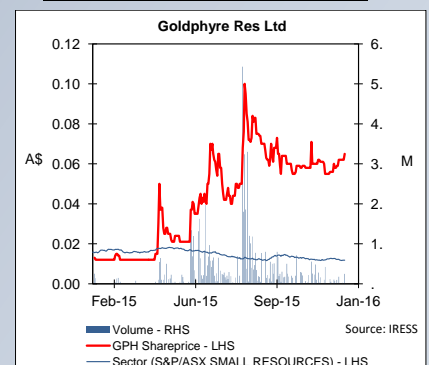
Matt Shackleton (Executive Chairman)
Brenton Siggs (Technical Director)
Dean Goodwin (Non-Executive Director)

Top Shareholders (est)

Yandal Investments (Creasy)	19.9%
Board and Management	9.0%

Company Address

20 Kings Park Road
West Perth WA 6005



Author:

Mike Millikan
Resources Analyst
Ph: +61 8 9268 2805
E: mike_millikan@hartleys.com.au

Hartleys has completed a capital raising in the past 12 months for Goldphyre Resources Limited ("Goldphyre") for which it has earned fees. Hartleys has provided corporate advice to Goldphyre within the past 12 months and continues to provide corporate advice, for which it will earn fees.

COMPANY OVERVIEW

Goldphyre Resources Ltd (“Goldphyre”, “Company”, “GPH”) is a minerals exploration company focussed on advancing its key project, the Lake Wells Potash Project in WA. The Company is targeting a low capital sulphate of potash (SOP) operation that initially supplies the domestic (Australian) potash market.

Goldphyre listed on the ASX in December 2011, at the time working on early-stage gold exploration in the Eastern Goldfields of WA. Gold exploration remains a competency but the Company attention is now largely concentrated on potash (SOP).

Lake Wells has been identified as a high-grade SOP brine salt lake, confirmed both at the salt lake surface and at depth. GPH is now progressing drill planning with the aim of delivering a maiden potash resource by mid-2016. The project is located ~300km from a bulk rail terminal at Leonora, connected by a network of roads (sealed and unsealed). The climate for the project area is highly conducive to evaporation and receives good annual rainfall (for aquifer recharging).

The Company is targeting an initial brine operation of ~75-100Ktpa SOP for supply into the domestic market. Australia currently imports 100% of its potassium fertiliser requirements, and the low chloride and high sulphate content of SOP makes it an ideal and preferred form of potassium (fertiliser) for Australian farmers. SOP attracts a superior price to muriate of potash (MOP), and is underpinned by limited brine supply (only 3 operations globally) and increasing demand (forecast growth of 4%). Australia currently has no potash production, but appears well positioned to commercialise a number of its salt lake systems.

The Company completed passive seismic surveys over the project area in late 2015, aimed at mapping the lake sediments. The survey data will assist in positioning drill holes to delineate the deeper sections of the palaeovalley, for increased brine potential. The Company has already received some government co-funding (\$108K grant) through the Exploration Incentive Program (EIS) exploration to test some of the deeper brine targets. Drilling is expected to recommence soon.

Goldphyre listed on the ASX in 2011

All current projects are located in WA

GPH is focussed on advancing its key project, the Lake Wells Potash Project in WA

GPH is targeting a low capital sulphate of potash (SOP) operation that initially supplies the domestic (Australian) potash market

The Lake Wells Potash Project is located ~180km NNE of Laverton



Source: Goldphyre Resources Ltd

LAKE WELLS POTASH PROJECT (100%-GPH)

Fig. 2: Lake Wells Potash Project Snap Shot

*Project located
~500km NE of
Kalgoorlie, WA*

*Potash as a high
value bulk commodity,
requires access to
infrastructure*

Lake Wells Potash	
<i>Interest:</i>	100%
<i>Location:</i>	~500km north-east of Kalgoorlie, WA
<i>Tenure:</i>	~1,500km ²
<i>Lake coverage (est):</i>	~200km ²
<i>Project stage:</i>	Early stage exploration
<i>Reserves/Resources:</i>	None; maiden resource by mid-2016
<i>Type of deposit:</i>	In-situ playa lake brines; SOP
<i>Permitting stage:</i>	Granted exploration licences, no existing Native Title
<i>Infrastructure:</i>	~300km overland to bulk rail terminal at Leonora
<i>*Production target:</i>	~75-100Ktpa SOP production for domestic supply

Source: Goldphyre Resources Ltd, *Conceptual, subject to reserves, studies, permitting, funding etc.

Background

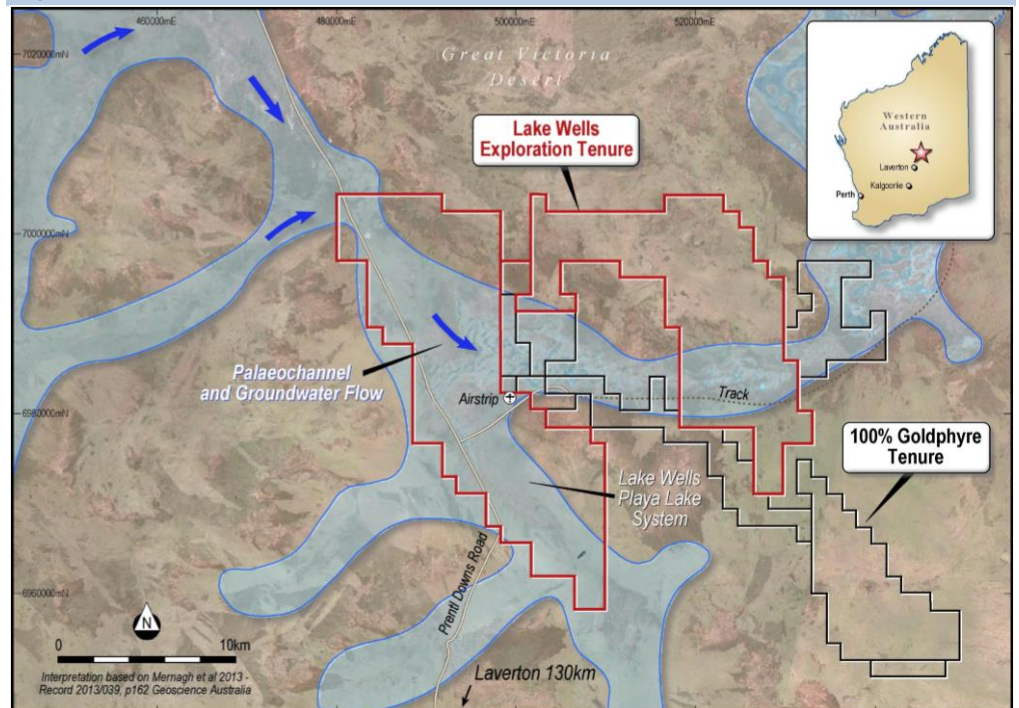
The Lake Wells Potash Project is located ~180km north-east of Laverton, ~500km north-east of Kalgoorlie in WA. The project area consists of exploration tenure, which now covers ~1,500km² and GPH has 100% potash rights. Access to the project is via the Great Central (~90km sealed road) and Prenti Downs (~90km unsealed) roads.

*Lake Wells has been
identified as a high-
grade SOP brine salt
lake, confirmed both
at the salt lake
surface and at depth*

The project is located ~300km from a bulk rail terminal at Leonora, connected by a network of roads. The climate for the project area is highly conducive to evaporation and receives good annual rainfall (for aquifer recharging).

*Brine SOP projects
generally occupy the
lower end of
production cost curve
and have lower capital
hurdles than rock
potash projects*

Fig. 3: Lake Wells Potash Project, WA



Source: Goldphyre Resources Ltd

Expanded Exploration Footprint

The Creasy deal significantly expanded GPH's potash exploration footprint, effectively tripling lake coverage

Goldphyre's recently acquired the potash rights to some surrounding tenements held by prospector, Mark Creasy through his holding company Lake Well Exploration Pty Ltd controlled by Yandal Investments Pty Ltd.

Under the terms of the deal, GPH tripled its exploration holdings (from ~500km² to ~1,500km²) and lake coverage within the area, for which Creasy emerges with 19.9% of the Company. The Company now controls over 200km² (up from ~70km²) of the playa lake system.

The agreement is a sale and split commodity agreement over two granted tenements (see Fig.3), contiguous to one another and GPH's existing 100%-owned Lake Wells tenure. Under the terms of the deal, the Creasy company grants GPH "100% of the rights to explore for, extract, process and sell all potash minerals contained within brine" within the tenements and "agrees to assist GPH in securing Mining Lease(s) at the appropriate time".

Creasy in turn obtains 19.9% of GPH, and additional options

The issue of 19.9% of GPH's ordinary shares to Yandal Investments has a voluntary 12-month escrow period, and the issuance is calculated post any capital raise within 6 months of the completion date. In addition, GPH will issue Creasy with 6.86m options with an expiry period of 5 years, exercisable in two equal tranches at 10cps and 15cps.

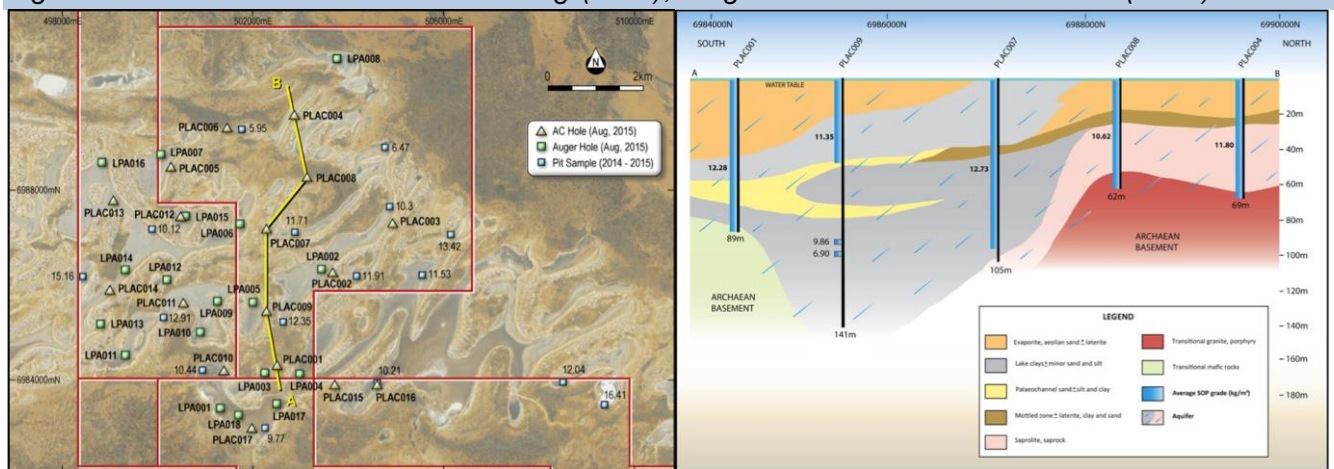
Lake Setting

Sedimentary cover forms an extensive transported regolith in which the Lake Wells playa lake system has developed

The subsurface brines at Wells Lakes are derived from and replenished by discharge from groundwaters and palaeochannels of the north-eastern margin of the Yilgarn Craton. Geologically young sedimentary cover (largely Tertiary-Quaternary aged) forms an extensive transported regolith in which the Lake Wells playa lake system has developed.

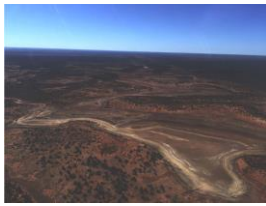
Basement rocks consisting largely of granitic rocks (rich in potassic and calcic feldspar) along with greenstone rocks (basalt, gabbro, schists and BIF units) have been eroded to form the regolith of the area. Sedimentary units include evaporites, sand, silt, silcretes, laterites, and lake clays with minor sand and silt interbeds. Lake Wells is regarded as a high potential potash salt lake system with interpreted palaeovalley trends.

Fig. 4: Lake Wells: Plan View of Drilling (LHS); Regolith Profile Cross Section (RHS)



Source: Goldphyre Resources Ltd

Potash exploration now being accelerated



Lake Wells

Prior to commencement of the Company's maiden aircore drilling program over Lake Wells, Goldphyre obtained and interpreted historical (1997) WMC drilling data over the lake. The WMC drilling was part of gold and base metal exploration, targeting bedrock samples beneath the lake sediments for geochemical purposes. Some 93 vertical aircore drill holes across the western end of the playa lake system was assessed by GPH and highlighted suitable regolith profiles for potential brine extraction. The data also provided potential volumetric models for the lake aquifer (over a portion of the lake area), again indicating strong brine potential. Surface brine samples collected by GPH, averaged ~10.8kg/m³ SOP from 11 samples collected.

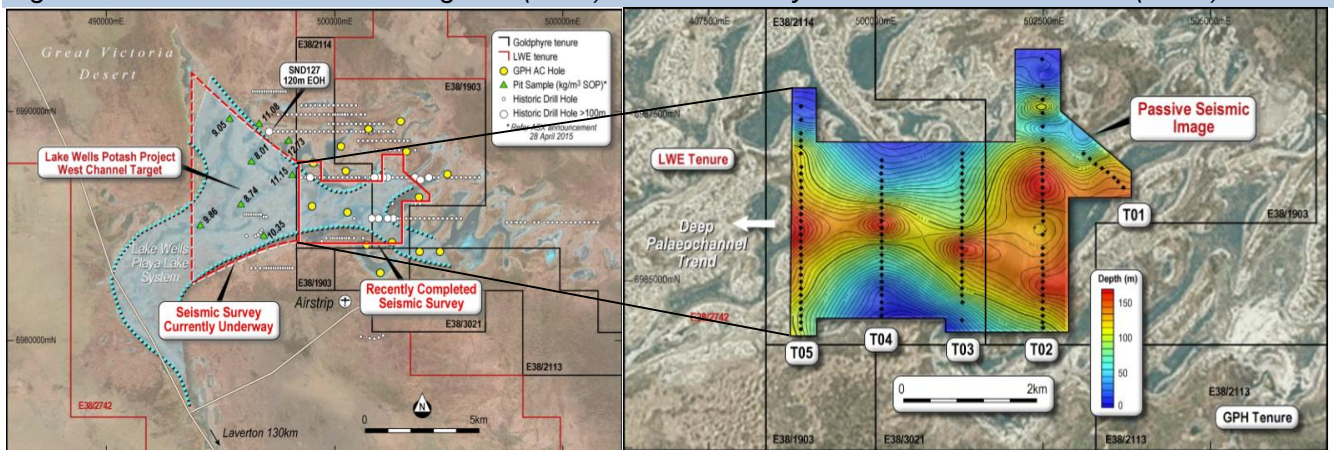
GPH first commenced drilling over Lake Wells in July 2015

Goldphyre first commenced drilling over Lake Wells in late July 2015, with a modified track mounted rig used for a program of 17 aircore holes (~1,227m) and additional auger holes (18 holes) were also collected. All drilled holes returned very strong potash (SOP) concentrations, with some of the better aircore results including 102m @ ~11.6kg/m³ SOP; 96m @ ~12.7kg/m³ SOP; and 89m @ ~12.3kg/m³ SOP. The drilling program was successful in confirming significant depth extensions (+130m in parts) and high-grade potash within the lake system (validated the good surface brine results), and also identified high-grade potash under thin sand cover near the lake surface.

Both aircore and auger drilling has confirmed high-grade potash (SOP grades +9kg/m³)

The Company recently completed passive seismic surveys over the project area in late 2015, aimed at mapping and determining the depth of the lake sediments. The survey data will assist in positioning drill holes to delineate the deeper sections of the palaeovalley, for increased brine potential. The palaeovalley appears to be up to 170m deep in parts. This is seen as a significant new development for the project further highlighting substantial depth potential for the brines. The palaeovalley is interpreted to extend onto the neighbouring Creasy tenure, for which GPH has 100% of the potash rights, which is expected to greatly increase the Exploration Target and ultimately the resource potential.

Fig. 5: Lake Wells Seismic Program (LHS): Palaeovalley trend on seismic data (RHS)



Source: Goldphyre Resources Ltd

Resource definition drilling at the project is expected to commence soon (in early 2016), with GPH well advanced in preparing an Exploration Target for the project area, due February 2016. On the current timing a maiden resource for Lake Wells is anticipated by mid-2016. The Company has already received some government co-funding (\$108K grant) through the Exploration Incentive Program (EIS) exploration to test some of the deeper brine targets.

OTHER PROJECTS

Visit goldphyre.com.au for more detailed information

GPH's primary exploration focus is to evaluate the Lake Wells project predominately for potash, and other exploration properties for gold, copper, zinc, nickel and PGEs

Laverton Downs

Located to the north of Laverton, WA, with tenure covering the major Admiral Hill Shear, prospective for gold mineralisation. Located near the Lancefield gold mine (current resource ~596Koz Au). Drilling in 2014, confirmed broad, generally low grade gold mineralisation. Limited recent exploration activities.

Beretta

Project located in the Albany-Fraser fold belt of WA. Located ~80km north of the Nova nickel-copper mine (under construction). Only early stage exploration activities undertaken, largely consisting of historical data compilations and review of geophysical datasets to identify potential targets.

Great Central

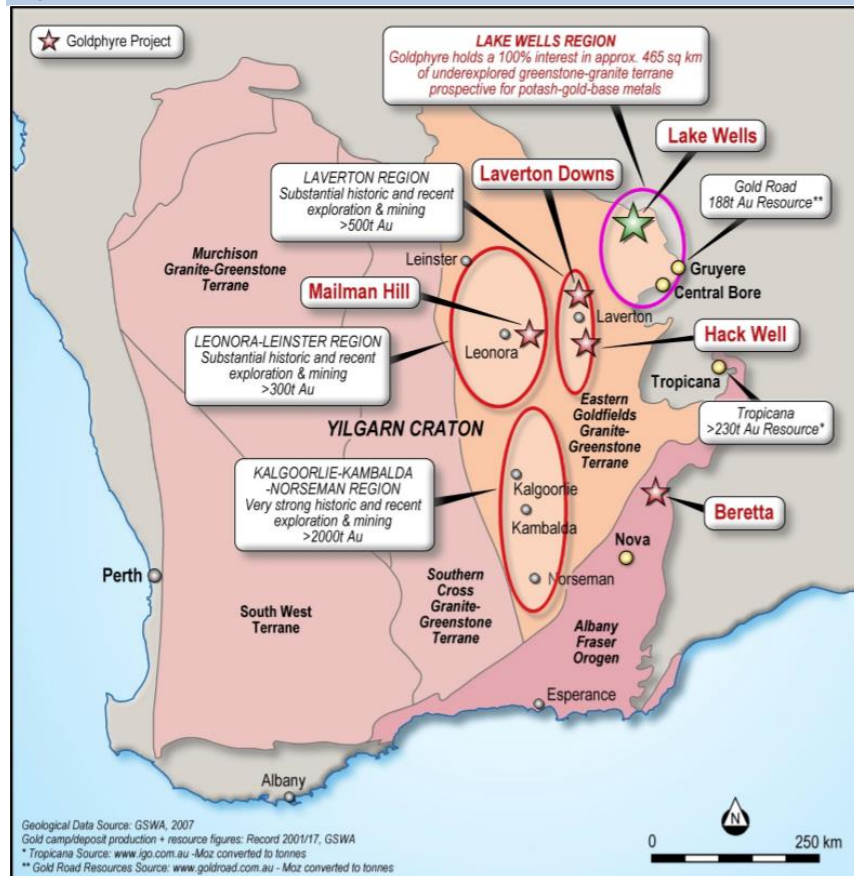
The Great Central project area covers a tenement package over the northeastern part of the Yigarn Craton within the Lake Wells area. The underlying basement rocks of the area are highly prospective for gold, base metals and PGE mineralisation, but due to the extensive sand, salt lake coverage considered under-explored.

Encouraging gold and base metal results reported from RC drilling at Laverton Downs

Mailman Hill

Project located within the Leonora gold district, some 25km east of Leonora WA. Structurally complex area (Keith Kilkenny Fault Zone) considered highly prospective for gold and base metals. See the Company's website for more information.

Fig. 6: Project Location Plan - WA



Projects largely concentrated in the Eastern Goldfields terrane of WA

Source: Goldphyre Resources Ltd

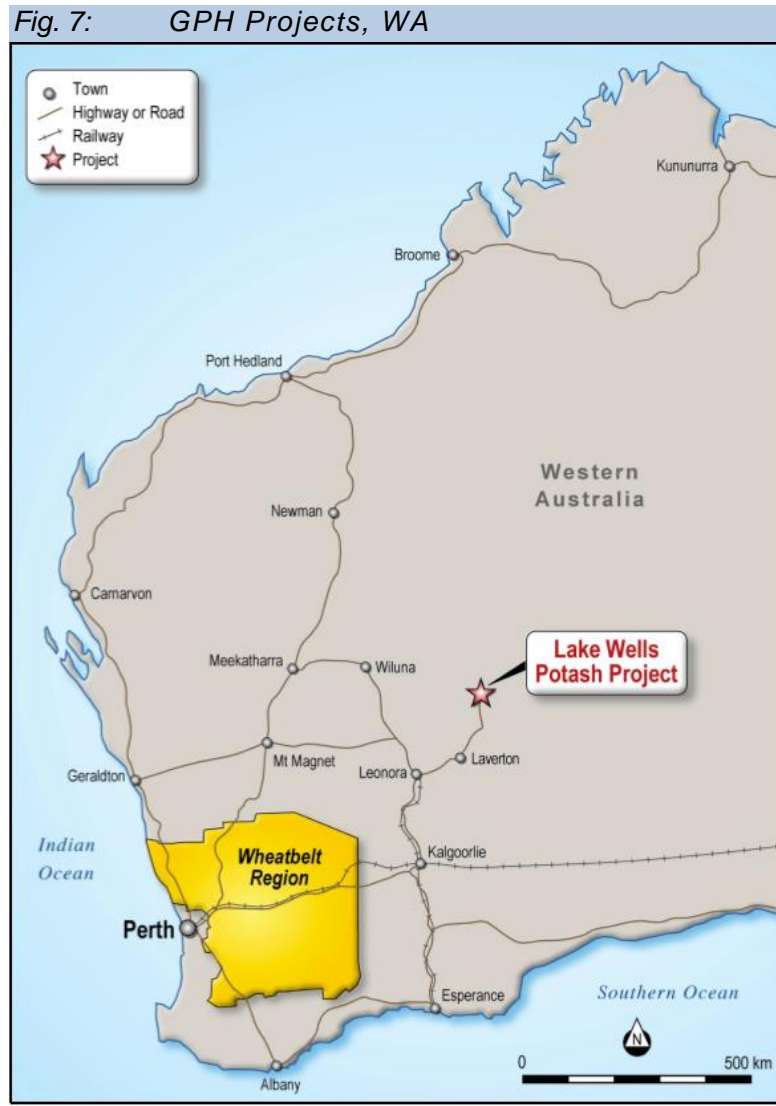
RESERVES AND RESOURCES

No JORC-compliant reserves or resources.

GEOGRAPHIC EXPOSURE

GPH is currently focused on exploration assets within WA, Australia.

Currently focused on exploration asset located in WA



Source: Goldphyre Resources Limited

POTASSIUM – ESSENTIAL PLANT FOOD

Potash (salt containing potassium)

Potash is a generic term for a variety of potassium-bearing ores, minerals and refined products

Potash is a generic term for a variety of potassium (K) bearing ores, minerals and refined products. Potassium cannot be manufactured synthetically and along with nitrogen (N) and phosphorus (P, in the form of phosphates), it is an essential plant nutrient indispensable for productive and healthy plant growth. It is also an additive in some nutritional and pharmaceutical products.

The primary nutrients are nitrogen, phosphorus (phosphates) and potassium (potash)

Potash hasn't been mined in Australia since the early 1950's, with all current potassium fertiliser being imported. Potassium can be applied as a straight or mixed fertiliser, with the four common straight potash fertilisers being:

Potassium increases yields, aids water retention and improves disease resistance

- **Muriate of Potash (MOP):** potassium chloride (KCl), most common K source;
- **Sulphate of Potash (SOP):** potassium sulphate (K₂SO₄), premium source of K;
- **Sulphate of Potash Magnesia (SOPM):** potassium magnesium sulphate (K₂SO₄*2MgSO₄), supplies 3 major nutrients, used mainly for high-value crops.
- **Nitrate of Potash (NOP):** potassium nitrate (KNO₃), commonly referred to as saltpeter, like SOP good for crops sensitive to chloride.

SOP demands higher prices than MOP

SOP is regarded as the premium source of potassium for fertilisers, improving crop yields, suitable for chloride intolerant crops and containing another key nutrient in sulphur.

Supply/Demand – fertiliser values correlate to crop values

SOP brine processing (low cost) uses solar evaporation; average production costs less than US\$200/t

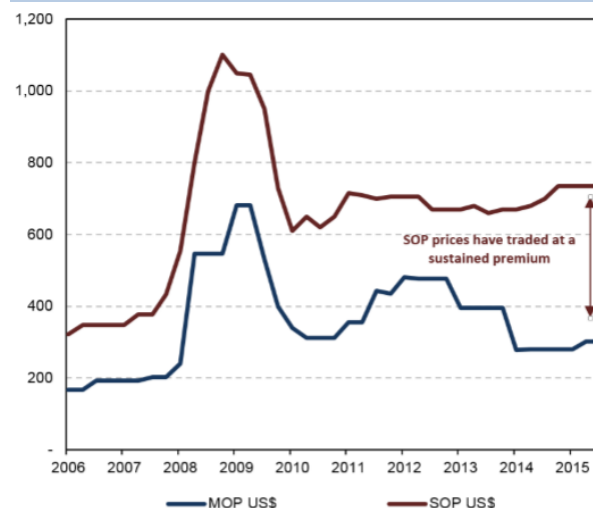
Potassium is largely sourced from primary sources of MOP (potassium chloride), which currently accounts for over 85% of the global potash supply. MOP production is dominated by the global potash majors (Potash Corp, Mosaic, Uralkali, Belaruskali and K+S). Potassium from SOP is currently ~10% of global potash supply, but as a premium quality potash it demands a higher price to MOP. SOP as well as being produced from salt lake brines, can be produced through chemical conversion of MOP (via the Mannheim process).

Sulphate salt reduction (medium cost) converts MOP to SOP using sulphate salts; average production costs is ~US\$290/t

The Mannheim process (~60% of SOP supply) adds sulphuric acid to the potassium chloride (MOP) to produce potassium sulphate (SOP) and hydrochloric acid. The Mannheim process is energy intensive (furnace heating), and has higher costs than brine operations (costs of MOP, sulphuric acid and processing).

Mannheim process (high cost) converts MOP to SOP using intensive processing; average production costs is US\$470/t

Fig. 8: MOP vs SOP Prices (US\$/t)



Source: Danakali Limited after Greenmarkets, Compass Minerals

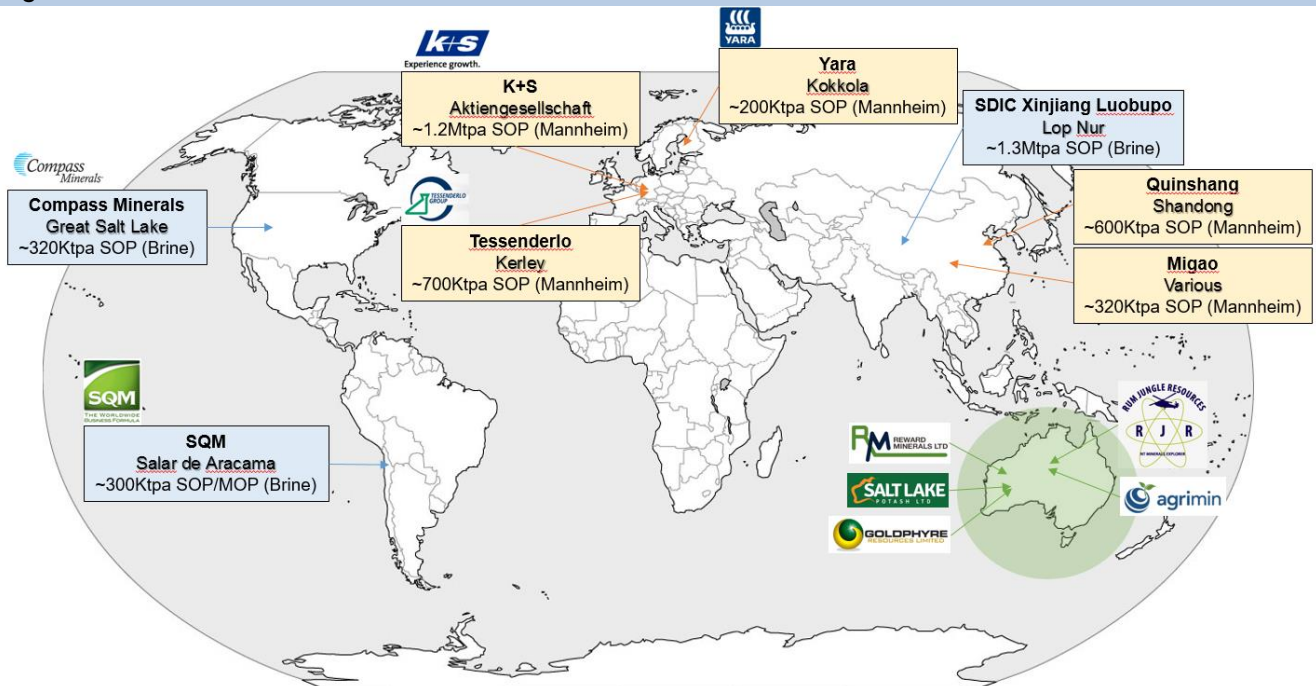
Only 3 current SOP brine operations globally

Potash as a high value bulk commodity, requires access to infrastructure

Brine SOP deposits are considered relatively rare, with only three current producing operations globally; one in the USA (Compass Minerals' Great Salt Lake), one in China (SDIC Xinjiang Luobupo's operation) and one in Argentina (SQM's Salar de Aracama). Australia currently has no brine SOP operations (no potash production), but exploration is well advanced with SOP brine resources reported on Lake Disappointment, Lake Mackay, Lake Wells, Lake Hopkins, Lake Chandler and Karinga Lakes. With several greenfield lake system considered potash-enriched and hence highly prospective (Lake Woods, Lake Amadeus, Lake MacDonald, Lake Frome and Lake Torrens just to name a few).

Potash as a high value bulk commodity, requires access to infrastructure, as such location and available infrastructure (road, rail, power) are important considerations in addition to resource quality when accessing economic viability. Brine SOP projects usually occupy the lower end of production cost curve and generally have lower capital hurdles than rock potash projects. Australia appears well positioned to capitalise on a number of its salt lake systems, both for domestic and international supply.

Fig. 9: SOP Production and some Australian SOP Localities



Source: Reward Minerals modified Hartleys Research

Farmer returns are a key driver of potash consumption

Demand driven by increasing global population, reduction in arable lands, and changes in climate

Global fertiliser consumption has grown at an average annual rate of ~2% over the past 20 years, with potash consumption increasing the most (in % terms) out of the primary nutrients. Fertiliser values correlate strongly with crop values. The recent stronger US\$ and increased supply of some of the major crops, have reduced farmers' margin which impacts purchasing decisions and the application rates of fertilisers. However, for sustainable farming, there remains an economic incentive to improve yields and replenish nutrients removed through crop harvesting. This provides some comfort to longer term forecasts for increased potash consumption (estimated to be 2.5-3.0% CAGR) and price improvement.

Demand is also driven by an increasing population (especially in developing countries such as China and India), a reduction in arable lands and changes in climate. SOP demand is forecast to increase by 4% per annum. Australia currently imports 100% of all potash consumed, estimated at 500K–600Ktpa of which ~50Ktpa is SOP imports.

PEERS – ASX LISTED

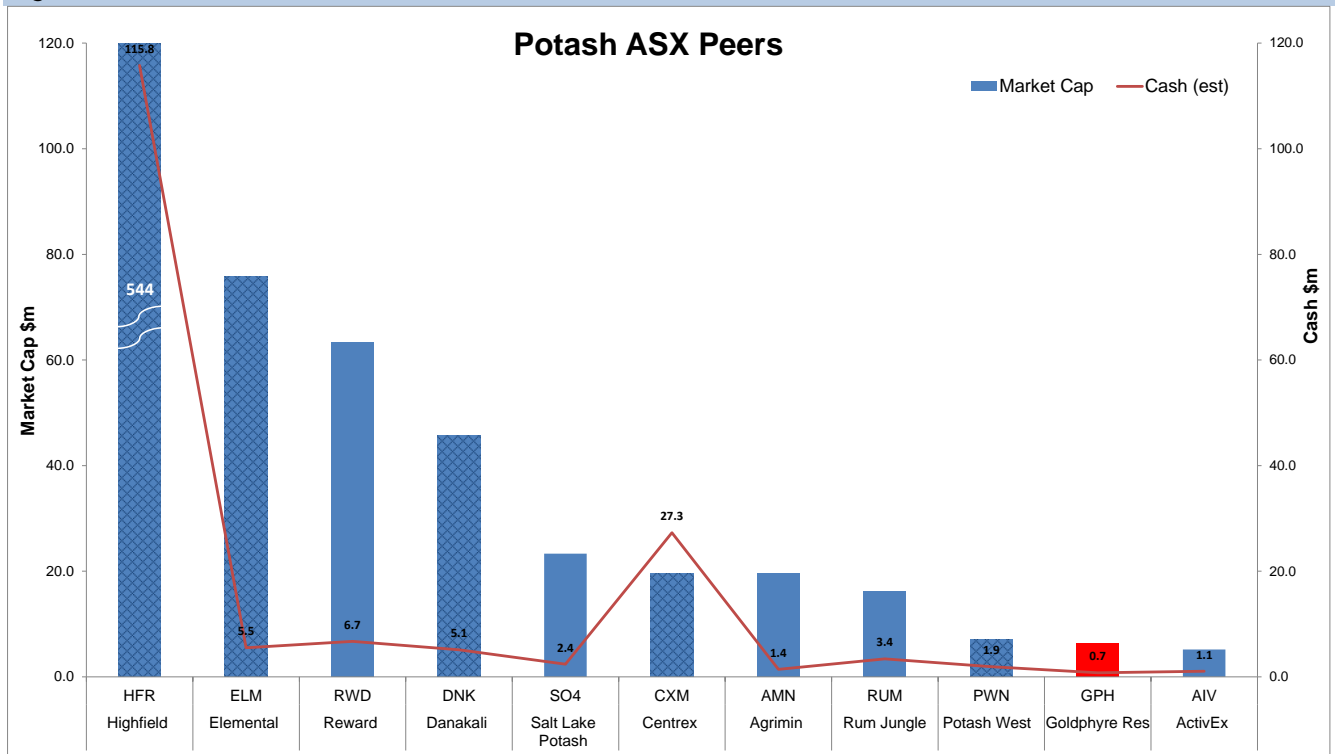
Goldphyre’s (GPH) ASX peers are listed below, and includes some of the large rock potash companies, such as Highfield (HFR), Elemental (ELM) and Danakali (DNK); with advanced projects outside of Australia.

GPH’s potash project is located at Lake Wells in WA

GPH’s potash project is located at Lake Wells in WA. Salt Lake Potash (SO4) also has its main potash project located at Lake Wells but is considered more advanced with a maiden (inferred) resource of 29Mt of SOP (grading ~8.9kg/m³ SOP) reported in late 2015. This resource was calculated from over 477km² of the playa lake surface but only the upper 16m of the lake (average 15.5m), so potential exists for significant resource growth through depth extensions. Completed deeper aircore drilling by SO4 in late 2015, has confirmed a continuation of the brine pool at depth and an update resource estimate is anticipated in early 2016.

For comparison GPH’s playa lake system spans over 200km² and has reported high-grade potash from surface to depths of over 135m. GPH is expected to release a maiden Exploration Target for Lake Wells in Q1 CY16, and a maiden resource by mid-2016.

Fig. 10: Potash ASX Peers

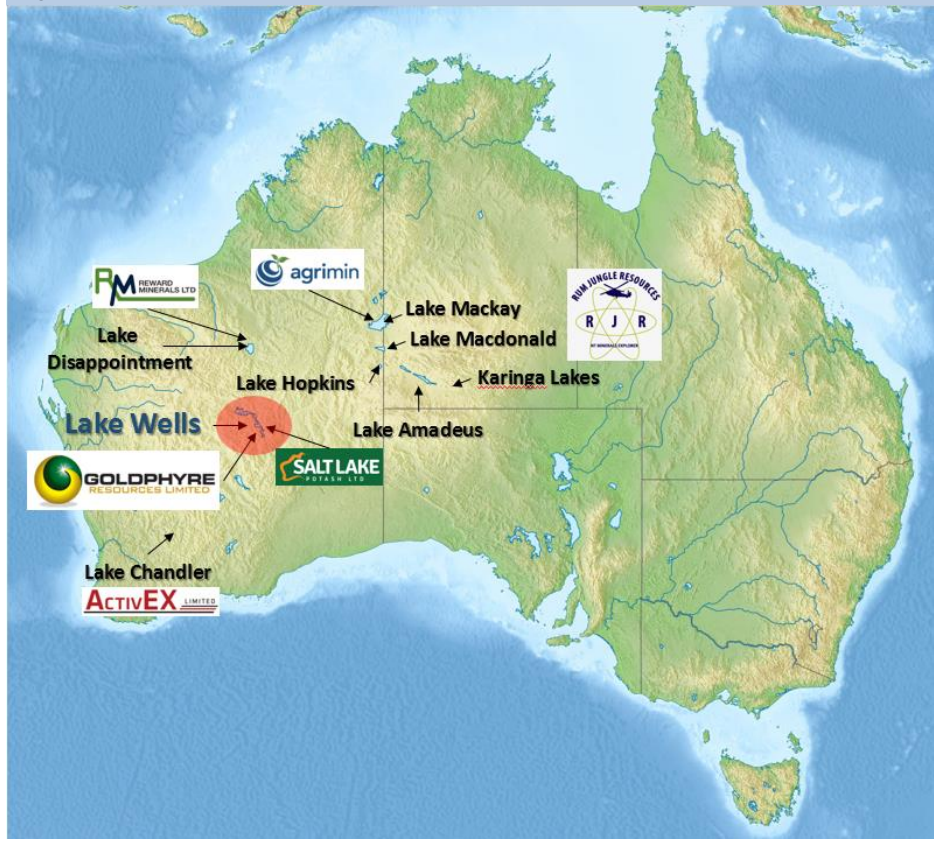


Source: Hartleys Research; Checkered fills implies rock potash as opposed to brines; Cash positions at end SepQ

Reward Minerals (RWD) is currently the largest SOP brine explorer/developer on the ASX, with an advanced stage project located at Lake Disappointment (LD) in WA. RWD’s LD SOP Project sits in the Little Sandy Desert in north-west WA, and contains a large SOP brine resource of 564Mt of SOP (grading ~13.7kg/m³ SOP) which was updated in late 2015. The LD resource was calculated from over 1,240sqkm of the playa lake surface to ~63m below the lake surface, and does include an exclusion zone under the LD Indigenous Land Use Agreement.

Rum Jungle’s (RUM) potash projects are largely concentrated in Central Australia, in the NT and just over the border into WA. RUM has SOP resource estimates at Karinga Lakes, Lake Mackay and Lake Hopkins, and are summarised on Fig.11.

Fig. 11: Main SOP Brine Projects in Australia



Most SOP projects are located in WA and the NT, though some of the salt lakes of SA are considered prospective (ie Lake Torrens)

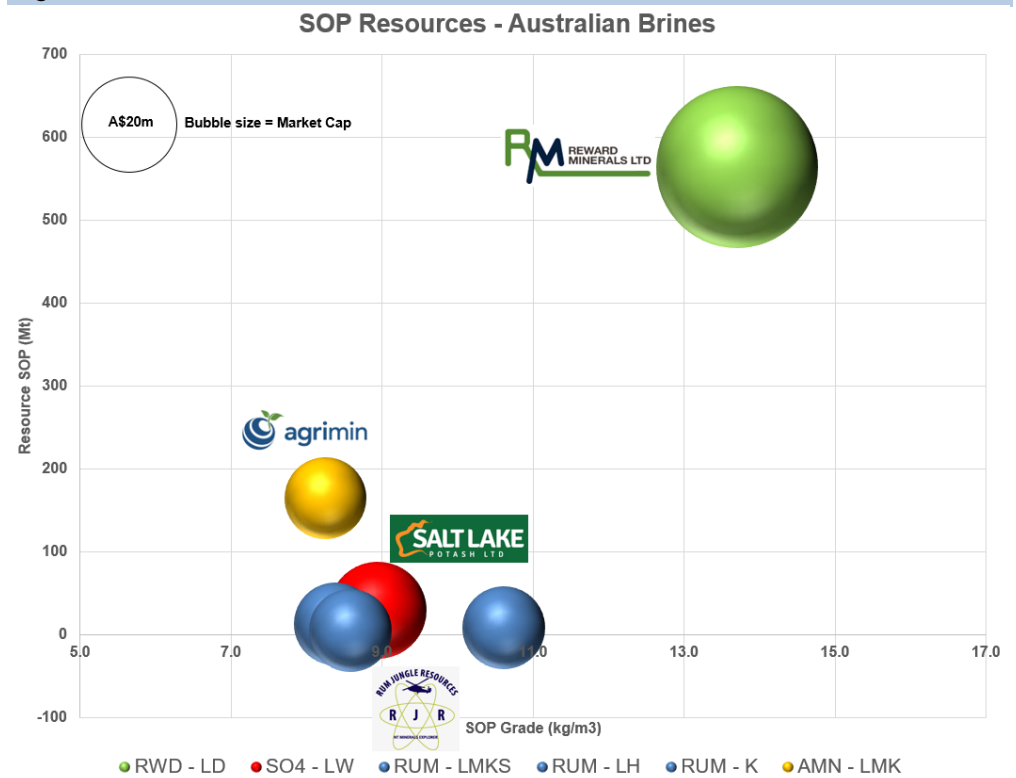
Source: Hartleys Research

RWD's LD SOP resource is a current standout

Resource growth is anticipated at all of the brine lakes indicating Lake Wells

These selected SOP companies are currently trading on a median EV/ SOP resource tonne of 36c

Fig. 12: SOP Resources – Australian Brines



Source: Hartleys Research; LD = Lake Disappointment, LW = Lake Wells, LMKS = Lake Mackay South, LH = Lake Hopkins, K = Karinga Lakes, LMK = Lake Mackay

DIRECTORS AND KEY MANAGEMENT

Fig. 13: Economic exposure of Board & Management

Economic Exposure of Board and key management					
Name	Position	Total Shares	Total Options	Total	rank
Directors					
Matt Shackleton	Executive Chairman	3,948,863	5,676,136	9,624,999	2
Brenton Siggs	Technical Director	7,562,500	4,729,167	12,291,667	1
Dean Goodwin	Non-Executive Director	1,696,136	3,676,136	5,372,272	3
		13,207,499	14,081,439	27,288,938	
Key Management Personnel					
John Ribbons	Company Secretary	Undisclosed	Undisclosed		

Source: Goldphyre Resources Ltd

Directors (as summarised from Goldphyre's Annual Report 2015)

Matt Shackleton, Executive Chairman

Mr Shackleton is a Chartered Accountant with over 20 years' experience in senior management and board roles. Previously the Managing Director of ASX listed Western Australian gold developer Mount Magnet South NL, Mr Shackleton was a founding director of ASX listed and West African gold and bauxite explorer Canyon Resources Limited. He has also held senior roles with Bannerman Resources Limited, a uranium developer, Skywest Airlines, iiNet Limited and DRCM Global Investors in London. Mr Shackleton holds an MBA from The University of Western Australia, and is a Fellow of The Institute of Chartered Accountants, Australia and New Zealand.

Brenton Siggs, Technical Director

Mr Siggs is a geologist with over 25 years' experience in the Australian mineral exploration and mining industry and has worked on a range of gold, nickel, petroleum, mineral sands, coal and phosphate projects throughout Australia. He currently operates a successful geological contracting business which was established in Kalgoorlie in 1994 and is now based in Perth, Western Australia.

Mr Siggs has extensive experience in all stages of regional and near-mine exploration project management, particularly in Western Australia, from conceptual targeting and ground acquisition through to resource definition drilling programs and open cut mining geology. He has held Senior Geologist and Project Leader roles with a variety of Australian and major international companies including Newcrest Mining Ltd., Inco Australia, VALE, Sons of Gwalia Ltd, Central Norseman Gold Corporation Ltd and Belvedere Coal Management Pty Ltd.

Mr Siggs' exploration successes include senior geology roles in Western Australian gold discoveries at Racetrack, Golden Funnel and Black Lady (Mount Pleasant), Dingo Range, Norseman and Menzies (Lady Irene). Other technical highlights include senior roles in resource upgrades at significant nickel laterite (Ravensthorpe Project and Kalgoorlie Nickel Project, Western Australia) and coal projects (Belvedere Coal Project, Queensland).

Mr Siggs is a director of Goldphyre WA Pty Ltd ("Vendor"), and ultimately controls 60% of the Vendor's holding in the Company. Mr Siggs holds a Bachelor of Applied Science (Applied Geology) degree from the University of South Australia and is a Member of the Australian Institute of Geoscientists (AIG) and the Society of Economic Geologists (SEG).

The Goldphyre Board of Directors are experienced mining executives

High level of technical expertise

Directors hold ~13% of the ordinary shares on issue

We estimate Directors will hold ~9% following the completion of the Creasy transaction and post capital raise (based on our assumptions)

*Small but highly
experienced team*

Dean Goodwin, Non-Executive Director

Mr Goodwin, BAppSc (Geology), MAIG is a geologist with over 26 years' exploration experience which has included acting as Head of Geology at Focus Minerals Limited and a six-year period as Managing Director of Barra Resources Ltd (2004-2010).

Mr Goodwin also spent six years as an exploration geologist with Western Mining Corporation Ltd and was involved with discovering the Intrepid, Redoubtable and Santa Anna gold deposits at Lake Lefroy with WMC. Whilst with WMC he worked closely with the nickel exploration team.

John Ribbons (Company Secretary)

Mr Ribbons is an accountant who has worked within the resources industry for over 16 years in the capacity of company accountant, group financial controller or company secretary. Mr Ribbons has extensive knowledge and experience with ASX listed production and exploration companies. He has considerable site based experience with operating mines and has also been involved with the listing of several exploration companies on ASX.

Mr Ribbons has experience in capital raising, ASX and TSX compliance and regulatory requirements. Mr Ribbons has not held any former directorships in the last 3 years.

MAJOR SHAREHOLDERS

Goldphyre's substantial shareholders as at 12 October 2015 was Goldphyre Resources WA Pty Ltd (Brenton Siggs – Technical Director) with 7.25m shares or ~7.3% of the ordinary share at the time.

Yandal Investments Ltd, a Mark Creasy controlled entity, will hold ~19.9% of GPH once the sale and split commodity agreement with Lake Wells Exploration Pty Ltd officially completes and conditions precedent is satisfied.

GPH substantial shareholder will be Mark Creasy (through his Yandal Investments Pty Ltd

Fig. 14: Alkane Top 20 Shareholders – 12 October 2015

Shareholder	No of Shares (m)	%
1 Goldphyre WA Pty Ltd	7.25	7.27%
2 Perth Select Seafoods Pty Ltd	4.01	4.02%
3 Shackleton M W & N J <Harryshack Family A/C>	3.64	3.65%
4 Oceanic Capital Pty Ltd	3.44	3.46%
5 Southern Terrain Pty Ltd <Southern Terrain A/C>	3.06	3.07%
6 Global Dor Pty Ltd	3.00	3.01%
7 KGBR Future Fund Pty Ltd	2.50	2.51%
8 Pollara Pty Ltd <Pollara A/C>	2.27	2.28%
9 Cen Pty Ltd	2.00	2.01%
10 Reliant Resources Pty Ltd <Goodwin Family S/F A/C>	1.68	1.68%
11 Tyson Resources Pty Ltd	1.55	1.56%
12 Dunes Corporation Pty Ltd	1.50	1.51%
13 AWD Consolidated Pty Lt	1.50	1.51%
14 Geoffrey Donald Coultas <Coultas Family A/C>	1.50	1.51%
15 St Barnabas Investments Pty Ltd <Melvista Family A/C>	1.47	1.47%
16 Matthew Norman Bull	1.44	1.45%
17 RLS Engineering Pty Ltd <TLS Family A/C>	1.40	1.41%
18 Grant Ross Tanner	1.27	1.28%
19 Wyss Investments Pty Ltd <EKS Office A/C>	1.20	1.20%
20 Calama Holdings Pty Ltd <Mambat S/F A/C>	1.13	1.13%
Total: Top 20	46.81	46.96%
Remaining Holders Balance	52.86	53.04%
Total on Issue	99.67	100.0%

Top 20 holds ~47%

Source: Goldphyre Resources Ltd

OPTIONS, CONVERTIBLES AND UNPAID CAPITAL

The Company currently has 85.57m options (of which 75.57m are listed (GPHO)), which has the potential to provide funds of over A\$6m (if converted). Our table below includes the additional options to be issued to Yandal Investments (Creasy) upon completion of the Lake Wells Exploration transaction.

Potential for an additional ~A\$8.45m to raised through option conversions

Fig. 15: Options on issue or to-be-issued

Unpaid Capital	Number of shares (m)	A\$ (m)	Ave Pr (A\$)	% (new equity)
Options				
30-Jun-16	1.00	0.20	0.195	1%
30-Jun-17	75.57	6.05	0.080	34%
30-Jun-18	9.00	1.35	0.150	6%
30-Jun-21	6.86	0.86	0.125	4%
Total	92.43	8.45	0.091	39%

Source: Goldphyre Resources Ltd

RECENT AND NEW EQUITY ISSUANCE

Goldphyre last raised equity in late June 2015, issuing 31.25m @ 3.2cps, with one free attaching listed (GPHO) option (exercisable at 8cps, expiry 30 Sept 2016) for A\$1m (before costs). The funds raised were used for drilling programs at the Lake Wells Potash Project and for general working capital.

Last raised funds in late June 2015, but we expect new equity will be sought in early 2016

As flagged in recent Company announcements in regards to the Creasy transaction, the Lake Wells project area now covers ~200km² of the lake playa system (effectively tripling the potash project's footprint) and to fund additional exploration activities new funding will be sought within the next 6 months.

The 19.9% interest that Yandal Investments (Creasy) obtains in GPH is calculated post any capital raise. We assume that GPH will look to raise another A\$1m in new equity in the short-term. We dilute for 18.2m new shares, which in turn implies Yandal will be issued ~29.3m new GPH shares, which will increase the total ordinary shares on issue to ~147.1m. We stress that this is our working assumption.

We expect further capital raisings in 2016. Depending on share price performance option conversions are also possible, which could provide additional funds.

PROFIT & LOSS

Given that Goldphyre is a junior potash/mineral explorer, its financial performance is a reflection of a company where funds raised are spent in search of economic deposits.

Reported Company loss of ~A\$650K in FY15

The Company reported a loss of A\$654K in FY15, with no current production assets profitably is not anticipated for a considerable time.

DEBT AND HEDGING

The Company has no debt or hedging and, as an explorer, we don't anticipate any.

PRELIMINARY PRICE TARGET

METHODOLOGY

Our GPH price target is considered highly speculative.

Our GPH price target is considered highly speculative

We consider Lake Wells Potash Project to be in the early stages of exploration, with confirmed strong potash (SOP) potential with some very high brine grades reported from completed drilling. The addition of more contiguous ground over the Lake Wells playa system is strategically important, expected to add significant new resources and area for potential future evaporation pond infrastructure.

The Company is yet to release a JORC-compliant resource for the SOP project. An Exploration Target is expected in early 2016, and maiden resource by mid-2016. Our preliminary price target is developed through current trading ranges of ASX peers, with SOP resources. Salt Lake Potash (SO4) is seen as a directly comparable peer which has released a JORC-compliant resource estimate (SOP resource) in late 2015. We have used this resource for an estimate of average porosity in our brine volume calculation and we assume a playa lake system covering ~200km², different average thicknesses and a brine SOP grade of 9kg/m³. It should be noted that drilling completed by GPH in 2015 generated wide intercepts of high-grade SOP of 9-11k/m³ to depths of 135m.

Preliminary price target of 11cps

Fig. 16: Hartleys SOP resource workings for Price Target

	Lower	Upper	Units/Comments
Area	200	200	km ³
Ave thickness	25	50	m
Volume	5	10	bm ³
Ave porosity	46%	46%	Lake Wells ave porosity from SO4.asx
Brine Volume	2.3	4.6	bm ³
Brine SOP Grade	9	9	kg/m ³
SOP resource (calc)	21	41	Mt

Source: Hartleys Research; We stress this resource is non-JORC and our estimate only

Our modelling simulation for a small scale SOP operation (~75-100Ktpa SOP), assumes capex of less than A\$150m, mine gate operating costs of A\$250/t, mine life of ~10 years. We assume existing infrastructure of roads and rail can be accessed and domestic SOP prices of A\$600/t and A\$750/t. Our price target for GPH is weighted for the different scenarios (as shown below).

We assume new equity is raised in the short-term

Fig. 17: GPH Price Target Methodology

Price Target Methodology	Weighting	21/01/2016	12 Month
Peer Metric - assuming 20Mt SOP resource	30%	\$0.05	\$0.05
Peer Metric - assuming 40Mt SOP resource	30%	\$0.10	\$0.11
Lake Wells - SOP Prod (NPV@14) - 75-100Ktpa SOP - A\$600/t SOP	20%	\$0.11	\$0.11
Lake Wells - SOP Prod (NPV@14) - 75-100Ktpa SOP - A\$750/t SOP	15%	\$0.27	\$0.28
Cash Backing	5%	\$0.01	\$0.01
Risk weighted composite		\$0.11	
12 Months Price Target		\$0.11	
Shareprice - Last		\$0.064	
12 mth total return (% to 12mth target + dividend)		77%	

Source: Hartleys Estimates

RECOMMENDATION & RISKS

INVESTMENT THESIS & RECOMMENDATION

We initiate coverage of Goldphyre Resources with a Speculative Buy recommendation and with a 12-month price target of 11cps.

We initiate coverage of GPH with a Speculative Buy recommendation

Goldphyre Resources has aspirations of becoming a sulphate of potash (SOP) brine producer, and is progressing exploration at its 100%-owned Lake Wells Potash Project in WA. Resource definition drilling which includes some EIS co-funded holes is expected to commence soon (early in 2016), with the Company well advanced in preparing an Exploration Target for the project area. On the current timing a maiden resource for the Lake Wells Potash Project is anticipated by mid-2016.

Assuming favourable outcomes for resource definition, reserve conversion, and feasible development studies, it is envisaged that the Company's potash brine operation (targeting ~75-100Ktpa SOP) will initially supply the Australian domestic market.

We have a 11cps 12-month price target

Australia currently imports 100% of its potassium fertiliser requirements, and the low chloride and high sulphate content of SOP makes it an ideal and preferred form of potassium (fertiliser) for Australian farmers. In addition, brine SOP projects generally occupy the lower end of production cost curve and have significantly lower capital hurdles than rock potash projects. SOP is a premium potash fertiliser which attracts a superior price, underpinned by limited brownfields and greenfields supply and increasing demand (forecast growth of 4%).

Lake Wells has been identified as a high-grade SOP brine salt lake, confirmed both at the salt lake surface and at depth. The project is located ~300km from a bulk rail terminal at Leonora, connected by a network of roads (sealed and unsealed). The climate for the project area is highly conducive to evaporation and receives good annual rainfall (for aquifer recharging).

Goldphyre is targeting a low capital SOP brine operation that will initially supply the domestic potash market

The Company has tenure within the area that now spans 1,500km², having recently acquired the potash rights to some surrounding tenements held by highly successful prospector, Mark Creasy. Under the terms of the deal, GPH tripled its exploration holdings and lake coverage within the area (100% potash rights), for which Creasy emerges with 19.9% of the Company.

The Company now controls over 200km² of the playa lake system. Recent exploration (drilling and seismic surveys) has identified an extensive palaeovalley (up to 170m deep) within the lake system, which highlights significant depth potential for the brines. Highlighting potential larger brine resources (over time) and opportunities for deeper pumping levels for increased potash recovery.

SIMPLE S.W.O.T. TABLE

<i>Targeting SOP brine production for the Australian potash market</i>	Strengths	<ul style="list-style-type: none"> - <i>High grade SOP brines</i> - <i>Thick playa lake system, with potential for brine recharge</i> - <i>100%-owned, expanded footprint</i> - <i>Potential for low cost, low capex operation</i> - <i>Growing market for target commodity (potash)</i> - <i>Expected access to infrastructure</i>
<i>No current resources or reserves</i>	Weaknesses	<ul style="list-style-type: none"> - <i>Located in Australia</i> - <i>No reserves or resources</i> - <i>Low current cash</i> - <i>~300km from Leonora (rail terminal)</i> - <i>No development studies and project not permitted</i> - <i>Requires ongoing funding</i>
<i>Funding requirement</i>	Opportunities	<ul style="list-style-type: none"> - <i>Domestic and international product supply</i> - <i>Exploration upside</i> - <i>M&A activity</i>
<i>Threat of commodity price weakness</i>	Threats	<ul style="list-style-type: none"> - <i>Exploration downside</i> - <i>Commodity prices and market sentiment</i> - <i>Potential takeover</i> - <i>Financing risks</i>

Source: Hartleys Research

RISKS

Key risks for GPH are funding, and commodity prices. Hence we view GPH as high risk.

Fig. 18: Key assumptions and risks for valuation

Assumption	Risk of not realising assumption	Risk to valuation if assumption is incorrect	Comment
Model parameters for our preliminary GPH valuation and price target	Med	Meaningful	We have made a number of large assumptions in our GPH preliminary valuation, based on incomplete information (ie no resources, reserves, or development studies). GPH has no production history. Any changes to our assumptions have both upside and downside risks.
Favourable commodity prices	Low	Meaningful	GPH remains sensitive to changes in commodity (potash) prices, exchange rates and market sentiment. Though with no current operations, direct impact from commodity prices is limited.
Funded for ongoing exploration	Med	Moderate	GPH's cash position is currently low. We have diluted for a near-term capital raise, which will provide some funding for CY16. As an explorer with no current production assets, ongoing funding will be required. We assume exploration success which will deliver both a solid Exploration Target and maiden resource by mid-2016.

Conclusion

We have made significant assumptions but believe these are achievable.

Source: Hartleys Research

HARTLEYS CORPORATE DIRECTORY

Research

Trent Barnett	Head of Research	+61 8 9268 3052
Mike Millikan	Resources Analyst	+61 8 9268 2805
Scott Williamson	Resources Analyst	+61 8 9268 3045
Simon Andrew	Energy Analyst	+61 8 9268 3020
Janine Bell	Research Assistant	+61 8 9268 2831

Corporate Finance

Grey Egerton-Warburton	Director & Head of Corp Fin.	+61 8 9268 2851
Richard Simpson	Director	+61 8 9268 2824
Paul Fryer	Director	+61 8 9268 2819
Dale Bryan	Director	+61 8 9268 2829
Ben Wale	Associate Director	+61 8 9268 3055
Ben Crossing	Associate Director	+61 8 9268 3047
Stephen Kite	Associate Director	+61 8 9268 3050
Scott Weir	Associate Director	+61 8 9268 2821

Registered Office

Level 6, 141 St Georges Tce Postal Address:

PerthWA 6000	GPO Box 2777
Australia	Perth WA 6001
PH:+61 8 9268 2888	FX: +61 8 9268 2800
www.hartleys.com.au	info@hartleys.com.au

Note: personal email addresses of company employees are structured in the following manner:firstname_lastname@hartleys.com.au

Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

Institutional Sales

Carrick Ryan	+61 8 9268 2864
Justin Stewart	+61 8 9268 3062
Simon van den Berg	+61 8 9268 2867
Chris Chong	+61 8 9268 2817
Digby Gilmour	+61 8 9268 2814
Veronika Tkacova	+61 8 9268 3053

Wealth Management

Nicola Bond	+61 8 9268 2840
Bradley Booth	+61 8 9268 2873
Adrian Brant	+61 8 9268 3065
Nathan Bray	+61 8 9268 2874
Sven Burrell	+61 8 9268 2847
Simon Casey	+61 8 9268 2875
Tony Chien	+61 8 9268 2850
Tim Cottee	+61 8 9268 3064
David Cross	+61 8 9268 2860
Nicholas Draper	+61 8 9268 2883
John Featherby	+61 8 9268 2811
Ben Fleay	+61 8 9268 2844
James Gatti	+61 8 9268 3025
John Goodlad	+61 8 9268 2890
Andrew Gribble	+61 8 9268 2842
David Hainsworth	+61 8 9268 3040
Neil Inglis	+61 8 9268 2894
Murray Jacob	+61 8 9268 2892
Gavin Lehmann	+61 8 9268 2895
Shane Lehmann	+61 8 9268 2897
Steven Loxley	+61 8 9268 2857
Andrew Macnaughtan	+61 8 9268 2898
Scott Metcalf	+61 8 9268 2807
David Michael	+61 8 9268 2835
Jamie Moullin	+61 8 9268 2856
Chris Munro	+61 8 9268 2858
Michael Munro	+61 8 9268 2820
Ian Parker	+61 8 9268 2810
Charlie Ransom	+61 8 9268 2868
Brenton Reynolds	+61 8 9268 2866
Conlie Salvemini	+61 8 9268 2833
Mark Sandford	+61 8 9268 3066
David Smyth	+61 8 9268 2839
Greg Soudure	+61 8 9268 2834
Sonya Soudure	+61 8 9268 2865
Dirk Vanderstruyf	+61 8 9268 2855
Samuel Williams	+61 8 9268 3041
Jayne Walsh	+61 8 9268 2828

Disclaimer/Disclosure

The author of this publication, Hartleys Limited ABN 33 104 195 057 ("Hartleys"), its Directors and their Associates from time to time may hold shares in the security/securities mentioned in this Research document and therefore may benefit from any increase in the price of those securities. Hartleys and its Advisers may earn brokerage, fees, commissions, other benefits or advantages as a result of a transaction arising from any advice mentioned in publications to clients.

Hartleys has completed a capital raising in the past 12 months for Goldphyre Resources Limited ("Goldphyre") for which it has earned fees. Hartleys has provided corporate advice to Goldphyre within the past 12 months and continues to provide corporate advice, for which it will earn fees.

Any financial product advice contained in this document is unsolicited general information only. Do not act on this advice without first consulting your investment adviser to determine whether the advice is appropriate for your investment objectives, financial situation and particular needs. Hartleys believes that any information or advice (including any financial product advice) contained in this document is accurate when issued. Hartleys however, does not warrant its accuracy or reliability. Hartleys, its officers, agents and employees exclude all liability whatsoever, in negligence or otherwise, for any loss or damage relating to this document to the full extent permitted by law.