

31 July 2018

# SCOPING STUDY FOR LOW CAPEX, HIGH MARGIN DEMONSTRATION PLANT AT LAKE WAY

Salt Lake Potash Limited (**SLP** or **the Company**) is pleased to announce that a Scoping Study on development of a 50,000tpa sulphate of potash (**SOP**) Demonstration Plant at Lake Way supports a low capex, highly profitable, staged development model, with total capital costs of approximately A\$49m and average cash operating costs (FOB) of approximately A\$387/t.

#### Cautionary Statement

The Scoping Study referred to in this announcement has been undertaken to determine the potential viability of a Demonstration Plant constructed at the Lake Way Project (**Project**) and to reach a decision to provide a basis for proceeding with more definitive studies. The Scoping Study has been prepared to an accuracy level of  $\pm 30\%$ . The results should not be considered a profit forecast or production forecast.

The Scoping Study is a preliminary technical and economic study of the potential viability of the Lake Way Project. In accordance with the ASX Listing Rules, the Company advises it is based on low-level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work including infill drilling and appropriate studies are required before Salt Lake Potash will be able to estimate any ore reserves or to provide any assurance of an economic development case.

100% of the total production target is in the Indicated and Measured resource category.

The Scoping Study is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Salt Lake Potash considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the range outcomes indicated in the Scoping Study, additional funding will likely be required. Investors should note that there is no certainty that Salt Lake Potash will be able to raise funding when needed. It is also possible that such funding may only be available on terms that dilute or otherwise affect the value of the Salt Lake Potash's existing shares. It is also possible that Salt Lake Potash could pursue other 'value realisation' strategies such as sale, partial sale, or joint venture of the Project. If it does, this could materially reduce Salt Lake Potash's proportionate ownership of the Project.

The Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement and believes that it has a reasonable basis to expect it will be able to fund the development of the Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.



# SCOPING STUDY OUTCOMES

Capital Costs (-10% & +30%)	
Total Capital Costs	A\$49m
Including: - Temporary facilities - EPCM - Growth allowance (contingency)	A\$0.4m A\$4.8m A\$6.3m
Average Total Cash Cost (FOB) (+/- 30%)	
Average Total Cash Cost (FOB)	A\$387/t
Comprising: - Mine Gate Opex - Transport and handling - Royalties	A\$251/t A\$96/t A\$40/t
Forecast SOP Price:	A\$667/t (US\$500/t)
Study Manager:	Wood (formerly Amec Foster Wheeler)
Average Annual Production:	50,000 tonnes of SOP
Product Specifications:	Industry Standard Sulphate of Potash (K <sub>2</sub> SO <sub>4</sub> ): K <sub>2</sub> O: min. 52% SO <sub>4</sub> : min.54% Cl: <1%
Mineral Resource:	The Demonstration Plant is 100% supported by an Indicated and Measured Mineral Resource (drainable) within the Blackham mining lease area totalling 0.5Mt (Stored Resource - 2Mt), a multiple of the resource required to support a 50,000tpa Demonstration Plant for 2-3 years.
Evaporation Pond Construction:	On-lake, unlined halite ponds On-lake, partially (wall) lined harvest ponds
Transport Route (export):	Quad road train haulage to Geraldton
Tenure:	The Demonstration Plant will initially be based on Mining Leases owned by Blackham Resources Limited, under the Memorandum of Understanding (MOU) described in the ASX Announcement dated 12 March 2018.
	Longer term and larger volume production will be based on SLP's Lake Way exploration permits.
Timeline:	The Company's objective is to produce initial harvest salts in mid-late 2019 for initial SOP production in early 2020, subject to permitting, weather and other parameters.
	There are potentially considerable time savings from utilising the super-saturated brines in the Williamson Pit at Lake Way and testwork continues to define these parameters.



## **DEVELOPMENT PROCESS**

The Demonstration Plant is intended to validate the technical and commercial viability of brine SOP production from the Company's Goldfields Salt Lakes Project **(GSLP)**, providing the basis to build a world class, low cost, long life SOP operation across the 9 lakes in the GSLP.

The Company has previously established that larger production volumes (400,000tpa) can result in operating costs in the lowest cost quartile for SOP production globally\*. This is principally a result of the economies of scale inherent in the GSLP's advantageous location in the Northern Goldfields mining district, mostly in the main cost centres of transport, labour and power.

The Company will pursue a fast track, staged approach to the development of a Demonstration Plant at Lake Way, taking advantage of the unique circumstances of the Williamson Pit to accelerate the development timeline, while also de-risking the project at each stage.

Pursuant to the MOU with Blackham Resources Ltd (**Blackham**), the Company will construct an initial pond system to dewater the Williamson Pit, which contains approximately 1.2GL of super-saturated brine, with a very high average SOP content of 25kg/m<sup>3</sup>. These Williamson Ponds will comprise approximately 1/3 of the total Demonstration Plant pond area, and early dewatering of the Williamson Pit offers a much shorter development time due to its very high grade and saturation.



Figure 1: Williamson Pit and Brines

SLP plans to construct the Williamson Ponds by the end of 2018, in parallel with completing a Feasibility Study for the Demonstration Plant, followed by initial kainite salt harvesting in mid-late 2019.

After the Feasibility Study, the Company anticipates completing the balance of the on-lake infrastructure - evaporation ponds and trenches - while the fabrication of the process plant is completed offsite. Stockpiled kainite harvest salt will be used for commissioning when the plant is installed, also on existing Mining Leases, with the Company planning for initial SOP production in early 2020, subject to weather, permitting and other factors.

\* See the Company's announcement titled 'Scoping Study Confirms Lake Wells Potential' dated 29 August 2016.



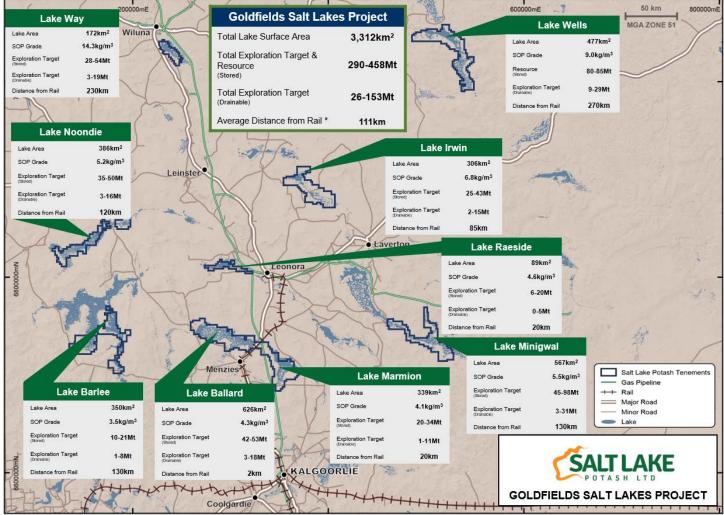
## LONGER TERM OUTLOOK

The excellent economic parameters support the development of a Demonstration Plant on the Blackham Mining Leases at Lake Way, which would likely be followed by expanded production onto SLP's current Exploration Permits, covering most of the Lake and including the paleochannel identified by previous exploration.

Expansion of production beyond the Demonstration Plant would capture substantial economies of scale inherent in bulk transport, reduced royalties and spreading the fixed cost base, amongst other things.

The Company has previously estimated Exploration Targets for the whole of Lake Way ranging from 28-54Mt of SOP (stored) and 3-19Mt (drainable), indicating potential for the Lake to support a much larger SOP operation. [The potential quantity and grade of this Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource].

Following demonstration of the viability of SOP production in the GSLP the Company plans to expand production to the other lakes, which have broadly similar salt production potential and transport solutions in some cases superior to Lake Way. The company is investigating integrated production scenarios across a number of lakes, ranging from centralised processing of intermediate concentrates to centralised stockpiling, transport staging, packaging and logistics.



The potential quantity and grade of this Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. Refer to ASX Announcement titled 'Exploration Targets Reveal World Class Scale Potential' dated 28 March 2018.

\*Distance from Rail = nearest point of the lake to the railway line

Figure 2: GSLP Salt Lakes Showing Main Infrastructure

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As production volumes increase, particularly to the lakes south of Lake Way, the optimal transport solution is likely to be based on bulk rail haulage from Leonora or Malcolm sidings, through Kalgoorlie to port. Transport and handling is the largest cost centre for SOP production, and there is substantial potential to capture economies of scale from this logistics solution.

The Company has been in discussion with a range of parties about potential financing structures for a Demonstration Plant on the GSLP, including debt, equity, off-take, royalty and joint venture structures. The Company is well funded to continue Feasibility Study work while these discussions continue.

The Company is in the process of drafting a formal agreement with Blackham, in accordance with the MOU. Both parties currently anticipate dewatering of the Williamson Pit in late 2018/early 2019.

CEO Matt Syme said "This Scoping Study confirms our expectations that a Demonstration Plant at Lake Way is the ideal model for starting development of the broader SOP project across our extensive salt lake portfolio. The advantages inherent in our location and the cost benefits associated with low cost trench extraction and on-lake ponds are apparent, and these advantages will increase significantly with scale. The low capex, excellent operating margins and ability to de-risk the Project through staged development also give us the opportunity to optimise the numerous financing alternatives before us. We are excited to be at the leading edge of a whole new industry in Australia and we are looking forward to developing the most sustainable and rewarding fertiliser project in the world."

**Enquiries:** 

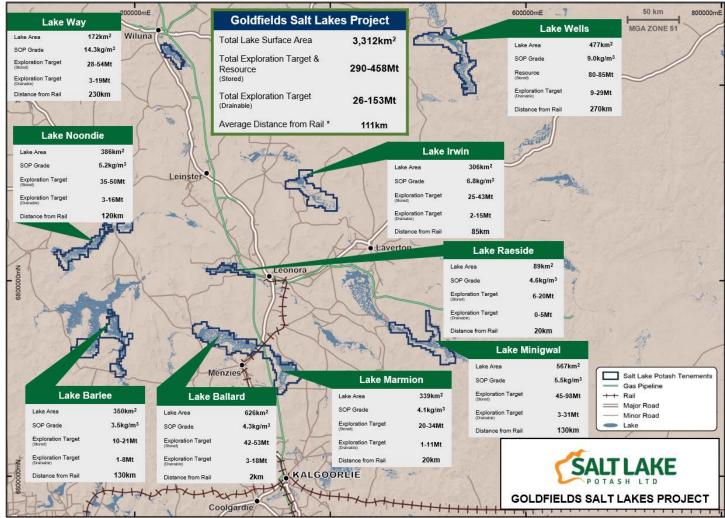
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# BACKGROUND

SLP is the owner of the Goldfields Salt Lakes Project (GSLP), which comprises nine large salt lakes in the Northern Goldfields Region of Western Australia.



The potential quantity and grade of this Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. Refer to ASX Announcement titled 'Exploration Targets Reveal World Class Scale Potential' dated 28 March 2018.

\*Distance from Rail = nearest point of the lake to the railway line

#### Figure 3: GSLP Salt Lakes Showing Main Infrastructure

The GSLP has a number of important, favourable characteristics:

- Very large paleochannel hosted brine aquifers, with chemistry amenable to evaporation of salts for SOP production, extractable from both low-cost trenches and deeper bores;
- Over 3,300km<sup>2</sup> of playa surface, with in-situ clays suitable for low cost on-lake pond construction;
- The total "stored" Exploration Target for the GSLP is 290Mt 458Mt of contained Sulphate of Potash (SOP) with an average SOP grade of 4.4 – 7.1kg/m<sup>3</sup> (including Lake Wells' Mineral Resource of 80-85Mt). On a "drainable" basis the total Exploration Target ranges from 26Mt – 153Mt of SOP. [The potential quantity and grade of this Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource].

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- Excellent evaporation conditions;
- Excellent access to transport, energy and other infrastructure in the Goldfields mining district;
- Lowest quartile capex and opex potential based on the Lake Wells Scoping Study;
- Clear opportunity to reduce transport costs by developing lakes closer to infrastructure and by capturing economies of scale;
- Multi-lake production offers operational flexibility, cost advantages and risk mitigation from localised weather events;
- The very high level of technical validation already undertaken at Lake Wells substantially applies to the other lakes in the GSLP; and
- > Potential co-product revenues, particularly where transport costs are lowest.

The Company's long term plan is to develop an integrated SOP operation of global scale producing high quality organic SOP from a number (or all) of the lakes within the GSLP, after confirming the technical and commercial elements of the Project through construction and operation of a Demonstration Plant producing up to 50,000tpa of SOP.

## **DEMONSTRATION PLANT**

The Company believes the advantages of the Demonstration Plant approach are:

- While substantial salt-lake brine production of SOP is undertaken in China, Chile and the USA, it is new in Australia and overseas production models need to be tested and adapted for Australian conditions.
- Proof of concept for SOP production from salt-lake brines in Australia will substantially de-risk the full-scale project, with commensurate improvement in financing costs and alternatives. While the Demonstration Plant does not benefit from economies of scale, it will provide financiers and partners a very reliable cost basis for larger scale, longer term operations, while still being low capex and high margin in its own right.
- Refinement of design and costing of engineering elements at Demonstration Plant scale should result in considerable time and cost savings at larger scale.
- Market acceptance of a new product in conservative agricultural markets is best achieved progressively and in conjunction with existing, established partner(s). It is important to establish SLP's product(s) as premium, sustainable nutrients in the key long-term markets, and staged production increments are the best way to achieve this objective.
- A Demonstration Plant offers an accelerated pathway to initial production, with limited infrastructure requirements and a faster, simpler approval process. The Demonstration Plant is intended to operate for 12-24 months to establish parameters for larger scale production, and then be integrated into a larger operation. The Company's objective is to commence construction in 2018, harvesting first salts in 2019, and producing first SOP in early 2020.



## LAKE WAY

The Company's recent Memorandum of Understanding with Blackham Resources Limited (see ASX Announcement dated 12 March 2018) offers the potential for an expedited path to development at Lake Way, possibly the best site for a 50,000tpa Demonstration Plant in Australia.

Lake Way is located less than 15km south of Wiluna. The Wiluna region is an historic mining precinct dating back to the late 19th century. It has been a prolific nickel and gold mining region with well developed, high quality infrastructure in place.

The Goldfields Highway is a high quality sealed road permitted to carry quad road trains and passes 2km from the Lake. The Goldfields Gas Pipeline is adjacent to SLP's tenements, running past the eastern side of the Lake.

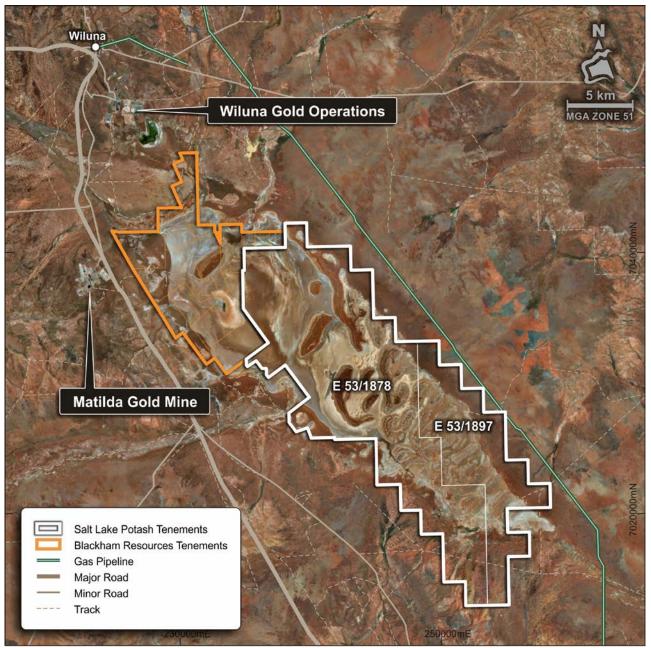


Figure 4: Map of Lake Way



Lake Way has some compelling advantages which make it potentially an ideal site for an SOP operation, including:

- Substantial capital and operating savings potential from sharing overheads and infrastructure with the Wiluna Gold Mine. This includes the accommodation camp, flights, power, maintenance, infrastructure and other costs.
- The site has an excellent freight solution, located 2km from the Goldfields Highway, which is permitted for heavy haulage 4 trailer road trains to the railhead at Leonora or by road to Geraldton. It is also adjacent to the Goldfields Gas Pipeline.
- A Demonstration Plant would likely be built on Blackham's existing Mining Licences.
- SLP would dewater the Williamson Pit, prior to Blackham mining, planned for early-mid 2019. The pit contains an estimated 1.2GL of brine at the exceptional grade of 25kg/m<sup>3</sup> of SOP. This brine is potentially the ideal starter feed for evaporation ponds, having already evaporated from the normal Lake Way brine grade, which averages around 14kg/m<sup>3</sup>.
- The high grade brines at Lake Way will result in lower capital and operating costs due to lower extraction and evaporation requirements.
- Historical exploration and initial sampling indicate the presence of clays in the upper levels of the lake which should be amenable to low cost, on-lake evaporation pond construction.





## PROJECT OVERVIEW

The Demonstration Plant will produce up to 50,000tpa of high quality, standard SOP from hypersaline brine extracted from Lake Way via a system of shallow trenches.

The extracted brine will be transported to a series of solar evaporation ponds built on the Lake where selective evapo-concentration will precipitate potassium double salts in the final evaporation stage. These potassium-rich salts will be mechanically harvested and processed into SOP in a separation and crystallisation plant. The final product will then be transported for sale to the domestic and international markets.

The key elements of the process:



The Company has previously tested and verified at Lake Wells all the major technical foundations for production of SOP from salt lake brine under actual site conditions and across all seasons. These technical achievements are broadly applicable across all the lakes in the GSLP and form part of the inputs into the Scoping Study.

The Study has established the indicative costs of the Demonstration Plant to +/- 30% accuracy for Operating Costs and -10%/+30% for Capital Expenditure.



Figure 5: Illustration of Trenching



## **MAJOR STUDY PARAMETERS**

Table 1: Key Assumptions and Inputs	
Maximum Study Accuracy Variation	+/- 30%
Annual Production (steady state)	50,000tpa
Proportion of Production Target – Measured & Indicated	100%
Mineral Resource (Blackham Mining Leases)	
SOP Stored Resource (Indicated)	2Mt
SOP Drainable Resource (Indicated)	490,000t
Williamson Pit (Measured)	32,000t
Mining Method (Extraction)	
Trenches – Average 5m deep	30km
Brine Delivery	595m <sup>3</sup> /h
Brine Chemistry (SOP Lake Brine only)	15kg/m <sup>3</sup>
Evaporation Ponds	
Area	389ha
Halite Ponds (unlined)	308ha
Harvest Ponds (partially lined)	81ha
Recovery of Potassium from feed brine	63%
Recovery of Sulphate from feed brine	21%
Plant	
Operating time (h/a)	7,950
Total Staffing	20
Operating Costs (±30%)	
Minegate	A\$251/t
Transport and Handling	A\$96/t
Royalties <sup>1</sup>	A\$40/t
Total Cash Costs (FOB)	A\$387/t
Capital Costs (-10%/+30%)	
Direct	A\$37.3m
Indirect	A\$5.2m
Growth Allowance	A\$6.3m
Total Capital	A\$48.9m

<sup>1</sup> Royalties (State Government 2.5% and Other 4.5%)

<sup>\*</sup> Operating costs do not include deprecation or sustaining capital. The Demonstration Plant is intended to operate for 2-3 years to validate the production model, and a successful Demonstration Plant will naturally then be intregrated into a larger production operation.



### STUDY CONSULTANTS

The Scoping Study was managed by Wood (formerly Amec Foster Wheeler). Wood is a recognised leader in potash mining and processing with capabilities extending to detailed engineering, procurement and construction management. Wood also managed the Company's Scoping Study for Lake Wells released in August 2016.

In addition to Wood, the Company engaged international brine-processing experts Carlos Perucca Processing Consulting Ltd (**CPPC**) and AD Infinitum Ltd (**AD Infinitum**) and their principals Mr Perucca and Mr Bravo, who are highly regarded experts in the potash industry. Mr Bravo previously worked as Process Manager Engineer at SQM, the third largest salt lake SOP producer globally. He specialises in the front end of brine processing from feed brine through to the crystallisation of harvest salts. Mr Perucca has over 25 years of experience in mineral process engineering and provided high-level expertise with respect to plant operations for the processing of harvest salts through to final SOP product. AD Infinitum and CPPC were responsible for the brine evaporation and salt processing components in the Scoping Study.

The Company engaged Bis Consulting (Bis) to provide an independent transport study on the logistics options for SOP from Lake Way. Bis is a leading provider of resources logistics in Australia, offering bulk logistics and materials handling.

Independent expert potash market forecasts and assessments were provided by CRU International Limited and Fertiliser Sales Development Ltd.

Area	Responsibility
Study Manager	Wood
Resource Estimation	Groundwater Science
Hydrogeology	SLP
Brine Extraction	SLP
Brine Evaporation	Ad-Infinitum/Knight Piésold
Geotechnical	Knight Piésold
Process Plant	
- Design basis/criteria	CPPC/SLP
- Process plant design	Wood
Plant Infrastructure	Wood
Area Infrastructure	Wood/SLP
Product Transport and Logistics	Bis Consulting
Environmental and Heritage	Pendragon
Capex Estimate Compilation	Wood
Opex Estimate Compilation (mine-gate)	Wood
Economic Analysis	Wood
Recommendations	Wood/SLP

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## CAPITAL EXPENDITURE

The initial capital cost to develop from the Demonstration Plant has been estimated at A\$43 million (before growth allowance). Capital expenditure was estimated at an accuracy of -10% to +30%.

Area	\$Am
Brine Extraction	1.6
Evaporation	7.8
Process Plant	20.3
Plant Infrastructure	3.0
Area Infrastructure	0.1
Regional Infrastructure	2.6
Miscellaneous	1.9
Total Direct	37.3
Temporary Facilities	0.4
EPCM	4.8
Total Indirect	5.2
Total Bare	42.5
Growth Allowance	6.3
Total Initial Capital	48.9
* Errors due to rounding	

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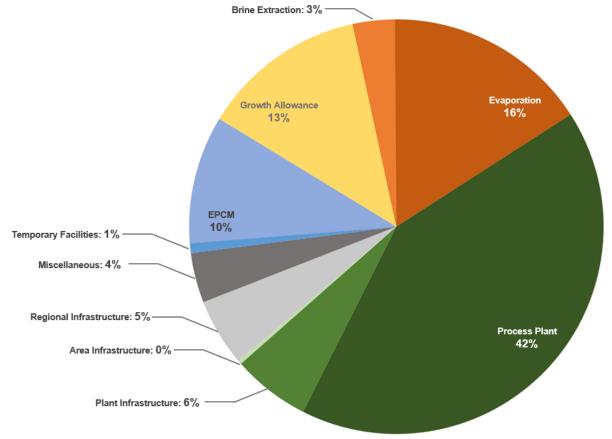


Figure 6: Capital Costs Breakdown

The benefits of Lake Way's location are evident in the low area and regional infrastructure costs. The availability of a wide flat playa area amenable in-situ clays offers the opportunity to construct low capex evaporation ponds on the Lake.



## **OPERATING COSTS**

The operating cost estimates are based on an accuracy of ±30%.

Area	Cost per tonne (\$A)
Labour	\$ 57
Power	\$ 24
Maintenance	\$ 22
Reagents	\$ 14
Consumables	\$ 81
Miscellaneous	\$ 32
General and Administration	\$ 21
Total (Operating Costs per tonne) Mine Gate	\$ 251
Transportation	\$ 96
Total (Operating Costs per tonne)	\$ 347
Royalties (2.5% State Government and 4.5% Others)	\$ 40
Total Operating Cost per tonne	\$ 387

\* Errors due to rounding

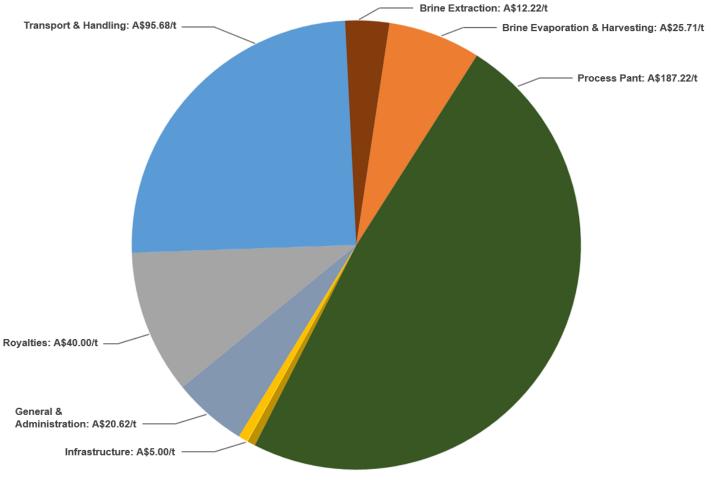


Figure 7: Operating Costs by Area



## PROJECT GEOLOGY AND RESOURCE

#### **Geological Setting**

The investigation area is in the Northern Goldfields Province on the Archaean Yilgarn Craton. The province is characterised by granite–greenstone rocks that exhibit a prominent northwest tectonic trend and low to medium-grade metamorphism. The Archaean rocks are intruded by east–west dolerite dykes of Proterozoic age, and in the eastern area there are small, flat-lying outliers of Proterozoic and Permian sedimentary rocks. The basement rocks are generally poorly exposed owing to low relief, extensive superficial cover, and widespread deep weathering.

A key feature of the Goldfields is the presence of paleochannel aquifers. Palaeochannels are former deep river valleys that eroded into the bedrock within the broad palaeodrainages the sedimentary sequence in the northern goldfields is approximately 130m thick comprising basal Eocene sand overlain by plastic clay, which is in turn concealed by the lakebed sediments and surface alluvial cover.

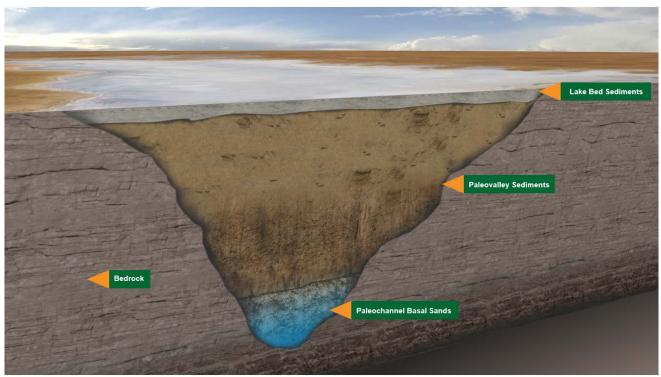


Figure 8: Cross Section of a Typical Paleochannel

The stratigraphy of the lake and paleochannel system is shown in Figure 8 and described below

#### Lake Bed Sediments

The hydrogeology of Lake Way is that of a terminal groundwater sink. The large area of the playa and the shallow water table observed at all sites beneath the playa will facilitate evaporative loss. The brine potash resource extends the full depth of the lakebed sediments, with higher permeability noted at the weathered bedrock contact.

The Lake bed sediments are dominated by red-brown lacustrine clays. Logging and observation of the stratigraphy from the test pits indicated that multiple paleosurfaces are evident within the lake sediments, with characteristics very similar to the current lacustrine and fringing environments.

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Moving east from the lake edge the sedimentary sequence consists of clean, evaporitic sands, beneath the surface sands there is evidence of vegetated type paleosurfaces. These surfaces are characterised by thin beds of dark brown to black (organic enriched) evaporitic sands overlying lacustrine clays with abundant remnant root channels.

Beneath these the sandy silty clays are firm to hard and notably competent.

The lakebed sediments in the vicinity of the Williamson pit are approximately 3 - 4m thick, they were initially dewatered prior to mining and have remained dry since. Test pits excavated within the dewatered zone had a water level 2.5mbgl after 24 hours.

#### **Paleochannel Sediments**

The paleochannel sediments are overlain by the brine rich Lacustrine sequence. The paleochannel sediments are dominated by dense grey and redbrown clays. These clays have a low permeability and are not considered a principal source of brine. At the base of the clays there is a high permeability basal sand aquifer.

#### Paleochannel Basal Sand Aquifer

Drilling conducted by AGC Woodward Clyde (1992)<sup>1</sup> on behalf of WMC Ltd in the early 1990's located a Tertiary paleochannel beneath the eastern margins of the lakebed outside Blackham's Mining Leases, the basal sands within the paleochannel were observed to be 20 – 40m thick (Figure 9). The hydrochemistry of the paleochannel water is high in Potassium, Magnesium sulphate and therefore represents a prospective exploration target and future source of brine, it is not included within the current resource estimate.

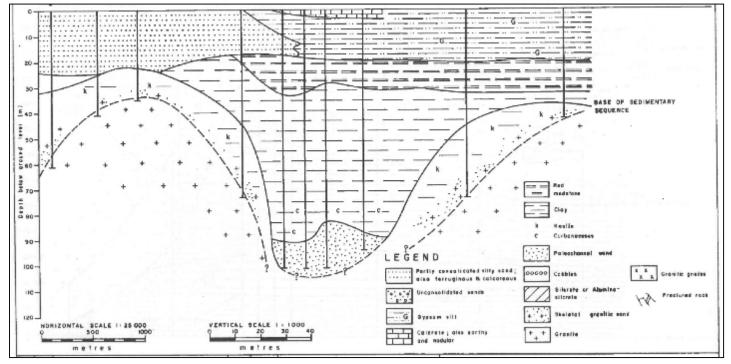


Figure 9: Woodward Clyde (1992) Cross Section of Lake Way

<sup>&</sup>lt;sup>1</sup> Woodward Clyde, 1992, Mt Keith Project Process Water Supply Study, Lake Way Area, Prepared for WMC Engineering Services Ltd.



#### Basement

The shallowness of sediments, particular to the west of the WIllaimson pit and the island, means that the weathered basement is at excavatable depths. Further to the east the lakebed sequence thickens to depth approaching 15 – 20m. Basement geology is complex with mafic, felsic and metasedimentary rocks existing in multiple, thin, NNW-SSE trending lineations along with an abundance of (often, recently activated) faults. Brine flows from basement contacts is highly variable but, in places, can be very rapid.

#### Williamson Pit

There is a significant brine resource within the Williamson Pit. The top of the brine sits approximately 30m below ground level (bgl). There is only minor evidence of inflow from above the standing brine level from either the bedrock or the lakebed sediments.

The annual sequence of seepage and rainfall followed by evaporation has, over the past 10 years since the pits closure, concentrated the salts to the point where they are almost twice the concentration than the brine contained within the lakebed sediments.

#### MINERAL RESOURCE

The Lake Way Mineral Resource (Blackham tenements only) was estimated by Groundwater Science Pty Ltd, an independent hydrogeological consultant with substantial salt lake brine expertise.

The Mineral Resource Estimate (MRE) underpinning the production target, classified as Indicated and Measured, was prepared by a Competent Person and is reported in accordance with the JORC Code (2012 Edition) in this announcement.

# Total Mineral Resource Estimate (Blackham tenements only)

Playa Area	Lakebed Sediment Volume	Brine Concentration		Mineral Tonnage Calculated from Total Porosity			Mineral Tonnage Calculated from Drainable Porosity			
		к	Mg	SO₄	Total Porosity	Brine Volume	SOP Tonnage	Drainable Porosity	Brine Volume	SOP Tonnage
(km²)	(Mm³)	(kg/m³)	(kg/m³)	(Kg/m³)		(Mm³)	(kt)		(Mm³)	(kt)
55.4	290	6.9	7.6	28.3	0.43	125	1,900	0.11	31.9	490

Sediment Hosted Brine – Indicated (94%)

Williamson Pit Brine – Measured (6%)

Brine Volume (Mm <sup>3</sup> )	Potassium Conc. (kg/m³)	Magnesium Conc. (kg/m³)	Sulphate Conc. (kg/m³)	SOP Tonnage (kt)
1.26	11.4	14.47	48	32

Table 3: Lake Way Project – Mineral Resource Estimate (JORC 2012)



#### Hydrology Summary

The Lake Way catchment is shown below (Figure 10) as defined using Geoscience Australia's 1 second DEM and MapInfo Discover Hydrology Package, the catchment area is 3,767 km<sup>2</sup>.

A runoff model was developed for the Lake Way Catchment using the WaterCress software package. The model was constructed and calibrated to the adjacent and analogous Gascoyne River catchment, and then run using the catchment area defined for Lake Way and rainfall data from the Wiluna BOM station. Average calculated annual run-off is 3.9% of annual rainfall but is highly variable.

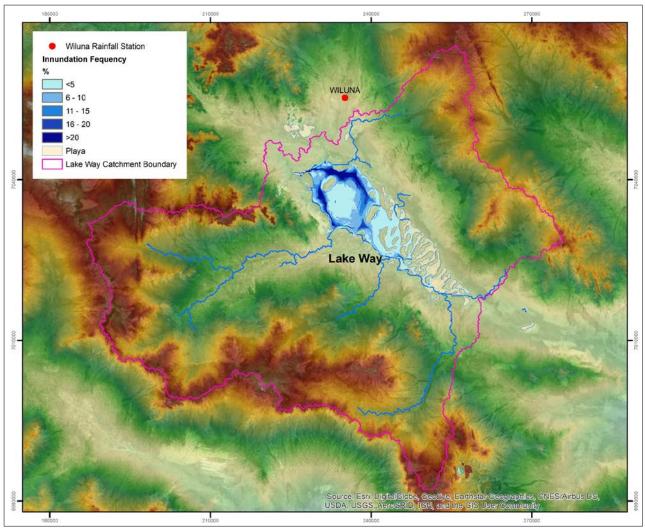


Figure 10: Lake Way Catchment Area

The morphology of the playa shape and surface is consistent with the classification system described by Bowler, (1986). The Northern part of the Playa exhibits morphology typical of significant surface water influence and periodic inundation (smooth playa edges, one island). The southern part of the playa exhibits morphology consistent with a groundwater dominated playa with rare inundation (irregular shoreline, numerous islands).



#### **Exploration History**

Significant historical exploration work has been completed in the Lake Way area focusing on nickel, gold and uranium. The Company has reviewed multiple publicly available documents including relevant information on the Lake Way's hydrogeology and geology.

A review of the Department of Mines and Petroleum's WAMEX database was undertaken. The database contains more than 6,200 mineral exploration drill holes across the Lake Way region, with about 1,000 drill holes within the Blackham Mining Lease area below.

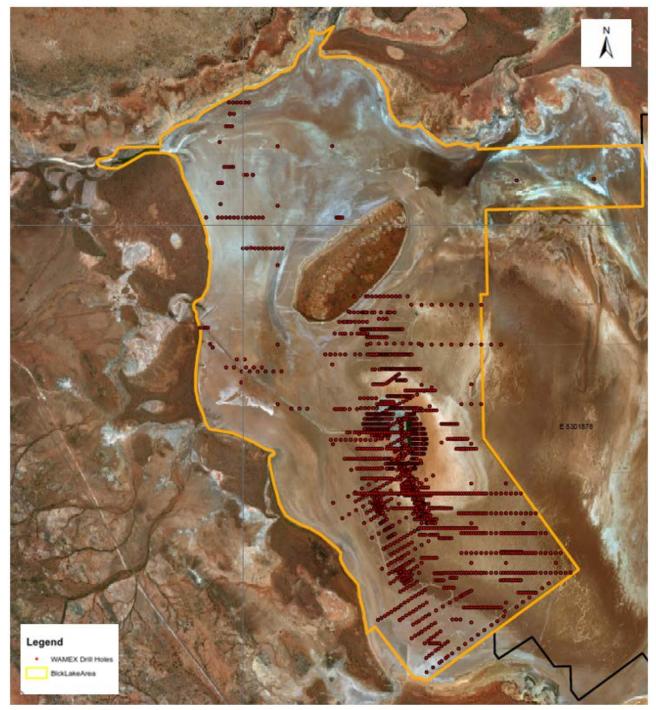


Figure 11: Lake Way WAMEX Database Drillhole Locations



## **Recent Exploration Activities**

A comprehensive surface aquifer exploration program was completed on the Blackham Mining Leases, comprising a total of 36 shallow test pits and 2 test trenches. This work provides preliminary data for the geological and hydrological models of the surface aquifer of the Lake and was used in the establishment of the Mineral Resource for Lake Way's surface aquifer.

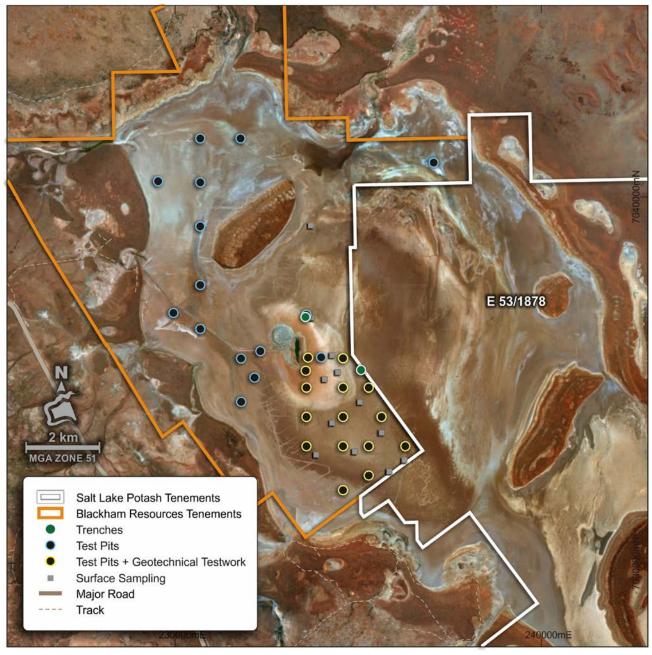


Figure 12: Surface Aquifer Exploration Program



## **Estimation and Modelling Techniques**

#### <u>Area</u>

The lateral extent of the indicated resource is defined by the tenement boundary and the Playa edge. Within the tenement area there are two significant features that reduce the total area, namely the island in the central north of the tenement (3.2km<sup>2</sup>) and the Williamson pit and associated dewatered zone (4km<sup>2</sup>). The total area of the resource is 55.4 km<sup>2</sup>. The resource is open to the east and south of the Blackham Resources tenements.

#### **Thickness**

The top of the indicated resource is defined by the water table. The average water table depth beneath the playa surface noted in the piezometers and test pits ranged 0.3 to 0.5m averaging 0.4m.

The base of the indicated resource is defined by the depth to the base of the lakebed sediments within the Blackham Mining Leases as determined from the test pits, piezometers, air core drilling and previous work. Test pits to the west terminated in weathered basement at around 3mbgl whilst some air core holes to the east didn't encounter base of the lakebed sediments until 9mbgl. All air core holes and test pits terminated in saturated material.

The base of the lakebed sediments was interpolated from recent and historic drill hole information and the recent data using the Leapfrog software. The interpolation provided an average thickness of 5.3m. A representation of the depth to basement is shown in Figure 13.



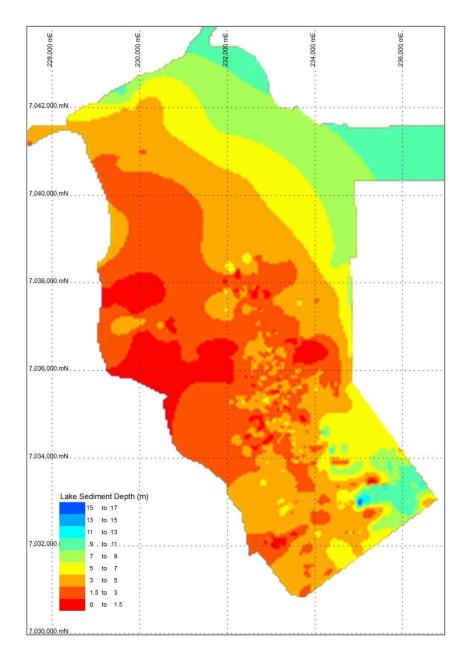


Figure 13: Interpolation of Depth to Base of Lakebed Sediment from the WAMEX Database

#### **Porosity**

Total porosity (Pt) relates to the volume of brine filled pores contained within a unit volume of aquifer material. A fraction of this pore volume can by drained under gravity, this is described as the drainable porosity (or specific yield). The remaining fraction of the brine, which is held by surface tension and cannot be drained under gravity, is described as the un-drainable porosity (or specific retention). The resource estimate is reported for both total porosity and drainable porosity to assess the Lake Way resource.

Twenty four (24) samples were selected from push tube locations next to test pit locations and from test pit excavations and LYTR01 (Trench 1) across the playa. The push tube samples were analysed by E-Precision Laboratories in Perth and the remaining samples by Core Laboratories in Perth. Samples were selected on the basis of spatial variability across the playa and being representative



of the lakebed stratigraphy. Eighteen (18) of the samples were also tested for drainable porosity (Specific Yield). The samples selected, and the results are shown in Table 4.

The results show a broad concentration into two layers with the upper layer 0 - 1.5m having a porosity in the region of 50% and the lower layer having a porosity of around 40%. Drainable porosity is generally lower towards the base of the lakebed sediments. This differentiation is consistent with the geology, the upper layer being more friable and sandy and the lower layers being more dense clay.

Test pit or Trench name	Depth	Total Porosity (%)	Drainable porosity (%)	Comments
LYTT024	0.45 – 0.9	50	n/a	
LYTT021	0.6 – 1.1	50	n/a	
LYTT020	0.5 – 1.0	54	n/a	
LYTT017	0.6 – 1.1	50	n/a	
LYTT019	0.6 – 1.1	48	n/a	
LYTT014	0.3 – 0.8	52	n/a	
LYTT026	0.3 – 0.6	39	10	
LYTT019	0.3 – 0.6	26	16	
LYTT019	1.5 – 2.0	47	13	
LYTT019	3.0 - 4.0	35	8	
LYTT014	0.3 – 0.6	46	11	
LYTT015	1.5 – 2.0	41	5	
LYTT026	3.0 - 4.0	47	24	Outlier
LYTT035	3.0 – 3.5	43	5	
LYTT035	0 – 0.5	39	12	
LYTT032	0 – 0.5	38	13.8	
LYTT029	4.0 - 5.0	38	5.2	Northernmost zone, stiff compact clay content
LYTT029	1.0 – 4.0	47	3	Northernmost zone, clay dominant throughout
LYTT010	0.5 – 4.0	38	3	Potentially dewatered sediment
LYTT020	3.0 - 4.0	50	6	Low Sy value compared to total porosity
LYTR01	0.5 – 1.5	48	14.2	
LYTR01	1 – 1.2	37	26	Clean Sand
LYTR01	1.5 – 3	48	1.5	Outlier
LYTR01	3 - 4	36	5	

Table 4: Laboratory Derived Parameters - Total Porosity and Drainable Porosity





Figure 14: Trench Locations

#### Long Term Test Pumping

Sustained pump tests on two test trenches provided reliable data for the preparation of a surface aquifer hydrogeological model for Lake Way.

The testing was conducted as a "constant head test" whereby flow rate was adjusted to maintain a constant trench water level. Drawdown was observed at nearby observation bores placed at distances of 10m, 20m and 50m from the trench.

Trench dimensions and pumping test results are presented in Table 5.

Average flow rates over the duration of testing ranged from 94 to 110m<sup>3</sup>/day. Higher flow rates are associated with evaporite deposits in the Playa Sediments.



These results are encouraging and continue to support the design of the SOP operation at Lake Way.



Figure 15: Trench 1 at Lake Way

Hole Id	Depth (m)	Trench Length (m)	Test Duration (days)	Total Volume Pumped (m <sup>3</sup> )	Average Pumping Rate (m³/day)
Trench 1	4.0	112	9.8	1,074	110
Trench 2	4.0	100	9.0	858	94

#### Table 5: Summary of Trench Test Pumping

Brine chemistry was consistent throughout the duration of the test.

Analysis of the data from trench pumping trials at test trenches LYTR01 and LYTR02 yields estimates of drainable porosity of 13% and 15% respectively. These values are consistent with literature values for clastic sediment and are consistent with estimates of playa sediment drainable porosity reported by other Salt Lake Brine evaluation studies.

#### Williamson Pit

The Measured Resource is calculated as the tonnage of minerals dissolved in the liquid brine contained within the Williamson Pit shell.

The potassium tonnage of the resource is then calculated as: Brine volume times average concentration = tonnage



The Williamson pit was mined during 2005 and 2006. At the end of mining a detailed survey was undertaken (2006) prior to the open cut operation being allowed to fill with water.



Figure 16: Williamson Pit Shell (end of mining) and the pit as it today

This data represents the most recent information available on the pit shell.

A drone survey of the pit in 2016 established that the water level was at RL1462 (Referenced to Blackham mine grid). Using this RL and the pit shell the volume was calculated in Surpac to be 1,150,495m<sup>3</sup>.

## **Brine Chemistry**

## Lake Way

All brine samples are considered to be composite samples representing the whole excavated or drilled depth at each location. Given that the proposed abstraction techniques will involve trenches excavated to at least 4m across a large portion of the playa the use of composite samples is representative of the resource that will be extracted.

	Potassium	Chloride	Sodium	Calcium	Magnesium	Sulphate
	K	Cl	Na	Ca	Mg	SO₄
	(kg/m³)	(kg/m³)	(kg/m³)	(kg/m³)	(kg/m³)	(kg/m³)
Average	6.8	125	76	0.518	7.7	28

Table 6: Lake Way Average Brine Chemistry

The spatial distribution of Potassium Concentration is quite consistent ranging from 5,910 to 8,760mg/L averaging 6,769mg/L.

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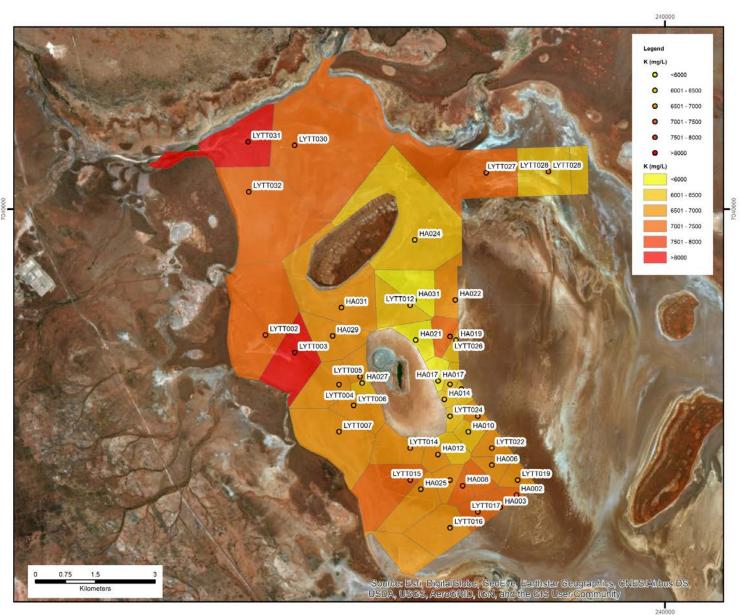


Figure 17: Interpreted Brine Concentration (Voronoi Polygon)

#### Williamson Pit

A total of 9 brine samples were taken at different water levels in three locations in the Pit. Brine concentration was consistent laterally and vertically within the Pit and average of the nine (9) samples in estimating the Measured Resource is:

	Potassium	Chloride	Sodium	Calcium	Magnesium	Sulphate
	K	Cl	Na	Ca	Mg	SO₄
	(kg/m³)	(kg/m³)	(kg/m³)	(kg/m³)	(kg/m³)	(kg/m³)
Average	11.4	180	107	0.176	14.5	48

Table 7: Williamson Pit Average Brine Chemistry



#### **Mining Factors or Assumptions**

The measured resource will be pumped directly from the pit into a holding pond for processing. Mining of the indicated resource will be undertaken by gravity drainage of the brine by pumping from trenches.

#### **Metallurgical Factors or Assumptions**

No metallurgical factors or assumptions have been applied.

The brine is characterised by elevated concentration of potassium, magnesium and sulphate elements and distinctly low in calcium ion. Such a chemical makeup is considered highly favourable for efficient recovery of potassium double salts from the playa brines (the main feedstock for SOP fertiliser production), using conventional evaporation methods.

#### **Environmental Factors or Assumptions**

Environmental impacts are expected to be; localized reduction in saline groundwater level, surface disturbance associated with trench and pond construction and accumulation of salt tails. The project is in a remote area and these impacts are not expected to prevent project development.

The project is located with the Goldfields Groundwater Proclamation Area. A license to take groundwater will be required under the Rights in Water and Irrigation Act 1914. This act is administered by the Government of Western Australia, Department of Water and Environmental Regulation.



## MINING AND SCHEDULING

## **Brine Extraction**

Brine will be extracted from the Lake using a network of surface trenches. A trenching system comprising of 30 km of trenches up to 5m deep will be installed.

The trench system will feed the evaporation ponds at an average annual demand of 163 L/s. The trenches will be excavated at a nominal gradient, with a single transfer point into the halite pond system.

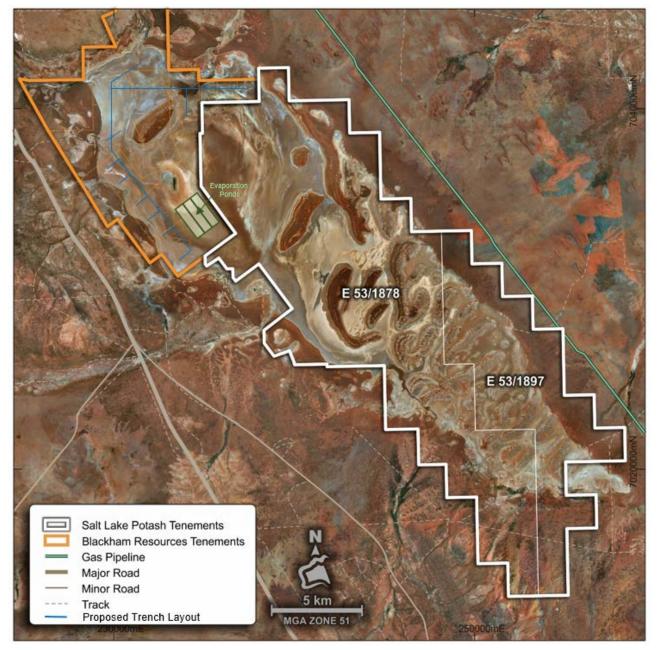


Figure 18: Schematic of Potential Trench and Pond System



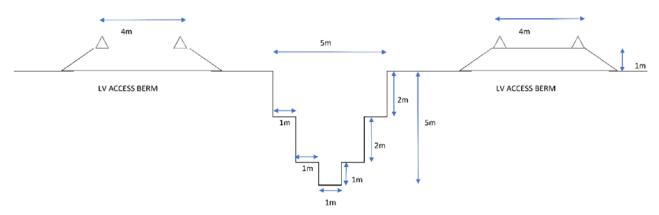


Figure 19: Cross Section Example of a Trench Design

## Brine Evaporation

The extracted brine is concentrated in a series of solar ponds to induce the sequential precipitation of salts and eventually producing potassium double salts in the harvest ponds. Evaporation modelling, pond sizing and design was completed by international experts, Ad Infinitum and CPPC.

The general evaporation-concentration route is represented by the following block flow schematic:



## **Evaporation Ponds**

The operational area of the evaporation ponds required for the final 50,000 t/a SOP production rate is 350ha.

A comprehensive geotechnical investigation by the Company and Knight Piesold confirmed the availability of in-situ clays ideal for on-lake evaporation pond construction.

On-lake harvest ponds have considerable environmental and commercial advantages, as any seepage from the ponds simply return to the brine pool in the Lake.

The Demonstration Plant Scoping Study considers low cost, un-lined ponds for the evaporation and crystallisation of halite (NaCl) and small quantities of other rejected salts such as gypsum (Ca.SO<sub>4</sub>.2H<sub>2</sub>O).

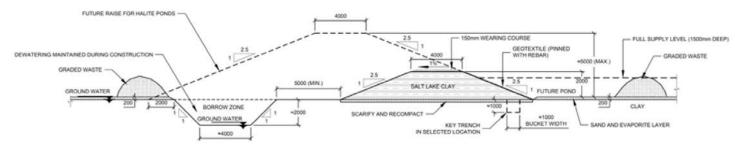


Figure 20: Halite Pond Typical Perimeter Berm Section



The kainite and carnallite harvest ponds will be partially lined, with a HDPE liner around the inside walls (berms). Knight Piésold's modelling confirm that the high clay content and low soil permeability of the Lake Way playa sediments mean seepage of unlined evaporation ponds is very low.

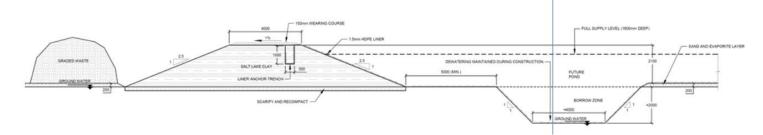


Figure 21: Kainite Pond Typical Perimeter Berm Section

Ongoing testwork will determine whether the harvest ponds can also be constructed without partial lining as indicated by preliminary modelling, which would result in further capital savings.

The pond systems will produce, on average 326Kt per annum of harvest salts, with an average Potassium (K) content of 8.76%. The Company has developed a high level of understanding of salt harvest parameters through computer simulations, laboratory evaporation trials and SLP's unique experience in operating evaporation trials in the field at Lake Wells. The combination of this experience has been used to build and refine the mass balance model for the Demonstration Plant.

The harvest salts will be drained, windrowed and harvested using conventional equipment, a costeffective and reliable harvesting method in Australia.



Figure 22: Examples of Evaporation Ponds and Harvesting



## **PROCESSING PLANT**

Salts harvested form the evaporation ponds are then treated in a processing plant to first purify and then convert these salts into SOP, while minimising deportment of sodium chloride (the principal contaminant) to the product. The SOP production process consists of:

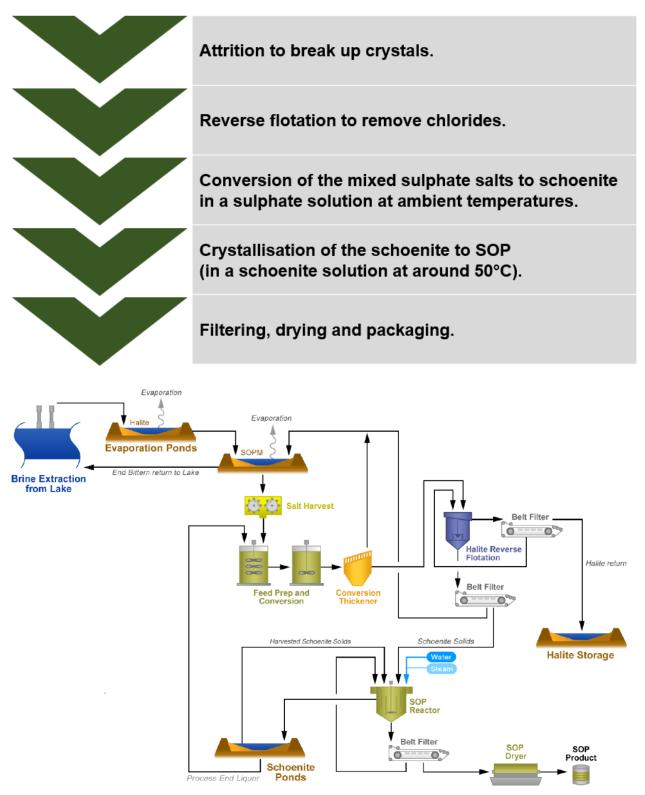


Figure 23: Conceptual Flowsheet

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Key design parameters for the process plant are presented in Table 8, below.

Operating Time	
Brine extraction; evaporation ponds and harvesting	8,200 h/a
Process plant	7,950 h/a
Feed Brine Composition	
Potassium content	6.8 g/L
Sulphate content	26 g/L
Pond feed brine flow rate (for 50,000t/a case)	595m³/h @ 8,760 h/a
Overall potassium recovery	63%
Overall sulphate recovery	21%

#### Table 8: Process Plant Parameters

Overall potassium recoveries are lower in the Demonstration Plant as potassium reporting to the carnallite ponds is not processed at this scale. Carnallite salt will be stockpiled for Stage II processing.

The scale of the process plant is designed around the largest scale of standard road transportable modules that can be constructed off-site and transported to site, minimising site based construction costs. The majority of the process plant components are readily available, off the shelf items. There are several long lead-time items, such as the atmospheric draft tube baffle crystalliser, which will be sourced from international specialist vendors.

The Scoping Study anticipates production of 50,000tpa of high quality, organic standard SOP with the following specifications:

Potassium (K <sub>2</sub> O)	Min. 52%
Sulphate (SO <sub>4</sub> )	Min. 54%
Chloride (Cl)	< 1%

SLP's research indicates that, once in production, organic certification for the product should be obtainable if desired.

Discussions with partners and end users around the optimal product preparation for the Demonstration Plant are ongoing, including the possibility of agglomerated or and compacted of a granular products.

#### WATER AND POWER

A raw water requirement of around 45m<sup>3</sup>/h is estimated, of which 7m<sup>3</sup>/h is treated in a reverse osmosis unit for potable and boiler feed water. A number of potential sources have been identified, as a consequence of the long exploration and mining history in the area, including from existing mining voids and known subterranean aquifers.

The operating power requirement for the plant is 0.8MW. There is substantial surplus capacity available from the Wiluna Gold Mine power station. The Company is also investigating stand-alone renewable energy alternatives.



## TRANSPORT

The lakes of the GSLP are located close to the major regional transport and energy infrastructure corridors. Transport from site to port is the single largest cost for (export oriented) Australian salt lake SOP projects and the GSLP has a considerable advantage in this regard, with excellent proximity to the Kalgoorlie-Leonora rail line and the Goldfields Highway. The Company has made substantial progress in understanding and optimising its transport proposition, with major economies of scale to be achieved as the production volume increases.

The Lake Way development has been fast-tracked due to its significant infrastructure and transport advantages.

The Company engaged Bis Consulting to undertake a transport study for production from the Demonstration Plant. Bis is a leading provider of resources logistics in Australia, offering bulk logistics and materials handling processes.

Transport cost estimates were undertaken by Bis based on market data, industry databases, industry contacts and Bis' existing knowledge of the Western Australian infrastructure market.

The outcome of the transport study provided a number of alternatives, however for Demonstration Plant production volumes, the most efficient route to international markets was via Geraldton port.

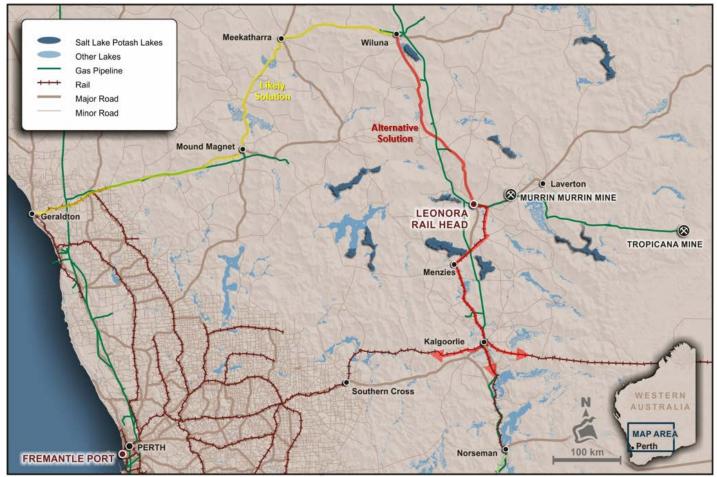


Figure 24: Transportation Alternatives for Lake Way



Total transport and handling costs have been estimated at **\$95/t** of SOP product, packed in 2 tonne bags and loaded on flat bed trailers. The main road routes for Wiluna to Geraldton are currently permitted for quad road trains.



Figure 25: Quad Road Train on the Goldfields Highway

Geraldton Port is capable of handling fully loaded Panamax size vessels up to 70,000 tonnes and 225m in length. The Port handles approximately 19mt per annum of trade per year with significant excess capacity available for handling and storage.



Figure 26: Aerial View of Geraldton Port

At a slightly higher cost, a bimodal solution is available based on containerised product road hauled to Leonora and then by rail to Fremantle, Esperance or elsewhere from Kalgoorlie.



#### MINING INFRASTRUCTURE

Lake Way was identified due to its strategic location and significant infrastructure advantages. The Wiluna region is an historic mining precinct dating back to the late 19th century. It has been a prolific nickel and gold mining region and therefore has well developed, high quality infrastructure in place.

Lake Way has some compelling advantages which makes it an ideal site for an SOP operation, including the substantial capital and operating savings from sharing overheads and infrastructure with the Wiluna Gold Mine. This includes potentially the accommodation camp, flights, power, maintenance, infrastructure and other costs. There is also a large mining camp and sealed airstrip at the nearby Mount Keith Nickel Mine.

This proximity to existing infrastructure requires relatively minor area infrastructure upgrades and modifications for the Demonstration Plant development. The site has an excellent freight solution, located 2km from Goldfields Highway, which is permitted for heavy haulage 4 trailer road trains (refer to Transport section). It is also adjacent to the Goldfields Gas Pipeline.

## **PRODUCT QUALITY AND MARKETING**

Fertilisers consist of essential plant nutrients that are applied to farmed crops in order to achieve favourable quality and yield. They replace the nutrients that crops remove from the soil, thereby sustaining the quality of crops, and are considered the most effective means for growers to increase yields.

The key components of agricultural fertilisers are nitrogen (ammonia and urea), phosphates (ammonium phosphates), and potassium (muriate of potash and sulphate of potash). In addition, sulphate has gained increased attention over the past several years due to soils becoming deficient in sulphur (the 'fourth macronutrient').

Global fertiliser demand is expected to increase significantly in the coming years due to the world population growth accompanied by decreasing arable land per capita, changes in diet and growth in income. These increases will provide an incentive for farmers to increase fertiliser use for improved yields and quality.

The most widely available source of potassium used by growers is Muriate of Potash (MOP or KCl), with around 65 million tonnes consumed annually. SOP is a speciality type of potassium fertilisers that is produced and consumed on a smaller scale.

MOP is widely used in all types of farming, however it can be detrimental to some plants, especially fruits and vegetables, due to its chloride content. SOP is primarily used as a source of potassium for crops intolerant to chloride. SOP is priced at a premium to MOP, due to supply constraints, high production costs and because of its ability to be used on chloride intolerant crops (such as fruits, vegetables, beans, nuts, potatoes, tea, tobacco and turf grass), which typically sell at sufficiently higher prices to absorb the premium cost.

SOP can be used in most applications where MOP is used and is preferred in many circumstances as it enhances yield and quality, shelf life and improves taste. SOP generally outperforms MOP in terms of crop quality and yield. SOP performs particularly well with crops that have a low tolerance to the chloride in MOP and in arid, saline and heavily cultivated soils. The low volume of SOP consumption relative to market demand is partly a result of the scarcity of reliable SOP supply.



SOP's premium to the MOP price is correlated to the conversion costs from MOP to SOP (Mannheim Process) where MOP is used as an input in the process. The premium has been around 60% for the past decade. In recent years, this premium has expanded significantly, as decreases in the MOP price have not translated to similar declines in the price of SOP, indicating that the SOP market is supply constrained.

SOP can be sold as a standard powder or as a premium granular or soluble grade product. Granular and coarse SOP is generally priced at a premium. Salt Lake Potash plans to sell at a premium to the market price as a certified organic producer, similar to Compass Minerals. The primary production of SOP from salt lakes allows for organic certification.

The current spot price for SOP ranges from US\$580-US\$635 per tonne in the main North American markets, with different (and less visible) prices in other global markets.

The Company's Fertiliser marketing consultant, Fertiliser Sales Development (FSD) has over 25 years experience in the sales, marketing and distribution of various fertiliser products. FSD expects the long-term price for SOP FOB ex-Western Australia to be at least US\$500/t for standard grade.

The Company's main initial target market is the Asia-Pacific and East-Asia, a region forecasting significant increases in the demand for SOP. SOP production is not easily substitutable and is in supply deficit, therefore the Company is confident in the current and forecasted levels of demand.

#### **Off-take**

In April 2018, SLP executed a Memorandum of Understanding (**MOU**) with Mitsubishi Australia Limited and Mitsubishi Corporation (**Mitsubishi**). The Offtake Agreement will provide Mitsubishi with sales and offtake rights for up to 50% of the SOP production from the Demonstration Plant, for distribution into Asia and Oceania and potentially other markets.

Discussions are ongoing with various parties for the balance of the Demonstration Plant production.

#### **ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT**

SLP's consultants Pendragon Environmental under took a gap analysis to identify gaps in historical environmental knowledge, potential issues arising from the approval process, identify statutory approval requirements for the Demonstration Plant and provide a time frame for the environmental approvals.

As the proposed activities are to take place on active mining leases SLP has access to previous completed detailed environmental reports. The key findings for areas that required additional work:

- Native Terrestrial Flora and Fauna Ground truthing of specific infrastructure prior to submission of mining proposal.
- Ground water water balance and water quality requirements for plant operations.
- Surface water drainage study to be incorporated in to final location of trenches and pond layout.
- Heritage No registered Aboriginal sites were found within the impact area. Continuing engagement with the Aboriginal Community is required.



### PERMITTING AND FISCAL REGIME

The Demonstration Plant will initially be based on Mining Leases held by Blackham Resources Limited, under the Memorandum of Understanding (MOU) described in the ASX Announcement dated 12 March 2018.

For supporting infrastructure or areas not included under Blackham's ground, the Company will obtain Miscellaneous Licences.

The Company has agreed to extend the MOU timeline with Blackham Resources Ltd to 31 August 2018 as drafting of formal Spilt Commodity Agreement progresses.

The Company is also in ongoing discussions with the Native Title holders at Wiluna regarding an Exploration Agreement covering SLP's exploration permits. We continue to work toward a mutually beneficial relationship with the Wiluna community.

#### Royalties

Potash has not been produced in Western Australia since 1950. The current royalty legislation does not include any specific rate for potash produced in WA. The ad valorem or value-based rate of royalty, which applies under the Mining Regulations 1981, is applied to a commodity based on the extent to which the commodity has been processed. As the SOP is sold in its final form (not subject to any further refinement or processing before sale to consumers) a royalty rate of 2.5% is expected.

Other royalties provided for in the Scoping Study estimates include to the holder of Blackham tenements.

#### **PROJECT TIMING**

The Company will pursue a staged approach to development of a Demonstration Plant at Lake Way, taking advantage of the unique circumstances of the Williamson Pit to accelerate the production timeline, while also de-risking the project at each stage.

Completion of the Scoping Study provides the basis to now proceed with a Feasibility Study, to be completed in late 2018 or early 2019.

In parallel, SLP and Blackham have applied for a permit to construct the Williamson Ponds, to allow dewatering of the Williamson Pit in time to meet Blackham's mine plan. Both companies aim to complete the construction and dewatering by late 2018/early 2019, subject to permitting, weather and other constraints.

The Williamson Ponds comprise approximately one third of the total Demonstration Plant pond area and will provide the opportunity to resolve design and construction processes and costs to a very high standard for the Feasibility Study. In order to manage the chemistry of the Williamson brines, ancillary brine trenches will also be required, which will similarly provide a high standard of hydrogeological and construction data.

Williamson brines are the highest grade brine resource in Australia, containing approximately 25kg/m<sup>3</sup> of SOP. They are also super-saturated with other salts, boasting an average Total Dissolved Salt content of approximately 30%. This means that the brines will precipitate halite and gypsum salts almost immediately they are pumped from the Pit.



This offers the opportunity to use the Williamson brines to lay down a salt base in the harvest ponds much more quickly than would normally be the case for less concentrated brines. A salt base is an important element of evaporation pond construction, providing a platform or pavement for harvest equipment, and can take many months to develop depending on requirements, brine chemistry and weather.

The very high grade of the Williamson brines also reduces the evaporation time required for precipitation of kainite harvest salts.

Construction of the Williamson ponds, dewatering of the Williamson Pit and the initial evaporation and salt precipitation, will provide a very high level of information and understanding of the parameters for brine extraction and evaporation in an Australian context, at a scale directly representative of the complete operation. For a very modest capital expenditure, this information will substantially reduce the perceived risk, and improve the financing parameters, for the balance of the project.

[Note that the capital expenditure estimated in the Scoping Study for the full Demonstration Plant evaporation pond system totals \$7.8m, and the Williamson Ponds are one third of that area.]

Subject to permitting, performance, weather and other factors, the construction of the balance of the on-lake infrastructure – mainly the remaining ponds and brine trenches – will ideally follow on directly from completion of the Williamson Ponds and the Feasibility Study.

The Study estimates the extraction trench network capital expenditure is a further \$1.6m, meaning the total capital expenditure for on-lake infrastructure is \$9.4m, slightly less than 20% of the total capex. If the construction and operation of the Williamson Ponds validates the modelled performance of unlined harvest ponds, then the potential savings from not using partial HDPE liners, will significantly reduce capex for the balance of the pond system.

The longest lead time for the main plant components is 36 weeks, for the crystalliser, which will be fabricated off-shore. The Scoping Study estimates total fabrication and installation time for the process plant at approximately 9-12 months, meaning a decision taken at the anticipated time of completion of the Feasibility Study would result in plant commissioning in early 2020, utilising stockpiled kainite harvest salts.

The Company will continue to investigate opportunities to reduce the development schedule by early ordering of long-lead time items and modular delivery and installation of plant components, an option available for a small scale, skid mounted plant.

The Company's anticipated delivery schedule is naturally provisional at this stage, subject to permitting, performance, financing, weather and other factors.



## SENSITIVITY ANALYSIS

The Scoping Study was prepared at a  $\pm 30\%$  accuracy to investigate the technical and economic parameters of a SOP production operation at Lake Way, exploiting the identified brine resources.

Key inputs into the economic assessment of the Project were based on the following sensitivities:

		Operating Cost Analysis Operating Cost (A\$/t)					
-30% 20% -10% Base +10% +20% +				+30%			
Mine Gate	\$176	\$201	\$226	\$251	\$276	\$301	\$326
Transportation & Handling	\$67	\$77	\$86	\$96	\$106	\$115	\$125
Royalties	\$28	\$32	\$36	\$40	\$44	\$48	\$52
Total	\$271	\$310	\$348	\$387	\$426	\$464	\$503

		Capital Cost (A\$m) *					
	-10%	Base	+10%	+20%	+30%		
Direct	A\$33.6	A\$37.3	A\$41.0	A\$44.8	A\$48.5		
Indirect	A\$4.7	A\$5.2	A\$5.7	A\$6.2	A\$6.8		
Growth Allowance	A\$5.7	A\$6.3	A\$6.9	A\$7.6	A\$8.2		
Total	A\$43.9	A\$48.8	A\$53.7	A\$58.6	A\$63.4		

**Table 9: Sensitivity Analysis** 



#### SUMMARY OF MODIFYING FACTORS

The Modifying Factors included in the JORC Code have been assessed as part of the Scoping Study, including mining (brine extraction), processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and government factors. The Company has received advice from appropriate experts when assessing each Modifying Factor.

A summary assessment of each relevant Modifying Factor is provided below.

Mining (Brine Extraction) – refer to section entitled 'Mining and Scheduling' in the Announcement.

The Company engaged an independent hydrogeological consultant with substantial salt lake brine expertise, Groundwater Science Pty Ltd, to complete the Mineral Resource Estimate for the Lake Way project. The Principal Hydrogeologist of Groundwater Science, Mr Jeuken, has over 10 years of experience in groundwater resources assessment and management for mining. He has experience in salt lake brine potash evaluation, aquifer testing, wellfield planning and installation for mining, and the development of conceptual hydrogeological models

The hydrological model was produced by the Company in consultation with independent experts. The two methods of extraction outlined in the Announcement are common practice for brine extraction. These extraction methods are used by the three main current operations which include Great Salt Lake in the US, Lop Nur Salt Lake (Luobupo) and SQM in Chile.

**Processing (including Metallurgical)** – refer to sections entitled 'Mining and Scheduling' and 'Processing Plant' in the Announcement.

The Company engaged brine-processing experts Carlos Perucca Processing Consulting Ltd (CPPC) and AD Infinitum Ltd (AD Infinitum) and their principals Mr Perucca and Mr Bravo, who are highly regarded international experts in the potash industry. Mr Bravo previously worked as Process Manager Engineer at SQM, the third largest salt lake SOP producer globally. He specialises in the front end of brine processing from feed brine through to the crystallisation of harvest salts. Mr Perucca has over 25 years of experience in mineral process engineering and will provide high-level expertise with respect to plant operations for the processing of harvest salts through to final SOP product. AD Infinitum and CPPC were responsible for the brine evaporation and salt processing components in the Scoping Study.

Lake Way's process development relied heavily on experience applied by Wood and specialist consultants (CPPC and Ad Infinitum) who are well experienced from working on similar operations. Production of SOP from lake brines is well understood and a well-established process.

Infrastructure - refer to section entitled 'Mining Infrastructure' in the Announcement.

Lake Way's proximity to the West Australian goldfields means relatively minor area infrastructure upgrades and modifications are required.

The Scoping Study was managed by Wood. Wood is a recognised global leader in potash mining and processing with capabilities extending to detailed engineering, procurement and construction management. Wood are able to leverage an international network, including access to its Centre of Potash Excellence located in Saskatoon, Canada. All capital and operating costs were estimated by Wood.

Transport cost estimates were undertaken by Bis Consulting based on market data, industry databases, industry contacts and Bis' existing knowledge of the Western Australian infrastructure



market.

Marketing – refer to section entitled 'Product Quality and Marketing' in the Announcement.

Independent potash market forecasts and assessments were provided by experts FSD, Greenmarkets, CRU International.

FSD's scoping level assessment of local and regional markets indicates that various markets around the world and particularly in the Asia-Pacific region would absorb the planned production output of the Demonstration Plant either to fill new demand or to substitute lower quality or higher cost supply.

Salt Lake has undertaken initial market discussions with local and international fertiliser industry participants, which have indicated substantive interest in a new and stable supplier of high quality organic SOP from an Australian salt lake project.

The execution of an initial non-binding MoU with Mitsubishi confirmed there is a reasonable expectation the Company will be able to execute off-take agreements with customers.

The current spot price for SOP is around US\$625 (FOB Northwest America).

The Company's target market is the Asia-Pacific, a region forecasting significant increases in the demand for SOP. SOP production is not easily substitutable and is in supply deficit, therefore the Company is confident in the current and forecasted levels of demand.

Salt Lake will continue to focus on developing marketing relationships and discussions with potential additional off-take and trade partners.

**Economic** – refer to sections entitled 'Product Quality and Marketing' in the Announcement.

A detailed financial model and discounted cash flow (DCF) analysis has been prepared in order to demonstrate the economic viability of the Project. The financial model and DCF were modelled with conservative inputs to provide management with a baseline valuation of the Project. Sensitivity analysis was performed on all key assumptions used. Key inputs and assumptions are outlined in Table 1 to allow analysts and investors to calculate Project valuations based on their own revenue assumptions.

The Company engaged the services of a funding and debt advisory firm, Argonaut. Argonaut is a financial advisory and investment banking firm which specialises in the metals, oil & gas and agribusiness sectors. Argonaut is well regarded as a specialist capital markets service provider and have raised project development funding (including debt, equity, hybrid instruments and strategic capital/partners) for companies across a range of commodities including substantial experience in the industrial and speciality minerals sector. Following the assessment of a number of key criteria, Argonaut has confirmed in writing that, provided a definitive feasibility study arrives at a result not materially worse than the Scoping Study, the Company should be able to raise sufficient funding to develop the Project.

An assessment of various funding alternatives available to Salt Lake has been made based on precedent transactions that have occurred in the mining industry, including an assessment of alternatives available to companies that operate in industrial and specialty minerals sector. The assessment and advice from Argonaut (referred to above) indicates that financing for industrial mineral companies often involves a broader mix of funding sources than just traditional debt and equity, and the potential funding alternatives available to the Company including, but not limited to: royalty financing; mezzanine finance; prepaid off-take agreements; equity; joint venture participates; strategic partners/investors at project or company; senior secured debt/project finance; secondary secured debt; and equipment leasing. It is important to note that no funding arrangements have yet



been put in place, as these discussions will usually commence upon completion of a Feasibility Study with results not worse than this Scoping Study. The composition of the funding arrangements ultimately put in place may also vary, so it is not possible at this stage to provide any further information about the composition of potential funding arrangement.

Since the acquisition of the Project in June 2015, the Company has completed comprehensive exploration programs across the GSLP, with the delineation of Mineral Resources at both Lake Wells and Lake Way, and the successful completion of positive Scoping Studies on Lake Wells and now for the Demonstration Plant for Lake Way. Over the last six months, the Company's market capitalisation has ranged between A\$75m and A\$110m.

Salt Lake has a high quality Board and management team comprising highly respected resource executives with extensive finance, commercial and capital markets experience. The Company's Chairman has previously raised over A\$1 billion from capital markets for a number of exploration and development companies.

As a result, the Board has a high level of confidence that the Project will be able to secure funding in due course, having particular regard to:

- Required capital expenditure;
- Salt Lake Potash's market capitalisation;
- Recent funding activities by Directors in respect of other resource projects;
- Recently completed funding agreements for similar or larger scale development projects;
- The range of potential funding options available;
- The favourable key metrics generated by the Project and GSLP; and
- Investor interest.

**Environmental** – refer to section entitled 'Environmental & Social Impact Assessment' in the Announcement.

An opportunities and constraints assessment was completed for the Project by Pendragon Environmental, a leading Western Australian environmental management consultancy. Based on the Project's stage of development, Pendragon Environmental confirmed there are no current impediments on the Project.

To date, SO4 has only undertaken preliminary desktop studies for the purposes of identifying potential environmental opportunities and constraints. Extensive data is available across the Scoping Project area from work undertaken historically by Blackham Resources. The further development of the Project may require additional detailed flora, fauna and other studies; this is dependent on the final design criteria.

**Social, Legal and Governmental** – refer to section entitled 'Permitting and Fiscal Regime' in the Announcement.

The Company has taken legal advice in relation to relevant Modifying Factors.

Based on the legal advice received the Company considers there is presently no reason to believe that the development of the Demonstration Plant is not able to be developed, constructed and operated on Blackham Resources Limited's current Mining Leases, subject to obtaining necessary regulatory approvals.



#### FORWARD LOOKING STATEMENTS

This announcement may include forward-looking statements. These forward-looking statements are based on Salt Lake's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Salt Lake, which could cause actual results to differ materially from such statements. Salt Lake makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of that announcement.

#### **COMPETENT PERSONS STATEMENTS**

The information in this report that relates to Mineral Resources and Exploration Results for Lake Way is based on information compiled by Mr Ben Jeuken, who is a member Australian Institute of Mining and Metallurgy and a member of the International Association of Hydrogeologists. Mr Jeuken is employed by Groundwater Science Pty Ltd, an independent consulting company. Mr Jeuken 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'. Mr Jeuken consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Exploration Targets is extracted from the report entitled 'Exploration Targets Reveal World Class Scale Potential' dated 28 March 2018 The information in the original ASX Announcement that related to Exploration Targets or Mineral Resources is based on information compiled by Mr Ben Jeuken, who is a member Australian Institute of Mining and Metallurgy. Mr Jeuken is employed by Groundwater Science Pty Ltd, an independent consulting company. Mr Jeuken 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'. Mr Jeuken consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this Announcement that relates to Mineral Resources for Lake Wells is extracted from the reports entitled 'Lake Wells Resource Increased by 193% to 85Mt of SOP' dated 22 February 2016 and 'Significant Maiden SOP Resource of 29Mt at Lake Wells' dated 11 November 2015. The announcement is available to view on <u>www.saltlakepotash.com.au</u>. The information in the original ASX Announcement that related to Mineral Resources was based on, and fairly represents, information compiled by Mr Ben Jeuken, who is a member Australian Institute of Mining and Metallurgy and a member of the International Association of Hydrogeologists. Mr Jeuken is employed by Groundwater Science Pty Ltd, an independent consulting company. Mr Jeuken 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'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

#### **PRODUCTION TARGET**

The Production Target for Lake Wells stated in this report is based on the Company's Scoping Study for the Lake Wells Project as released to the ASX on 29 August 2016. The information in relation to the Production Target that the Company is required to include in a public report in accordance with ASX Listing Rule 5.16 was included in the Company's ASX Announcement released on 29 August 2016. The Company confirms that the material assumptions underpinning the Production Target referenced in the 29 August 2016 release continue to apply and have not materially changed.

The Production Target referred to in this presentation and the Scoping Study Announcement is based on 100% Measured Mineral Resources for Stage 1 and 70% Measured Mineral Resources and 30% Inferred Mineral Resources for Stage 2. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured or Indicated Mineral Resources or that the production target or preliminary economic assessment will be realised



### **APPENDIX 1 – LAKE WAY BRINE CHEMISTRY ANALYSIS**

HOLE ID	East	North	K (mg/L)	Cl (mg/L)	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	SO₄ (mg/L)	TDS (g/L)
HA016	234302	7035685	6,130	110,400	66,300	581	6,300	23,600	219
HA013	234890	7035481	6,070	108,500	65,900	623	6,070	24,000	216
HA031	233697	7037711	5,910	117,600	70,200	615	6,940	23,400	227
HA022	234734	7037719	6,550	111,400	68,500	636	6,050	23,600	217
HA017	234302	7035685	6,090	101,600	63,100	664	5,450	24,200	202
HA014	234458	7035223	6,050	104,250	63,900	666	5,620	23,700	206
HA010	235063	7034408	6,350	112,150	68,100	621	6,180	23,900	221
HA012	234299	7033837	6,550	115,700	68,600	574	6,690	25,300	228
HA008	234918	7033057	7,280	121,350	73,900	537	6,530	28,200	241
HA006	235652	7033571	6,910	128,050	78,600	528	7,000	25,500	249
HA003	235863	7032512	7,210	131,450	77,200	499	7,510	26,200	259
HA019	234752	7036712	6,030	113,600	67,600	591	7,010	25,700	225
HA029	231655	7036814	6,730	131,200	79,500	447	8,070	33,000	263
HA024	233715	7039225	6,100	130,850	75,000	536	8,650	25,300	253
HA031	233697	7037711	6,690	117,300	71,100	563	6,220	27,100	232
HA021	233742	7036709	5,960	110,250	65,000	610	6,150	23,300	216
HA002	236273	7032823	7,180	134,900	79,200	482	7,410	26,900	262
HA025	233868	7032968	6,810	126,800	76,500	519	7,160	26,300	248
LYTT002	229968	7036837	7,350	145,050	90,000	367	10,900	38,700	307
LYTT003	230702	7036399	8,160	151,150	91,400	305	12,200	42,600	324
LYTT004	231815	7035595	6,700	126,350	76,200	441	8,090	29,400	261
LYTT005	232341	7035793	6,760	122,700	74,500	553	7,100	25,100	248
LYTT006	232183	7035073	6,970	129,000	78,700	514	7,500	26,600	260
LYTT007	231817	7034412	6,600	130,400	78,100	484	8,010	28,900	266
LYTT012	233601	7037586	6,470	120,100	74,300	575	7,240	25,800	243
LYTT026	234600	7036800	7,060	125,450	77,700	519	7,030	26,200	250
LYTT025	234600	7035600	6,330	115,700	71,500	559	6,960	27,300	235
LYTT024	234600	7034800	6,240	113,400	70,100	581	6,850	26,300	229
LYTT021	234600	7034000	6,390	117,100	71,600	571	6,890	26,000	237
LYTT020	234600	7033200	6,840	124,050	74,900	549	7,020	26,100	249
LYTT016	234600	7032000	6,990	137,650	86,000	458	8,290	29,300	278
LYTT023	235300	7034800	6,510	123,700	72,000	556	6,790	25,100	238
LYTT019	236300	7033200	6,800	121,600	73,500	532	7,040	26,600	246
LYTT017	235300	7032400	7,150	129,450	80,300	498	7,400	27,200	260
LYTT022	235650	7034000	6,630	119,150	74,600	543	7,010	26,700	241
LYTT018	235300	7033200	7,270	128,050	78,500	492	7,340	28,800	261
LYTT013	234890	7035481	6,510	117,750	72,500	562	7,000	25,400	237
LYTT014	234458	7035223	6,840	123,700	76,000	586	7,020	26,100	248
LYTT015	233600	7033200	7,150	128,750	78,900	517	7,300	28,000	259
LYTT027	235511	7040910	7,080	133,850	83,300	390	9,930	37,800	282
LYTT028	237073	7040940	6,360	130,350	80,800	410	10,200	36,900	276



HOLE ID	East	North	K (mg/L)	CI (mg/L)	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	SO₄ (mg/L)	TDS (g/L)
LYTT028	237073	7040940	7,210	145,150	87,000	358	11,600	37,800	304
LYTT030	230700	7041600	7,300	133,500	81,200	362	9,150	33,000	278
LYTT031	229531	7041686	8,760	147,100	89,700	347	11,300	41,100	314
LYTT032	229551	7040432	7,030	137,850	81,900	408	10,400	29,900	281

### **APPENDIX 2 – JORC TABLE ONE**

## Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	<ul> <li>Lake Way</li> <li>Sampling involved the excavation of 36 test pits over the tenement area to a depth of 4mbgl or weathered basement whichever was encountered first. Two trenches were also dug to 4m depth, Trench 1 112m long in a north south orientation and Trench 2 100m long in an east west orientation.</li> <li>A brine sample and duplicate were taken from each test pit and trench for analysis.</li> <li>Samples were taken manually by initially rinsing out the bottle with brine from the pit or trench and allowing it to fill.</li> <li>Samples were analysed for K, Mg, Ca, Na, Cl, SO4, HCO3, NO3, pH, TDS and specific gravity.</li> <li>Each test pit was geologically logged and a sample taken each 1m depth.</li> <li>Williamson Pit</li> <li>Samples were taken manually at three locations along the pit lake and at three depths at each location giving a total of 9 sampling locations in total.</li> <li>At each location a brine sample and duplicate were taken for analysis.</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Lake Way No drilling was undertaken. Test pits were dug with an excavator approximately 2m long x 1m wide x 4m deep. Williamson Pit No drilling was undertaken.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Lake Way         Samples from the test pits were logged each bucket and a representative sample bagged.         100% of excavated sample was available for sampling.         The ability to see the bulk sample facilitated the selection of a representative sample.         There is no relationship between sample recovery and grade and no loss of material as a result of excavation.         Williamson Pit         Not Applicable
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Lake Way The geological logging is sufficient for the purposes of identifying variations in sand/ clay and silt fraction within the top 4m. For a brine abstraction project, the key



Criteria	JORC Code explanation	Commentary
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	parameters are the hydraulic conductivity and storativity of the host rock, which will be determined during test pumping of the trenches. The logging is qualitative. The entire pit depth was logged in every case. <b>Williamson Pit</b> Not Applicable
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	Lake Way         Not applicable         Not applicable         At all test pits brine samples were taken from the pit after 24hours or once the pit had filled with brine. The brine samples taken from the pits are bulk samples which is an appropriate approach given the long-term abstraction technique of using many kilometres of trenches to abstract brine from the upper 4m.         All the samples taken were incorporated into a rigorous QA / QC program in which Standards and Duplicates were taken. The samples were taken in sterile plastic bottles of 250ml capacity.         Excavated lake bed samples were sealed in plastic bags. For all brine samples (original or check samples) the samples were labelled with the alphanumeric code Y8001, Y80002         Lake bed samples were labelled with the test pit locator LYTT01, LYTT02 etc. and the depth from which they were taken.         Williamson Pit
		All the samples taken were incorporated into a rigorous QA / QC program in which duplicates were taken. The samples were taken in sterile plastic bottles of 250ml capacity. For all brine samples (original or check samples) the samples were labelled with the alphanumeric code Y8001, Y80002.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Lake Way The brine samples were sent to Bureau Veritas Laboratories in Perth, WA with the duplicates being held by SLP. Every 10th duplicate was sent to Intertek, an alternate laboratory for comparison purposes. No laboratory analysis was undertaken with geophysical tools. Soil samples and laboratory derived hydraulic conductivity, total porosity and drainable porosity samples were analysed by Core Laboratories in Perth WA. All laboratories used are NATA certified. Williamson Pit The brine samples were sent to Bureau Veritas Laboratories in Perth, WA a NATA registered laboratory with the duplicates being held by SLP.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	Lake Way Not applicable Not applicable All sampling and assaying is well documented and contained on SLP's internal database No adjustments have been made to assay data



Criteria	JORC Code explanation	Commentary
		Williamson Pit Not applicable, no adjustments were made to the data
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	Lake Way All coordinates were collected by handheld GPS. The grid system is the Australian National Grid Zone MGA 51 (GDA 94) There is no specific topographic control as the lake surface can essentially be considered flat.
		Williamson Pit The pit lake sampling locations were located with a GPS. Whilst the samples were taken from a boat in the lake, movement was limited as far as possible.
		The depth from the pit lake surface to the ground surface was measured from calibrated drone survey footage
		When the samples were being taken the depth to the base of the pit was also measured and recorded at each of the three sampling locations.
		All coordinates were collected by handheld GPS.
		The grid system is the Australian National Grid Zone MGA 51 (GDA 94)
		The is no specific topographic control as the pit lake surface can essentially be considered flat.
Data spacing	Data spacing for reporting of Exploration Results.	Laka Way
and distribution	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	Lake Way The lake area contained within the Blackham tenement was calculated by digitising the lake surface and removing the area covered by the islands and the dewatered area of the Williamson pit, the approximate area is 55.4km <sup>2</sup> . 36 test pits and 2 trenches were excavated over the BRT surface resulting in 1 excavation per 1.5Km <sup>2</sup> . Which is a high density of investigation for a salt-lake and sufficient to establish variations in depth to basement, sedimentology and local hydraulic conductivity.
		Sample compositing not applicable
		<b>Williamson Pit</b> The Williamson pit is orientated north south and is approximately 600m long, 100m wide with a calculated brine volume of 1,150,495m3. Nine samples were taken giving a sample density of 1 per 128,000/m3 given the limited size of the pit and no observed inflows the sample density was deemed appropriate for this resource.
Orientation of	Whether the orientation of sampling achieves unbiased sampling of	Lake Way
data in relation to geological structure	possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	There are no structural or geological controls with respect to sampling the lake bed sediments. The variation in depth to basement does control the potential depth of future trench systems to the west of Williamson pit and the main island.
		Geological influence on the brine is limited to the aquifer parameters of the host rock, namely the hydraulic conductivity, drainable porosity and storativity.
		Williamson Pit
		Not Applicable.
Sample security	The measures taken to ensure sample security.	SLP field geologists were responsible for taking the samples and transporting them to the BV lab. The security measures for the material and type of sampling at hand was appropriate
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Data review is summarised in the report and included an assessment of the quality of assay data and laboratory



Criteria	JORC Code explanation	Commentary
		tests and verification of sampling and assaying. No audits of sampling techniques and data have been undertaken.

## Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	On the 9 <sup>th</sup> March 2018 Salt Lake Potash Ltd. and Blackham Resources Ltd. signed a gold and brine minerals memorandum of understanding. Under this MOU Blackham has granted the brine rights on its Lake Way tenement free from encumbrances to SLP. The tenements referred to in the MOU are; Exploration licences E53/1288, E53/1862, E53/1905, E53/1952, Mining Licences, M53/121, M53/122, M53/123, M53/147, M53/253, M53/796, M53/797, M53/798, M53/910, and Prospecting Licences P53/1642, P53/1646, P53/1666, P53/1667, P53/1668.
		All tenure is granted to Blackham Resources Ltd.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	There is a database of approximately 6200 boreholes across Lake Way of which some 1000 are within the Blackham tenement. The primary source for the information is the publicly available Western Australian Mineral Exploration (WAMEX) report data base. Recent sterilisation drilling has also been undertaken by Blackham resources to the south and east of the BRT area. The majority of previous work has been concerned with investigating the bedrock and calcrete for gold and Uranium, it
		is of limited value in defining the stratigraphy of the lakebed sediments. The data has been shown to be useful in the determination of the depth to base of lakebed sediments and has been used to develop an overall estimate of the volume of lake bed sediments that has been applied to the mineral resource calculations.
Geology	Deposit type, geological setting and style of mineralisation.	The deposit is a salt-lake brine deposit.
		The lake setting is typical of a Western Australian palaeovalley environment. Ancient hydrological systems have incised palaeovalleys into Archaean basement rocks, which were then infilled by Tertiary-aged sediments typically comprising a coarse- grained fluvial basal sand overlaid by palaeovalley clay with some coarser grained interbeds. The clay is overlaid by recent Cainozoic material including lacustrine sediment, calcrete, evaporite and aeolian deposits.
Drill hole	A summary of all information material to the understanding of the	No drilling was undertaken.
Information	exploration results including a tabulation of the following information for all Material drill holes: o easting and northing of the drill hole collar	36 test pits and 2 trenches were excavated on the lake surface. All test pit and trench details and locations of all data points are presented in the report.
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	Within the salt-lake extent no low-grade cut-off or high-grade capping has been implemented due to the consistent nature of the brine assay data. Test pit and trench data aggregation comprised calculation of a
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the	hydraulic conductivity for the whole sequence using the Hvorslev (1951) recovery analysis technique.



Criteria	JORC Code explanation	Commentary
	procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	The chemical analysis from each of the test pits has shown the that the brine resource is consistent and continuous through the
mineralisation widths and intercept	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	full thickness of the Lake Playa sediments unit. The unit is flat lying all test pits were excavated into the lake sediments to a depth of 4m or basement, the intersected depth is equivalent to
lengths	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	the vertical depth and the thickness of mineralisation.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Addressed in the announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results have been included.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All material exploration data has been reported.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further trench testing and numerical hydrogeological modelling to be completed that incorporates the results of the test pumping.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	The model will be the basis of the annual brine abstraction rate and mine life.

## Section 3: Estimation and Reporting of Mineral Resources (Williamson Pit and Lake Way)

JORC Code explanation	Commentary
Measures taken to ensure that data has not been corrupted by, for example, transcription or keying	Cross-check of laboratory assay reports and database.
errors, between its initial collection and its use for Mineral Resource estimation purposes.	Extensive QA/QC as described in Section 3 Sampling Techniques and Data
Data validation procedures used.	
Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	A site visit was undertaken by the Competent Person (CP) from 29th to 30th April 2018. The CP visit was documented in Letter Report SLP-18-1-L001 (Groundwater Science, 2018).
If no site visits have been undertaken indicate why this is the cases.	
Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The shallow geological profile beneath the lake is relatively homogenous. The porosity of the material is consistent with depth; hence the geological interpretation has little impact on the resource except to define its thickness.
Nature of the data used and of any assumptions made.	The island is excluded from the resource estimate as access is not
The effect, if any, of alternative interpretations on Mineral Resource estimation.	permitted. Mining the Williamson Pit has resulted in an area of approximately 4km <sup>2</sup> being dewatered, this areas has also been excluded from the resource estimate.
The use of geology in guiding and controlling Mineral Resource estimation.	
The factors affecting continuity both of grade and geology.	
The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The resource extends beneath 55.4km <sup>2</sup> of the Blackham Resources Tenements on Lake Way. The top of the resource is defined by the water table surface; on average 0.3m below ground surface. The average thickness of the resource is 5.3m as determined from the leapfrog model.
	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.         Data validation procedures used.         Comment on any site visits undertaken by the Competent Person and the outcome of those visits.         If no site visits have been undertaken indicate why this is the cases.         Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.         Nature of the data used and of any assumptions made.         The effect, if any, of alternative interpretations on Mineral Resource estimation.         The use of geology in guiding and controlling Mineral Resource estimation.         The factors affecting continuity both of grade and geology.         The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower



		The Williamson Pit volume has been estimated as 1.26million m <sup>3</sup> .
Estimation and modelling	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including	Brine concentration was interpolated using both Ordinary kriging and Voronoi polygons
techniques	treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	The thickness of the lakebed sediments was developed using the Leapfrog software package and an inverse distance weighted calculation applied to the WAMEX boreholes database covering Lake Way.
		Average test pit spacing was 500m.
	The availability of check estimates, previous estimates and/or mine production records and whether the	No check estimates were available
	Mineral Resource estimate takes appropriate account of such data.	No recovery of by-products was considered
		Deleterious elements were not considered
	The assumptions made regarding recovery of by- products.	Selective mining units were not modelled.
	Estimation of deleterious elements or other non-grade	Correlation between variables was not assumed.
	variables of economic significance (eg sulphur for acid mine drainage characterisation).	The geological interpretation from the WAMEX database was used to inform the Leapfrog model which was used to define the thickness of the orebody.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Grade cutting or capping was not employed due to the homogenous nature of the orebody.
	Any assumptions behind modelling of selective mining units.	
	Any assumptions about correlation between variables.	
	Description of how the geological interpretation was used to control the resource estimates.	
	Discussion of basis for using or not using grade cutting or capping.	
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Not applicable to brine resources. See discussion of moisture content under Bulk Density
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	No cut-off parameters were used
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Mining will be undertaken by gravity drainage of brine from trenches. Test pumping of two trenches was undertaken to obtain preliminary aquifer characteristics.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	The brine is characterised by elevated concentration of potassium, magnesium and sulphate elements and distinctly deficient in calcium ions. Such a chemical makeup is considered highly favorable for efficient recovery of Schoenite from the lake brines (the main feedstock for Sulphate of Potash production), using conventional evaporation methods
Environmen-tal factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Environmental impacts are expected to be; localized reduction in saline groundwater level, surface disturbance associated with trench and pond construction and accumulation of salt tails. The project is in a remote area and these impacts are not expected to prevent project development.



Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density is not relevant to brine resource estimation. Volumetric moisture content or volumetric porosity was measured based on determination of 19 samples (average sample spacing 1.5m) to yield an average value of 43% v/v.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The data is considered sufficient to assign a measured resource classification to brine within the Williamson Pit shell.
	Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity	The data is considered sufficient to assign an indicated resource classification to brine within the lakebed sediments within the Blackham Resources tenements excluding the Williamson Pit dewatered area and the area of the island.
	and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit.	The result reflects the view of the Competent Person
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No audit or reviews were undertaken.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	It is expected that all the Williamson Pit brine will be extracted. For the lakebed sediments the estimated tonnage represents the in-situ brine with no recovery factor applied. It will not be possible to extract all of the contained brine by pumping from trenches. The amount which can be extracted depends on many factors including the permeability of the sediments, the drainable porosity, and the recharge dynamics of the aquifers. No production data are available for comparison
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	