





# **Investor Presentation**

September 2016

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## **Important Notices and Disclaimers**



#### **Scoping Study Parameters – Cautionary Statement**

The Scoping Study results, production target and forecast financial information referred to in this Presentation are based on low accuracy level technical and economic assessments that are insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage. Of the Mineral Resources scheduled for extraction in the Scoping Study's production plan, approximately 95% are Indicated Mineral Resources and 5% are Inferred Mineral Resources. 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 Indicated Mineral Resources or the eventual conversion to Ore Reserves or that the production target itself will be realised.

The consideration of all JORC modifying factors is sufficiently progressed. Hydrogeological studies and process studies support material operating assumptions. Engineering studies support capital and operating cost estimates and are based on standard extraction and processing techniques. Discussions with third party infrastructure providers are underway. Environmental baseline studies and Native Title negotiations are progressing and no social, environmental, legal or regulatory impediments to development have been identified. The Company has concluded it has a reasonable basis for providing the forward-looking statements included in this Presentation and believes it has a reasonable basis to expect it will be able to fund the development of the Project upon successful delivery of key development milestones. The detailed reasons for these conclusions, and material assumptions on which the forecast financial information is based, are disclosed in the Company's ASX Release entitled Positive Scoping Study for the Mackay SOP Project released on 23 August 2016. Additionally, the assumptions for the Mineral Resources are disclosed in the Company's ASX Release entitled Mackay Project Resource Update and Path to Production released on 15 December 2015.

#### **JORC Code (2012) Compliance Statement**

The information in this presentation that relates to Mackay SOP Project is extracted from the ASX Release entitled Positive Scoping Study for the Mackay SOP Project released on 23 August 2016. The information in this presentation that relates to exploration results and Mineral Resources is extracted from the ASX Release entitled Mackay Project Resource Update and Path to Production released on 15 December 2015. The Company's ASX Releases are available at www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the abovementioned ASX Releases, and that all material assumptions and technical parameters underpinning the estimates in the abovementioned ASX Releases continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings that are presented have not been materially modified from the abovementioned ASX Releases.

## **Company Highlights**



- Agrimin is leveraged to increasing global food demand and the challenge of achieving food security
- SOP (sulphate of potash) is a specialty fertilizer with excellent market fundamentals and limited options for global supply growth
- The Mackay SOP Project is the world's largest undeveloped salt lake SOP deposit and comparable to major SOP producing salt lakes
- Western Australia is an emerging SOP province and Agrimin is leading the way towards establishing this new industry in Australia
- Scoping Study delivered strong project metrics and provides a platform to advance discussions with off-takers and strategic partners

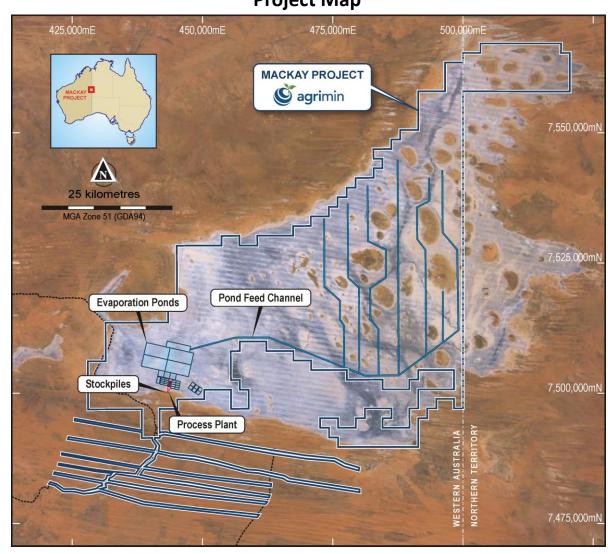


## **Mackay SOP Project**



- A world-class salt lake asset with unparalleled capability and flexibility for brine extraction and pond construction
- Scoping Study indicates a production rate of 370,000tpa of SOP over a 20 year life, with potential to increase both operational capacity and life
- Development cost is estimated to have an industry low capital intensity
- Operating cost is estimated to be in the bottom quartile of the industry mine gate cost curve
- Path to production is understood and infill drilling has already commenced

## **Project Map**



## **Corporate Snapshot**

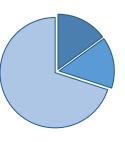


#### **Capital Structure**

Share price (31/8/16)	\$0.48
Ordinary shares	123.9m
Options	1.0m
Fully diluted market cap	\$60.0m
Cash at bank	\$3.2m
Debt	\$0.0m

## **Shareholder Spread**





#### **Share Price Chart**



#### **Key Personnel**

**Brad Sampson, Non-Executive Chairperson** – Mining Engineer with 30 years of management and board experience in the international resources industry. Has led the financing and development of a major greenfields resource project.

Mark Savich, Chief Executive Officer – Financial analyst (CFA) with 12 years of experience in the resources industry based in Western Australia. Significant experience in the commercial evaluation and development of resource projects, from exploration ventures through to full-scale production.

Alec Pismiris, Non-Executive Director & Company Secretary – Finance professional with over 25 years experience in the resource industry and has participated numerous times in the acquisition and financing of resource ventures. Has served as a director and company secretary for many ASX listed companies.

**Tom Lyons, General Manager** – Geologist with broad experience in a range of commodities including industrial minerals, metals and bulks. Significant experience working throughout a number of diverse jurisdictions, including throughout Western Australia.

**Murray Brooker, Consulting Hydrogeologist** – Significant experience in hydrogeological assessments of salt lake lithium and potassium brine projects in Argentina and Chile. Extensively involved with the development of Orocobre's Olaroz Project in Argentina.

**Peter Ehren, Consulting Process Engineer** – Significant experience in development of brine projects, including major SOP producing assets such as SQM's Salar de Atacama Project in Chile and SDIC Luobupo's Project in China. Extensively involved with the commissioning at Orocobre's Olaroz Project in Argentina.



# Mackay SOP Project

Western Australia, 100% Owned

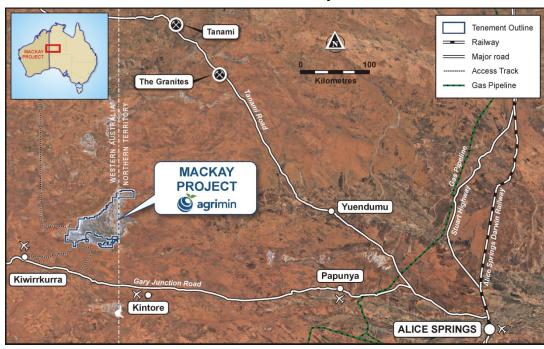
## **Project Overview**



- Mineral Resources of 23.2 million tonnes of SOP (drainable)
- Extensive tenement package covering 2,560km<sup>2</sup>
- > 100% owned and located in low-risk Western Australia
- Supportive local community and Native Title Land Access Agreement in place
- Excellent net evaporation rate of approx. 3,400mm per year
- > Transport infrastructure is in place and fit for haulage

Note: Mineral Resources comprise Indicated Mineral Resources of 4.3 million tonnes and Inferred Mineral Resources of 18.9 million tonnes

#### **Location Map**



**Road from Alice Springs to Kiwirrkurra** 



## Path to Production



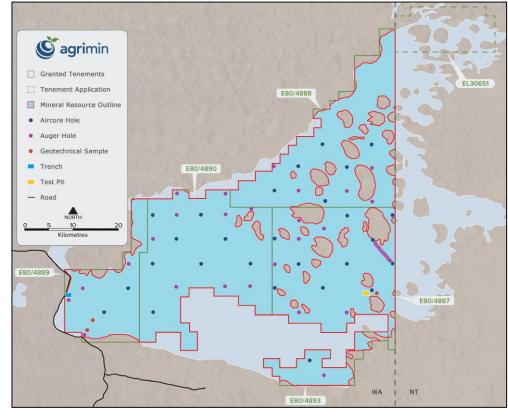
## **Scoping Study Indicative Development Timeline and Historical Share Price**

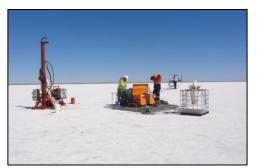
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## An Industry Leader in Australia

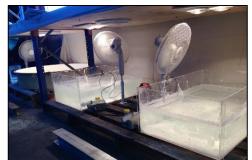


- ✓ Large and near-surface SOP Mineral Resources defined (drainable)
- ✓ Trenching and pump testing supports large-scale brine extraction
- ✓ Geotechnical testwork indicates excellent conditions for un-lined ponds
- ✓ Evaporation trial confirms suitable brine chemistry for targeted Potassium salts
- ✓ Scoping Study indicates low capital and operating cost estimates











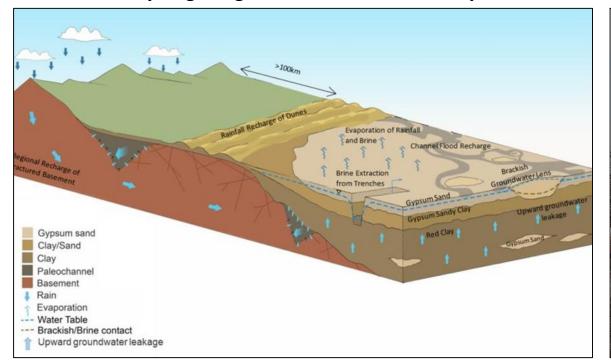


## Hydrogeology



- > Hydrogeological model supports continual brine flow at a steady state of 66.5GL (gigalitres) per year over a 20 year life
- ► Lake Mackay is the end point of an enormous catchment area of approx. 87,000km²
- > Model developed by independent consultancy and based on data from short and medium-term pumping tests and laboratory testwork

#### **Hydrogeological Model of Lake Mackay**



#### **Pumping Test at the Mackay SOP Project**



## **Example: Qarhan Salt Lake, China**



- > Qinghai Salt Lake extracts brine via 130km of trenching which is approx. 16m deep and has been operating for 50 years
- > The pumping station shown below is used to pump approx. 60GL per year of brine to the evaporation ponds
- > The entire operation extracts a total of 300GL per year of brine which is pumped into evaporation ponds that cover an area of 170km<sup>2</sup>

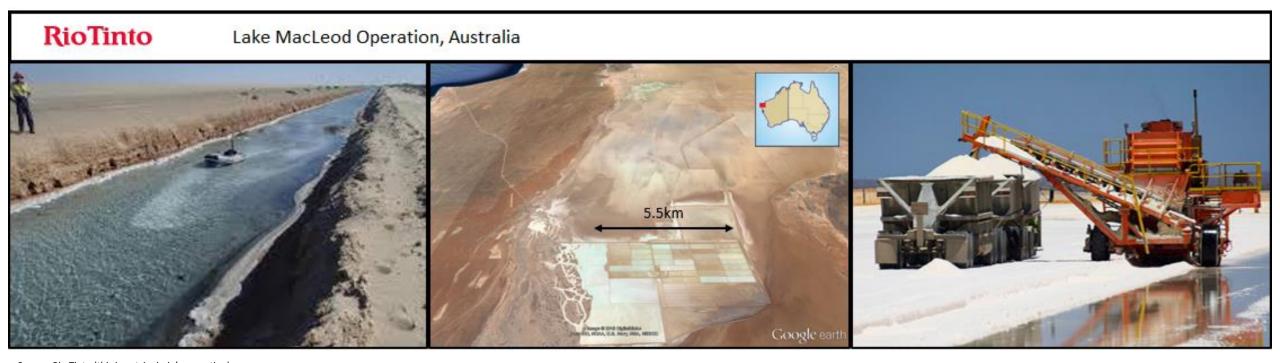


Note: This is not Agrimin's operation

## Example: Lake MacLeod Salt Mine, WA



- Trenches and solar evaporation ponds are currently used in Western Australia
- Rio Tinto extracts 29GL per year of brine from trenches and transfers the brine to evaporation ponds via an 8.5km feed channel
- > The operation uses evaporation ponds which cover an area of 16.5km<sup>2</sup>



Source: Rio Tinto (this is not Agrimin's operation)

# Benchmarking to Existing SOP Operations



	Mackay, Australia	Luobupo, China	Great Salt Lake, USA		
<b>Extraction Method</b>	Trenching of Near Surface Brines	Trenching of Near Surface Brines	Pumping of Near Surface Brines		
Potassium Concentration	3,603 mg/L	10,413 mg/L	4,600 mg/L		
Lake Surface Area	3,500 km²	5,500 km²	4,400 km²		
Net Evaporation	3,400 mm/year	3,500 mm/year	1,300 mm/year		
Harvesting Method	Dry Harvest	Wet Harvest	Dry Harvest		
Process Flowsheet	Flotation & Crystallisation	Proprietary	Flotation & Crystallisation		
Distance to Port	590 km road & 1,410 km rail	3,220 km rail	1,165 km rail		

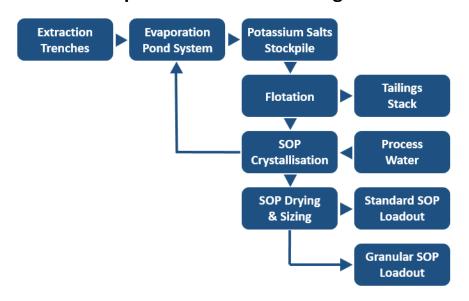


## **Conventional Production Process**

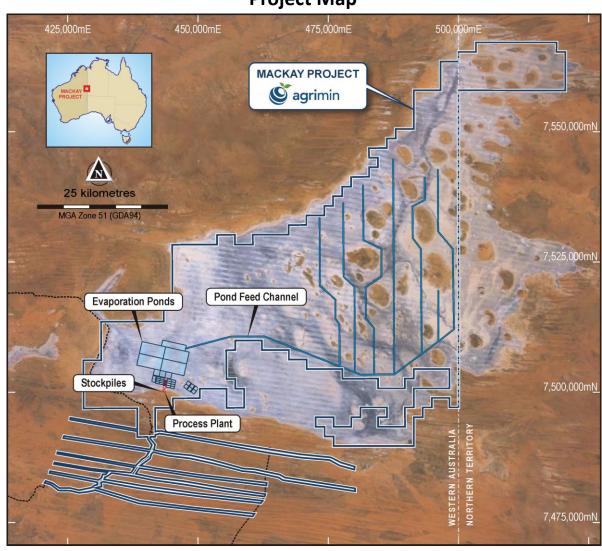


- Extraction of brine is designed exclusively from trenches in the top
   5.5m of the deposit
- Huge lakebed surface area provides the ideal geotechnical setting for large-scale solar evaporation ponds
- Process plant will use standard types of plant and equipment

#### **Simplified Process Flow Diagram**



#### **Project Map**



## **Scoping Study Highlights**



- Study indicates a production rate of 370,000tpa of SOP over a 20 year life
- Operating cost is estimated to be in the bottom quartile of the industry mine gate cost curve
- Development cost is estimated to have an industry low capital intensity
- Upon final investment decision and securing financing, construction and ramp-up is estimated to take 24 months to reach full production
- Positive technical and economic fundamentals provide a robust basis for commencing a Pre-Feasibility Study

#### **Scoping Study Material Assumptions and Outcomes**

Parameter	Unit	Value
Development Period	months	24
Operating Life	years	20
Brine Extracted Over Operational Life	GL	1,330
Annual Brine Extraction Rate	GL	66.5
Potassium Concentration	mg/L	3,603
Potassium Recovery	%	69.3
SOP Production Rate	tpa	370,000
Average Total Cash Cost	US\$/t FOB	256
Average All-In Sustaining Cash Cost (Exc. Royalties)	US\$/t FOB	277
Development Capital Cost (Inc. Contingency of US\$52m)	US\$m	259
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#### Notes:

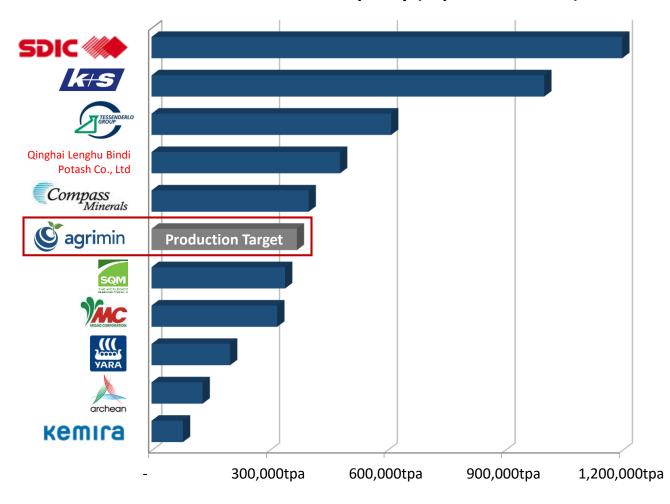
- Development capital cost includes working capital, EPCM, owner's costs and a 25% contingency applied to all line items
- 2. Average total cash cost is on a free-on-board (FOB) basis, including mine gate costs, transportation and ship loading costs
- 3. Average total cash cost is based on drying, compacting and glazing all SOP production
- 4. Average all-in sustaining cash cost does not include royalties as no income projections have been disclosed
- 5. Potassium recovery is the estimated overall recovery rate achieved through the ponds and process plant
- USD/AUD exchange rate of 0.75 has been used to convert Australian dollar amounts to US dollars
- Potassium content can be converted to SOP using a conversion factor of 2.23 (i.e. SOP contains 44.87% Potassium)
- 8. Cost estimates have a ±35% level of accuracy
- Information that relates to the Scoping Study has been extracted from the Company's ASX Release entitled Positive Scoping Study for the Mackay SOP Project released on 23 August 2016

## Industry Comparison



- Agrimin is well positioned to become a globally significant SOP producer
- In the last decade there has been a shift towards environmentally friendly SOP production from salt lakes
- Western Australia is an emerging SOP province and has excellent undeveloped potential
- Australia has the advantage of low geopolitical risk compared to other major undeveloped potash regions
- Agrimin is strategically located for supplying the growing markets of south-east Asia

### **Installed SOP Production Capacity (Top 10 Producers)**



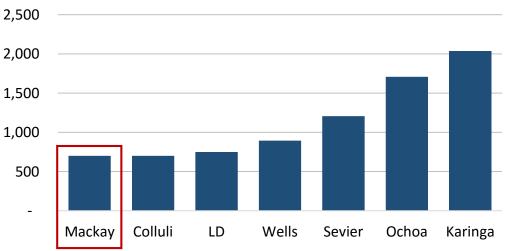
 $Note: \ Graph\ compiled\ from\ information\ sourced\ from\ company\ reports\ and\ research\ undertake\ by\ Agrimin$ 

## **Capital Costs**



- An industry low capital intensity of US\$700/t, making the Project an attractive development proposition
- Total development capital cost of US\$259 million (A\$346 million)

## **Capital Intensity for Undeveloped SOP Projects (US\$/t)**



#### Notes:

- 1. Graph compiled from capital cost information sourced from company scoping and feasibility studies
- Included 25% contingency to the capital costs reported in the LD Scoping Study of April 2015 and Wells Scoping Study of August 2016
- 3. Colluli and Wells capital intensities relate to Phase 1 only
- 4. USD/AUD exchange rate of 0.75 has been used to convert Australian dollar amounts to US dollars

#### **Scoping Study Estimated Development Capital Costs**

Main Area	US\$m
Trenches & Ponds	48.9
Plant & Associated Infrastructure	63.5
Harvesting & Mobile Equipment	9.8
Infrastructure	32.6
Total Directs	154.8
Indirects, EPCM & Working Capital	52.8
Contingency	51.8
Total Capital Cost	259.4

#### Notes.

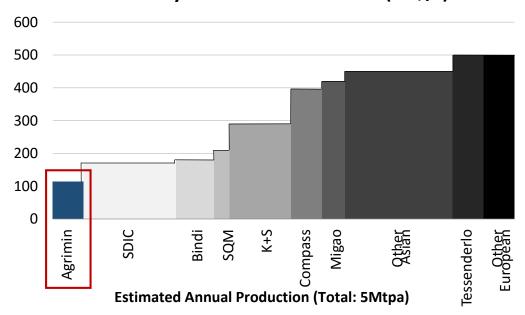
- 1. Contingency is 25% and applied to all direct and indirect line items
- 2. USD/AUD exchange rate of 0.75 has been used to convert Australian dollar amounts to US dollars
- 3. Cost estimates have a ±35% level of accuracy

## **Operating Costs**



- An estimated bottom quartile mine gate cost,
   providing an opportunity to displace high-cost supply
- Average all-in sustaining cash cost of US\$277/t FOB (A\$369/t FOB)

## **SOP Industry Mine Gate Cost Curve (US\$/t)**



**Scoping Study Estimated Operating Cash Costs** 

Main Area	US\$m	US\$/t
Site Processing	35.0	94.7
Direct G&A	6.9	18.6
Average Mine Gate Cash Cost	41.9	113.3
Transport & Ship Loading	53.0	143.1
Average Total Cash Cost	94.9	256.4
Corporate Overheads	1.5	4.1
Average Sustaining Capital Cost	6.2	16.8
Average All-In Sustaining Cash Cost	102.5	277.3

#### Notes:

- . Average total cash cost is on a free-on-board (FOB) basis, including mine gate costs, transportation and ship loading costs
- 2. Average total cash cost is based on drying, compacting and glazing all SOP production
- 3. Average all-in sustaining cash cost does not include royalties as no income projections have been disclosed
- 4. USD/AUD exchange rate of 0.75 has been used to convert Australian dollar amounts to US dollars
- 5. Errors are due to rounding
- 6. Cost estimates have a ±35% level of accuracy

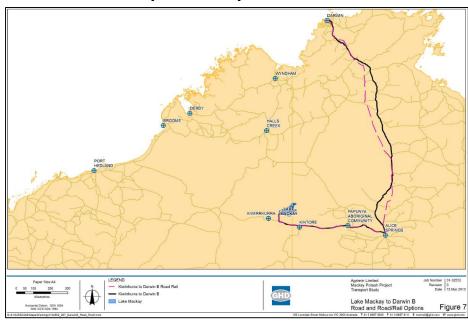
Note: Graph compiled from information sourced from company reports and research undertake by Agrimin

## Transport Infrastructure in Place



- Road: Project is connected to Alice Springs via well-maintained sealed and unsealed roads which are used to transport fuel and supplies to communities
- > **Rail:** Alice Springs is connected to shipping terminals via the Adelaide-to-Darwin railway. Bulk trains currently run between various mines and ports
- Port: Ports in Northern Territory and South Australia with bulk loading berths provide optionality

#### **Map of Transport Corridor**



#### **Gary Junction Road at WA-NT Border**



Adelaide-to-Darwin Railway



**Port of Darwin** 



## **Community Relationships**



- > Agrimin has a strong working relationship with the local community and has a Land Access Agreement in place
- > The Mackay SOP Project has an exciting potential to greatly improve employment opportunities for local people
- > Agrimin is committed to working with the Kiwirrkurra people to preserve their country and culture alongside a sustainable SOP operation







# Sulphate of Potash (SOP)

Specialty Fertilizer for Modern Agriculture

## Sulphate of Potash (SOP)



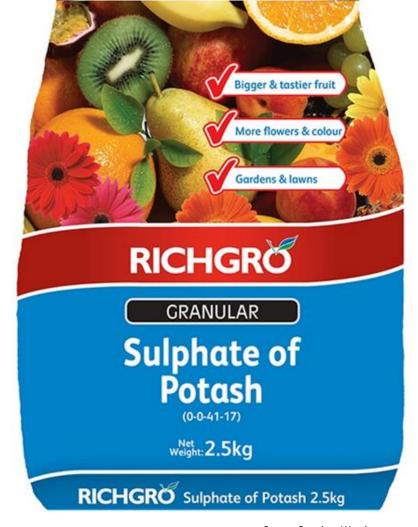
- SOP is used on crops such as fruits, vegetables and tree nuts
- It improves the nutritional value, taste, appearance and shelf life of crops
- > Its use is essential for chloride-sensitive crops and has advantages in saline and arid soils
- SOP contains almost no chloride, compared to muriate of potash (MOP) which contains 46% chloride

**Orange without SOP** 



Orange with SOP





Source: Bunnings Warehouse

Source: IC Potash

## **Potash Production**

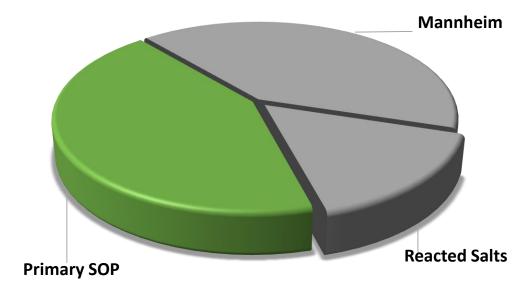


- SOP market turnover is circa US\$4 billion per year
- Global potash production was 67Mt in 2015, of which less than 10% was SOP
- > Primary production (i.e. salt lakes) currently accounts for 2.3Mtpa or 40% of global SOP production
- Approx. 40% of global SOP production capacity comes from the high-cost Mannheim Process

# MOP Source: IFA, K+S Group, Integer SOPM NOP

**Total Potash Production (67Mt per annum)** 

#### **SOP** Production (5Mt per annum)

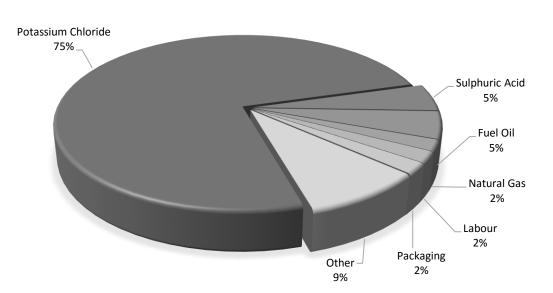


## Mannheim Process

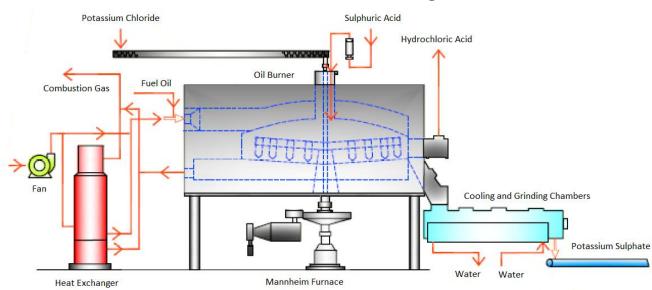


- Potassium chloride (MOP) is reacted with sulphuric acid, producing potassium sulphate (SOP) and a hydrochloric acid by-product
- > MOP is the primary input and represents approx. 75% of the production cost for the Mannheim Process (current MOP price is US\$219/t)
- As a result, SOP sells at a premium price to MOP

#### **Mannheim Process – Typical Cost Breakdown**



#### **Mannheim Process – Flow Diagram**



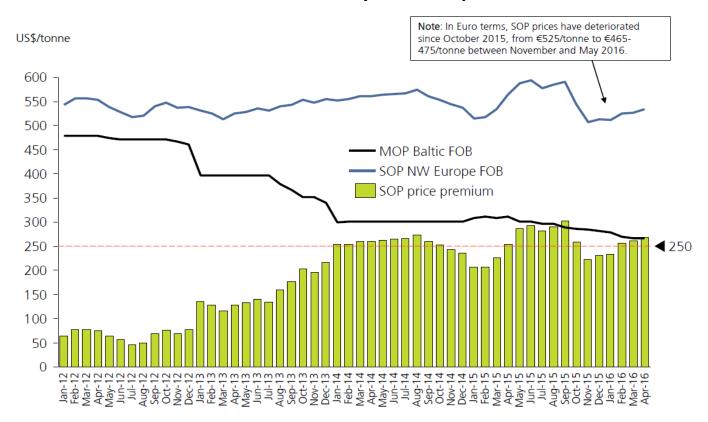
Source: IC Potash, Migao Corporation

## **Potash Prices**



- Prices for standard SOP products are currently trading at approx. US\$540/t (NW Europe FOB)
- Current weakness in MOP prices has had limited impact on SOP prices
- Key supply and demand fundamentals support the current SOP price:
  - Price inelasticity: SOP demand is driven by high-value crops, where the cost of fertilizer has less of an impact on crop profitability
  - High marginal cost: SOP supply is reliant on secondary production (Mannheim Process) which has a high production cost and a problematic hydrochloric acid by-product

#### Potash Prices - January 2012 to April 2016



Source: Integer

## Next Steps

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- Scoping Study provides a strong foundation for future activities
- Current infill drilling is aimed at upgrading the Mineral Resources in the Study's production plan and to enhance geotechnical data
- Potassium salt samples are currently at the Saskatchewan Research Council for process testwork
- Pre-Feasibility Study will further define infrastructure requirements such as product transportation, power and water supply
- Major goal is to achieve critical path items such as environmental studies, Native Title negotiations, long-term pumping tests and pilot evaporation trials



## Summary



- Global food demand will increase and the challenge of achieving food security will intensify
- > The trend towards low-cost and environmentally friendly SOP production from salt lakes will continue
- Western Australia is an emerging SOP province and Agrimin is leading the way towards establishing this new industry
- The Mackay SOP Project is world-class and comparable to salt lake SOP operations internationally
- Scoping Study delivered strong project metrics and provides a platform to advance discussions with off-takers and strategic partners





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#### **Further Information**

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## Appendix 1. Mineral Resources (JORC Code 2012)



#### Mineral Resources – <u>Total Porosity</u>

Category	Zone	Depth (m)	Volume (M m³)	Average Total Porosity	SOP Grade (kg/m³)	Contained SOP (Mt)
Indicated	Upper	0.4 – 2.7	4,036	45.0%	8.41	15.0
Inferred	Upper	0.4 - 6.0	7,047	45.0%	8.25	26.0
Inferred	Lower	6.0 – 24.7	33,004	45.0%	8.23	122.0
Total	Upper & Lower	0.4 – 24.7	44,088	45.0%	8.25	164.0

#### Mineral Resources – Specific Yield

Category	Zone	Depth (m)	Volume (M m³)	Average Specific Yield	SOP Grade (kg/m³)	Contained SOP (Mt)
Indicated	Upper	0.4 – 2.7	4,036	12.5%	8.41	4.3
Inferred	Upper	0.4 - 6.0	7,047	9.4%	8.25	5.5
Total	Upper	0.4 - 6.0	11,083	10.5%	8.31	9.7
Inferred	Lower	6.0 – 24.7	33,004	5.0%	8.23	13.6
Total	Upper & Lower	0.4 – 24.7	44,088	6.0%	8.25	23.2

#### Notes:

- 1. Average depth of drilling was 24.7m, however the estimation extends to 30.0m where drilling reached that depth
- 2. Water table averages 0.4m below surface
- 3. Potassium content can be converted to SOP using a conversion factor of 2.23 (i.e. SOP contains 44.87% Potassium)
- 4. Mineral Resources to a 2.7m depth are 89% Indicated Mineral Resources and 11% Inferred Mineral Resources
- 5. Mineral Resources below a depth of 2.7m are all Inferred Mineral Resources
- 6. Errors are due to rounding
- 7. Information that relates to Mineral Resources has been extracted from the Company's ASX Release entitled Mackay Project Resource Update and Path to Production released on 15 December 2015

# Appendix 2. Scoping Study Overview



The Study is based on data collected and generated by Agrimin over the past two years

 Mineral Resources and hydrogeological modelling utilised field and laboratory data collected during 2015, including 66 drill holes, 17 well installations and two trenches

- The Study's Process Design incorporates the results of a 92 day evaporation trial completed in April 2016
- A team of experienced consultants was used to ensure high-quality and credible outcomes

#### **Scoping Study Team**

Discipline	Consultant
Lead Engineer	Lycopodium Minerals
Mineral Resources	Hydrominex Geoscience Consulting
Geotechnical Evaluation	GHD
Hydrogeological Modelling	Groundwater Exploration Services
Process Water Evaluation	Hydrominex Geoscience Consulting
Trench & Pond Design	Knight Piesold
Mass Balance & Flowsheet	Global Potash Solutions
Evaporation Testwork	PEC & Independent Metallurgical Operations
Environmental	Ecologia