

ASX Release 11 October 2016

# QUARTERLY ACTIVITIES REPORT FOR PERIOD ENDING 30 SEPTEMBER 2016

# Highlights

## **Mackay SOP Project**

- Completion of a Scoping Study indicating SOP production of 370,000 tonnes per year over a 20 year life at an estimated average operating cash cost of US\$256/t FOB (±35%)
- Board approved the progression to a Pre-Feasibility Study
- Infill drilling program completed with 57 core holes drilled to an average depth of 10.1m
- Full drilling program results and updated Mineral Resources are expected in Q4-2016

Agrimin Limited (ASX: AMN) ("Agrimin" or "the Company") is pleased to report its activities for the quarter ending 30 September 2016.

## Mackay SOP Project – Western Australia (100% owned)

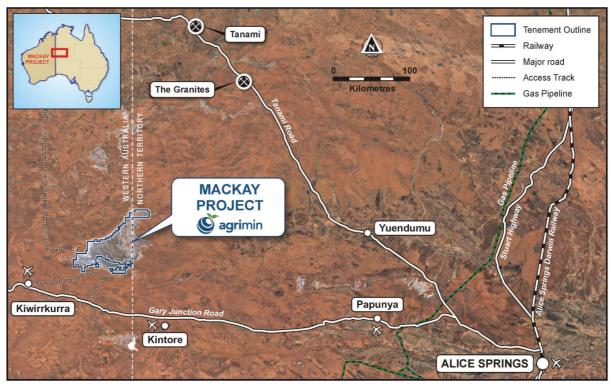
The Mackay Sulphate of Potash ("**SOP**") Project is 100% owned by Agrimin and covers an area of 2,560km<sup>2</sup> across Lake Mackay in Western Australia.

Lake Mackay is the largest known SOP-bearing salt lake in Australia and is the low point of an enormous groundwater and surface water catchment area that is approximately 87,000km<sup>2</sup>. The lakebed itself covers an area of approximately 3,500km<sup>2</sup> and measures approximately 100km east-west and north-south. The lakebed surface is comparable to the lakebed areas at two major sources of SOP production, being the 4,400km<sup>2</sup> Great Salt Lake in the USA and the 5,500km<sup>2</sup> Lop Nur (Luobupo operation) in China.

Lake Mackay's hydrogeological setting and significant size provide important attributes that support the development of a salt lake operation. The Project currently has Indicated Mineral Resources of 4.3 million tonnes and Inferred Mineral Resources of 18.9 million tonnes of SOP based on specific yield. The Mineral Resources encompass an area of 2,201km², within Agrimin's five granted tenements, and does not take into account any natural recharge factor which could increase the amount of extractable resources over the life of an operation.



Figure 1. Location Map



## **Scoping Study**

During the quarter, the Company completed and announced the results of various development studies. These included an initial evaporation trial, hydrogeological modelling, a geotechnical study, a process water evaluation and process design. This culminated in the completion of a positive Scoping Study ("**Study**") for the Mackay SOP Project which was announced on 23 August 2016.

A team of experienced consultants worked closely with Agrimin's management on the Study. Lycopodium Minerals Pty Ltd was responsible for leading the Study and estimating the capital and operating costs. Knight Piesold Pty Ltd undertook the civil engineering and geotechnical design aspects. Global Potash Solutions Inc. undertook the interpretation of the process testwork data and completion of the mass balance and process flowsheet components.

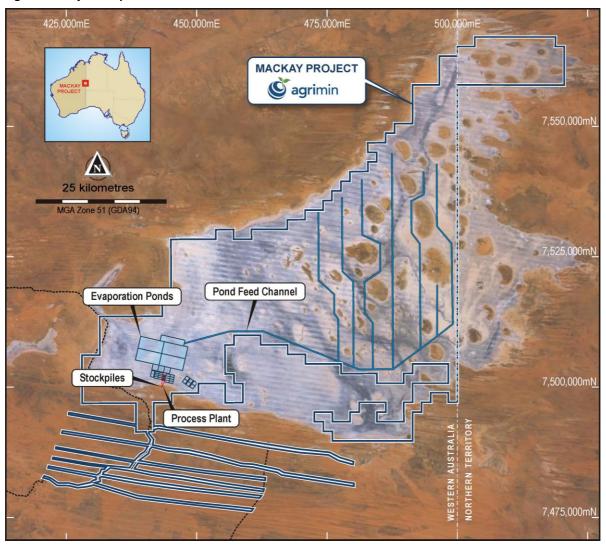
The Study has been completed on the basis of steady-state brine extraction of 66.5 gigalitres ("**GL**") per year over a 20 year life. The Mackay brine deposit commences just below the surface and the Study incorporates extraction trenches to a depth of only 5.5m into the lakebed.

SOP production begins with pumping brine from trenches into a series of solar evaporation ponds. It is planned to dry harvest crystallised Potassium salts from the ponds. The process route consists of flotation followed by crystallisation for SOP recovery. The process plant has been designed for a production target of 370,000 tonnes per annum ("tpa") of SOP.

The SOP products will be transported in bulk by road trains to a rail load-out located in Alice Springs and then railed to one of the port options for shipment.



Figure 2. Project Map



**Table 1. 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



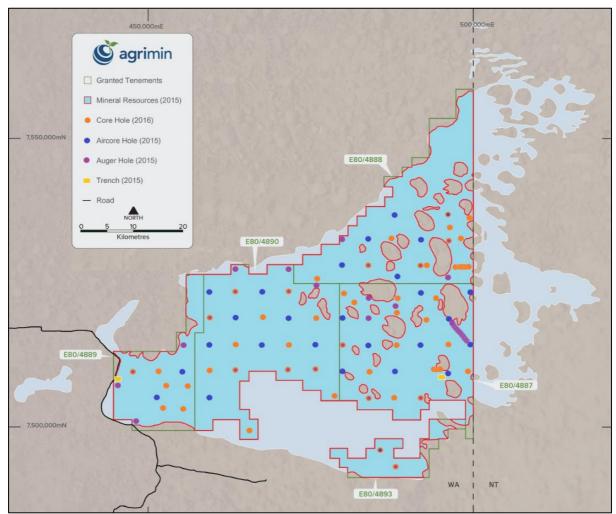
#### Notes to Table 1 above:

- 1. Development capital cost includes working capital, EPCM, owner's costs and a 25% contingency applied to all 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
- 6. USD/AUD exchange rate of 0.75 has been used to convert Australian dollar amounts to US dollars
- 7. Potassium content can be converted to SOP using a conversion factor of 2.23 (i.e. SOP contains 44.87% Potassium)
- 8. The Scoping Study cost estimates were completed to an approximate level of accuracy of ±35%

## 2016 Field Program

During the quarter, the planned infill drilling program was completed on schedule and budget. A total of 57 holes were drilled to the planned average depth of 10.1m. The drilling program is aimed at upgrading the Indicated and Inferred Mineral Resources included in the Scoping Study's production plan to the Measured and Indicated Mineral Resources categories. Drilling density across the Project has been closed to an approximate 5km grid, with closer spaced transect drilling conducted in specific areas to assess short range variability.

Figure 3. Drill Hole Locations





A majority of the 57 drill holes were completed as monitoring wells for long-term monitoring and sampling purposes. Agrimin's hydrogeologists were on-site during the entire exploration program to undertake all sampling and geological logging of drill holes.

Drilling was conducted using a hollow-stem auger rig which allowed for sealed core samples to be obtained for physical properties testing, which includes porosity and permeability, within the suite. Brine samples from the drilling program were also collected for chemical analysis. The majority of the core and brine samples have now been dispatched to the relevant laboratories, with the remaining samples in transit.

The Company completed six geotechnical drill holes and in addition, collected approximately 150kg of disturbed geotechnical samples. These samples are in transit to laboratories for testwork to provide additional site specific information for the refinement of evaporation pond and trench designs.

Approximately 3,500L of brine is also in transit to Perth to be used in the next round of evaporation trials and process testwork. This work will allow for refinement of the pond system design and the flowsheet used in the SOP process plant.

During the field program, additional information was obtained to progress project approvals. This included data collected from the investigation of monitoring wells and groundwater loggers installed in 2015, the Project's weather station and from environmental surveys. Also during the quarter, Agrimin attended an on-country meeting with Tjamu Tjamu (Aboriginal Corporation) RNTBC.

## **Planned Activities**

The Scoping Study has delivered positive outcomes and the Company has commenced activities to support the progression to a Pre-Feasibility Study ("PFS").

Agrimin's hydrogeological consultants have been engaged to update the Mineral Resources and Hydrogeological Model upon receipt of all laboratory results from the recent infill drilling program. The results from drilling and other activities undertaken during the recent field program will be reported in batches as they come to hand during Q4-2016.

The Company is currently designing further evaporation trials to test the variability of several key parameters, and subsequent flotation and SOP crystallisation testwork. Process testwork on the salt samples generated from the previous evaporation trial is ongoing at the Saskatchewan Research Council.

The PFS will further define the Project's infrastructure requirements such as product transportation, power and water supply. In parallel to the PFS, Agrimin is focused on the delivery of key critical path items for the Project's development including environmental studies, Mining Agreement negotiations, long-term pumping tests and pilot evaporation trials.



# **Corporate Activities**

## **Share Issues**

During the quarter, shareholder approval was obtained for the issue of 1,200,000 ordinary shares to directors of the Company raising \$180,000. This was part of the share placement to raise a total of \$2,700,500 as announced by Agrimin on 2 June 2016. Shareholder approval was also obtained for the issue of 1,000,000 unlisted options with an exercise price of \$0.15 per share and an expiry date of 30 April 2018 to Mr Brad Sampson as announced at the time of his appointment.

During the quarter, 2,750,000 ordinary shares were issued on exercise of performance rights by directors and an employee of the Company on the achievement of performance conditions.

#### **Business Development**

The Company continues to actively assess business development opportunities which would be complementary to its existing project portfolio. As and when acquisitions are completed the Company will make announcements to the market at appropriate times.

## **Tenement Interests**

Table 2. Schedule of Tenement Interests as at 30 September 2016

Tenement Ref.	Project	Holder	State	Status	Interest	
Exploration Licences						
E80/4887	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Granted	100%	
E80/4888	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Granted	100%	
E80/4889	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Granted	100%	
E80/4890	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Granted	100%	
E80/4893	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Granted	100%	
E80/4995	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Application	100%	
EL30651	Mackay SOP	Agrimin Limited	N.T.	Application	100%	
EPM 18616	Golden Gate Graphite <sup>1</sup>	Agrimin Limited	QLD	Granted	6%	
Miscellaneous Licences						
L80/87	Mackay SOP	Agrimin Potash Pty Ltd	W.A.	Application	100%	

#### Notes

- 1. Agrimin is in the process of disposing of its 6% interest, but will retain a 1% net smelter royalty on any and all minerals produced
- 2. Subsequent to 30 September 2016, Agrimin Potash Pty Ltd lodged an additional Exploration Licence application (E80/5055)

**ENDS** 



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## **Forward-Looking Statements**

This ASX Release may contain certain "forward-looking statements" which may be based on forward-looking information that are subject to a number of known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those presented here. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. Forward-looking information includes exchange rates; the proposed production plan; projected brine concentrations and recovery rates; uncertainties and risks regarding the estimated capital and operating costs; uncertainties and risks regarding the development timeline, including the need to obtain the necessary approvals. For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other ASX Releases. Readers should not place undue reliance on forward-looking information. The Company does not undertake any obligation to release publicly any revisions to any forward-looking statement to reflect events or circumstances after the date of this ASX Release, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

## **Competent Person's Statements**

The information in this ASX Release that relates to exploration results, Mineral Resources Estimates and Scoping Study results are extracted from the relevant ASX Releases and are available on www.asx.com.au and Company's website on www.agrimin.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous ASX Releases and, in the case of the Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the ASX Release on 15 December 2015 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 previous ASX Releases.