AUSTRALIAN POTASH LIMITED

Research Note

A ROBUST AND LOW-COST SULPHATE OF POTASH PROJECT

Investment Highlights

- **Australian Potash Limited (APC) is an industrial minerals company primarily focussed on developing its 100% owned Lake Wells Sulphate of Potash Project (LWSOP) that is situated approximately 480 kilometres north-east of the Eastern Goldfields centre of Kalgoorlie. In August, the company released its Definitive Feasibility Study (DFS) on Lake Wells, with results showing a robust and low-cost Sulphate of Potash project (SOP) that has the potential to supply up to 150Ktpa of SOP to overseas and domestic markets.**

- **A low-cost long-life project.** The LWSOP project, located in one of the world's superior locations for solar evaporation operations offers a compelling low-cost long-life development opportunity as the demand for premium grade fertilizer products like SOP continue to rise in Asia and the rest of the world. With total measured drainable SOP resource of 18.1Mt, evaporated through sun and wind, APC will look to supply overseas and domestic markets with up to 150ktpa of SOP for at least the next 30 years. DFS results indicate life of mine (LOM) operating costs of US$262/t, placing the LWSOP project in the first quartile of the SOP cost curve.

- **Robust Financial Returns.** DFS results indicate the project boasts a pre-tax NPV_8 of A$665M with an internal rate of return (IRR) of 25% on robust operational and capital efficiencies. These economics are based on the Project's Probable Reserves of 3.6Mt SOP, which account for 95% of the LOM output, with the remaining 5% coming from the Measured Resource (18.1Mt). Overall, the project has a 30 year mine life with LOM production of 4.5Mt of premium high-grade SOP.

- **SOP price outlook looks stable.** Historically, SOP prices have not been subject to the same level of volatility we observe in traditional commodities, having held between US$450/t and US$650/t over the past 5 years. The price premium of SOP over Muriate of Potash (MOP) has averaged US$267/t over the same period. Using a SOP price of US$550/t and an exchange rate of AUD/USD $0.70, the LWSOP generates on average A$100m.pa in EBITDA throughout the LOM, with an operational payback period (post-tax) of 4.75 years.

- **Valuation: $0.23/share.** Our APC valuation is based on the discounted cash flow analysis of the Lake Wells Potash Project (LWSOP), risk weighted at **60%.** Un-risked our valuation increases to **$0.35/share**. We assume LWSOP is financed using 60% debt and 40% equity.

Year End June 30	2018A	2019A	2020F	2021F	2022F
Reported NPAT (A$m)	(5.1)	0.1	(5.4)	(16.8)	(6.5)
EPS Growth (%)	na	na	na	na	na
PER (x)	na	na	na	na	na
EBITDA (A$m)	(5.1)	0.2	(3.6)	(3.9)	19.4
Capex (A$m)	0.1	3.5	58.9	162.9	7.7
Free Cashflow	(6.1)	(4.2)	(60.3)	(175.7)	0.7
FCFPS (cents)	(3.3)	(2.2)	(16.9)	(49.1)	0.2
PFCF (x)	na	na	na	na	na
DPS (cents)	0.0	0.0	0.0	0.0	0.0
Yield (%)	0.0	0.0	0.0	0.0	0.0
Franking (%)	0.0	0.0	0.0	0.0	0.0

8 October 2019

12mth Rating	SPECULATIVE BUY	
Price	A$	0.11
Target Price	A$	0.23
12mth Total Return	%	118.5
RIC: **APC.AX**		BBG: **APC AU**
Shares o/s	m	357.6
Free Float	%	63.0
Market Cap.	A$m	37.5
Net Debt (Cash)	A$m	-2.0
Net Debt/Equity	%	na
3mth Av. D. T'over	A$m	0.058
52wk High/Low	A$	0.13/0.06
2yr adj. beta		0.71
Valuation:		
Methodology		DCF
Value per share	A$	0.23

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12 Month Share Price Performance

Performance %	1mth	3mth	12mth
Absolute	(8.7)	9.4	42.2
Rel. S&P/ASX 300	(7.4)	11.3	34.6

COMPANY OVERVIEW AND INVESTMENT THESIS

Australian Potash Limited (APC) is an ASX-listed Sulphate of Potash (SOP) developer, focussed on advancing its 100% owned Lake Wells SOP Project (LWSOP), located approximately 480 kilometres north-east of the Eastern Goldfields centre of Kalgoorlie. With ideal evaporation rates and low annual rainfall, we believe the LSWOP is located in one of the world's premium locations for solar evaporation operations. Recently, the company released a Definitive Feasibility Study (DFS) on the project, which shows a robust long-life project which offers a compelling investment opportunity as the demand for SOP continues to rise in Asia and the rest of the world. With a JORC compliant Mineral Resource of 18.1Mt drainable SOP, evaporated through sun and wind, APC will look to supply both overseas and domestic markets with up to 150ktpa of SOP for at least the next 30 years.

In addition to the Lake Wells Potash Project, APC's project portfolio comprises the Lake Wells Gold Project (subject to a 70% Earn-Out and JV Agreement with St Barbara Mines), and the gold and base metals prospective Laverton Downs Project.

We initiate coverage of APC with a **Speculative Buy** rating and a **$0.23/share** valuation. Key APC investment considerations include:

- **More people means more food...** With a growing middle-class in many developed countries creating demand for more and better quality food, and urbanisation decreasing the arable land per capita and increasing demand for higher quality less land intensive crops, we believe that the demand case for premium fertilizer products like SOP is extremely strong. Industry specialist, Argus consulting forecast global SOP demand will grow at CAGR 1.3% on average to 2040. The majority of this growth is expected to occur in South Asia and Europe where SOP demand is expected to increase by over 200ktpa.

- **SOP price outlook is expected to remain stable.** SOP prices have continued to hold between US$450/t and US$650/t over the past 5 years, with the premium of SOP over MOP averaging US$267/t over the same period. As the majority of the world's supply of SOP is sourced via the inorganic high-cost Mannheim process, there is a 'natural' floor in the price of SOP which is approximately US$400/t. As this floor is considerably higher than the costs of producing via primary sources (salt lakes), we believe that an opportunity exists for many of the low-cost SOP developers to displace the high-cost secondary (Mannheim) producers.

- **Significant valuation and strong project economics.** Results from the DFS indicate a pre-tax NPV_8 of A$665M with an internal rate of return (IRR) of 25% on robust operational and capital efficiencies. These economics are based on the Project's Probable Reserves of 3.6Mt SOP, which account for 95% of the LOM output, with the remaining 5% coming from the Measured Resource (18.1Mt). Overall, the project has a 30 year mine life with LOM production of 4.5Mt of premium high-grade SOP. We have used similar numbers in our valuation however we have applied a **60%** risk weighting on the project to reflect any uncertainties around timing, funding and capital expenditure.

- **Low peak capital expenditure.** The capital expenditure requirements of $A208 million highlighted in the DFS indicates the lowest peak capital expenditure per annual tonne of production out of its ASX-listed peers. Combining this with a Board that has displayed a strong track record of securing funding for resource projects, and have previously been successful in seeing projects through from an early stage right through to production, we are encouraged to believe that the company will be able to source the funds to develop the project.

- **Low operating costs and strong margins.** With LOM cash costs of $US 262/t and SOP prices averaging over $US 500/t in recent years, we believe APC can maintain margins of up to 50% throughout the LOM.

- **Logistical advantage.** APC is located proximal to key infrastructure including the Great Central Road, which is located less than 100km away from site. The LWSOP is ideally located to exploit several options for the delivery of its SOP output to local and overseas markets, with multiple rail, road and port combinations available. The DFS has been modelled on the assumption of a 100% road freight solution to Geraldton Port.

- **An experienced management team.** The Board is Chaired by ex-Westrac CEO Jim Walker with Rhett Brans and Brett Lambert combining to bring direct project development experience spanning many decades and commodities The team is headed up by Matt Shackleton who has over 20 years' experience in senior management and Board roles across a wide range of ASX listed Resource companies. Recently, highly experienced CFO Scott Nicholas joined the team, prior to joining APC Scott worked at MACH Energy and Atlantic Ltd where he was responsible for approximately A$1 billion in debt and equity financings to develop and operate Australian Resource assets

VALUATION

We have valued APC using a sum-of-parts methodology, deriving a valuation of **$0.23/share**, which has been risked at **60%** and fully diluted for the equity requirements of the development of the Lake Wells Potash Project (LWSOP). We note that un-risked our valuation increased to **$0.35/share**. We have applied a Discounted Cash Flow (DCF) valuation for LWSOP and the Company's corporate costs. A nominal value was given to the company's other assets based on their book value. The company's cash was also added to the valuation. The Valuation Methodology for each segment is described in further detail below.

- **Lake Wells Potash Project:** We have used a discount rate of 10% and a risk weighting of **60%** to derive our DCF valuation of $194.5m, or $0.18/sh. With the 60% risk weighting being used to reflect uncertainties around timing, funding and capital requirements. As the project moves forward it will progressively be de-risked.
- **Other Assets:** We have applied a nominal value of $1.75m for the Lake Wells Gold Project and $1.0m for the Laverton Downs Project, combining for a total value of $2.75m.
- **Corporate costs:** We have used a DCF methodology to value the outflow of the corporate costs using a 10% discount rate, this derived a value of -$18.9m, or -$0.05/sh.
- **Cash:** APC currently has $1.95m in cash and zero debt.
- **Unpaid Capital:** We have assumed a highly dilutive 40% equity raise ($98m; based on a 10% discount to the proposed raising price) and 60% debt ($150m).

The total sum-of-parts valuation derived an NPV of $277.6m (or $0.23/sh) for APC. On a per share basis, our valuation was calculated using the fully diluted number of shares issued after the supposed $98m equity raise of 1,073m.

Figure 1: Valuation Matrix

	A$m	A$/share
Lake Wells (risked at 50%)	194	0.18
Other Assets	2.8	0.00
Net Cash (Debt)	2.0	0.00
Unallocated Capital	98	0.09
Corporate Costs	-19	-0.05
Total Valuation	277	0.23

Source: Patersons Research

Valuation Assumptions

Our valuation of the LWSOP is based off the assumptions shown in Figure 2 below.

Figure 2: Key Valuation Assumptions for the Lake Wells Potash Project

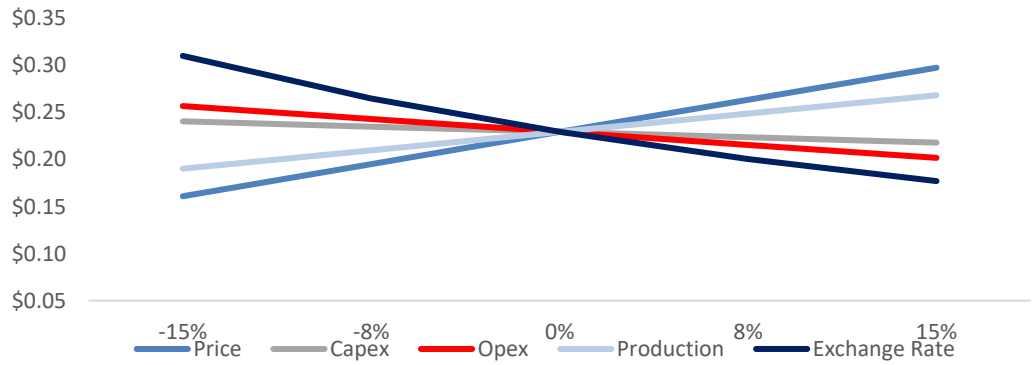
Drainable SOP Resource	18.1Mt
Probable Reserves	3.6Mt
Production rate	150ktpa
Mine Life	30 years
Upfront Capex	A$208m
Operating Costs	US$262/t
SOP Price	US$550
Forex	0.7

Source: Patersons Research

SENSITIVITY ANALYSIS

As displayed in the diagram below, we can see that the APC share price is mostly sensitive to changes in the exchange rate and SOP price assumption. This comes as no surprise as 100% of the projects revenue comes from the sale of SOP, which is priced in terms of USD. The Project is least sensitive to changes in Capital expenditure and Operating expenditure, demonstrating the robust nature of the project.

Figure 3: Sensitivity on key assumptions



Source: Patersons Research

Figure 4: SOP & Exchange rate

AUD/USD	SOP Prices $US/t						
	$ 440	$ 468	$ 495	$ 550	$ 605	$ 633	$ 660
0.50	0.22	0.25	0.28	0.35	0.41	0.45	0.48
0.55	0.19	0.22	0.25	0.31	0.37	0.40	0.43
0.60	0.17	0.20	0.22	0.28	0.33	0.36	0.39
0.70	0.14	0.16	0.18	0.23	0.27	0.30	0.32
0.80	0.11	0.13	0.15	0.19	0.23	0.25	0.27
0.85	0.10	0.12	0.14	0.18	0.21	0.23	0.25
0.90	0.10	0.11	0.13	0.16	0.20	0.21	0.23

Source: Patersons Research

Figure 5: Production & operating costs

Operating Costs	Production Ktpa						
	-20%	-15%	-10%	0%	10%	15%	20%
-20%	0.21	0.22	0.24	0.27	0.30	0.31	0.33
-15%	0.20	0.21	0.23	0.26	0.29	0.30	0.31
-10%	0.19	0.21	0.22	0.25	0.28	0.29	0.30
0%	0.18	0.19	0.20	0.23	0.26	0.27	0.28
10%	0.16	0.17	0.19	0.21	0.24	0.25	0.26
15%	0.16	0.17	0.18	0.20	0.23	0.24	0.25
20%	0.15	0.16	0.17	0.19	0.22	0.23	0.24

Source: Patersons Research

RESERVES & RESOURCES

The Lake Wells Potash Project sits on a 27,678MCM Aquifer with an average SOP grade of 7,455 mg/L, leaving a total drainable SOP resource of 18.1Mt. The measured resource estimate has been determined based on a conceptual Brine Abstraction Scheme and modelled using Sequent Leapfrog Geo Software. A block model was developed using 100m blocks and volumes were interpolated using inverse distance interpolation method.

Figure 6: Mineral Resource Estimate

Hydrogeological Unit	Volume of Aquifer	Specific Yield	Drainable Brine Volume	K Concentration (mg/L)	SOP Grade (Mg/L	SOP Resource
	MCM	Mean	MCM	Weighted Value	Weighted Value	MT
Loam	5,180	10	518	4009	8941	**4.6**
Upper Aquitard	10,772	7	754	3020	6735	**5.1**
Crete	479	5	24	2386	5320	**0.1**
Upper Sand	801	17	136	3435	7660	**1.0**
Lower Aquitard	9502	8	760	3367	7509	**5.7**
Mixed Aquifer	440	17	75	3645	8129	**0.6**
Basel Sand	503	23	116	3415	7616	**0.9**
Total (MCM/MT)	***27,677***	***87***	***2,383***	***3,343***	***7,455***	***18.1***

Source: Australian Potash Limited,

The uncertainty surrounding the modelling of groundwater systems for long periods into the future limits the Reserve categorisation to Probable and is addressed with various sensitivity and risk analysis. The Reserve has been conservatively limited to the lower end of the sensitivity analysis which provides 3.6Mt of SOP for a 30 year life of mine.

For a 30 year life of mine, 95% of the SOP production is supported by the Probable Reserves and 5% will be recovered from the Measured Resource. Overall abstraction is a relatively small proportion of the Measured Mineral Resource (21% will be abstracted over the LOM) which, if feasible provides the potential for continued abstraction beyond 30 years.

Figure 7: Probable Reserves

Brine Volume Recovered (Mm3)	Average Produced K Concentration (Mg/L)	SOP Grade (Mg/L)	K Mass (MT)	SOP Mass (MT)	Proportion of Measured Resource	Proportion of LOM Production
490	3325	7500	2	3.6	20%	96%

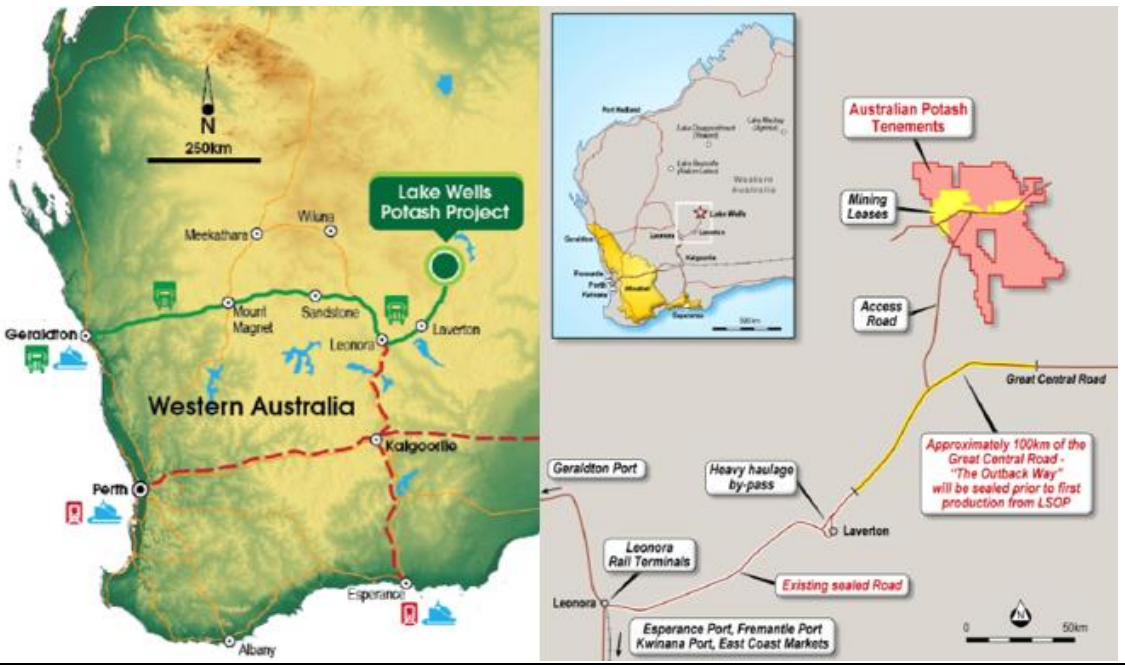
Source: Australian Potash Limited, Patersons Research

LAKE WELLS POTASH PROJECT

The Lake Wells Sulphate of Potash Project (LWSOP) is located approximately 480km north-east of the Eastern Goldfields centre of Kalgoorlie, roughly 180km north-east of Laverton. With extremely high evaporation rates and low annual rainfall, we believe the LOSP is located in one of the world's premium locations for solar evaporation operations. With a measured resource of 18.1Mt SOP, APC plans to develop the project to produce 100ktpa of SOP via the solar evaporation of brine, and another 50ktpa of SOP through the conversion of Muriate of Potash (MOP). The SOP will then be bulk packaged at the LWSOP site and trucked via the Great Central Road, where the product will be packed at the Geraldton Wharf and exported to overseas markets.

The LWSOP project current holds three mining licences and seventeen exploration licences extending over 2,100km^2. All tenure comprising the LWSOP is 100% owned by APC with the exception of two of the exploration licences which are subject to a Sale and Split Commodity Agreement with Lake Wells exploration Pty Ltd and Mark Gareth Creasy, the Company's largest shareholder.

Figure 8: Lake Wells Potash Project



Source: Australian Potash Limited

Production Process

The LWSOP will be developed as a solar evaporation operation, comprising brine abstraction, brine evaporation and salt processing.

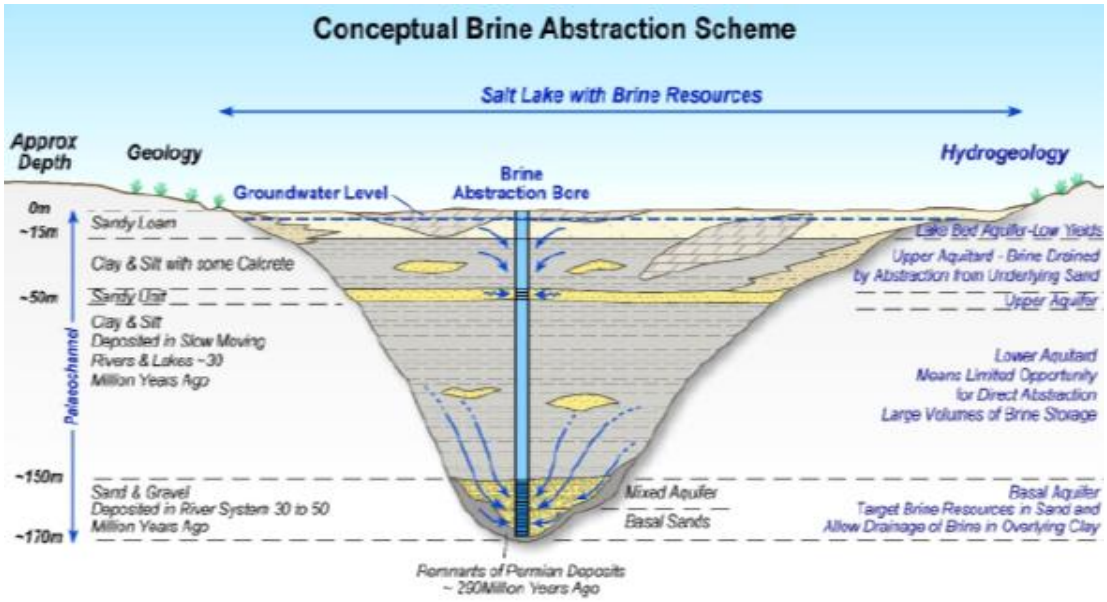
Brine abstraction

The bore-field network will be developed into the palaeovalley hosted deposit containing the potassium rich brines. Bores will be developed into the upper and lower (or Basel) aquifer units, with leakage of overlying units recharging the abstracted brine.

The bore-field design is based upon an abstraction rate across the network of 540 litres per second (l/s) of brine for the life of mine, producing 100ktpa of SOP. Total annual brine abstraction volume into the evaporation pond network is 17 gigalitres per year.

The DFS bore-field design includes 78 bores on a nominal spacing of 800 metres. A contingency of 8 bores has been included that will be held on a stand-by to cover scheduled maintenance.

Figure 9: Conceptual Brine Abstraction Scheme



Source: Australian Potash Limited

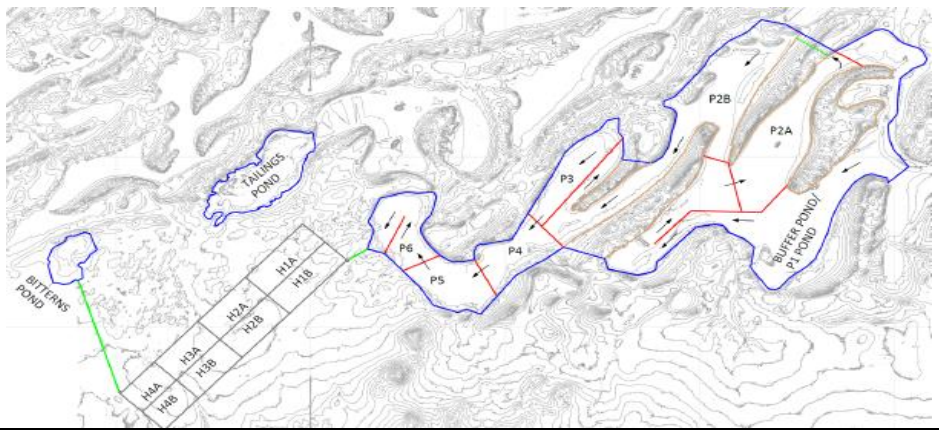
Brine evaporation

The solar evaporation ponds are the first stage of processing the brine to produce SOP. Water is evaporated from the brine, precipitating potassium (K) bearing salts. There are three types of ponds in the evaporation sequence:

- the buffer pond, where brine is stored and released to manage seasonal fluctuations in evaporation;
- pre-concentration ponds, where the playa brine is concentrated and sodium chloride deposits as a waste material; and,
- Harvest ponds, where the potassium bearing salts are crystallised and harvested.

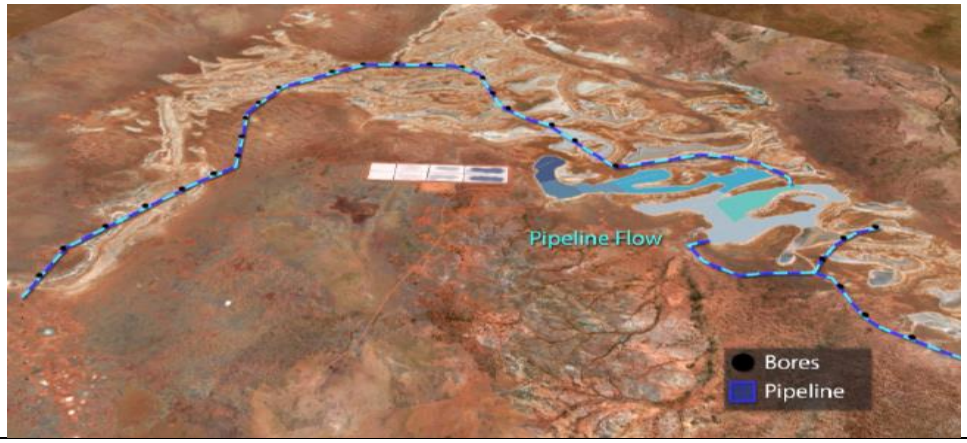
In total, 10.04km^2 is required for the Buffer and Pre-concentration Ponds and 2.67km^2 required for the Harvest Pond.

Figure 10: Evaporation Pond layout at LWSOP



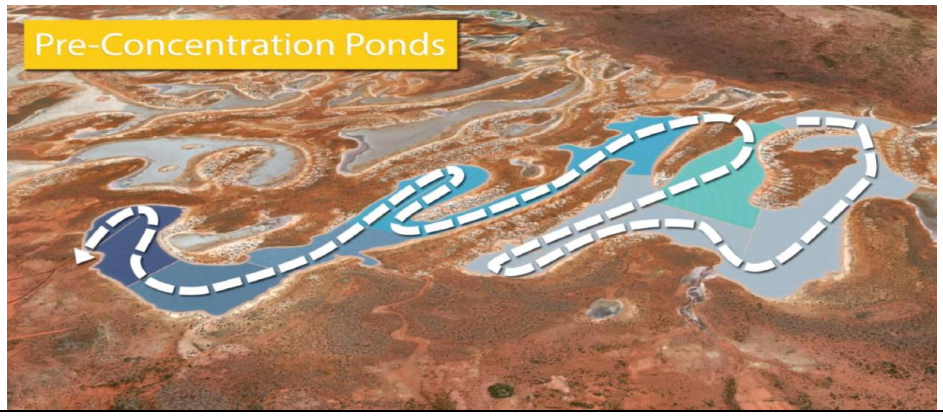
Source: Australian Potash Limited

Figure 11: Bore Field and Abstraction



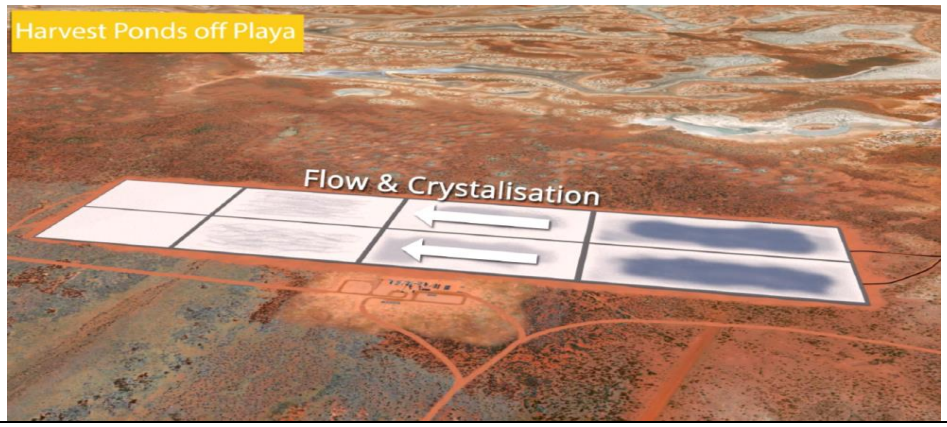
Source: Australian Potash Limited

Figure 12: Pre-Concentration Ponds



Source: Australian Potash Limited

Figure 13: Harvest Ponds off Playa



Source: Australian Potash Limited

Processing

The processing facility is designed to produce 150ktpa of SOP. The process plant operates by reacting mixed salts recovered from the harvest ponds, with recirculated brine. MOP is added to the circuit where it reacts with excess sulphate to increase SOP output.

Figure 14: The process design criteria

Parameter	Value
Playa Brine Feed	19.4 Mtpa
Harvest Salts to Plant	117.2 dry tph
MOP Addition	5.6 tph
Annual Plant Availability	7800 hours
SOP Production	150,000 tpa
Overall Process Potassium Recovery	81.50%

Source: Australian Potash Limited

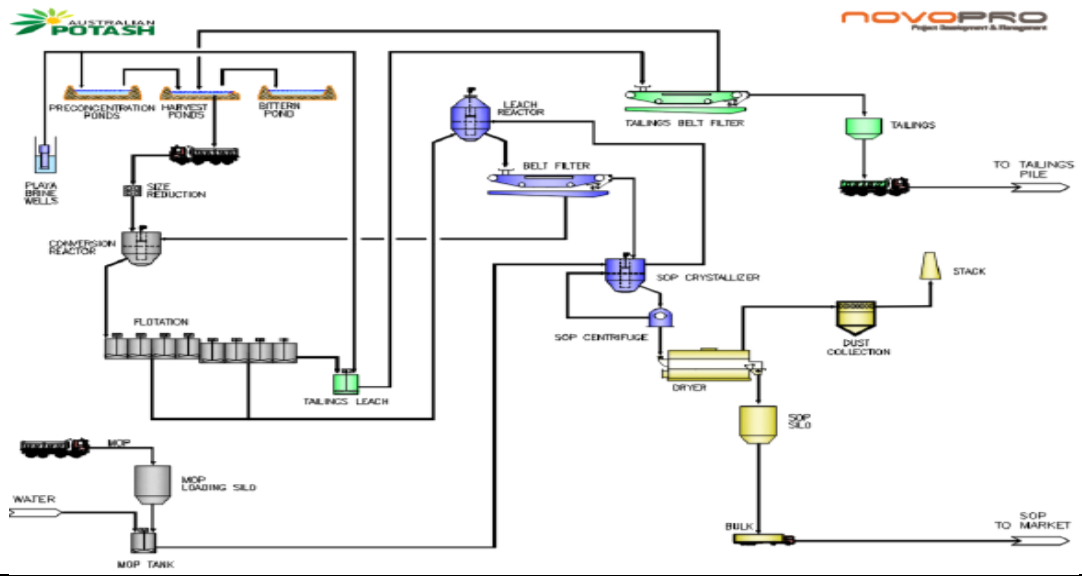
The harvested salts are directed to a crushing area for size reduction to ensure that all potassium bearing salts are sufficiently liberated. The crushed salts are directed to the conversion reactor where they are converted to a single potassium bearing salt, Schoenite.

The Schoenite slurry is recovered and directed to flotation where the Schoenite is separated from the gangue material, with the flotation tailings leached to recover un-floated potassium bearing salts.

The flotation concentrate is also leached to ensure a high purity Schoenite is produced.

In a separate unit operation, MOP is added to the wet plant process being mixed with the high purity Schoenite generated in conversion and directed to the SOP crystalliser to create pure SOP crystals.

Figure 15: Process flow sheet



Source: Australian Potash Limited

Logistics

Under the DFS, SOP is to be transported from the LWSOP site via Bulk haulage using super-quad trucks to the Geraldton Port, where the majority of product will be exported to overseas markets. A portion of the LWSOP product will be distributed into the local WA and Australian markets. MOP will then be backloaded back to LWSOP.

Figure 16: Logistics Route

Source: Australian Potash Limited

We note that this is the proposed route modelled in the DFS, there are other rail and truck haulage routes available that are still being considered.

Project execution

Similarly to the DFS, our model assumes a 24 month development timeline from construction to first production in 2022. Figure 17, highlights the implementation schedule for the development of the LWSOP. Similarly to this timetable, we anticipate full funding approval by the end of FY20 with construction beginning in the June quarter.

Figure 17: Development Strategy

Quarters from FID	(2)	(1)	1	2	3	4	5	6	7	8	9	10
FEED												
Approvals & Permitting												
Engineering & Procurement												
Brine borefield & pond construction												
Plant construction												
Plant commissioning & ramp-up												
Steady state production												

Source: Australian Potash Limited

Capital Expenditure

Total capital expenditure for the LWSOP is estimated by APC at A$208 million, inclusive of an A$20 million contingency. As previously stated, this indicates sector leading capital intensity of A$1,387/t.

Figure 18: Capital Expenditure Requirement

Are Description	A$m
Project Indirect	$37
Bore-field	$48
Evaporation Ponds	$26
Processing Plant	$58
Non-Process infrastructure	$19
Contingency	$20
Total Capital Cost A$m	**$208**

Source: Australian Potash Limited

Operating Costs

According to the DFS, life of mine (LOM) average C1 costs are estimated to be $US 262/t, against an average US$SOP price of US$550/t, providing gross margins over 50%. As the pricing of SOP has been relatively stable over the last 10 years and with market conditions set to improve, we are confident APC can maintain these margins throughout the LOM. Whilst APC's operating costs are not the lowest amongst its Western Australian Peers, they are still highly competitive and still significantly lower than secondary producers.

We note that the LOM C1 cost excludes all taxes, sustaining capital, corporate administrative costs and other government imposed costs

Figure 19: Operating Cost Estimates

Area Description	**US$/t SOP**
Salt harvesting	$16
Power supply	$40
Reagents and consumables	$116
Labour	$30
Transport and logistics	$36
Maintenance	$4
Indirect	$20
Operating Costs	**$262**

Source: Australian Potash Limited

Marketing Strategy & Sales Agreements

At the moment Australia currently imports all of its Potash requirements. We consume an estimated 360ktpa of MOP and 90ktpa of SOP. APC believes that there is an opportunity to supply SOP into the Australian market, with the idea being to replace the current MOP demand with SOP. Initially, APC plans to export 125ktpa of the 150kpta, with the balance to be sold into the Western Australian market.

Securing material offtake agreements is a key condition that needs to be met in order to secure debt finance. In 2017, APC entered into two Memorandums of Understanding (MOU's) for a total of 200ktpa of SOP in offtake agreements. The potential off-take partners Sino-Agri and Hubei-Agri have received samples and are currently completing test work. The agreements mentioned above, and other future sales memorandums of understanding, require conversion to binding sales agreements with an agreed pricing frameworks, durations and a price floor in place in order to satisfy debt financiers requirements, in our view.

SHAREHOLDERS & LIQUIDITY

The top five shareholders hold approximately 19% of the outstanding shares in APC and are shown in Figure 20. Managing Director Mathew Shackleton holds 6.4m shares, or 1.8% of the shares on issue.

Figure 20: Top 5 Shareholders

Shareholders	Shares	%
Yandal Investments Pty Ltd	30,469,352	8.52%
Perth Select Seafoods Pty Ltd	16,000,000	4.47%
Jemaya Pty Ltd	8,050,000	2.25%
Cen Pty Ltd	6,450,000	1.80%
Matthew Shackleton	6,432,499	1.80%
Total	**67,401,851**	**18.8%**

Source: Iress, Patersons Research

APC has 106m options outstanding, with 3.4m currently in the money.

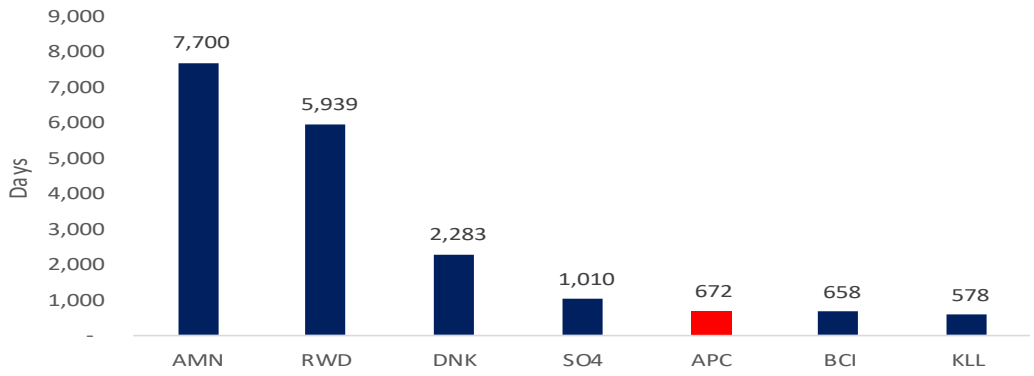
Figure 21: Total number of options outstanding

Expiry Date	Number (m)	Exercise Price	In the Money?
25-Oct-19	37.6	0.2	N
08-Aug-21	47.9	0.12	N
21-Apr-21	3.4	0.1	Y
21-Apr-21	3.4	0.15	N
28-Nov-21	1.9	0.175	N
28-Nov-19	2.0	0.225	N
14-Dec-19	2.6	0.175	N
14-Dec-19	2.8	0.225	N
09-May-19	1.5	0.225	N
30-Nov-20	1.3	0.16	N
30-Nov-20	1.3	0.2	N
27-Dec-21	1.3	0.225	N
Total (m)	**106.8**		

Source: Australian Potash Limited

We have assessed APC stock liquidity by dividing the market cap by the three-month average daily turnover for APC and a range of other ASX-listed SOP developers. Figure 22, shows that it takes on average 672 days for the market cap of the stock to turnover in the market, making it the third most liquid SOP stock on the ASX behind BCI Minerals (BCI) and Kalium Lakes Limited (KLL).

Figure 22: Comparison of Market Cap Divided by 3-Month Average Daily Turnover



Source: Iress, Patersons Research

FINANCIAL

As at June 30 2019, APC had $1.9m cash assets available and no debt. The company has issued both options and ordinary shares throughout the past year, raising a total of $4.2m.

Capital Required

Based on the DFS, APC will require A$208m to develop the LWSOP. In our model we have assumed that APC will use a combination of both debt and equity, and we have used a conservative 60/40 split of the two. APC have commenced discussions with potential offtake partners and strategic investors and we believe this will progress as a final investment decision becomes more apparent. We believe that APC and its Board have displayed a strong track record of securing funding for resource projects, and have been successful in seeing companies through from an early stage of exploration right through to production. Combining these factors with the projects positive DFS results encourages us to believe that APC will be able to secure the funds required to develop the LWSOP.

PEER COMPARISONS

Figure 23: Australian SOP Companies

Company	Project	Study stage	Capacity tpa	Pre-Production CAPEX A$M	Market Capitalisation A$M
Australian Potash (ASX: APC) [1]	**Lake Wells**	**DFS**	**150,000**	**208**	**39.3**
Agrimin (ASX: AMN) [2]	Lake Mackay	PFS	426,000	545	115.2
BCI Minerals (ASX: BCI) [3]	Mardie	PFS	100,000	97/498	71.6
Danakali (ASX: DNK) [4]	Colluli	FEED	472,000	431[4]	171.1
Kalium Lakes (ASX: KLL) [5]	**Beyondie**	**FEED**	**90,000**	**216**	**188.8**
Reward Minerals (ASX: RWD) [6]	Lake Disappointment	PFS	400,000	451	13.0
Salt Lake Potash (ASX: SO4) [7]	Lake Way	Scoping Study	200,000	**237**	216.3

Source: Australian Potash Limited

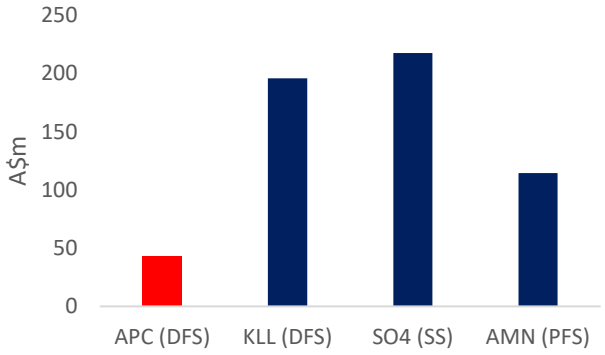
APC and Kalium Lakes (KLL) are the only two listed SOP developers to have completed their final studies (DFS and BFS). When we compare the studies of both companies, we believe APC looks significantly undervalued (KLL MC $190m vs APC MC $40m). Looking at the comparative table below, both companies stack up very evenly, with APC offering lower capex requirements at higher levels of initial output and KLL providing lower operating costs. We do note however that KLL has secured its financing, which we believe to be the biggest risk for APC and the rest of its peers moving forward.

Figure 24: APC vs KLL Comparative Table

		Australian Potash Limited	Kalium Lakes Limited (Stage 1)
ASX code		APC	KLL
Project		Lake Wells	Lake Way
Study level		DFS	DFS
Ordinary Shares	M	357	383
Share Price	$/s	$0.11	$0.55
Market Cap	A$M	$42.9	$191.0
Cash	A$M	1.9	87.4
Debt	A$M	0	176
EV	A$M	$41.00	$279.60
Resource	Mt	18.1	19.6
Reserve	Mt	3.6	5.1
Mining inventory	Mt	3.8	4.7
Extraction type		Bores	Trenching/ Bores
SOP Production	t	150,000	Stage 1: 90,000 Stage 2: 164,000
Resource (drainable) - M&Ind	Mt	18.1	10.9
Resource (drainable) - Inf	Mt	0	8.8
Resource (drainable)	Mt	18.1	19.7
SOP Grade	mg/L	7,455	12,455
Port		Geraldton	Fremantle
Capex	A$M	208	Stage 1: 217
Cash Costs	US$/t	262	200
Price SOP used	US$/t	614	606
FX	A$/US$	0.67	0.73
Discount Rate	%	8%	8%
NPV (pre-tax)	A$M	$665	$575
NPV (post-tax)	A$M	$441	$347
IRR (pre-tax)	%	25%	20%
IRR (post-tax)	%	21%	15%

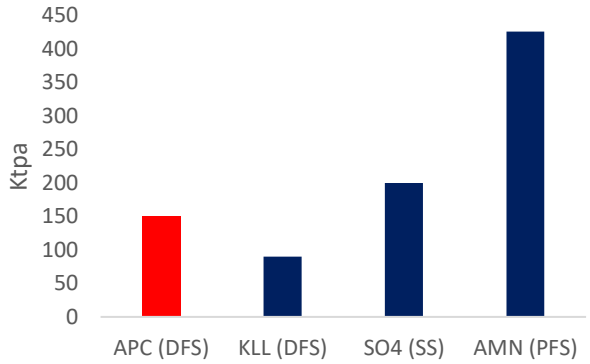
Source: Company Reports,

Figure 25: Market Capitalisation



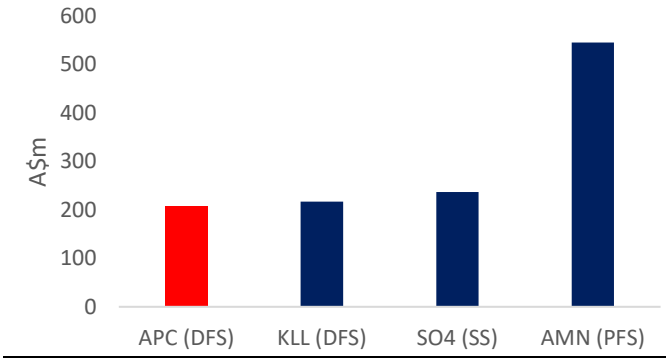
Source: Company Reports, Patersons Research

Figure 26: Annual Production rate (KLL stage 1)



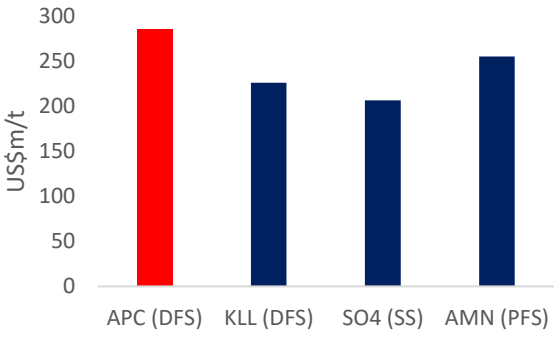
Source: Company Reports, Patersons Research

Figure 27: Capex



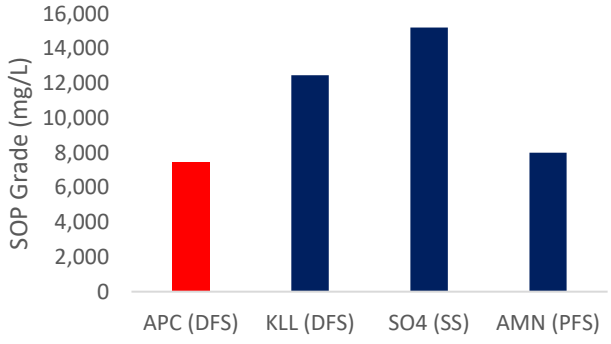
Source: Company Reports, Patersons Research

Figure 28: AISC (Est)



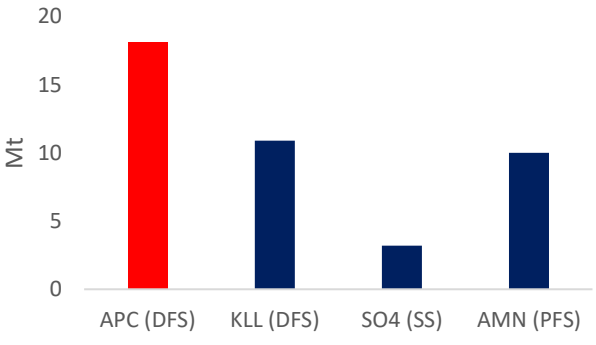
Source: Company Reports. Patersons Research

Figure 29: SOP Grade



Source: Company Reports, Patersons Research

Figure 30 Measured & Inferred Resource



Source: Company Reports, Patersons Research

SULPHATE OF POTASH (SOP) MARKET

Potassium is essential in nearly all processes needed to sustain plant growth and reproduction. Plants lacking sufficient potassium are generally far less resistant to drought, excess water and temperature variations. They are also less resistant to pests and diseases. The main sources of potassium come from Potash minerals and they come in different forms including Sulphate of Potash (SOP) and Muriate of Potash (MOP), which is the most commonly used potash fertiliser. SOP is considered a premium fertiliser and is generally used more as a source of potassium for high value crops such as fruit and vegetables and crops that are intolerant to fertilisers that contain chloride such as MOP. SOP also has the added benefit of supplying sulphur to the plant which is another key macronutrient

Figure 30: Chloride Tolerance of Various Crops

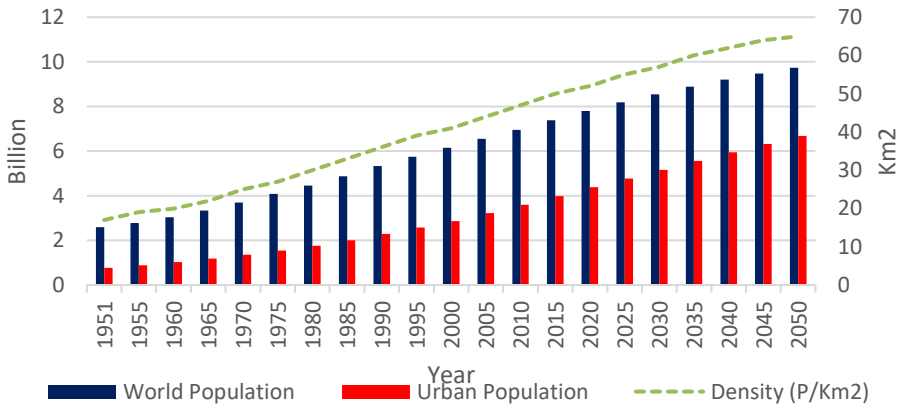
Tolerance	Crop Type	Recommended Product
Chloride-loving	Sugar beet, fodder beet, celery, Swiss chard, coconut	Muriate of Potash (MOP)
Chloride tolerant	Cereals, maize, oilseed rape, asparagus, cabbage, beetroot, rhubard Grassland, clover, oil palm, rubber, rice, groundnut, cassava, soybean, sugar cane, banana, cotton	Muriate of Potash (MOP)
Partly chloride tolerant	Sunflowers, grape vines, stone fruits, blackcurrants, seed potatoes, potatoes for human consumption, tomatoes, radish, kohirabi, peas, spinach, carrots, leek, horse-radish, chicory, pineapple, cucumber, kiwifruit, cofee, tea	Sulphate of Potash (SOP)
Chloride sensitive	Starch potatoes, potatoes for processing, tobacco, redcurrants, gooseberry, raspberry, strawberry, blackberry, blueberry, mango, citrus, pepper, chilli, avocado, cashew, almond, peach, cocoa, hops, pomes and stone fruits (especialy cherries), bush beans, broad beans, cucumber, melon, onion, lettuce, early vegetables, all crops under glass, conifers, flowers and ornaments as well as seedlings and transplants of most plants	Sulphate of Potash (SOP)

Source: K&S Kali GmbH, Patersons Research

Global demand for food is rising

Currently, the world population is 7.5 billion and growing at a rate of around 1.08% per year. Recent world population projections indicate that the world population will reach close to 10 billion by 2050 (see figure below). This rapid growth, along with a growing middle class in many developing countries (which generally means people eat more protein) will continue to drive up the demand for food globally. The figure below also illustrates urbanisation, decreasing the arable land per capital and therefore increasing the demand for higher quality less land intensive crops.

Figure 31: World Population Forecast



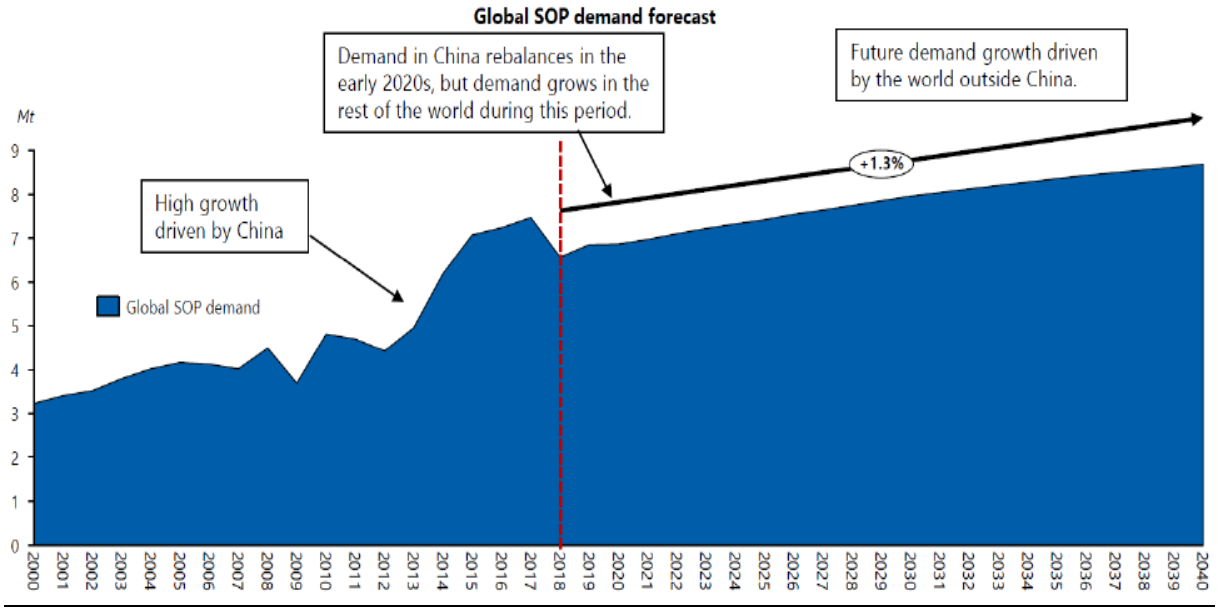
Source: World meters, Patersons Research

According to the Food and Agriculture Organization of the United Nations (FOA), global food production must increase by 70% over the next 40 years to meet the demand of the world's population. As a results, we believe there will be a significant change in the way agricultural markets operate globally. We have seen agricultural investments and technologies increase productivity on existing crops, however crop yields have slowed to levels that will be unable to meet the forecast future demand. Farmers will either need to increase the agricultural land they can farm on or increase the yields on the farmland they currently have.

Given that the ecological and social trade-offs of clearing for more agricultural land are considered too high, increasing crop yields is the only real solution we have to meet the rising food demand. As the amount of production continues to increase, so will be the amount of potassium that is drawn from the soil through harvesting. As a result, we believe that the use of Potash fertilizers, and in particular SOP, will be essential in providing our soils with the nutrients they need.

Currently 50% of the world's SOP is consumed in China, with the majority of it (3-4Mtpa) produced entirely by the Chinese domestic market. China is expected to remain relatively stable going forward, with the majority of growth expected to come from south-east Asian countries, including Japan and Korea where SOP crop area has risen in recent years.

Figure 32: Global SOP demand forecast

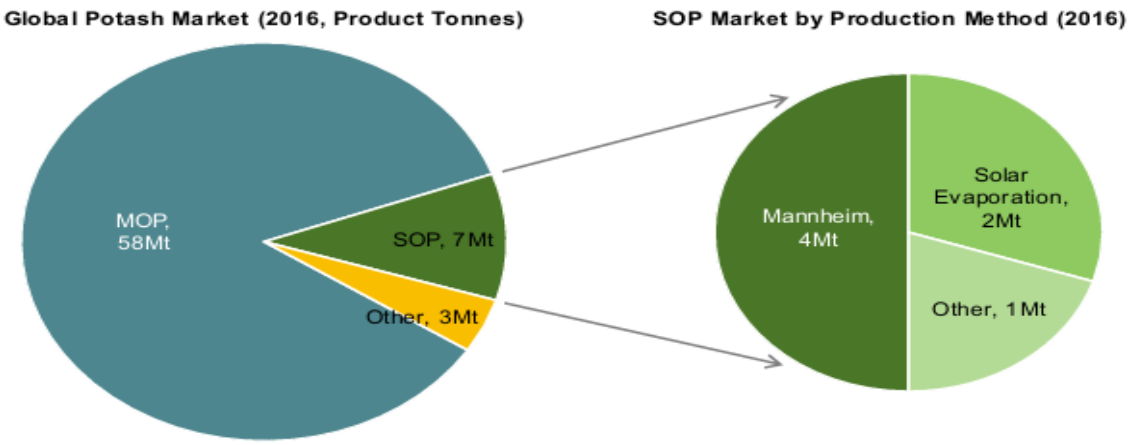


Source: Argus Consulting

Global supply of SOP is tightening

Integer Research (now Argus Consulting) estimated that the total potash market in 2016 was 68Mt, with roughly 58Mt (85%) made up of MOP and 7Mt (11%) coming from SOP - approximately 3Mt came from other products. There are two main processes by which SOP is produced. One method is the Mannheim process, in which MOP is chemically converted to SOP through the reaction of MOP with sulphuric acid at an elevated temperature. Another commonly used practise to produce SOP is the solar evaporation and crystallisation of brines from salt lakes and seawater. The chart below illustrates the global SOP production split by production method.

Figure 33: Potassium fertiliser market by type and SOP market by production method.



Source: Integer Research (Argus Consulting), BCI Minerals

As illustrated in the Chart above, SOP production via Solar Evaporation makes up less than half of the total SOP market. Of the SOP produced via primary methods, a significant majority of it comes from China, either at the Xinjiang Luobupo's lop Nur salt lake, which alone has capacity of 1.8mtpa, or the Qinghai Lenghu Bindi salt lake which has a capacity of 900ktpa. China is also the largest producer of SOP via Mannheim production, with a total capacity of ≈ 4Mtpa.

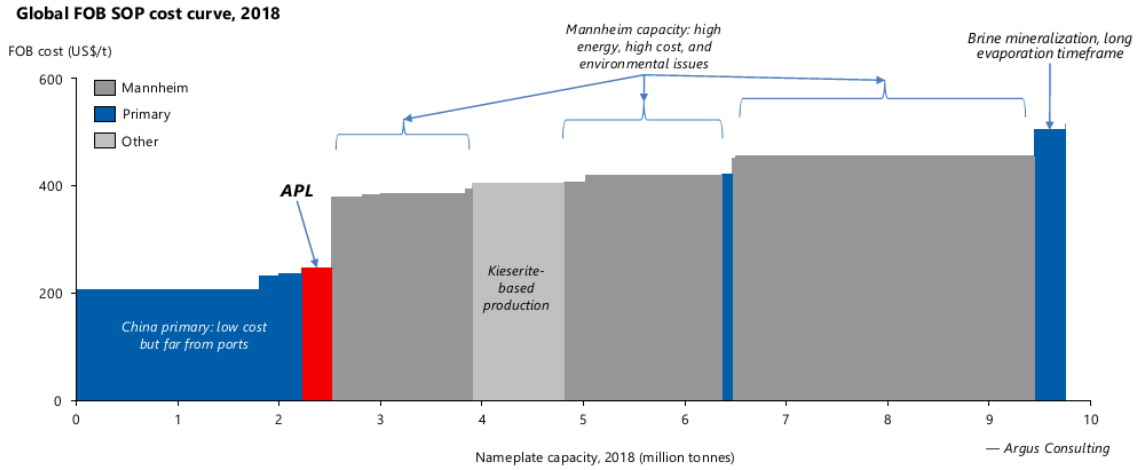
Figure 34: Global SOP Capacity

Country	Company	Location	Capacity tpa	Method	Mt	% Global Prod
USA	Compass	Utah	320,000			
Chile	SQM	Atacama	240,000			
India	Archean	Rann of Kutch	65,000			
China	Xinjiang Luobupo	Lop Nur, Xinjiang	1,800,000			
China	Qinghai Lenghu Bindi	Dayantan	900,000			
China	Qinghai CITIC Guo'an	Taijinaier	300,000	**Solar salt**	**3.6**	**32.3%**
Belgium	Tessenderlo	Ham	580,000			
Sweden	Kemira	Halsingborg	110,000			
Finland	Yara	Kokkola	220,000			
Other European	Various	Various	40,000			
Egypt	Evergrow	Giza	300,000			
Other MENA	Various	Various	255,000			
Taiwan	Sesoda, Green-on	Various	220,000			
Other	Various	Various	249,000			
China	Migao	Various	320,000			
China	Various	Various	4,100,000	**Mannheim**	**6.4**	**56.9%**
Germany	K+S	Werra	1,050,000			
Russia	Rusal/Meta Chem/other	Various	150,000	**Kieserite/MOP/other**	**1.2**	**10.6%**
				Total Production Capacity	**11.2**	**100%**

Source: Australian Potash

Historically, supply outside of China has been dominated by a relatively small number of large facilities who produce via secondary methods, namely K+S and Tessenderlo. What we can see from figure 33 & 34 is the majority of SOP is sourced through the inorganic Mannheim process. We believe that this method, although popular, will become less favourable going forward due to its negative environmental impact and higher costs. We have already begun to see this occur amongst Chinese Mannheim producers, as a government crack-down on high polluting energy sources, such as coal, is increasing energy costs, which we believe will push some Mannheim producers out of the market.

Figure 35: Global FOB SOP cost curve



Source: Argus Consulting

The SOP cost curve displayed in figure 35 illustrates the significantly higher production costs of SOP through the Mannheim production methods compared with that of solar evaporation operations. As shown on the chart, APC is low on the cost curve, with operating costs of US$262/t FOB which is considerably below the average SOP price of US$550/t.

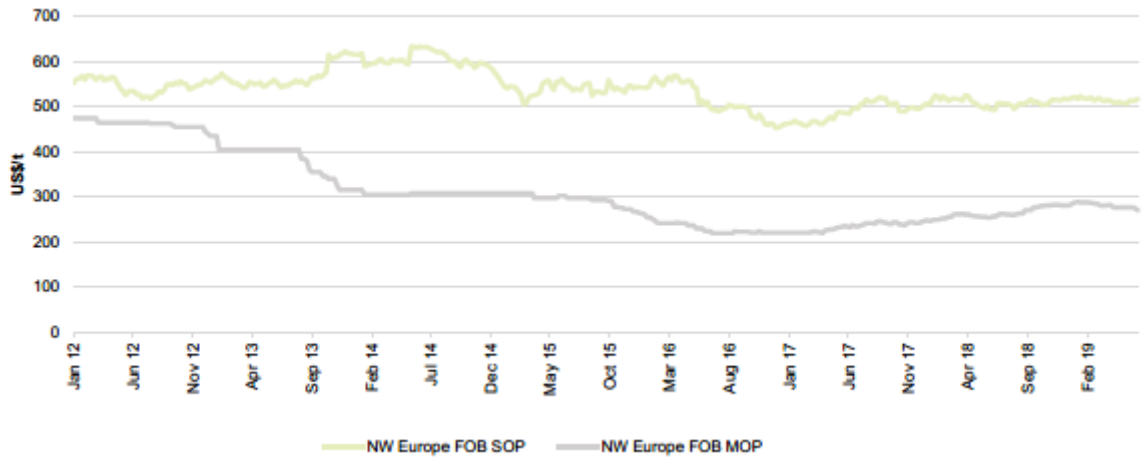
SOP price premium

SOP is considered a premium fertiliser and is generally used more as a source of potassium for high value crops such as fruit and vegetables and crops that are intolerant to fertilisers that contain chloride such as MOP. Because of this, SOP has historically been sold at a premium to MOP.

As displayed in the chart below, in 2013 the SOP premium over MOP grew significantly, this was partly due to the disruption caused by the dismantle of Europe's largest potash fertilizer cartel, BPC, as well as SOP supply shortages. Since then, SOP prices have remained steady and continue to hold between US$450/t and US$650/t, where the price of MOP has trended downwards.

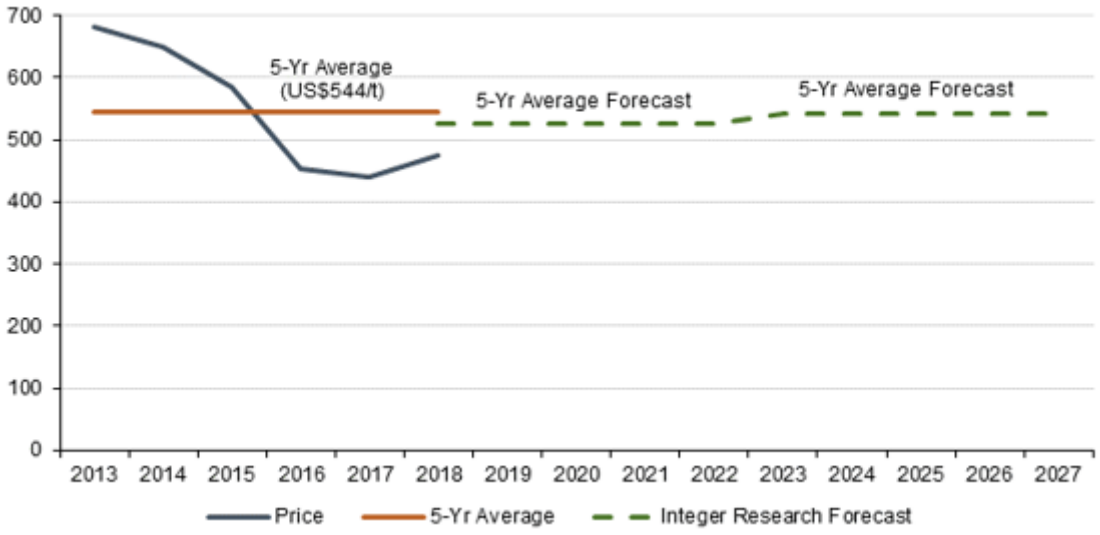
As the majority of the world's supply of SOP is currently sourced via the high cost Mannheim process, there is a natural 'floor' in the cost curve of approximately US$400/t. This floor is considerably higher than the cash costs of the solar primary producers and we therefore believe that there is an opportunity for APC and other primary developers to price the secondary producers out of the market.

Figure 36: MOP vs SOP Historical Pricing



Source: Australian Potash. Argus Consulting

Figure 37: Historical and Forecast SOP Prices to 2022 (US$/t FOB Taiwan)



Source: Integer Research (Argus Consulting), BCI Minerals

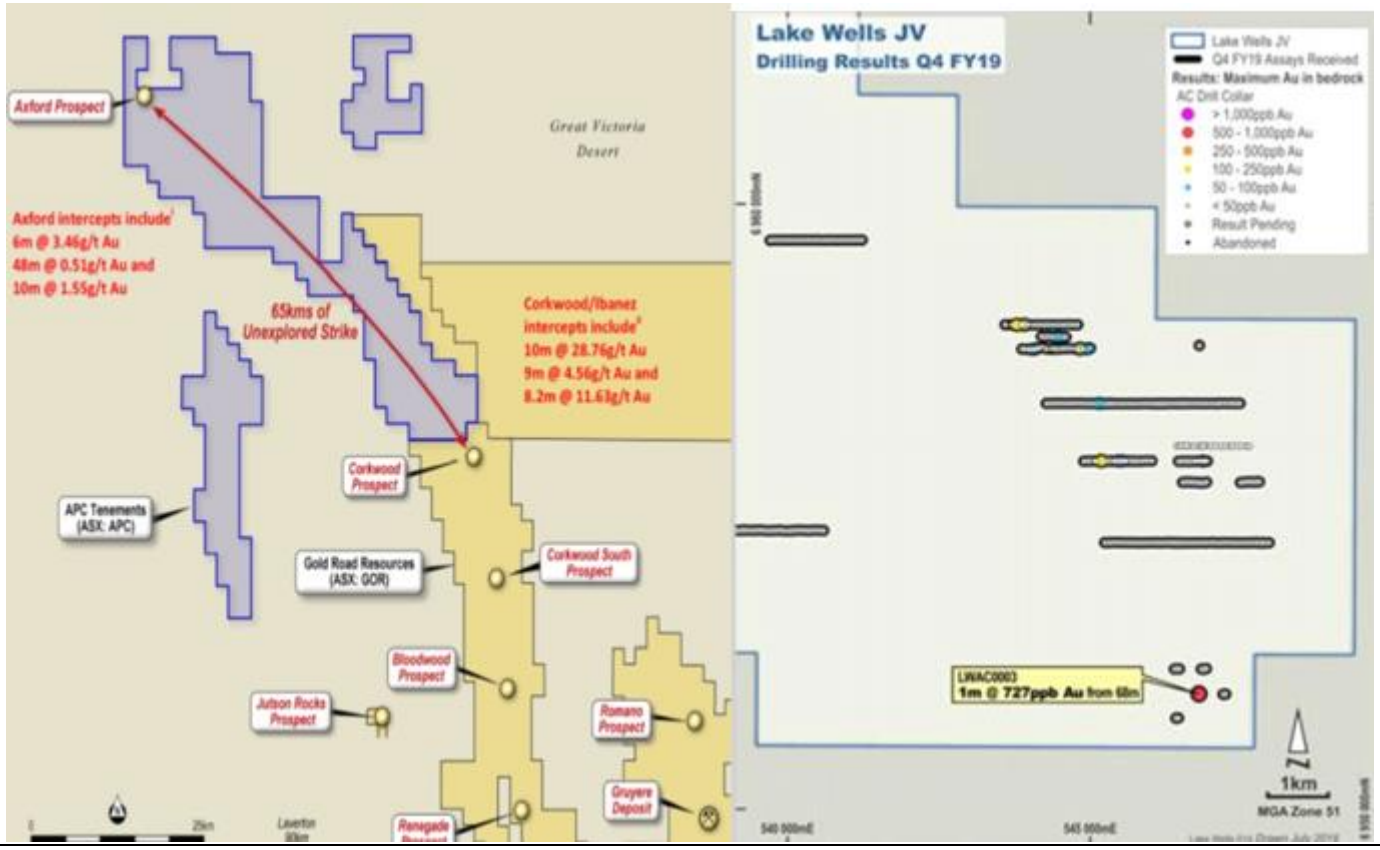
LAKE WELLS GOLD PROJECT

In October 2018, APC entered into a Earn-in and Joint Venture Agreement with St Barbara Limited (SBM) over the Lake Wells Gold Project (nee Yamarna Gold Project). Under the Agreement, SBM paid APC $1.25m in cash consideration and has agreed to fund a minimum exploration expenditure of $1.75m in the first year. Moving forward, SBM has the option to earn a 70% interest through further exploration expenditure of A3.5m over the next two years and pay APC A$0.5m. As a result, APC has 100% of the potash rights over the ground and retains a 30% free-carried interest through to the completion of the BFS.

During the June quarter, SBM completed:

- A 585 hole (LWAC0001 to LWAC0585) aircore drill program for 29,337 metres testing 8 targets. Preliminary composite results have been returned for 331 holes and final assays received for two holes;
- A detailed 36,633 line kilometre airborne magnetic survey completed over the entire tenement area.

Figure 38: Lake Wells Gold targets Lake Wells Drilling Results Map (June quarter)



Source: Australian Potash Limited

RISKS

Investment risks associated with the SOP sector and APC include, but are not limited to, the following:

Operational risk – Every mining operation has associated risks. geotechnical risks; major environmental or safety incidents; and force majeure events can cause a major loss of revenue whilst still being liable for significant costs

Commodity price and FX assumption risk. SOP price and currency movements may differ materially from the assumptions used in this report, and may cause economic prospects of projects to deteriorate or improve. Although the SOP price has been historically stable, there is still a risk prices may fluctuate significantly going forward.

Exploration and geological risk. Resource exploration relies upon the interpretation of complex and uncertain data and information which cannot necessarily be relied upon to lead to a successful outcome. Resource exploration is inherently uncertain and involves significant risk of failure. We do note that the proposed Lake Wells Potash project is not dependent on exploration success.

Reserves and Resource estimation risk. Resource estimates are based on standard industry practice, experience and judgement that carry inherent uncertainty, and future exploration may alter the current resource estimates. Changes to resource estimation may affect the economics of future developments, and SOP price movement can have an impact on reserve estimates.

Project execution risk. There is potential for developments to cost more and/or take longer to complete than originally anticipated which can have a material impact on the valuation of the assets being developed. The project also requires a large amount of capex and with financing not secured this poses as another risk.

DIRECTORS AND KEY MANAGEMENT

Jim Walker

Non-Executive Chairman

Mr Walker is currently Chairman of Diggers and Dealers Mining Forum.

Mr Walker is also Chairman at Austin Engineering Ltd (ASX: ANG), Mader Group, Wesley College, WA Motor Museum, State Training Board and Deputy Chairman of RACWA Holdings Pty Ltd.

Previously, Mr Walker was a director of Seven Group Holdings Ltd and CEO of WesTrac, and a past National President of the Australian Institute of Management.

Matt Shackleton

Managing Director & Chief Executive Officer

Mr Shackleton joined the board of Australian Potash Limited as Executive Chairman in July 2014. In 2018, in reflection of the changing nature and status of the Lake Wells SOP Project, Matt assumed the roles of Managing Director and CEO on the appointment of Mr Jim Walker as non-executive Chairman.

Matt is an experienced director with over 20 years in senior corporate positions both in Australian and the UK. Previously the Managing Director of ASX listed Western Australian gold developer Mount Magnet South NL, Matt was the founding director of ASX listed and West African gold and bauxite explorer Canyon Resources Limited. He has also held senior roles with Bannerman Resources Limited, a uranium developer, Skywest Airlines, iiNet Limited and DRCM Global Investors in London.

Matt holds a B.Comm. (Economics & Accounting) from Murdoch University in Western Australia, an MBA from The University of Western Australia, and is a Fellow of the Institute of Chartered Accountants, Australia & New Zealand, and a member of the Australian Institute of Company Directors.

Rhett Brans

Non-Executive Director

Mr Brans is an experienced director and civil engineer with over 45 years experience in project developments. He is currently a Non-executive Director of AVZ Minerals Limited and Carnavale Resources Ltd. Previously, Mr Brans was a founding director of Perseus Mining Limited and served on the boards of Tiger Resources Limited and has been a Non-executive Director of Syrah Resources, RMG Limited and Monument Mining Limited.

Throughout his career, Mr Brans has been involved in the management of feasibility studies and the design and construction of mineral treatment plants across a range of commodities and geographies. Importantly, he has extensive experience as an owner's representative for numerous successful mine feasibility studies and project developments. Mr Brans experience in guiding optimisation of treatment plant designs resulting in material financial improvements for projects has the potential to add significant value for APC at Lake Wells.

Mr Brans holds a Dip.Engineering (Civil), and is a member of the Institution of Engineers.

Brett Lambert

Non-Executive Director

Mr Lambert is a mining engineer and experienced company director in the Australian and international mineral resources industry. Over a career spanning 35 years, Mr Lambert has held senior management roles with Western Mining Corporation, Herald Resources, Western Metals, Padaeng Industry, Intrepid Mines, Thundelarra Exploration and Bullabulling Gold. He has successfully managed a number of green-fields resource projects through feasibility study and development and has been involved in numerous facets of financing resource project development.

Mr Lambert has experience as a director of companies listed on the Australian Securities Exchange, AIM and the Toronto Stock Exchange and holds a B.App.Sc. (Mining Engineering) degree from Curtin University in Western Australia and is a Member of the Australian Institute of Mining and Metallurgy.

Mr Lambert is currently a Non-executive Director of Mincor Resources NL.

Scott Nicholas

Chief Financial Officer

Scott is a Chartered Accountant with 15 years experience in the resources industry. Scott was previously CFO for MACH Energy Australia and Atlantic Ltd in which he involved in over A$1 billion in debt and equity financings to develop and operate Australian resource assets. Scott has been involved in taking greenfield resource assets through to production including feasibilities, construction, operations, and offtake and marketing. Scott began his career with KPMG and Ernst & Young in audit and corporate finance.

Scott has a Bachelor of Law and Commerce from Murdoch University, a graduate Diploma of Applied Finance from FINSIA, and is a Chartered Accountant.

Jay Hussey

Chief Commercial Officer

Mr Hussey is a highly experienced fertiliser industry executive, with an extensive background in Sulphate of Potash (SOP) marketing, Potash (MOP) supply contracting, and off-take & joint venture negotiations throughout Asia, Europe, North America and South America.

Mr Hussey served for 10 years as Vice-President of China-based Migao Corporation in both Toronto and Beijing. During his time with Migao, Mr Hussey was responsible for in excess of US$160m in equity and debt financings, which allowed that company to grow into China's largest non-State owned SOP producer.

Sophie Raven

Company Secretary

Ms Raven is a corporate lawyer and company secretary, with extensive experience both in Australia and internationally, including as a corporate lawyer in Santiago, Chile advising Australian and Canadian resources and drilling companies.

Over the past 8 years, Ms Raven has held positions as Company Secretary with Golden West Resources Limited, Sunbird Energy Limited, Citation Resources Ltd, Whitebark Energy Ltd, Salt Lake Potash Limited, Cradle Resources Limited, Austin Engineering Limited and RFC Ambrian Limited.

Ms Raven holds a Bachelor of Laws from the University of Western Australia, and is a member of the Australian Institute of Company Directors. Ms Raven is a board member of Parkerville Children and Youth Care (Inc) and The Place of Keeping Limited, both not-for-profit organisations

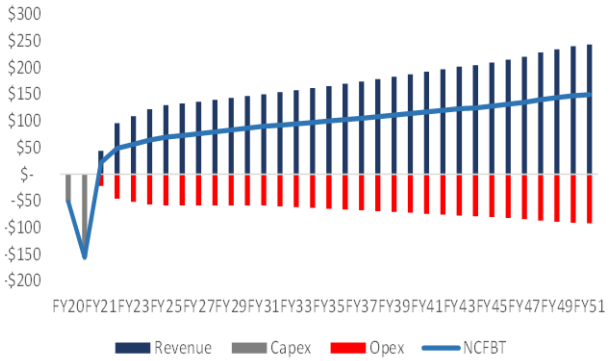
AUSTRALIAN POTASH LIMITED (APC.AX	Price	$0.11
Valuation	**$m**	**$/sh**
Lake Wells NPV10 (risked at 60%)	194	0.18
Net Cash (Debt)	2	0.00
Unallocated Capital	98	0.09
Corporate Costs	(19)	(0.05)
Total Valuation	**278**	**0.23**

Year End 30 June

Commodity Assumptions	2018A	2019A	2020F	2021F	2022F
US$/A$	0.74	0.70	0.71	0.69	0.69
SOP Price $US/t	500	513	525	538	550

Lake Wells (LWSOP)	2018A	2019A	2020F	2021F	2022F
Production (kt)	0.0	0.0	0.0	0.0	55.5

Cash Flow Analayis



Profit & Loss (A$m)	2018A	2019A	2020F	2021F	2022F
Sales Revenue	0.0	0.0	0.0	0.0	44.3
Other Revenue	1.8	2.3	2.1	2.1	1.1
Cost of Sales	0.0	0.0	0.0	0.0	(20.0)
Gross Profit	**1.8**	**2.3**	**2.1**	**2.1**	**25.4**
Sales General & Admin Costs	(1.6)	(1.8)	(1.7)	(2.0)	(2.0)
Exploration and evaluation expenses	(5.3)	(0.4)	(4.0)	(4.0)	(4.0)
Other costs	(0.1)	0.0	0.0	0.0	0.0
EBITDA	**(5.1)**	**0.2**	**(3.6)**	**(3.9)**	**19.4**
DD&A	(0.0)	(0.0)	(0.0)	(0.0)	(9.7)
EBIT	**(5.1)**	**0.1**	**(3.6)**	**(3.9)**	**9.7**
Net interest income (expense)	0.0	0.0	(1.8)	(12.9)	(15.0)
Tax	0.0	0.0	0.0	0.0	(1.3)
NPAT (Reported)	**(5.1)**	**0.1**	**(5.4)**	**(16.8)**	**(6.5)**
Diluted EPS (cps)	**(2.7)**	**0.0**	**(1.5)**	**(3.5)**	**(0.6)**
DPS (cps)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Resources & Reserves

Resources	Brine Volume	SOP (Mg/L)	SOP Mt
Measured	2,383	7,455	18.1
Indicated			
Inferred			
Total	2,383	7,455	18.1
Reserves			
Probable	490	7,415	3.6
LOM PLAN	511	71,471	3.8

Cash Flow (A$m)	2018A	2019A	2020F	2021F	2022F
Operating Cash Flows	**(6.1)**	**(0.7)**	**(1.4)**	**(12.8)**	**8.4**
Capex (+exploration)	0.0	(3.4)	(58.9)	(162.9)	(7.7)
Property, plant & equipment	(0.1)	(0.0)	0.0	0.0	0.0
Divestment of Assets	0.0	0.0	0.0	0.0	0.0
Investing Cash Flows	**(0.1)**	**(3.5)**	**(58.9)**	**(162.9)**	**(7.7)**
Proceeds from equity issues	6.9	4.3	15.0	83.2	0.0
Proceeds from borrowings	0.0	0.0	75.0	75.0	0.0
Repayment of borrowings	0.0	0.0	0.0	0.0	0.0
other	(0.5)	(0.3)	0.0	0.0	0.0
Financing Cash Flows	**6.4**	**3.9**	**90.0**	**158.2**	**0.0**
Net increase in cash and equivalents	0.2	(0.3)	29.7	(17.5)	0.7
Cash at beginning	2.0	2.2	2.0	31.7	14.2
Cash at end	**2.2**	**1.9**	**31.7**	**14.2**	**14.9**

Directors & Management

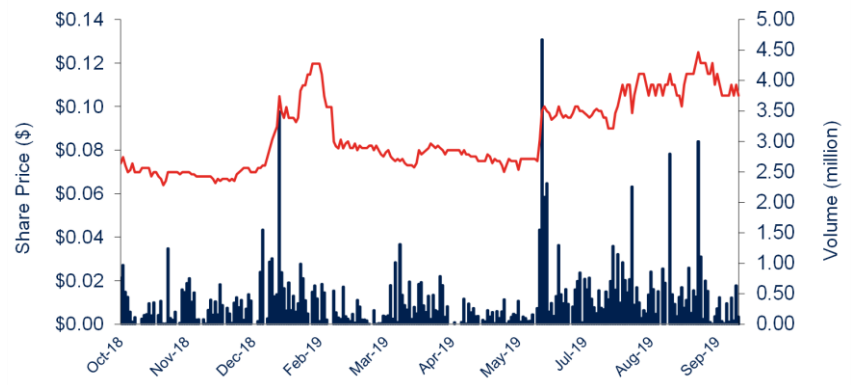
Name	Position
Jim Walker	Non-Executive Chairman
Matt Shackleton	(MD & CEO)
Rhett Brans	Non- Exective Director
Brett Lambert	Non- Exective Director
Sophia Raven	Company Secretary

Top Shareholders

	Shares	%
Yandal Investments Pty Ltd	30,469,352	8.5%
Perth Select Seafoods Pty Ltd	16,000,000	4.5%
Jemaya Pty Ltd	8,050,000	2.3%
Cen Pty Ltd	6,450,000	1.8%
Matthew Shackleton	6,432,499	1.8%
Total	**67,401,851**	**18.8%**

Balance Sheet (A$m)	2018A	2019A	2020F	2021F	2022F
Cash	2.2	2.0	31.7	14.2	14.9
Other Current Assets	0.1	1.6	1.6	1.6	1.6
Total Current Assets	**2.3**	**3.6**	**33.3**	**15.8**	**16.5**
Property,Plant & Equip	0.1	0.1	52.1	208.1	199.2
Exploration & Evaluation	0.0	5.1	7.9	10.8	13.7
Other Non- Current Assets	0.0	0.0	0.0	0.0	0.0
Total Non-Current Assets	**0.1**	**5.2**	**60.0**	**218.9**	**212.9**
Total Assets	**2.5**	**8.8**	**93.3**	**234.7**	**229.4**
Creditors	0.6	2.7	2.7	2.7	2.7
Current Borrowings	0.0	0.0	0.0	0.0	0.0
Non-current Borrowings	0.0	0.0	75.0	150.0	150.0
Provisions	0.1	0.1	0.1	0.1	1.3
Total Liabilities	**0.6**	**2.8**	**77.7**	**152.7**	**154.0**
Shareholders Funds	**1.8**	**6.0**	**15.6**	**81.9**	**75.4**

Recommendation History



Date	Type	Target Price	Share Price	Recommendation	Return

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