

# **PARKWAY MINERALS AGM PRESENTATION**

**30 November 2017**



**WORLD-CLASS FERTILISER PRODUCTS  
FROM WORLD-CLASS ASSETS**

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*Information in the presentation that relates to the Mineral Resource estimate for Dinner Hill is fully described in the ASX release of 26 September 2017. The Company is not aware of any new information or data that materially affects the information included in this presentation. All material assumptions and technical parameters underpinning the Mineral Resource estimates and Exploration Target in this presentation continue to apply and have not materially changed. The K-Max Scoping Study referred to in this presentation was fully described in the ASX release of 10 January 2013, while the Phosphate Scoping Study was released on 19 September 2013 and updated on 30 September 2015. Both are based on low-level technical and economic assessments and are insufficient to support an estimation of Ore Reserves, provide assurance of an economic development case at this stage or provide certainty that the conclusions of the Scoping Study will be realised. All material assumptions and technical parameters used in the Scoping Study and included in this presentation continue to apply and have not materially changed. Parkway Minerals has concluded that it has a reasonable basis for including the forward-looking statements provided in this presentation.*

## **Competent persons' statements**

*The information in this report that relates to the estimation of Exploration Targets and Mineral Resources is based on and fairly represents information and supporting documentation prepared by J.J.G. Doepel, a member of the Australasian Institute of Mining and Metallurgy. Mr Doepel, principal geologist of the independent consultancy Continental Resource Management Pty Ltd, has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. He is qualified as a Competent Person, as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. This report is issued with Mr Doepel's consent as to the form and context in which the Mineral Resource appears. The information in this report that relates to reporting of Exploration Results is based on and fairly represents information and supporting documentation prepared by James Guy, a member of the Australian Institute of Mining and Metallurgy. Mr Guy is a consultant to the mineral industry and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. He is qualified as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Guy consents to the inclusion in this report of the matters based on information in the form and context in which it appears. The metallurgical information in this report is based on and fairly represents information and supporting documentation compiled by Gary Johnson, a Member of the Australasian Institute of Mining and Metallurgy. Mr Johnson has sufficient experience relevant to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Johnson is managing director of Strategic Metallurgy Pty Ltd. This report is issued with Mr Johnson's consent as to the form and context in which the results appear.*

*[Photos courtesy of International Potash Institute (IPI), Horgen, Switzerland: [www.ipipotash.org](http://www.ipipotash.org)]*

# Corporate Snapshot



ASX CODE	PWN
SHARE PRICE – 27 Nov. 2017	A\$0.012
MARKET CAP. (at 1.2 c)	A\$6.0 M
SHARES ON ISSUE	499 M
12-MONTH RANGE	0.8 -2.4 c
TOP 20 SHAREHOLDERS	44%
LISTED OPTIONS	18M
UNLISTED OPTIONS	5M
PARTLY PAID SECURITIES	123M

## Board of directors

- **Adrian Griffin – chairman:** mine production and corporate management.
- **Patrick McManus – managing director:** industrial minerals specialist; project development and minerals marketing.
- **Chew Wai Chuen – non-exec. director:** financial advisor to high-net-worth individuals.
- **Natalia Streltsova – non-exec. director:** technical and business development.

## **Subsidiary: East Exploration Holdings:**

- 19.25 Million shares of Davenport Resource (ASX: DAV), 25 Nov '17 value \$1.6m @ 8c
- Performance shares on milestones,

## **Subsidiary: Dandaragan Trough Holdings PL:**

- potash, phosphate and by-products rights in EL 3987, Western Australia
- licence to use K-Max technology at Dinner Hill.

## **Subsidiary: K-Max Technology P/L:**

- 100% ownership of K-Max process IP and know-how. Patent granted
- 7.3 M Lithium Australia (ASX:LIT) shares, 25 Nov 2017 value \$1.5 m @ 21c

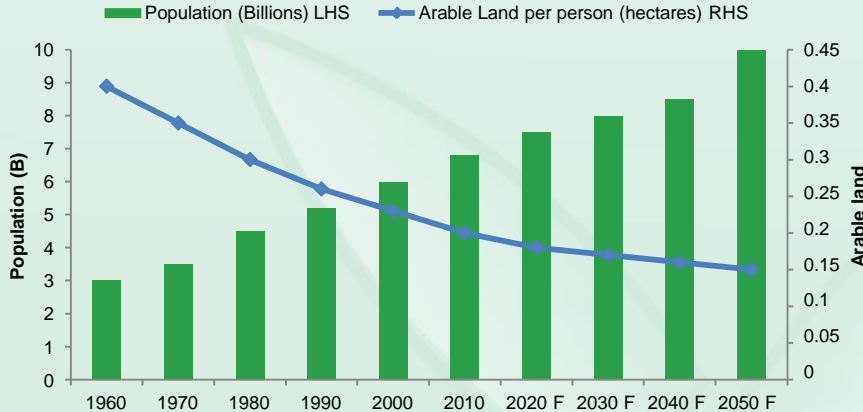
## **• Lake Barlee**

- 216 km<sup>2</sup> Exploration Licence and 1751 km<sup>2</sup> of applications

## **• Dandaragan Trough**

- 1050 km<sup>2</sup> of Exploration Licences, prospective for greensands and phosphate,
  - Potash, phosphates and by-products

# Global Outlook for Fertiliser

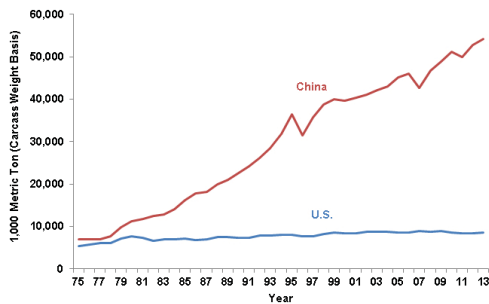


**Food demand predicted to double by 2050, due to:**

- population growth
- diminished arable land
- dietary changes

**leading to increased pressure on agriculture.**

Figure 1. Total Pork Consumption in China and U.S.



Source: U.S.D.A. Foreign Agricultural Service

*“The challenge is clear. With nearly one billion people already suffering from hunger and malnutrition in some of the fastest growing areas of the world, the challenge of doubling food production by 2050 will become more difficult as key resources become increasingly scarce and a changing climate creates unforeseen obstacles.*”

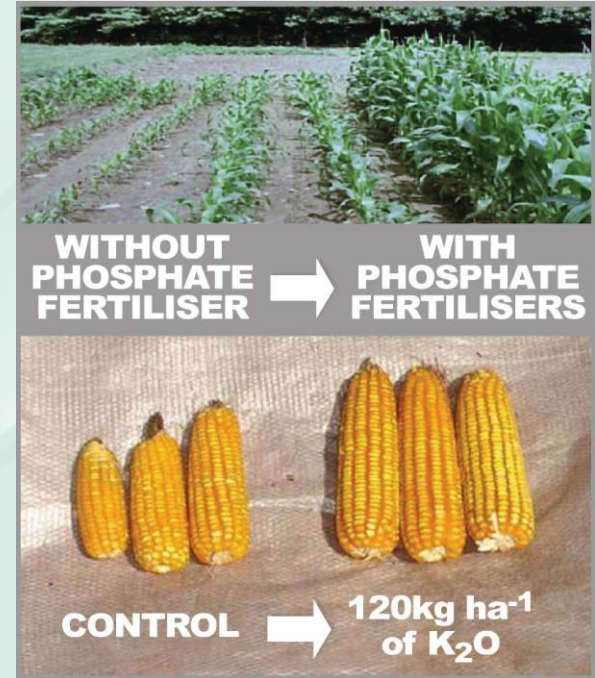
*“Undoubtedly, the world is going to have to produce more. But it cannot do so at the expense of the land or environment. We must produce more with less.”*

~ Hugh Grant, *Forbes*, October 2011

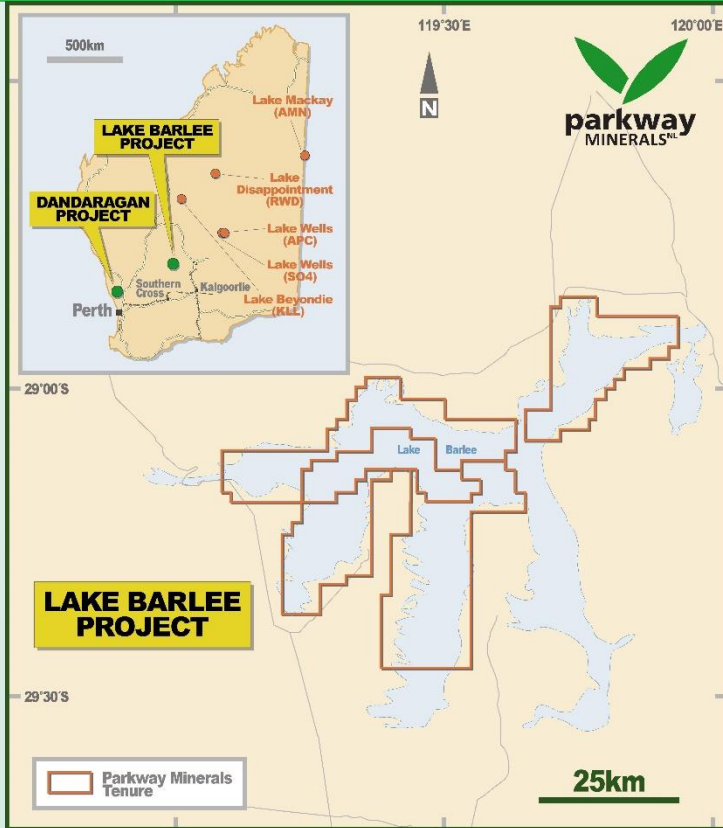


# The Fertiliser Business

- **Three fertiliser bulk components:**
  - **N** (nitrogen) promotes green growth
  - **P** (phosphorous) promotes plant yield potential
  - **K** (potassium) enables plant uptake of nutrients from soil and air.
- Three minor components: Ca, S and Mg.
- Most soils deficient in NPK.
- Not interchangeable – different crops need different ratios.
- +\$170B pa business,
  - phosphates 30%, potash 20%

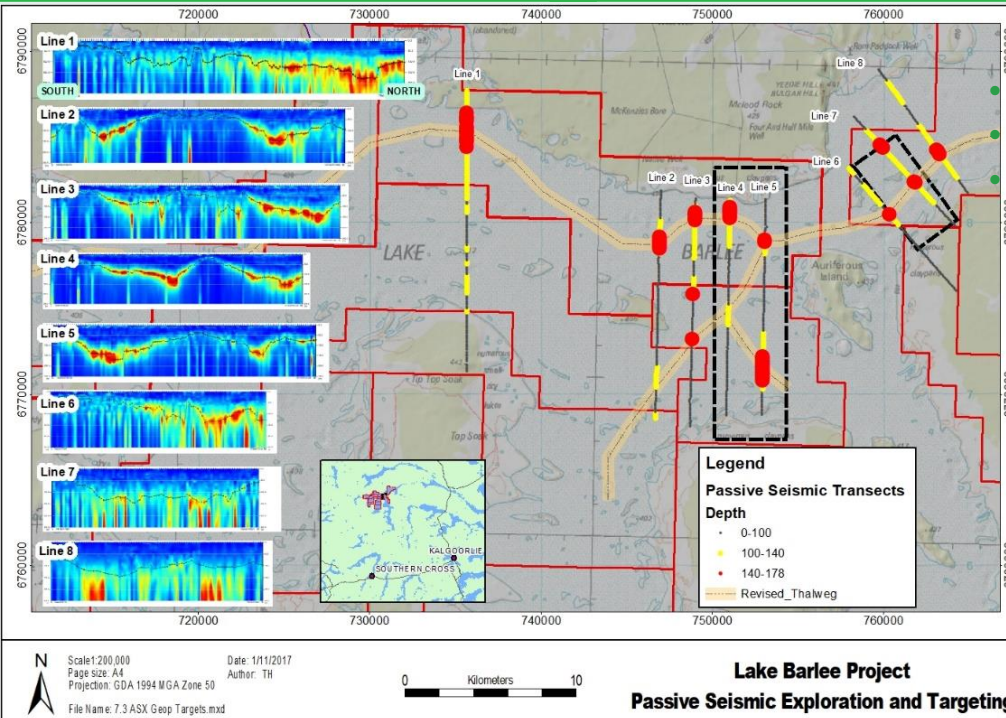


# Lake Barlee



- **Large landholding**
  - +1,800 km<sup>2</sup>
- **Covers majority of Lake Barlee**
- **Field work completed in April, surface brine samples high in potassium**
- **Next steps:**
  - **Drilling on identified palaeochannel**

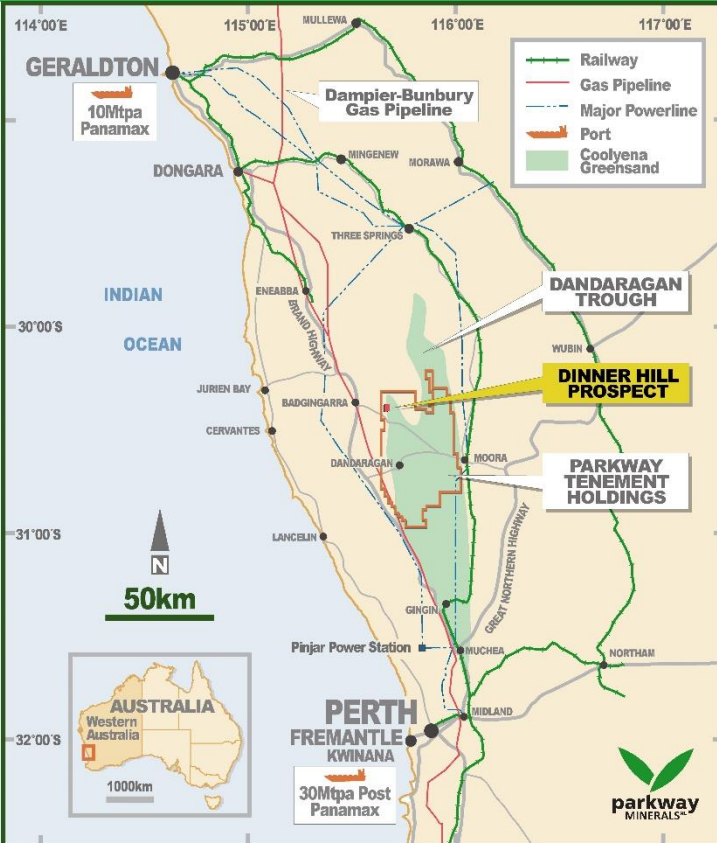
# Deep Palaeochannel



- Indicated depths up to 160m
- Over 30 km of valley
- Next steps:
  - drilling by January 2018

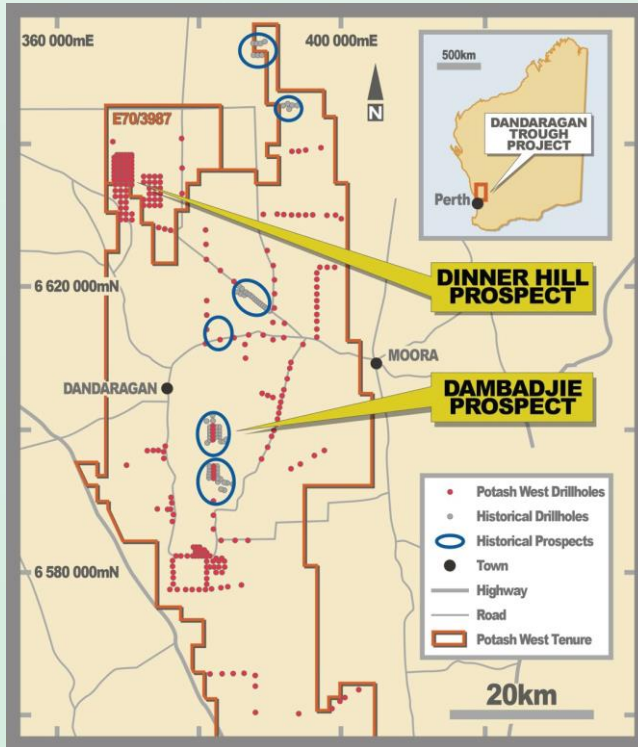


# Dandaragan Project Location

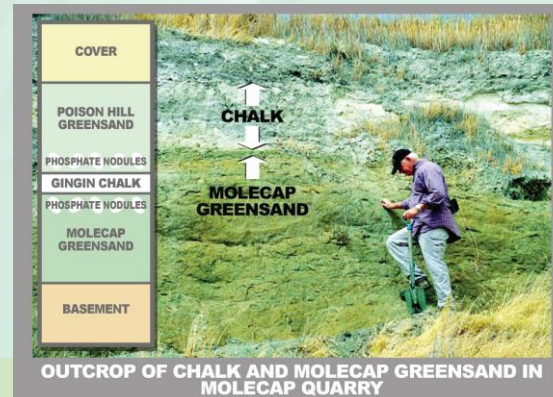


- **>2,000 km<sup>2</sup> of prospective area:**
  - ~150 km of strike
  - +20 km width
  - many intersections +40 m.
- **Great infrastructure:**
  - Rail, roads, towns, power, gas and water all close by
  - Two major export ports and fertiliser plants at Geraldton and Kwinana, less than 200km.
- **Close to local markets** – WA and southeast Asia.
- **Similar mining activity already established in region.**

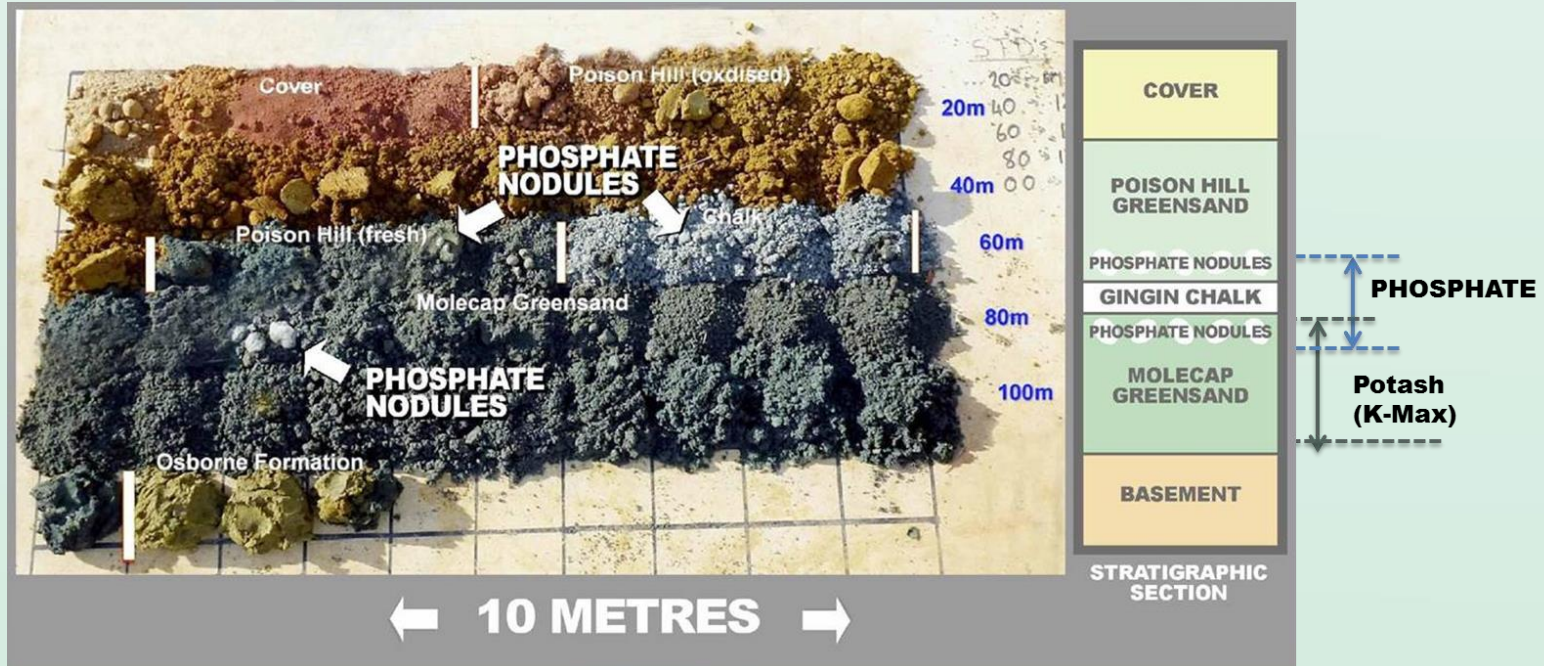
# Exploration



- Focus on northern area – 432 holes drilled, 1182 m on Dinner Hill.
- Numerous intersections of high grades near surface.
- Dinner Hill, first resource, phosphate closer to surface.
- Indicated Resource – 630 Mt @ 4.4%  $K_2O$  and 1.9%  $P_2O_5$ , within 40 km<sup>2</sup> of prospective area 60 km<sup>2</sup> (ASX release, 26 Sept 2017).



# Dambadjie Prospect Drill Samples



# Phosphate Scoping Study



- **Mining rate – 4 Mtpa**
- **One product – 400,000 tpa single superphosphate**
- **100 tpa consumed locally – balance exported to SE Asia.**
- **Contract mining delivers ore to beneficiation plant – reduces capital and risk.**
- **Scoping Study released: 30 September 2015**
- **Project dynamics:**
  - mining of unconsolidated sand ore very low cost
  - ability to upgrade to ~ 6% P<sub>2</sub>O<sub>5</sub> with screening
  - high-quality infrastructure in place <200 km from ports
  - access to sulphuric acid at low on-site cost
  - low capital requirements and low technical risk.

# Potash Project



- **Stage 2 for Dinner Hill – timing flexible.**
- **Use of new technology – K-Max.**
- **Suite of products –**  
SOP, high-magnesium SOP ('KMS'), aluminium phosphate, phosphoric acid.
- **Robust project – higher capital but stronger EBITDA**  
(ASX release Jan 13 2015).
- **Revenue mix:**
  - phosphates 40%                      150 K tpa phosphoric acid
  - potash 30%                              300 K tpa SOP and KMS
  - aluminium sulphate 25%              750 K tpa.



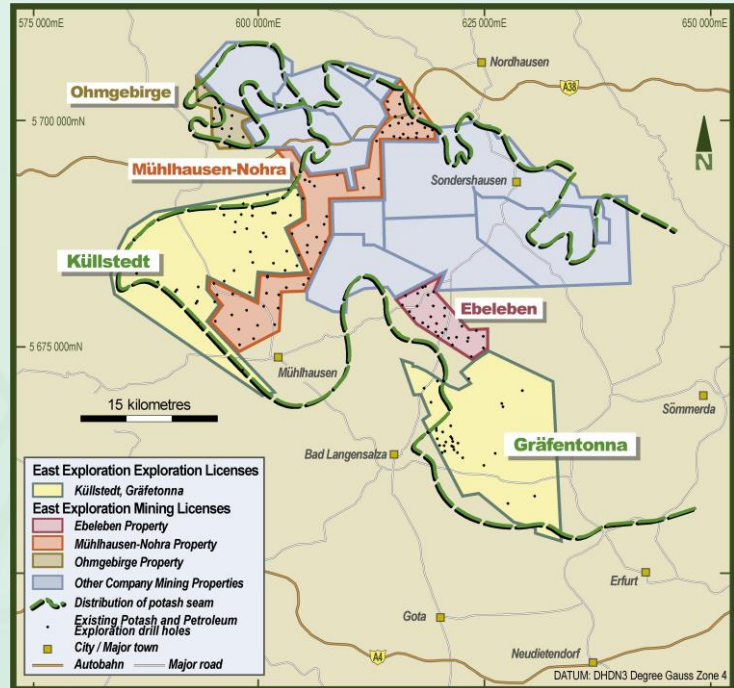
# DAVENPORT RESOURCES



- PWN owns 26% of Davenport Resources (ASX DAV) which owns exploration and mining licences in central Germany.
- Plus performance rights on project milestones
- Close to existing producers.
- 450 km<sup>2</sup> with extensive drilling database. Just announced purchasing 203 km<sup>2</sup> extensively drilled mining licences
- Working with Ercosplan, world-renowned potash consultants with many years' experience in the region.

# HIGH QUALITY HISTORIC RESOURCES

- Evaluation of data progressing with the two areas -Ebeleben and Mühlhausen Sub-area - completed
- Ebeleben has Sylvinite extending south-east from the now closed Volkenroda mine
- Mühlhausen Sub-area contains mixed salts (Hartsalz) extending into the Küllstedt Licence
- Historic exploration was done to a high standard and would cost more than €100 million and many years drilling to acquire today.



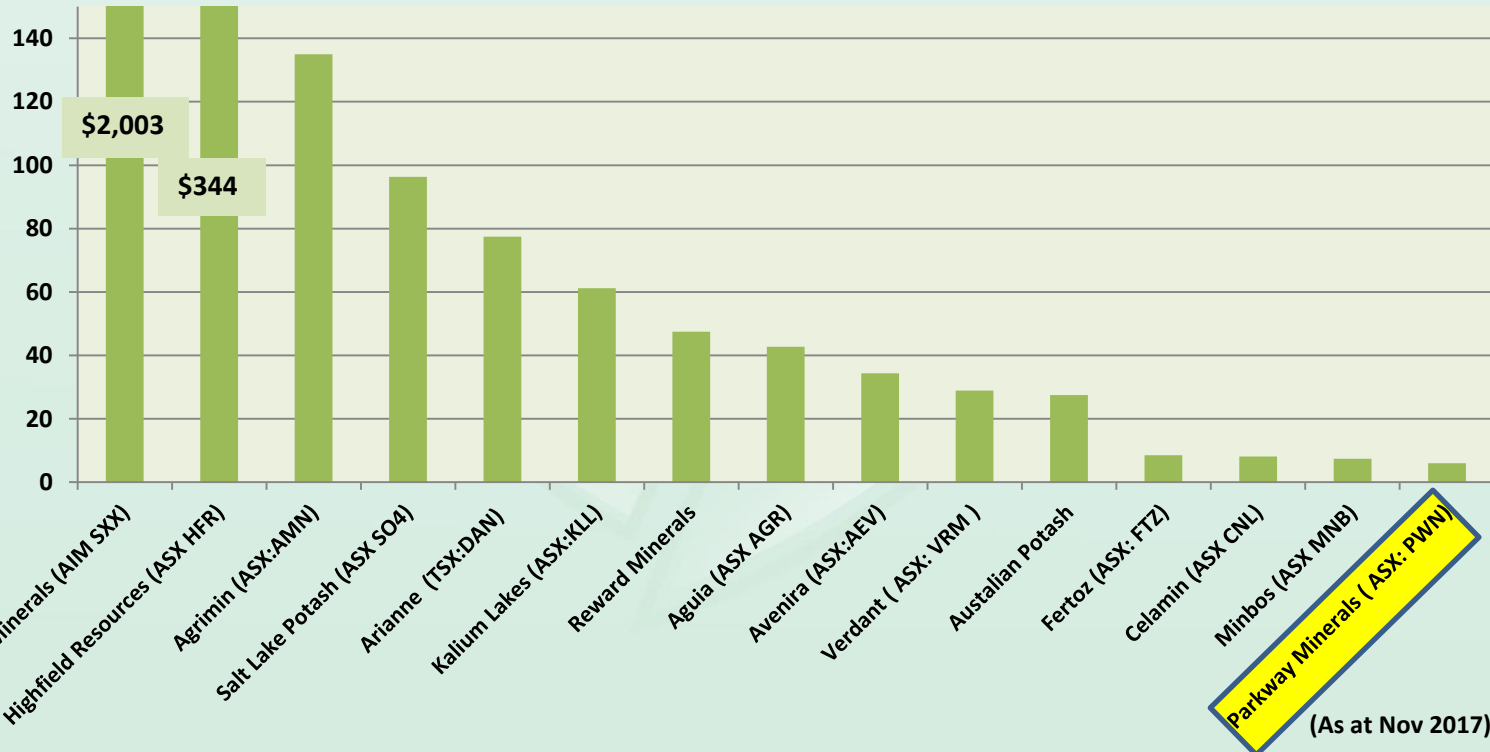
*Location of drilling on licences*

# COMPARATIVE ANALYSIS

Company	Davenport	Danakali	Sirius Minerals	Highfield Resources	Kore Potash													
Ticker	DAV.AU	DNK.AU	SXX.LN	HFR.AU	K2P.AU													
Mkt Cap (US\$ millions)	\$5.70	\$140	\$1,585	\$261	\$105													
Cash (US\$ millions)	\$2.80	\$8.00	\$764.00	\$54.00	\$36.00													
#																		
Debt (US\$ millions)	\$1.3m	-	\$455	-	-													
Enterprise Value (US\$ millions)	\$4.20	\$132.00	\$1,276.00	\$207.00	\$69.00													
<b>EV / Attributable K<sub>2</sub>O Resource (US\$)</b>	<b>\$0.07</b>	<b>\$1.28</b>	<b>\$4.00</b>	<b>\$5.84</b>	<b>\$0.20</b>													
Project	South Harz	Colluli	Woodsmith	Muga	Kola													
Location	Germany	Eritrea	UK	Spain	Rep of Congo													
Interest	100%	50%	100%	100%	97%													
Attributable Resources (Mt)	<table border="1"> <thead> <tr> <th colspan="3">HISTORIC C2 RESOURCE</th> </tr> </thead> <tbody> <tr> <td><b>Ebeleben</b></td> <td><b>221</b></td> <td><b>@16.7% K<sub>2</sub>O</b></td> </tr> <tr> <td><b>Mühlhausen</b></td> <td><b>234</b></td> <td><b>@14.4% K<sub>2</sub>O</b></td> </tr> <tr> <td><b>Total</b></td> <td><b>455</b></td> <td><b>@15.5% K<sub>2</sub>O</b></td> </tr> </tbody> </table>		HISTORIC C2 RESOURCE			<b>Ebeleben</b>	<b>221</b>	<b>@16.7% K<sub>2</sub>O</b>	<b>Mühlhausen</b>	<b>234</b>	<b>@14.4% K<sub>2</sub>O</b>	<b>Total</b>	<b>455</b>	<b>@15.5% K<sub>2</sub>O</b>				
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Measured + Indicated	627	@ 11% K <sub>2</sub> O	820	@ 12.1% K <sub>2</sub> O	224	@ 13.4% K <sub>2</sub> O	1,277	@ 15.1% K <sub>2</sub> O										
Inferred	18	@ 10% K <sub>2</sub> O	1,840	@ 12.0% K <sub>2</sub> O	39	@ 13.8% K <sub>2</sub> O	920	@ 15.6% K <sub>2</sub> O										
Total	645	@ 11% K <sub>2</sub> O	2,660	@ 12.0% K <sub>2</sub> O	263	@ 13.5% K <sub>2</sub> O	2,197	@ 15.3% K <sub>2</sub> O										

# Balance of purchase cost for mining licences of US\$1.3m payable over six months shown as debt

# Market Cap, A\$M



(As at Nov 2017)

# Value Proposition



- **Proximity to the most rapidly expanding fertiliser markets.**
- **Lake Barlee**
  - Salt Lake potash potential
- **Dandaragan Trough:**
  - control of one of the world's largest glauconite/greensands deposits, containing abundant P and K
  - excellent infrastructure
- **Davenport Shareholding upside:**
  - long production history
  - extensive database available
  - quality partners.
- **Technology-driven opportunity:**
  - application of K-Max to other deposits
  - global licensing opportunities
  - **LIT** exposure to expanding lithium market.



# Timeline



Activity	Approx Date
<b>Lake Barlee</b>	
Geophysics and surface sampling	Completed
Drilling	Dec - Jan
<b>Dandaragan Trough</b>	
Drilling	Jan -Mar
<b>Reports from Davenport on BVVG ground</b>	Ongoing from mid-Nov



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