

Developer of the LD Brine SOP Project, the most compelling investment opportunity in the SOP space

AGM Presentation 29 May 2019



ASX | RWD www.rewardminerals.com



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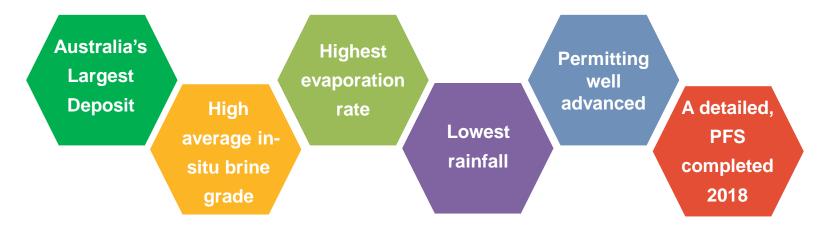


#### **REWARD OVERVIEW**



#### Reward's flagship is the

#### Lake Disappointment SOP Project in Western Australia:



The Project has the potential to produce in excess of 400,000tpa SOP for decades

Reward also has access to almost 10,000km<sup>2</sup> of ground in the Officer Basin highly prospective for potash (SOP) mineralisation at shallow depth

### **CONTENTS**



- **►** Corporate Snapshot
- ► LD Project:
  - **▶** Overview & Metrics
  - Current Activities
- ► Officer Basin Exploration upside
- **▶** Conclusions



## **CORPORATE SNAPSHOT**



#### Capital Structure 28 May 2019 ASX:RWD

Ordinary Shares on Issue	162.6m
Rights and Options on Issue	17.6m
Share Price	\$0.096
Undiluted Market Capitalisation	\$15.6m
Cash & Equivalents	~A\$1.6m
Undiluted Enterprise Value	A\$14m

#### **Major Shareholders**

Name	Shares (m)	%
Michael Ruane	54.1	33.3
Intermin Resources	7.2	4.4
Top 20 Shareholders	98.2	60.4



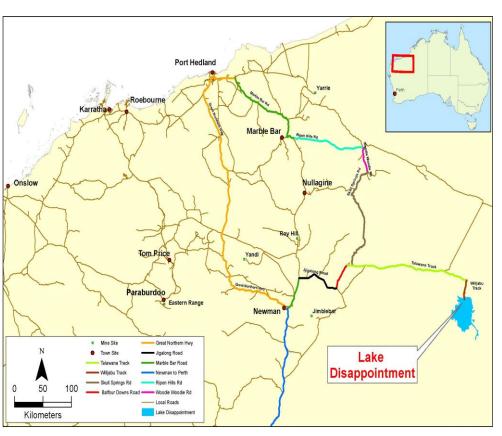




### LD SOP PROJECT - INTRODUCTION



#### An inter-generational project in the making.....



- Largest SOP deposit in Australia
- One of the highest average grades
- Highest evaporation in Australia
- Detailed PFS, attractive economics
- Years of extensive testwork and trials
- Permitting well-advanced
- ILUA executed with the Martu TO's

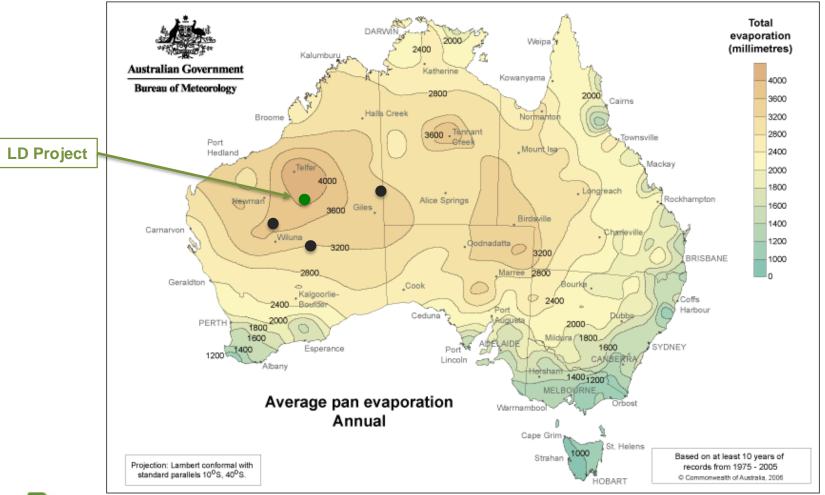
Located in one the world's most respected mining jurisdictions



#### **HIGHEST EVAPORATION RATE**



#### No better location for a brine evaporation operation in Australia

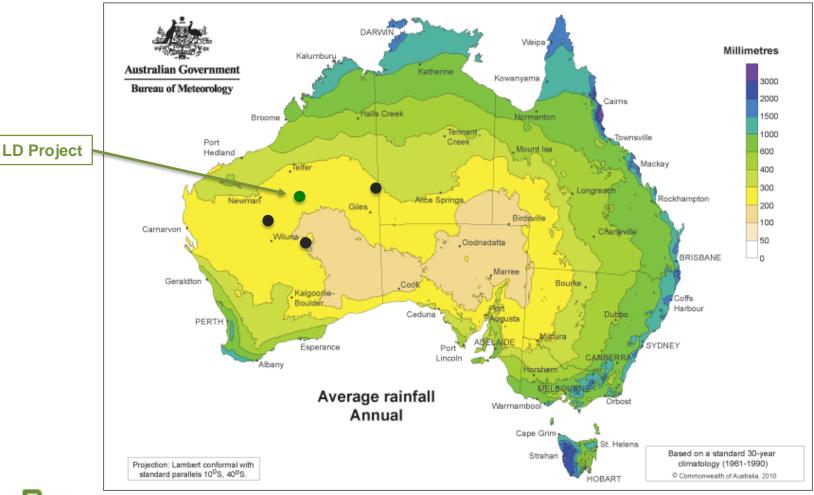




#### **LOW RAINFALL**



#### No better location for a brine evaporation operation in Australia





### LD SOP PROJECT METRICS



#### **Production**

- At least 400,000 tpa
- ~9 Mt SOP produced over ~25 years
- The PFS abstracted less than 10% of the resource

## Capital cost

- A\$345 M, includes indirects and owners costs (+/-20%)
- A\$451 M, includes contingency & pre-production costs

## **Operating Cost**

- Cash cost A\$335/tonne (FOB Port Hedland)
- AISC A\$376/tonne (FOB Port Hedland)



## LD SOP PROJECT METRICS - ECONOMICS



## **Assumptions**

Price: US\$500/tonne, FX: AUD/USD: 0.75

Discount Rate: 8% Real

• Royalty: State: 3.75%, Martu: 1.25%

## **Margins**

Average EBITDA – 45% (~\$118 M/year)

Average Cash – 48% (~\$122 M/year)

#### Returns

• Pre-tax: NPV<sub>8%</sub> – \$518 M, IRR – 19%

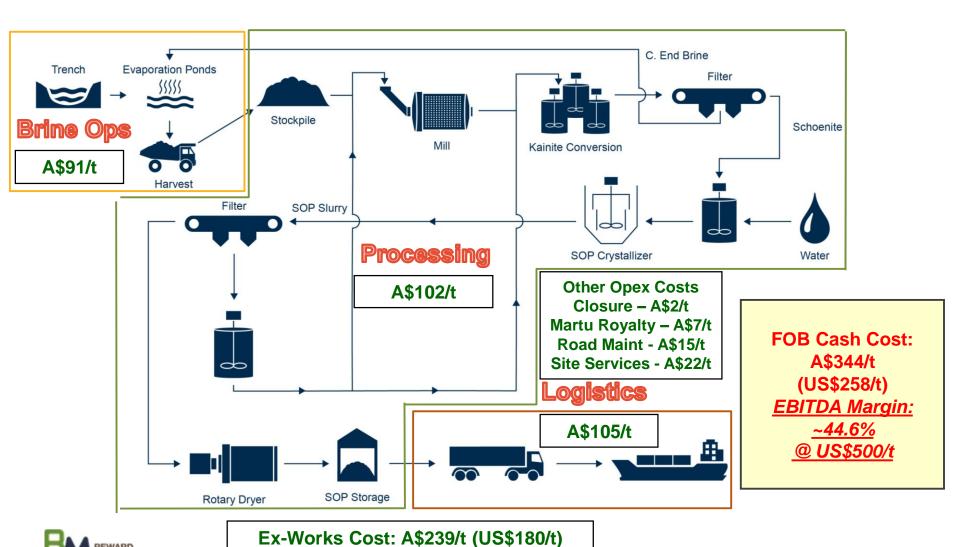
• Post-tax: NPV<sub>8%</sub> - \$293 M, IRR - 15%

State & Martu Royalties\*: ~\$286 M

The Project has the potential to provide significant, intergenerational social benefits to nearby indigenous communities

## LD SOP PROJECT OPERATIONS OVERVIEW -





### **CONSERVATIVE ASSUMPTIONS IN PFS**







- PFS Assumption: 10 g/litre
- Pumping trials: ~13 g/litre
- Approximately 200 million litres pumped to date



**Flow Rates** 

- PFS Assumption: 15 l/sec/km
- 15 trenches excavated (20 m –1 km long) and pumped
- Flow rates 6 to >100 l/sec/km



## REALISTIC AND DELIVERABLE LOGISTICS



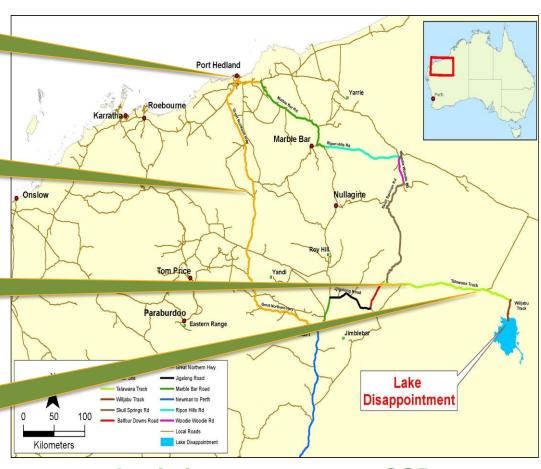
A world class port exporting millions of tonnes per year

511 km sealed road to Port Hedland

355 km of existing, frequently used track

First 250 km
designed in detail
from terrain models
at +/-100mm
accuracy

#### 866 km from site to Port Hedland



Logistics cost per tonne SOP: A\$105 (FOB Port Hedland) (US\$79/t)

## **CURRENT ACTIVITIES\***



- Environmental Permitting:
  - Public Consultation: comments received
- **▶** Resource Conversion:
  - Infill drilling program completed
  - Program under review
- ► Flowsheet Improvements:
  - Ongoing R&D
- **▶** Pond Trials:
  - Evaporation and Seepage
  - Crystallisation
  - Crude Potash Harvested





# UPDATED WA EPA PERMITTING SCHEDULE 🛶



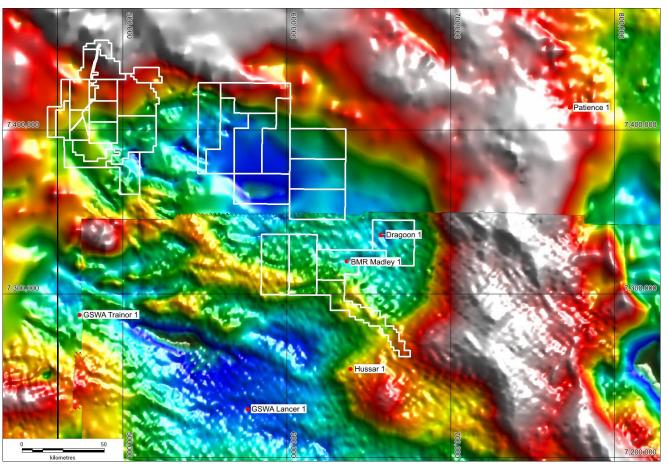
#### A thorough, extraordinarily long process.....

	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Public exhibition of ERD														
DWER provided final comments to Reward														
Reward submits response to submissions														
DWER reviews responses to submissions and publishes the responses														
DWER/EPA Board site visit														
DWER final review of ERD and prepares briefing notes for EPA Board Meeting														
Reward presentation to EPA Board														
DWER consults with Decision Making Authorities and Reward about draft conditions														
DWER prepares & publishes report to Minister														
Public appeals can be lodged														
Resolution of appeals														
Minister issues Statement														





# Officer Basin Potash Exploration

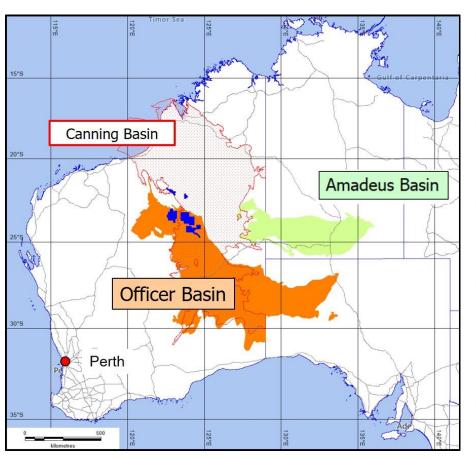




#### INTRODUCTION



#### Shallow SOP mineralisation is the target



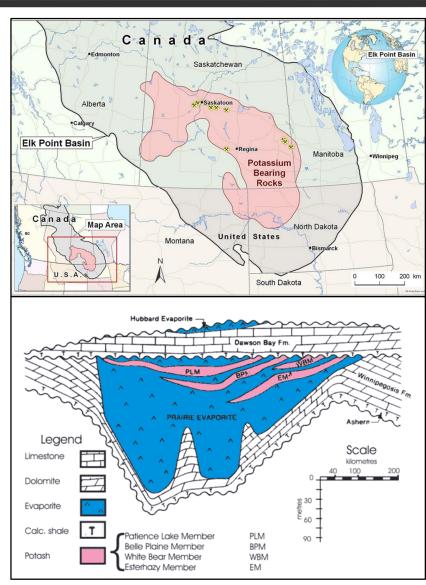
- Gibson Desert, ~400km east of Newman
- Limited oil/gas exploration historically
- Officer, Canning and Amadeus Basins are large Sedimentary Evaporite Basins
- Browne is the host formation for evaporites in the Officer Basin
- Seismic data indicates near surface
   Browne formation evaporites over a wide
   area of Officer Basin
- The Browne Formation could be the source of WA's palaeovalley brine SOP deposits

The discovery of shallow potash deposits in the Officer Basin could make Reward's LD Project the Patience Lake\* of Western Australia – i.e. the first of numerous potash mines in the region REWARD MINERALS LTD

#### **GENERAL CONTEXT**



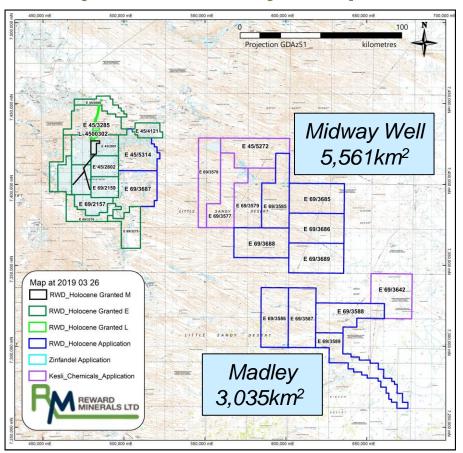
- The world's two largest potash basins which have been mined extensively are located in the Saskatchewan Province of Canada and in the Perm region of Russia
- ► The giant Elk Point Basin in Saskatchewan contains over 100 billion tonnes potash at depths between 600-1,700m
- MOP production is approximately 30Mtpa which is railed over the Rockies, 1,600-2,300km to Vancouver for export
- The operations have healthy EBITDA margins of around 40%
- ▶ BHP & Rio have significant potash projects in Saskatchewan and leading German fertiliser company K+S commenced production at its new mine there in 2017
- The Officer Basin has the size and geological potential to host Potash deposits of the Saskatchewan/Perm type and dimensions



#### **GIBSON AREA CONTEXT**



#### Midway Well & Madley Prospects: Targeting shallow SOP mineralisation

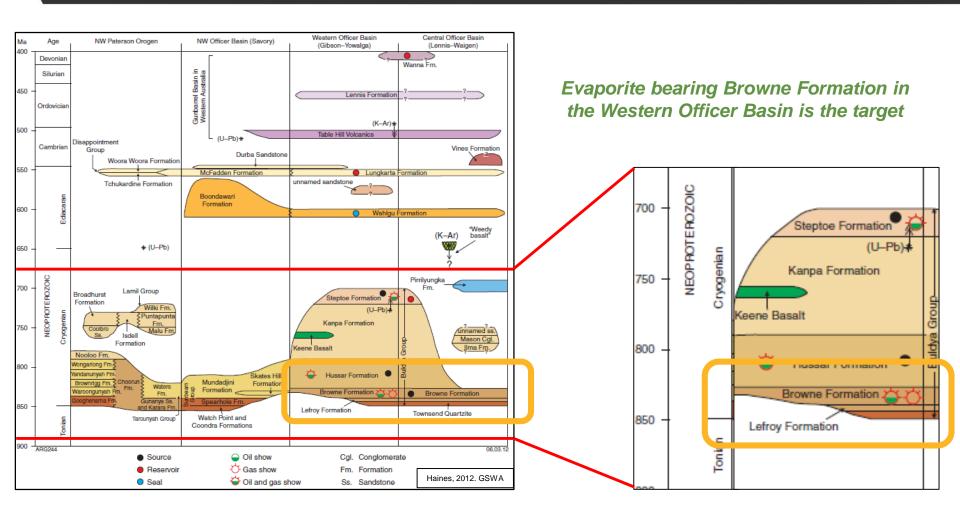


- In the Gibson area of the Western Officer Basin over 250,000km<sup>2</sup> of the Browne Formation occurs at shallow depth and outcrops in numerous locations
- Erosion of the outcropping Browne Evaporites could be the source of WA's palaeovalley brine SOP deposits such as Lakes Disappointment, Dora and Auld
- These deposits are high in Sulphate thus implying that the Browne Formation in the Gibson area has the potential to host deposits similar to the Danakil depression
- The Danakil mineral suite includes the high Sulphate mineral Kainite and hosts over 6 billion tonnes of Potash evaporites amenable to open pit mining

Reward's tenements contain numerous structural targets within the Browne Formation that are defined by seismic and (limited) historical drilling data from the Officer Basin

### **OFFICER BASIN STRATIGRAPHY**





Simplified stratigraphy and petroleum systems of the Officer Basin

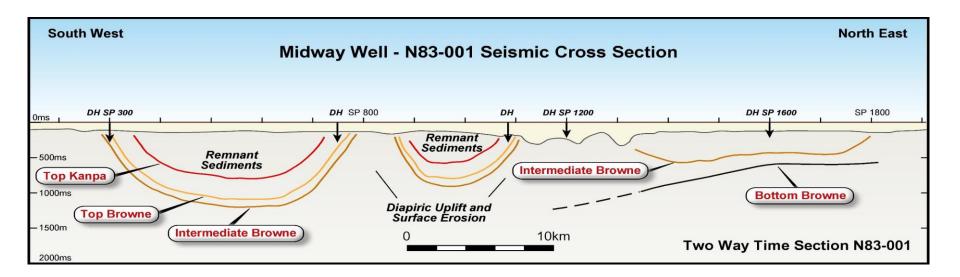


#### MIDWAY WELL CROSS SECTION



#### Targeting shallow SOP mineralisation

- Tenement coverage over Midway Well Prospect 5,561km²
- ► The top of the Browne Formation has been eroded away, offering shallow drill targets
- Three interpreted salt rupture zones have been interpreted from seismics potentially Browne Formation at surface?
- Remnant sediment basins found just below the erosion profile



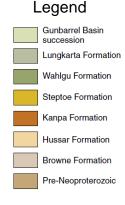


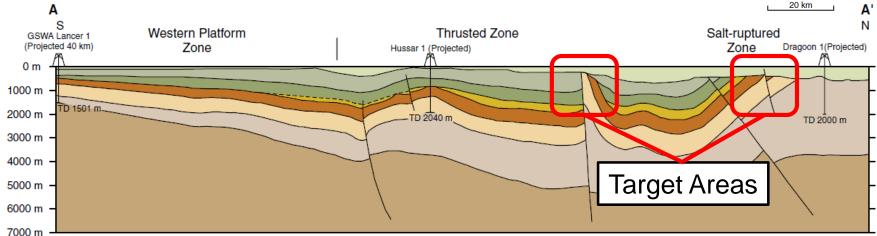
## **MADLEY PROSPECT CROSS SECTION**



#### Targeting shallow SOP mineralisation

- Tenement coverage over Madley Prospect 3,035km²
- ▶ In the area, the Browne Formation is generally deep (>1,000m)
- However, there is evidence of salt-rupture/thrusted salt at or near the surface
- These uplifted zones are the targets for potash and are highlighted below





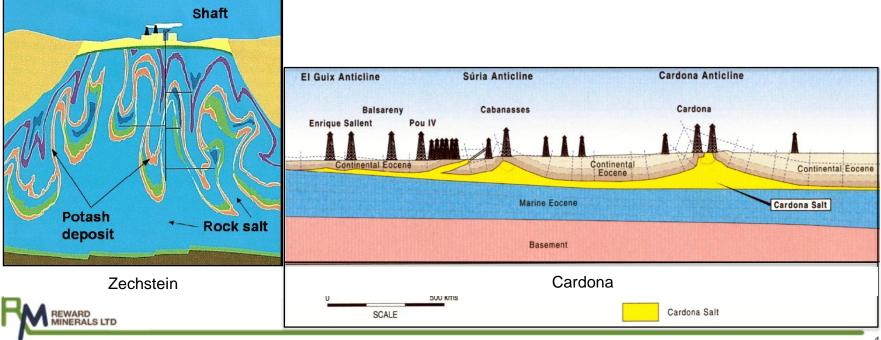
Sieonova & laskey, 2005. GSWA Rpt 98

#### MADLEY PROSPECT ANALOGY



#### Targeting shallow SOP mineralisation

- The Madley Prospect consists of a series of Diapiric structural targets
- ► These Diapiric structures are analogous to other producing potash deposits in the rest of the world, such as the Zechstein Potash Deposits in Germany (below left) and the Cardona Potash Deposits in Spain (below right)

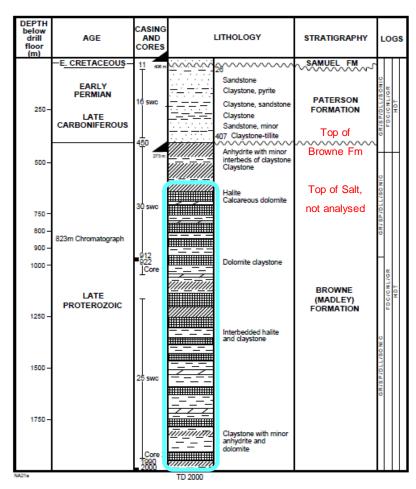


#### **EXPLORATION APPROACH**



#### Targeting shallow SOP mineralisation

- Midway Well Prospect:
  - Drill Northern Evaporite exposure zone
  - Drill Southern Browne Formation outcrops
- Madley Prospect:
  - Analyse available GSWA "salt" cores to assess regional potash potential (e.g. Dragoon #1, see left) & GSWA Empress & Lancer #1 salt cores
  - Conduct detailed analysis of available seismic data for drill target selection
  - Drill shallow evaporite targets to assess potash prospectivity



Dragoon #1 (1982) Hollis et al, 2017 – GSWA Rpt 165



#### **CONCLUSIONS**



#### Reward: a unique ASX potash company:

#### **Its flagship LD brine SOP Project is**

- technically robust
  - Conservative PFS conducted to exacting standards
  - Independently reviewed Flowsheet
  - Advanced stage of permitting
- ... and economically attractive, with
  - Scope to improve economics on multiple fronts
- ... and at over 400,000 tonnes SOP/annum could be
  - One of the world's largest, longest-life brine SOP Projects

#### Now with substantial, promising Officer Basin exploration upside

Reward, an attractive strategic partner of choice for mining or fertiliser companies with long-term vision



## **APPENDICES**





## GLOBALLY SIGNIFICANT TIER 1 RESOURCE -



#### 153 Mt Indicated & Inferred *Drainable* SOP Resource – Australia's largest

		Unit	Nomin	al Dimensio	ns (m)	Volume	Area	Assigned Specific Yield	SOP Brine	
	Hydrostratigraphic Unit	Symbol	Тор	Base	Thick.	(m <sup>3</sup> x 10 <sup>6</sup> )	(m² x 10 <sup>6</sup> )	Effective Porosity (%)	Grade (kg/m³)	SOP (Mt)
Accessible	Upper lake bed sequence	Qhs & Qhl	0.5	2	1.5	1,123.5	749.0	15	13.4	2.26
Zone	Lower lake bed sequence	Qpl	2	6	4	2,996.0	749.0	13	13.4	5.22
(Indicated)		13.4	7.48							
Exclusion	Upper lake bed sequence	Qhs & Qhl	0.5	2	1.5	738.0	492.0	15	13.4	1.48
Zone	Lower lake bed sequence	Qpl	2	6	4	1,968.0	492.0	13	13.4	3.43
(Indicated)		13.4	4.91							
	Total -	Shallow Re	source (Ind	icated)					13.4	12.39
Accessible	Weathered basement	PUw	6	80	74	55,426.0	749.0	12	11.2	74.49
Zone	Weathered basement (sandy sections)	PUw	80	90	10	6,987.0	698.7	22	11.2	17.20
(Inferred)		11.2	91.69							
Exclusion	Weathered basement	PUw	6	80	74	36,408.0	492.0	12	11.2	48.93
Zone (Inferred)		11.2	48.93							
Total - Deep Resource (Inferred)									11.2	140.62
Total Resource (Indicated & Inferred)								11.35	153.01	

Notes

- 1. Total area of the lake:1,241km<sup>2</sup>
- 2. Total area of the accessible zone: 749km<sup>2</sup>
- 3. Total area of the exclusion zone: 492km<sup>2</sup>
- 4. Figures have been rounded to 2 significant numbers
- 5. Resource compliant with JORC, CIMM and draft AMEC guidelines



## PFS RESULTS – CAPITAL COSTS



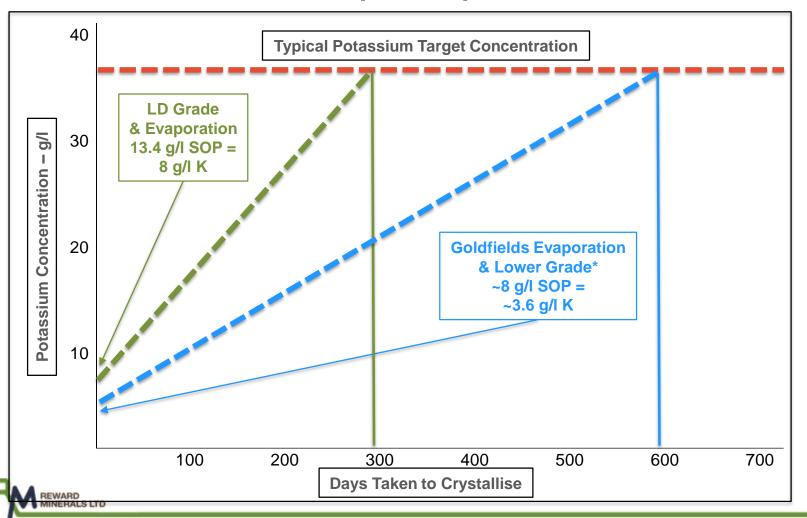
Initial and Sustaining Capital Costs (LOM Real)	AUD M
Production - Trenches and Ponds	57.6
Process Plant	73.2
Infrastructure	108.8
Site Support Temporary Services	2.9
Construction Costs	59.2
Subtotal	301.7
Indirect Costs (EPC, Consultants, Commissioning)	20.0
Owners Costs	23.4
Subtotal	43.4
Total Capital Costs before Contingency	345.1
Contingency	59.9
Total Initial Capital Cost	405.0
Working Capital (Pre-Production Operating Expenses)	45.6
Total Development Capital Cost	450.6



## LD - SUPERIOR GRADE AND EVAPORATION



# Grade and evaporation have a direct impact on production



### **OPERATIONAL AND COST IMPLICATIONS**

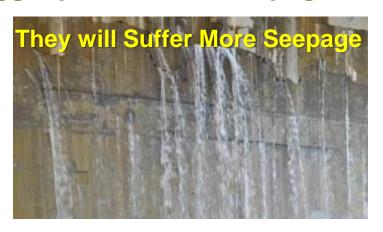


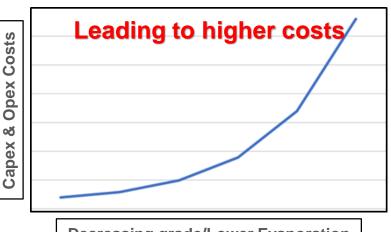
#### To match output, lower grade operations need to:





#### Bigger ponds, more seepage, with lower evaporation making it worse:







**Decreasing grade/Lower Evaporation** 

## **EXPLORATION CAPABILITY**







Reward-owned Hanjin Rig in operation

### **COMPLIANCE STATEMENTS**



#### Competent person statements:

This information in this report that relates to Resource Estimation and hydrogeology is based on information compiled by Mr Robert Kinnell, a hydrogeologist and Competent Person who is a Member of The Australian Institute of Mining and Metallurgy and a Fellow of the Geological Society of London. Mr Kinnell is employed by Strategic Water Management and is a consultant to Reward Minerals and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and 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 Kinnell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Brine and Sediment Assays and Analyses is based on information compiled by Dr Geoff Browne, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Browne is a consultant to Reward Minerals Ltd. Dr Browne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and 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'. Dr Browne consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

#### Notes

- 1. Refer to ASX announcement dated 7 February 2017 titled "Lake Disappointment (LD) Project Confirmed as a Globally Significant Tier 1 Sulphate of Potash Deposit" for full details of the Mineral Resource. The Company confirms that it is not aware of any new information or data that materially affects the information included in the 2017 announcement and that all material assumptions and technical parameters underpinning the resource estimate continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings were presented in the original ASX announcement have not been materially modified.
- 2. Refer to the assumptions, sensitivities, risk factors and cautionary statements contained in ASX Announcement dated 1 May 2018, titled "PFS Confirms LD Project as a Globally Significant SOP Project" for details disclosed respectively in Table 2 (pages 4-6), Table 3 (pages 7-8) and on pages 12 and 13 of that announcement, as well the details included in the PFS Executive Summary appended thereto, which may adversely impact upon the information and forecasts in this announcement.
- 3. Refer to ASX announcement dated 13 July 2018 titled "LD SOP Project PFS Enhancements" for full details of the improvement in product logistics costs for the LD Project and the associated improvement in the Project's economics. Apart from the improvement in trucking cost presented in that release all other material assumptions and technical parameters underpinning the PFS continue to apply and have not materially changed.
- 4. Additional information in relation to trench pumping trials, including volumes abstracted, flow rates and grades have been reported in the Company's most recent quarterly reports.





Reward Minerals Ltd 159 Stirling Highway Nedlands, WA, 6009

(T): +61 8 9386-4699

(W): <u>www.rewardminerals.com</u>