

BORATE & LITHIUM LIMITED



CORPORATE PRESENTATION FEBRUARY 2019

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#### **COMPETENT PERSON - FORT CADY**

The information in this release that relates to Exploration Results and Mineral Resource Estimates is based on information prepared by Mr Louis Fourie, P.Geo of Terra Modelling Services. Mr Fourie is a licensed Professional Geoscientist registered with APEGS (Association of Professional Engineers and Geoscientists of Saskatchewan) in the Province of Saskatchewan, Canada and a Professional Natural Scientist (Geological Science) with SACNASP (South African Council for Natural Scientific Professions). APEGS and SACNASP are a Joint Ore Reserves Committee (JORC) Code 'Recognized Professional Organization' (RPO). An RPO is an accredited organization to which the Competent Person (CP) under JORC Code Reporting Standards must belong in order to report Exploration Results, Mineral Resources, or Ore Reserves through the ASX. Mr Fourie has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a CP as defined in the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Fourie consents to the inclusion in this presentation of the matters based on their information in the form and context in which it appears.

The information in this release that relates to the conversion of Mineral Resources to Ore Reserves has been prepared by Tabetha A. Stirrett of RESPEC Consulting Inc. Mrs. Tabetha A. Stirrett, P. Geo of RESPEC Consulting Inc. is a member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan (Member #10699) and a member of the American Institute of Professional Geologists (CPG) (#11581). APEGS and CPG are a Joint Ore Reserves Committee (JORC) 'Recognised Professional Organization' (RPO). Mrs. Stirrett has sufficient Experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a CP as defined in the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves. Mrs. Stirrett consents to the inclusion in the release of the matters based on their information in the form and context in which it appears.

#### **COMPETENT PERSON – SALT WELLS**

The information in this release that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information prepared by Richard Kern, Certified Professional Geologist (#11494). Richard Kern is a licensed Professional Geoscientist registered with AIPG (American Institute of Professional Geologists) in the United States. AIPGis a Joint Ore Reserves Committee (JORC) Code 'Recognized Professional Organization' (RPO). An RPO is an accredited organization to which the Competent Person (CP) under JORC Code Reporting Standards must belong in order to report Exploration Results, Mineral Resources, or Ore Reserves through the ASX.

Richard Kern has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a CP as defined in the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Richard Kern consents to the inclusion in the release of the matters based on their information in the form and context in which it appears.

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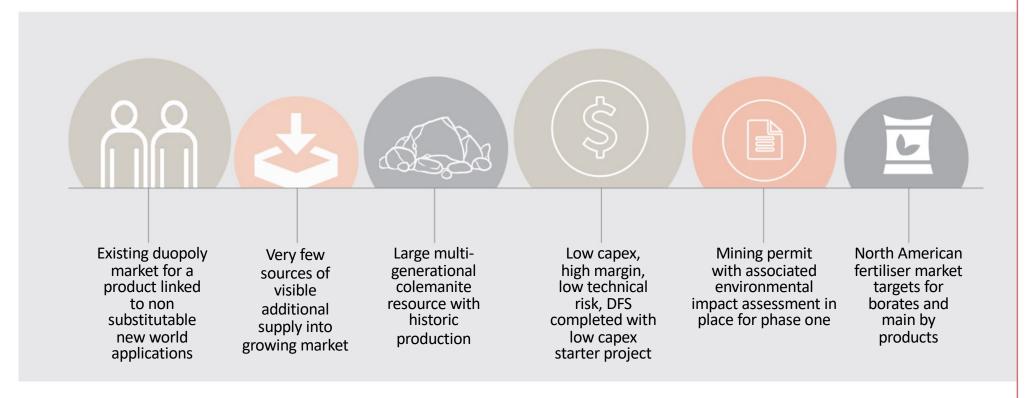
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### Investment Highlights



### American Pacific Borate and Lithium is an ASX listed Borate and Lithium developer

The Company is developing the Fort Cady Borate Project in California and exploring for borates and lithium at Salt Wells in Nevada. The flagship Fort Cady Borate Project has many strengths including:



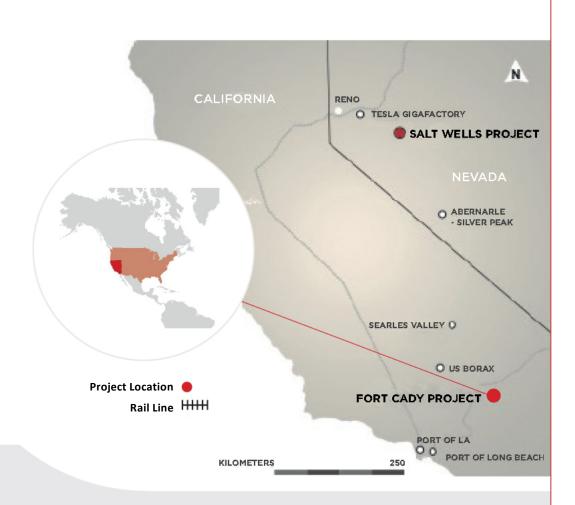
The Company has a compressed development timeline that takes advantage of prior production, in place permits and the US\$60m spent on the project to date. Focus is on being construction ready quickly.

### 1. American Pacific Borate & Lithium



### Focused on becoming a globally significant producer of borates

- Developing the advantaged Fort Cady Borate Project located in Southern California
- Experienced team of professionals based in Apple Valley, California
- Compressed timeline to construction readiness taking advantage of historic production, in-place permits and over US\$60m spent on the project to date
- DFS completed in December 2018 demonstrates exceptional financial metrics and includes a very low capex starter project (US\$36.8m inclusive of 13% contingency)
- Pathway from starter project to an EBITDA in first year of full production of over US\$340m
- By product credits for SOP, gypsum and potentially lithium
- The Salt Wells' borate and lithium exploration project provides upside opportunity and is consistent with target of becoming a globally significant producer of borates



Map showing the location of the Company's projects in North America

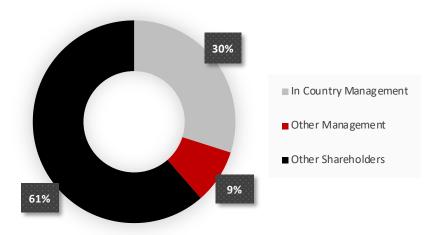
### 1. American Pacific Borate & Lithium



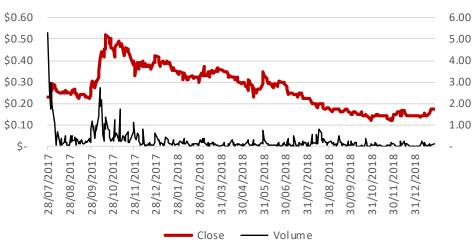
### **Corporate Information**

ASX Ticker	ABR
Share Price at 31 January 2019	A\$0.17
Shares on Issue	191.1m
Options (20c, 25c, 30c, 40c, 50c & 60c strike)	30.9m
Fully Diluted Shares	222.0m
Undiluted Market Cap.	A\$32.5m
Diluted Market Cap.	A\$37.7m
Cash at Bank – 31 December 2018	~ A\$2.45m
Major shareholder: Atlas Precious Metals	26%

### **Fully Diluted Shares**



#### **Share Price**



### **Key Executives**

#### Michael X. Schlumpberger

Managing Director and CEO, BEng (Mining), MBA

Mike is a qualified mining engineer with over 30 years' experience in industrial minerals. His background includes management, operations, and maintenance in all aspects of mining, processing, reclamation, and permitting. He has held senior roles with Potash Corporation of Saskatchewan, Passport Potash, and Highfield Resources, and has worked in the United States, Canada, and Europe.

#### **Anthony Hall**

Executive Director, LLB(Hons), BBus, AGIA

Anthony is a qualified lawyer with 20 years' commercial experience in venture capital, risk management, strategy and business development. He was Managing Director of ASX listed Highfield Resources Ltd from 2011 to 2016. During his tenure the company's market cap grew from \$10m to \$500m & over \$140m was raised to progress potash projects in Spain





## Fiberglass & Specialty Glass

Making glass resistant to heat and chemicals

### **Detergents**

Used as a cleaning and bleaching agent to increase the performance of products

#### **Nuclear Reactors**

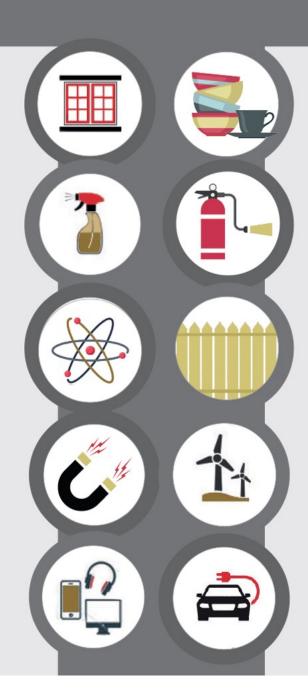
Absorbs neutrons increasing nuclear reactor safety

### **Permanent Magnets**

Boron laden permanent magnets are used in hundreds of different end-uses and applications

#### **Other Uses**

Borates are used across an wide range of other applications including, Abrasives, Cellulose Insulation, Charcoal Briquettes, Corrosion Inhibitors, Dyestuffs, Electrolytic Capacitors and Condensers, and a wide range of consumer electronics



### Ceramic Frits, Enamels & Glazes

Enhances the chemical and mechanical strength, and helps to form smooth surfaces

#### Flame Retardant

Used in all dry powder fire extinguishers and fire retardant paints

#### **Wood Treatment**

Used in wood as a preservative preventing decay, and slows the spread of flames if burning occurs

#### **Wind Turbines**

Cannot operate without the help of boron laden permanent magnets

## Electric vehicles & clean technologies

Borates are uniquely applied in permanent magnets, the most commonly used magnets in EV's

### Agriculture

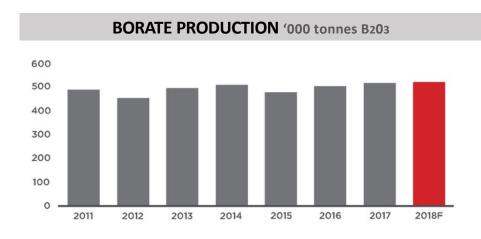
An essential micro nutrient for growth and used to increase yields

### 3. Global Borate Market

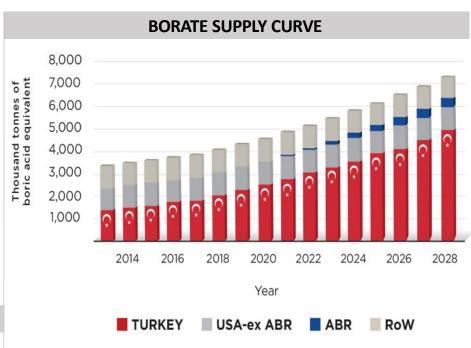


### **Duopoly market with very few global sources of borates**

- Boric Acid equivalent demand in 2017 was 3.9m tonnes which represents a 3% CAGR on Roskill's 2013 forecast supply
- Turkish Government owned Eti Maden controls the marginal unit of supply and will continue to meet demand
- Eti Maden appears to be the only borate producer with meaningful additional capacity capable of meeting additional supply requirements
- Rio Tinto Borates (majority of US production) appears to be operating at full capacity
- There appears to be minimal nett additional global operating capacity, if any







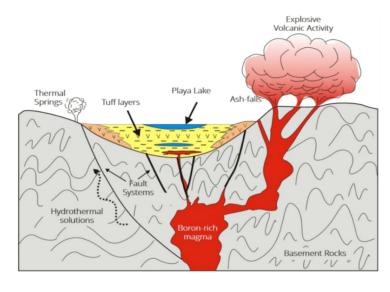
Graph showing predicted global supply curve based on Roskill, Eti Maden and Rio Tinto analysis



### 4. Global Deposits

### Over 80% of global supply comes from borate salt operations in California and Turkey





Schematic showing genetic geological model for borate deposit formation (Helvaci, 2015)

<b>Borate Mineral</b>	Chemical Composition	% B <sub>2</sub> O <sub>3</sub>	Where Mined
Borax (Tincal)	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> - 10H <sub>2</sub> O	36.5%	California & Turkey
Kernite	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> - 4H <sub>2</sub> O	51.0%	California
Ulexite	NaCaB₅O <sub>9</sub> - 8H₂O	43.0%.	California & Turkey
Colemanite	Ca <sub>2</sub> B <sub>6</sub> O <sub>11</sub> - 5H <sub>2</sub> O	50.8%	Turkey

Photo of Colemanite Mineralisation

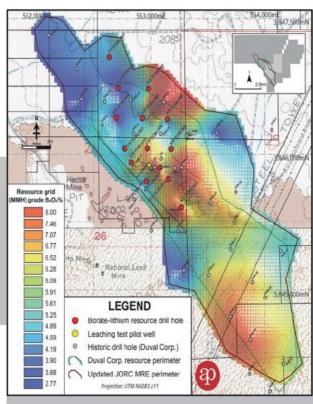
### 5. Fort Cady Borate Project



### Large multi-generational colemanite resource strategically located



JORC compliant M	ineral Resour	e Estimate	and Reserve	е		
Reserves	MMT	B <sub>2</sub> O <sub>3</sub> %	H₃BO₃ %	Li ppm	B <sub>2</sub> O <sub>3</sub> MT	H₃BO₃ MT
Proven	27.21	6.70	11.91	379	1.82	3.24
Probable	13.80	6.40	11.36	343	0.88	1.57
<b>Total Reserves</b>	41.01	6.60	11.72	367	2.71	4.81
Resources						
Measured	38.87	6.70	11.91	379	2.61	4.63
Indicated	19.72	6.40	11.36	343	1.26	2.24
Total M&I	58.59	6.60	11.72	367	3.87	6.87
Inferred	61.85	6.43	11.42	322	3.98	7.07
Total M,I&I	120.44	6.51	11.57	344	7.84	13.93



Fort Cady updated JORC Mineral Resource Estimate perimeter and main mineralised horizon with B203% grade grid

<sup>\*</sup> Refer ASX Release of 3 December and 17 December 2018



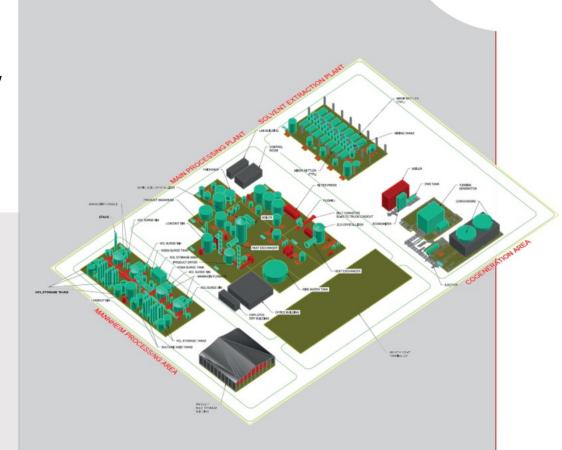
### 6. Compelling Borate Project DFS & Low Capex Starter Project\*

## Brilliant financial metrics using realistic commodity pricing

- Enhanced DFS completed in January 2019 delivering a very low capex starter project of only US\$36.8m inclusive of a 13% contingency
- 23 year mine life from first production with Ore Reserve supporting first 16 years

### **Fort Cady Project**

Phase 1A Only												
NPV <sub>10</sub>	US\$224.7 million											
IRR	58.3%											
EBITDA in first full year of production	US\$26.7 million											
Phase 1A & 1B Only												
NPV <sub>10</sub>	US\$385.3 million											
IRR	36.4%											
EBITDA in first full year of production	US\$60.3 million											
Phase 1 & 2 Only												
NPV <sub>10</sub>	US\$853.5 million											
IRR	40.0%											
EBITDA in first full year of production	US\$192.3 million											
Full Project (Phases 1, 2, &	3)											
NPV <sub>10</sub>	US\$1.083 billion											
IRR	40.5%											
EBITDA in first full year of production	US\$345.4 million											



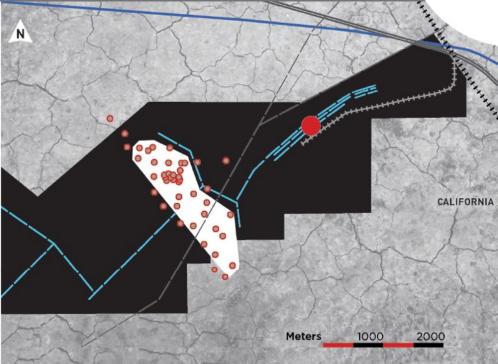
3D rendered view of the plant arrangement (From left to right: SOP plants, main plant, SX building and Cogen)

### 7. Mining and Environmental Permits in Place



## **Approved Plan of Operations (Mining Permit) includes EIA that does not expire**

- Mining permit and associated Environmental Impact Assessment in place for initial boric acid operation of 90k tons per annum for up to 130 years
- Covers production of by product gypsum for Californian market
- Approval includes rights to establish up to five wells into an aquifer unit located near the deposit and to use 100 gpm of water
- Railroad spur for bulk shipments is also incorporated into approval
- Applications in train for subsidiary permits necessary to commence operations



Map showing operating permit boundary, deposit and proposed process plant location



Photo showing proposed process plant site looking south east

#### **LEGEND**

Drill Holes

Approved Plant Site

Historic Resource & Approved Solution Mining Region

Operating Permit Boundary



Rail Line

Approved Rail Spur Line

Interstate Highway

### 8. Focus on Fertiliser Market

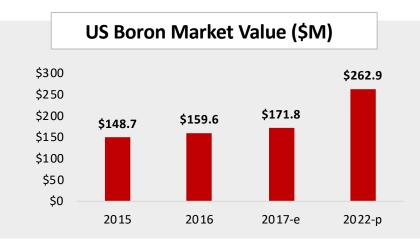


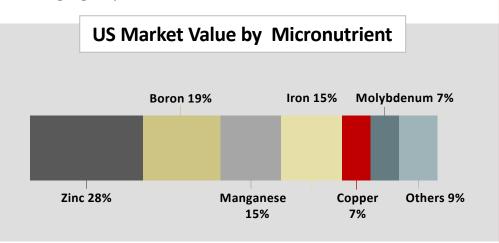
## Borates, Gypsum and SOP all play into North American fertiliser market

- Borates, gypsum and SOP are all used in local agricultural
- Borate demand for agricultural purposes is predicted to grow at 9% CAGR from 2017 and 2022
- Fort Cady is ideally placed in California to take advantage of a large and growing agricultural market for its products

Product	Target Market
Borates	<ul> <li>Californian specialty fertilisers</li> <li>North American fibre glass and ceramics</li> <li>Chinese electric vehicle and clean technologies</li> </ul>
Gypsum	<ul> <li>Local Californian soil enhancement market to mitigate effect of high sodium (Na) content soils (will attract a premium given boron content)</li> </ul>
SOP	<ul> <li>Local Californian specialty fertiliser market targeting nut and specialty fruit producers</li> </ul>
Lithium	<ul> <li>North American li-ion battery manufacturers</li> <li>North American glass industry</li> </ul>

Table showing targeted products and markets





The US boron agricultural micronutrient market is projected to grow at ~9% CAGR from 2017 to 2022

Source: Context April 2018

### 9. Globally Significant Partners Established



### Developing the path to market for boric acid sales





Strategic Cooperation Agreements\* in place with two Chinese State-Owned Enterprises, (both Global Fortune 500 companies), supporting the path to market for our boric acid sales

Fortune G	lobal 500 Companies <sup>§</sup> - July 2018						
Rank	Company						
98 Sinochem Group							
256	Sinomach						
278	Rio Tinto Group						
296	BHP Billiton						

<sup>\*</sup> Refer ASX Releases dated 29 & 30 May 2018





### Compressed timeline due to significant historical work and in place permits

#### 1H 2019

**Project** – Enhanced DFS completed incorporating low capex starter project. Commence detailed engineering and tender phase to enable construction commence in 2H 2019

**People** — Continue to build out experienced professional team capable of managing construction and preparing for initial production

**Products and Partners** — Continue to progress discussions with potential Chinese partners whilst initiating North American partner discussions post completion of DFS

**Permits** – All outstanding permit applications lodged to satisfaction of referral authorities

**Corporate** – Progress financing discussions for starter project focusing on debt instruments to limit share dilution

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DFS																													
Detailed Engineering Phase One																													
Permitting Phase One																													
Project Financing																													I
Construction Phase One		H																				<u> </u>							+
Production Phase One at 60%																						1							T
Full Production Phase One																													
Permitting Phase Two and Three																													t
Detailed Engineering Phase Two																													+
Construction Phase Two																													
Production Phase Two at 60%																													T
Full Production Phase Two																													
Detailed Engineering Phase Three																													Ŧ
Construction Phase Three																													Ī
Production Phase Three at 60%																													
Full Production																					I		1	I		I			

#### 2H 2019

**Project** – Contracts awarded in preparation for construction to commence in Q4

**People** – Establishment of site office and balance of owners' team in place for construction activities

**Products and Partners** – offtakes in place for boric acid, gypsum and SOP

**Permits** – All permits in place for construction and operations of phase one A and one B (90k tons of boric acid per annum)

**Corporate** – starter project financed

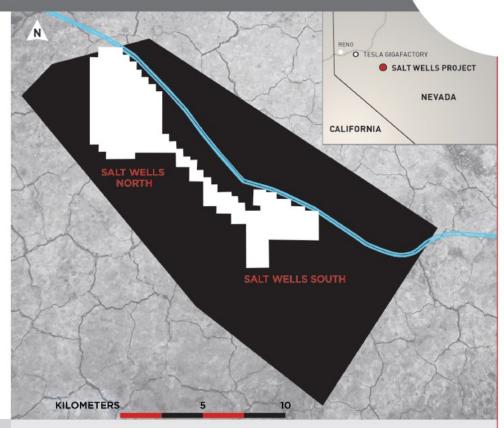
### 11. Salt Wells, Nevada – Additional Borate Target



# Agreement to earn in to acquire 100% interest in two Borate & Lithium exploration Projects in Nevada, USA

#### **Key Terms**

- Modest earn in agreement over the first two years
- Prospective for borates and lithium with recent sampling returning up to 810 ppm Lithium and over 1% Boron (over 5.2% boric acid equivalent)
- Borates were previously produced from Salt Wells North
- Near term exploration activities can be supported from head office in California



#### **LEGEND**



Interpreted Basin



**ABR Claims** 



Highway

### **Investment Highlights**

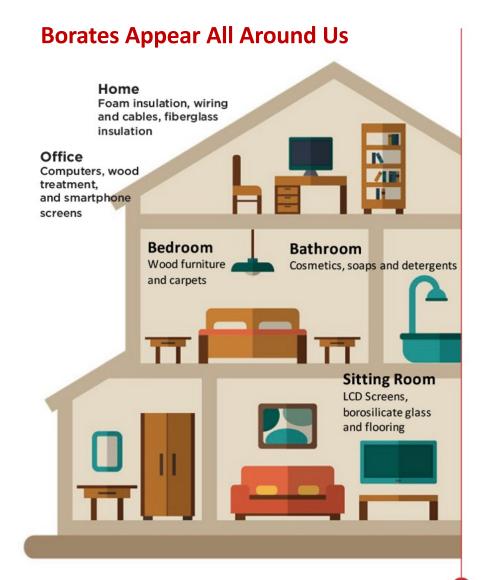


American Pacific Borate & Lithium is developing the Fort Cady Borate Project in California and exploring for borates and lithium at Salt Wells in Nevada. The flagship Fort Cady Borate Project has many strengths including:

- Existing duopoly market for a product linked to non substitutable new world applications
- Very few sources of visible additional supply into growing market
- DFS completed in December 2018 demonstrates exceptional financial metrics and includes a very low capex starter project (US\$36.8m inclusive of 13% contingency)
- Pathway from starter project to an EBITDA in first year of full production of over US\$340m
- Low capex, high margin, low technical risk, study completed
- Mining permit with associated environmental impact assessment in place for phase one
- North American fertiliser market targets for borates and by product credits for SOP, gypsum and potentially lithium

The Company has a compressed development timeline that takes advantage of prior production, in place permits and the US\$60m spent on the project to date with milestones continuing to be achieved

Focus is on being construction ready quickly



### Appendix – Environmental Impact Statement Proposed Action



#### **Final**

#### **Environmental Impact Statement / Environmental Impact Report**

The purpose of the proposed action to establish a commercial "in-situ" mine to recover boric acid for domestic and foreign use.

The proposed action is on a 343-acre site and would extract boric acid through the injection and extraction of a weak hydrochloric acid and/or sulphuric acid solution in the alkaline ore body. The extracted solution would be processed to precipitate boric acid crystals, and the crystals would be packaged for shipment or loaded for bulk delivery. The acid would be removed from the ground through an in-situ mining process, which in simplified terms, involves (1) the pumping of a weak acid solution into the ore body 1,400 feet below the surface; (2) a chemical reaction between the acid and the alkaline elements in the ore body which forms boric acid in the solution; and (3) an extraction of the solution by a reverse-pumping process.

The mining operation would produce gypsum as a by-product, which would be potentially be sold to the local cement industry or to producers of drywall or soil conditioners

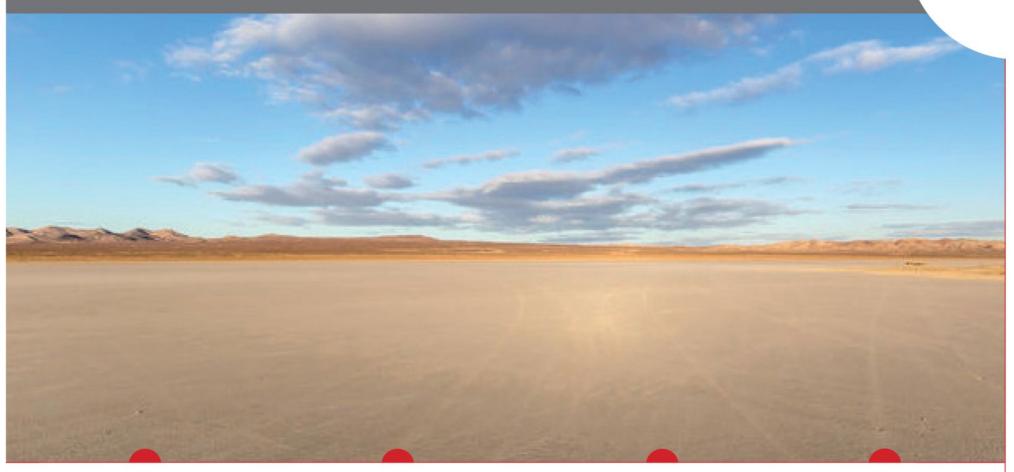
In addition to the wells and piping located on the ore body, a variety of other facilities would be constructed as part of the project, including:

- a series of water wells and waterlines used to produce and route process water;
- a 10 acre beneficiation plant (435,600 square feet) consisting of equipment to extract the boric acid from the injected solution, purify and crystallize the boric acid, regenerate the acids used in the injection/extraction process, load and ship the boric acid crystals, generate electricity (natural gas cogeneration unit) and process/store chemicals and products;
- ancillary facilities, including a natural gas pipeline to serve the cogeneration power facility; and an electrical transmission line to link the plant with outside utility systems;
- a deposition area to store gypsum;
- a railroad spur to provide bulk shipment capability; and
- a system of access roads to connect site facilities providing access to local road and highway corridors.

The project would employ approximately 80 full-time employees, who would work in alternating shifts 24 hours per day. Based on the size and the accessibility of the ore body, the project is expected to be in operation for approximately 130 years







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