

# AmericanPacific

BORATES LIMITED







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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.

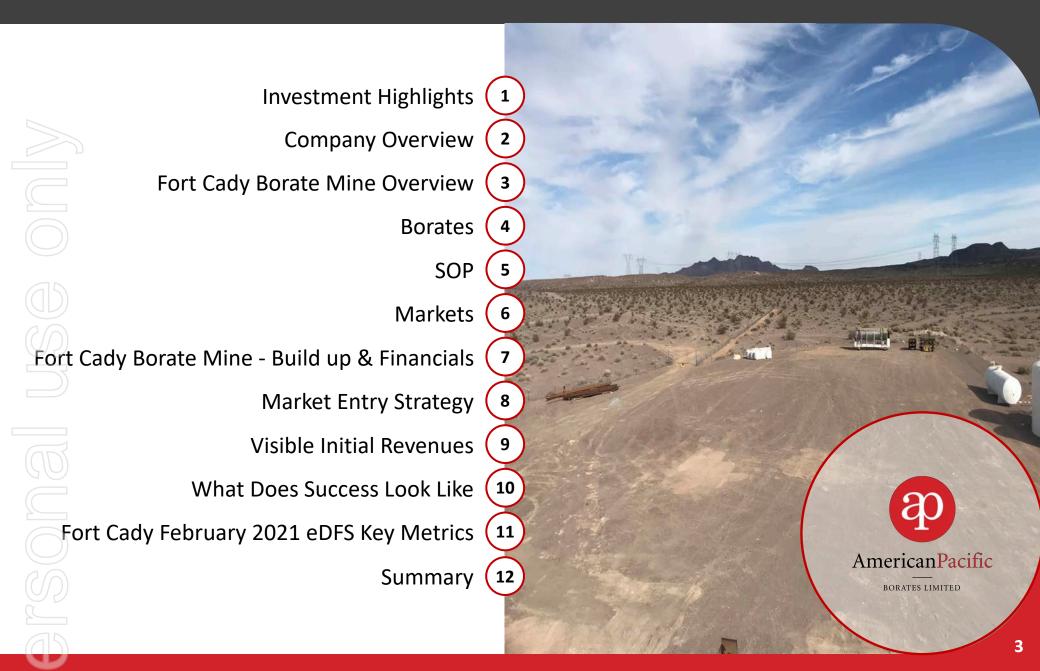
#### COMPETENT PERSON - SALT WELLS

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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## 1. Investment Highlights

## **American Pacific Borates Limited is an ASX listed company**

focused on becoming a globally significant specialty fertilizer producer.

#### **Exceptional Project Metrics**\*

Post-tax, unlevered NPV<sub>8</sub> US\$2.02bn

Post-tax, unlevered IRR

40.6%

**Annual EBITDA** 

**US\$453M** 

#### Low Upfront Capex

Phase 1A with US\$50m capex fully financed

#### Low Technica Risk

Ore body previously mined and proven off the shelf process route

#### Very High Margin

Underpinned with by-product credits, logistics and high priced markets on door step

# Multi Revenue ✓ Streams

Two major revenue streams reduces reliance on one product

# Visible Revenue:

Production targeted for CY21 with construction activities commenced

#### Significant Strategic Value

Very few sources of additional supply into growing markets

#### Multi generationa

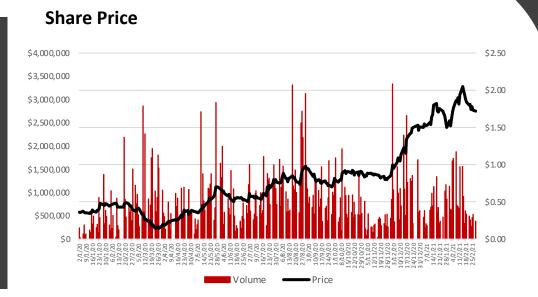
Life of mine at over 20 years with additional Resource upside

#### Globally Significant

Targeted annual EBITDA in full production of US\$453m

#### 2. American Pacific Borates Limited

	Corporate Info	_		
'				
	ASX Ticker		ABR	
	Share Price at 1 Marc	ch 2021	A\$1.72	
	Shares on Issue	376.2m		
	Options (20c - \$1.60	59.9m		
	Fully Diluted Shares	436.1m		
	Undiluted Market Ca	A\$647m		
	Cash at Bank – 31 Jar	A\$67.3m		
<b>(1)</b>	Major shareholders: (fully diluted)	ABR Management (total)	13%	
		Virtova Capital	12%	
		Atlas Precious Metals	11%	



#### **Key Executives**

#### David J Salisbury

Chairman, B.Sc (Electrical Engineering), MBA

David is a qualified electrical engineer with over 40 years' experience in the global mining industry. He is US based and a former Rio Tinto executive who was President and CEO of Resolution Copper Company, Kennecott Minerals Company and Rössing Uranium Limited. He has been directly responsible for the development, construction and production of four mines.

#### 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.



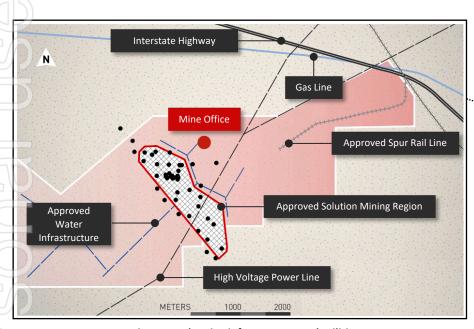
# 3. Fort Cady Borate Mine Overview

#### **Location advantages**

The Fort Cady Borate Mine operation is supported by proximal access to:

- Interstate Highways

   Rail
   Water
   Gas
- Electricity
   Large Customer Markets



Project map showing infrastructure and utilities



# 3. Fort Cady Borate Mine Overview

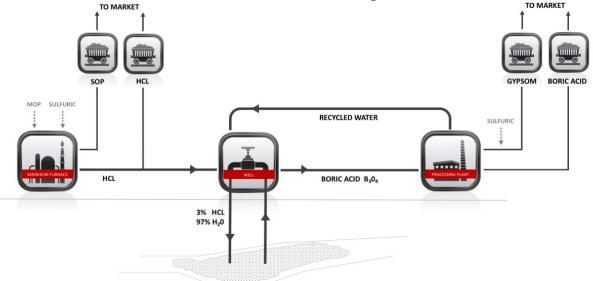
#### All Products Generated From Well-Established Processing Methods

#### **Boric Acid production:**

- High purity product (+99.9%).
- Standard industrial chemical processing methods including solvent extraction and crystallization.
- Zero liquid discharge circuit = no tailings.
- Process optimisation works completed January 2021.

#### **SOP** production:

- Mannheim Process (used globally in over 50% of SOP production).
- Well understood, widely used process facility.
- "Off the shelf" equipment.
- Production of hydrochloric acid for use in Boric Acid mining.



#### 4. Borates

#### Borates are essential for everyday living

- Borates are naturally-occurring minerals containing boron, the fifth element on the Periodic Table. Boron exists all around us, plants need boron to grow. People need borates too, in our diet as well as in many products necessary as part of our daily lives.
- Boron is classed as a strategic commodity in many countries including the US.

#### **Production of Borates**

- Most global production of borates comes from mining and processing colemanite, borax or kernite ores.
- Some production comes from borate rich brines.
- Fort Cady is a colemanite ore body.

# **Sources of Boron** Over 80% of global supply comes from Turkey or California Fort Cady Laguna Salinas Unyuni Sui

#### **Demand for Boron**











**Fertilisers** 

Magnets



Wood Treatment Fire Retardents

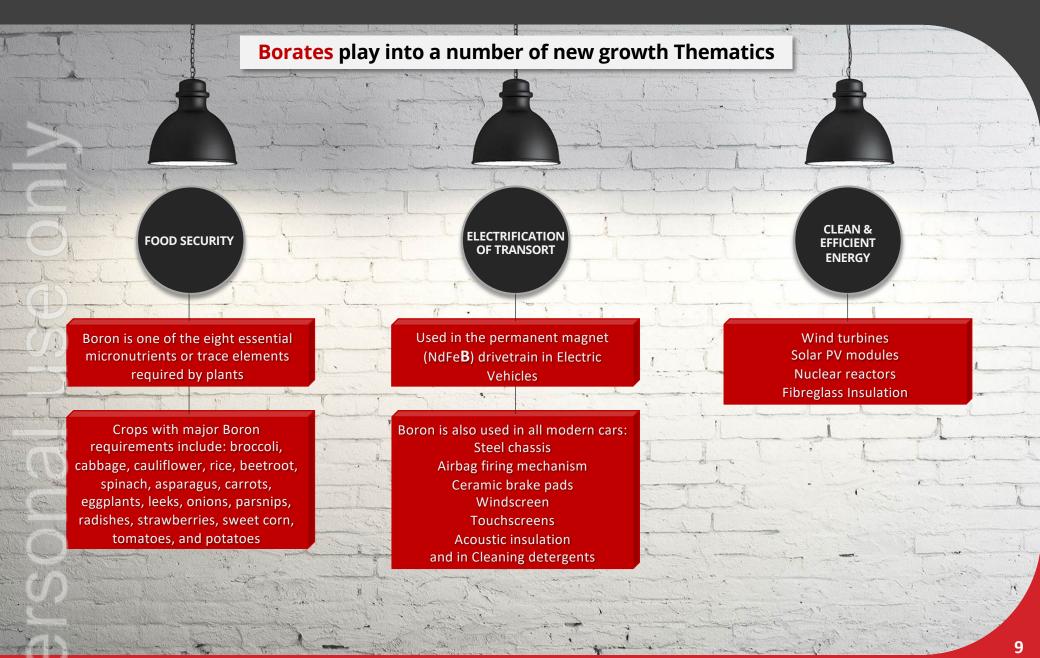




Industrialisation **Food Security** 

Electrification of Transport

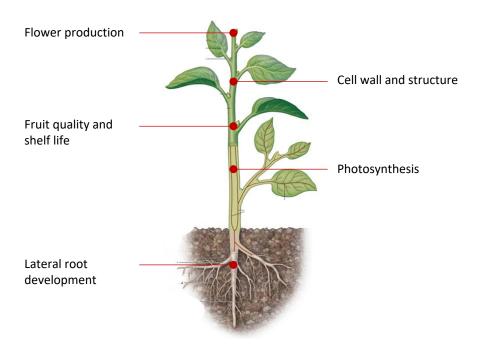
#### 4. Borates

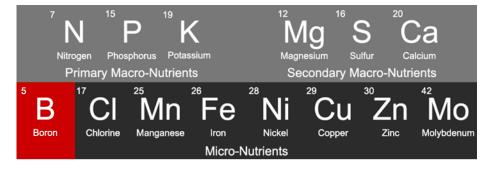


# 4. Borates and Food Security



#### **Functions of Boron in Plants**

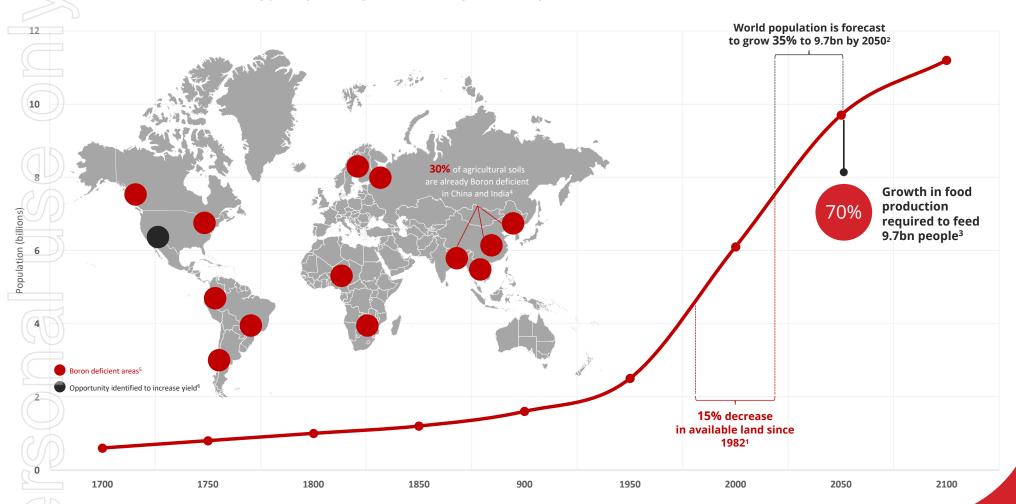




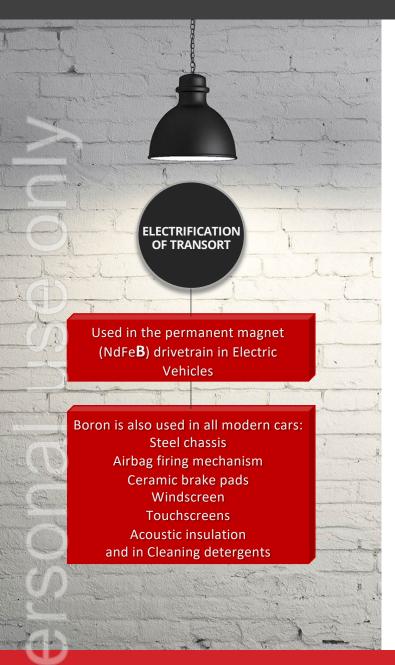
# 4. Borates and Food Security

#### More people + Less Land = Pressure on Farming Yield

The demand for Specialty Fertilizers, which include Boron, is expected to increase rapidly in order to achieve the farming yield gains required to meet global food production needs.

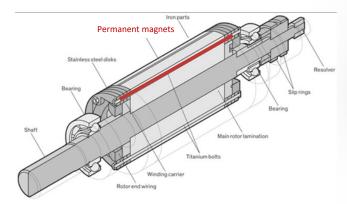


# 4. Borates and the Electrification of Transport



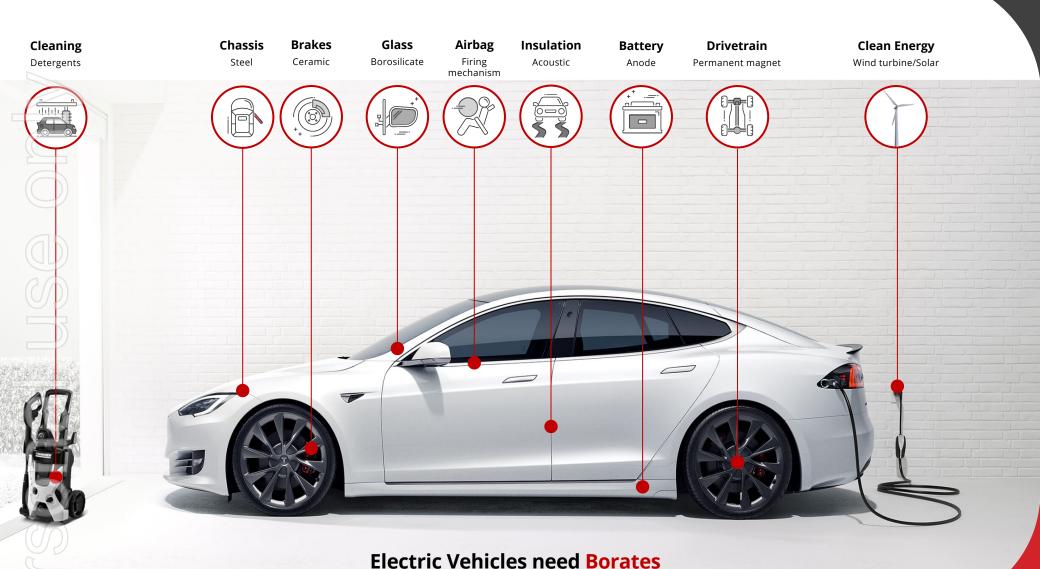
Neodymium magnets (NdFeB) were invented in the early 1980s by General Motors and Sumitomo Special Metals. The companies discovered that by combining neodymium with iron and boron, they were able to produce a powerful magnet.

Neodymium magnets are the strongest type of permanent magnet available commercially and continue to be the most widely used type of rare-earth magnet today.





# 4. Borates and the Electrification of Transport



# 4. Borates and the Clean Energy and Efficiency Transition



#### **5. SOP**

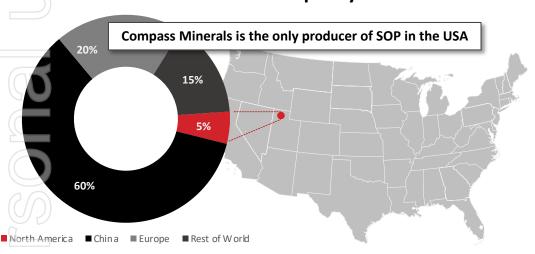
#### SOP is primarily used as a specialty fertiliser

- SOP, potassium sulfate or K<sub>2</sub>SO<sub>4</sub> is a high value specialty fertiliser that combines both potash and sulfur.
- It is applied to crops that are either sensitive to chlorides making MOP or KCl problematic, or in areas where there is minimal rainfall and the build-up of chlorides in the soil is problematic.

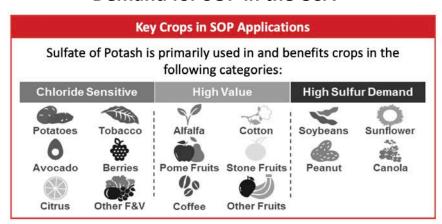
#### **Production of SOP**

- SOP is generally produced from Mannheim process that converts MOP and Sulfuric Acid into SOP and HCl, or from near surface aquifer units that contain potassium salts.
- Fort Cady is using the Mannheim process as it requires the HCl for its borate processing.

#### **Global SOP Capacity**\*



#### Demand for SOP in the USA\*



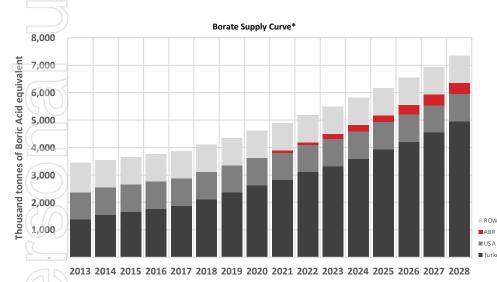
## 6. Markets

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

- The global boric acid equivalent market is around 4.5m tonnes per annum. Around 20% of this market is for fertiliser application with boron being the second most consumed micro nutrient in North America by value.
- 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 with flat supply for over eight years.

#### **SOP – Growing demand in the North America** specialty fertiliser market

- The global SOP market is around 7m tonnes per annum all of which is used in the specialty fertiliser market.
- The US is a net importer of SOP with the market growing at around 5% CAGR. The Californian market is over 120ktpa.
- Compass Minerals is the only US producer of SOP and is one of the highest cost producers in the world with operating costs of US\$660 / tonne in CY2020 (refer page 18).
- There is sufficient increase in demand forecasted to enable ABR and Compass to jointly supply the North American market with ABR's production profile.



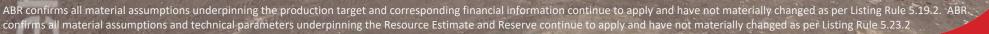
California, Broader US and Mexico SOP Estimated Demand vs ABR Supply to 2030^ 700 600 500 annum 400 **Fonnes per** 300 200 ■ ABRProductio 100 ■ Me xico

# 7. Fort Cady Borate Mine – Build Up and Financials

# American Pacific Borates Limited released its enhanced DFS\* updated in February 2021, with exceptional project metrics:

Fort Cady Borate Mine (Boric Acid and SOP Production)				
Phase 1A Only				
Capex	US\$54.2 million			
NPV <sub>8</sub>	US\$138.5 million			
IRR	24.4%			
EBITDA in first full year of production	US\$12.6 million			
Phase 1A	A & 1B Only			
Capex (Phase 1B only)	US\$34.6 million			
NPV <sub>8</sub>	US\$597.9 million			
IRR	46.1%			
EBITDA in first full year of production	US\$49.6 million			
Phase 1A, 1B & 1C Only				
Capex (Phase 1C only)	US\$122.0 million			
NPV <sub>8</sub>	US\$885.2 million			
IRR	36.4%			
EBITDA in first full year of production	US\$81.1 million			
Phase 1 & 2 Only				
Capex (Phase 2 only)	US\$313.0 million			
NPV <sub>8</sub>	US\$1.889 billion			
IRR	40.2%			
EBITDA in first full year of production	US\$257.3 million			
Full Project (Phases 1, 2, & 3)				
Capex (Phase 3 only)	US\$318.7 million			
NPV <sub>8</sub>	US\$2.021 billion			
IRR	40.6%			
EBITDA in first full year of production	US\$452.7 million			
Full Project (I Capex (Phase 3 only) NPV <sub>8</sub> IRR	Phases 1, 2, & 3)  US\$318.7 million  US\$2.021 billion  40.6%			

Production Targets	Enhanced DFS (updated February 2021)		
	Boric Acid (US tons)	SOP (US tons)	
Phase 1A	9,000	20,000	
Phase 1B	-	60,000	
Phase 1C	81,000	-	
Phase 2	180,000	160,000	
Phase 3	180,000	160,000	
Total (All 3 Phases)	450,000	400,000	



# 7. Fort Cady Borate Mine – Build Up and Financials

# Mine financials stress tested to assume average selling price of US peer operating costs

Project still has a Post-tax, unlevered NPV<sub>8</sub> of over **US\$1.41bn** if operating costs of US peers are used as selling price assumptions.

Fort Cady Borate Mine			
BA Received Price Assumption (based on Rio Tinto operating costs CY2020 per the table below)	US\$587 / metric tonne		
SOP Received Price Assumption (based on Compass operating costs CY2020 per the table below)	US\$660 / metric tonne		
ABR Base Case enhanced DFS (updated February 2021)			
NPV <sub>8</sub>	US\$1.41 billion		
IRR	32.3%		

#### RioTinto

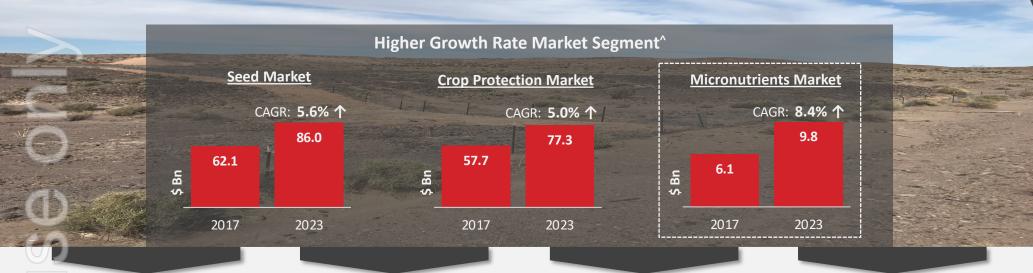


	CY2015	CY2016	CY2017	CY2018	CY2019	CY2020
	US\$/tonne					
Rio Tinto Borates						
Operating Cost/tonne	634	568	565	551	526	587
BA equiv						
Annual Production/tonne	822	886	893	884	898	829
BA equiv						
(source: Rio Tinto Annual Reports)						
Compass Minerals						
Operating Cost/tonne	638	640	614	634	639	660
SOP*						
Annual Production/tonne	282	284	297	328	288	345
SOP*						
(source: Compass Annual Reports)						

<sup>\*</sup> Compass Minerals reports operating costs for all North American fertilisers. The significant majority of specialty fertiliser production is SOP. As a result, it is assumed that the reported operating costs are a reasonable proxy for SOP production.

# 7. Fort Cady Borate Mine – Build Up and Financials

### Additional new drivers of value to the Project



Options to bring forward production and potentially deliver additional phases concurrently.

Targeted total cash costs in full production of negative US\$83.61 per ton of boric acid after byproduct credits.

Multiple revenue streams with revenue split in full production estimated to be:

- 52.6% boric acid;
- 44.7% SOP; and
- 2.7% gypsum.

Potential upside with focus on high value specialty fertiliser mix of boron and SOP.

# 8. Market Entry Strategy

#### Right sized, structured and phased project

#### **Modest Initial BA**

Initial production of boric acid only 9kstpa to be used as an enabler for larger contracts.

#### **Phased Approach**

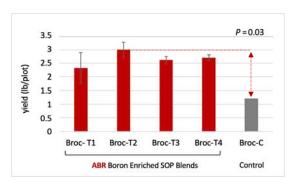
Growth plan with a pathway to over 450kstpa of boric acid and 400kstpa of SOP.



# 8. Brand Strategy Development

# Early alignment of product branding with customer markets

- Company is expecting to sell five key products
  - Boric acid for industrial use
  - Boric acid for agricultural use
  - SOP
  - "boron-enriched" SOP
  - Gypsum
- Branding strategy completed, with Fort Cady California
  Corp created as ABR's sales and marketing business
- Corporate presence work commenced
- Initial target is the Californian speciality fertilizer market
- Crop trials for
  Boron-enriched
  SOP delivered a
  doubling of yield
  in Broccoli



Graph showing yield results in broccoli crops<sup>1</sup>



## 9. Visible Initial Revenues

## Phase 1A fully funded with construction underway









#### **Organisational Capability**

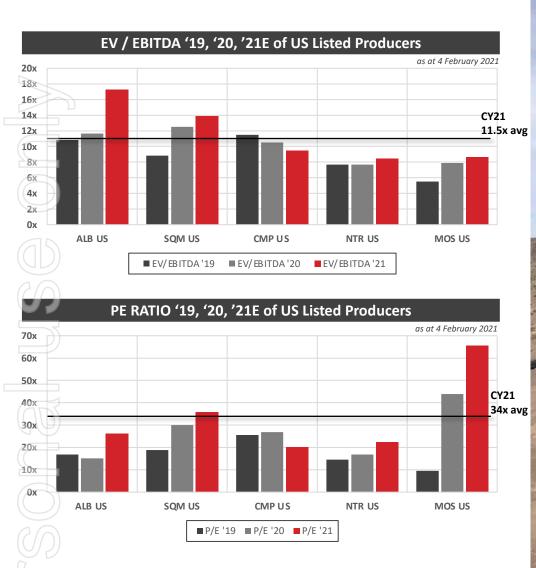
- Philosophy continues to be modest owners' team to manage construction managers
- Ongoing recruitment of key staff with a focus on operational readiness

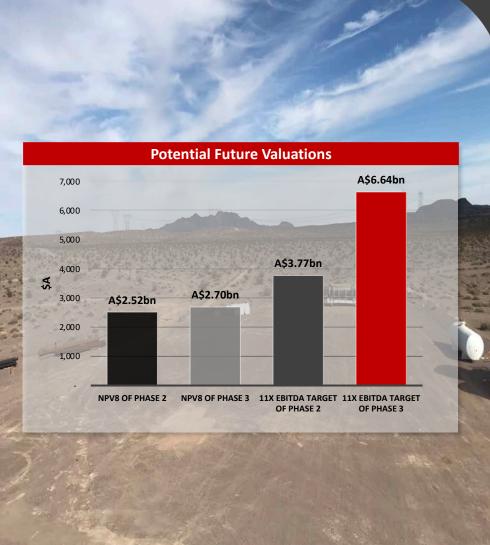
#### **Construction Ramping Up**

- First production remains on track for Q3, CY2021
- General Contractor appointed with main construction activities to be completed in Q2
- Water and energy infrastructure in place
- Equipment continues to arrive on site

First Production targeted Q3 CY21

#### 10. What does success look like?





ABR confirms all material assumptions underpinning the production target and corresponding financial information continue to apply and have not materially changed as per Listing Rule 5.19.2. ABR confirms all material assumptions and technical parameters underpinning the Resource Estimate and Reserve continue to apply and have not materially changed as per Listing Rule 5.23.

# 11. Fort Cady February 2021 eDFS (Key Metrics)\*

#### **Key Financial Metrics for the Fort Cady Borate Mine by Phase**

Fort Cady Borate Mine (Bo	ric Acid and SOP Production)¹			
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#### Summary of Production by Phase for the Fort Cady Borate Mine

Production Targets	Enhanced DFS (updated February 2021)		
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Phase 2	180,000	160,000	
Phase 3	180,000	160,000	
Total (3 Phases)	450,000	400,000	

#### **Operating Cost Estimates BA**

Phase 3				
US\$ per metric tonne of BA				
C1 Costs				
Utilities	80.76			
Consumables	320.49			
Labour	43.53			
Maintenance	33.21			
Sustaining Capex	12.00			
Wellfield Development	25.00			
Other	10.82			
(SOP by-product credit)	- 577.78			
(HCl by-product credit)	- 3.74			
(Gypsum by-product credit)	- 35.30			
Total C1 Costs	- 91.01			
C2 Costs				
Licensing and Royalties	6.26			
Depreciation	93.63			
Total C2 Costs	99.89			
C3 Costs				
G&A	8.90			
Total C3 Costs	8.90			
Total Opex	17.78			
Cash Costs				
Total Cash Costs	- 75.85			

#### **Operating Cost Estimates SOP**

Operating Cost Estimates 501				
Phase 3				
US\$ per metric tonne of SOP				
C1 Costs				
Utilities	90.85			
Consumables	360.55			
Labour	48.97			
Maintenance	37.36			
Sustaining Capex	13.50			
Wellfield Development	28.13			
Other	12.18			
(BA by-product credit)	- 765.44			
(HCl by-product credit)	- 4.20			
(Gypsum by-product credit)	- 39.71			
Total C1 Costs	- 217.82			
C2 Costs				
Licensing and Royalties	7.04			
Depreciation	105.33			
Total C2 Costs	112.37			
C3 Costs				
G&A	10.01			
Total C3 Costs	10.01			
Total Opex	- 95.44			
Cash Costs				
Total Cash Costs - 200.				

ABR confirms all material assumptions underpinning the production target and corresponding financial information continue to apply and have not materially changed as per ASX Listing Rule 5.19.2.

# 12. Summary

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