ASX Announcement

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27 December 2017

ABR Delivers Compelling Boric Acid Scoping Study for its Fort Cady Borate and Lithium Project in Southern California

- **Boric Acid Scoping Study[1] delivers strong financial metrics and well understood process route, with work continuing on lithium exploration and extraction with an update of the Scoping Study, targeting lithium by-product production, expected in Q1 2018**
- **The Scoping Study considers a 25 year mine life based on 68% Indicated and 32% Inferred Mineral Resource Estimates to produce boric acid and supports an autonomous Mannheim Sulphate of Potash (SOP) production facility for addressable fertiliser markets in California. SOP production in turn produces by-product hydrochloric acid (HCl) for use in the boric acid solution mine**
- **The process flow sheet, mass balance, capex and opex assumptions for the boric acid operations was produced by independent North American-based engineering and environmental consulting company, Barr Engineering and mineral processing expert consultant, Mr Mike Rockandel**

American Pacific Borate and Lithium, (**ASX: ABR**) ("*ABR*", or "*the Company*") is pleased to announce it has completed an initial boric acid Scoping Study for its 100%-owned Fort Cady Borate and Lithium Project ("*the Project*") in Southern California, USA.

The Scoping Study is targeting steady state production of 246k tonnes per annum of boric acid and 54k tonnes per annum of SOP. The pre-production capex target is US$98m (including a 20% contingency) for an initial phase of 82k tonnes per annum of boric acid and 18k tonnes per annum of SOP. Current commodity pricing of US$900 per tonne for boric acid and US$700 per tonne for SOP delivers a post tax, unlevered NPV_{10} of US$687m and an IRR of 39% for the targeted Base Case (Phase 2: 245ktpa boric acid and 54ktpa SOP). EBITDA in the first full year of production is estimated at US$156m.

American Pacific Borate and Lithium Managing Director & CEO Michael Schlumpberger said:

> *"The Boric Acid Scoping Study demonstrates the world-class nature of the Fort Cady Borate and Lithium Project. With a high operating margin of over 50% and a very low pre-production capex target of US$98m, the Scoping Study considers a well understood and proven process route with a medium-term EBITDA target of over US$150m per annum.*
>
> *We expect to be in a position to incorporate lithium by-product production shortly which is anticipated to improve the already positive financial metrics and diversify our product offering."*

[1] **Cautionary Statement on Fort Cady Boric Acid Scoping Study**

COMPANY DIRECTORS

Harold (Roy) Shipes – Non-Executive Chairman

Michael X. Schlumpberger - Managing Director & CEO

Anthony Hall - Executive Director

Stephen Hunt -Non-Executive Director

John McKinney – Non-Executive Director

ISSUED CAPTIAL

169.8 million shares

15.0 million options

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Scoping Study – Cautionary Statement

The Scoping Study referred to in this announcement has been undertaken to ascertain whether a business case can be made for further advancing the project by proceeding to more definitive studies on the viability of the Fort Cady Project. It is a preliminary technical and economic study of the potential viability of the Fort Cady Project. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further confirmatory resource drilling and evaluation work and appropriate studies are required before the Company will be in a position to estimate any ore reserves or to provide any assurance of an economic development case.

The Production Target referred to in this report is based on 68% Indicated Resources and 32% Inferred Resources for the mine life covered under this Study. Indicated Resources are used primarily for the initial 18 years of the mine life in the Study. 40% of the total Resource is located within the Elementis – FCCC leased land titles which supports the first 11 years of production under the Base Case scenario outlined in this Study (25 LOM). 7.5 years of production from Indicated Resources and 7 years of production from Inferred Resources in a land title adjacent the to the Elementis – FCCC land title, but within the Operating Permit region, is under lease by an unrelated party. ABR, through its 100% owned U.S. entity FCCC is the sole owner of the Operating Permit to exploit the Fort Cady resource.

There is a low level of geological confidence associated with the Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured and Indicated Mineral Resources or that the Production Target or preliminary economic assessment will be realised.

The Study is based on the material assumptions outlined below. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of outcomes indicated in the Study, the Company estimates pre-production funding in the order of US$98m (Phase 1: 82ktpa boric acid; 18ktpa SOP) will likely be required for commercial-scale operations. Investors should note that there is no certainty that the Company will be able to raise that amount of funding when needed. However, the Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the Project. It is possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares.

It is also possible that the Company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce the Company's proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

Forward Looking Statements

Some of the statements contained in this report are forward looking statements. Forward looking statements include but are not limited to, statements concerning estimates of tonnages, expected costs, statements relating to the continued advancement of ABR's projects and other statements which are not historical facts. When used in this report, and on other published information of ABR, the words such as "aim", "could", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward-looking statements. Although ABR believes that its expectations reflected in the forward-looking statements are reasonable, such statements involve risk and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward-looking statements include the potential that ABR's projects may experience technical, geological, metallurgical and mechanical problems, changes in product prices and other risks not anticipated by ABR.

ABR is pleased to report this summary of the Scoping Study and believe that it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any mining of mineralised material, modifying factors, production targets and operating cost estimates. This announcement has been compiled by ABR from the information provided by the various contributors to the Scoping Study.

The Boric Acid Scoping Study

The attached report summarises the outcomes of a Boric Acid Scoping Study (the "Study") which evaluates solution mining of the Fort Cady borate deposit to produce a high purity (99.99%) boric acid (H_3BO_3) product. The Company is proposing to produce approximately 246,000 tpa (270,000 short tons per annum (stpa)) of boric acid in two stages (Base Case; Table 1). Initially a processing plant, ancillary facilities and a mine wellfield will be developed to produce 82,000 tpa (90,000 stpa) of boric acid ("Phase 1"). The Project previously attained the key mining permits for Phase 1, including the Environmental Impact Statement ("EIS") / Environmental Impact Report ("EIR") for commercial-scale operations and these key permits are still active and in good standing. To capitalise on the large-scale of the borate JORC Mineral Resource Estimate ("MRE"), the Company also plans on gaining the necessary approvals and permits to expand the processing infrastructure and mine wellfield to produce approximately 245,000 tpa (270,000 stpa) of boric acid ("Phase 2"). Boric acid will be transported in bulk by road to domestic consumers or to the ports in Los Angeles for export.

To expand on operational and marketing synergies, the Company is also proposing to develop a Sulphate of Potash ("SOP") Project in tandem with the boric acid project, producing 18,000 tpa (20,000 stpa) SOP during Phase 1 and then 54,000 tpa (60,000 stpa) SOP during Phase 2. This will be achieved with a Mannheim furnace that produces both SOP and by-product hydrochloric acid ("HCl"). HCl is the key input used in the make-up leaching solution that produces boric acid. Operating both boric acid and SOP facilities enables the Company to expand its sales markets, as boron is used as a micronutrient, and optimise boric acid operations by saving on input HCl requirements.

Importantly, development work is currently in train targeting lithium production from the process stream produced after boric acid production. The Company expects to be in a position to complete secondary studies in the first half of CY18 focusing on lithium by-product production.

Key Financial Metrics

Table 1. Key financial metrics for Base Case (Phase 2) Fort Cady Project.

Key Economic Outcomes*	
Life of Mine (LOM)	25 years
Annual plant capacity Boric Acid (Phase 1)	82ktpa
Annual plant capacity Sulphate of Potash (Phase 1)	18ktpa
Annual plant capacity Boric Acid (Phase 2) - Base Case	246ktpa
Annual plant capacity Sulphate of Potash (Phase 2) - Base Case	54ktpa
Pre-production Capital Cost (Phase 1)	US$98.0m
Expansion Capital Cost (Phase 2)	US$132.0m
Well Field Development Capital Cost - Base Case	US$11.8m pa
Sustaining Capital Cost - Base Case	US$6.1m pa
C1 Operating Costs (excl. by-product [SOP] credit)	US$349/t BA
C1 Operating Costs (incl. by-product [SOP] credit)	US$193/t BA
EBITDA in 1st year of full production (Phase 1)	US$156.4
Unlevered, post-tax NPV_{10}	US$687.9m
IRR	39%

** NPV calculated from decision to mine in first half of 2019; first production in 2020.*

Project Financing

The Company believes there is a reasonable basis to assume that the necessary funding for the Project will be able to be obtainted, because of (but not limited to) the following:

- The positive financial metrics of the project and the underlying demand growth for the commodities;
- The 25 year mine life and the likely percentage of Indicated Resources that should be able to be converted to Reserves to establish a long "Reserve tail" that is generally a pre requisite for debt capital markets participation in mining projects;
- The proven and well understood processing route reducing technical risk;
- The location of the Project and the positive geopolitical risk profile associated with it; and
- The likely size of the capex which is likely to mean significantly more financing options than projects with larger capex.

The Company believes its funding options include:

- US demonimated bond issuers;
- North American and European project finance banks;

- Equity capital markets;
- Large consumers of boric acid seeking supply certainty and an interest in upstream production;
- Equipment finance providers;
- Large private equity and debt focussed global natural resources' funds; and
- Forward sales contract counterparties.

The Company expects to progress discussions with financing partners in the new year as part of its progression of its Definitive Feasibility Study and product development and partners business stream.

Next Steps

- Complete the preparation of an upgraded JORC Compliant Mineral Resource Estimate (14 of 14 holes have been drilled, final assaying in progress).
- Complete lithium brine drilling (2 of 6 holes completed) to enable further analysis of the lithium potential for the Project.
- Upgrade Scoping Study in 1H CY18 targeting a lithium by-product recovery and process circuit.
- Complete additional laboratory test works prior to on-site testworks utilising the prepared borehole for pilot-scale leaching test work.
- Commence work on a Definitive Feasibility Study with a targeted completion date of 2H 2018.

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Competent Persons Statement

Mineral Resource Estimate: The information in this report that relates to Exploration Targets and Mineral Resources is based on the information compiled 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 the release of the matters based on their information in the form and context in which it appears.

Production Target and Scoping Study: The information in this report that relates to the estimation of the mineral resources underpinning the Production Target and Scoping Study has been compiled by Mr Michael X. Schlumpberger BE (Mining). Mr Schlumpberger is a full-time employee of American Pacific Borate & Lithium Limited. Mr Schlumpberger is a Registered Member of the Society for Mining, Metallurgy & Exploration and has sufficient experience with the style of mineralisation, deposit type under consideration and other activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code of Reporting Exploration Results, Mineral Resources and Ore Reserves (The JORC Code)". Mr Schlumpberger consents to the inclusion in this report of the contained technical information relating the Mineral Resource Estimation in the form and context in which it appears.

This report contains historical exploration results from exploration activities conducted by Duval Corp ("historical estimates"). The historical estimates and are not reported in accordance with the JORC Code. A competent person has not done sufficient work to classify the historical estimates as mineral resources or ore reserves in accordance with the JORC Code. It is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources or ore reserves in accordance with the JORC Code. The Company confirms it is not in possession of any new information or data relating to the historical estimates that materially impacts on the reliability of the historical estimates or the Company's ability to verify the historical estimates.

About American Pacific Borate and Lithium Limited

American Pacific Borate and Lithium Limited is focused on advancing its 100%-owned Fort Cady Boron and Lithium Project located in Southern California, USA (*Figure 1*). Fort Cady is a very rare and large colemanite deposit with substantial lithium potential and is the largest known contained borate occurrence in the world not owned by the two major borate producers Rio Tinto and Eti Maden.

The Project has a JORC mineral estimate of 93.0 Mt at 6.35% B_2O_3 (11.3% H_3BO_3, boric acid equivalent) & 374 ppm Li (*5% B_2O_3 cut-off*) including 50.95 Mt at 6.42% B_2O_3 (11.42% H_3BO_3) & 398 pmm Li in Indicated category and 42.08 Mt @ 6.26% B_2O_3 (11.14% H_3BO_3) & 346 ppm Li. The JORC Resource has 10.5 Mt of contained boric acid with 5.82 Mt in Indicated Category. In total, in excess of US$50m has historically been spent at Fort Cady, including resource drilling, metallurgical test works, well injection tests, permitting activities and substantial pilot-scale test works.

The Fort Cady Project can quickly be advanced to construction ready status due to the large amount of historical drilling, downhole geophysics, metallurgical test work, pilot plant operations and feasibility studies completed from the 1980's to early 2000's. 33 resource drill holes and 17 injection and production wells were previously completed and used for historical mineral estimates, mining method studies and optimising the process design. Financial metrics were also estimated which provided the former operators encouragement to commence commercial-scale permitting for the Project. The Fort Cady project was fully permitted for construction and operation in 1994. The two key land use permits and Environmental Impact Study remain active and in good standing.

Although pilot plant activities can commence immediately one of the Company's primary goals is to accelerate the development pathway for the Fort Cady Project with the target of being construction ready in CY18. In the interim a simple and low-cost flow-sheet is proposed with a focus on producing boric acid on-site.

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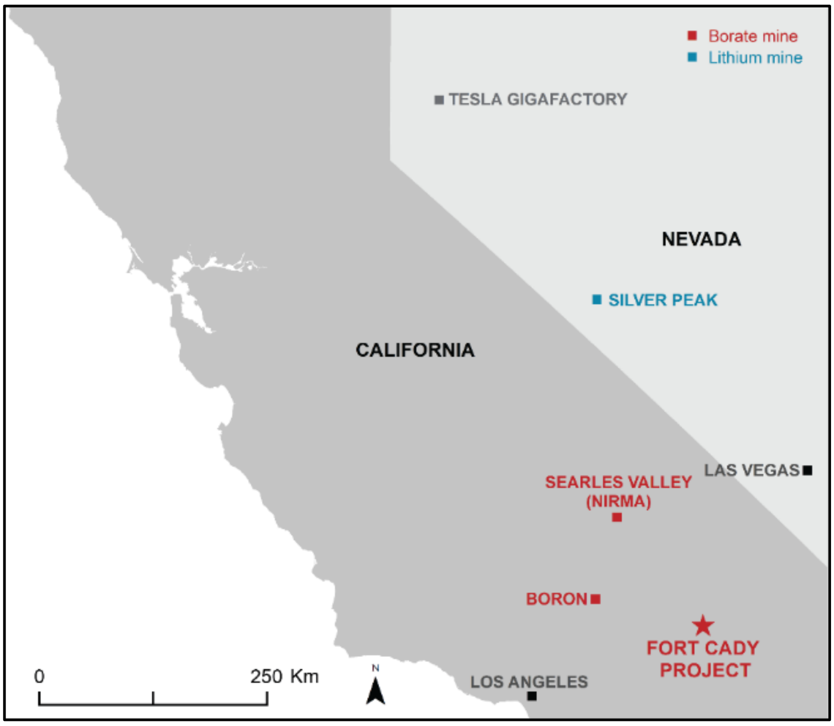

Figure 1. *Location of the Fort Cady Borate and Lithium Project, California USA.*

APPENDIX A

SUMMARY REPORT

FORT CADY BORATE AND LITHIUM PROJECT

BORIC ACID SCOPING STUDY

American Pacific Borate & Lithium Ltd
Fort Cady Borate and Lithium Project

Boric Acid Scoping Study

22 December 2017

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EXECUTIVE SUMMARY

American Pacific Borate & Lithium Ltd (**ASX: ABR**) ("*ABR*" or "*the Company*") is developing its 100% owned Fort Cady Borate-Lithium project (the "Project") located in the southeastern desert region of San Bernardino County, California. The Project is located near the town of Newberry Springs, approximately 50 km east of the city of Barstow and 4 km south of Interstate 40 (I-40) (Figure 2). The Project area occurs approximately 200 km from Los Angeles (California) and Las Vegas (Nevada) in the Barstow Trough of the central Mojave. The Project and proposed operation is situated in an area with existing sealed roads, a gas pipeline, rail line and power lines.

The Boric Acid Scoping Study for the Project that has been prepared by the Company and independent North American based engineering and environmental consulting company, Barr Engineering and mineral processing expert consultant, Mr Mike Rockandel. Barr Engineering produced the process flow sheet, mass balance, capex and opex assumptions for the boric acid operations

The Project

This report summarises the outcomes of a Boric Acid Scoping Study (the "Study") which evaluates solution mining of the Fort Cady borate deposit to produce a high purity (99.99%) boric acid (H_3BO_3) product. ABR is proposing to produce approximately 246,000 tonnes per annum (tpa) (270,000 short tons per annum [stpa]) of boric acid in two stages. Initially, a processing plant, ancillary facilities and a mine wellfield will be developed to produce 82,000 tpa (90,000 stpa) of boric acid ("*Phase 1*"). The Project previously attained the key mining permits for Phase 1, including the Environmental Impact Statement ("*EIS*") / Environmental Impact Report ("*EIR*") for commercial-scale operations and these permits are still active and in good standing. To capitalise on the large-scale of the borate JORC Mineral Resource Estimate ("*MRE*"), the Company also plans on gaining the necessary approvals and permits to expand the processing infrastructure and mine wellfield to produce approximately 246,000 tpa (270,000 stpa) of boric acid ("*Phase 2*"). Boric acid will be transported in bulk by road to domestic consumers or to the ports in Los Angeles for export.

To expand on operational and marketing synergies, the Company is also proposing to develop a Sulphate of Potash ("*SOP*") Project in tandem with the boric acid project, producing 18,000 tpa (20,000 stpa) SOP during Phase 1 and then 54,000 tpa (60,000 stpa) SOP during Phase 2. This will be achieved with a Mannheim furnace that produces both SOP and by-product hydrochloric acid ("*HCl*"). HCl is the key input used in the make-up leaching solution that produces boric acid. Operating both boric acid and SOP facilities enables the Company to expand its sales markets, as boron is used as a micronutrient, and optimise boric acid operations by saving on input HCl costs.

Importantly, development work is currently in train on lithium production from waste streams associated with boric acid production. The Company expects to be in a position to complete secondary studies in the first half of CY18 focusing on lithium by-product production.

The Company is investigating adapting the same solution mining technique and processing flowsheet as used during pilot-scale test work by Duval Corp. in the mid 1980's. Boric acid would be removed from the ground through in-situ solution mining which, in simplified terms, involves:

1. The pumping of a weak acid solution into the ore body *ca.* 425m below the surface;
2. A chemical reaction between the acid and the alkaline elements in the ore body which form boric acid in the solution; and
3. An extraction of the solution by a reverse-pumping process;
4. Crystallisation of the boric acid via mechanical cooling;
5. Precipitation of gypsum via acid regeneration using sulphuric acid;
6. By-product HCl produced during gypsum precipitation added to predominantly recycled water and re-injected into the solution mine.

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

Mining & Processing

Scoping-level mass balance, capital expenditure ("Capex") and operational expenditure ("Opex") have been prepared for the process design. Under this design, a warm (58°C) and weak hydrochloric acid (4% HCl) solution will be injected underground into the colemanite orebody where it will leach the colemanite ore and convert it to boric acid. The pregnant leach solution ("PLS") will then be pumped to the surface where boric acid will be separated from impurities by three-stage mechanical cooling crystallisation. The crude boric acid crystals would be collected, de-watered and re-dissolved to produce a concentrated boric acid solution. This solution would then be cooled to recrystallise pure boric acid. Finally, HCl would be regenerated by sulphuric acid (H_2SO_4) acidification of the process waste stream causing gypsum crystallisation. The weak HCl solution would be combined with recycled water to produce the make-up solution for re-injection into the formation. Approximately 88% of the water requirements are recycled in the process flow design.

Financial Highlights

The project NPV is post-tax and calculated on an unlevered basis, discounted at 10%, and has been estimated via cash flow modelling. A sensitivity analysis of the base case NPV estimates have been calculated on a range of ±30%. These estimates accommodate fundamental uncertainties at the scoping level of study and will be refined through feasibility studies. The sensitivity analysis was undertaken on all of the key inputs to arrive at a range of project NPV's for any given sensitivity (boric acid price, boric acid Opex and boric acid initial Capex). The sensitivity analysis is shown in Figure 1. The NPV is most sensitive to boric acid price followed by operating cost. The NPV is less sensitive to initial Capex.

Considering the level of accuracy, the sensitivities and the reasonable estimate of potential cost variations, the base case post-tax NPV_{10} is approximately US$687.9m. Estimated EBITDA in the 1st year at the full production rate is approximately US$156.4m.

Over the anticipated 25 year life of the project, annual boric acid production will average 246ktpa and sulphate of potash production will average 54ktpa. C1 unit operating costs will average US$193/t boric acid produced (including by-product credit). C3 unit operating costs will average US$340/t boric acid produced. Material assumptions and key metrics for the Study are presented in Table 1.

Table 1. Material assumptions and key metrics for Project Base Case (Phase 2: 246ktpa BA; 54ktpa SOP).

Parameter	Metric
Proposed start of construction	2019
Duration of construction	15 months
Start of production	2020
Potential mine life (years)	25
Target LOM ore mined (Mt)	85.0
Indicated Resources (Mt)	51 Mt @ 6.4% B_2O_3
Inferred Resources (Mt)	42 Mt @ 6.3% B_2O_3
Annual ore leached (Mt)	3.10 Mt
Total ore leached (Mt)	72.1 Mt
Extraction rate (%)	70%
Average leachate head grade (% B_2O_3)	9.5% H_3BO_3
Average leachate recirculation grade (% B_2O_3)	4.0% H_3BO_3
Processing recovery (%)	99%
Potential boric acid annual production (Base Case) (tonnes)	246,000
Potential sulphate of potash annual production (Base Case) (tonnes)	54,000
Pre-production capital cost (±30%, incl. 20% contingency) (US$m)	98.0
Total construction capital cost (±30%, incl. 20% contingency) (US$m)	230.5
Well field development capital cost (US$m p.a. average)	11.8
Sustaining capital expenditure (US$m p.a. average)	3.7
Royalty rate (%)	3
Income tax rate (%)	35
Average C1 cash cost (US$/t boric acid produced) excl. by-products	349
Average C1 cash cost (US$/t boric acid produced) incl. by-products	193
Long term boric acid price (US$/t)	900
Estimated average EBITDA in 1st year of full production (US$m)	156.4m
Base case post-tax net present value (NPV_{10}) (US$m)*	687.9
Internal rate of return (IRR) (%)	39.2

** NPV calculated from decision to mine in first half of 2019.*

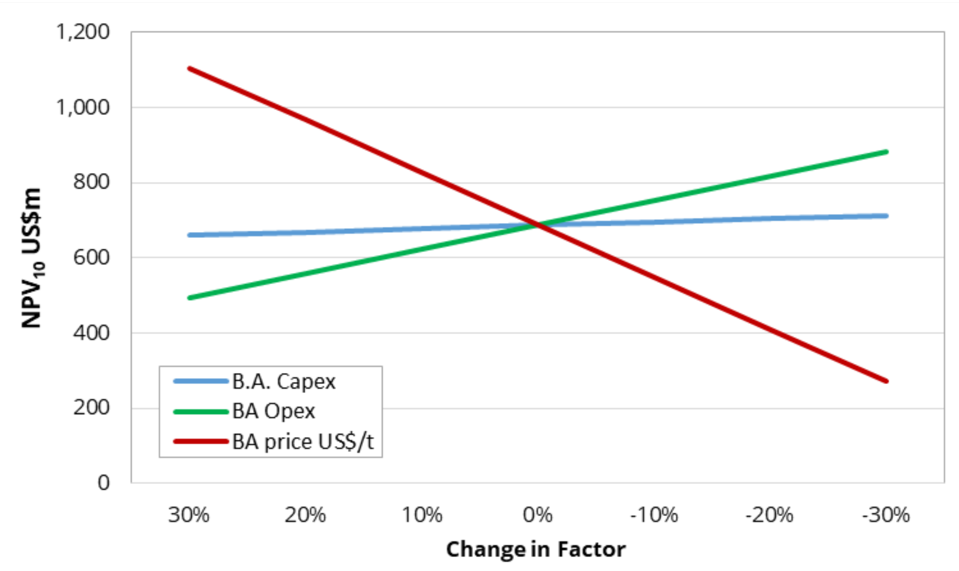

Figure 1. Sensitivity analysis.

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UNITS, CONDITIONS AND ABBREVIATIONS

The units used throughout the project shall be in the metric SI system of measurement. Standard conditions for gas volumes shall be 32°F and 14.696 psia.

Abbreviation	Meaning
°C	degree Celsius
°F	degree Fahrenheit
o	degree of arc
a	annum (year)
A	ampere
BA	Boric acid
bgs	below ground surface
btu	British Thermal Unit
cp	centipoise (viscosity)
d	day
D80	Size which 80% of the material passes a square mesh screen of the same opening
dB	decibel
ft	feet
F80	Feed size of which 80% passes a square mesh screen of the same opening
g/t	grams per tonne = parts per million (weight)
g/L	grams per liter (solution concentration)
gpm	US gallons per minute
HCl	hydrochloric acid
H_2SO_4	sulphuric acid
H_3BO_3	boric acid
h	hour
Hz	hertz = 1s-1
hp	horsepower
kW	kilowatt
lb	pound (avoirdupois)
L	liter
m	meter
m	million
m3/h	volumetric flow cubic meters per hour
masl	meters above sea level
mg/L	milligrams per liter (solution or gas concentration)
mmbtu	million btu
mm Hg	millimeters of mercury
min	minute
mo	month
mol	mole
Mt	million tonnes
MW	Megawatt
N/A	not applicable
o/f, u/f	overflow, underflow
P80	product size of which 80% passes a square mesh screen of the same opening
psi	pressure pound per square in (sub g = gauge, sub a = absolute)
rad	radian
rpm	revolutions per minute
s	second
SOP	sulphate of potash
st	short ton (2,000 lb)
STP	Normal / Standard Conditions (20°C/101.325 kPa, 68°F/14.696 psi)
stpa	short tons per annum
t	tonnes
tpa	tonnes per annum
t/y	tons per year
t/h	tons per hour
TBA, TBD, TBC	to be announced, determined, confirmed
V	volt
VSD/VFD	Variable speed drive/variable frequency drive
W	watt
Ω (Omega)	ohm
μm	micron (micrometer)
y	year

FORT CADY BORIC ACID SCOPING STUDY

1 INTRODUCTION

The proposed mining operation includes the construction and operation of a boric acid production solution mine and processing plant with the anticipated capability of initially 82,000 tpa (90,000 stpa) of boric acid ("*Phase 1*") under the existing Land Use Permits and EIS/EIR. The Company then will look to gain the necessary approvals to scale-up to 246,000 tpa boric acid (270,000 stpa) ("*Phase 2*") for a projected production life of 25 years. The Company is also proposing to permit and commission a 18,000 tpa (20,000 stpa) and 54,000 tpa (60,000 stpa) Sulphate of Potash ("*SOP*") fertiliser project in conjunction with Phase 1 and Phase 2, respectively. Synergies exist between the two projects including the production of a boron-rich fertiliser and capitalise on the generation of by-product hydrochloric acid ("*HCl*") during SOP manufacturing. HCl is the key input and reagent used for leaching in the proposed boric acid solution mine.

Importantly, development work is currently in train on lithium production from waste streams associated with boric acid production. The Company expects to be in a position to complete secondary studies in the first half of CY18 focusing on lithium by-product production.

The proposed mining operation will use in-situ solution mining technology. The recovery of boron from the colemanite ($2CaO \cdot 3B_2O_3 \cdot 5H_2O$) mineral will be performed by injecting a heated (53°C) weak acid solution (containing no more than 4% HCl in a water solution) through wells drilled into the ore body. The injected acid would remain in the formation to allow reaction with the alkaline ore body. Boric acid and calcium chloride will be withdrawn from the wells as products of the chemical reaction.

The extracted solution will then be pumped to the processing plant where boric acid crystals will be precipitated from the solution and to a regeneration facility which will regenerate hydrochloric acid. A by-product of this operation would be gypsum, which will be stored in the gypsum deposition area. Gypsum could potentially be sold to the local cement industry or other end users.

The project area consists of 6,500 acres of land including 343 acres of disturbed lands defined as the project site for Phase 1. The proposed 343-acre project site includes a 273-acre ore body well field, a 10-acre process facility, 16-acre gypsum deposition area, and 43.5 acres of ancillary services. Ancillary services include a process water supply network, a railroad spur, a natural gas pipeline, access roads and electric lines and facilities. The key land use, mining and environmental permits for Phase 1 boric acid production are active and in good standing. The Air and Water Quality Permits for Phase 1 were rescinded in 2009 and need to be reinstated. Phase 2 of the project and SOP production will be advanced either as an addendum to the existing permits or separately as its own distinct operation.

1.1 Project Location

The Fort Cady Project is located in the eastern part of the Mojave Desert region in San Bernardino County, California. The project lies approximately 200 km northeast of Los Angeles near the town of Newberry Springs and is approximately 50 km east of the city of Barstow (Figure 2 & Figure 3). Fort Cady resides in a highly prospective area for borate and lithium mineralisation. The deposit is situated in the Hector evaporite basin and is in close proximity to the Elementis Specialties PLC ("*Elementis*") Hectorite lithium clay mine. The Project has a similar geological setting as Rio Tinto Borates Boron operations and Nirma Limited's Searles Lake (Trona) operations, situated approximately 120 km west-northwest and 140 km northwest of the Project, respectively.

The Fort Cady borate ore body is located in Sections 25, 26 and 27 of T8N, R5E, in San Bernardino County, California. The area of the proposed well field, with wells to be located on 76 metre (~250 feet) centres, covers approximately 0.64 km (158 acres) and contains an estimated 10.5 Mt of H_3BO_3 in-place, with an estimated 5.82 Mt H_3BO_3 (Indicated Category) and 4.69 Mt H_3BO_3 (Inferred Category) (JORC 2012 MRE, 2017; Section 4).

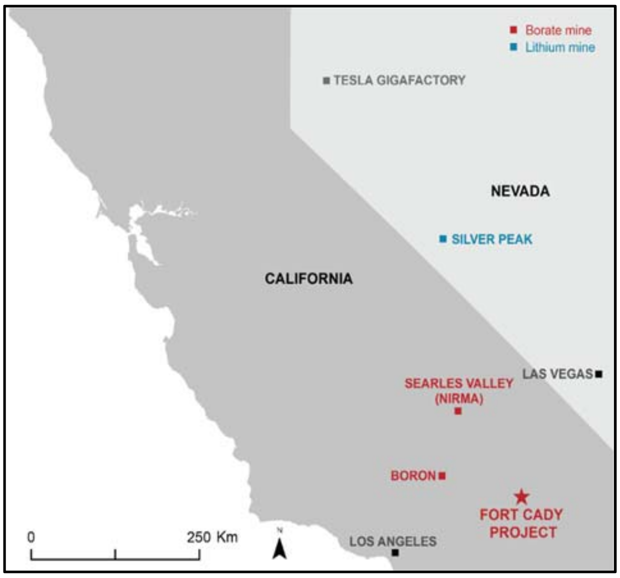

Figure 2. Location of the Fort Cady Borate and Lithium Project, California, USA.

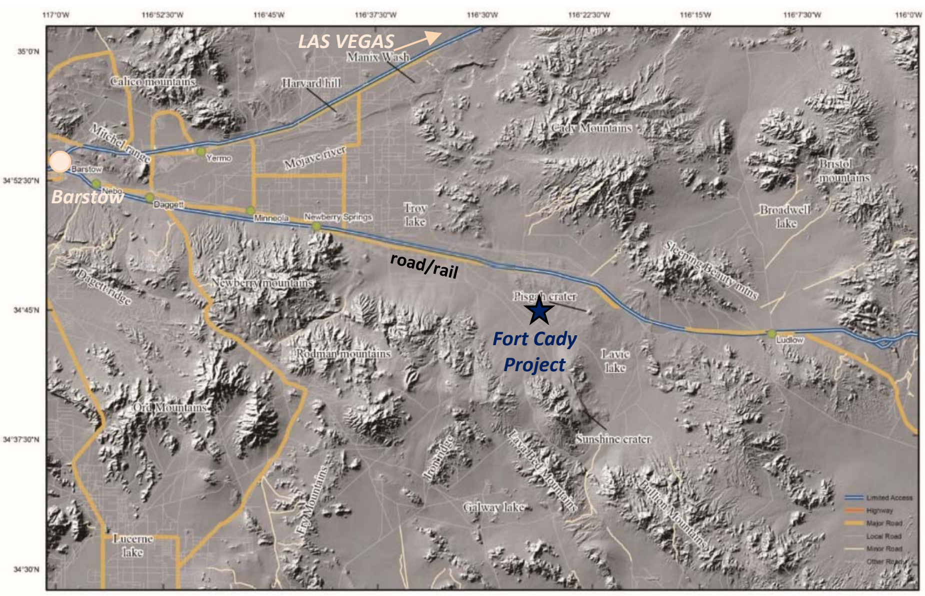

Figure 3. Digital elevation model of the Project area.

1.2 Project History

Several borate-bearing deposits are known in the region including Calico Mountain, Boron, and Searles Lake. Discovery of the Fort Cady borate deposit occurred in 1964 when Congdon and Carey Minerals Exploration Company found several zones of colemanite a calcium borate mineral, between the depths of 405m to 497m (1,330 ft to 1,570 ft) below ground surface ("bgs") in Section 26, TSN, R5E (Simon Hydro-Search, 1993).

In September 1977, Duval Corporation initiated land acquisition and exploration activities near Hector, California, and by March 1981, completed 33 exploration holes. In 1981, Duval Corp. began considering conventional underground extraction of the ore body. Because of the depth, conventional underground mining was determined to be not economically feasible. Subsequent studies and tests performed by Duval Corporation indicated that in-situ mining technology was feasible (Simon Hydro-Search, 1993).

Duval commenced limited-scale solution mining in June 1981. An additional 17 production wells were completed in the following years which were used for injection testing and pilot-scale operations. In July 1986, an additional series of tests were conducted by Mountain States Mineral Enterprises Inc. ("*MSME*"). In these tests a dilute hydrochloric acid solution was injected through a well into the ore body and a boron-rich solution was withdrawn from the same well. In July 1986, Fort Cady Minerals Corp. ("*FCMC*") was formed with the view of commencing pilot-scale testing. The first phase of pilot plant operations were conducted between 1987 and 1988. Approximately 450 tonnes of boric acid was produced during this time. Given the promising results of the pilot-scale tests the project was viewed to be commercially viable (Dames & Moore, 1993). Concentrated permitting efforts for commercial-scale operations began in early 1990. Final approval for commercial-scale solution mining and processing was attained in 1994.

Extensive feasibility studies, detailed engineering and test works were subsequently undertaken in the late 1990's and early 2000's. This included a second phase of pilot plant operations between 1996 and 2001 during which approximately 1,800 tonnes of a synthetic colemanite product (marketed as CadyCal 100) was produced. The CadyCal was produced using sulphuric acid as the leachate which resulted in gypsum precipitation underground and in the surface piping. At the time the final test work, operational issues in conjunction with low commodity prices and other priorities of the controlling entity, commercial-scale operations were not commissioned.

In total, over US$50m has been spent on the Fort Cady project, including licence acquisition, drilling and resource estimation (non-JORC), well testing, metallurgical testing, feasibility studies and pilot plant testing test work. In addition, the project has previously obtained all operating and environmental permits required for commercial solution mining operations.

ABR executed a Share Purchase Agreement with the project vendors (Atlas Precious Metals Inc.) in May 2017 to purchase 100% of the Project and listed on the Australian Securities Exchange (ASX) by way of Initial Public Offering (IPO) in July 2017.

1.3 Land Titles

The Project land titles (tenements) map is shown in Figure 4 and Table 2.

The 1994 approved project area covers roughly 26.3 km^2 (6,500 acres). The Company has the exclusive rights to mine in this area where it coincides with the known spatial extent of the borate deposit. Currently approximately 17.84 km^2 (4,409 acres) are held by Ft. Cady California Corporation ("FCCC"), a subsidiary of the Company, of which approximately 5.6km^2 (1,386 acres) coincides with the aforementioned approved project area.

There are several types of land titles within and adjacent to the project area. These include 0.97 km^2 (240 acres) of fee simple patented or privately held lands; 1.09 km^2 (269 acres) of surface areas owned with mineral rights held by the State of California; 9.63 km^2 (2,380 acres) of unpatented claims held by FCCC; and 6.15 km^2 (1,520 acres) of unpatented claims leased by FCCC from Elementis Specialties, Inc. ("*Elementis*"). Other areas within the project area are mainly unclaimed public lands managed by the U.S. Department of Interior, Bureau of Land Management (BLM).

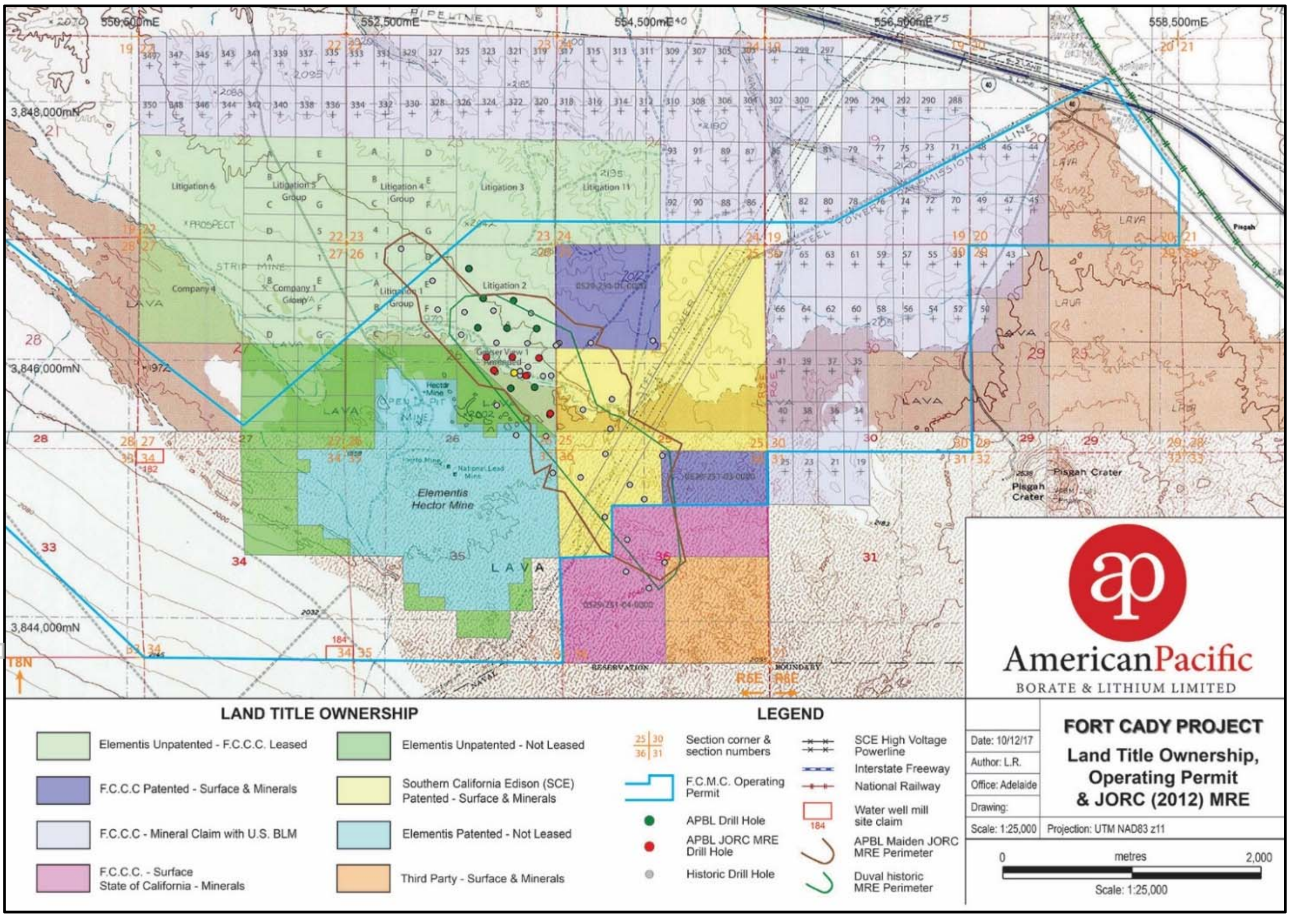

Figure 4. Land Titles (tenements) map highlighting extent of the Fort Cady borate and lithium MRE and Operating Permit area.

Table 2. List of tenements (Land Titles) for the Fort Cady Project.

Tenement Name	Status	Date of Grant	Date of Expiry	Area km²	Ownership		
					Surface Rights	Mineral Rights	Lessee
Parcel 0529-251-01	Granted	8/05/2010	Not applicable	0.65	Fort Cady California Corp.	Fort Cady California Corp.	Not applicable
Parcel 0529-251-03				0.32			
Parcel 0529-251-04	Granted	8/05/2010	Not applicable	1.09	Fort Cady California Corp.	State of California	Not applicable
Company 1 Group	Granted	Various	Not applicable	0.65	Elementis Specialties, Inc.	Elementis Specialties, Inc.	Fort Cady California Corp.
Litigation 1 Group		12/09/1991		0.65			
Litigation 4 Group		Various		0.65			
Litigation 5 Group		Various		0.65			
Litigation 2		29/07/1937		0.65			
Litigation 3		29/07/1937		0.65			
Litigation 6		29/07/1937		0.65			
Litigation 11		29/07/1937		0.65			
Geyser View 1		18/11/1934		0.28			
Company 4		15/12/1931		0.65			
HEC #124 - #127, HEC #129, HEC #131, HEC #343, HEC #344, HEC #365, HEC #369, HEC #371, HEC #372, HEC #374 - #376	Granted	Various	Not applicable	1.21	Elementis Specialties, Inc.	Elementis Specialties, Inc.	Fort Cady California Corp.
HEC #19; HEC #21; HEC# 23; HEC#25; HEC #34 - #41; HEC #43 - #67; HEC #70 - #82; HEC #85 - #93; HEC #182; HEC #184; HEC #288; HEC #290; HEC #292; HEC #294; HEC #296 - #297; HEC #299 - #350	Granted	Various	Not applicable	9.63	Fort Cady California Corp.	Fort Cady California Corp.	Not applicable

2 GEOLOGY

The project area is located in the Hector Basin of the Barstow Trough of the central Mojave. The Mojave comprises a structural entity commonly referred to as the Mojave block, and is bounded on the southwest by the San Andreas fault zone and the Transverse Ranges, on the north by the Garlock fault zone, and on the east by the Death Valley and Granite Mountain faults. The central Mojave region is made up of a number of relatively low mountain ranges separated by intervening basins which are floored primarily by alluvium. The central Mojave area is cut by numerous faults of various orientations but which predominantly trend to the northwest (Figure 5).

The Barstow Trough, which is a structural depression extending northwesterly from Barstow toward Randsburg and east-southeasterly toward Bristol. It is characterised by thick successions of Cenozoic sediments, including borate-bearing lacustrine deposits, with abundant volcanism along the trough flanks. The northwest-southeast trending trough initially formed during Oligocene through Miocene times. As the basin was filled with sediments and the adjacent highland areas were reduced by erosion, the areas receiving sediments expanded, and playa lakes, characterized by fine-grained clastic and evaporitic chemical deposition, formed in the low areas at the centre of the basins.

Exposures of fine-grained lacustrine sediments and tuffs, possibly Pliocene in age, are found throughout the project area. Younger alluvium occurs in washes and overlying the older lacustrine sediments. The project area is covered by Recent olivine basalt flows from Pisgah Crater, which is located approximately 3.2 km east of the site (Figure 5 & Figure 6). Thick fine-grained, predominantly lacustrine mudstones appear to have been uplifted, forming a block of lacustrine sediments interpreted to be floored by an andesitic lava flow.

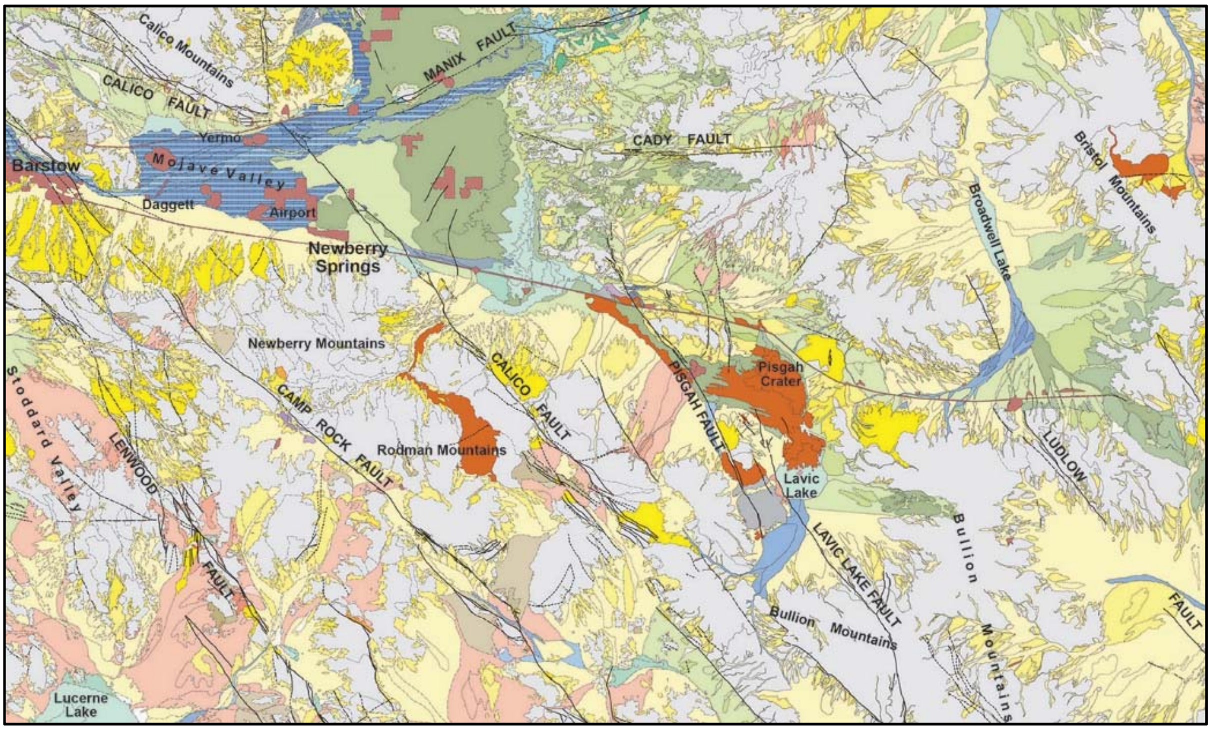

Figure 5. Geology and major structures in the Newberry Springs region.

There are three prominent geologic features in the project area:

1. Pisgah Fault, which transects the southwest portion of the project area west of the ore body;
2. Pisgah Crater lava flow located 3.2 km east of the site; and
3. Fault B, an unnamed fault, located east of the ore-body.

The Pisgah Fault is a right-lateral slip fault that exhibits at least 200m of vertical separation in the project area. The east side of the fault is up-thrown relative to the west side. Fault B is located east of the ore body and also exhibits at least 200m of vertical separation. The borate ore body is situated within a thick area of fine-grained, predominantly lacustrine (lake bed) mudstones, east of the Pisgah Fault and west of Fault B. The central project area has been uplifted along both faults, forming an uplifted block. Test borings emplaced through the ore body reportedly show the presence of claystone at the base and around the evaporite/mudstone ore body. Exploration drilling in the project area indicate that the ore body lies between approximately 400m and 550m below ground level. The ore body consists of variable amounts of calcium borate (colemanite) within a mudstone matrix (Simon Hydro-Search, 1993).

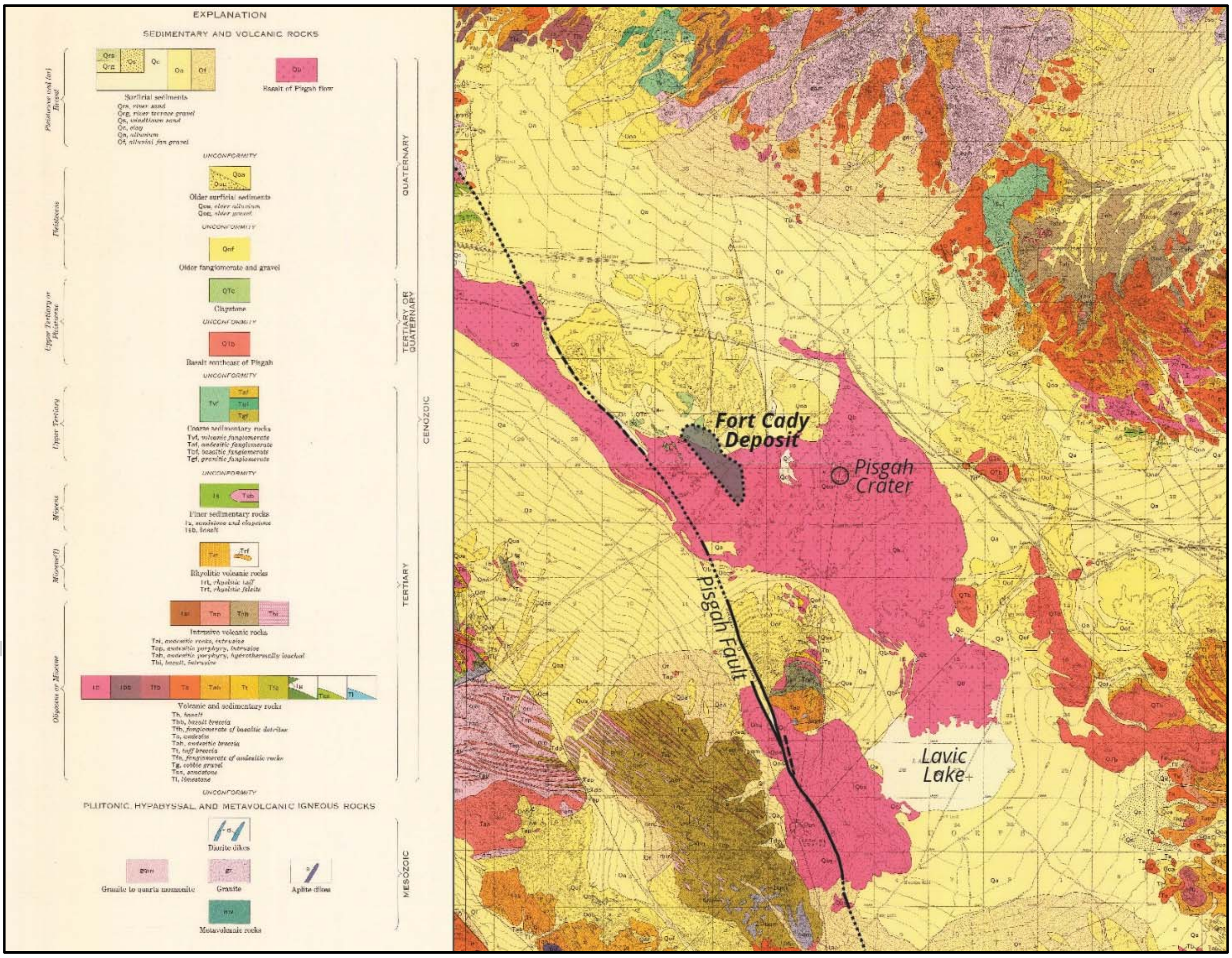

Figure 6. Geology map of project region (modified from Dibblee, 1967).

3 MINERALISATION

3.1 Deposit Geometry

The ore body as modelled in the Maiden JORC MRE is elongate in shape and trends northwesterly, extending over an area of about 2.27 km^2 (560 acres) at an average depth of approximately 350m to 400m below surface. In plan view, the concentration of boron-rich evaporites is roughly ellipsoidal with the long axis trending N40-50W. Beds within the colemanite deposit strike roughly N45W and dip about 10° or less to the southwest. A zone of >5% B_2O_3 mineralisation, ranging in thickness from 20 m to 80 m (70 ft to 262 ft), is approximately 870 m wide and 3,320 m long (Figure 7).

The eastern margin of the ore body appears to be roughly linear, paralleling the Pisgah Fault which lies approximately 1.6km to the west (Figure 7 & Figure 8). This boundary was considered by Duval geologists to be controlled by a facies change to boron-poor, carbonate-rich lake beds as a result of syndepositional faulting. The northeast and northwest boundaries of the deposit are controlled by facies changes to more clastic material, reducing both the overall evaporite content and the concentration of boron within the evaporites. The southeast end of the deposit is open-ended and additional drilling is necessary to define the southeastern limits of borate deposition (Wilkinson & Krier, 1985).

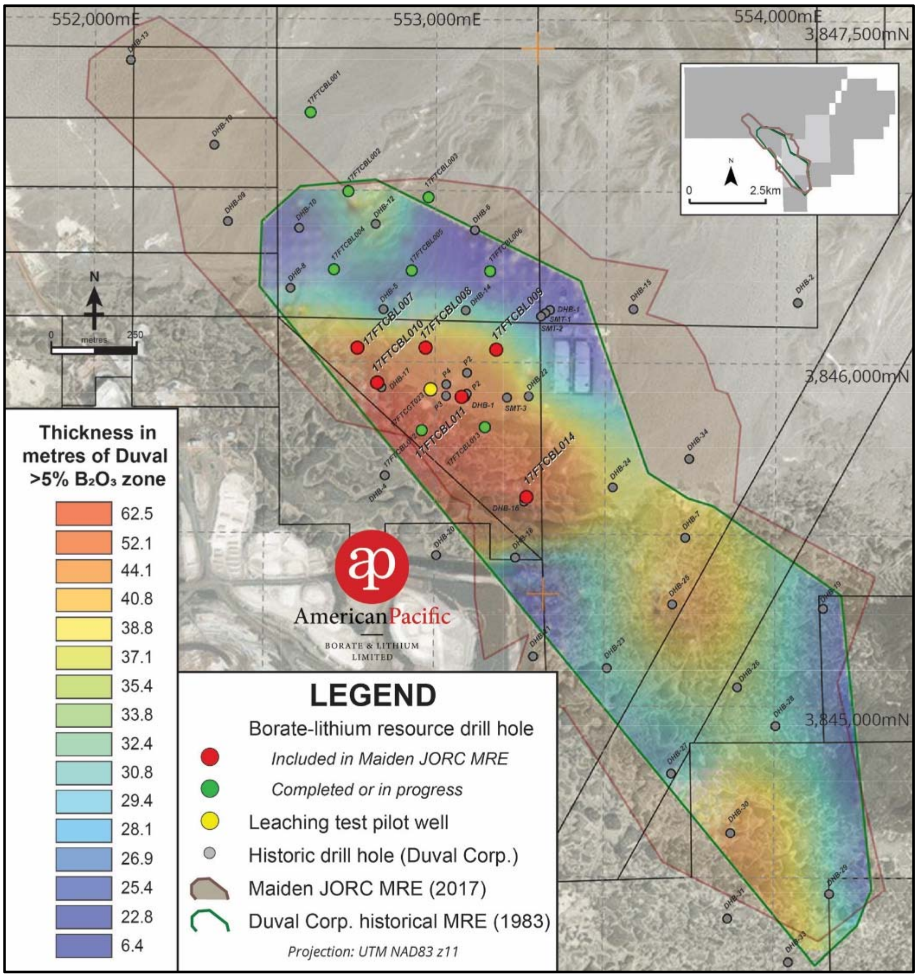

Figure 7. Outline of Fort Cady borate deposit as defined by Duval Corp.

3.2 Deposit Genesis

The boron is believed to have been sourced from thermal waters that flowed from hot springs in the region during times of active volcanism. These hot springs vented into the Hector Basin that contained a large desert lake. Borates were precipitated as the thermal waters entered the lake and cooled or as the lake waters evaporated and became saturated with boron. Colemanite being the least soluble would evaporate on the receding margin of the lake. The evaporite-rich sequence forms a consistent zone in which the borate-rich colemanite zone transgresses higher in the section relative to stratigraphic marker beds.

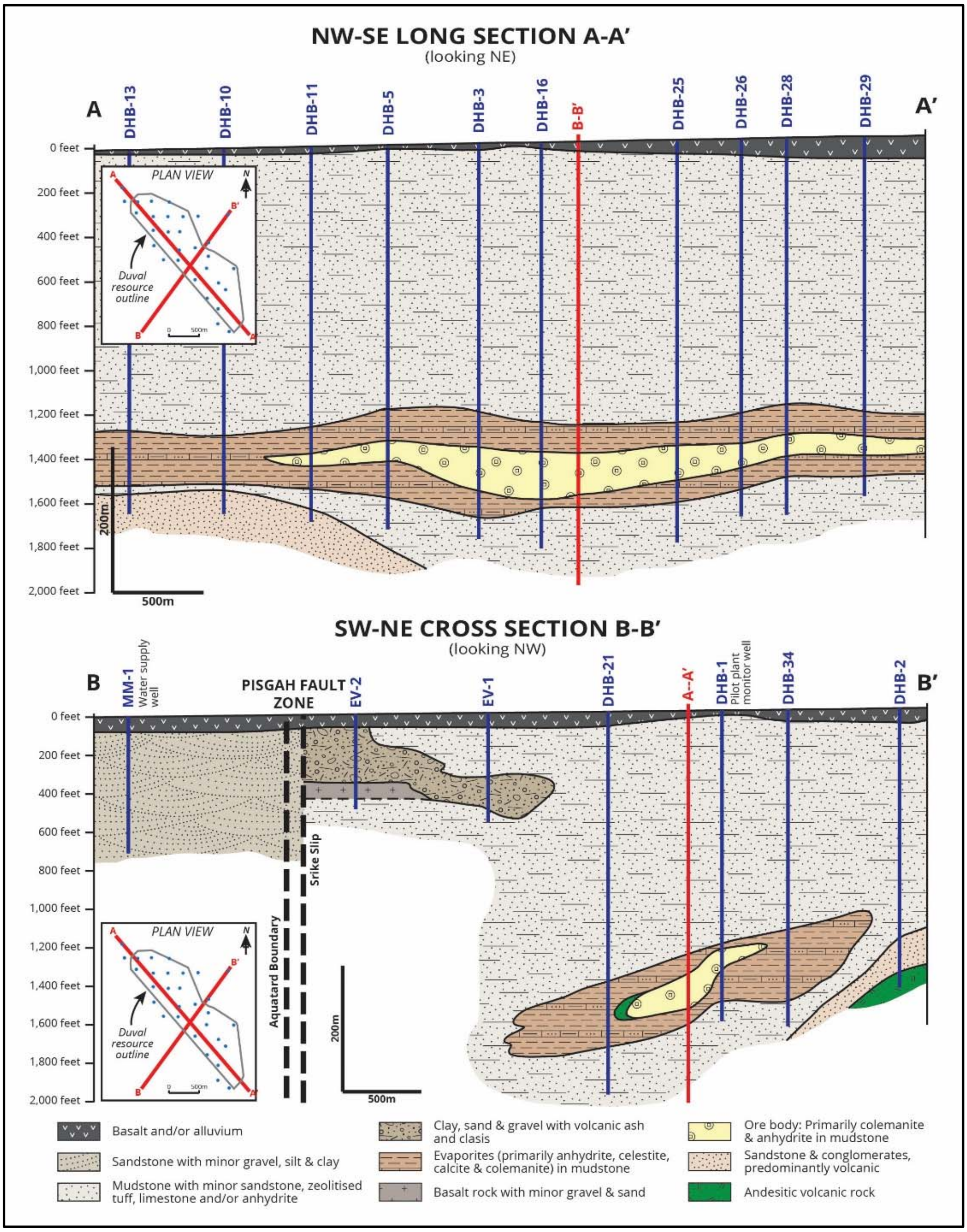

Figure 8. Long-section (top) and cross-section (bottom) through the Fort Cady deposit as defined by Duval (Simon Hydro-Search, 1993).

3.3 Lithological sequence

Drilling of the deposit by Duval Corp. in the late 1970's and early 1980's has defined the present lithological sequence (Figure 9). Four major units have been identified:

Unit 1: is characterised by a 150 m to 200 m thick sequence of red-brown mudstones with minor sandstone, zeolitized tuff, limestone, and rarely hectorite clay beds. Unit 1 is intersected immediately below the alluvium and surface basaltic lavas.

Unit 2: is a green-grey mudstone that contains minor anhydrite, limestone, and zeolitized tuffs. Unit 2 has a similar thickness (100 m to 150 m) as the overlying Unit 1. Unit 2 is interpreted as lake beds.

Unit 3: is a 75 m to 150 m thick evaporite section which consists of rhythmic laminations of anhydrite, clay, calcite, and gypsum. Thin beds of air fall tuff were also intercepted which provide time continuous markers for interpretation of the sedimentation history. These tuffs have variably been altered to zeolites or clays. Unit 3 contains the colemanite deposit. Anhydrite is the dominant evaporite mineral, and the ore deposit itself is made up mostly of an intergrowth of anhydrite, colemanite, celestite, and calcite with minor amounts of gypsum and howlite.

Unit 4: is characterised by clastic sediments made up of red and grey-green mudstones and siltstones, with locally abundant anhydrite and limestone. The unit is approximately 50 m thick and rests directly on the irregular surface of andesitic lava flows. Where drill holes intersect this boundary it has been noted that an intervening sandstone or conglomerate composed mostly of coarse volcanic debris is usually present. Most drill holes did not extend to this depth.

3.4 Mineralogy

The ore body is hosted by a sequence of mudstone and tuff, consisting of variable amounts of colemanite, a calcium borate ($2CaO \cdot 3B_2O_3 \cdot 5H_2O$). The colemanite is associated with thinly laminated siltstone, clay and gypsum beds containing an average of 9% calcite, 35% anhydrite plus 10% celestite, $SrSO_4$ (Wilkinson & Krier, 1985).

X-ray diffraction (XRD) analysis of the ore body mineralogy indicated the presence of the evaporite minerals anhydrite, colemanite, celestite, and calcite. The mineralogy of the detrital sediments included quartz, illite, feldspars, and the zeolite clinoptilolite. The deposit underlies massive clay beds which appear to encapsulate the evaporite ore body on all sides as well as above and below the deposit (Figure 8 & Figure 9). This enclosed setting makes the deposit an ideal candidate for in-situ mining technology affording excellent containment of the leachate solution.

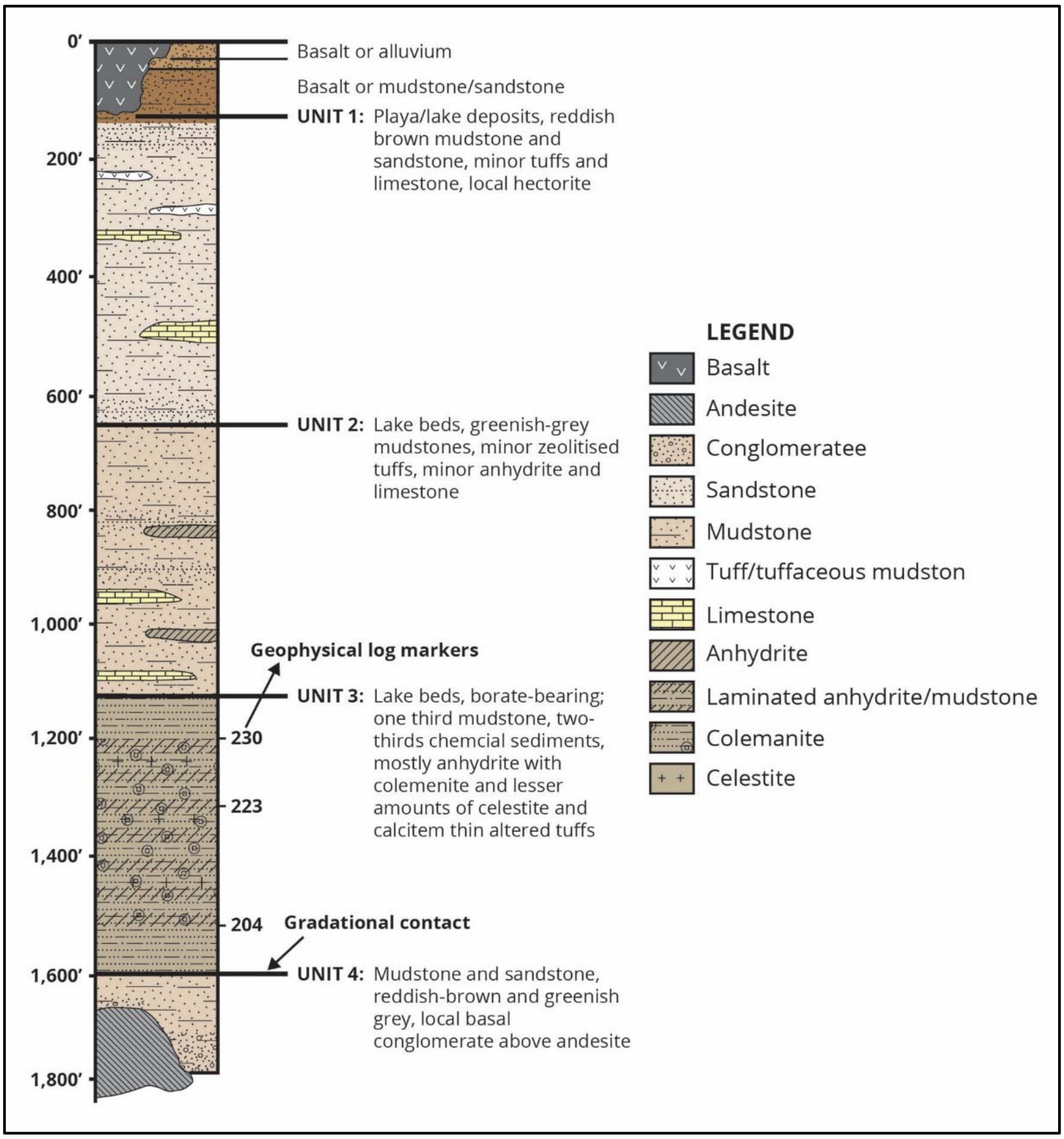

Figure 9. Generalised lithological column for the Fort Cady deposit (Duval Corp.).

4 MINERAL RESOURCE ESTIMATE

Full details of the Fort Cady borate and lithium JORC (2012) Compliant Mineral Resource Estimate (*"MRE"*) are detailed in the ASX release dated 12th December, 2017, "*ABR Delivers Maiden JORC Compliant Mineral Resource Estimate for the Fort Cady Borate and Lithium Project in Southern California*". The estimated mineral resource underpinning production targets in this report have been prepared by a Competent Person in accordance with the requirements of the JORC Code (2012). Following is a summary of the key aspect of the JORC MRE that should be read in conjunction with the aforementioned ASX release.

4.1 Modern Drilling Program

Since acquisition of the project in May 2017, ABR has completed 14 new drill holes in confirming and expanding the Resource at Fort Cady. Six of these holes are included in the JORC MRE and are summarised in Table 3 and displayed in Figure 10. Assay data from 33 drill holed completed by Duval were also incorporated into the MRE. A cross-section through the deposit is also displayed in Figure 11. The remaining drill holes completed by ABR are still in the process of being logged, assayed or have assay results pending. Drilling through the overburden sequence is completed using rotary air blast (RAB) drilling technique. This is followed by drilling HQ diamond core through the evaporite sequence. The core was logged and evaluated using industry standard techniques.

Core logging was completed on all drill holes and included lithological, geomechanical and qualitative geochemical (Laser-Induced Breakdown Spectroscopy; "*LIBS*") logging. Downhole geophysical logs, being at minimum Gamma Ray and Induction with a Caliper, are being acquired on each of the borate cored holes. As the program progresses, the core holes may be logged with additional downhole geophysical tools. All core is logged and photographed according to industry standard procedures. An example of core photos is shown in Figure 12.

Table 3. Drill holes included in Maiden JORC Mineral Resource Estimate.

Hole ID	Rotary (m)	DDH (m)	Hole depth (m)	Samples	Blanks	Duplicates	Boron standards	Lithium standards	Total
17FTCBL007	310.9	230.1	541.0	207	13	14	10	4	**248**
17FTCBL008	335.3	160.0	495.3	153	10	11	7	3	**184**
17FTCBL009	309.4	166.1	475.5	120	7	8	6	2	**143**
17FTCBL010	342.3	159.7	502.0	176	11	12	8	4	**211**
17FTCBL011	304.8	237.1	541.9	160	10	10	8	3	**191**
17FTCBL014	335.3	227.1	562.4	260	17	15	12	6	**310**
Total	***1,937.9***	***1,180.2***	***3,118.1***	***1,076***	***68***	***70***	***51***	***22***	***1,287***

4.2 Mineral Resource Estimate Reporting

An evaluation of the in-situ resources is shown in Table 4 at 5% B_2O_3 cut-off grade. An oblique view of the indicated kriging block model shell is displayed in Figure 13. The entire MRE with the exception of "FCCC – Surface; State of CA – Minerals" is contained within the commercial-scale Operating Permit region awarded to FCCC in 1995.

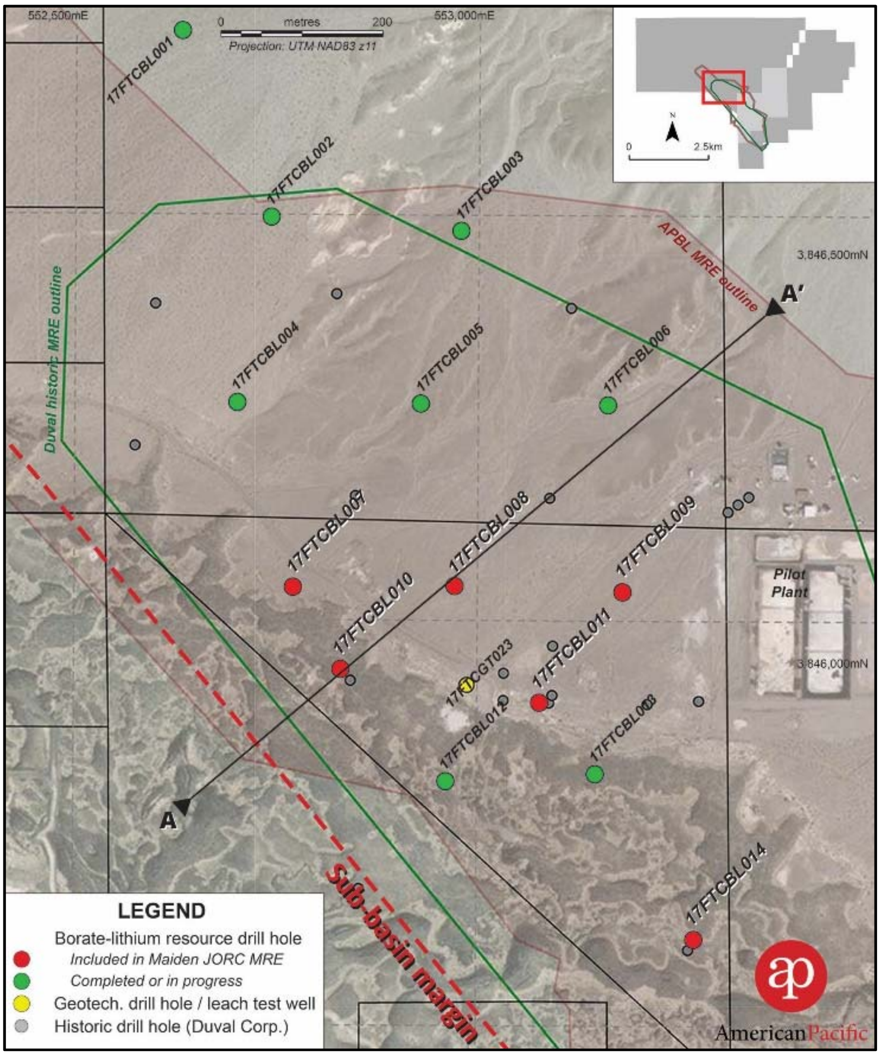

Figure 10. Plan view of resource drill holes used in JORC MRE.

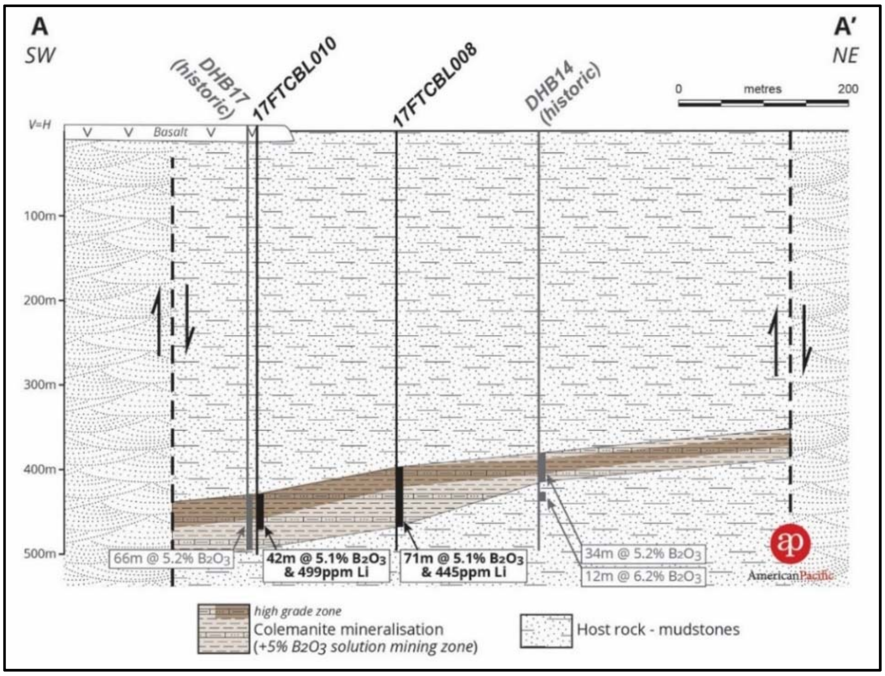

Figure 11. Cross-section through the Fort Cady deposit.

Table 4. Summary of in-situ mineral resources (5% B_2O_3 cut-off)[1].

Indicated Resource	**Tonnes (million)**	**B_2O_3 (wt %)**	**H_3BO_3[4] (wt %)**	**Li ppm**	**B_2O_3 (Mt)**	**H_3BO_3 (Mt)**
Elementis Unpatented - FCCC[2] Leased, FCCC Patented - Surface & Minerals	29.83	6.07	10.80	403	1.81	3.22
SCE[3] Patented - Surface & Minerals	21.12	6.91	12.30	390	1.46	2.60
Total Indicated Resource	***50.95***	***6.42***	***11.42***	***398***	***3.27***	***5.82***
Inferred Resource	**Tonnes (million)**	**B_2O_3 (wt %)**	**H_3BO_3 (wt %)**	**Li ppm**	**B_2O_3 (Mt)**	**H_3BO_3 (Mt)**
Elementis Unpatented - FCCC Leased, FCCC Patented - Surface & Minerals	2.21	5.72	10.18	363	0.13	0.22
SCE Patented - Surface & Minerals	26.40	6.13	10.91	320	1.62	2.88
FCCC - Surface; State of CA - Minerals	13.46	6.62	11.77	393	0.89	1.58
Total Inferred Resource	***42.08***	***6.26***	***11.14***	***346***	***2.64***	***4.69***
Total Resource	**Tonnes (million)**	**B_2O_3 (wt %)**	**H_3BO_3 (wt %)**	**Li ppm**	**B_2O_3 (Mt)**	**H_3BO_3 (Mt)**
Elementis Unpatented - FCCC Leased, FCCC Patented - Surface & Minerals	32.0	6.0	10.8	400	1.9	3.4
SCE Patented - Surface & Minerals	47.5	6.5	11.5	351	3.1	5.5
FCCC - Surface; State of CA - Minerals	13.5	6.6	11.8	393	0.9	1.6
TOTAL INDICATED & INFERRED RESOURCES	***93.0***	***6.3***	***11.3***	***374***	***5.9***	***10.5***

[1] Discrepancies in the subtotals and totals are due to rounding; [2] FCCC (Fort Cady California Corp.) is a fully owned subsidiary of ABR; [3] SCE – Southern California Edison; [4] Boric acid (H_3BO_3) equivalent % = 1.78 x B_2O_3%.

In total, 45.5 Mt or 49% of the total MRE is under 100% ownership or control of FCCC, a fully owned subsidiary of the Company. 79.6 Mt or 86% of the total MRE occurs within the approved Operating Permit region approved for commercial-scale operations which was awarded to FCCC in 1995. 32 Mt or 34% of the total MRE that occurs in the Operating Permit region is under full ownership of the Company. 47.5 Mt or 51% of the total MRE is contained within the Southern California Edison ("SCE") Land Title. The SCE Land Title occurs fully within the Operating Permit area which bestows all mining rights of the deposit to FCCC.

The estimation methodology for the historic mineral resources (Duval, 1983; Geosolutions, 1990) was reviewed for comparison with the JORC MRE. It is noted that no geostatistical methods were utilised in the historical MRE. In addition, "waste" holes or below grade data was discarded from the modelling process, which means that grades below cut-off were not allowed to influence the rest of the model. While the 'waste' holes were used to delineate the body, this type of approach can lead to overestimation both in terms of grade and tonnage, once cut-offs are applied.

Figure 12. Core photo, drill hole 17FTCBL0014.
Note the variability of the core, including finely banded clay, and more competent evaporitic (mostly anhydrite, the lightest coloured material) sections. Depth measurements are in feet.

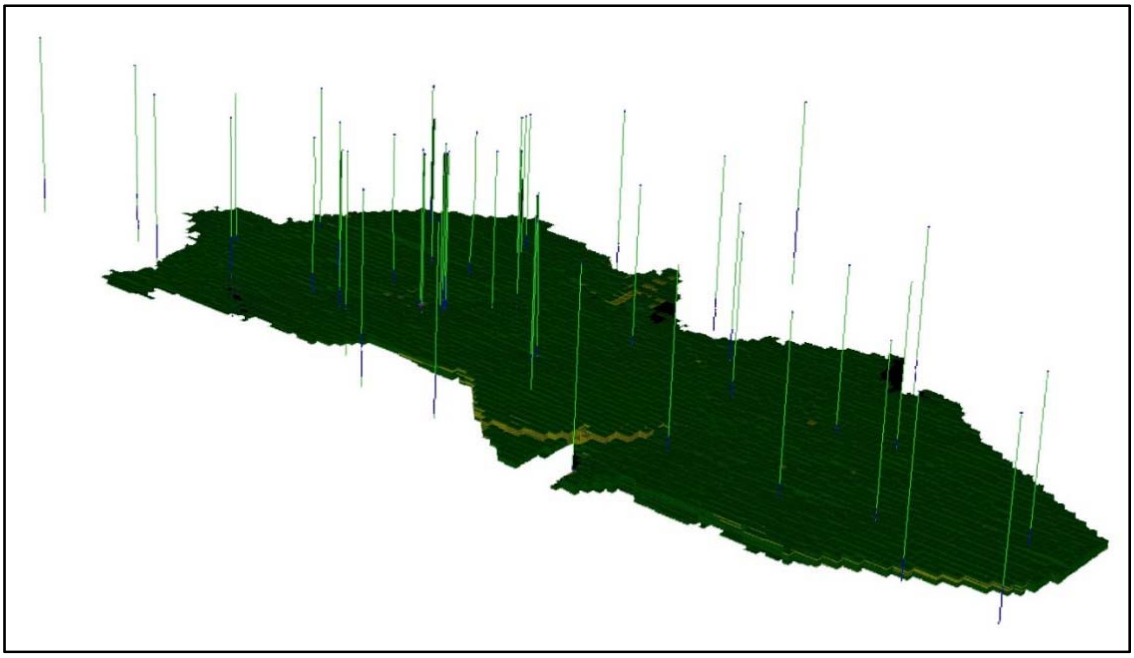

Figure 13. Oblique view of Fort Cady block model (Indicated Kriging shell), looking NW. Drill hole traces plotted.

5 SOLUTION MINING

The ore zone is at approximately 400m depth ranging in thickness from 20 – 80m. For Phase 1 production of 82,000tpa (90,000stpa) boric acid, approximately 1.03 Mt of ore will require dissolution (at 70% extraction ratio). For Phase 2 production 246,000tpa (270,000stpa) boric acid, approximately 3.1 Mt or ore will be required for dissolution at the same extraction ratio. The Life of Mine ("*LOM*") is set at 25 years for financial modelling purposes. However, the JORC Mineral Resource estimate is substantial enough to support mining operations in excess of the 25 years.

The leaching agent will be hydrochloric acid ("HCl") with heat being supplied to raise the temperature of the pregnant leach solution ("PLS") to 52°C (125°F), The objective is to inject the solution into the ore body and dissolve 9.5% by weight boric acid (H_3BO_3). The acid reacts with the mineral colemanite to produce boric acid and calcium chloride. Following primary crystallisation of boric acid, a regenerated liquor containing 4% HCl and 4% boric acid will be injected at a temperature of 52°C (125°F) and a flow rate of 786 gpm.

The well field would be operated in a "push and pull" mode whereby the injection solution would first be injected into the well and then allowed to remain in the formation for a period of 4 to 12 hours to facilitate its reaction with the ore body (Dames & Moore, 1993; FCMC, 1996). The pH of a sample of solution withdrawn from the well would be tested, and if it is found to be low (i.e., the solution is still acidic), the injection solution would be left in the well for a longer period of time. Once the chemical reaction is thought to have reached equilibrium, the boron-rich solution would be recovered by use of submersible pumps and pumped to the processing plant. With this mode of operation, approximately $^1/_3$ of the wells would be in the injection mode, $^1/_3$ in the reaction mode, and the remaining $^1/_3$ in the recovery mode (Dames & Moore, 1993; Simon Hydro-Search, 1996). The mode of each well will be inter-changeable. Over time, as resources are exhausted in specific localities, new wells will be drilled to replace those which are depleted.

Due to the time necessary for start-up and shut-down of the integrated process, operations would be continued 24 hours a day, 350 days per year at 90% availability. This continuous operation is anticipated for both the well field and the process plant.

5.1 Well field

The ore-body well field area as referenced in the 1994 Fort Cady Mining & Reclamation Plan (94M-04) for 90,000 stpa boric acid states the well field will encompass approximately 1.1 km^2 (273 acres) of disturbed lands which is capable of supporting in excess of 200 wells. Table 5 and Table 6 provides a summary of well field parameters for the different production phases targeted in the Study.

Well flow rates are estimated to be 45 gpm during the PLS recovery phase. To accommodate well field planning and mine scheduling, it is estimated that net recovery flow rates are 15 gpm to reflect that each well is only in recovery mode for $^1/_3$ of the time. Based on well recovery flow rates and PLS boric acid head grade (9.5% H_3BO_3), of which 4% H_3BO_3 is re-injected, each well will produce approximately 1,500tpa B.A. per year with each well estimated to have a life of 8 years. Figure 14 schematically highlights well field production hole array and well development profile.

Table 5. Phase 1: 82ktpa (90k stpa) – Well field development and ore depletion.

Phase 1: 82ktpa BA	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 9	Yr 10	Yr 11	Yr 12	Yr 17	Yr 18	Yr 19	Yr 20	Yr 25
Constructed wells	16	21	19	0	38	18	0	0	38	18	0	38	0	38
Abandoned wells	0	0	0	0	0	38	18	0	0	38	18	0	0	38
Active wells	16	37	56 ---------->											
Leach injection rate (gpm)		786 ---------->												
Boric acid production rate (tpa/well)		1,468 ---------->												
Boric acid produced (ktpa)		54.3	82.0 ---------->											***2.03 Mt total***
Ore leached per year (Mtpa)	0.69	1.03 ---------->												***26.9 Mt total***

Phase 1: 82ktpa BA				
Land Titles	**km²**	**m²**	**8 yr well area m²**	**Max. wells in Title**
Elementis - FCCC Leased	0.5298	529,800	2,827	187
Phase 1 leached ore (t):	**26,925,622**		**Wells required LOM:**	168
Contained B_2O_3 (t)	1,634,385		BA tpa per well	1,511
Contained H_3BO_3 (t)	2,909,206		BA per well LOM:	12,088
Recovered H_3BO_3 (t)	2,036,444			

Resource Leached	Category	Tonnes	%B_2O_3	Cont. B_2O_3	Cont. H_3BO_3	Recov. H_3BO_3	% LOM
Elementis - FCCC Leased	Indicated	26,925,622	6.07	1,634,385	2,909,206	2,036,444	100%
	Total Indicated	**26,925,622**	**6.07**	**1,634,385**	**2,909,206**	**2,036,444**	**100%**

Table 6. Base Case (Phase 2): 246ktpa (270k stpa) – Well field development and ore depletion.

Phase 2: 246kpa BA	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 9	Yr 10	Yr 11	Yr 12	Yr 17	Yr 18	Yr 19	Yr 20	Yr 25
Constructed wells	16	18	21	54	54	38	18	56	55	38	18	56	55	0
Abandoned wells	0	0	0	0	0	38	18	56	55	38	18	56	55	0
Active wells	16	34	55	109	163 ---------->									
Leach injection rate (gpm)		786 ---------->												
Boric acid production rate (tpa/well)		1,511 ---------->												
Boric acid produced (ktpa)		54	82.0	163.3	245 ---------->									***5.88 Mt total***
Ore leached per year (Mtpa)	0.69	1.09	2.16	3.25	3.25									***74.8 Mt total***

Phase 2: 246ktpa BA				
Land Titles	**km²**	**m²**	**8 yr well area m²**	**Max. wells in Title**
Elementis - FCCC Leased	0.5298	529,800	2,827	187
SCE	0.5114	511,400	2,827	181
Phase 2 leached ore (t):	**74,777,640**		**Wells required LOM:**	487
Contained B_2O_3 (t)	4,721,646		BA tpa per well	1,511
Contained H_3BO_3 (t)	8,404,530		BA per well LOM:	12,088
Recovered H_3BO_3 (t)	5,883,171			

Resource Leached	Category	Tonnes	%B_2O_3	Cont. B_2O_3	Cont. H_3BO_3	Recov. H_3BO_3	% LOM
Elementis - FCCC Leased	Indicated	29,830,000	6.07	1,810,681	3,223,012	2,256,109	40%
SCE	Indicated	21,120,000	6.91	1,459,392	2,597,718	1,818,402	28%
	Total Indicated	*50,950,000*	*6.42*	*3,270,073*	*5,820,730*	*4,074,511*	*68%*
Elementis - FCCC Leased	Inferred	2,210,000	5.72	126,412	225,013	157,509	3%
SCE	Inferred	21,617,640	6.13	1,325,161	2,358,787	1,651,151	29%
	Total Inferred	*23,827,640*	6.09	*1,451,573*	*2,583,801*	*1,808,660*	*32%*
	Total	**74,777,640**	**6.32**	**4,721,646**	**8,404,530**	**5,883,171**	**100%**

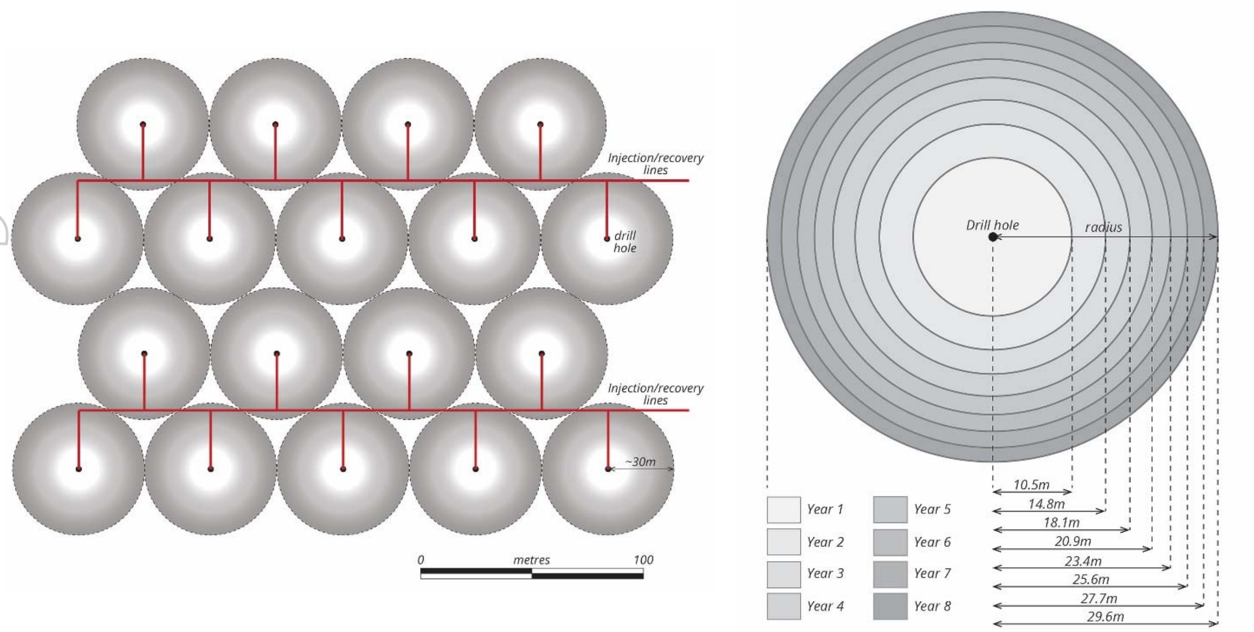

Figure 14. Schematic of proposed well field array (left) and estmiated production well development by year (right).

5.2 Production targets

The estimated resource underpinning production targets in this report have been prepared by a Competent Person in accordance with the requirements of the JORC Code (2012) as announced to the ASX on 12th December, 2017 (Section 4). Readers are referred to Annexure A – Modifying Factors, for further details about the parameters and assumptions underpinning target production rates for the Project.

Boric acid production for Phase 1 output rates of 82ktpa boric acid over a 25 year LOM are fully underpinned by Indicated category MRE located within the Elementis – FCCC leased land titles which represents 27% of the total Fort Cady JORC (2012) MRE. Given the size of the resource, the Company's business plan to treble production rates to ca. 246ktpa of boric acid as envisaged by Phase 2. 68% (50.95Mt) of the proposed Phase 2 operation LOM tonnes leached is supported by Indicated category MRE which is estimated to underpin approximately ca. 18 years of the 25 year LOM (74.78Mt). 41%, amounting to 29.8 Mt of the Indicated resource MRE is located within the Elementis – FCCC leased land titles which underpins approximately the initial 11 years of targeted production. The remainder occurs in the SCE land titles and underpins approximately 7.5 years of the LOM. The remaining ca. 6.5 years of the LOM is supported by Indicated category MRE, with the majority of these Inferred resource located within the SCE land titles.

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured or Indicated Mineral Resources or that the Production Target or preliminary economic assessment will be realised.

5.3 Well design, drilling and completion

Wells will be located on a spacing of 30 metre (~100 feet) (Figure 14), will average 457 metres (1,500 feet) in depth and will be drilled with conventional rotary technology. Field tested materials of construction will be used throughout the well field. The well field surface fluid distribution layout will have a capacity of 786 gpm. There will be separate lines for injection and recovery operations. A proposed site layout map is shown in Figure 15.

The basic well design that will be used for commercial well installation has been proven to be successful in the Ft Cady ore body for both injection and recovery wells (FCMC, 1996) (Figure 16). This method utilises a 12¼ inch hole, using conventional rotary technology, drilled completely through the ore body. A large diameter hole is necessary to accommodate 7 inch fibreglass (FRP) casing. The casing is then run to a pre-selected depth above the ore body with a cement basket on the bottom joint of casing and five centralisers located at intervals along the length of the casing. The casing is then cemented to the surface. After the cement has set, the well is re-entered and a string of drill pipe is run to the bottom. A combination of air and foam is used to clean the casing and open hole interval.

5.4 Well field and piping distribution systems

The schematic of the proposed well field with well locations and piping layout are presented in Figure 15 and Figure 17. High Density Polyethylene (HDPE) plastic has been selected as the material of construction for the surface piping. Project experience has shown that HDPE is resistant to the harsh desert climate for periods of time greater than 10 years. HDPE is also very acid resistant and can withstand higher temperatures than equivalent PVC without loss of working life (FCMC, 1996). The primary injection and recovery trunklines will be identical 8" HDPE pipe and the secondary distribution piping will be 2" HDPE pipe. HDPE is very flexible thus eliminating a large number of 90 degree and 45 degree elbows.

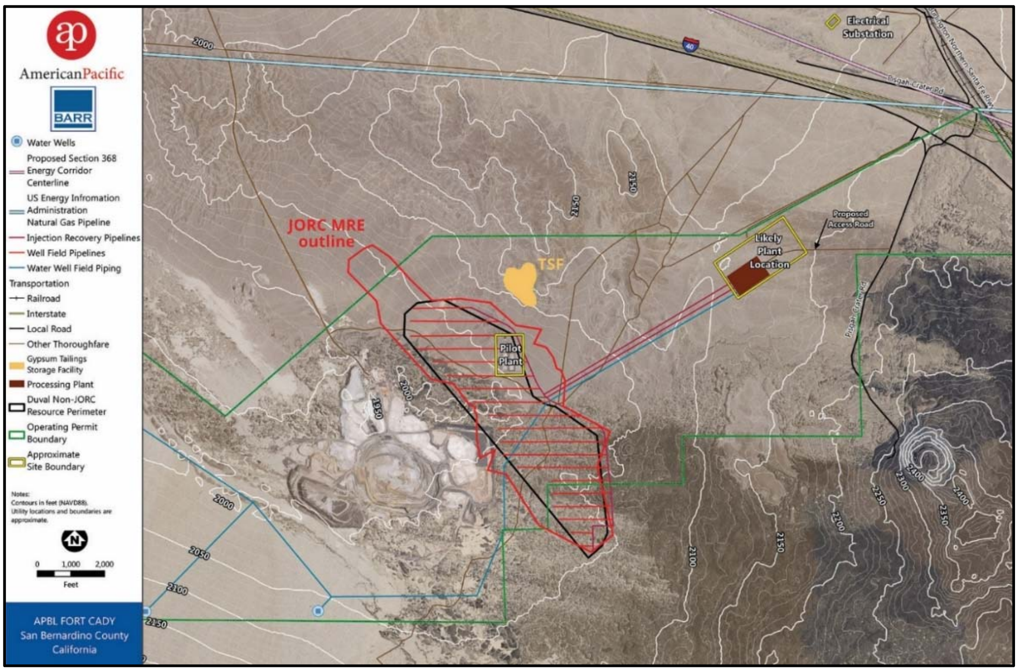

Figure 15. Site Plan of Fort Cady Borate and Lithium Project.

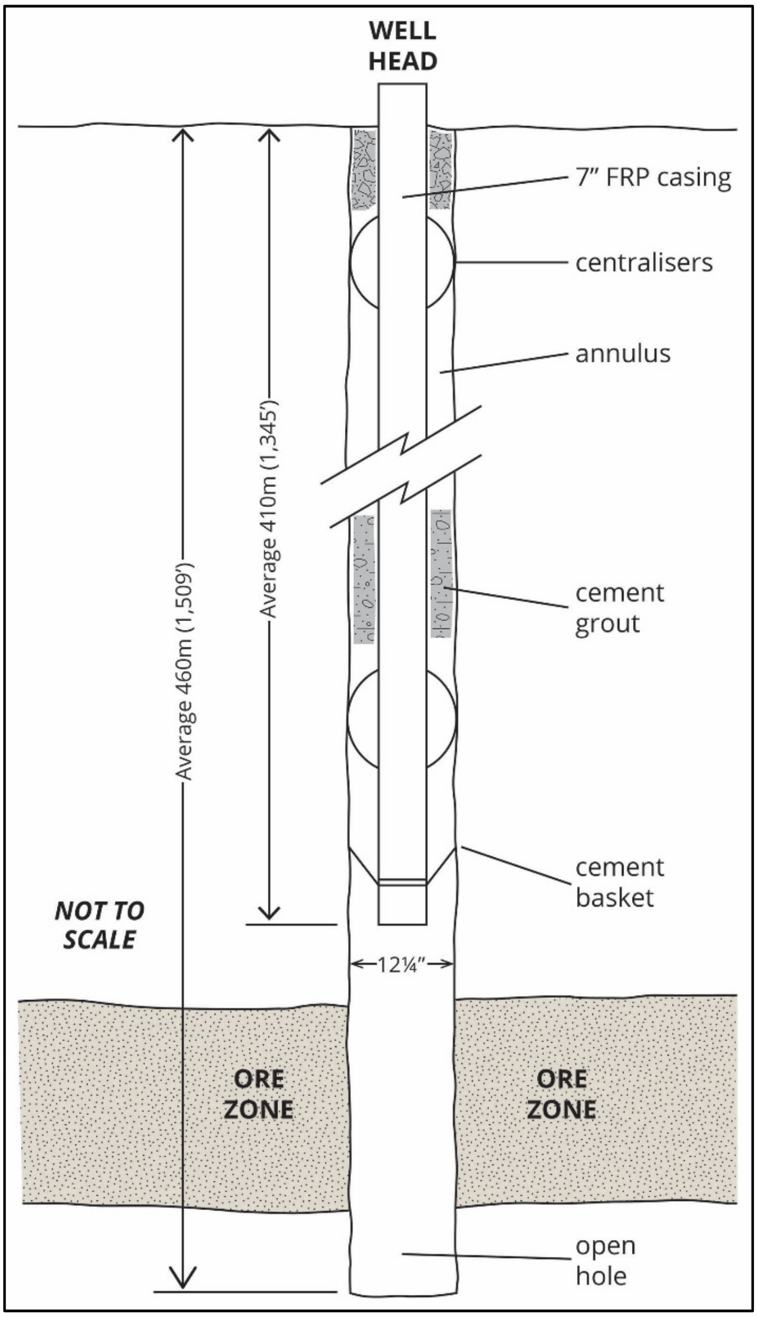

Figure 16. Schematic of injection/recovery well design.

5.5 Well heads and downhole pipe and pumps

Well heads will be constructed of fiberglass. The strength of fiberglass is needed to support the weight of the downhole pump, electric cable, pump pipe string and the column of water in the pipe. For the most part, exterior well head parts will be identical for both injection and recovery wells. Ten horsepower submersible pumps will be used to recover the pregnant borate solutions from the ore body. The submersible pumps will be set in a typical well with 305m (1,000ft) of downhole pump pipe (FCMC, 1996).

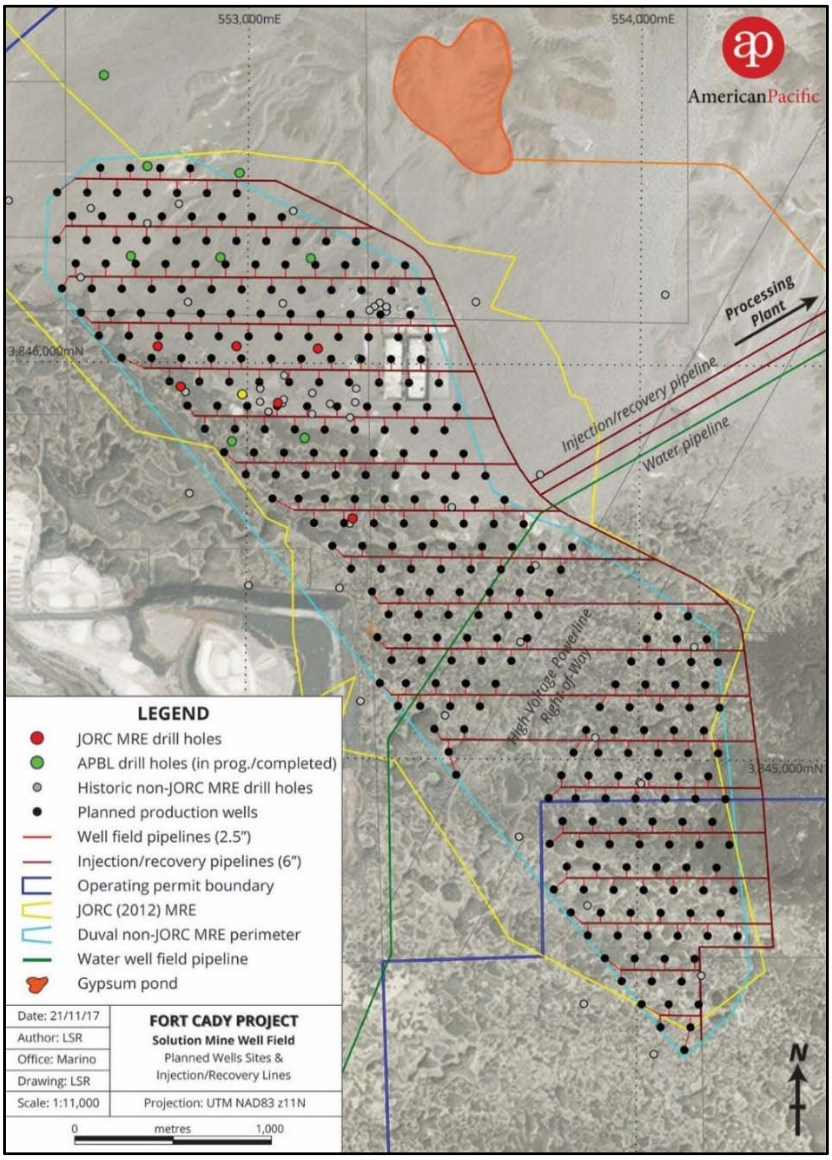

Figure 17. Schematic representation of well field layout highlighting production well locations and piping.

5.6 Electrical distribution system

The three phase power will be transferred to the well field through overhead lines at 13.8KV. Ground mounted transformers will step-down the power to 480 volts. Distribution panel centres will be utilised to send power to individual wells in groups. In addition to the electrical distribution wire, signal wire will be used to send data from the well head flow meter to the well control centre at the plant.

5.7 Miscellaneous

In order to provide access to well locations during the construction phase and for maintenance during commercial operations, some roadways will be built in the lava area.

Labour costs for all services and equipment installations are included in the Opex estimate. A surface construction crew will assemble the well heads, operate the pipe fusion machine, and set submersible pumps into the wells.

6 PROCESSING

6.1 Boric Acid Production

Barr Engineering Co. ("Barr") was engaged by the Company to manage its mineral processing program. The processing program built on a lab-scale test work, pilot-scale field tests and feasibility study level studies completed by previous owners on the Project. The process for the exploitation of the Fort Cady ore body by in-situ solution mining and production of technical-grade boric acid is based on simple, well-established chemical and physical reactions. The flowsheet utilises standard industrial chemical processing equipment.

In-line with the existing Operating Permit and EIS/EIR, the process design evaluated boric acid production of 90k stpa (Phase 1). Following is a summary of the process design and plant layout required for Phase 1. Following commissioning of Phase 1, the Company intends on attaining the requisite permits to up-scale boric acid production to 270k stpa. The plant configuration is designed such that Phase 2 expansion will involve the modular addition for a further capacity of 180k stpa of boric acid production.

As part of the processing work program, Barr reviewed historical information and identified several potential mineral process flowsheets for the production of boric acid. Simple mass and energy balances were modelled in METSIM™ for each option and Class 5 operating costs projected. Mechanical cooling was finally chosen as the favoured processing route for crystallisation of boric acid as boric acid given its solubility relationship with temperature (Figure 18). Mechanical cooling ranked highest in several key parameters, including water consumption, energy requirements, plant footprint and operating efficiency.

The reaction between the leach solution and the colemanite which produces boric acid can be summarised by the following:

$$[2CaO \cdot 3B_2O_3 \cdot 5H_2O] + 4HCl + 2H_2O \rightarrow 6H_3BO_3 + 2CaCl_2$$

colemanite + hydrochloric acid + water → boric acid + calcium chloride

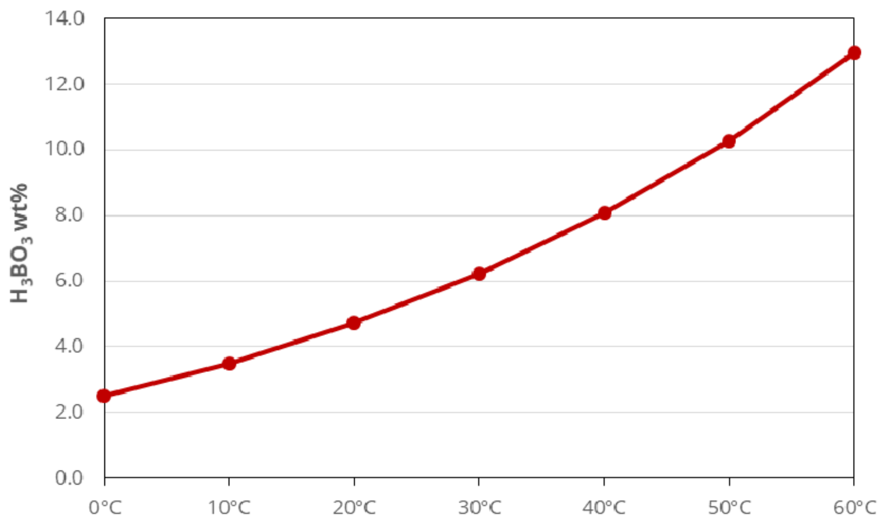

Figure 18. Borid acid solubility curve versus temperature..

6.1.1 *Boric acid process description*

Following solution mining, the separation of boric acid from impurities will be performed by three-stage cooling crystallisation. The Company proposes to produce a high purity (99.99%) boric acid (H_3BO_3) product. It is envisaged the process design will consist of the following steps:

1. Cooling to produce crude boric acid crystals.
2. Collection, de-watering and re-dissolution of the crude crystals to produce a concentrated boric acid solution.
3. Cooling recrystallisation of pure boric acid.
4. Crystal de-watering and drying.
5. Purging of 4% boric acid stream following primary crystallisation and regeneration of the injection solution by sulphuric acid acidification of the raffinate.
6. De-watering and disposal of the gypsum stream.

Following is a more detailed description of the process design. The processing steps are shown in Figure 19.

6.1.2 *Purification and crystallisation*

The production 90k stpa of boric acid will require the dissolution of 1.03 Mt of ore per year, at an estimated 70% extraction of borate values. Boron will be extracted by solution mining using hydrochloric acid (HCl) as the leaching agent. Heat will be supplied to raise the temperature of the pregnant leach solution ("*PLS*") to 122°F (50°C). The objective is to dissolve 9.5% by weight boric acid (H_3BO_3). Regenerated liquor containing 4% HCl and 4% H_3BO_3 will be injected at a temperature of 52°C (125°F), and a flow of 786 gpm. The thermal requirements for the wellfield are minimal, with steam usage near 10,000 lb/h.

The separation of boric acid from calcium chloride and other impurities will be performed by cooling crystallisation. PLS received from the mine will be first clarified and then filtered through a multimedia filter bed to remove insoluble impurities. The crude boric acid crystallisation circuit will include three stages that reduce the PLS temperature from 50°C to 15°C. The first two stage will be cooled by third stage recycled mother liquor. The third-stage will be cooled to the final temperature 15°C by chilled (5°C) water. The chiller refrigerant condenser will be air-cooled to minimise water consumption. The chiller cooling load will be ~10 MMBTU/h.

The crystallisers will be forced circulation types and the bodies will be maintained at 25-30% solids by retaining solids. All solids and liquid will advance to the third stage. The third stage crystalliser product will be concentrated by cyclones followed by a de-watering on a horizontal belt filter to produce a washed crude boric acid cake. This crude boric acid will then report to the product re-crystallisation circuit. The decant liquor from the cyclones and filter reports back to the chilled crystalliser circuit.

In the re-crystallisation circuit, the crude boric acid cake will be re-dissolved in an externally steam heated dissolution tank to produce a 25% boric acid solution at 95°C. The concentrated boric acid liquor will then be cooled sequentially to 70°C in three vacuum cooled stages. Vacuum is pulled on the re-crystallisation train by a two-stage water cooled condensing system with, an inter-stage steam ejector. The crystallisers will be of the Draft Tube Baffled (DTB) type. The bodies will be controlled at 25-30% solids by retaining crystal.

The final crystalliser will feed cyclones followed by a pusher-type centrifuge to produce a washed crystal cake suitable for drying and packaging/loadout. Drying could utilise a tray dryer (Wyssmont), a direct fired kiln, or steam heated fluid bed. For the purposes of this Scoping Study, a tray dryer has been assumed.

The third-stage crystalliser mother liquor at 70°C and 15.7% BA will be re-heated by counter-currently passing through the first and second-stage recrystalliser vapour condensers and will then report to the crude BA dissolving tank.

6.1.3 Acid regeneration

The mother liquor leaving the first stage crude crystalliser heat exchanger will be directed to re-generation. The liquor will be reacted with sulphuric acid to precipitate calcium as gypsum and strontium as strontium sulphate while regenerating HCl for return to the wellfield. The precipitation chemistry is as follows:

$$2CaCl_2 + 2H_2SO_4 + 4H_2O \rightarrow 2CaSO_4 \cdot 2H_2O + 4HCl$$

calcium chloride + sulphuric acid + water → gypsum + water + hydrochloric acid

$$SrCl_2 + H_2SO_4 \rightarrow SrSO_4 + 2HCl$$

strontium chloride + sulphuric acid → strontium sulphate + hydrochloric acid

The precipitated gypsum is thickened and a portion of the underflow is recirculated to the precipitation step. Following thickening, filtration on a rotary drum vacuum filter is performed to produce a 75-80% solids cake suitable for dry stacking. The quantity of wet cake to be stored in the TSF was calculated at 15.8 ton/hr (13.6 t/h) equating to 120,000 stpa (108,862 tpa).

6.1.4 Product loading and shipping

In the product loading and shipping facility, the boric acid crystals would be sent first to the centrifuge, where the majority of the water would be removed. From the centrifuge, they would be conveyed to the natural gas-fired dryer, which would remove the remaining moisture. The product dryer maximum head input is 11 MMBTU/hr. When the product is dry, it would be sorted by size through the use of sizing screens. The dried and screened boric acid crystals would then be delivered to a bagging system which would produce different sized bags of product. Typically, the filled bags are placed on pallets within the process plant and can be loaded onto trucks or railroad cars using fork lifts. Alternately, the product can be routed to bulk loading dock facilities, from which bulk trucks or railroad cars can be loaded.

6.1.5 Process parameters & design

The process will require about 87 gpm of well water, 23,000 lb/h of 100 psig steam. With process heating provided by burning 426 scfm of natural gas. It is proposed to initially purchase the required 10 MW electrical power from Edison Power. Reagent requirements include; 31.45% HCl (1.22 t/h), 93% H_2SO_4 (7.27 t/h), flocculant, cooling tower and boiler feed water chemicals, and a neutralising agent (undefined) for purge liquor treatment (Table 7). The process design flow sheet is shown in Figure 19.

Table 7. Process flow design parameters estimated for Phase 1, 82ktpa BA production scenario.

Flow gpm	t/h
Return Water/Liq	198.1
Makeup Water	7.683
HCl	1.223
Injection	207.0
Cavity Loss	-13.6
Dissolved Ore	15.6
PLS	209.0

Reagent Supplied	
H_2SO_4	93%
HCl	31.45%
H_2SO_4 as supplied	US$165
HCl as supplied*	US$0

Consumption Actual		
BA	t/h	11.92
HCl Used (100%)	t/h	0.38
HCl Used (100%)	t/t BA	0.032
H_2SO_4 used (100%)	t/h	6.76
H_2SO_4 used (100%)	t/t BA	0.57
HCl (31.45%)	t/h	1.22
HCl (31.45%)	t/t BA	0.10
H_2SO_4 (93%)	t/h	7.27
H_2SO_4 (93%)	t/t BA	0.61
HCl Cost*	$/t	0.00
H_2SO_4 Cost	$/t	100.62
Total Acid Cost	$/t	100.62

** cost of HCl estimated to be zero as HCl produced as a by-product of SOP production.*

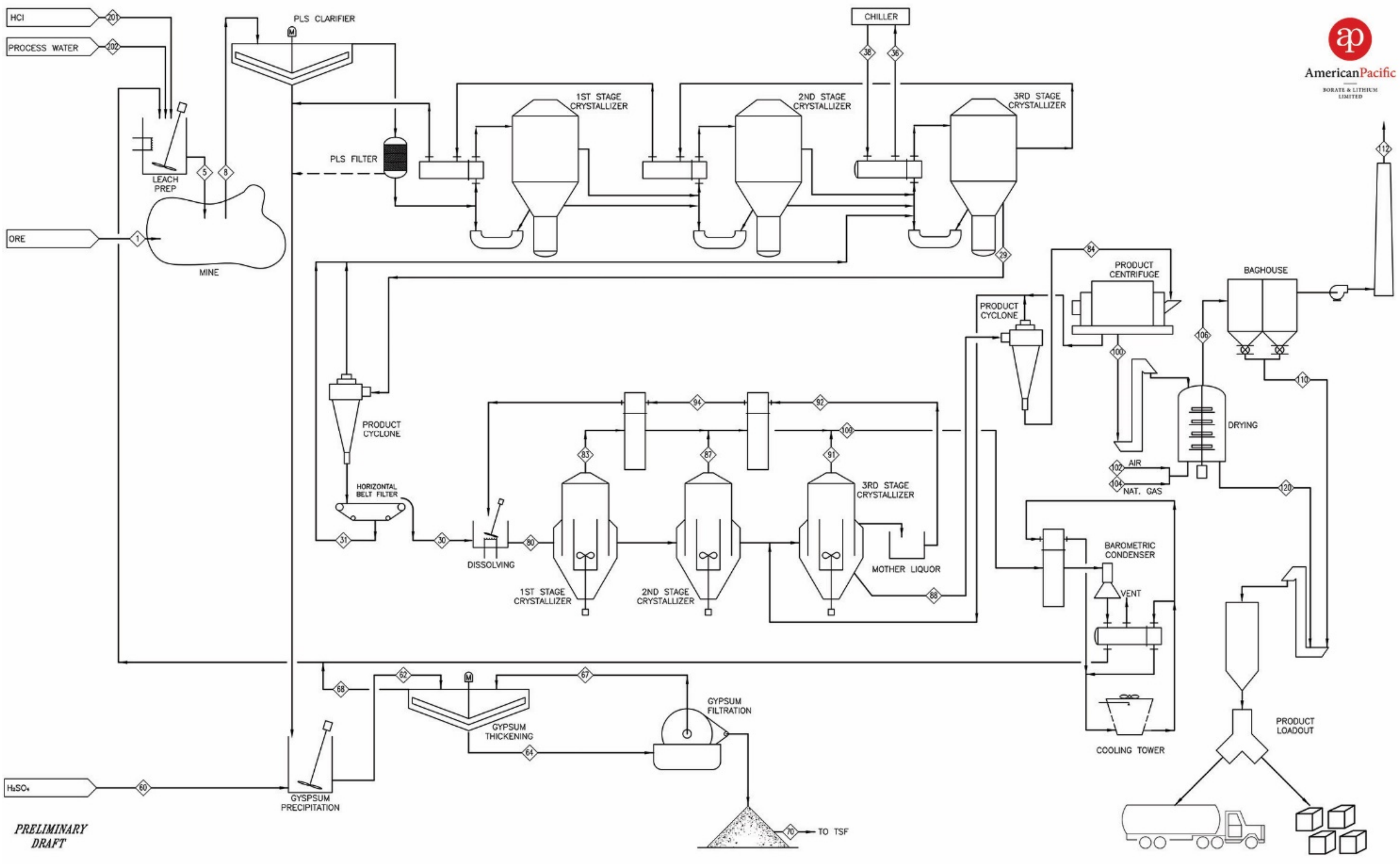

Figure 19. Summary process flow design.

6.2 Sulphate of Potash Production

The Company is proposing to use the technically proven Mannheim process to produce potassium sulphate ("SOP").

At its simplest, potassium chloride or MOP and sulfuric acid are placed into a Mannheim furnace and heated using natural gas. A reaction occurs that results in the production of SOP and hydrochloric acid (HCl).

Importantly, the resulting HCl is then used in the Company's process to produce boric acid.

Around 50% of global production of SOP uses the Mannheim Process.

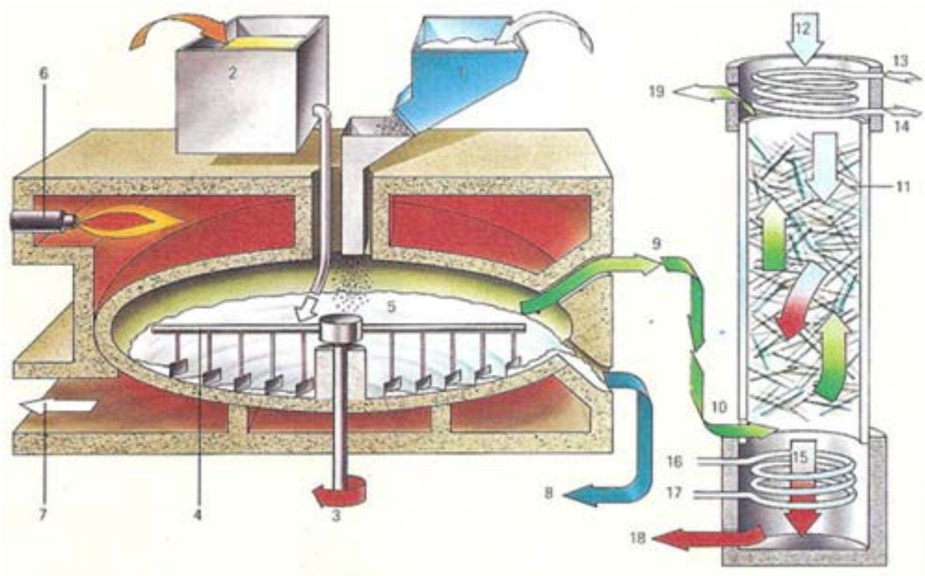

Figure 20. Graphical representation of the operation of a Mannheim Furnace

Key to Figure 20:

1) Potassium chloride is added to the furnace.
2) Sulphuric acid inlet by way of lead-lined tank.
3) Rotating shaft.
4) Rotating stirrers mix reactants.
5) Reaction chamber. The salt and sulphuric acid react to form sodium sulphate and hydrochloric acid, which comes off as a gas hydrogen chloride because of the high temperature.
6) Oil burner heats reaction chamber.
7) Combustion gases outlet.
8) Salt cake (sodium sulphate) outlet.
9) Hydrogen chloride gas led off.
10) Hydrogen chloride gas piped into the absorption column below the packed section.
11) The absorption chamber is packed with Raschig rings made of glass. On the surface of these rings the hydrogen chloride combines with water, emitted at the top of the tower (12), to form hydrochloric acid. This reaction releases heat.
12) Water inlet. The water passes down the packed column and dissolves the hydrogen chloride gas.
13) Colling water inlet.
14) Cooling water outlet.
15) Hot concentrated hydrochloric passes into the cooler at the bottom of the column.
16) Cooling water inlet.
17) Cooling water outlet.
18) Cool hydrochloric acid led out to storage tanks.
19) Spent gas vent.

7 HYDROGEOLOGY

The ore body lies within the central portion of the project area which consists of a structurally uplifted claystone block bounded on the west and east by active faults. Clay fault gouge has developed along these faults which reportedly results in an effective barrier to ground-water movement across the faults. The central project area is located within this fine-grained block and is not considered water bearing due to the low porosity and permeability of the claystone.

The project area west or the Pisgah Fault lies within the southeastern end of the Newberry Ground Water Basin. The eastern portion or the project area, east of Fault B is underlain by predominantly coarse-grained alluvium. Depth to ground water in the Newberry Basin ranges from approximately 50 feet below ground surface ("bgs") to over 200 feet bgs. Ground-water flow in the Newberry Basin is generally toward the south and southeast (Simon Hydro-Search, 1993).

7.1 Central project area hydrogeology

Depth to ground-water measurements from seven project area test wells in the central project area collected in February 1990, ranged from 145 to 348 feet bgs. These seven wells are with 0.8 km from one another. Because these wells were not completed within the same intervals, the variations observed in the depth to ground water may be an indication of poor hydraulic communication between intervals (Simon Hydro-Search, 1993).

A multiple-well constant-rate injection test was performed in the seven area test wells in 1990 to evaluate the hydraulic properties of the ore body. Results of the tests revealed that the inherent permeability of the ore body is very low, between 3 to 8 millidarcies (mD). These results are consistent with reports that test wells completed in the ore body have been observed to require months to re-equilibrate following injection or pumping (Simon Hydro-Search, 1993).

7.2 Proposed water production

The planned water supply well network is located west of Pisgah Fault. The safe yield of the aquifer was calculated to estimate the amount of ground water that could be withdrawn without causing a long-term decline of the water table, or piezometric surface. Variables of safe yield calculated include: recharge area, infiltration rate and precipitation. Based on an estimated recharge area of 23 square miles, rainfall of 100 to 180 mm (4 to 7") per year for the low lying and higher elevations respectively, and an infiltration rate of 2% to 5% of the annual precipitation, the safe yield of the aquifer is approximately 163 to 405 acre-feet per year. There is a high level of uncertainty associated with this estimate because little data exists. Based on 1994 estimates it is anticipated that 161-acre feet of ground water will be pumped from the Newberry Ground Water Basin for FCMC operations (Simon Hydro-Search, 1993).

7.3 Ground water quality

Ground-water quality in the project area is generally poor. Ground-water samples from the project area generally exceed the recommended drinking water standards of 1,000 milligrams per litre (mg/lt) for total dissolved solids (TDS) and 1 mg/lt for boron (Simon Hydro-Search, 1993).

Ground-water analyses from mining zone wells in the central project area indicate that the formation water is highly saline, with TDS concentrations ranging from 23,300 to 29,800 mg/lt. One sample collected from well P-2 in July 1987, had a TDS concentration of 25,400 mg/l, and a boron concentration of 530 mg/l (Simon Hydro-Search, 1993).

Water quality data from well MM-1, located west of Pisgah Fault within the Newberry Ground Water Basin had a TDS concentration ranging from 1,640 to 1,974 mg/It in four sampling events in 1982. The well was sampled again in 1991 and had a TDS value of 1,440 mg/lt. Water from this well exceeded regulatory drinking water standards for TDS, boron, and sulphate. Most if not all ground water in the area is unusable for human consumption or agriculture due to high concentration of TDS and boron. Only water obtained from the Newberry ground-water basin, located west of the Pisgah Fault is suitable for industrial use. Ground-water quality data for the eastern project area, east of Fault B does not exist (Simon Hydro-Search, 1993).

Degradation of usable groundwater in water-bearing formations located adjacent to the block of mudstone comprising the central project area, due to infiltration of affected ore zone fluids, is not considered likely, due to:

1. The impermeability of the mudstones surrounding the ore body and the apparent barriers to groundwater movement provided by the faults which bound the mudstone block; and
2. The neutralising effect minerals in the formation would have on any acidic mining fluids which escape extraction.

These two factors are discussed in the following sections (Dames & Moore, 1993).

7.4 Hydrogeologic units

The ore body is located within a body of relatively impermeable mudstone in the central project area, which is separated from the southeastern Newberry Basin by the Pisgah Fault. In the hypothesis that the Pisgah Fault forms a relatively impermeable barrier to ground-water movement between the two units is supported by the difference in ground-water elevations across the fault (generally over 100 feet) and the differences in ground-water quality across the fault. Water samples collected in the central project area have TDS concentrations ranging from 23,100 to 29,800 mg/lt as compared to 1,440 to 1,974 mg/Ir from MM-1 collected west of Pisgah Fault (Simon Hydro-Search, 1993).

8 TAILINGS STORAGE

A by-product of the proposed boric mining operation is gypsum. Gypsum cakes will be delivered to the Tailings Storage Facility ("*TSF*"). Gypsum, a calcium sulphate compound, is virtually insoluble in water (L. Ordway, 1992) and a quantitative analysis of the leachate solution completed by WCAS found no metals approaching legal Resource Conservation and Recovery Act (RCRA) limits. Sample results of the gypsum produced during the pilot study showed that the gypsum produced as a product of the borate mining operation is non-hazardous (Simon Hydro-Search, 1993).

The gypsum deposition area will encompass approximately 16 acres of land and will include one dam approximately 11.2m (37 feet) high. A double plastic liner will be utilised on the side of the dam that will be in contact with the gypsum cakes. A liner is not proposed for the base of tile gypsum deposition area. FCMC has applied for a waiver for waste discharge requirements from the State of California Regional Waler Quality Control Board – Lahonton Region (RWQCB) for the gypsum deposition area. The rational for the waiver request is that the gypsum to be stored in this area is a saleable product and not a waste (Simon Hydro-Search, 1993).

The Company intends to approach companies interested in purchasing gypsum. These companies have performed chemical analysis on the Fort Cady gypsum produced during onsite pilot testing and have confirmed the gypsum to be high quality material of which they are interested in buying. If the gypsum cannot be sold, it would be transported to a gypsum mine, and if this is not feasible, it would be given to a manufacturer of wall board.

9 INFRASTRUCTURE & LOGISTICS

9.1 Water supply

The proposed solution mining project is expected to require approximately 87 gallons per minute (gpm) of process water which is less than that previous contemplated for the Project at 100 gpm. Water will be required to wash the gypsum, and for process cooling, fire protection and various sanitary uses. The proposed water wells will be located on the west side of Pisgah Fault (Figure 21). Currently two water wells exist in this area and five (5) new water wells are proposed. The distance to the most distant proposed water well is 12.9km (8 miles) west of the processing plant (Simon Hydro-Search, 1993).

The above-ground main water delivery line would have a diameter of 3", and the above-ground delivery lines from the individual wells to this main delivery line would be 3" or less in diameter, depending upon the yield of the individual wells. Water lines would be constructed of HDPE pipe. The distance from the farthest well to the process plant would be approximately 7 miles.

Each well would be equipped with a pump and water delivery pipe joining the main water delivery line which leads to the process water surge tank located in the process plant. Pipelines would be constructed of non or low reflective materials.

9.2 Power supply

The power requirements for the Project will be accessed from the existing network adjacent to the I-40 (Figure 15). A 2.4km (8,000 ft) 5KV connection line will be installed above ground from the adjacent electrical substation. The power requirements of the project are estimated to be approximately 10 MW.

9.3 Diesel supply

Diesel requirements would be considerably less than conventional mining operations given the solution mining method being employed. Diesel requirements for vehicles and ancillary equipment could be adequately supplied using standard fuel storage facilities.

9.4 Communications

The site is serviced by mobile communications and internet service. The necessary service companies are available in Barstow if any additional communication installations are required.

9.5 Road & transport routes

The Project is access from I-40 Hector turn-off and then from Route 66. The main access road to be constructed would be one of the first of the facilities to be completed. It would be constructed of base materials and gravel and access the proposed plant site via the Pisgah Crater road. The Project was approved for a rail spur under the Land Use Permits and EIS/EIR. It is not currently the intention of the Company to build a rail spur.

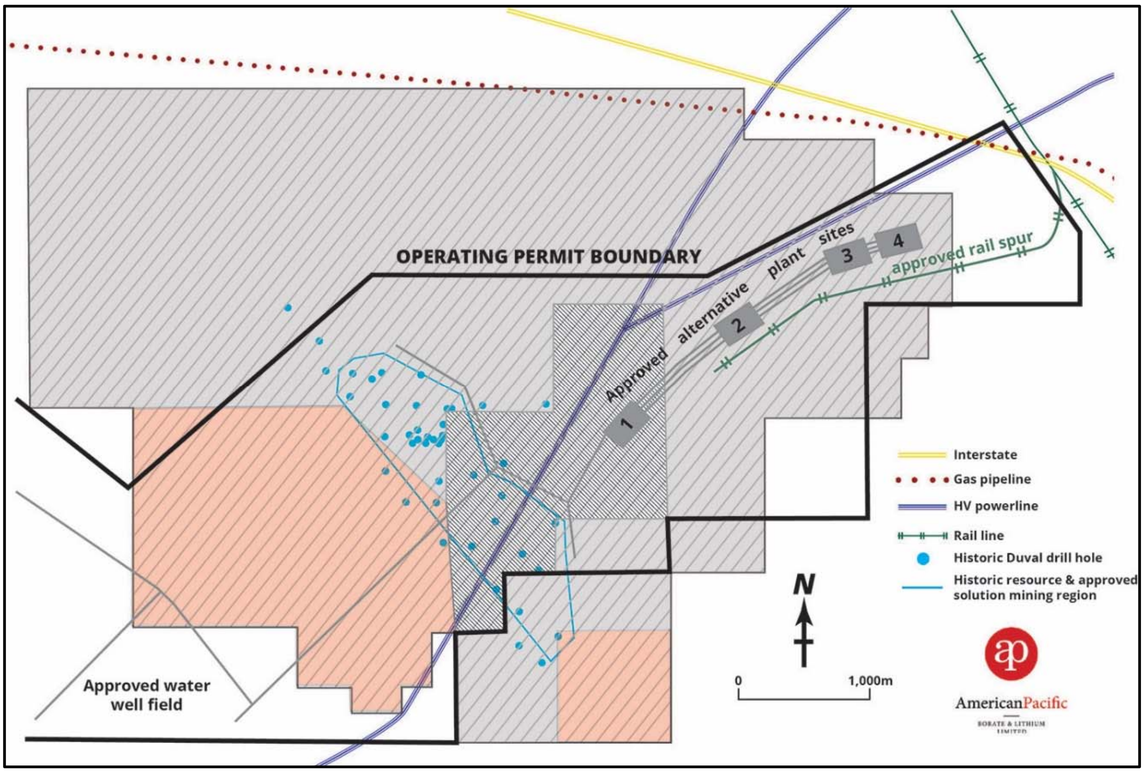

Figure 21. Key infrastructure approved under Land Use Permits & EIS/EIR for Phase 1 boric acid production.

9.6 Gas pipeline

The natural gas pipeline would be approximately 1.8km in length. The pipeline would be constructed between the process plant and the existing Pacific Gas and Electric Company (PG&E) main line. The tie-in would occur at the underpass of Pisgah Crater Road and I-40. 1.8km of 4" pipeline and 15 ft of 8" line would be buried approximately 1m underground where possible. The gas pipe would parallel Pisgah Crater Road on the west side and follow the plant access road to the project site. The natural gas pipeline would be constructed by PG&E.

9.7 Port

Two ports are available in Los Angeles – the Port of Los Angeles and the Port of Long Beach, located approximately 260 km from the Project. For the purpose of this study, it is assumed products are sold mine-gate.

9.8 Labour

The project will employ approximately 90 full-time employees, who would work in alternating shifts 24 hours per day. The Base Case being considered in this study (Phase 2) is assumed to be in operation for approximately 25 years.

Construction for Phase 1 would take 15 months to complete. Construction would be scheduled for normal business hours, therefore without premium pay, as much as possible. However, due to the extreme afternoon temperatures during the summer months in this area, early morning hours may be substituted.

10 PERMITTING

Phase 1 of the Company's business plan envisages 82ktpa (90k stpa) of boric acid and 18ktpa (20k stpa) of sulphate of potash ("*SOP*") production. The boric acid production component of Phase 1 was fully permitted for commercial operations in 1994. The key permits for Phase 1 boric acid production remain active and in good standing (Figure 21). The project area as defined in the permits consists of approximately 6,500 acres, 343 acres of which would comprise disturbed lands. The Company holds land title to approximately 4,409 acres in or adjacent to the approved project area.

Concomitantly with commercial-scale boric acid production, the Company envisaged commissioning a SOP chemical plant to produce standard SOP for local agricultural fertiliser markets and by-product hydrochloric acid ("*HCl*"). HCl is a key input for solution mining operations so its generation as a by-product of SOP production has the potential to greatly enhance the efficiency and financial metrics of the project. The key construction and operating permits for SOP production will need to be applied for.

Phase 2 of the Company's business plan envisages a tripling of production to that in Phase 1, namely the production of 246ktpa (270k stpa) of boric acid and 54k stpa of sulphate of potash ("*SOP*"). The Company will seek an addendum to the existing Phase 1 permits to expand boric acid production. The Company will also seek the necessary approvals for expanding SOP production output.

Following is a summary of the key permits associated with Phase 1 boric acid production (Figure 21). The approval process for Phase 1 SOP production and trebling of production as envisaged under Phase 2 is also summarised.

Figure 21. Status of key permits required for pilot- and commercial-scale operations (Phase 1).

10.1 Boric Acid Production

The Fort Cady solution mining operations have previously been permitted and approved by regulatory authorities for commercial operations as described in the 1994 Mining and Land Reclamation Plan. The land use permits grant approval for a well field and solution mining operation and processing facility with the capability of producing 90k stpa of boric acid (Phase 1). Phase 1 boric acid operations, as detailed in the active Plan of Operations ("*POO*"), Mine and Reclamation Plan ("*MAPR*") (collectively the "*Land Use Permits*") and Environmental Impact Study ("*EIS*") and Environmental Impact Report ("*EIR*") consists of:

- a 273-acre ore body well field;
- a process water supply well network used to produce and route process water;
- a 10-acre processing facility;
- 43.5 acres of ancillary facilities, including a natural gas pipeline to serve a cogeneration power facility and an electrical transmission line;
- a 16-acre 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 entire project site will encompass approximately 345 acres.

The requirements for the POO and the MRP are similar but not identical. The POO and the MRP prepared as one document that includes requirements for all lead agencies. The assessment of the potential updated project environmental impacts is also assessed together in the combined EIS/EIR.

The Company plans to commence Phase 1 construction for the Project in-line with the key Land Use permits and EIS/EIR. For expansion under Phase 2 of operations to 246ktpa (270k stpa) the Company will be required to liaise with the local and federal lead agencies for an addendum to the existing Land Use permits and EIS/EIR. Following is summary of the key permits that are in-place for Phase 1 operations.

10.1.1 Plan of Operations; and combined EIS and EIR

The combined POO and EIS/EIR permits are active and in good standing. The issuing entity was the U.S. Department of the Interior, Bureau of Land Management. The Record of Decision (ROD) with stipulations issued authorising POO (CAMC 20175) occurred on December 30, 1994. The permit is valid until cancelled or proven to be in non-compliance. Financial assurances to insure reclamation at closure are included with County certificate of deposits. To comply with the NEPA, the BLM also certified the 1993 Final EIS/EIR which assessed potential environmental impacts. The POO and the related Biological Opinion (BO) from the U.S. Fish and Wildlife Service (FWS) (1-6-92-F-54), stipulated that prior to construction, Ft. Cady shall transfer to the BLM 341 acres of suitable replacement habitat into a designated preservation area for the Federally and State protected desert tortoise, a listed endangered species. This land transfer was successfully approved and completed in January 1997.

The authorized POO remains active and is tied to compliance with a County approved Mining and Reclamation Plan and maintaining appropriate financial assurances. The POO is readily transferrable to a new owner/operator. The Mining and Reclamation Plan was reviewed and approved concurrently by the San Bernardino County Planning Commission in 1994 as discussed below.

10.1.2 Mining Conditional Use Permit and Reclamation Plan; and combined EIS/EIR

The Mining Conditional Use Permit and Reclamation Plan (94M-04) permit is active and in good standing. The issuing entity was the San Bernardino Land Use Serviced Department Jointly with review from the California Department of Conservation, Division of Mine Reclamation (DMR). The permits allow for mining activities to be develop approximately on 343 acres including an ore body well field (273 acres) for in-situ solution mining and production of 90k stpa of boric acid.

Mining and Reclamation Plan (94M-04) (May 1993) and the 1993 Final EIS/EIR to comply with the California Environmental Quality Act (CEQA) were approved certified by the County Planning Commission on June 23, 1994 with an expiration date of April 2024. The Company is required to submit an annual report and FACE update and fund financial assurance costs for reclamation payable to the County of San Bernardino, the Dept. of Conservation-DMR, and the BLM. The permit is readily transferrable to a new owner/operator and extendable for an additional period of time with an updated plan based on the available resource that exists on-site.

The County acts as the local lead agency to implement SMARA and is overseen by the DMR. The mine is listed by DMR as California Mine ID# 91-36-0124. The County inspects the site annually. The site has an approved Interim Management Plan (IMP) which is required when a site is inactive for over a one-year period to insure maintenance and public safety on the site. This IMP is valid for a five (5) year period ending August 22, 2018 and can be extended for two additional five-year periods prior to its expiration date. Extension of the IMP is a routine process as long as the reclamation bonding is current and annual mine inspections determine that the site is being adequately maintained to protect public safety and the environment with no outstanding condition violations. When the permit expires, new design and development plans will need to be incorporated into an updated Mine and Reclamation Plan.

10.1.3 Water Quality Permit

The "Water Quality Management Permit" (Waste Discharge Requirements) for WDID No. 6B369411001, Board Order No. 6-88-63 adopted May 12, 1988 for pilot and small scale commercial operations (active) and full scale commercial operations, Board Order No.6-95-30 (rescinded) – "Water Quality Permit". The issuing entity is the California Regional Water Quality Control Board, Lahontan Region (RWQCB).

Water Board manages potential impacts to water quality. Under Water Board Order 6-88-63 for the pilot plant, water testing and monitoring wells are currently in place and actively monitored and reported quarterly.

The permit required for commercial-scale (90k stpa boric acid) operations (Water Board Order No. 6-95-30) was rescinded in 2009. A new waste discharge permit application detailing proposed commercial operations and how the project will protect water resources at the site will be required to be completed and submitted to the Water Board for review prior to initiation of commercial operations. Once Water Board staff has deemed the application acceptable and stipulations negotiated, then the application is presented to the Water Board.

A public hearing will be scheduled and following resolution of any potential issues, the Water Board would be expected to issue a new Water Board Order approving commercial operation of the project. Anticipated timeframe for approval is contingent upon development of an updated operating plan with plant design by FCCC. An estimated time of permit receipt is approximately one year. It does not appear that any recent changes to water quality or mining regulations will affect the planned commercial operations. Since ABR holds the land use permits for the site as described above, no other party could apply for a new waste discharge permit on the land held and/or permitted by ABR.

Compliance will be required with the National Pollutant Discharge Elimination System (NPDES) through preparation of an Industrial Storm Water Pollution Prevention Plan (SWPPP) that controls run-off and erosion. These Plans are non-discretionary.

10.1.4 Air Quality Permit

The Air Quality Permit provides the authority to construct and permit to operate stationary sources of air pollutant emissions. The issuing entity is the Mojave Desert Air Quality Management District. Air quality permits were issued to Ft. Cady Minerals Corp., operator number 0318, at equipment location No. 0979 as multiple permits tied to various individual plant components in March 1993. Permits were cancelled at owner's request in 2008.

A new application will be required with details on updated equipment and pollutant controls with calculated air emissions that meet current regulations will be required. It is expected that these permits could be received within eight months of submitting a complete application to the District. Public notice is required but hearings are not expected for the anticipated level of air emissions. Air quality permits are related to assuring best management practices to control air pollution emissions to meet established standards.

10.1.5 Other Non-Discretionary Permits

Other additional operating non-discretionary permits or notifications will be required related to compliance with current regulations and conditions of approval. These remaining minor permits are generally readily obtainable with proper applications and project design to minimise environmental impacts. Issuance timeframes are not considered burdensome. The permitting agencies among others include:

- San Bernardino County Fire Department, Designated Certified Unified Program Agency or CUPA - Fuel storage tanks, spill prevention and control plans, fire safety, hazardous materials and waste production, handling, and disposal, and business emergency plans;
- U.S. Mine Safety and Health Administration (MSHA) – mine safety;

- San Bernardino County Department of Environmental Health Services (DEHS) – domestic and industrial water system, on-site wastewater disposal; and water well drilling and destruction; and
- San Bernardino County Department of Building & Safety - Building and Grading Permits

10.1.6 Further details on active and cancelled permits

As discussed, the Land Use Permits approved by the County for commercial-scale operations are still valid an in effect. The Fort Cady Borate Mine operation is listed by the OMR under California Mine ID# 91-36-0124 and by the RWQCB state register as an operating mine, WDID NO. 6B368020008. Annual County and state inspections of the Fort Cady property are carried out as per the terms of the existing permits, and these have generally been conducted each year since approval. Financial assurances are payable to the County, the Dept. of Conservation-DMR, and the BLM.

The commercial scale (90,000 stpa production) "Air Quality Permits" and "Water Quality Permit" were cancelled at the request of the project operator in 2008/2009; both need to be re-activated with new applications in order to commence commercial operations. Small-scale pilot plant operations remain currently permitted a valid and ongoing water quality permit (see below).

10.1.7 Pilot plant re-start

An initial scenario studied is the re-start of the pilot plant operations under the existing land use permits and Water Board Order No. 6-88-63. As discussed above, The Company is liaising with the relevant authorities regarding the re-start of pilot plant operations. At the time of writing this report, ground activities for pilot-scale testing had commenced, including the drilling and installation of a test well. The existing PLS pond has been cleaned out a work plan has been created to evaluate the condition of the liner and the necessity or otherwise for a replacement liner. An updated closure plan and post-closure monitoring plan has been submitted to the Water Board along with financial assurance calculations. These are currently being reviewed by the Water Board personnel.

10.1.8 Initiation of Commercial Operations

Prior to the development of the Project, the key agencies will be provided with updated design and development plans which will be shown to be consistent with existing permit descriptions and environmental assessments and current regulations for Phase 1 boric acid commercial-scale operations. The BLM and the County will provided with revised Plans and will review these revised Plans through the NEPA and CEQA process. A combined Environmental Assessment (EA) for NEPA and Initial Study (IS) for CEQA will be prepared and compared to the impacts, mitigation measures, and findings from the 1994 certified EIS/EIR to determine if the revised plans are consistent with the 1994 approved Plans and EIS/EIR and do not create any substantial new environmental impacts or are determined to create a substantial deviation as defined by SMARA (Section 3502(d)).

A greenhouse gas assessment will need to be completed as part of the BLM/County review of updated plans and by the MDAQMD since this was not required in 1994. The BLM will also assess how the project will affect the recently approved Desert Renewable Energy Conservation Plan (DRECP, September 2016). An initial review of the DRECP shows that the Ft. Cady project is outside any potentially sensitive designations that could be inconsistent with the mine project (Lilburn Corp., 2017).

The timeline for development for the project that the Company is targeting is to be construction ready by 2019. Following final permitting and approval, estimated to be in 1H 2019, the Company would commence construction. The estimated construction time is 12 – 15 months which will put the Company in a position to be commissioning production in early 2020.

The Company highlights that the Phase 1 sulphate of potash (SOP) commercial operations will require a separate permits to commission. Given the proposed SOP operation has similar requirements for acid reagents, SOP operations are considered by the Company to be complimentary to the proposed boric acid operations as HCl is generated as a by-product of SOP production. The HCl could then be used in solution mining operations, thereby saving boric acid operating costs and provide a by-product credit, further enhancing the financial metrics of the Project.

10.1.9 Environmental Impact Statement (EIS) and Environmental Impact Report (EIR)

In May, 1990, the BLM published its Notice of Intent (NOI) to prepare an EIS and in January, 1991, the County of San Bernardino issued a Notice of Preparation (NOP) of an EIR for the Fort Cady Project. In accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), the BLM and County are preparing this joint EIS/EIR.

Three alternative site locations and a no project alternative were considered. The plant site represented in Figure 15. The following issues were identified through the scoping process and are addressed in the Final EIS/EIR and the Draft EIS/EIR documents: geology, hydrology and water quality, erosion potential, climate and air quality, noise, biological resources, land use and recreation, visual resources, transportation, cultural resources, paleontological resources, and socioeconomics. With the implementation of the mitigation measures identified in the environmental analysis in the EIS/EIR, most impacts would be reduced to a "not significant" level. However, impacts on hydrologic resources (i.e., resulting from the consumptive use of groundwater) and potential land use conflicts with the proposed Area of Critical Environmental Concern may remain significant even with mitigation. The Company acknowledges the requirement to minimise water consumption is critical to all stakeholders. The proposed process design for Phase 1 boric acid production was optimised to reduce water usage in comparison to the project that was evaluated in the 1990's. Water requirements for Phase 1 of the Project are 13% less than that previously envisaged at 87 gpm (versus 100 gpm). The Company will work with the relevant stakeholders on ensuring water resources are not adversely impacted by the proposed Project.

10.1.10 Ground water quality impacts from mining activities

Degradation of usable ground water due to infiltration of injected ore zone fluids is not considered likely in the draft EIS/EIR clue to:

1. The low permeability of the mudstones that surround the ore body and the apparent barrier effect to ground water movement provided by the clay fault gouge; and
2. The neutralising effect formation minerals would have on any injected mining fluids that might escape capture during extraction.

10.1.11 Consumptive use of ground water

The EIS/EIR addressed the hydrogeologic impact due to groundwater extraction. This was estimated on the basis of the safe yield of the aquifer and the amount of ground water required for the proposed operations at the time (100 gpm). Given the proposed Phase 1 operation has lower water requirements (87 gpm) than the previously envisaged operation, it is likely to have a lesser impact on ground water resources. The Company will continue working with relevant agencies to ensure the Project meets all regulations and requirements under the Land Use Permits and EIS/EIR. Further evaluation of ground water characteristics will be determined as part of Feasibility Studies.

10.1.12 Ground water quality impacts from surface activities

Gypsum and gypsum slurry will be stored in an unlined gypsum deposition area. The gypsum is composed predominantly of calcium sulphate. Based on the TCLP analysis performed during pilot testing the gypsum is considered nonhazardous.

It is likely that some fluids saturated with calcium sulphate may percolate into the subsurface from the gypsum deposition area. The risk of impacting ground water is considered low in the draft EIS/EIR because:

1. Ground water is approximately 300 feet bgs;
2. The area is underlain by low-permeability mudstone; and
3. Gypsum occurs naturally in the subsurface.

10.2 Sulphate of Potash Production

Production of SOP from the Mannheim Process is well understood and currently is responsible for around 50% of global production of SOP. Sulphuric acid is reacted with potassium chloride in a Mannheim Furnace at high temperatures using natural gas for heating. This process produces SOP, HCl and waste gases that are captured and treated.

The Company has been advised that it should able to seek a modification to the existing Fort Cady mining permit to include the initial phase one production target of 18k tonnes of SOP per annum.

Importantly the main by-product of SOP production, HCl, is required by the Company for its boric acid production. The use of HCl is currently included in the mining permit referenced earlier in the report.

11 ESTIMATED FINANCIALS

11.1 Capital Cost Estimates

The pre-production capital estimate (Capex) for the project for initial boric acid production of 82,000 tpa boric acid and 18,000 tpa sulphate of potash (SOP) production (Phase 1) is US$98.0m. Production will ramp up to 246,000 tpa boric acid and 54,000 tpa SOP for an additional US$132.4m. The estimate is considered a Class 5 estimate (+100/-50% accuracy) and considered suitable for preliminary project evaluation and the basis for further optimisation and de-risking (Table 8)

Table 8. Summary of capital expenditure for Phase 1 and Phase 2.

Phase 1: 82ktpa BA (90k stpa) + 18ktpa SOP (20k stpa)				
Ref	**Description**	**Subtotal**	**Section Total**	**Total**
1.0	**Well Field**			
1.1	Drilling equipment	$ 600,000		
1.2	Intial production wells	$ 4,800,000		
1.3	Solution mine (surface install.)	$ 560,000		
1.4	Well field piping	$ 3,200,000	$ 9,160,000	
1.5	*Contingency (20%)*		*$ 1,830,000*	$ 10,990,000
	TOTAL WELL FIELD			***$ 10,990,000***
2.0	**Boric Acid plant**			
2.1	Direct Costs			
2.1.1	*Crystallisers & recrystallisers*	*$ 5,317,000*		
2.1.2	*Product handling & loadout*	*$ 3,476,000*		
2.1.3	*Solution regeneration & gypsum crystallisation*	*$ 1,309,000*		
2.1.4	*Utilities*	*$ 1,215,000*		
2.1.5	*Reagents*	*$ 155,000*		
2.1.6	*Tailings conveyers*	*$ 180,000*		
2.1.7	*Installation*	*$ 6,700,000*		
2.1.8	*Piping (in-plant)*	*$ 7,300,000*		
2.1.9	*Instrumentation, Controls & Elec. Sys.*	*$ 7,400,000*		
2.1.10	*Civil*	*$ 2,400,000*		
2.1.11	*Structures & Buildings*	*$ 3,600,000*	$ 39,050,000	
2.2	Indirect Costs			
2.2.1	*Site Buildings*	*$ 3,500,000*		
2.2.2	*Mobile Equipment*	*$ 500,000*		
2.2.3	*Roads (unsealed) & carpark*	*$ 3,500,000*		
2.2.4	*Fire Prevention Systems*	*$ 1,200,000*		
2.2.5	*Lined Purge Stream Pond Facility*	*$ 1,200,000*		
2.2.6	*Utility services*	*$ 2,600,000*		
2.2.7	*Ablution services*	*$ 2,200,000*		
2.2.8	*Lined Tailings Management Facility*	*$ 3,900,000*	$ 18,600,000	
2.3	Other Costs			
2.2.1	*EPCM*	*$ 6,310,000*		
2.2.2	*Construction Facilities & Equip.*	*$ 1,455,000*	$ 7,770,000	
2.2.3	*Contingency (20%)*		*$ 11,530,000*	*$ 76,950,000*
	TOTAL BORIC ACID PLANT			***$ 76,950,000***
	Total Well Field & Boric Acid Plant			***$ 87,940,000***
3.0	**Sulphate of Potash Plant Plant**			
3.1	Direct Costs			
3.1.1	*Mannheim furnace & equipment*	*$ 2,060,000*		
3.1.2	*Plant buildings*	*$ 1,030,000*		
3.1.3	*Input/Output product storage*	*$ 1,617,100*	$ 4,710,000	
3.2	Indirect Costs			
3.2.1	*Site facilities*	*$ 1,030,000*		
3.2.2	*Utilities & safety*	*$ 906,400*	$ 1,940,000	
3.3	Other Costs			
3.3.1	*EPCM*	*$ 2,100,000*	$ 2,100,000	
3.3.2	*Contingency (20%)*		$ 1,330,000	$ 10,080,000
	TOTAL SOP PLANT			***$ 10,080,000***
	Total Capital Expenditure (incl. contingency)			**$ 98,020,000**

Table 8. Continued.

Phase 2: 245ktpa BA (270k stpa) + 54ktpa SOP (60k stpa)				
Ref	**Description**	**Subtotal**	**Section Total**	**Total**
1.0	**Well Field**			
1.1	Drilling equipment	-		
1.2	Intial production wells	$ 5,700,000		
1.3	Solution mine (surface install.)	$ 560,000		
1.4	Well field piping	$ 3,300,000	$ 9,560,000	
1.5	*Contingency (20%)*		*$ 1,910,000*	$ 11,470,000
	TOTAL WELL FIELD			***$ 11,470,000***
2.0	**Boric Acid plant**			
2.1	Direct Costs			
2.1.1	*Crystallisers & recrystallisers*	*$ 7,384,250*		
2.1.2	*Product handling & loadout*	*$ 4,827,469*		
2.1.3	*Solution regeneration & gypsum crystallisation*	*$ 1,817,939*		
2.1.4	*Utilities*	*$ 1,687,392*		
2.1.5	*Reagents*	*$ 215,264*		
2.1.6	*Tailings conveyers*	*$ 249,984*		
2.1.7	*Installation*	*$ 9,304,960*		
2.1.8	*Piping (in-plant)*	*$ 10,138,240*		
2.1.9	*Instrumentation, Controls & Elec. Sys.*	*$ 10,277,120*		
2.1.10	*Civil*	*$ 3,333,120*		
2.1.11	*Structures & Buildings*	*$ 4,999,680*	$ 54,240,000	
2.2	Indirect Costs			
2.2.1	*Site Buildings*	*$ 4,860,800*		
2.2.2	*Mobile Equipment*	*$ 694,400*		
2.2.3	*Roads (unsealed) & carpark*	*$ 4,860,800*		
2.2.4	*Fire Prevention Systems*	*$ 1,666,560*		
2.2.5	*Lined Purge Stream Pond Facility*	*$ 1,666,560*		
2.2.6	*Utility services*	*$ 3,610,880*		
2.2.7	*Ablution services*	*$ 3,055,360*		
2.2.8	*Lined Tailings Management Facility*	*$ 5,416,320*	$ 25,830,000	
2.3	Other Costs			
2.2.1	*EPCM*	*$ 8,763,328*		
2.2.2	*Construction Facilities & Equip.*	*$ 2,020,704*	$ 10,780,000	
2.2.3	*Contingency (20%)*		*$ 16,010,000*	*$ 106,860,000*
	TOTAL BORIC ACID PLANT			***$ 106,860,000***
	Total Well Field & Boric Acid Plant			***$ 118,330,000***
3.0	**Sulphate of Potash Plant**			
3.1	Direct Costs			
3.1.1	*Mannheim furnace & equipment*	*$ 2,884,000*		
3.1.2	*Plant buildings*	*$ 1,442,000*		
3.1.3	*Input/Output product storage*	*$ 2,263,940*	$ 6,590,000	
3.2	Indirect Costs			
3.2.1	*Site facilities*	*$ 1,442,000*		
3.2.2	*Utilities & safety*	*$ 1,268,960*	$ 2,710,000	
3.3	Other Costs			
3.3.1	*EPCM*	*$ 2,940,000*	$ 2,940,000	
3.3.2	*Contingency (20%)*		$ 1,860,000	$ 14,100,000
	TOTAL SOP PLANT			***$ 14,100,000***
	Total Capital Expenditure (incl. contingency)			**$ 132,430,000**

11.2 Operating Cost Estimates

Operating costs are inclusive of solution mining, processing, infrastructure, waste storage, administration and product transport Free on Truck ("*FOT*") at mine gate. Table 9 summarise the key operating cost parameters for boric acid and SOP production. The main cost component is projected to be the reagent consumption. Costs relating to purchasing additional HCl are effectively zero as HCl is produced as a by-product of SOP production. The additional purchase costs of H_2SO_4 for Mannheim SOP production is more than offset by the credits SOP sales provide to the proposed Base Case operation.

Table 9. Summary of operating expenditure for Phase 2.

Phase 2: 246ktpa BA (270k stpa) + 54ktpa SOP (60k stpa)							
Ref	**Description**	**Unit**	**Rate**	**Quantity**	**Subtotal**	**Section Total**	**$US/t BA**
1.0	**Variable Costs**						
1.1	Utilities						
1.1.1	Natural Gas	kscf	$ 3.50	712,210	$ 2,492,735		$ 10.18
1.1.2	Electricity	MWh	$ 120.00	142,334	$ 17,080,114		$ 69.73
1.1.3	Water	kgpy	$ 8.00	117,000	$ 936,000	$ 20,508,849	$ 3.82
1.2	Consumables						
1.2.1	Hydrochloric Acid (31.45%)[1]	t	$ 0.00	25,120	$ 0		$ 0.00
1.2.2	Sulfuric Acid (93%)	t	$ 165.00	181,015	$ 29,867,543		$ 121.94
1.2.3	MOP				$ 2,297,407	$ 32,164,949	$9.38
1.3	Solution Mine						
1.3.1	PLS pumping				$ 123,300	$ 123,300	$ 0.50
1.4	Packaging & shipping						
1.4.1	Packing & Shipping[2]		$ 5.50	244,940	$ 1,347,000	$ 1,347,000	$ 5.50
					Total	*$ 54,144,099*	*$ 221.05*
2.0	**Fixed Costs**						
2.1	Operating Labour					$22,968,759	$ 93.77
2.2	Maintenance Material					$ 3,325,590	$ 13.58
2.3	Miscellaneous (insurance, leases, charges, licencing)					$4,999,225	$ 20.41
					Total	*$ 31,293,574*	*$ 127.76*
Total Operating Costs (excl. others & sustaining Capex)						**$ 85,437,673**	**$ 349**
3.0	**Other Costs**						
3.1	General & Administration					$4,898,800	$ 20.00
3.2	Royalties					$ 2,750,676	$ 11.23
					Total	*$ 7,649,476*	*$ 31.23*
Total Operating Costs (excl. sustaining Capex)						**$ 93,087,149**	**$ 380**
4.0	**Sustaining Capex**						
4.1	Well field development					$ 6,123,500	$ 25.00
4.2	Plant - sustaining Capex					$ 3,674,100	$ 15.00
					Total	*$ 9,797,600*	*$ 40.00*
Total Operating Costs (incl. conting.)[3,4]						**$ 102,884,749**	**$ 420**

[1] HCl requirements offset by re-acidification during gypsum crystallisation; By-product HCl generated by Mannheim SOP plant; [2] Assumes product sold mine-gate; [3] Differences in totals due to rounding; [4] Processing and plant related costs estimated by Barr Engineering. Consumable costs estimated by ABR.

Table 9. Continued.

All-in Sustaining Costs		
Phase 2: 245ktpa BA, 54.4kt SOP		
Summary Opex		***t BA***
C1	Solution mining	0.50
	Boric acid plant & acid	
	Utilities	79.98
	Consumables	100.83
	Packaging & Shipping	5.50
	Labour	83.28
	Maintenance Material	13.58
	SOP plant	
	Utilities	3.75
	Consumables	30.48
	Labour	10.49
	Other (insur., leas., chgs, licenc.)	20.41
	By-product credits (SOP)	-155.66
	C1 Total	***193***
C2	D&A	75.34
	C1+C2 Total	***268***
C3	Well field development	25.00
	G&A	20.00
	Sustaining Capex - plant	15.00
	Royalties	11.23
	C1+C2+C3 Total	***340***

SOP Operating Costs	
Mannheim plant costs	
Summary Opex	***t SOP***
Natural Gas	7.76
Electricity	7.53
Sulphuric acid	86.10
Muriate of potash	252.00
Labour	34.50
Total	***388***

11.3 Results

Table 10 highlights the key outcomes of the Scoping Study. Readers are referred to Annexure A – Modifying Factors, for further details about the parameters and assumptions underpinning target production targets financial forecasts for the Project.

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured or Indicated Mineral Resources or that the Production Target or preliminary economic assessment will be realised. The above results are based on the key assumptions in Table 11. Escalator factors have been applied to revenue and costs.

The net present value (NPV) shown in Table 12 demonstrates the effect of changes to the boric acid price, boric acid operating expenditure and capital expenditure on the base case NPV. The NPV is calculated at a 10% discount rate and post-tax basis.

Table 10. Key economic indicators for Base Case (Phase 2): 246ktpa BA (270k stpa) & 54ktpa SOP (60k stpa).

Key Economic Outcomes*	
Life of Mine (LOM)	25 years
Annual plant capacity boric acid (Phase 1)	82ktpa
Annual plant capacity SOP (Phase 1)	18ktpa
Annual plant capacity boric acid (Phase 2) - Base Case	246ktpa
Annual plant capacity boric acid (Phase 2) - Base Case	54ktpa
Pre-production Capital Cost (Phase 1)	US$98.0m
Expansion Capital Cost (Phase 2)	US$132.0m
Well Field Development Capital Cost - Base Case	US$11.8m pa
Sustaining Capital Cost - Base Case	US$6.1m pa
C1 Operating Costs (excl. by-product credit)	US$349/t BA
C1 Operating Costs (incl. by-product credit)	US$193/t BA
EBITDA in 1st year of full production (Phase 1)	US$156.4
Post-tax NPV_{10}	US$687.9m
IRR	39%

** NPV calculated from decision to mine in first half of 2019.*

Table 11. Economic assumptions.

Inputs	
Discount rate	10%
Royalty	3%
Corporate tax rate	35%
Escalator	3%
Boric acid sales price	US$900/t
Sulphate of potash sales price	US$700/t

Table 12. Sensitivity analysis (post-tax NPV US$m).

	30%	20%	10%	**NPV base**	-10%	-20%	-30%
BA Phase 1 Capex	659.2	668.3	678.7	687.9	696.5	704.5	711.6
BA Opex	493.3	558.1	623.0	687.9	752.8	817.7	882.6
BA Sales Price	1105.0	966.0	827.0	687.9	548.9	409.8	270.8

12 RISKS

Risks for the project were identified and classified according to the likelihood and consequence of their occurrence. Risk mitigation strategies outlined by the Company has commenced planning the actions required to implement the strategies which are presently underway where appropriate.

The major risks identified were, accurately estimating the modifying factors moving from resource to reserve and in particular, solution mining extraction rates and leaching make-up solution physical and chemical parameters. The Company is currently undertaking a detailed leach test work program which will be followed by pilot-scale field leach tests. This will assist the Company is flow design optimisation and mine planning studies feeding into a feasibility study.

Permitting risk is always a risk with proposed mining developments. Given that Phase 1 production targets are in-line with historical permit and operating approvals, the Company is targeting rapid advancement of this part of the Project. The expanded Phase 2 operation as proposed will require and addendum to the pre-existing conditions of operation or re-compliance under new terms of operation. The Company will implement a strategy in relation to the permitting that focuses on maximising the benefit to all stakeholder in the Project, including the local community, local and regional populations and resources and the Company.

Given the above, including the Project's economic metrics and its low-risk location in the U.S., the Company has concluded it has a reasonable basis to expect that the Project's development capital cost could be funded following the completion of a positive Feasibility Study and obtaining the necessary project approvals.

13 OPPORTUNITY

The Company is satisfied with the results of the Scoping Study and believes the positive results justify the Company to commitment to advancing to the next level of development by progressing through to feasibility level studies.

The borate resource at Fort Cady is large enough to support multiple development options, including increasing boric acid throughput and capitalising on reagent synergies between boric acid and SOP production, whereby SOP production produced HCl as a by-product which in turn is the key reagent required for boric acid production.

The Company is committed to capitalising on the strategic nature of the commodities it proposes to produce at Fort Cady as they are considered to be high value products with strong demand in both domestic U.S. and international markets.

14 FEASIBILITY STUDIES

The Company proposes to develop the Project efficiently and in a timely fashion aiming to produce first product in Q1 2020. The feasibility work program will consist of:

- Pilot-scale boric acid leaching test work; lithium leaching test work; detailed process flow design, mass balance and reagent use
- Infill drilling to increase resource confidence and expand resource
- Directional drilling tests
- Injection/recovery tests
- Permit negotiations
- Baseline environmental studies
- Detailed solution mine well field planning
- Detailed engineering and Capex/Opex estimation.
- Gypsum by-product study including local markets and construction (dry wall) markets
- Strontium by-product study and market analysis
- End user (offtake specifications) and partner negotiations
- Construction finance negotiations

The initial focus of the Feasibility work will be refinement of the preferred development pathway, including more detailed evaluation of the ore body, solution mining tests and pilot plant processing studies, detailed engineering and optimisation. This will assist in reducing the uncertainty in cost estimates to +15/-10% (Class 3 AACE cost estimates).

15 BORATE MARKET OVERVIEW

Commentary on the borate market has been obtained from industry publications and open file data. Borates are a group of boron-bearing minerals commonly referred to in the context of boric oxide (B_2O_3). Deposits of borates are associated with volcanic activity and arid climates, with the largest economically viable deposits located in the Mojave Desert of the United States, the Alpide belt in southern Asia, and the Andean belt of South America (U.S. Geological Survey, 2017).

Industrial demand for borate continues to grow at a rate higher than general economic or industrial growth, driven by population growth, urbanisation, increasing demand for high-end fiberglass insulation, rising agricultural nutrient demands, modern high-tech glass products and coatings (used in computers, LEDs, plasma screens, circuit boards and solar panels) and many other industrial manufacturing applications.

15.1 Production of Borates

World production of boron-bearing minerals was estimated at 7.7 Mt in 2013. Since 2000, production has shown an average rise of 3.3% pa, led by higher output in countries like Turkey and to a certain degree China (Roskill, 2015). The world's two largest producers of borates are Eti Maden (Turkey) and Rio Tinto Borates ("*RTB*" or "*RTM*"), part of the giant Rio Tinto Mining Group, via the Boron mine (previously US Borax), in California, USA. These two producers provide 65% of global borate supply. These two companies focus not only on mining but also on the downstream integration of refined borates.

The borate market is tightly controlled thereby maintaining high operating margins in the sector (Figure 22). The main barrier to entry into the market is the scarcity of large and economic borate deposits around the world.

Turkey is the largest producer of natural borates worldwide. All production comes from the state-owned Eti Mine, which mines the minerals of ulexite, colemanite (such as at ABR's Fort Cady Project) and tincal minerals from open pit operations. Output of concentrates rose to 2.0Mt in 2013 and, it is believed that capacity increased to 3.3Mtpy by 2016 (Roskill, 2015).

U.S. production of borates is centred on two companies both located in California near the Company's Fort Cady Project. These companies produce natural and refined borates. RTB accounts for up to 90% of U.S. output, while Searles Valley Minerals, owned by Indian company Nirma Limited, produces the remainder.

RTB production declined in 2012 after they sold their Argentine operations to Orocobre but in 2014 exports of all the major forms of refined borates increased in the US. More than half of U.S. production of refined borates is exported showing there are strong markets both within the U.S. and internationally (Roskill, 2015). International markets primarily target Asia based on the location of the operating mines in California and the close proximity to the U.S.'s two largest sea ports.

China, the largest importer of refined borates, is also the largest producer of boron minerals in terms of gross weight (Roskill, 2015). However, the B_2O_3 content of ludwigite and szaibelyite minerals produced within the country is very low, meaning China only accounting for around 13% of world output in 2013. Consequently, China is the world's largest importer of borates (TradingEconomics, 2017).

The Russian company BOR is the primary producer of boron minerals in that country. The production of borates comes by processing mined datolite which suffers high costs of production because of the complexity of extraction and as such has an undesirable effect on its sales and production which has shown a steady reduction in both over recent years. Nearly all output is processed by the company into the premium product of boric acid and exported mainly to the large Asian markets. Russian production accounts for approximately 3% of world production.

South America is the only other significant producer of boron minerals, often as a by-product of potash and lithium mining. The producers are made up by the countries of Peru, Bolivia, Argentina and Chile where boric acid is the primary product and Asia is the primary market.

Borates are commercially traded as either the mineral colemanite (lump or concentrate) or the refined boric acid product that ABR is targeting to produce. Boric acid currently trades at around US$900/t in the USA. Refined borates (like boric acid) are forecasted to have a higher demand growth profile than mineral borates such as colemanite (Rio Tinto, 2015 & UBS, 2017).

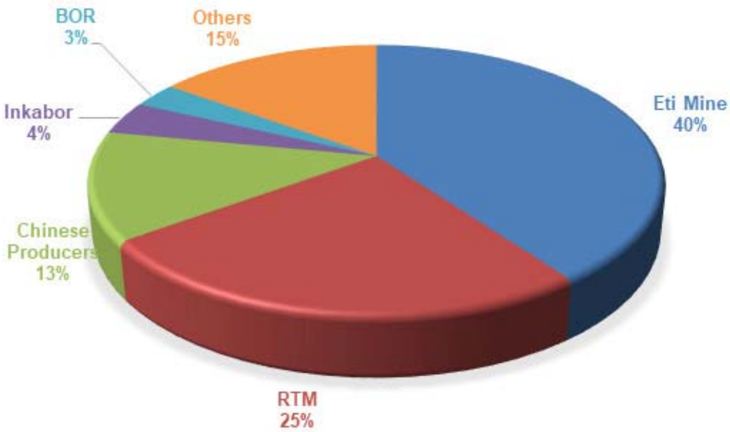

Figure 22. Borate (B_2O_3) production by company.

15.2 Borate Market Uses

- Insulation and textile fibreglass is the largest use of borates worldwide.
- Specialty Glass – borates are found in many household appliances, solar panels and increasingly used for electrical devices.
- Ceramic glazes and porcelain enamels, with China becoming a large user in this sector and creating innovative ceramic technologies.
- In the agriculture industry, borates are one of the key micronutrients vital to crop production. Boron deficiency is the most widespread of all crop deficiencies, affecting almost all major crops globally.

- Borates are found in cleaning and detergent products, including soaps, washing powders and bleaches.
- Boron is uniquely capable of capturing neutrons and is becoming widely used in nuclear shielding and cooling of nuclear reactors.

15.3 Borate Demand

- World production of boron-bearing minerals reached 7.7m tonnes in 2013 (*source: Roskill*) and this substantial growth is expected to continue with the key driving factors being:
    - Growing urbanisation particularly in Asia (ceramics, insulation, consumer products);
    - Construction industry due to improved building standards (insulation, glass);
    - Continued global drive to boost agricultural yields and quality, particularly in emerging markets; and
    - Technological advances and energy efficiency drives (high end device glass, solar panels).
- Agricultural fertilisers and additives are the fastest growing segment of the borate market and are expected to remain so in the coming years.
- The more expensive refined borates (such as boric acid) are a larger and faster growing segment of the market than borate minerals (such as colemanite).
- China is the world's largest consumer of boron based minerals and derivatives.
- Although the largest consumer, China possesses minimal low-grade boron reserves and imports almost 100% of its borate consumption. Chinese imports from the United States and Turkey are expected to increase during the next several years as it continues to source a premium product.

15.4 Borate Supply

- Turkey holds the largest known resources of borate and is the world's largest producer, via the government-owned Eti Maden mining company.
- The United States is the world's second largest producing country. RTB is responsible for the vast majority of US borate production from its mine in Boron, California. This mine is located less than 100km from the Fort Cady deposit and has been in operation for over 140 years.
- The Searles Valley mine (SVM), also in California, has been producing borate and soda ash from brines since 1926. In 1962 the mine switched from conventional mining to lower cost solution mining, followed by solvent extraction, to produce the higher value boric acid product. This is the same mining and processing technique proposed for the Fort Cady project. SVM was acquired in 2008 by Nirma, a large industrial conglomerate based in India that is one of the world's largest manufacturers of soaps and detergents.
- Supply is highly concentrated and as a result profit margins have historically remained high.
- Demand is expected to significantly outstrip supply from 2017 onwards.

15.5 Future Trends in Production of Borates

Borates remain an important industrial mineral for modern society with demand expected to continue to grow. There are very few substitutes for borates especially in high-end applications and the ever-important market of agriculture. These key markets in particular are expected to grow as global population grows and countries and individuals become more affluent. This is also helped by a significant divergence of demand for borates driven by the construction and glass industries.

It is expected that China will continue to be the key market for growth but additional demand is expected within the U.S., India (as is evident of Nirma's acquisition of SVM) and the European Union (UBS, 2017).

Borates tend to be a high-margin industry but key factors for success are B_2O_3 grade, the ability to mine and mine proximity to infrastructure. Low grade or high cost mining and processing methods can quickly erode margins. Furthermore, geographically isolated mine developments have high capital requirements for infrastructure investment, further increasing the barrier to entry. In addition to complicated logistics, key input prices such as acid and energy can have an adverse impact on development opportunities.

In the absence of boron resources across Asian countries but with a constant and growing demand for its glass and ceramics, borate producers will continue to benefit from an increasing demand for borates.

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17 COMPETENT PERSONS STATEMENT

Mineral Resource Estimate: The information in this report that relates to Exploration Targets and Mineral Resources is based on the information compiled 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 the release of the matters based on their information in the form and context in which it appears.

Production Target and Scoping Study: The information in this report that relates to the estimation of the mineral resources underpinning the Production Target and Scoping Study has been compiled by Mr Michael X. Schlumpberger BE (Mining). Mr Schlumpberger is a full-time employee of American Pacific Borate & Lithium Limited. Mr Schlumpberger is a Registered Member of the Society for Mining, Metallurgy & Exploration and has sufficient experience with the style of mineralisation, deposit type under consideration and other activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code of Reporting Exploration Results, Mineral Resources and Ore Reserves (The JORC Code)". Mr Schlumpberger consents to the inclusion in this report of the contained technical information relating the Mineral Resource Estimation in the form and context in which it appears.

This report contains historical exploration results from exploration activities conducted by Duval Corp ("historical estimates"). The historical estimates and are not reported in accordance with the JORC Code. A competent person has not done sufficient work to classify the historical estimates as mineral resources or ore reserves in accordance with the JORC Code. It is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources or ore reserves in accordance with the JORC Code. The Company confirms it is not in possession of any new information or data relating to the historical estimates that materially impacts on the reliability of the historical estimates or the Company's ability to verify the historical estimates.

18 ANNEXURE A – MATERIAL ASSUMPTIONS

The modifying factors included in the JORC Code (2012) have been assessed as part of the Study, including mining, processing, infrastructure, economic, marketing, legal, environmental, social and government factors. Material assumptions used in the preparation of the Scoping Study are set out in the following table.

Criteria	Commentary
Study Status	The production target and financial information in this release are based on a Scoping Study. This study is based on low-level technical and economic assessments and is insufficient to support the estimation of Ore Reserves or to provide assurance of an economic development case at this stage or to provide certainty that the conclusions of this Scoping Study will be realised.
Resource Classification	The resource model used in this Study was estimated by Terra Modelling Services Inc. In classifying the resource, the Competent Person gave consideration to data quality, data density, confidence in the geological interpretation and confidence in the estimation. Grade estimation within the mineralised zone was done using Ordinary Kriging. For Indicated classification the search ellipse utilised the variogram ranges, while Inferred classification utilised double the variogram ranges. The 32 Mt (44%) of the deposit classified as Indicated category is based on 150 – 250 m drill spacing and strong continuity of mineralisation. The 40Mt (56%) of the deposit classified as Inferred category is based on 200 – 300 m drill spacing and strong continuity of mineralisation.
Mining Factors or Assumptions	The Study assumes 70% extraction rate of the in-situ mineral resource with losses attributed to partial leaching or cavern development based estimates made by FCMC in the 1980's during pilot plant studies and reported in the EIS/EIR. Mass balance calculations made by FCMC indicate maximum recovery rates of *ca.* 88%. It is assumed mining would occur by solution mining. Owing to the conceptual nature of the Study and the variation in deposit grade and thickness, it is assumed the production wells would be spudded sequentially in a grid pattern over the deposit leaching the MRE Category grade. Individual well life is estimated at 8 years. Mining in the first 11 years would be most likely in the area of the Indicated category MRE on the NW side of the deposit within the Elementis-FCCC leased land titles. Following finalisation of access, operating and commercial agreements with SCE, mining in the later years would progress to the Indicated and Inferred category MRE in that part of the deposit. As of the time of writing of this report, ABR had finished its resource confirmatory and was in the proceeds of updating the JORC (2012) MRE.
Metallurgical Factors or Assumptions	The metallurgy and process design has been designed by engineering consultants Barr Engineering based on its review of historical feasibility studies, test work and pilot plant test studies. Preliminary leach test work by Saskatchewan Research Council (SRC) on core supplied by ABR has shown rapid dissolution of boric acid and partial leaching of Li in the formation being targeted for solution mining. The Company has engaged Barr to continue development of the process sheet to support proposed production levels and expand on the design of plant and infrastructure. SRC are conducting commenced advanced leach test work in December 2017 which will assist with injection and leaching tests in early 2018.
Ore Mineralogy	Refer to Section 3.4 in this report.
Environmental	Refer to Section 10 in this report
Infrastructure	Refer to Section 9 in this report. The project has excellent in-place infrastructure, greatly reducing capital expenditure requirements.
Commodity Price Assumptions	Boric acid price is estimated to be US$900/t. Pricing in the boric acid market is similar to other industrial commodities in that pricing not openly reported like commonly traded commodities. Anecdotal evidence collected by the Company indicates pricing in the range of US$800 to US$1,000/t. Publically available whole sale prices on Alibaba range between US$700 to US$1,100/t.

	Sulphate of potash price is assumed to be US$700/t which is based on Quarterly reporting in Q3 CY17 by Compass Minerals.
Exchange Rate Assumptions	Not applicable. All financial metrics reported in US$
Capital & Operating Costs	Capital expenditure (Capex) and Operational expenditure (Opex) has been based on estimates provided by Barr Engineering and combined with the Company's own research into key financial inputs. All Direct Costs have been supplied by Barr. The Company acknowledges the estimates are Class 5 estimates (+100/-50% accuracy) which is considered by the Company to be acceptable for the level of this Study. Reagent costs have been estimated by the Company from information reported in market bulletins and updates and wholesale suppliers.
Mine Closure	The Mine Closure costs are estimated at 10% of initial Capex for Phase 1 and Phase 2, amounting to Mine Closure Costs of $24.77m at the cessation of the mining operations (Year 25).
Marketing	Refer to relevant Section 15 in this report
Economic	Refer to Section 11 in this report; key inputs and assumptions are outlined throughout this document to allow analysts and investors to calculate project valuations based on their own revenue assumptions. The production target referred to in the Study is based on 100% Indicated resources for 17.5 years of the 25 year mine life. The LOM ratio is 72% Indicated and 26% Inferred. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured or Indicated Mineral Resources or that the Production Target or preliminary economic assessment will be realised.
Land Title Ownership and Operating Permit	The Company through it 100% owned subsidiary hold the key Land Use Permits and EIS/EIR for mining at Fort Cady. As discussed in this report, a portion of the resource occurs in the SCE Land Title. ABR does not currently have an access agreement in-place for exploiting the resource within the SCE Land Title but is confident an agreement can be put in-place prior to the Company needing to exploit the resource in this area (Year 12 of the production target). The Company notes an operating and royalty agreement was historically in place.
Development and Funding	The Company has only recently completed a Scoping Study for the Project and is not currently funded for the estimated initial development capital cost of US$100m (including contingency). ABR is targeting to commence Feasibility Study works shortly. The Company remains confident that its market capitalisation will converge closer to the Company's future funding requirement as the Project is de-risked and greater certainty of initial development capital cost funding is obtained. This share price appreciation and the resulting increase in market capitalisation reduces the dilution from further equity financings and allows larger funding scenarios, improving the potential ability of the Company to finance the Project into production in the future. Financing for development of mining companies often involves a broader mix of funding sources rather than just traditional debt and equity, and the potential funding alternatives available to the Company include, but are not limited to: prepaid off-take agreements; equity; joint venture participation; strategic partners/investors at project or company level; senior secured debt/project finance; secondary secured debt; and equipment leasing. It is important to note that no funding arrangements have yet been put in place, as these discussions will usually, and are expected to, commence concurrently with the completion of the feasibility studies. The composition of the funding arrangements ultimately put in place may also vary, so it is not possible at this stage to provide any further information about the composition of potential funding arrangement. The Board of ABR believe there is a reasonable basis to assume that the necessary funding for the Project will be obtained, because of (but not limited to) the following: • The increasing demand and price of the commodity which attracts high margins; • The magnitude of pre-production financing required is relatively small compared to the potential economic returns of the project. • The economics of the Scoping Study are highly attractive and for this reason it is reasonable for the Company to anticipate that equity financing will be available to further develop the Project;

	• In addition to future equity financing, the Company plans to commence discussions with potential partners and debt providers to progress funding options. It is expected given the economics of the project, the stable jurisdiction and long mine life, debt financing will be available for a part of the project funding; • The Company is confident there is a strong possibility that it will continue to increase the JORC Mineral Resource base at the Project to expand the Indicated category MRE mine life beyond what is currently assumed in the Scoping Study.
Permitting	The Company is in ongoing dialogue with the local, state and federal agencies in relation to project permitting and obligations. The expanded Phase 2 production scenario and SOP production will require additional permitting approvals prior to commencing production. The Company is initially focused on complying and reinstating all permits required for Phase 1 production as historically envisaged for the project. In tandem, it will commence the necessary work requires to apply for Phase 2 targeted production and SOP production.