

ASX Code: ABR

ACN: 615 606 114

31 January 2019

ABR Delivers Low Capex Starter Project with Exceptional Financial Metrics for Fort Cady Borate Project

HIGHLIGHTS

- Fort Cady Borate Project Definitive Feasibility Study (DFS) enhanced to include a low capex starter project achieved by splitting Phase One into Phase One A and Phase One B
- Phase One A will target the production of 40k stpa of SOP (K₂SO₄) and 6k stpa of boric acid (H₃BO₃)
- Phase One B will increase boric acid production to 90k stpa using learnings from initial 6k stpa operation
- Exceptional financial metrics for starter project (Phase One A) include
 - o Capex of only US\$36.8m inclusive of a 13% contingency
 - o C1 Opex for SOP of US\$85.89 (C3 Opex of US\$143.84)
 - $_{\odot}$ Unlevered, post tax NPV₁₀ of US\$224.7m (A\$315m) and IRR of 58.3%
 - o EBITDA in first full year of production US\$26.7m
- Phase One A substantially lowers targeted financing but still delivers a pathway to full project targeted
 EBITDA of US\$345m in first full year of operation
- Financing discussions to focus on debt funding of Phase One A

American Pacific Borate and Lithium (ASX:ABR) ("ABR" or the "Company") is pleased to announce it has enhanced the Fort Cady Borate Project DFS released on 17 December 2018 to include a low capex starter project.

American Pacific Borate and Lithium Ltd, CEO, Michael Schlumpberger commented,

"We are delighted with the enhancements of the DFS to include a low capex starter project that works on a standalone basis. We now have pre-production capex of only US\$36.8m and a pathway to Phase Three that has an annual EBITDA in the first full year of production of over US\$340m.

We have made the Fort Cady Project easier to finance, whilst limiting likely share dilution and preserving a massive EBITDA target in full production. Our ability to include such a low capex starter project emphasises how unique the Fort Cady project is in the world of mining."

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

191.1 million shares30.9 million options

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Fort Cady Borate Project DFS

The starter project has been achieved by splitting Phase One into Phase One A and Phase One B. Phase One A (starter project) will target the production of 40k stpa of SOP (potassium sulphate or K_2SO_4) and 6k stpa of boric acid (H_3BO_3). Phase One B will increase boric acid production to 90k stpa.

Importantly the starter project has many benefits including:

- 1. The project substantially reduces pre-production capex from US\$138m to only US\$36.8m
- 2. The project delivers exceptional financial metrics meaning it is financeable on a standalone basis
- 3. Financing the project is likely to mean lower share dilution whilst preserving the targeted larger project and valuation
- 4. The project enables the Company to use learnings for the small scale commercial boric acid operation to ensure the larger boric acid operation is optimised from both a construction and operational perspective

In splitting Phase One into two distinct projects, pre-production capex has been reduced by around 75% whilst total capex has only increased by around 7%. Importantly the standalone financial metrics for Phase One A are robust per the table below.

Table 1 | Key Financial Metrics for the Fort Cady Borate Project on a Phase by Phase Basis

Fort Cady Project (Boric Acid and SoP Production)					
Phase 1A Only					
NPV ₁₀	US\$224.7 million				
IRR	58.3%				
EBITDA in first full year of production	US\$26.7 million				
Phase 1	A & 1B Only				
NPV ₁₀	US\$385.3 million				
IRR	36.4%				
EBITDA in first full year of production	US\$60.3 million				
Phase	1 & 2 Only				
NPV ₁₀	US\$853.5 million				
IRR	40.0%				
EBITDA in first full year of production	US\$192.3 million				
Full Project ((Phases 1, 2, & 3)				
NPV ₁₀	US\$1.083 billion				
IRR	40.5%				
EBITDA in first full year of production	US\$345.4 million				



The strength of the standalone Phase One A financial metrics means the Company can target financing this project in isolation. It also creates a sensible pathway to full production and an EBITDA target in the first full year of production of US\$345m.

The table below presents a summary of the production targets by each Phase of construction. The targets have not changed from the initial DFS with the exception of splitting Phase One into two distinct projects.

Table 2 | Summary of Production by Phase for the Fort Cady Borate Project

	Boric Acid	SoP
	(metric tonnes)	(metric tonnes)
Phase 1A	5,443	36,287
Phase 1B	76,204	-
Phase 2	163,293	36,287
Phase 3	163,293	36,287
Total (3 Phases)	408,233	108,862

Pre-production capex has decreased by around 75% making the Project more robust especially considering Phase One A is financeable on a standalone basis given the strong financial metrics.

Total capex for the Project has increased by around 7% as a result of splitting Phase One into two distinct phases. A summary of the capex estimates is presented below. A more detailed summary of Phase One A is presented in Table 5 in the annexures to this release.

Table 3 | Summary of Capex by Phase Compared to Initial DFS

	DFS	DFS Enhancement
	(US\$'000)	(US\$'000)
Phase 1A	138,219.2	36,833.7
Phase 1B		111,375.4
Phase 2	191,442.1	191,442.1
Phase 3	186,549.3	186,549.3
Total (3 Phases)	516,210.6	526,200.5

With Phase One A targeting 40k stpa of SOP and 6k stpa of boric acid, the opex estimate has been prepared on a metric tonne of SOP produced basis. Total cash costs of production including by-product credits are less than US\$100 per tonne. SOP prices into the high priced Californian market proximate the project are estimated to be over US\$700 per tonne.



Table 4 | Operating Cost Estimates for Phase One A of the Fort Cady Borate Project

Phase 1A				
US\$ per metric tonne of SoP				
C1 Costs				
Utilities	22.61			
Consumables	431.76			
Labour	60.82			
Equipment Lease	1.32			
Maintenance	34.00			
Sustaining Capex	7.44			
(HCl by-product credit)	-348.31			
(BA by-product credit)	-120.00			
(Gypsum by-product credit)	-3.76			
Total C1 Costs	85.89			
C2 Costs				
Licensing and Royalties	0.15			
Depreciation	50.75			
Total C2 Costs	50.91			
C3 Costs				
G&A	7.04			
Total C3 Costs	7.04			
Total Opex	143.84			

Importantly, the production and sale of 40k stpa of SOP into the Californian market is unlikely to result in a reduction of selling price given the fact the US is currently a net importer of SOP and the market is forecast to grow by 4.4% annually through to 2022 (Context, April 2018, ABR Boron and SOP Market Overview Report). California, Washington, Idaho and Florida accounted for over 60% of SOP consumption in 2016.

With the exception of splitting Phase One into Phase One A and Phase One B, all other areas of the DFS released on 17 December 2018 remain consistent including the mining and processing of boric acid and the life of mine. The next steps include progressing financing discussions and commencing detailed engineering for the starter project.

Construction of phase one targeted to commence in Q4 CY2019 subject to financing and permitting.

- ENDS -

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Competent Persons Statement

Fort Cady

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

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

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.

Salt Wells

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

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

This release contains historical exploration results from exploration activities conducted by Great Basin Resources Inc. ("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.



Table 5 | Capex Detail for Phase One

Summary o	of Capex: Fort Cady	Borate Project		
	Phase 1A	Phase 1B	Total Phase 1	Phase 1
	Enhanced DFS	Enhanced DFS	Enhanced DFS	DFS
Direct Capital Expenditure - Equipment	(US\$'000)	(US\$'000)	(US\$'000)	(US\$'000)
Wellfield	1,800.0	3,391.2	5,191.2	3,391.2
Injection	133.6	525.4	659.0	525.4
PLS Recovery and Clarification	9,328.2	2,176.6	11,504.8	2,176.6
Solvent Extraction	-	8,272.4	8,272.4	8,272.4
Crystallisation	-	7,071.2	7,071.2	7,071.2
Gypsum	-	2,958.0	2,958.0	2,958.0
Drying	-	8,366.4	8,366.4	8,366.4
Loadout	-	1,531.2	1,531.2	1,531.2
Utilities	-	2,402.1	2,402.1	2,402.1
Reagents	-	1,464.6	1,464.6	1,464.6
Gypsum Storage Facility	89.7	89.7	179.4	89.7
Zero Liquid Discharge	2,299.8	3,806.1	6,105.9	3,806.1
Mannheim Facility	14,488.0	-	14,488.0	14,488.0
Cogeneration Facility	-	10,022.0	10,022.0	10,022.0
Total Equipment Costs	28,139.3	52,076.9	80,216.2	66,565.0
Other Direct Costs	·		·	•
Freight (3%)	-	783.5	783.5	783.5
Process Plant Buildings	1,000.0	8,318.6	9,318.6	8,318.6
Ancillary Buildings	-	861.0	861.0	861.0
Drill Rig	-	700.0	700.0	700.0
Fencing	100.0	235.2	335.2	235.2
Plant Access Road	1,000.0	1,949.0	2,949.0	1,949.0
Wellfield Access Road	50.0	249.0	299.0	249.0
Wellfield Piping, Above Ground	-	6,404.0	6,404.0	6,404.0
Production Wells	-	12,810.6	12,810.6	14,266.4
Production Well Airlift Assemblies	-	1,541.8	1,541.8	1,717.0
Plant Site Roadways and Parking Lot	20.0	400.0	420.0	1,995.8
Sanitary Sewer	50.0	200.0	250.0	200.0
Raw Water Supply	-	206.7	206.7	552.0
Raw Water Lines to Plant	45.0	92.8	137.8	92.8
Potable Water System	75.0	225.0	300.0	300.0
Fire Protection System	-	1,200.0	1,200.0	1,200.0
Natural Gas Service to Site	-	1,781.7	1,781.7	1,830.0
Electric Power Service to Site	1,391.2	-	1,391.2	1,391.2
Gypsum Storage Facility	-	-	-	2,299.8
Total Other Direct Costs	3,731.2	37,958.9	41,690.1	45,345.2
Total Direct Costs	31,870.5	90,035.8	121,906.3	111,910.2
Indirect Costs				
Basic Engineering	-	2,250.9	2,250.9	2,797.8
EPCM	1,798.9	5,492.2	7,291.1	6,826.5
Spares	-	522.3	522.3	522.3
Vendor Startup Assistance	-	261.2	261.2	261.2
Total Indirect Costs	1,798.9	8,526.6	10,325.5	10,407.7
Contingency	3,164.4	12,811.0	15,975.4	15,901.3
Total Capex	36,833.8	111,373.4	148,207.2	138,219.2



Sensitivities for Phase One A are shown below:

Table 6 | Capex Sensitivity for Phase One A

Capex Sensitivity						
Capex Sensitivity	Capex Sensitivity -30% -15% 0% 15% 30%					
Total Capex (US\$ million)	25.8	31.3	36.8	42.4	47.9	
NPV ₁₀ (US\$ million)	235.4	230.0	224.7	219.3	214.0	

Table 7 | SOP Price Sensitivity for Phase One A

SoP Price Sensitivity						
SoP Price Sensitivity -30% -15% 0% 15% 30 ^o						
SoP Price (US\$/tonne)	507.72	616.52	725.32	834.12	942.92	
NPV ₁₀ (US\$ million)	NPV ₁₀ (US\$ million) 147.9 186.3 224.7 263.1 301.5					

Table 8 | HCl Price Sensitivity for Phase One A

HCl Price Sensitivity						
HCI Price Sensitivity -30% -15% 0% 15% 30						
HCl Price (US\$/tonne)	192.90	234.24	275.58	316.91	358.25	
NPV ₁₀ (US\$ million)	187.8	206.2	224.7	243.1	261.6	



About American Pacific Borate and Lithium Limited

American Pacific Borate and Lithium Limited is focused on advancing its 100% owned Fort Cady Borate Project located in Southern California, USA. Fort Cady is a highly rare and large colemanite deposit 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 JORC compliant Mineral Resource Estimate and Reserve is presented below. Importantly, it comprises 13.93Mt of contained boric acid.

In excess of US\$60m has been spent at Fort Cady, including resource drilling, metallurgical test works, well injection tests, permitting activities and substantial small-scale commercial operations and test works.

A Definitive Feasibility Study ("DFS") was completed in December 2018 delivering compelling financial metrics including steady state production target of 410ktpa of boric acid and 110ktpa of SOP, delivering an unlevered post tax NPV₁₀ of US\$1.25bn (NPV₈ of US\$1.59bn) and an unlevered post tax IRR of 41%.

In January 2019 the DFS was enhanced to include a low capex starter project with an estimated capex of only US\$36.8m. This starter project delivers an EBITDA in the first year of operation of US\$26.7m and preserves the pathway to an EBITDA of over US\$340m in the first year of full production for the broader project.

JORC compliant Mineral Resource Estimate and Reserve

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

In 1994 the Plan of Operations (mining permit) was authorised along with the Mining and Land Reclamation Plan. These permits are in good standing and contain a full Environmental Impact Report and water rights for initial operations of 82ktpa of boric acid. The Company is currently working through a permitting process to gain three additional permits required to commence operations.

In addition to the flagship Fort Cady Project, the Company also has an earn in agreement to acquire a 100% interest in the Salt Wells North and Salt Wells South Projects in Nevada, USA on the incurrence of US\$3m of Project expenditures. The Projects cover an area of 36km² and are considered prospective for borates and lithium in the sediments and lithium in the brines within the project area. Surface salt samples from the Salt Wells North project area were assayed in April 2018 and showed elevated levels of both lithium and boron with several results of over 500ppm lithium and over 1% boron.

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Figure 1 | Location of the Fort Cady and Salt Wells Projects in the USA

The JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	 No historic procedures or flow sheets were sighted that explain the historic drilling and sampling processes completed at the Fort Cady project. Discussions held with Pamela A.K. Wilkinson who was an exploration geologist for Duval at the time of drilling and sampling highlight that drilling through the target zone was completed via HQ diamond drilling techniques and drill core recovery was typically very good (Wilkinson, 2017). Sampling through the logged evaporate sequence was completed based on logged geology and geophysics. Sample intervals vary from 0.1 ft to 15 ft and sample weights varied accordingly. Drilling through the overburden material was completed using a rotary air blast (RAB) drilling technique with samples taken from cuttings every 10 ft.
Drilling techniques	 Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	 Drilling through the overburden sequence was completed using rotary air blast (RAB) drilling technique. Drilling through the evaporate sequence / target zone was completed using HQ diamond core.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	 Drill core recovery has been reported by Duval geologists to be excellent (95%-100%). Drill core recovery was not routinely recorded. Geologists highlighted areas of poor recovery during geological logging by making comment within the geological log at the appropriate drill hole intervals. A review of the limited amount of drill core that is stored at site indicates drill core recovery was good. Refer to Appendix E for pictures of drill core.

Criteria	JORC Code explanation	Commentary
Logging	 Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	 Geological logging was completed on every drillhole. Geological logs for all drill holes have been observed and are held by APBL. Downhole geophysical logs (Gamma Ray Neutron logs) were completed on each of the Duval exploration drill holes. Calibration procedures are unknown. Downhole density logs were completed on select drill holes (DHB1, DHB3, DHB7, DHB8)
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	 Drill core was transported from site to the Duval office in Tucson, Arizona. Following a review of logging and geophysical data, prospective zones were identified, and drill core was marked for sampling. Drill core was halved and then one half was halved again. The procedure used for obtaining a ¼ core sample is currently unknown. A review of limited drill core present on site (DBH16) highlights that the core was cut using a diamond saw. No evidence to date has been observed that duplicate samples were taken. The entire ¼ core sample was crushed and split to obtain a sample for analysis. The crushing process, splitting process, size of crushed particles and amount of sample supplied to laboratory for analysis are unknown.
Quality of assay data and laboratory tests	 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	 Historic analytical procedures and associated quality control and quality assurance completed by Duval are unknown. Discussions held with Pamela A.K. Wilkinson, who was an exploration geologist for Duval at the time of drilling and sampling, indicate that Duval had internal quality control and quality assurance procedures in place to ensure that assay results were accurate. More than 3,000 samples were analysed by Duval at either their Tucson, West Texas (Culberson Mine) or New Mexico (Duval Potash mine) laboratories. Elements analysed for were Al, As, Ba, B₂O₃, CO₃, Ca, Fe, K, Li, Pb, Mo, Mg, Na, Rb, S, Si, Sr, Ti, Zn, Zr. Mineralogy was identified from XRF analysis. XRF results were reportedly checked against logging and assay data (Wilkinson, 2017).

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	 Verification of significant intersections by independent or alternative company personnel has not been completed. Most of drill core has been discarded and verification of results from the remaining drill core is not possible. Data entry, data verification and data storage processes are unknown. Hard copy assay reports, geological logs and geophysical logs have been sourced and are stored with APBL.
Location of data points	 Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	 No procedural documentation sighted regarding historic surveying procedure of drillhole collars. Surveying procedure used and associated accuracy is unknown. Checks by PT GMT Indonesia in 2015 on collar coordinates highlighted differences more than 50 ft in easting and northing locations were present for drill holes DBH7, DBH18, DBH20, DBH25, DBH26, DBH31, DBH33 and DBH34. A total of 21 drill holes do not have surveyed collar elevations (DHB18, DHB19, DHB20, DHB21, DHB22, DHB23, DHB24, DHB25, DHB26, DHB27, DHB28, DHB29, DHB30, DHB31, DHB32, DHB33, DHB34, P2, P3, P4 and P5). These drill holes have been currently assigned an elevation from Google Earth. No downhole surveys are present for Duval exploration drill holes (DHB series of drill holes). Downhole surveys for some production / injection drill holes were completed (SMT1, SMT2, SMT6, P5, P6 and P7). A review of this data highlights that significant deviation of the drill holes has not occurred, and the end of drill hole position compares favourably (within 10 m) with the drill hole collar location. The exception is drillhole P5 where the end of this planned vertical drill hole is situated approximately 40 m laterally from the drill hole collar position.
Data spacing and distribution	 Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	 Drilling is completed on an 800 ft grid spacing. Drill holes were drilled vertically. Drilling on an 800 ft spacing is appropriate to define the approximate extents and thickness of the evaporite sequence. Infill drilling will be required to accurately define the true extents, thickness and grade of mineralisation within the deposit. Mineralised sections of drill core have a similar thickness in adjacent drill holes and significant variability in thickness is not expected on a local scale.

Criteria	JO	PRC Code explanation	Co	ommentary
Orientation of data in relation to geological structure	•	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	•	Exploration drilling was completed on an 800 ft grid spacing. Drill holes were drilled vertically and intersect the relative flat lying deposit close to perpendicular to the dip of the deposit. The southwest margin of the deposit is quite sharp and is considered fault controlled.
Sample security	•	The measures taken to ensure sample security.	•	Sample security measures during transport and sample preparation are unknown.
Audits or reviews	•	The results of any audits or reviews of sampling techniques and data.	•	No details sighted on any previous sampling reviews or audits.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	 Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	• The APBL project area consists of approximately 4,409 acres of which 240 acres are patented lands owned by Fort Cady (California) Corporation; 269 acres of patented property with surface rights held by Fort Cady (California) Corporation and mineral rights held by the State of California; 2,380 acres of unpatented mining claims held by Fort Cady (California) Corporation; and 1,520 acres of unpatented mining claims leased by Fort Cady (California) Corporation from Elementis Specialties Inc., owner and operator of the Hector Mine, an adjoining industrial mineral facility. In addition, 100 acres of unpatented mill claims are held by the Company which is designated for water wells. APBL intend to increase its land tenure by 464 acres via negotiations with Southern California Edison. The below table lists the land titles which cover the APBL's Fort Cady project and surrounding exploration regions:

Criteria	JORC Code explanation	Commentary	
		Land Title Type	Land Titles
		Private (Patented) Property with surface and mineral rights in Fee Simple Title owned by FCCC	Parcels 0529-251-01; 0529-251-03
		Private (Patented) Property with surface rights in Fee Simple Title owned by FCCC; Mineral rights owned by State of California	Parcel 0529-251-04
		Unpatented Placer Mining Claims held under Lease to FCCC (from Elementis)	Company 1 Group; Company 4; Litigation 1 Group; Litigation 2; Litigation 3; Litigation 4 Group; Litigation 5 Group; Litigation 6; Litigation 11; Geyser View 1
		Unpatented Lode Mining Claims held under Lease to FCCC (from Elementis)	HEC 124 - 127; HEC 129; HEC 131; HEC 343; HEC 344; HEC 365; HEC 369; HEC 371; HEC 372; HEC 374 - 376
		Unpatented Placer Mining Claims Recorded and Located by FCCC	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
Exploration don		 Commencement of exploration activities in the early 1960's, when exploration compared basin had a similar geological setting to the northwest that hosted the massive Boron Cady borate deposit occurred in 1964 who Minerals Exploration Company found seven depths of 400 m to 500 m below surface. During the late 1970's the Duval Corporate project and started land acquisition in 1977. February 1979. The first drillhole (DBH1) is sequence of colemanite-rich material at 3 B₂O₃. Exploration drilling, sampling, and a two years through to February 1981 with holes (DBH series of holes) totalling more Approximately 5,800 m of diamond drill compared to the series of holes. 	inies realised that the Hector he Kramer Basin to the deposit. Discovery of the Fort en Congdon and Carey eral zones of colemanite, at ion became interested in the 78 with drilling commencing in htersected a 27 m thick 69 m grading better than 7% ssaying continued for a further a total of 33 exploration drill than 18,200 m being drilled.

Criteria	JORC Code explanation	Commentary
		and geophysical logging of each hole was completed. Following a review of logging and geophysical data, prospective zones were ¼ core sampled for chemical analysis. More than 3,000 samples were analysed at Duval's laboratories in either Tucson, West Texas (Culberson Mine) or in New Mexico (Duval Potash mine). Elements analysed for were Al, As, Ba, B ₂ O ₃ , CO ₃ , Ca, Fe, K, Li, Pb, Mo, Mg, Na, Rb, S, Si, Sr, Ti, Zn, Zr. • In February 1981, the first solution mine test hole was drilled and by late 1981 a small-scale pilot plant was operational to test in-situ solution mining of the colemanite deposit. Significant processing test work was then completed by Duval with the aim of optimising the in-situ solution mining process and process design. In 1995 the Fort Cady Minerals Corp received all final approvals and permits to operate a 90,000 stpy pilot borate production facility. The pilot plant began operations in 1996, it remained on site, was modified and used for limited commercial production of calcium borate (marketed as Cady Cal 100) until 2001 when operations ceased due to owner cash flow problems. A total production tonnage of 1,942 tonnes of CadyCal 100 was reported to have been produced.

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	 The project area comprises the west central portion of a Pliocene age dry lake basin (Hector Basin) which has been partially dissected by wrench and block faulting related to the San Andreas system. The Hector Basin is believed to have once been part of a much larger evaporite basin or perhaps a chain of basins in what has been termed the Barstow – Bristol Trough. The main borate deposit area lies between 350 m to 450 m below the current surface. The deposit comprises a sequence of mudstone and tuff. The borate mineralisation occurs primarily as colemanite (2CaO 3B₂O₃ 5H₂O) in thinly laminated silt, clay and gypsum beds. In plain view, the concentration of boron-rich evaporites is roughly ellipsoidal with the long axis trending N40-50W. A zone of >5% B₂O₃ mineralisation, ranging in thickness from 20 m to 68 m (70 ft to 225 ft), is approximately 600 m wide and 2,500 m long (Figure 4.3). 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.
Drill hole Information	 A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	 Refer to Appendix B in Independent Geologist's Report of the May 2017 Prospectus for drill hole listing. Refer to Appendix D for drill hole location map in Independent Geologist's Report of the May 2017 Prospectus. A total of 21 drill holes do not have surveyed collar elevations (DHB18, DHB19, DHB20, DHB21, DHB22, DHB23, DHB24, DHB25, DHB26, DHB27, DHB28, DHB29, DHB30, DHB31, DHB32, DHB33, DHB34, P2, P3, P4 and P5). These drill holes have been currently assigned an elevation from Google Earth. The error in assigned elevations is estimated to be no greater than 15 m vertically. Survey pickup of all drill hole collars is planned.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	 Drill hole data was composited to 10 ft lengths for statistical analysis and used in the PT GMT Indonesia 2015 resource estimate. No density weighting was applied in the compositing process. No cutting of high grade values was completed. Statistical analysis of the dataset highlights the distribution is positively skewed.
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	 Exploration drilling was completed on an 800 ft grid spacing. Drill holes were drilled vertically and intersect the relative flat lying deposit close to perpendicular to the dip of the deposit. The southwest margin of the deposit is quite sharp and is considered fault controlled.
Diagrams	 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	 Refer to Figure 1 for drill hole collar location map. Refer also to Figures 4.4, 4.5 and 4.6 within Independent Geologists Report in APBL's May 2017 prospectus.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	 Refer to Appendix C within the Independent Geologists Report in APBL's May 2017 prospectus for listing of significant intercepts. Refer to Table 4.1, Figure 4.6 and Figure 4.7 within the Independent Geologists Report in APBL's May 2017 prospectus for examples of drill holes that show grade variability throughout the mineralised evaporite sequence.
Other substantive exploration data	 Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	 Several historic studies have been completed by a variety of companies on the Fort Cady project. Duval corporation completed the 33 exploration drill holes and associated metallurgical and solution mining test work. Refer to bibliography for listing of references.
Further work	 The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	APBL has prepared a two-year exploration programme to assess the prospects over its exploration areas, Fort Cady and Hector.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in Section 1 and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database Integrity	 Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	 Drill hole data used to estimate the Fort Cady Indicated and Inferred Resource have been captured in a GEMS database. Drill hole information within the Access database was validated against relevant historic Duval Corporation datasets. These were transcribed externally with the transcripts being checked against original data sheets for veracity. Modern data was checked against sample ledgers and digital lab reports. It is assumed that due care was taken historically with the process of transcribing data from field notes into digital format for statutory annual reporting.
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	 Two site visits were undertaken by the CP The first was undertaken prior to the start of the current drilling program in late August 2017. Historic collar locations and planned drilling was verified on this visit. The second was undertaken in early November 2017, to verify current drilling, logging and sampling operations. An additional visit to the Assaying laboratory, the SRC in Saskatoon, Canada, was also undertaken in late October 2017 to inspect received samples.
Geological Interpretation	 Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology 	 While current drilling confirmed the historic geology broadly, it was found that all lacustrine-associated units have very gradual facies transitions, meaning that lithological distinctions can be arbitrary. Historic lithological data was examined in the light of drill cores in the current drill program. An assumption that the mineralisation occurs largely within the evaporitic sequence has been borne out by assay results. Alternative geological interpretations would have little to no effect on the Mineral Resource Estimate, as the latter was based on Indicator Kriging of mineralisation, thus defining the mineralized ore independent of geological interpretation While the geology only controls the broad zones wherein mineralisation occurs (the evaporitic-dominated facies of the lacustrine sediments), it does not assist in narrowly defining the mineralisation, which is quite diffuse within this zone, though with a marked high grade zone towards the upper end of the mineralisation sequence. The mineralisation, when viewed independently, is present in at least 4 distinct mineralised horizons, with good lateral continuity. These were named the Upper, Main, Intermediate and Lower Mineralised Horizons. Grade continuity is well defined throughout the deposit, especially in the high grade zone. Faulting clearly bounds the deposit on the west (Pisgah Fault), and this

Criteria	JORC Code explanation	Commentary
		boundary was implemented. Previously interpreted faults (such as Fault B) occur to the east of the defined mineralized zone, and are therefore not a factor in the interpretation.
Dimensions	 The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	The modelled mineralised body continues for a 3.7 km along a northwest-southeast strike, with a width of approximately 1800m. It dips towards the southwest, where it reaches a maximum depth of 29 m above sea level, and reaches 311 m above sea level at its highest point in the north east. It averages around 90-130m in thickness.
Estimates and modelling techniques	 The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping The process of validation, the checking process used, the comparison of model data to drillhole data, and the use of reconciliation data if available. 	Detailed examination of the assay results indicated that there are distinct mineralised horizons. The deposit was there divided based on these patterns of mineralisation, into 4 mineralised horizons, and 2 non- to weakly mineralised interbeds. Based on these defined horizons, a Vulcan grid model was constructed across the deposit area, with 25m x 25m grid cells. Lithological grids were built, including horizon thicknesses, roofs and floors. Interpolation for the lithological grids were by Inverse Distance Squared. As per the previous report, the deposit was limited by an ore body boundary, using a distance of 150m from the last intersection of a mineralised on the outside of the orebody. The previous ore boundary was extended by new drilling, especially in the northern parts of the deposit. The grids were masked outside the ore boundary. Based on seam composites, variograms were constructed for B ₂ O ₃ (no lithium oxide variograms were possible). Ranges for the ominidirectional, horizontal variograms ranged between 400 m and 530 m. A Resource Classification was therefore defined as 0 – 200m Measured, 200-400m Indicated, and 400 – 800m Inferred. • A Historical Resources is available, but there is no detail on the estimation methodology, or the limits thereof, and how it was implemented. It is therefore no better than a rough guideline. This Resource was 115 MMT @ 7.4% B ₂ O ₃ (unclassified). Comparatively, the tonnage of the Indicated and Inferred as described here well exceed that amount, with a lower average grade. With the difficulty in ascertaining how the deposit was bounded (thus increasing grade and decreasing tonnage), this difference is not seen as critical. • The only by-product reported here is lithium. The exact nature of the lithium mineralisation is unclear. It is thought to be associated with the interbedded clays, and a marked negative grade correlation with Boron does exist. In addition, historical assays have intermittent lithium analyses, and by convention non-assayed intervals are assig

Criteria	JORC Code explanation	Commentary
		 No deleterious elements have been identified thus far As mineralisation is diffuse, with very variable assays even in the high-grade zone block sizes cannot be confined by lithological constraints. Sampling size is very variable, with the average sample being just under 1 m (inclusive of historic assays), ranging to well in excess of 5m in some historical holes. Due to these variable factors, seam composites are seen as a reasonable, unbiased compromise for the vertical dimension of the blocks. The 250m horizontal dimensions were based on getting a reasonable number of grid cells between (other than the production and twin holes, holes are more than 100m apart on average. No assumptions were made as to variable correlations, although a negative correlation between lithium and boron was noted. Geological interpretation based on mineralisation, rather than lithology, played a role in defining the horizons, and therefore the Resource. Grade capping was not applied An inverse distance model was run to see if any kriging bias was found. The model was visually checked, and histograms were compared of all input composites and all interpolated blocks – with excellent correlation, for both B₂O₃ and Li.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the determination of the moisture contents.	Tonnages and grades are estimated on a wet-in situ basis
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	• The B_2O_3 cut-off of 5% is based on historic reported cut-offs for this deposit.
Mining factors or assumptions	 Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	 It is assumed that the deposit will be mined as solution mine/in-situ leach. The appropriate cut-offs were applied for this method. Underground mining is not suitable due to ground conditions, as historically noted.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• Initial metallurgical test works complete on representative sample core from colemanite mineralisation containing 6.2% B₂O₃ (11.0% H₃BO₃*) and 505 ppm lithium, were completed with a total of five hydrochloric acid (HCl) leach tests were performed. Boron recoveries were near 100%, while just under 50% lithium was recovered. Based on these early results, and pending further testing, the solution mining / in-situ leaching appears to successful. Further metallurgical tests are proceeding.

Criteria	JORC Code explanation	Commentary
Environmental factors or assumptions	 Assumptions made regarding possible waste and process residue disposal options It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made 	 Whereas solution mining is a minimum disturbance form of mining, and previous activities at the site using similar processes have not resulted in any environmental degradation, APBL will undertake a full EIS at the appropriate time in order to identify and mitigate any potential environmental concerns. The only specific requirement currently from the State if California is the fencing of all worksites with tortoise fencing, to protect the endangered species. In a solution mining project, this requirement can be comfortably accommodated.
Bulk density	 Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials 	 A total of 388 density measurements, using the water immersion technique, were taken from drill core at the Fort Cady project, during the current drill program. It is assumed that there are minimal void spaces within the core Since the ore is finally laminated, it is assumed that the large quantity of regular density samples will account for all components.
	 The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit 	 Measured, Indicated and Inferred Category Resources were applied in compliance with the 2012 Edition of the JORC code. These were applied both on the variogram ranges of the primary economic constituent (B2O3), and the reliability of the data. Indicated was defined as the Variogram range, but only utilizing the data from the current drill program and Inferred as twice the variogram range, and utilised the current and historic data. Variography indicated that the current data spacing is more than sufficient. Twin holes indicated reasonable duplication of historic results. The diffuse nature of the mineralisation within the deposit was adequately taken into account by the utilization of the Indicator Kriging approach. The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits / reviews	The results of any audits or reviews of Mineral Resource estimates.	 Reviews have been completed by the CP and APBL which verified inputs, assumptions, methodology and results.
Discussion of relative accuracy/ confidence	 Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	 The deposit geometry and continuity has been adequately interpreted to reflect the applied level of Inferred and Indicated Mineral Resource. The data quality is good and the drill holes have detailed geological logs. A recognized laboratory was used for all analyses. The Mineral Resource statement relates to global estimates of tonnes and grade. No check estimates were available. Historic production data is limited, but does not contradict the modern exploration data.