

ASX Code: ABR

ACN: 615 606 114

1 February 2018

# ABR Announces Significant Upgrade to JORC Mineral Resource Estimate for Fort Cady Borate and Lithium Project, Increasing both Tonnes and Grade

- ABR completes upgrade of JORC compliant Mineral Resource Estimate ("MRE") for the Fort Cady Boron and Lithium Deposit, California, USA.
- Total Resource of 120.4 million tonnes ("Mt") at 6.5%  $B_2O_3$  (11.6% Boric Acid equivalent  $[H_3BO_3]$ ) and 340 ppm Lithium (5%  $B_2O_3$  cut-off) for 7.8 Mt contained  $B_2O_3$  (13.9 Mt  $H_3BO_3$ )
  - Total Indicated Resource of 58.59 Mt at 6.59%  $B_2O_3$  (11.71%  $H_3BO_3$ ) and 367 ppm Lithium (5%  $B_2O_3$  cut-off grade) for 3.86 Mt contained  $B_2O_3$  (6.86 Mt  $H_3BO_3$ )
  - Total Inferred Resource of 61.85 Mt at 6.43%  $B_2O_3$  (11.42%  $H_3BO_3$ ) and 315 ppm Lithium (5%  $B_2O_3$  cut-off) for 3.98 Mt contained  $B_2O_3$  (7.07 Mt  $H_3BO_3$ )
- MRE increased by 27.4 Mt from 93.0 Mt to 120.4 Mt and by 0.2% B<sub>2</sub>O<sub>3</sub> from 6.3% to 6.5% representing a 30% increase in tonnes and a 3% increase in B<sub>2</sub>O<sub>3</sub> grade
- Contained boric acid increased to 13.9 Mt
- 72% of the total MRE contained within Operating Permit region has been awarded to APBL's wholly owned subsidiary, Fort Cady California Corp. ("FCCC"), which solely entitles FCCC to commercial-scale mining
- Mineralisation remains open to the southeast

American Pacific Borate and Lithium (ASX:ABR) ("APBL" or the "Company") is pleased to deliver an upgraded JORC MRE for its 100%-owned Fort Cady Borate and Lithium Project (the "Project") located in Southern California, USA.

The complete report is attached with highlights noted above.

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

"This is a large increase in contained boric acid to nearly 14 million tonnes and importantly there appears to be even more upside.

This should support a substantial multi-generational operation, that will take advantage of elevated demand growth for a product that is favoured for energy efficiency applications like fibre glass insulation, energy generation technologies like solar PV modules and fertilisers that are used to enhance crop yields, water retention and disease resistance."

1. Boric acid ( $H_3BO_3$ ) equivalent % = 1.78 x  $B_2O_3$ %

#### 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

169.6 million shares

14.0 million options

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#### **Competent Persons Statement**

The information in this release that relates to Exploration Results 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.

#### **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 highly 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 120.4 Mt at 6.50%  $B_2O_3$  (11.6%  $H_3BO_3$ , boric acid equivalent) & 340 ppm Li (5%  $B_2O_3$  cut-off) including 58.59 Mt at 6.59%  $B_2O_3$  (11.71%  $H_3BO_3$ ) & 367 pmm Li in Indicated category and 61.85 Mt @ 6.73%  $B_2O_3$  (11.42%  $H_3BO_3$ ) & 315 ppm Li. The JORC Resource has 13.9 Mt of contained boric acid. 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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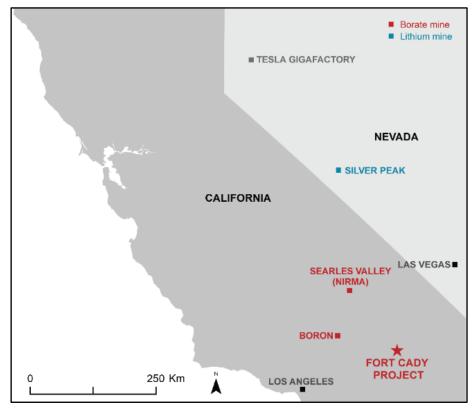


Figure 1. Location of the Fort Cady Borate and Lithium Project, California USA.





# **RESOURCE ESTIMATION FOR THE FORT CADY PROJECT**

# SAN BERNARDINO COUNTY **CALIFORNIA**

Prepared for

American Pacific Borate and Lithium Limited

by

Competent Person: Louis Fourie **Resource Consultant** 

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January 2018

Signed:	ff curu		
Date:	31st January 2018		



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# ABR Updated JORC Mineral Resource Estimate for the Fort Cady Borate and Lithium Deposit, San Bernardino County, California

### **Highlights**

- Updated JORC 2012 Mineral Resource Estimate ("MRE") for Fort Cady Boron and Lithium Deposit, California, USA.
- Total Resource of 120.4 million metric tonnes ("Mt") at 6.5% B<sub>2</sub>O<sub>3</sub> (11.6% Boric Acid equivalent<sup>1</sup> [H<sub>3</sub>BO<sub>3</sub>]) and 340 ppm Lithium (5% B<sub>2</sub>O<sub>3</sub> cut-off) for 7.8 Mt contained B<sub>2</sub>O<sub>3</sub> (13.9 Mt H<sub>3</sub>BO<sub>3</sub>)
  - Total Indicated Resource of 58.59 Mt at 6.59% B<sub>2</sub>O<sub>3</sub> (11.71% H<sub>3</sub>BO<sub>3</sub>) and 367 ppm Lithium (5% B<sub>2</sub>O<sub>3</sub> cut-off grade) for 3.86 Mt contained B<sub>2</sub>O<sub>3</sub> (6.86 Mt H<sub>3</sub>BO<sub>3</sub>)
  - Total Inferred Resource of 61.85 Mt at 6.43% B<sub>2</sub>O<sub>3</sub> (11.42% H<sub>3</sub>BO<sub>3</sub>) and 315 ppm Lithium (5%  $B_2O_3$  cut-off) for 3.98 Mt contained  $B_2O_3$  (7.07 Mt  $H_3BO_3$ )
- 72% of the total MRE contained within Operating Permit region awarded to APBL subsidiary, Fort Cady California Corp. ("FCCC"), which solely entitles FCCC to commercial-scale mining
- 30% increase in resource tonnes and 28% increase in contained borate tonnes to that of Maiden **JORC MRE**
- Mineralisation open to the southeast

#### **SUMMARY**

American Pacific Borate and Lithium (ASX: ABR) ("APBL" or "the Company") is 100% owner of the Fort Cady Borate and Ŀithium Project ("Fort Cady" or "the Project") in southern California, USA. The 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 1 & Figure 2). 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. Boron mineralisation is hosted in lacustrine sediments, including a significant evaporitic component. The orebody has an elongated, northwesterly trending morphology, occurring at depths between 350 to 400m. Colemanitic beds dip between 4 and 10 degrees to the southwest, where the deposit is bounded by the Pisgah Fault.

 $ec{\mathbb{H}}$ istoric exploration by Duval between 1977 and 1981 defined the current extent of the orebody. A small pilot operation, utilising in-situ leaching of the colemanite was established during the 1980's during which approximately 450 tonnes of foric acid was produced. A second phase during the 1990's produced about 1,800 tonnes of a synthetic colemanite product from the leachate.

Since acquisition of the project in May 2017, APBL has completed 14 new drill holes in confirming and expanding the Resource at Fort Cady. The Company previously announced a maiden JORC (2012) MRE at Fort Cady of 90 Mt

("ABR Delivers Maiden JORC Compliant Mineral Resource Estimate for the Fort Cady Borate and Lithium Project in Southern California"; 12th December 2017). The maiden JORC MRE was based on 6 drill holes whereas all 14 drill holes are included in the updated MRE (this report).

Modelling of the deposit was followed by Resource Estimation utilising the modern drilling (Indicated and Inferred Categories applied) and historic drilling (Inferred Category only) and assays. The historic cut-off grade of 5% B<sub>2</sub>O<sub>3</sub> was

<sup>&</sup>lt;sup>1</sup> Boric acid ( $H_3BO_3$ ) equivalent % = 1.78 x  $B_2O_3$ %



applied to all categories. The concurrent lithium concentrations in the deposit was also estimated. No cut-off grade was applied to the lithium resource as the extraction of lithium by in-situ solution mining is a matter of ongoing investigation. As a secondary product, the lithium was reported subject to the boron resource categories.

#### 1.1 Project Location

The 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 1 & Figure 2). 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 36 of T8N, R5E, in San Bernardino County, California. The area of the proposed solution mine well field covers approximately 158 acres with an estimated 3.86 Mt (Indicated Category) and 3.98 Mt (Inferred Category) of B<sub>2</sub>O<sub>3</sub> contained in-place (JORC 2012 MRE, 2017; Section 4).

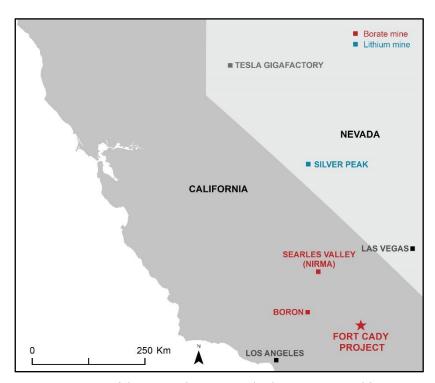


Figure 1. Location of the Fort Cady Borate and Lithium Project, California, USA

#### **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 ("Duval") initiated land acquisition and exploration activities near Hector, California, and by March 1981, completed 33 exploration holes. In 1981, Duval began considering conventional

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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 indicated that in-situ mining technology was feasible (Simon Hydro-Search, 1993).

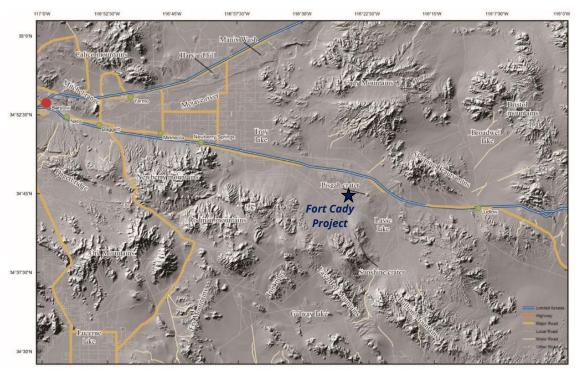


Figure 2. Digital elevation model of the Project area

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, a series of tests were conducted by Mountain States Mineral Enterprises Inc. 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, FCMC became involved with the project 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. Commercial-scale operations were not commissioned due to low product prices and other priorities of the controlling entity.

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 to produce 90,000 short tons per annum of boric acid.

APBL 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.

PHONE 6



#### 1.3 Land Titles

The Project land titles (tenements) map is shown in Figure 3 and listed in Table 1. The 1994 approved project area covers roughly 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 4,409 acres are held by Ft. Cady California Corporation ("FCCC"), a subsidiary of the Company, of which approximately 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 240 acres of fee simple patented or privately held lands; 269 acres of surface areas owned with mineral rights held by the State of California; 2,380 acres of unpatented claims held by FCCC; and 1,520 acres of unpatented claims leased by FCCC from 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).

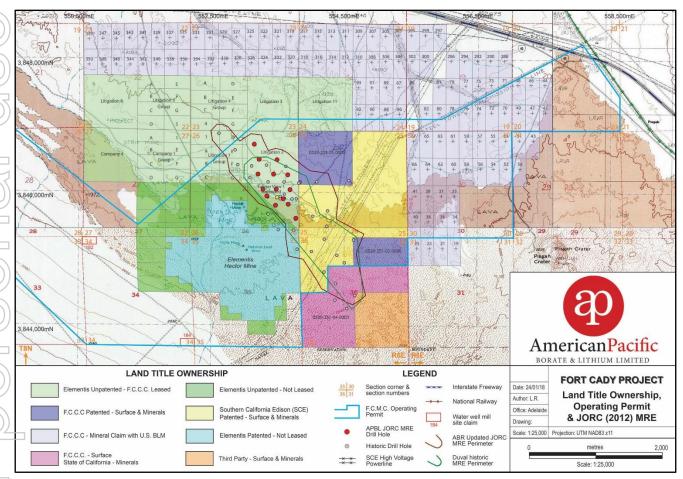


Figure 3. Land Titles (tenements) map highlighting extent of the Fort Cady borate and lithium deposit and Operating Permit area

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Table 1. List of tenements (land titles) for the Fort Cady Project

	Tenement Name	Status	Date of Grant	Date of Expiry	Area km²	Surface Rights	Ownership Mineral Rights	Lessee
	Parcel 0529-251-01 Parcel 0529-251-03	Granted	8/05/2010		0.65 0.32	Fort Cady California Corp.	Fort Cady California Corp.	Not applicable
	Parcel 0529-251-04	Granted	8/05/2010	Not applicable	1.09	Fort Cady California Corp.	State of California	Not applicable
	Company 1 Group		Various		0.65			
	Litigation 1 Group		12/09/1991		0.65			
	Litigation 4 Group		Various		0.65			
	Litigation 5 Group		Various		0.65			
	Litigation 2	Granted	29/07/1937	Not applicable	0.65	Elementis Specialties, Inc.	Elementis Specialties, Inc.	Fort Cady California Corp.
	Litigation 3	Granteu	29/07/1937	Not applicable	0.65	Elementis specialties, mc.	ciementis specialties, inc.	Fort Cauy California Corp.
	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,	Granted	Various	Not applicable	1.21	Elementis Specialties, Inc.	Elementis Specialties, Inc.	Fort Cady California Corp.
	HEC #371, HEC #372, HEC				1			
((	#374 - #376							
ar	HEC #19; HEC #21; HEC# 23;							
00	HEC#25; HEC #34 - #41; HEC							
(CII)	#43 - #67; HEC #70 - #82;							
	HEC #85 - #93; HEC #182;	Granted	Various	Not applicable	9.63	Fort Cady California Corp.	Fort Cady California Corp.	Not applicable
	HEC #184; HEC #288; HEC	Grantea	various	Not applicable	3.03	Tort cady camornia corp.	Tort cady camornia corp.	Not applicable
	#290; HEC #292; HEC #294;							
	HEC #296 - #297; HEC #299 -							
	#350							

#### Geology

1.4

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 4).

The Barstow Trough, which is a structural depression, extends 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, characterised 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 4 & Figure 5). 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.



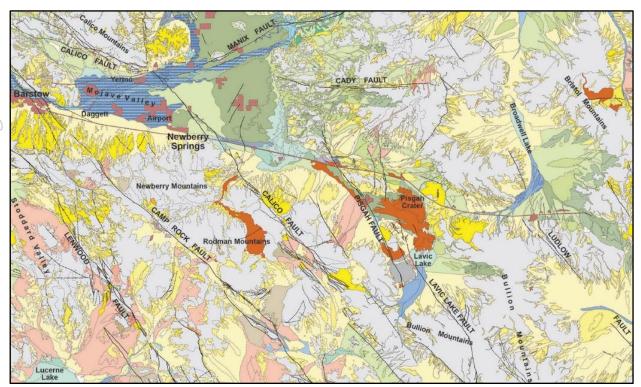


Figure 4. Geology and major structures in the Newberry Springs region

There are three prominent geologic features in the project area (Figure 5):

Pisgah Fault, which transects the southwest portion of the project area west of the ore body;

- Pisgah Crater lava flow located 3.2 km east of the site; and
- 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 upthrown 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).

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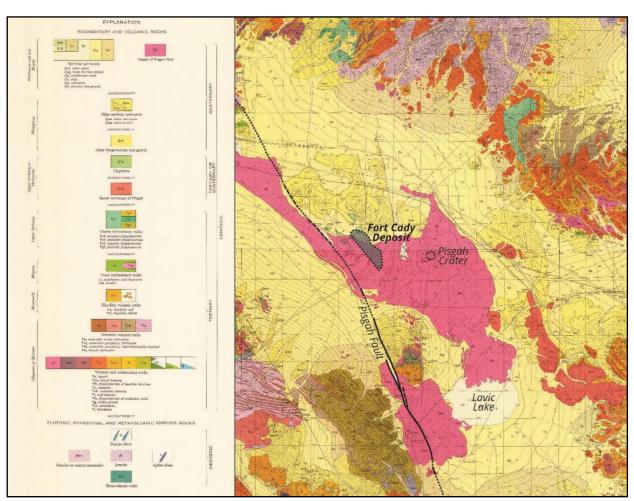


Figure 5. Geology map of project region (modified from Dibblee, 1967)

#### **Deposit Geometry**

The ore body as modelled in the updated JORC MRE is elongate in shape and trends northwesterly, extending over an area of about 2.46 km² (606 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<sub>2</sub>O<sub>3</sub> mineralisation, ranging in thickness from 20 m to 80 m (70 ft to 262 ft), is approximately 800 m to 900 m wide at its centre and 3,400 m long (Figure 6). If the entire mineralized zone, irrespective of grade cut-off and minor barren interbeds is considered, the thickness ranges up to 130m,

The eastern margin of the ore body appears to be roughly linear, paralleling the Pisgah Fault which lies approximately 1.6 km to the west (Figure 6 & Figure 7). 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).

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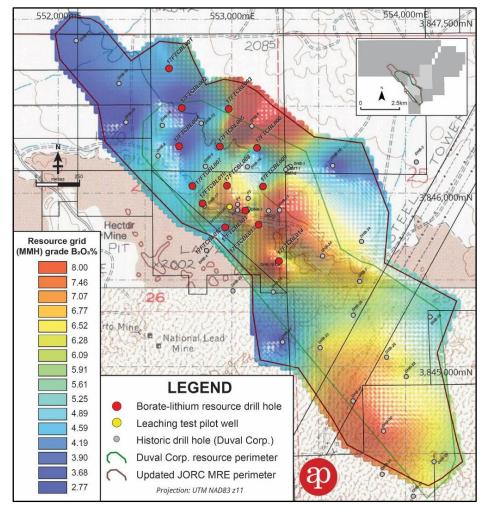


Figure 6. Fort Cady updated JORC (2012) perimeter and Main Mineralised Horizon B₂O₃% grade grid.

#### .6 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.

#### 1.7 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 8). 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, zeolitised 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 zeolitised 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.

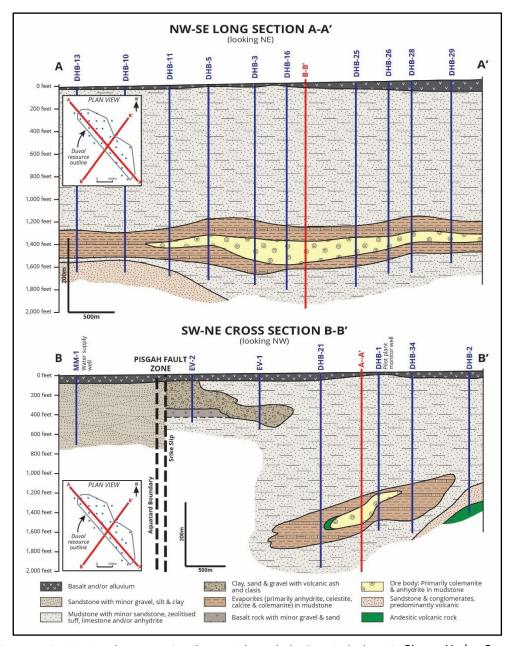


Figure 7. Long-section (top) and cross-section (bottom) through the Fort Cady deposit (Simon Hydro-Search, 1993)



Note that current drilling indicated that the contacts between these units are gradational and difficult to definitively define.

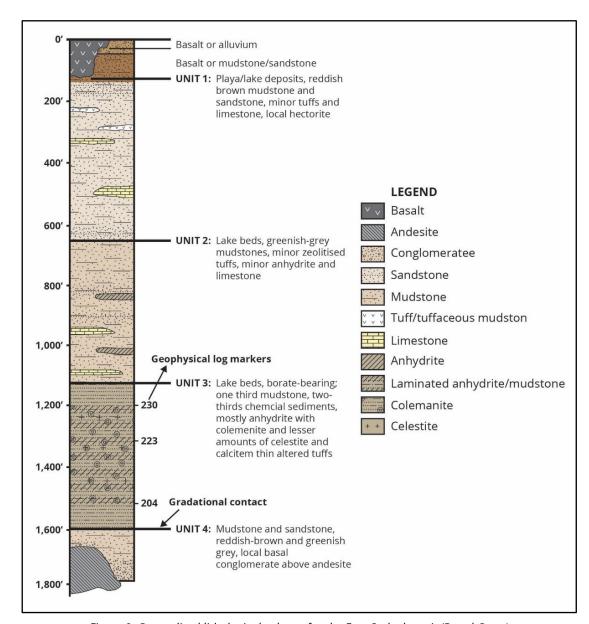


Figure 8. Generalised lithological column for the Fort Cady deposit (Duval Corp.)

#### 1.8 Mineralogy

The ore body is hosted by a sequences of mudstone and tuff, consisting of variable amounts of colemanite, a calcium borate (2CaO •  $3B_2O_3$  •  $5H_2O$ ). The colemanite is associated with thinly laminated siltstone, clay and gypsum beds containing an average of 9% calcite, 35% anhydrite plus 10% celestite, SrSO<sub>4</sub> (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 7 & Figure 8). This enclosed setting makes the deposit an ideal candidate for in-situ mining technology affording excellent containment of the leachate solution.

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#### 2. **MODERN DRILLING PROGRAM**

Since acquisition of the project in May 2017, APBL has completed 14 new drill holes in confirming and expanding the Mineral Resource Estimate at Fort Cady (Table 2; Figure 9). A cross-section through the deposit is also displayed in Figure 10. Drilling through the overburden sequence was completed using rotary air blast (RAB) drilling technique. This was 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 and geotechnical logging. Downhole geophysical logs, including Gamma Ray, Induction and standard Caliper were completed on all drill holes from surface to TD with the exception of 17FTCBL009 where adverse hole conditions resulted in only partial geophysical logging. All core is logged and photographed according to industry standard procedures. An example of core photos is shown in Figure -1/1.

Table 2. Drill holes included in updated JORC Mineral Resource Estimate

Hole ID	Rotary (m)	DDH (m)	Hole depth (m)	Samples	Blanks	Duplicates	Boron standards	Lithium standards	Total
17FTCBL001	359.7	118.6	478.2	82	5	6	4	2	99
17FTCBL002	347.5	112.5	459.9	107	7	7	5	2	128
17FTCBL003	335.3	109.4	444.7	91	6	6	4	2	109
17FTCBL004	378.0	151.8	529.7	162	10	9	8	3	192
17FTCBL005	352.3	132.0	484.3	150	10	10	7	3	180
17FTCBL006	347.5	110.6	458.1	83	5	5	4	2	99
17FTCBL007	310.9	230.1	541.0	207	13	14	10	4	248
17FTCBL008	323.1	172.2	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
17FTCBL012	323.1	210.3	533.4	212	14	13	10	4	253
17FTCBL013	323.1	216.1	539.2	155	10	10	8	3	186
17FTCBL014	335.3	227.1	562.4	260	17	15	12	6	310
Total	4,692.1	2,353.7	7,045.8	2,118	135	136	101	43	<i>2,53</i> .
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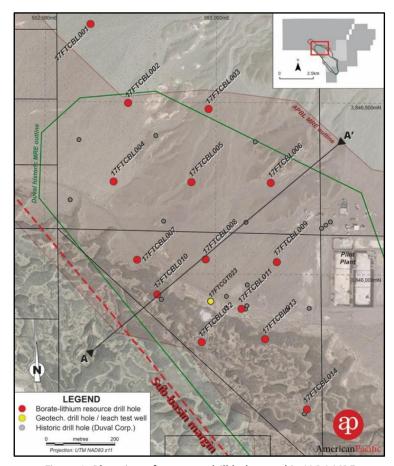


Figure 9. Plan view of resource drill holes used in JORC MRE

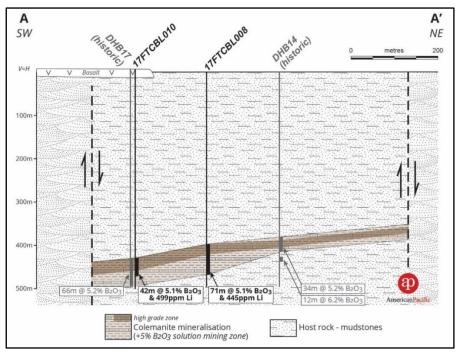


Figure 10. Cross-section through the Fort Cady deposit





Figure 11. Core photo, 17FTCBL-0014, 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

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#### 3. LABORATORY ASSAYS AND QUALITY ASSURANCE / QUALITY CONTROL

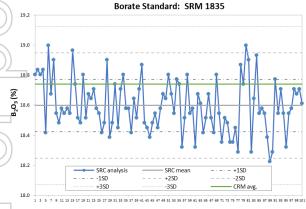
Between September 2017 and October 2017, APBL completed 14 holes (7,046m) as part of a confirmatory resource drilling program. Assay results from all 14 drill holes (for 3,118m) were used in the updated JORC Mineral Resource Estimate ("MRE"). The average hole depth of the 14 holes is 503.3m. In conjunction with the modern drilling program, 33 historical drill holes (~17,000m) were completed by Duval between 1979 and 1982 and have been utilised in the MRE. Duval completed 17,164m of resource drilling with an average hole depth of 520.1m. The QAQC procedures of 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. In excess of 3,000 samples were analysed by Duval at either their Tucson, West Texas (Culberson Mine) or New Mexico (Duval Potash mine) laboratories. Mineralogy was identified from XRF analysis. XRF results were reportedly checked against logging and assay data.

In the MRE, a total of 2,118 drilling samples and 415 control samples were submitted for multi-element analysis at the Saskatchewan Research Council ("SRC"). APBL submitted control samples, in the form of certified standards, blanks and coarse duplicates (bags with sample IDS supplied by APBL for SRC to make duplicate samples). In addition to these control samples, SRC also submitted their own internal control samples, in the form standards and pulp duplicates. A summary of all the QAQC control samples submitted to SRC is shown in Table 3.

Table 3. Summary of QAQC Control Samples

	Submitted by	Drilling type	No. of holes	Metres drilled	Standards	Blanks	Coarse duplicates	Pulp duplicates	Total frequency	Primary samples	Total
-[	ABR	Rotary	14	4,692.1	0	0	0	0		0	0
-	-	Diamond tail	14	2,353.7	144	135	136	0		2,118	2,533
/	1	Total	14	7,045.8	144	135	136	0		2,118	2,533
J	J)			Frequency	6.8%	6.4%	6.4%		19.6%	83.6%	100%
ı	SRC	SRC Additional	QAQC		151			82			
				Frequency	7.1%			3.9%	11.0%		

Certified standards SRM 1835 and SRM 97b, prepared by the National Institute of Standards and Technology (NIST), were submitted as part of APBL QA/QC procedures, the results of which are shown graphically in Figure 12. Standard deviations shown are for SRC assays. No two standards in any single batch submission were more than two standard deviations from the analysed mean, implying a good level of precision of SRC instrumentation.



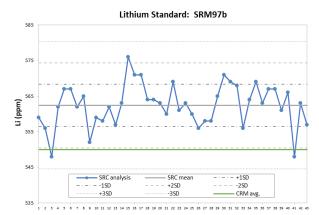


Figure 12. Assay Results standards submitted to SRC by APBL, SRM1835 (left) and SRM97b (right)

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SRC assayed 2 different standards, CAR110/BSM and CAR110/BSH, for its own QC protocol. CAR110/BSM is designated as a "medium boron standard". CAR110/BSH is designated as a "high boron standard". Figure 13 displays the analytical results for the certified standards. The analytical precision for analysis of both CAR110/BSM and CAR110/BSH is also good, with no two standards in any single batch submission being more than two standard deviations from the analysed mean.

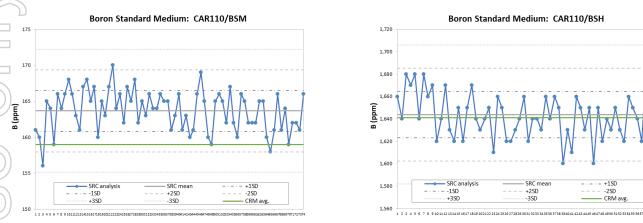


Figure 13. Assay Results for SRC Standards used for its own QC protocols, CAR110/BSM (left) and CAR110/BSH (right)

Blank samples inserted by APBL consisted of non-mineralised marble. One hundred and thirty five (135) blank samples were submitted, all of which had assay results of less than 73 ppm B. The level of boron detected in the blanks is likely squrced from pharmaceutical (borosilicate) glass used during sample digestion. These boron concentrations are considered immaterial in relation to the boron levels detected in the colemanite mineralisation. Lithium levels in the blank samples are also at acceptable levels with the majority of assays <15 ppm Li. The four highest Li levels in the blanks immediately followed samples that contained relatively high lithium concentrations. Overall, the concentration of the primary elements of interest (B and Li) in the blanks are at levels considered to be acceptable, implying a good performance for sample preparation. The results of the blanks for B and Li are plotted in a Figure 14.

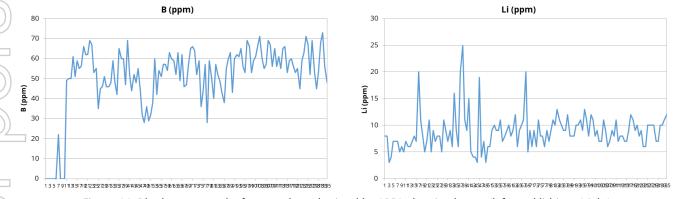


Figure 14. Blank assay results for samples submitted by APBL showing boron (left) and lithium (right)

A total of 136 duplicate samples were submitted to SRC. APBL commissioned SRC to compose coarse duplicate samples using a Boyd rotary splitter. Figure 15 shows the assay results of duplicate samples for B and Li. As can be seen from the regressions, there is a good correlation between original and duplicate samples.

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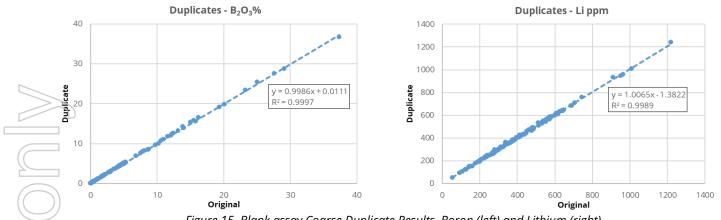


Figure 15. Blank assay Coarse Duplicate Results, Boron (left) and Lithium (right).

Figure 16 displays a HARD (half absolute relative difference) plot for the duplicates. This highlights good precision for the duplicates. Regression and HARD results were also plotted for pulp duplicates assayed in SRC's own QC protocol shown in Figure 17. These also show a good level of precision.

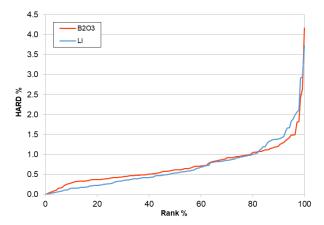


Figure 16. HARD diagram for APBL duplicate samples.

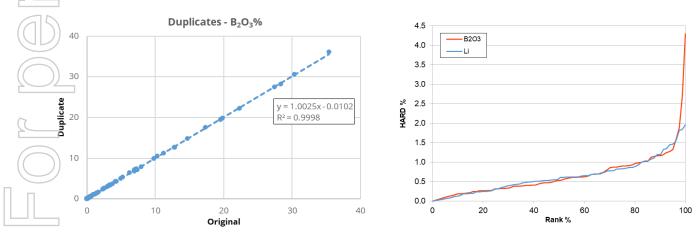


Figure 17. SRC duplicate results and HARD diagram

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#### 4. MINERAL RESOURCES

#### 4.1 General Methodology

After the drilling of the additional holes, the data was reanalysed in detail (Figure 18 - Figure 20). As stated in the maiden JORC MRE report (*ASX announcement 12<sup>th</sup> December 2017*), the mineralisation cannot be accurately defined by lithological markers. However, 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. These are listed in Table 4.

Table 4. Mineralised horizons

Horizon	Abbreviation	Thickness range (metres)	Average thickness (metres)	Composited B <sub>2</sub> O <sub>3</sub> range (wt %)	Composited Li range (ppm)
Upper Mineralised Horizon	UMH	0.1 - 12.5	4.3	0.87 - 14.45	99 - 588
Upper Interbed	UI	0.1 - 16.7	6.7	0.5 - 4.1	108 - 623
Major Mineralised Horizon	MMH	0.7 - 69.4	27.4	2.6 - 17.6	98 - 550
Medial Interbed*	MIB	6.5 - 5.2	9.7	0.3 - 1.9	386 - 492
Intermediate Mineralised Horizon	IMH	1.8 - 58.3	22.5	0.7 - 12.0	23 - 534
Lower Mineralised Horizon	LMH	0.0 -53.9	19.7	0.2 - 5.7	91 - 534

<sup>\*</sup>The Medial Interbed horizon is found exclusively in the northern part of the deposit.

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 maiden JORC MRE, 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. Note that the density applied to the model is 2.18 g/cc, as defined in the maiden JORC MRE.

#### 4.2 Grade Estimation & Resource Classification

Based on seam composites, variograms were constructed for  $B_2O_3$  (no lithium variograms were possible). The following variograms were modelled, based on seam composites (Table 5).

Table 5. Modelled variograms

	–Horizon	Type	Nugget	First Structure	Second Structure
	Major Mineralised Horizon	Spherical, omnidirectional	0	200	400
ı	Intermediate Mineralised Horizon	Spherical, omnidirectional	0.2	180	450
	Lower Mineralised Horizon*	Spherical, omnidirectional	0.2	530	-

<sup>\*</sup> Note, due to weak variography, variograms weren't modelled for the UMH.

Graded grids were constructed using Ordinary kriging for grade variables for which variograms were modelled, and Inverse Distance Squared interpolation for all the other grade variables. The same grid size as used in the lithological modelling (Section 4.1) was utilised.

Based on the variography above, the deposit was re-classified as follows:

Indicated Resources Category: classified based on a "radius of influence" of 400m.

Inferred Resources Category: based on a "radius of influence" of 800m.

 $\overline{D}$ ue to the drilling density, it was not necessary to further limit the classification based on samples per drillhole.



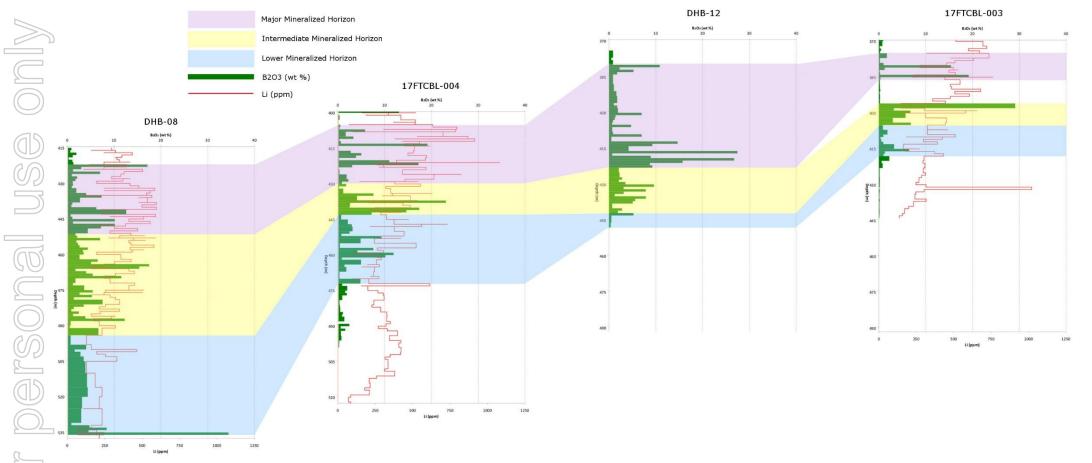


Figure 18. Fence diagram (SW-NE) through northern extent of Fort Cady deposit.

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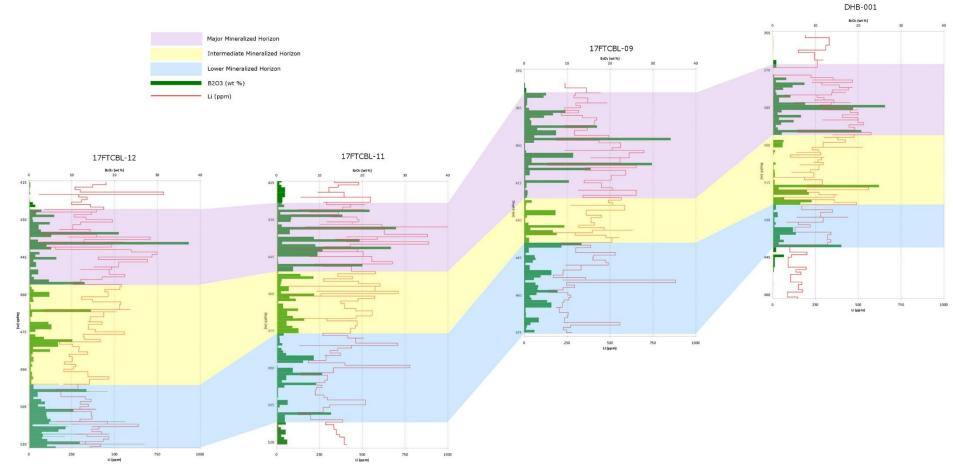


Figure 19. Fence diagram (SW-NE) through central Fort Cady deposit

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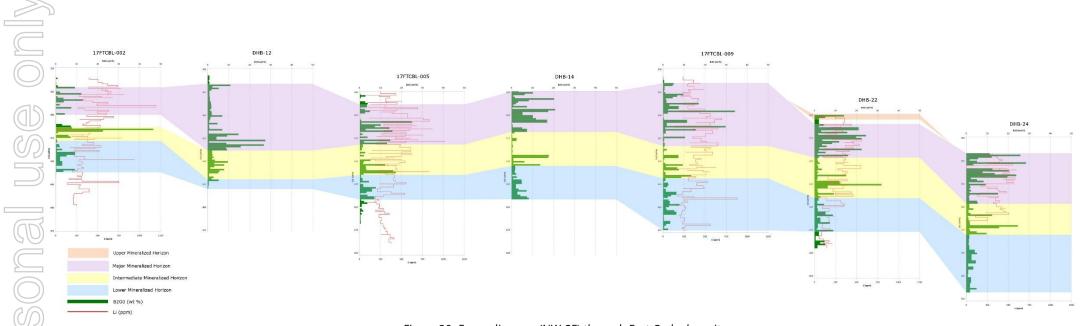


Figure 20. Fence diagram (NW-SE) through Fort Cady deposit

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#### **Mineral Resource Estimate Reporting**

An evaluation of the in-situ resources is shown in Table 6 at 5% B<sub>2</sub>O<sub>3</sub> cut-off grade. In total, 76.0 Mt or 63% of the total MRE is under 100% ownership or control of FCCC, a fully owned subsidiary of the Company. Approximately 86.6 Mt or 72% of the total MRE occurs within the approved Operating Permit region approved for commercial-scale operations which was awarded to FCCC in 1995. 42.2 Mt or 35% of the total MRE that occurs in the Operating Permit region is under full ownership of the Company. 44.4 Mt or 37% 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.

Table 6. Summary of in-situ mineral resources (5% B2O3 cut-off)¹

Indicated Resource	Horizon	Tonnes (million)	B <sub>2</sub> O <sub>3</sub> (wt %)	H₃BO₃ (wt %)	Li ppm	B₂O₃ Mt	H₃BO₃ Mt
Elementis Unpatented - FCCC Leased,	UMH	0.84	6.97	12.38	290	0.06	0.10
FCCC Patented - Surface & Minerals	MMH	25.27	7.06	12.54	390	1.78	3.17
	IMH	13.28	5.63	10.00	362	0.75	1.33
))	Subtotal	39.40	6.58	11.68	378	2.59	4.60
FCCC - Surface; State of CA - Minerals	UMH	0.85	5.82	10.34	257	0.05	0.09
5	MMH	18.34	6.67	11.85	347	1.22	2.17
))	Subtotal	19.19	6.63	11.78	343	1.27	2.26
Total Indicated Resource	Total	58.59	6.59	11.71	367	3.86	6.86
Inferred Resource	Horizon	Tonnes	B <sub>2</sub> O <sub>3</sub>	H <sub>3</sub> BO <sub>3</sub>	Li	B <sub>2</sub> O <sub>3</sub>	H₃BO₃
))		(million)	(wt %)	(wt %)	ppm	Mt	Mt
Elementis Unpatented - FCCC Leased,	MMH	2,31	5.51	9.78	282	0.13	0.23
FCCC Patented - Surface & Minerals	IMH	0.52	5.10	9.05	335	0.03	0.05
	Subtotal	2.82	5.43	9.65	292	0.15	0.27
SCE Patented - Surface & Minerals	MMH	44.42	6.29	11.17	299	2.79	4.96
FCCC - Surface; State of CA - Minerals	MMH	14.61	7.06	12.54	367	1.03	1.83
Total Inferred Resource	Total	61.85	6.43	11.42	315	3.98	7.07
Total Indicated & Inferred Resources	Horizon	Tonnes	$B_2O_3$	H₃BO₃	Li	$B_2O_3$	H <sub>3</sub> BO
		(million)	(wt %)	(wt %)	ppm	Mt	Mt
Elementis Unpatented - FCCC Leased,	UMH	0.84	6.97	12.38	290	0.06	0.10
FCCC Patented - Surface & Minerals	MMH	27.58	6.93	12.31	381	1.65	2.92
	IMH	13.80	5.61	9.97	361	0.77	1.38
	Subtotal	42.22	6.50	11.54	373	2.48	4.40
FCCC - Surface; State of CA - Minerals	UMH	0.85	5.82	10.34	257	0.05	0.09
	MMH	32.95	6.84	12.15	356	2.25	4.01
	Subtotal	33.80	6.82	12.11	353	2.30	4.09
SCE Patented - Surface & Minerals	MMH	44.42	6.29	11.17	299	2.79	4.96
TOTAL INDICATED & INFERRED RESOURCE	S	120.44	6.51	11.57	340	7.58	13.46

Discrepancies in subtotals and totals due to rounding errors; <sup>2</sup> FCCC (Fort Cady California Corp.) is a fully owned subsidiary of APBL; <sup>3</sup> SCE − Southern California Edison; <sup>4</sup> Boric acid (H<sub>3</sub>BO<sub>3</sub>) equivalent % = 1.78 x B<sub>2</sub>O<sub>3</sub>%.

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 mineral resource estimates. 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.

#### **Resource Model Quality Assurance / Quality Control**

The model was inspected visually as well as via histograms of composited data and model output. As Figure 21 indicates, the correlation between input data and modelled data is exceptionally good. Note that after examination, it was determined not to employ grade capping of the model.

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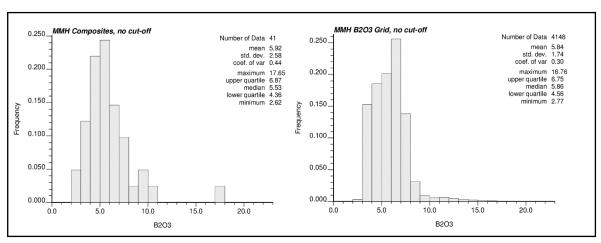


Figure 21. B<sub>2</sub>O<sub>3</sub> modelling efficiency



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#### 6. COMPETENT PERSONS STATEMENT

The information in this release that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves 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.

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.

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# APPENDIX A. 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	<ul> <li>Nature and quality of sampling (eg 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>No historic procedures or flow sheets were sighted that explain the historic drilling and sampling processes completed at the Fort Cady project.</li> <li>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).</li> <li>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.</li> <li>Drilling through the overburden material was completed using a rotary air blast (RAB) drilling technique with samples taken from cuttings every 10 ft.</li> <li>MODERN ABR PROGRAM</li> <li>A SciApps Z-300 field portable LIBS analyser was used during the program for qualitative drilling and sampling control. The device was calibrated with field blanks and standard settings as instructed by the manufacturer.</li> <li>A full suite of modern logging, including standard geological, geotechnical and density sampling was completed on each core recovered during the program.</li> <li>The holes drilled by ABR comprise a tophole section (pre-collar), which are drilled by conventional rotary methods. Sampling of cuttings was undertaken on 10ft intervals but have not been assayed. The bottom hole section which encompasses the entirety of the known mineralised sequence was drilled using diamond coring methods. After recovery, and standard logging procedures, the core was sampled from above the mineralised sandstones. Core sample intervals were subdivided based on lithology principally to ensure appropriate delineation of the mineralisation in conjunction with host rock. Sample intervals of a maximum of 6ft were marked up and the core was cut and ½ core sent to SRC Geoanalytical Laboratories, Saskatoon, while ½ core remined in the coe boxes stored securely</li></ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>commercial standards and duplicates were taken.</li> <li>Every 6<sup>th</sup> sample submitted by ABR was a control samples (blank, duplicate or standard) inserted for QA/QC purposes.</li> <li>All lithium brine samples were sent to ALS Laboratories in Reno, Nevada. Samples were subjected to an acidification prior to an ICP-AES analytical method examining 27 elements. ALS inserted specific Certified Reference Materials suitable for brines and reported in the results to ABR.</li> <li>Industry standards were used for the collection, preparation and analysis of samples and drilling, sampling and assaying was undertaken by geologists and technicians contracted to ABR directly or via a contracting agency.</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	<ul> <li>HISTORICAL</li> <li>Drilling through the overburden sequence was completed using rotary air blast (RAB) drilling technique.</li> <li>Drilling through the evaporate sequence / target zone was completed using HQ diamond core.</li> <li>MODERN ABR PROGRAM</li> <li>Drilling through the overburden sequence to core point was completed using rotary air blast (RAB) drilling technique.</li> <li>Drilling through the evaporate sequence / target zone was completed using HQ diamond core on all drill holes with the exception of 17FTCBL010, which was completed using NQ diamond coring due to drilling conditions.</li> <li>HWT (4") casing was set through the rotary section to core point to maintain drill hole integrity while completing diamond coring through the evaporite / target zone.</li> <li>All drill holes were completed vertically with no greater tge 5 degrees of</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>deviation.</li> <li>HISTORICAL</li> <li>Drill core recovery has been reported by Duval geologists to be excellent (95%-100%).</li> <li>Drill core recovery was not routinely recorded.</li> <li>Geologists highlighted areas of poor recovery during geological logging by making comment within the geological log at the appropriate drill hole intervals.</li> <li>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.</li> <li>MODERN ABR PROGRAM</li> <li>Core recovery was first recorded at the drill site by the driller following each core run. The total lengthed cored and total length recovered for each core run was recorded and marked on the run blocks placed in the core boxes after each core run. Experienced geologist then pieced together and measured each core run and</li> </ul>

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Criteria	JORC Code explanation	Commentary
		<ul> <li>determine the total recovery. If any core loss was observed the location and amount was recorded in the geological logs and marked in the sample ledger as core loss / no recovery.</li> <li>Overall the core recovery was very good through both the fine grained clay sequences and evaporitic sequences that host lithium and boron mineralisation.</li> <li>Conservative drilling practices and a specifically designed mud program was utilised to maintatin the integrity of the core and maximise core recovery throughout the drill program.</li> <li>Recovery was continually reviewed on a run-by-run and hole-by-hole basis, and changes to drilling practices and the mud program were made when required to ensure continuous improvement throughout the program.</li> <li>The specific intention of the program was to recover all discrete lithologies to better evaluate the relationship between potentially mineralised sequences and host units. There is no bias in recovery for one host versus any other.</li> <li>There is no observed relationship between sample recovery and grade.</li> <li>All cored holes will be geologically logged over their entire length to a level of detail sufficient to define a JORC (2012) Mineral Resource Estimate.</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>HISTORICAL</li> <li>Geological logging was completed on every drillhole.</li> <li>Geological logs for all drill holes have been observed and are held by APBL.</li> <li>Downhole geophysical logs (Gamma Ray Neutron logs) were completed on each of the Duval exploration drill holes. Calibration procedures are unknown.</li> <li>Downhole density logs were completed on select drill holes (DHB1, DHB3, DHB7, DHB8)</li> <li>MODERN ABR PROGRAM</li> <li>Detailed geological and geotechnical logging was completed on every drill hole.</li> <li>Rotary chips were geologically logged through the upper rotary drilled section while diamond core was geologically and geotechnically logged through the diamond cored interval.</li> <li>Downhole geophysical logs were completed on each drill hole. Gamma Ray was completed from surface to TD and induction and caliper was completed through the diamond cored sections to TD on all drill holes with the exception of 17FTCBL009.</li> <li>Calibration procedures for the downhole geophysical tools are performed by the contractor as per industry standards.</li> <li>Logging across the various techniques can be classed as both qualitative and quantitative. For the purposes of the code, ABR presents measurements measured by personnel as qualitative and measurements taken by machine as quantitative (excluding LIBS).</li> <li>All core is logged and photographed according to standard procedures and relevant intersections are included in that gross logged sequence.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>HISTORICAL</li> <li>Drill core was transported from site to the Duval office in Tucson, Arizona.</li> <li>Following a review of logging and geophysical data, prospective zones were identified and drill core was marked for sampling.</li> <li>Drill core was halved and then one half was halved again.</li> <li>The procedure used for obtaining a ½ 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.</li> <li>No evidence to date has been observed that duplicate samples were taken.</li> <li>The entire ½ 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.</li> <li>MODERN ABR PROGRAM</li> <li>Drill core selected for sampling was ½ cut by a core saw and core splitter on site.</li> <li>Depending on the length of the composite interval, the weight of a sample varied.</li> <li>Every 6th sample submitted for analysis was a control sample, either a blank,</li> </ul>

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Criteria	JORC Code explanation	Commentary
		<ul> <li>standard, or duplicate.</li> <li>The samples are representative of the in-situ rock formation. Further, sub sampling based on lithology ensured that no bias (be it a high or low reading), would be likely to occur across any mineralised section.</li> <li>For brine samples, a filter was used onsite to screen out residual heavy fraction (sands/clays) as best as possible while collecting the sample in a 1 Lt bottle. Brine analysis being undertaken by ALS necessitates the insertion of industry standard CRM's by the laboratory.</li> <li>Very good/high recoveries in drilling support the contention that samples are representative of the target stratigraphic succession.</li> <li>Samples were appropriate to the grain size of the material being sampled.</li> <li>Metallurgical sample from drill hole 17FTCBL008 is a 5kg composite sample made from the assay rejects from multiple samples between 395.9m and 426.4m (downhole depths). Weights of individual samples from this interval were split such that the composite had a weighted average grade that reflected the known grade of the mineralised zone. The composite sample was homogenised and was split to 200 g aliquots for tests and a head sample for ICP total digestion and Boron assaying (methods described below).</li> </ul>

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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

#### HISTORICAL

- 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.
- In excess of 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, B<sub>2</sub>O<sub>3</sub>, CO<sub>3</sub>, 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).

#### MODERN ABR PROGRAM

- All drillcore selected for sampling is ½ cut, and a sample length of a maximum of
  6ft is put into individual sample bags. Care is taken to ensure that there is no
  inappropriate mixing of lithology to ensure representative samples of
  mineralisation style can be detected (as related to lithology).
- Samples were sent to SRC Geoanalytical Laboratories in Saskatoon, Saskatchewan, where complete analysis was undertaken to detect the same elements as Duval targeted (see above), with the extension of modern techniques being applied.
- Quality control procedures used include the usage of regular and random blanks, standard and duplicate samples in line with standard industry practice to meet code compliance for future reporting purposes. This establishes an acceptable level of accuracy and QA/QC.
- After recovery, and standard logging procedures, the core was sampled from above the mineralised section to TD. Core sample intervals were subdivided based on lithology, principally to ensure appropriate delineation of the target layer and its encasing lithology. Sample intervals of a maximum of 7ft were marked up, cut and ½ core and sent to SRC.
- At SRC, samples were crushed, split and pulverised according to industry standards. An aliquot of pulp was digested using a mixture of concentrated HF:HNO<sub>3</sub>:HClO<sub>4</sub> and multi-element analysis carried out by ICP-OES. For Boron analysis, an aliquot of pulp was fused in a mixture of NaO<sub>2</sub>:NaCO<sub>3</sub> and dissolved in deionised water and analysed by ICP-OES. Instruments used in analysis were calibrated using certified commercial standards and duplicates were taken. Every 6<sup>th</sup> sample submitted by ABR was a control samples (blank, duplicate or standard) inserted for QA/QC purposes.
- Residues for the metallurgical sample composited from drill hole 17FTCBL008 were prepared and analysed at SRC by the aforementioned methods. The pregnant leach solution (PLS) sample was analysed by the aforementioned methods.
- All lithium brine samples were sent to ALS Laboratories in Reno (comprising holes 17FTCLI003, 17FTCLI005, 17FTCLI006). These samples were subjected to an

Criteria	JORC Code explanation	Commentary
		<ul> <li>acidification prior to an ICP-AES analytical method examining 27 elements. ALS inserted specific Certified Reference Materials suitable for brines and reported in the results to ABR.</li> <li>The procedures and methodology for analysis offered by ALS Minerals and SRC offers a higher standard of accuracy than historical procedures as a result of technology and process improvements over time. The techniques used by ALS are regarded as having acceptable levels of accuracy.</li> <li>A SciApps Z-300 field portable LIBS analyser is being used for drilling and sampling control. Samples were measured singularly, every 1/10th of 1ft, across the entire core. Currently the Company is using the technology to optimise sampling and operational decision making during the drilling program.</li> <li>The device was calibrated using manufacturer standard settings and blanks.</li> <li>The accuracy of the SciApps Z-300 field portable LIBS analyser was used to optimise sampling and operational decision making during the drill program.</li> <li>The device was calibrated using manufacturer standard settings and blanks.</li> <li>The accuracy of the SciApps Z-300 field portable LIBS analyser has been partially demonstrated by other users, such as Lithium Australia (see various ASX releases), and in the case of this program, is to be further tested by the comparison with assay results. In this sense, the LIBS analyser is a qualitative tool, as opposed to a truly quantitative measurement device versus traditional assays. This is considered to be in line with best practice industry practice.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>HISTORICAL</li> <li>Verification of significant intersections by independent or alternative company personnel has not been completed.</li> <li>The majority of drill core has been discarded and verification of results from the remaining drill core is not possible.</li> <li>Data entry, data verification and data storage processes are unknown.</li> <li>Hard copy assay reports, geological logs and geophysical logs have been sourced and are stored with APBL.</li> <li>MODERN ABR PROGRAM</li> <li>Verification of significant intersections is undertaken geochemically, via the sampling of core and processing by ALS Minerals in Reno, Nevada and Saskatchewan Research Council of SRC. Currently no final reliance is placed on</li> </ul>
		<ul> <li>observations by any company personnel in the field. That is, there is no quantitative assessment of grade made by any person in ABR.</li> <li>The program involved the drilling of three twin holes to test older reported mineralisation.</li> <li>Drill core is stored in industry standard wax proof boxes. The core is sampled (½ cut) and one half is sent to the geochemical lab, and one half is retained in the box for further assessment or repeat assessment as deemed necessary.</li> <li>In the case of brines, drill holes 17FTCLI0005 and 17FTCLI0006 had three 1lt</li> </ul>

Criteria	JORC Code explanation	Commentary
		filtered samples were taken at each sample depth location. One sampe was sent to ALS Minerals for analysis, while the other two were stored by ABR for future reference. Drill hole 17FTCLI0003 had only one filtered sample taken at each sample depth location and was then sent to ALS Minerals for analysis.  • All data provided by the process of evaluation (be it onsite logging or third party assessment such as assay) is stored digitally by the company in a secure database.  • Data entry is verified by multiple reviews of any given product (geological logging, assay data, geophysical downhole data and similar), prior to final acceptance and storage.  • No adjustments have been made to any assay data.
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>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 in excess of 50 ft in easting and northing locations were present for drill holes DBH7, DBH18, DBH20, DBH25, DBH26, DBH31, DBH33 and DBH34.</li> <li>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.</li> <li>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.</li> <li>MODERN ABR PROGRAM</li> <li>Drill hole collar locations, provided in Table 2 below, were surveyed by a qualified surveyer.</li> <li>The geospatial survey co-ordinates used by the company are UTM Zone 11 N, on a NAD 83 datum.</li> <li>Downhole surveys were completed using modern technology, which involves continuous calibration to assure accuracy is within an acceptable range. Surveys were completed 100ft from surface to TD</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	

Criteria	JORC Code explanation	Commentary
		<ul> <li>MODERN ABR PROGRAM</li> <li>Drill holes were positioned so as to infill the historic drill holes and confirm the historic drilling by twinning the historic drill holes. The ABR drill holes were collared on a nominal 210-250m grid spacing. Drill holes are drilled vertically.</li> <li>Drilling on an 210-250m spacing is appropriate to define the approximate extents and thickness of the evaporite sequence as in conjunction with the historic Duval drilling represents a nominal 160m grid spacing over the identified mineralised zone. Infill drilling will be required to accurately define the true extents, thickness and grade of mineralisation within the deposit.</li> <li>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.</li> <li>Drill spacing is considered appropriate for the purpose of the Mineral Resource Estimate.</li> <li>No sample compositing has been applied</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>HISTORICAL</li> <li>The orientation of sampling did achieve relative certainty such that a pilot plant was successfully installed on the site.</li> <li>The relationship between sampling orientation and key mineralised structures is considered acceptable froma historical perspective</li> <li>MODERN ABR PROGRAM</li> <li>Exploration drilling was completed nominally on a 230m grid spacing. Drill holes are being 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.</li> <li>Drilling vertically intersects the target mineralised horizon roughly perpendicular, giving an unbiased test of the true thickness of the unit considering the deposit type. This drilling ensures no bias is introduced to the sampling.</li> <li>Drill holes were oriented vertically so as to intersect the mineralisation orthogonally. Consequently there is no bias in sampling.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>HISTORICAL</li> <li>Sample security measures during transport and sample preparation are unknown.</li> <li>MODERN ABR PROGRAM</li> <li>Drill core is under direct control of the driller until it is picked up or dropped off at the APBL secured core shack where it is under control of experienced geologist.</li> <li>Sample preparation and packaging is completed by experienced geologists and once packaged samples are stored in a secured location on site awaiting transportation to SRC Laboratories.</li> <li>Secured transport of samples to the assay laboratory is standard practice in the industry and adhered to on this program;</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>No site personnel have access to the samples once they are placed in bags and sealed.</li> <li>Samples are taken offsite within 48-96 hours of being bagged</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul><li>HISTORICAL</li><li>No details sighted on any previous sampling reviews or audits.</li></ul>
		<ul> <li>MODERN ABR PROGRAM</li> <li>A review of the sampling techniques and data storage was completed by a consultant geologist</li> <li>No items of concern were identified.</li> </ul>

## **Section 2 Reporting of Exploration Results**

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

Criteria		Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	• 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	Commentary	
		Land Title Type Private (Patented) Property with surface and mineral rights in Fee Simple Title owned by FCCC	Land Titles 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
or personal use only	Exploration done  • Acknowledgment and appraisal of exploration by other parties.  by other parties	Commencement of exploration activities in the 1960's, when exploration companies realised th geological setting to the Kramer Basin to the no Boron deposit. Discovery of the Fort Cady borat Congdon and Carey Minerals Exploration Compacolemanite, at depths of 400 m to 500 m below.  During the late 1970's the Duval Corporation be	at the Hector Basin had a similar thwest that hosted the massive e deposit occurred in 1964 when any found several zones of surface. came interested in the project and
		started land acquisition in 1978 with drilling confirst drillhole (DBH1) intersected a 27 m thick se at 369 m grading better than 7% B₂O₃. Exploratic continued for a further two years through to Felexploration drill holes (DBH series of holes) tota drilled. Approximately 5,800 m of diamond drill geophysical logging of each hole was completed geophysical data, prospective zones were ¼ coreexcess of 3,000 samples were analysed at Duval West Texas (Culberson Mine) or in New Mexico	quence of colemanite-rich material on drilling, sampling, and assaying oruary 1981 with a total of 33 lling in excess of 18,200 m being core was obtained. Geological and . Following a review of logging and e sampled for chemical analysis. In 's laboratories in either Tucson,

Criteria		Commentary
		<ul> <li>analysed for were Al, As, Ba, B<sub>2</sub>O<sub>3</sub>, CO<sub>3</sub>, Ca, Fe, K, Li, Pb, Mo, Mg, Na, Rb, S, Si, Sr, Ti, Zn, Zr.</li> <li>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.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>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.</li> <li>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 3B<sub>2</sub>O<sub>3</sub> 5H<sub>2</sub>O) in thinly laminated silt, clay and gypsum beds.</li> <li>In plan view, the concentration of boron-rich evaporites is roughly ellipsoidal with the long axis trending N40-50W. A zone of &gt;5% B<sub>2</sub>O<sub>3</sub> 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 in May 2017 Prospectus).</li> <li>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. Based on assay results, it appears if minerallisation took place in several cycles, resulting in somewhat distinct mineralised horizons.</li> <li>Ultimately the project is classified internally as a sediment hosted Lithium-Boron deposit.</li> </ul>
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul> <li>Refer to Appendix B in Independent Geologist's Report of the May 2017 Prospectus for drill hole listing.</li> <li>Refer to Appendix D for drill hole location map in Independent Geologist's Report of the May 2017 Prospectus.</li> <li>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</li> </ul>

Criteria		Commentary
	<ul> <li>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.</li> </ul>	<ul> <li>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.</li> <li>The location of all completed drill holes are noted within this report (Table 2 below).</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>HISTORICAL</li> <li>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.</li> <li>No cutting of high grade values was completed.</li> <li>Statistical analysis of the dataset highlights the distribution is positively skewed.</li> <li>MODERN ABR PROGRAM</li> <li>The selection of core for cutting is based on both qualitative and quantitative measurements. To ensure a lack of bias in any selection, the company determines the top of mineralisation using a combination of LIBS and visual assessment, completes standard logging protocols, then cuts the core to be sent for analysis. Of particular note is the differentiation of lithology to ensure composite samples do not potentially dilute mineralised values of Lithium and Borate. A maximum sample length of 7ft is used, and smaller where deemed onsite to contain too much of a particular lithology such that results could be unrepresentative. This ensures that core is assayed appropriately for the mineralisation it could contain, and that the length of intervals sampled, thus reported, lack a weighting/averaging bias.</li> <li>Grades of reported minerals were calculated by simple weighted averaging.</li> <li>No cut-off grades were used. Mineralised intervals are reported at weighted average grades of +5% B<sub>2</sub>O<sub>3</sub> which coincided with the solution mining zone as identified by Duval Corp.</li> <li>No upper cutting was applied as the style and grade of the mineralisation does not require it.</li> <li>No metal equivalent values are being reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>HISTORICAL</li> <li>Holes were drilled vertically to intersect the flat lying body perpendicularly.</li> <li>Production drilling for the pilot program refined the target depth of the high grade unit, and thus the length of the main mineralised sequence for solution mining.</li> <li>MODERN ABR PROGRAM</li> <li>Drill holes are being drilled vertically and intersect the relative flat lying deposit close to perpendicular to the dip of the deposit.</li> <li>By intersecting the mineralisation at roughly 90 degrees, this provides the highest confidence in the thickness of the reported unit, thus the inference that can be</li> </ul>

Criteria		Commentary
		<ul> <li>made from its results as presented.</li> <li>It is expected that mineralisation will be dispersed through this flat lying sequence and where a slight dip may occur in the base of a potential half graben, the sequence may thicken, but remain flat lying for the purposes of drilling and assessment.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Refer to Figure 4 for drill hole collar location map.</li> <li>Refer also to Figures 18, 19 and 20 for sectional views.</li> </ul>
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>Refer to Appendix C within the Independent Geologists Report in APBL's May 2017 prospectus for listing of significant intercepts for the historic drilling.</li> <li>Refer to ASX announcements dated 3 October 2017, 5 October 2017, 8 November 2017, 17 November 2017, 5 December 2017 and 15 January 2018 for ABR drilling results</li> <li>The drilling results have come from samples prepared in accordance with the highest industry standards, and are considered representative of the subsurface. These results are also consistent with previously assayed holes in the Fort Cady area.</li> </ul>
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>HISTORICAL</li> <li>A number of historic studies have been completed by a variety of companies on the Fort Cady project.</li> <li>Duval Corporation completed the 33 exploration drill holes and associated metallurgical and solution mining test work.</li> <li>Refer to bibliography of the May 2017 ABR prospectus for listing of references.</li> <li>All relevant information has been disclosed for these results.</li> </ul>
		<ul> <li>MODERN ABR PROGRAM</li> <li>Metallurgical samples from drill hole 17FTCBL008 were taken from a 5kg composite sample made from the assay rejects of multiple samples between 395.9m and 426.4m (downhole depths). Weights of individual reject samples incorporated in the composite sample were split proportionally such that the composite had a weighted average B<sub>2</sub>O3 and Li grade that is substantially the same for the same assayed interval and overall non-JORC historic mineral estimate. The composite sample was homogenised and was split to 200 g aliquots for tests and a head sample for checking the composite sample grade with the original individual assayed samples.</li> <li>The metallurgical sample was sent to SRC Geoanalytical Laboratories in Saskatoon, Saskatchewan, where complete analysis was undertaken. Residue samples were crushed, split and pulverised according to industry standards. An aliquot of pulp was digested using a mixture of concentrated HF:HNO<sub>3</sub>:HClO<sub>4</sub> and multi-element analysis carried out by ICP-OES. For Boron analysis, an aliquot of pulp was fused in a mixture of NaO<sub>2</sub>:NaCO<sub>3</sub> and dissolved in deionised water and analysed by ICP-</li> </ul>

Criteria		Commentary
		OES. The pregnant leach solution (PLS) sample was also analysed by the aforementioned methods.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>APBL has prepared a two year exploration programme to assess the prospects over its exploration areas, Fort Cady and Hector as detailed in the May 2017 Prospectus.</li> <li>The Company is currently analysing all results and planning of Phase 2 drill program has commenced. Additional drilling will be targeted at improving resource confidence and identifying areas to commence solution mining.</li> <li>In addition to extensive physical work on the ground which are directed at potentially extending the thickness, extent and quality of mineral resources, the Company is also advancing the design of production wells and scoping studies to ensure further subsurface assessment is also correlated with engineering and commercial outcomes. This will ensure high grading of technical work, and could result in significant changes to the program. It is expected that the company will work towards preparation of a Definitive Feasibility Study in 2H CY18.</li> </ul>

## **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	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>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.</li> <li>Modern data was checked against sample ledgers and digital lab reports.</li> <li>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.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>Two site visits were undertaken by the CP</li> <li>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.</li> <li>The second was undertaken in early November 2017, to verify current drilling, logging and sampling operations.</li> <li>An additional visit to the Assaying laboratory, the SRC in Saskatoon, Canada, was also undertaken in late October 2017 to inspect received samples.</li> </ul>
Geological Interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology</li> </ul>	<ul> <li>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.</li> <li>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.</li> <li>Alternative geological interpretations would have little to no effect on the Mineral Resource Estimate, as the latter was based on of the patterns of mineralisation, thus defining the mineralized ore independent of geological interpretation</li> <li>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.</li> <li>The minerallisation, 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.</li> <li>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</li> </ul>

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	<ul> <li>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.</li> </ul>	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	<ul> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping</li> <li>The process of validation, the checking process used, the comparison of model data to drillhole data, and the use of reconciliation data if available.</li> </ul>	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 <sub>2</sub> O <sub>3</sub> (no lithium oxide variograms were possible). Ranges for the omnidirectional, horizontal variograms ranged between 400 m and 530 m. A Resource Classification was therefore defined as 0-400m 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 <sub>2</sub> O <sub>3</sub> (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 has intermittent lithium analyses, and by convention non-assayed intervals are assigned a zero grade. Curre		

Criteria	JORC Code explanation	Commentary
		<ul> <li>No deleterious elements have been identified thus far</li> <li>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.</li> <li>No assumptions were made as to variable correlations, although a negative correlation between lithium and boron was noted.</li> <li>Geological interpretation based on minerallisation, rather than lithology, played a role in defining the horizons, and therefore the Resource.</li> <li>Grade capping was not applied</li> <li>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 B<sub>2</sub>O<sub>3</sub> and Li.</li> </ul>
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the determination of the moisture contents.</li> </ul>	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	<ul> <li>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.</li> </ul>	<ul> <li>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.</li> </ul>
Metallurgical factors or assumptions	<ul> <li>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.</li> </ul>	<ul> <li>Initial metallurgical test works complete on representative sample core from colemanite mineralisation containing 6.2% B<sub>2</sub>O<sub>3</sub> (11.0% H<sub>3</sub>BO<sub>3</sub>*) 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.</li> </ul>

Criteria	JORC Code explanation	Commentary				
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options</li> <li>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</li> </ul>	• 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	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the         different materials</li> </ul>	<ul> <li>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.</li> <li>It is assumed that there are minimal void spaces within the core</li> <li>Since the ore is finally laminated, it is assumed that the large quantity of regular density samples will account for all components.</li> </ul>				
	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit</li> </ul>	<ul> <li>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.</li> <li>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.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>				
Audits / reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>Reviews have been completed by the CP and APBL which verified inputs, assumptions, methodology and results.</li> </ul>				
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>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.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>No check estimates or production data was available.</li> </ul>				

## **APPENDIX B. APBL DRILL HOLE COLLARS - TABLE 2**

HoleID	Easting	Northing	Elevation	Dip	Azi	Depth
17FTCBL001	552,638	3,846,716	611.6	-90°	0	478.2m
17FTCBL002	552,711	3,846,490	608.8	-90°	0	459.9m
17FTCBL003	552,981	3,846,485	615.6	-90°	0	444.7m
17FTCBL004	552,695	3,846,267	603.0	-90°	0	529.7m
17FTCBL005	552,930	3,846,267	608.3	-90°	0	484.3m
17FTCBL006	553,144	3,846,260	610.2	-90°	0	458.1m
17FTCBL007	552,772	3,846,041	602.9	-90°	0	541.0m
17FTCBL008	552,972	3,846,042	604.8	-90°	0	495.3m
17FTCBL009	553,179	3,846,037	607.4	-90°	0	475.5m
17FTCBL010	552,831	3,845,939	606.5	-90°	0	502.0m
17FTCBL011	553,078	3,845,899	604.6	-90°	0	541.9m
17FTCBL012	552,963	3,845,801	601.6	-90°	0	533.4m
17FTCBL013	553,153	3,845,818	607.4	-90°	0	539.2m
17FTCBL014	553,270	3,845,608	605.6	-90°	0	562.4m

Collar locations are referenced to a UTM Zone 11N, NAD 83 projection



## **APPENDIX C. DUVAL CORP. DRILL HOLE COLLARS- TABLE 3**

HeleID	Faction	Newbire	Elevetica	Din	A = i vec v + i le	Donath
HoleID	Easting	Northing	Elevation	Dip	Azimuth	Depth
DHB-1	553,336	3,846,154	611	-90°	0	495m
DHB-2	554,062	3,846,179	620	-90°	0 0	512m
DHB-3	553,089	3,845,899	604	-90°		540m
DHB-4	552,855	3,845,669	604	-90°	0	521m
DHB-5	552,848	3,846,153	603	-90°	0	527m
DHB-6	553,115	3,846,386	612	-90°	0	493m
DHB-7	553,736	3,845,492	610	-90°	0	529m
DHB-8	552,575	3,846,214	599	-90°	0	551m
DHB-9	552,391	3,846,408	600	-90°	0	533m
DHB-10	552,349	3,846,631	604	-90°	0	504m
DHB-11	552,599	3,846,390	603	-90°	0	509m
DHB-12	552,824	3,846,402	607	-90°	0	495m
DHB-13	552,104	3,846,877	603	-90°	0	506m
DHB-14	553,089	3,846,151	606	-90°	0	497m
DHB-15	553,580	3,846,158	614	-90°	0	490m
DHB-16	553,263	3,845,595	605	-90°	0	562m
DHB-17	552,843	3,845,925	604	-90°	0	550m
DHB-18	553,238	3,845,431	603	-90°	0	573m
DHB-19	554,141	3,845,287	620	-90°	0	445m
DHB-22	553,275	3,845,902	606	-90°	0	522m
DHB-23	553,508	3,845,110	616	-90°	0	566m
DHB-24	553,523	3,845,637	608	-90°	0	543m
DHB-25	553,699	3,845,297	616	-90°	0	554m
DHB-26	553,891	3,845,056	625	-90°	0	519m
DHB-27	553,698	3,844,803	623	-90°	0	547m
DHB-28	554,004	3,844,943	626	-90°	0	515m
DHB-29	554,164	3,844,454	622	-90°	0	491m
DHB-30	553,873	3,844,630	625	-90°	0	524m
P1	553,093	3,845,908	605	-90°	0	457m
P2	553,094	3,845,969	605	-90°	0	460m
P3	553,033	3,845,902	604	-90°	0	460m
P4	553,033	3,845,935	604	-90°	0	460m
SMT-1	553,323	3,846,144	611	-90°	0	401m
SMT-2	553,310	3,846,135	611	-90°	0	512m
SMT-3	553,211	3,845,897	606	-90°	0	512m
DHB-20	553,006	3,845,437	609	-90°	0	509m
DHB-21	553,292	3,845,143	613	-90°	0	534m
DHB-31	553,865	3,844,381	621	-90°	0	445m
DHB-33	554,045	3,844,254	623	-90°	0	488m
DHB-34	553,746	3,845,722	645	-90°	0	465m

Collar locations are referenced to a UTM Zone 11N, NAD 83 projection