PAYNE GEOLOGICAL SERVICES PTY LTD

(ABN 67 088 661 063)

Mineral Resource Estimate for the Pinheiro Lithium Deposit, Portugal.

26th March 2019

Prepared for Savannah Lithium Lda
Rua Jose Eigennman, No. 90
Braga, Portugal

Executive Summary

A Mineral Resource estimate for the Pinheiro lithium deposit was completed in March 2019 by Payne Geological Services Pty Ltd ("PayneGeo") for Savannah Resources Plc ("SAV"). The deposit is part of the Mina do Barroso Lithium Project ("MBLP") which is located approximately 60km ENE of the city of Braga in northern Portugal.

Previous small-scale mining activity has occurred at the project. It was limited to shallow pits to provide feed stock to the local ceramics industry. The C-100 mining permit granted to the previous mining operation encompasses all Mineral Resources at the project and allows for the future production of lithium.

The MBLP comprises a series of pegmatite and aplite-pegmatite intrusions of granitic composition. Pegmatite dykes and sills are mainly intruded in the granitic rocks of the region whilst aplite-pegmatite intrusions are hosted by strongly deformed metasedimentary rocks of Silurian age. The thickness of the dykes and sills ranges from less than 1m up to 70m.

Mineral Resources have been defined in four separate pegmatite zones – Grandao, Reservatorio, Pinheiro and NOA. At the Pinheiro deposit, mineralisation is hosted in two steep dipping, north trending tabular pegmatite pods 5m-10m in true width. The estimate is based on results from ten reverse circulation drill holes and two diamond drill holes. The deposit outcrops over a strike length of approximately 240m and remains open along strike and at depth.

The Mineral Resource Estimate complies with recommendations in the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC 2012). Therefore it is suitable for public reporting. The estimate reported at a 0.5% Li_2O cut-off grade is summarised in Table A.

Table A: Pinheiro Lithium deposit
March 2019 Mineral Resource Estimate 0.5% Li_2O Cut-off

Resource Class	Tonnes Mt	Li_2O %	Ta_2O_5 ppm	Fe_2O_3 %	Li_2O Tonnes
Indicated Inferred	**1.95**	**1.0**	**25**	**0.7**	**20,000**
Total	**1.95**	**1.0**	**25**	**0.7**	**20,000**

(Rounding discrepancies may occur in summary tables)

All resource drilling at the Pinheiro deposit was completed by SAV in 2017 and 2018. The drill hole spacing is variable and ranges from 80m to 120m at the Pinheiro deposit. Samples in RC holes were collected at 1m intervals from pegmatite zones through a rig-mounted riffle splitter and were 4-6kg in weight. Core was HQ size and sampled at 1m intervals within the pegmatite with boundaries sampled to geological contacts. Core was cut using a diamond saw, and for the majority of holes half core was collected for assay.

Samples were analysed using ALS laboratories ME-MS89L Super Trace method which combines a sodium peroxide fusion with ICP-MS analysis. QAQC protocols were in place for the drilling programs and included the used of standards, blanks and field duplicates. The QAQC data has confirmed the quality of the sampling and assaying for use in Mineral Resource estimation.

The Mineral Resource was estimated within wireframes prepared using 0.35% Li_2O envelopes within the broader pegmatites. The pegmatites were estimated using inverse distance squared ("ID2") grade interpolation with interpolation parameters based on the geometry of each zone in the deposit. No

high-grade cuts were applied to Li_2O due to the uniformly low coefficient of variation ("CV") of the data. A high grade cut of 60ppm was applied to Ta values at Pinheiro.

The block dimensions used in the model were based on deposit geometry and drill hole spacing. Parent block sizes used at the Pinheiro deposit were 20m NS by 5m EW by 5m with sub-celling to 5.0m by 1.25m by 1.25m.

Bulk density values applied to the Pinheiro estimate were based on values used at the Grandao deposit which were derived from a substantial number of drill core samples. Densities applied were 2.5t/m^3 for oxide lithologies, 2.65t/m^3 for unoxidised pegmatite and 2.67t/m^3 for unoxidised schist.

Due to the uncertainty in the interpreted geometry of the mineralisation and the sparse drilling at the deposit, the entire deposit was classified as Inferred Mineral Resource.

Detailed test work by Savannah at the Grandao deposit demonstrated that a large proportion of the assayed iron is due to contamination from the abrasion of steel sample preparation equipment. A factored iron grade was used in the Pinheiro estimate, with a reduction in estimated Fe_2O_3 grades of approximately 0.6%.

Numerous minor pegmatite bodies occur in the vicinity of the Pinheiro deposit. These remain largely untested and potential remains to define additional zones of mineralisation as well as extensions to the Mineral Resources at the deposits.

The shallow, outcropping nature of the deposit suggests that potential exists for small scale open pit mining if sufficient resources can be delineated to consider a mining operation. The economic potential of the project is currently being evaluated by a Feasibility Study. The resource model is undiluted, so appropriate dilution needs to be incorporated in any evaluation of the deposit.

Paul Payne

Principal Geologist

IMPORTANT INFORMATION ABOUT THIS DOCUMENT

Confidentiality

This document and all information contained herein is confidential and intended for Savannah Resources Plc ("SAV") use only. It shall not be disclosed, in part or full, to any third party, without Payne Geological Services Pty Ltd's ("PayneGeo") prior written consent to the form and context of the disclosure and the identity of the person(s) to whom it is to be disclosed.

Limited purpose and context of Information

The opinions expressed in this document are addressed only to SAV for its benefit with respect to this project. PayneGeo accepts no liability whatsoever for any loss or damage (including consequential or economic loss or damage) arising as a result of reliance on the information presented herein for any party other than SAV.

Responsibility

PayneGeo has exercised reasonable care in accordance with standards normally exercised within our profession in the completion of this document. PayneGeo has relied on information provided by SAV. Although PayneGeo has exercised reasonable care in reviewing this data, PayneGeo makes no representation or warranty with respect to the accuracy or veracity of the data that it has relied upon.

Currency of Information

This document has been prepared as at the date stated on the cover page. Given the nature of this document and the opinions expressed within, developments after the date of this document are likely. This document takes no account of such potential future developments. Therefore PayneGeo recommends that SAV seeks advice from PayneGeo in the future to ascertain whether any such events have occurred or updated information has become available and should be considered.

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1. Introduction and Project Summary

Payne Geological Services Pty Ltd ("PayneGeo") was contracted by Savannah Resources Plc ("SAV") to prepare a Mineral Resource estimate for the Pinheiro deposit at the Mino do Barroso Lithium Project ("MBLP") in Portugal. The project lies on the mining licence *Mina do Barroso project C-100* located in northern Portugal (Figure 1-1).

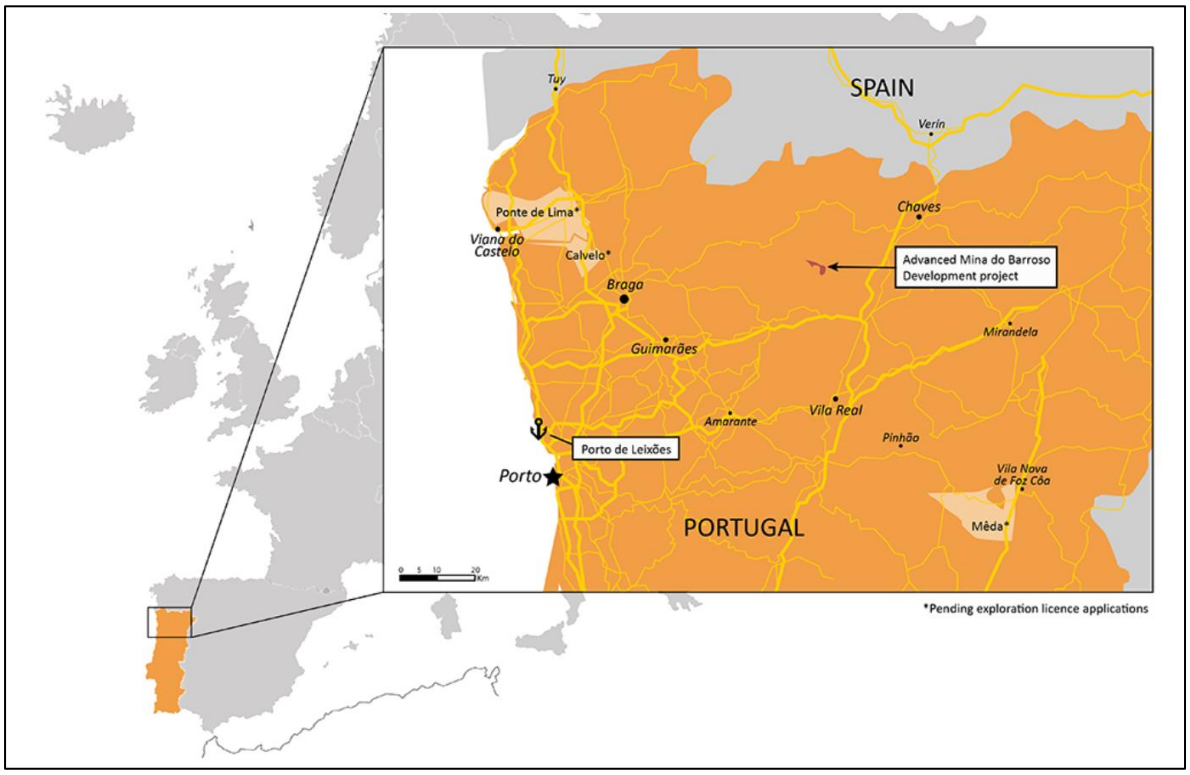


Figure 1-1: Project Location Plan (from Savannah Resources Plc)

Previous mining work at the MBLP has focused on production for the ceramics industry, however some lithium exploration was conducted by previous operators including percussion drilling.

Since acquisition of the project in May 2017, SAV has completed exploration work including reconnaissance geological mapping and trenching to define areas prospective for lithium mineralisation. Several programs of drilling and detailed metallurgical test work have now been completed with Mineral Resources estimated for four of the prospect areas – Reservatorio, Grandao, Pinheiro and NOA. Following completion of a positive Scoping Study in June 2018, a Feasibility Study has commenced to determine the economic potential of the project.

Records for 383 holes were included in the SAV database of which 21 were drilled in the Pinheiro prospect area. Only SAV holes drilled in 2017 and 2018 were included in the Mineral Resource estimate.

The Mineral Resource areas, drilling and existing features at the project are shown in Figure 1-2.

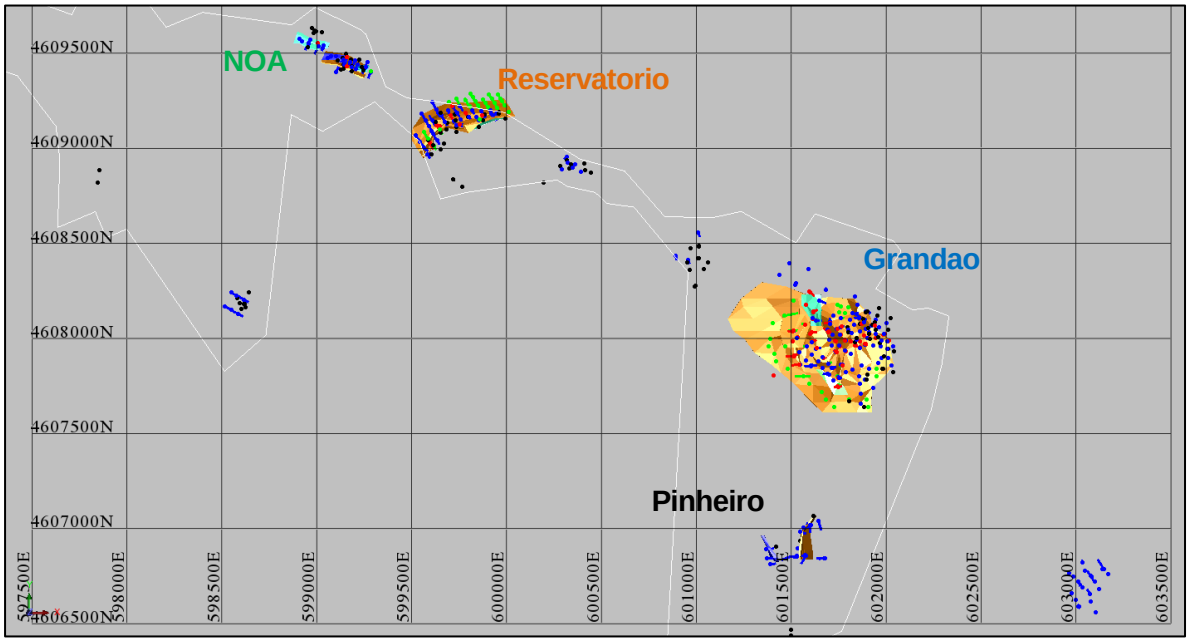


Figure 1-2: Mina do Barroso Project - All Drilling and Mineral Resources (SAV drilling – red and blue, historic drilling – black)

The current Mineral Resource estimate was carried out in the PayneGeo office in March 2019. The PayneGeo work included review and updates of a pegmatite wireframes provided by SAV. Mineralisation outlines based on a 0.35% Li_2O cut-off were prepared by PayneGeo and used to create wireframes within which grade estimation was carried out using inverse distance squared ("ID2") grade interpolation. Surpac Mining software version 6.8 was used for all modelling and estimation procedures.

The estimate was completed by Paul Payne who is a Competent Person as defined by the Australasian Code for the Reporting of Mineral Resources and Ore Reserves (JORC Code) 2012 Edition.

2. Geology and Mineralisation

The following information was sourced from a technical geological report (CGMSL, 2017) and Savannah stock exchange releases (Savannah, 2017).

At the Mina Do Barroso project ("MBLP"), lithium mineralisation occurs predominantly in the form of spodumene-bearing pegmatites which are hosted in metapelitic and mica schists, and occasionally carbonate schists of upper Ordovician to lower Devonian age. Lithium is present in most pegmatite compositions and laboratory test work confirms that the lithium is almost exclusively within spodumene. Distinct lithium grade zonation occurs within the pegmatites, with weakly mineralised zones often evident at the margins of the intrusions. Minor xenoliths and inliers of schist are observed on occasions.

The Pinheiro deposit comprises a cluster or swarm of pegmatite bodies striking broadly NS and dipping steeply to the east.

The weathering profile comprises a shallow, surficial zone of weak to moderate oxidation, particularly of the schistose country rock. A weathering surface representing the top of fresh rock ("TOFR") was prepared by PayneGeo and used to define the transitional and fresh mineralisation.

3. Site Visit

A site visit was carried out by PayneGeo on 9 April 2018. Access to the project was via sealed roads to the project area then via forest tracks and drill access tracks prepared by Savannah.

The project area is highly undulating, comprising lightly forested areas with minimal farm land (Figure 3-1). Savannah has prepared numerous contour tracks to provide access for drilling.

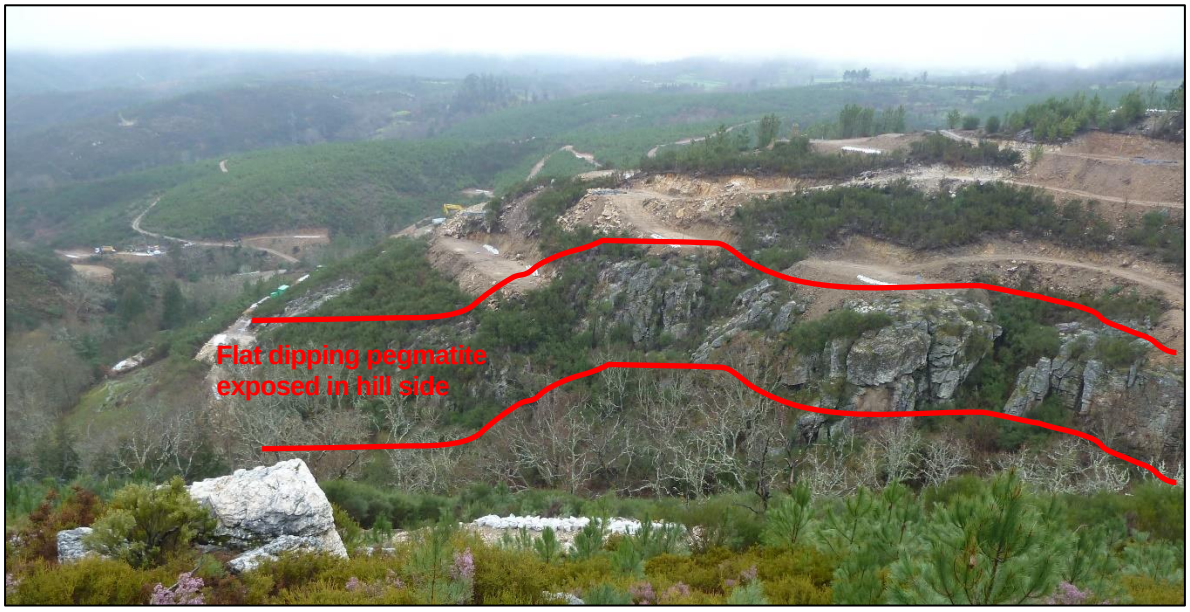


Figure 3-1: Grandao Deposit Area (looking north)

Drilling was in progress at the Grandao deposit at the time of the site visit. One RC rig and one diamond rig were on site. The RC rig had just completed hole 18GRARC081 and the diamond rig had just completed 18GRADD004.

Drill collars were clearly marked with well-labelled cemented collar pipes on most drill pads. Reject samples from RC were located at the drill pads, and review of the bags indicated uniform sample recovery was being achieved. No sampling was in progress at the time of the site visit, but the equipment was in place and showed that standard industry practices were being used.

Figure 3-2: RC Rig and Sample Splitter (left), RC Samples (right)

Outcropping pegmatite bodies were observed in a number of areas. The main pegmatite shows extensive areas of outcrop and is well exposed in the hill side and in a number of areas on the access tracks (Figure 3-3).

Figure 3-3: Exposure of Pegmatite at Grandao

4. Previous Estimates

There has been no previous estimate for the Pinheiro deposit.

5. Drilling and Sample Data

5.1. General

Drilling completed at the Pinheiro prospect is summarised in Table 5-1. Other than the Savannah drilling completed between 2017 and 2019, all previous drilling was completed prior to 2017.

Table 5-1: Summary of Pinheiro Prospect Drilling

Hole Type	Holes In Database		In Mineral Resource	
	Holes	Metres	Holes	Metres
Savannah RC	19	1,857	10	1044
Savannah DD	2	106	2	106
Historic Drilling	5	29		
Total	**26**	**1,992**	**12**	**1,150**

All drilling data (historic and SAV) was contained in an Access database provided to PayneGeo. No information on historic drilling procedures was provided and the historic data was not used by PayneGeo.

All data was supplied in national grid coordinates (UTM Zone 29N based on WGS84) and no data manipulation was carried out by PayneGeo. A series of holes were validated by PayneGeo during the site visit where original geological records and laboratory reports were compared to database entries. No errors were identified.

Detailed geological logging was carried out for all phases of resource drilling at the MBLP.

5.2. Drilling and Sampling Procedures

RC drilling by SAV was carried out using a face sampling hammer (120mm). SAV reported that drilling conditions were good, samples were generally dry and measured sample recoveries were good other than some recorded sample loss near the hole collar in some holes.

Samples were collected at 1m intervals from pegmatite zones. For the 2017 drilling, composite sampling of typically 4m was conducted in the surrounding schists. In the 2018 and 2019 drilling, schist was only sampled for 5m each side of the pegmatites. The 1m samples were collected through a rig-mounted riffle splitter and were 4-6kg in weight.

Diamond drilling commenced in PQ diameter and reduced to HQ diameter when competent rock was intersected. Core recovery was excellent. For sampling, core was aligned then marked with a centre line. Core was cut with a saw with half-core taken for bulk metallurgical samples. The remaining half core was cut again to produce quarter core samples for analysis. Samples were to geological boundaries then typically at 1m intervals. Core layout and sample marks are shown in Figure 5-1.

Figure 5-1: Pegmatite in Drill Core in 18GRADD02

5.3. Assaying Procedures

Samples were dispatched to the ALS Laboratories facility in Seville, Spain where they were received, sorted, labelled and dried. Samples were then crushed to 70% less than 2mm, riffle split to provide a 250g sample which was pulverised to better than 85% passing 75 microns. A 5g split was taken for assaying.

The samples were analysed using ALS Laboratories ME-MS89L Super Trace method which combines a sodium peroxide fusion with ICP-MS analysis. A 51 element suite is routinely assayed using this method. The assay suite and detection limits are shown in Table 5-2.

Li is assayed and reported in ppm, with Li_2O % calculated by ALS (Li_2O=Li/10,000 * 2.153) and exported with the other results. No data manipulation was carried out by SAV or PayneGeo.

QAQC protocols were in place for the drilling programs and included the used of standards and field duplicates. The data has confirmed the quality of the sampling and assaying for use in Mineral Resource estimation.

Table 5-2: Assay Suite from ALS ME-MS89L Super Trace Method

Analyte	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	5	12500
Arsenic	As	ppm	4	25000
Barium	Ba	ppm	2	25000
Beryllium	Be	ppm	0.4	25000
Bismuth	Bi	ppm	0.1	25000
Calcium	Ca	%	0.1	25
Cadmium	Cd	ppm	0.8	25000
Cerium	Ce	ppm	0.2	25000
Cobalt	Co	ppm	0.5	25000
Cesium	Cs	ppm	0.1	25000
Copper	Cu	ppm	20	25000
Dysprosium	Dy	ppm	0.03	25000
Erbium	Er	ppm	0.02	25000
Europium	Eu	ppm	0.03	25000
Iron	Fe	%	0.05	25
Gallium	Ga	ppm	0.5	25000
Gadolinium	Gd	ppm	0.03	25000
Germanium	Ge	ppm	0.5	25000
Holmium	Ho	ppm	0.01	25000
Indium	In	ppm	0.3	25000
Lanthanum	La	ppm	0.08	25000
Lithium	Li	ppm	2	25000
Lutetium	Lu	ppm	0.05	25000
Manganese	Mn	ppm	10	25000
Molybdenum	Mo	ppm	2	25000
Niobium	Nb	ppm	0.8	25000
Neodymium	Nd	ppm	0.07	25000
Nickel	Ni	ppm	10	25000
Lead	Pb	ppm	0.5	25000
Praseodymium	Pr	ppm	0.03	25000
Rubidium	Rb	ppm	0.5	25000
Rhenium	Re	ppm	0.01	25000
Antimony	Sb	ppm	0.3	25000
Selenium	Se	ppm	3	25000
Samarium	Sm	ppm	0.04	25000
Tin	Sn	ppm	3	25000
Strontium	Sr	ppm	20	25000
Tantalum	Ta	ppm	0.04	25000
Terbium	Tb	ppm	0.01	25000
Tellurium	Te	ppm	0.5	25000
Thorium	Th	ppm	0.1	25000
Titanium	Ti	%	1	25
Thallium	Tl	ppm	0.02	25000
Thulium	Tm	ppm	0.01	25000
Uranium	U	ppm	0.2	25000
Vanadium	V	ppm	1	25000
Tungsten	W	ppm	0.3	25000
Yttrium	Y	ppm	0.2	25000
Ytterbium	Yb	ppm	0.02	25000
Zinc	Zn	ppm	10	25000

5.4. Iron Contamination in Samples

Iron contamination has been reported from other lithium projects, where iron is introduced into the samples via abrasion of RC drilling equipment and/or sample preparation equipment. To test the potential for iron contamination at the MBLP, SAV carried out a preliminary program of check assays and a series of comparisons were undertaken on samples from the Grandao deposit. Full details of the analysis can be found in the March 2019 Grandao Deposit Mineral Resource Report (Payne, 2019).

It was concluded from the Grandao study that a significant proportion of the iron being reported in the drilling assay data was introduced as contamination during the sample preparation process. It was determined that the amount of contamination was proportional to the lithium content of the samples. A regression formula was calculated using all samples, with the derived regression formula being:

Fe_contamination = (0.1734 * Li_2O grade) + 0.2308

The amount of Fe contamination was determined using the derived regression formula. A new field "Fe_factored" was inserted into the drill hole database, and the original Fe value minus the calculated contamination was stored in that field. This allowed a "Fe_factored" value to be extracted from the database and used for grade estimation in the Mineral Resource.

5.5. Quality Control

A comprehensive QAQC protocol was in place for the SAV drilling programs. Procedures and results are detailed in Slipstream Resources Portugal report *QAQC Notes – March 2019* (Slipstream, 2019). Results of the QAQC program were compiled by PayneGeo for the 2017 and 2018 drilling and are detailed in March 2019 Grandao Deposit Mineral Resource Report (Payne, 2019). The QAQC analysis was completed on samples from all prospects and the majority of drilling occurred at the Grandao deposit.

For all SAV drilling in 2018, a total of 159 blanks, 357 samples from three different CRMs, 354 RC duplicates and 66 core duplicates were submitted from the 2018 drilling.

The results from the QAQC program implemented for the 2018 drilling at Mina do Barroso were satisfactory. The frequency and type of QAQC samples are suitable for confirming the sampling and assaying procedures at the project.

The CRM results were generally good, however the results did suggest that mis-identification had occurred in a small number of samples. Procedures need to be reviewed to ensure mix-ups are eliminated as they are likely to also occur in the primary sample submissions.

Overall the SAV QAQC program has confirmed the reliability of the assay data for use in resource estimation.

5.6. Collar and Down Hole Surveys

Collar positions were located by SAV staff using a hand-held GPS. After drilling, all holes were accurately surveyed using DGPS equipment.

For all SAV drilling, down hole surveys were carried out by the drilling contractor using a gyro instrument. This is an excellent method, unaffected by drilling equipment or magnetic lithologies and should be maintained for future drilling programs.

A topographic survey has been completed for much of the project area using a drone based aerial survey system. The accurate topographic survey encompasses the full extent of the Grandao mineralisation.

5.7. Data Excluded from Estimate

All historic drilling data was excluded from the estimate. This was due to uncertainty about procedures used and the likely low quality nature of the percussion drilling method. No SAV drilling was excluded from the Pinheiro estimate.

6. Mineral Resource Estimate

6.1. Geology and Mineralisation Interpretation

Cross section interpretations of the pegmatites were prepared by SAV and supplied to PayneGeo. These were based on detailed drill hole logs and the surface projections were adjusted to match boundaries identified in surface mapping. A weathering boundary representing the top of fresh rock was also interpreted (using drill hole logging codes) as a shallow zone of weak to moderate weathering was noted.

The pegmatites showed relatively clear geometry, and were modelled into tabular shapes. A range of geometries was noted for the various deposits. Within the pegmatites, clear zoning of Li_2O grade was observed. This was interpreted by SAV geologists to represent magmatic zonation of the intrusions and often resulted in the margins of the dykes being unmineralised. A Li_2O threshold of 0.35% was determined by preliminary statistical analysis of the data and used to discriminate the resource boundaries (refer to Section 6.3). These often coincided with the pegmatite boundary.

Surface mapping assisted in the interpretation of the pegmatites. At Pinheiro, a swarm of pegmatites had been mapped (Figure 6-1). Although outcrop was patchy, the general geometry of the pegmatites could be defined and a degree of confidence in the continuity of the larger dykes could be gained. Examples of interpreted cross sections for the deposit are shown in Figure 6-2 .

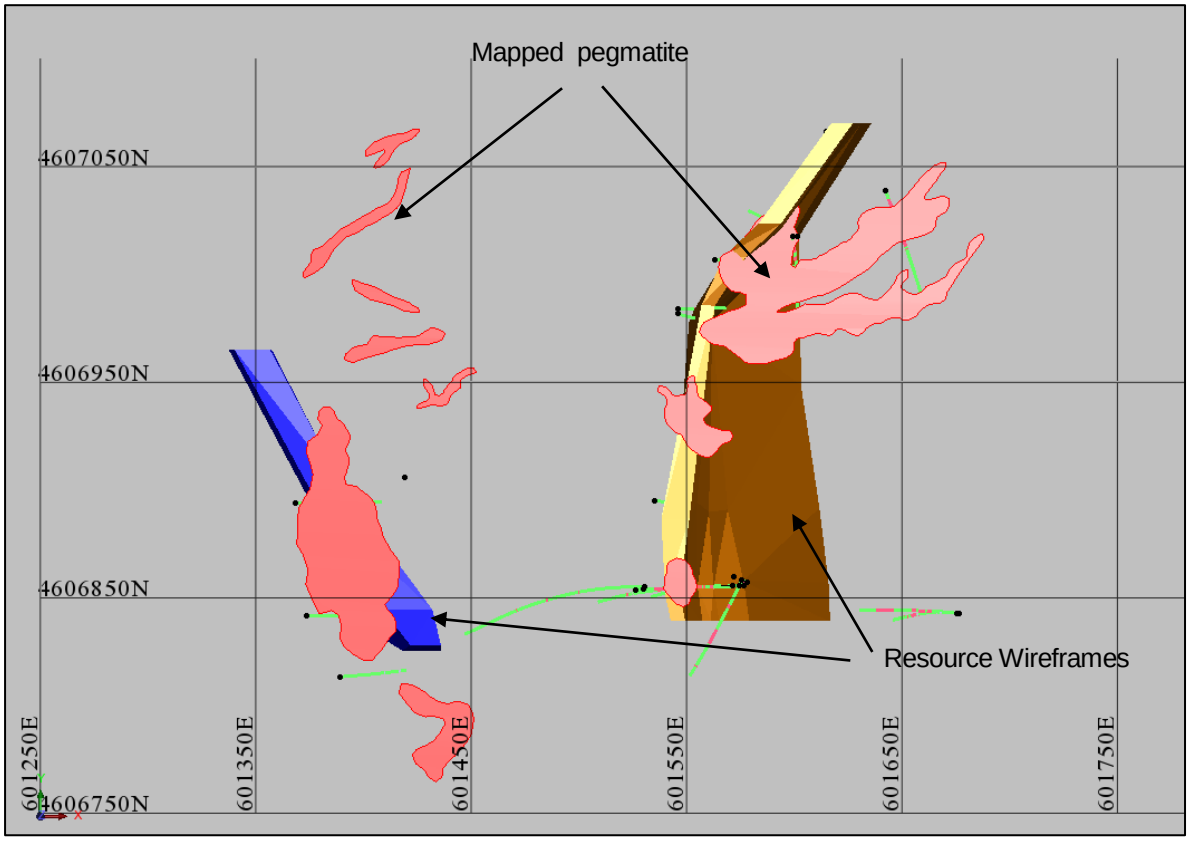


Figure 6-1: Outcrop Mapping of Pegmatites at Pinheiro Prospect

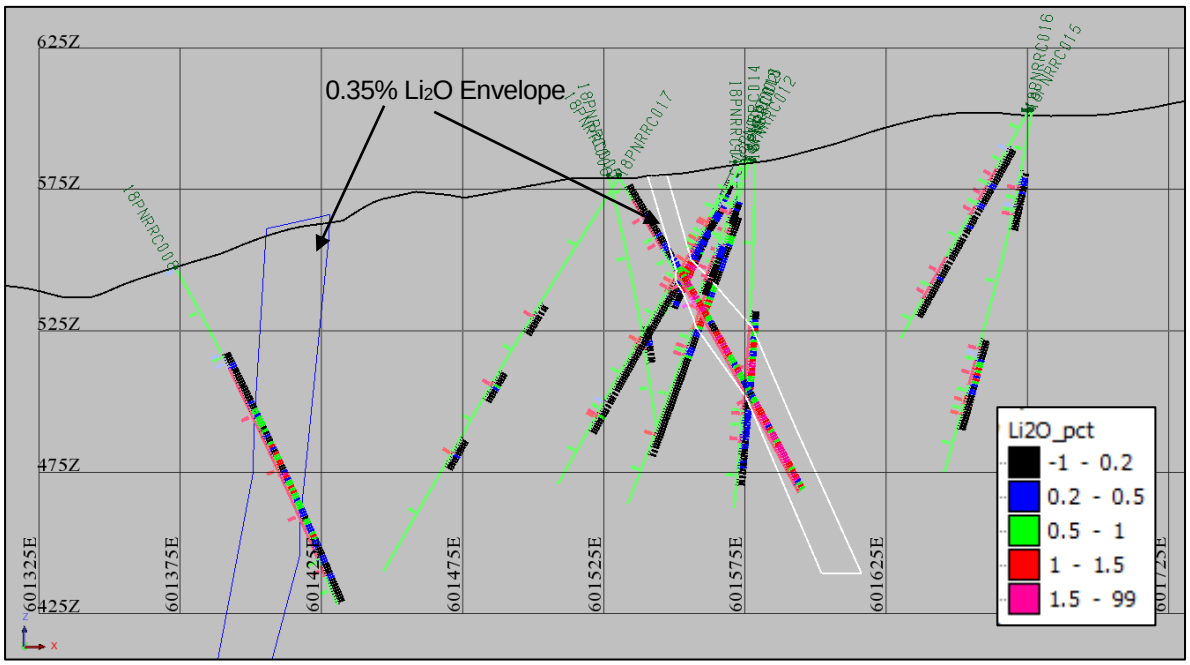


Figure 6-2: Pinheiro Cross Section at 4,606,850N

In places within the pegmatites, slivers or xenoliths of the schistose country rock were identified. At Pinheiro, the zones were too narrow to model separately so they were included within the broader mineralisation envelope.

For the mineralisation wireframes, a minimum down hole length of 2m was used with no edge dilution. Generally up to 2m of internal dilution could be included in the intersections to maintain continuity of the wireframes. The general strike and trend of the mineralised zone was used to limit the extrapolation of the resource boundary from drill holes. In general, this allowed robust and continuous zones to be identified.

6.2. Preparation of Wireframes

The interpreted sectional outlines were manually triangulated to form three-dimensional models (3DMs) as shown in Figure 6-3. The envelopes at Pinheiro were modelled into two approximately parallel zones.

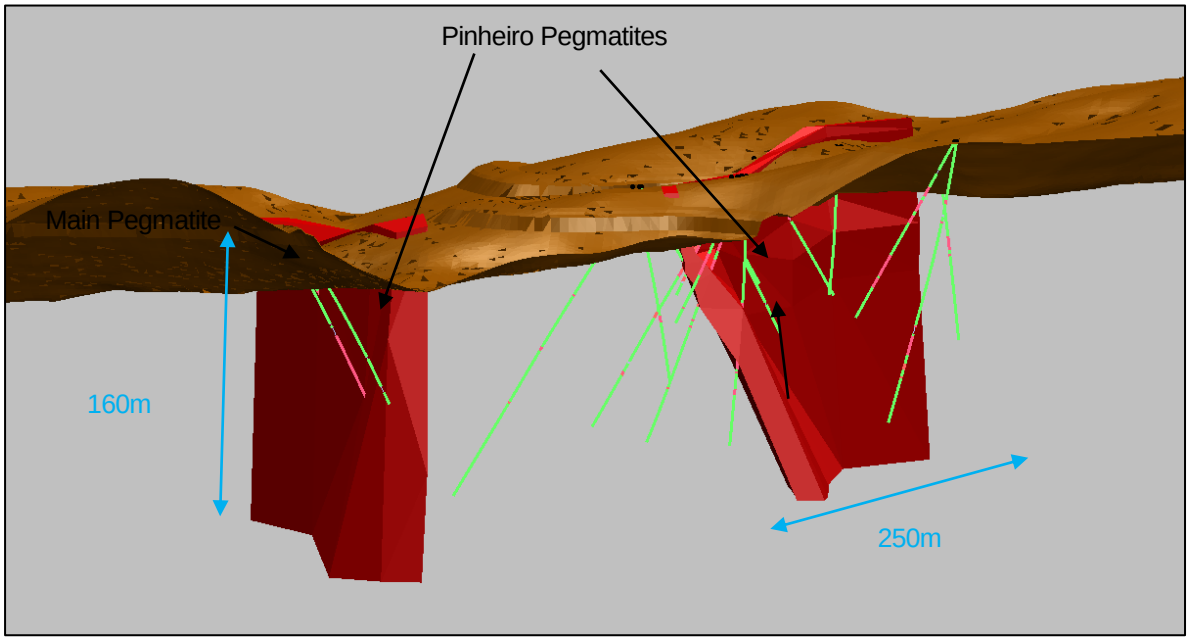


Figure 6-3: Pinheiro Mineralisation Wireframes (looking north)

6.3. Sample Statistics

6.3.1. Global Statistics

Histograms of Li_2O grades were prepared using data from the resource drilling within the Pinheiro prospect to allow understanding of the grade distribution of the deposit. The large population of values below 0.35% Li_2O (Figure 6-4) represents the unmineralised schist country rock as well as small zones of weakly mineralised pegmatite. Typically, the logged pegmatite was fully mineralised and used to define the mineralised domains at the deposit. If that was not the case, the 0.35% Li_2O threshold was used.

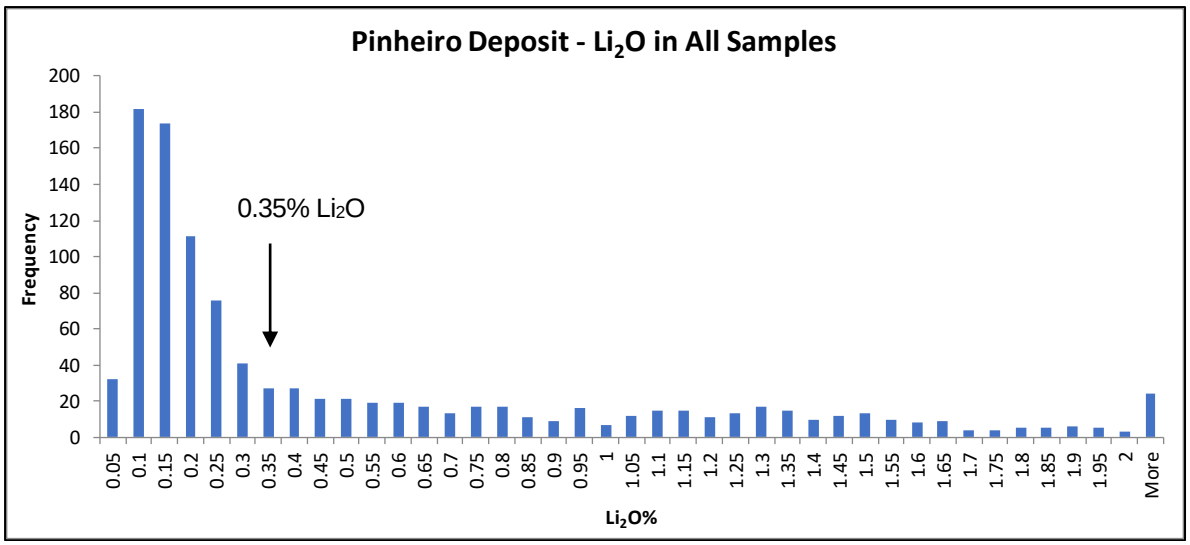


Figure 6-4: Histogram of Li_2O in all Pinheiro Drilling

6.3.2. Deposit Statistics

The wireframes of the mineralised zones were used to code the database to allow identification of the resource intersections. Surpac software was then used to extract down hole composites within the different resource domains. All holes were composited to 1m as the majority of the sampling was at 1m intervals.

The composites were checked for spatial correlation within the objects, the location of the rejected composites, and zero composite values. Individual composite files were created for each of the domains in the wireframe models and summary statistics determined. These are shown in **Error! Reference source not found.** Table 6-1.

The distribution of Li_2O within the main mineralisation wireframes shows that the data has a weakly positive skewed distribution apart from a distinct low grade population (<0.2%). This low grade population was found to be due to intervals of weakly mineralised pegmatite or unmineralised schist that could not be separately modelled with the current drill hole spacing. Histograms of Li_2O and Fe for the mineralised zones are shown in Figure 6-5. Multi-element histograms for all zones are included in Appendix 5.

No extreme high grades were present in the Li_2O and Fe data, and the CV of less than 1 for all elements suggested that high grade cuts were not required. However, a small number of outliers of Ta were present and a high grade cut of 60ppm was applied to all Ta values at Pinheiro.

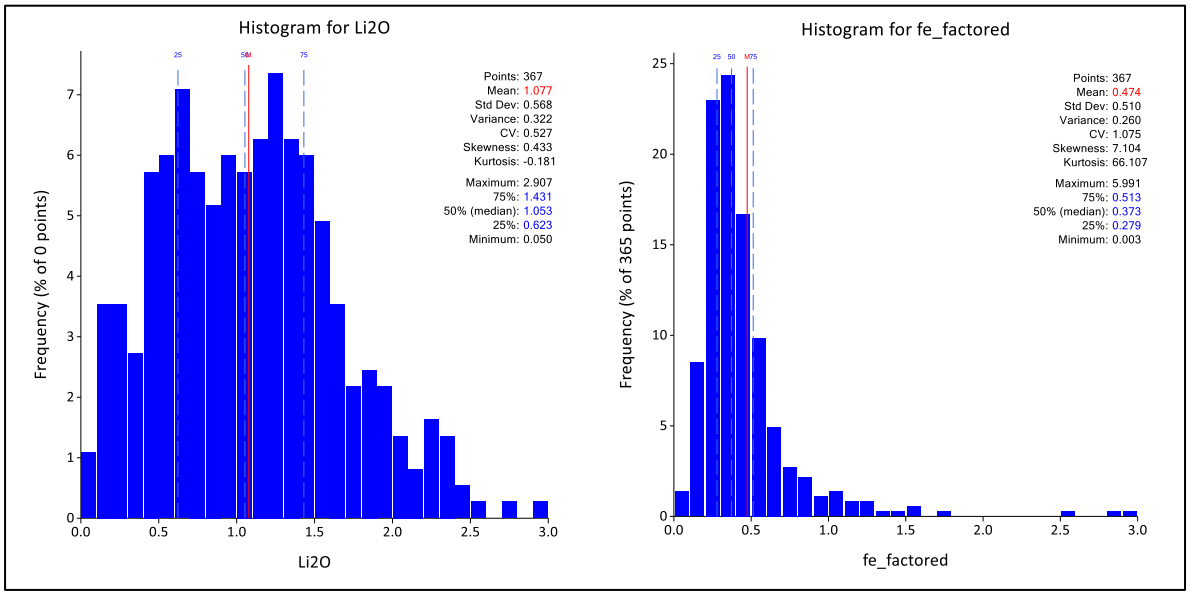


Figure 6-5: Histograms of Li_2O and Fe% in 1m Composites in Pinheiro Wireframes

Table 6-1: Pinheiro Deposit Summary Statistics of 1m Composites

Object	1			2		
Variable	**Li_2O %**	**Ta ppm**	**Fe_fact %**	**Li_2O %**	**Ta ppm**	**Fe_fact %**
Count	293	293	293	74	74	74
Minimum	0.05	1.214	0.003	0.097	2.94	0.127
Maximum	2.907	124.5	5.991	1.921	48.5	1.109
Mean	1.119	19.954	0.494	0.911	14.822	0.394
Std Dev	0.573	13.731	0.563	0.515	8.587	0.166
CV	0.512	0.688	1.139	0.565	0.579	0.421
Variance	0.329	189	0.317	0.265	73.729	0.028
Percentiles						
10%	0.2	6.53	0.6	0.2	6.48	0.63
20%	0.45	8.85	0.67	0.48	8.12	0.7
30%	0.68	10.8	0.72	0.69	9.64	0.75
40%	0.85	12.73	0.76	0.86	10.61	0.79
50%	1.01	14.55	0.8	1.03	12.05	0.82
60%	1.17	16.93	0.84	1.18	13.19	0.86
70%	1.35	19.64	0.88	1.3	14.92	0.9
80%	1.55	23.02	0.95	1.47	18.19	1
90%	1.85	28.54	1.11	1.66	22.77	1.22
95%	2.09	34.19	1.53	1.81	27.76	1.6
97.5%	2.31	40	2.44	1.92	31.3	2.56
99%	2.58	49.92	4.13	2.09	41.7	3.33

6.4. Block Model

For the Pinheiro Mineral Resource, block sizes of 5m (EW) by 20m (NS) by 5m (elevation) with sub-celling to 1.25m by 5m by 1.25m.

The block sizes were selected to reflect the geometry of the zones and the drill hole spacing. Block model parameters are listed in Table 6-2.

Table 6-2: Block Model Parameters

Pinheiro Block Model	**Y**	**X**	**Z**
Origin (minimum y,x,z)	4,606,400	600,800	300
Maximum x,y,z	4,607,400	602,000	750
Block Size (Sub-blocks)	20 (5)	5 (1.25)	5 (1.25)
Rotation	None		
Attributes:			
li2o_pct	Estimated Li_2O% ordinary kriging		
li2o_nn	Estimated Li_2O% nearest neighbour		
ta_ppm	Estimated Ta_ppm		
fe_factored	Estimated iron grade using fe_factored data		
fe_pct	Estimated Fe% using raw data		
fe2o3_pct	fe_factored * 1.43		
ta2o5_ppm	ta_ppm * 1.221		
min_dis	distance to nearest sample		
av_dis	average distance to samples		
num_samples	number of informing samples		
ke	kriging efficiency		
slope_reg	slope of regression		
neg_wt	negative weights		
bd	bulk density		
domain	Object Number		
classification	Mes, Ind, Inf		
class_code	1, 2, 3		
pass_li2o_pct	estimation pass Li_2O%		
pass_ta_ppm	estimation pass Ta_ppm		
pass_fe_pct	estimation pass Fe%		
pass_fe_factored	estimation pass fe_factored		
kvar	kriging variance		
block_var	block variance		
lg_multiplier	la grange multiplier		
rock	Mineralisation or Pegmatite		
weathering	oxidation type		
mined	mining		
zone	estimation zone		

6.5. Grade Interpolation

Due to the small number of drill holes and limited extent of each mineralised zone, inverse distance squared ("ID2") grade interpolation was used to estimate the Li_2O (%), Ta (ppm), Fe (%) and Fe_factored (%) values in the block models with the search ellipses set to match the geometry of the wireframe domains.

For the each of the individual pegmatites, the major search axis length was set at 50m with minimum and maximum samples of 10 and 24 respectively.

At Pinheiro, an omni-directional search ellipse was used due to the sparse drilling and variable geometry. The first pass interpolation filled 66% of blocks (Figure 6-6). The initial search lengths were doubled for the second pass which filled the remaining 34% of blocks.

Interpolation parameters for Pass 1 are shown in Table 6-3. A full listing of interpolation parameters used in the Surpac macros is included in Appendix 6.

Table 6-3: Interpolation Parameters Pass 1

Deposit	Domain	Element	Min sam	Max sam	Major dist	Strike	Dip	Plunge	Semi Ratio	Minor Ratio
Pinheiro	1	Li_2O	10	24	50	0	0	0	1	1
	1	Ta	10	24	50	0	0	0	1	1
	1	Fe*	10	24	50	0	0	0	1	1
	2	Li_2O	10	24	50	0	0	0	1	1
	2	Ta	10	24	50	0	0	0	1	1
	2	Fe*	10	24	50	0	0	0	1	1

*Fe_factored used same parameters as Fe

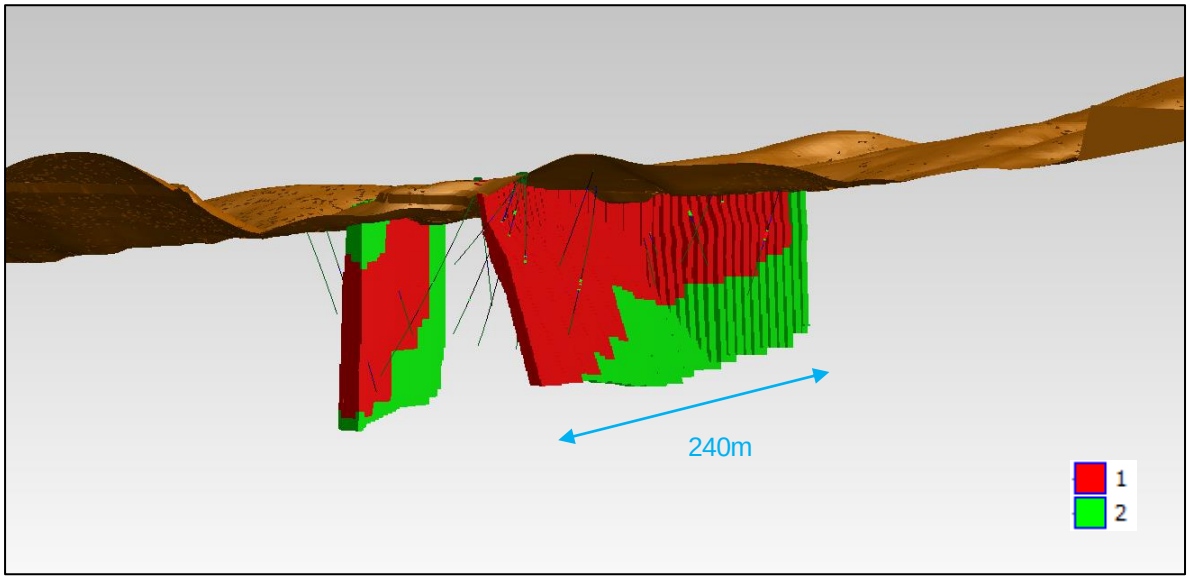


Figure 6-6: Pinheiro Blocks Coloured by Search Pass (Li_2O)

6.6. Bulk Density

Density determinations were generated by SAV using drill core. The analysis was carried out by SAV using the immersion method (weight in air/weight in water).

Detailed analysis of the density results was carried out for the Grandao estimate in March 2019 (Payne, 2019). The values derived from the Grandao data were applied to the Pinheiro estimate and are shown in Table 6-4.

Table 6-4: Bulk Density Values Applied to Pinheiro Resource Estimate

Material Type	Bulk Density t/m^3
Transitional	2.5
Fresh Schist	2.67
Fresh Pegmatite	2.65

6.7. Mineral Resource Classification

Mineral Resource classification was considered on the basis of drill hole spacing, continuity of mineralisation and data quality.

The continuity of the Pinheiro pegmatite is not well defined with patchy outcrop and multiple intrusions. Accurate drill hole collar and topographic surveys have been obtained for the deposit, so the spatial location of data and topography has a high level of confidence. The quality of the drilling and assaying has been confirmed through independent verification of procedures and through a satisfactory QAQC protocol.

Due to the uncertainty in the interpreted geometry of the mineralisation and the sparse drilling at the deposit, the entire deposit was classified as Inferred Mineral Resource.

6.8. Results

The results of the Mineral Resource estimates for the Pinheiro deposit is tabulated in detail in Appendix 3 of this report. The distribution of block grades in the models are shown in Figure 6-7. A summary of the estimate is shown in Table 6-5.

To show the tonnage and grade distribution throughout the deposit, a bench breakdown has been prepared and is shown graphically in Figure 6-8. The grade-tonnage curve for the estimate is shown in Figure 6-9 and is detailed in Appendix 3.

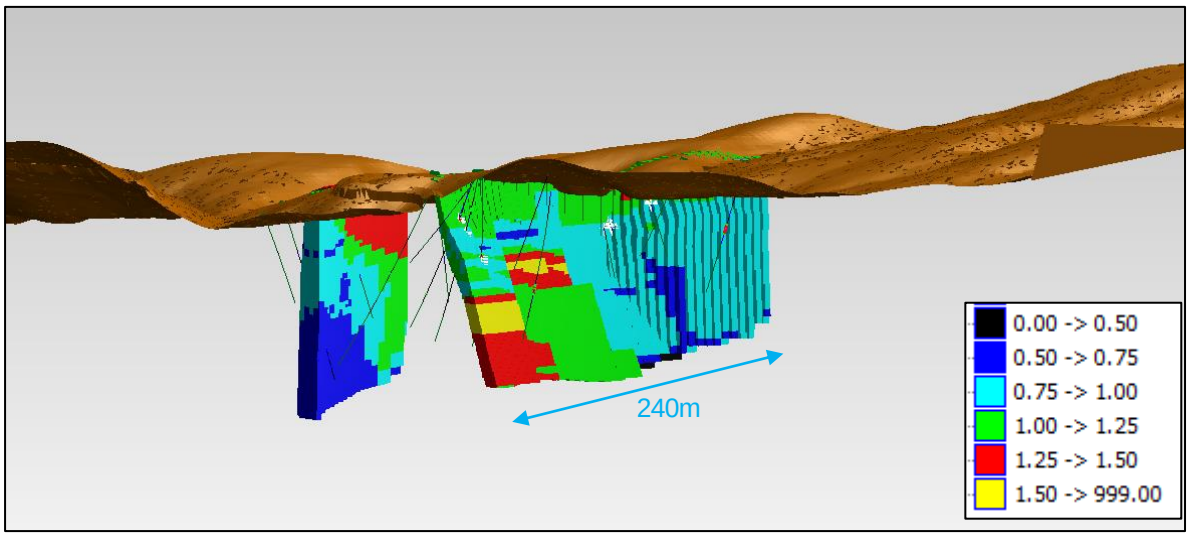


Figure 6-7: Pinheiro Block Model Coloured by Li_2O

Table 6-5: Pinheiro Deposit March 2019 Mineral Resource Estimate 0.5% Li_2O Cut-off

	Indicated				Inferred				Total				
Weathering	**Tonnes t**	**Li_2O %**	**Ta_2O_5 ppm**	**Fe_2O_3 %**	**Tonnes t**	**Li_2O %**	**Ta_2O_5 ppm**	**Fe_2O_3 %**	**Tonnes t**	**Li_2O %**	**Ta_2O_5 ppm**	**Fe_2O_3 %**	**Li_2O Tonnes**
Transitional					114,000	1.3	24	0.5	114,000	1.3	24	0.5	1,400
Primary					1,845,000	1.0	25	0.7	1,845,000	1.0	25	0.7	18,500
Total					**1,959,000**	**1.0**	**25**	**0.7**	**1,959,000**	**1.0**	**25**	**0.7**	**20,000**

(Rounding discrepancies may occur in summary tables)

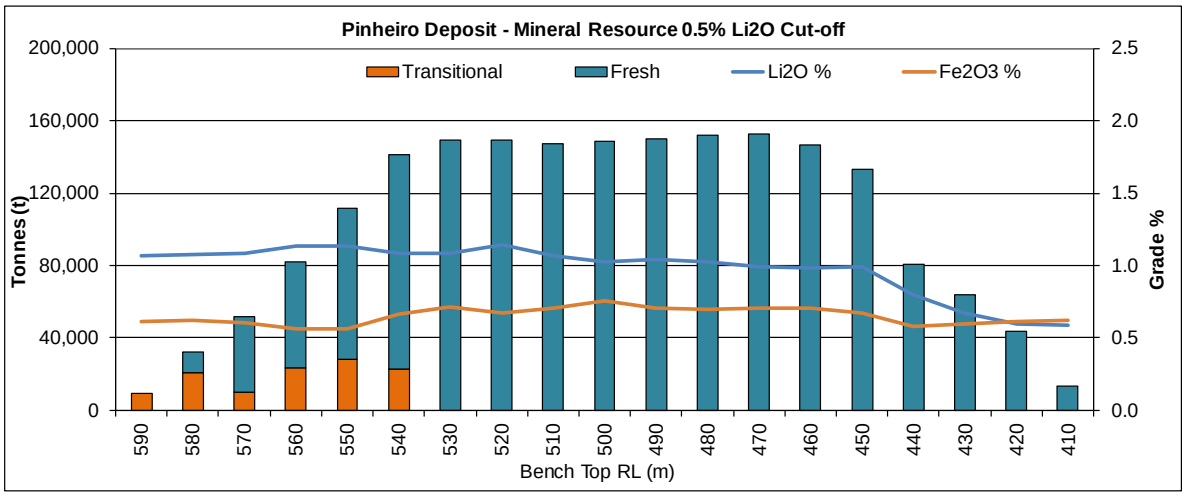


Figure 6-8: Pinheiro Deposit Mineral Resource – 10m Bench Breakdowns

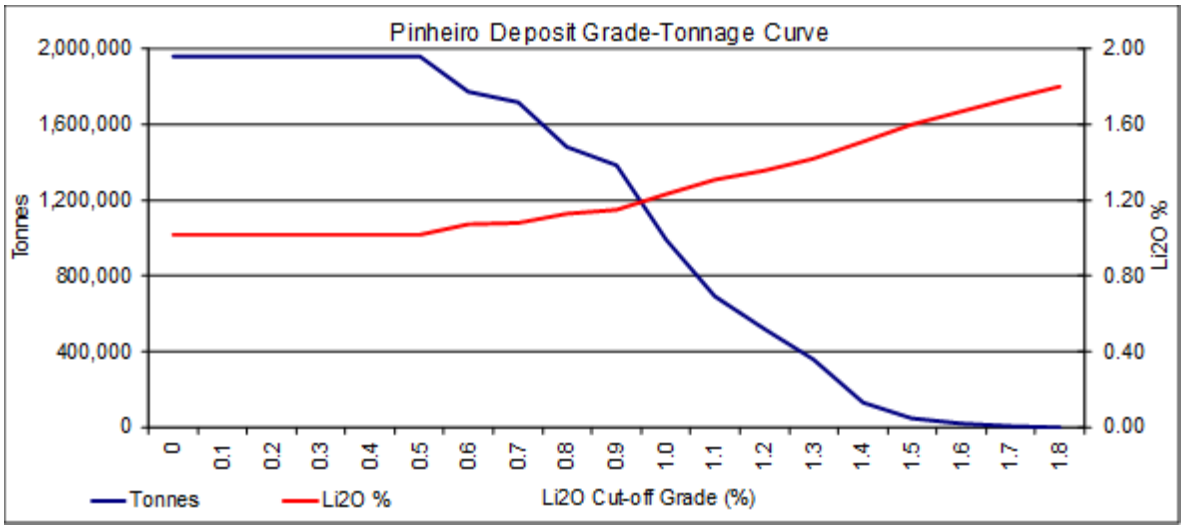


Figure 6-9: Pinheiro Deposit Mineral Resource Grade-Tonnage Curves

6.9. Model Validation

To check that the interpolation of the block model correctly honoured the drilling data, validation was carried out by comparing the interpolated blocks to the sample composite data.

A table was prepared of composite grade and block model grades, and wireframe volume and model volume for each of the resource domains. Considering the irregular data spacing at Pinheiro, results were satisfactory and are shown in Table 6-6.

Table 6-6: Pinheiro Model Validation –All Domains

Pinheiro Block Model Validation by Domain - Min									
	Wireframe	Block Model			Composites			Comparison	
Domain	Lode Volume	Resource Volume	Li2O %	Fe %	Number of Comps	Li2O %	Fe %	OK V Comp Li2O	OK V Comp Fe%
1	412,704	398,844	1.05	0.94	293	1.12	0.92	-7.04%	2.57%
2	376,915	367,578	0.93	0.76	74	0.91	0.78	1.66%	-3.37%
Total	789,619	766,422	0.99	0.85	367	1.02	0.85	-3.13%	0.04%

7. Risks and Opportunities

Risks	
Mineralisation Continuity	The deposit has been modelled into a number of spodumene-rich pegmatite bodies. At Pinheiro, outcrop is patchy, multiple pegmatites are present and continuity is uncertain. Extensive infill drilling will be required to increase confidence in the estimates.
Drill Hole Spacing	At Pinheiro, the hole spacing is too broad to confidently define the geometry of the mineralisation. There is a risk that the geometry may be substantially different to that interpreted.
Weathering	A shallow weathering surface has been defined for the deposit based on the coded weathering data from drill logs. The weathering of the deposit appears to cause depletion of Li_2O at other prospects, and may be important in determining metallurgical response of the material. A consistent definition of weathering zones should be established and modelled.
Opportunities	
Resource Extension	At the Pinheiro deposit, the main mineralised pegmatites remain open either at depth, or along strike. There is good potential to substantially expand the defined Mineral Resources.
New Discoveries	Excellent potential also remains to define additional zones of mineralisation in the project area. At Pinheiro, mapping has defined multiple zones of pegmatite to the north and north-east of the deposit which are currently untested. All areas of pegmatite outcrop have potential for significant depth extent and warrant thorough exploration.

8. Conclusion and Recommendations

Mineral Resources have been defined in four separate deposits in the Mina do Barroso Lithium Project – Grandao, Reservatorio, Pinheiro and NOA. The Pinheiro deposit has been subject to first pass exploration drilling in 2018 and 2019 which has resulted in a maiden Mineral Resource estimate for the deposit.

At Pinheiro, the evaluation of the prospect is at an early stage. The poddy nature of the pegmatite swarm has made targetting and interpretation of the mineralisation difficult, however substantial zones of lithium mineralisation have been intersected in a number of holes. Infill drilling is recommended to clarify the geometry and continuity of the defined zones. Good targets remain to defined further mineralisation within the currently untested pegmatites that have been mapped at the prospect.

More detailed assessment and interpretation of the weathering profile is warranted.

The shallow, outcropping nature of the deposit suggests good potential for open pit mining if sufficient resources can be delineated to consider a mining operation. The economic potential of the project is currently being evaluated by a Feasibility Study. The resource model is undiluted, so appropriate dilution needs to be incorporated in any evaluation of the deposit.

9. References

CGMSL, 2017: First report of the structural work carried out at the Li-pegmatites of Grandao, Reservatorio and NOA, Barroso area. CONSULTING DE GEOLOGÍA Y MINERÍA, S.L technical report to Savannah Resources Plc dated November 2017.

Payne, 2019: Grandao Lithium Deposit March 2019 Mineral Resource Estimate. Payne Geological Services Pty Ltd report to Savannah Resources Plc dated March 2019.

Savannah, 2017: Strategic Lithium Project Acquisition with Near-Term Production Potential, Portugal. Savannah Resources Plc AIM Release dated 25 May 2017.

Slipstream, 2019: QAQC notes – March 2019. Technical report by Slipstream Resources Portugal dated March 2019.

Appendix 1

Mina do Barroso Lithium Project

JORC Code (2012) Table 1

Section 1 and 2

JORC Table 1 Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (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.*	• The majority of holes were reverse circulation, sampled at 1m intervals. RC samples were collected in large plastic bags from an onboard rig splitter and a 4-6kg representative sample taken for analysis. • A small number of diamond holes were also completed. Core was HQ size, sampled at 1m intervals in the pegmatite, with boundaries sampled to geological boundaries. Half core samples were collected for analysis. • Drilling was irregular and up to 130m spacings at Pinheiro. • Collar surveys are carried using differential GPS with an accuracy to within 0.2m. • A down hole survey for each hole was completed using gyro equipment. • The lithium mineralisation is predominantly in the form of Spodumene-bearing pegmatites, the pegmatites are unzoned and vary in thickness from 10m-20m.
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).*	• RC drilling used a 120mm bit diameter. • Core drilling was carried out using an HQ triple tube core barrel.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• RC drilling sample weights were monitored to ensure samples were maximised. Samples were carefully loaded into a splitter and split in the same manner ensuring that the sample split to be sent to the assay laboratories were in the range of 4-6kg. • Core recovery was measured and was found to be generally excellent. • No obvious relationships between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• RC holes were logged in the field at the time of sampling. Core was logged in detail in a logging yard. • Each 1m sample interval was carefully homogenised and assessed for lithology, colour, grainsize, structure and mineralisation. • A representative chip sample produced from RC drilling was washed and taken for each 1m sample and stored in a chip tray which was photographed. • Core was photographed.
Sub-sampling techniques and sample	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary*	• 1m RC samples were split by the riffle splitter on the drill rig and sampled dry. • The 4m composites were collected using a

Criteria	JORC Code Explanation	Commentary
preparation	*split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	spear with the spear inserted into the bag at a high angle and pushed across the sample to maximise representivity of the sample. • Core was cut in half using a diamond saw with 1m half core samples submitted for analysis. • The sampling was conducted using industry standard techniques and were considered appropriate. • Field duplicates were used to test repeatability of the sub-sampling and were found to be satisfactory. • Every effort was made to ensure that the samples were representative and not biased in any way.
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.*	• Samples were received, sorted, labelled and dried. • Samples were crushed to 70% less than 2mm, riffle split off 250g, pulverise split to better than 85% passing 75 microns and 5g was split of for assaying. • The samples were analysed using ALS Laboratories ME-MS89L Super Trace method which combines a sodium peroxide fusion with ICP-MS instrumentation utilising collision/reaction cell technologies to provide the lowest detection limits available. • A prepared sample (0.2g) is added to sodium peroxide flux, mixed well and then fused in at 670°C. The resulting melt is cooled and then dissolved in 30% hydrochloric acid. This solution is then analysed by ICP-MS and the results are corrected for spectral inter-element interferences. • The final solution is then analysed by ICP-MS, with results corrected for spectral inter-element interferences. • Standards/blanks and duplicates were inserted on a 1:20 ratio for both to samples taken. • Duplicate sample regime is used to monitor sampling methodology and homogeneity. • Routine QA/QC controls for the method ME-MS89L include blanks, certified reference standards of Lithium and duplicate samples. Samples are assayed within runs or batches up to 40 samples. At the fusion stage that quality control samples are included together with the samples so all samples follow the same procedure until the end. Fused and diluted samples are prepared for ICP-MS analysis. ICP instrument is calibrated through appropriate certified standards solutions and interference corrections to achieve strict calibration fitting parameters. Each 40 sample run is assayed with two blanks, two certified standards and one duplicate sample and results are evaluated accordingly. • A QA/QC review of all information indicated that all assays were satisfactory.

Criteria	JORC Code Explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• All information was internally audited by company personnel. • Several historical holes were twinned for comparison purposes with the modern drilling. • Savannah's experienced project geologists supervised all processes. • All field data is entered into a custom log sheet and then into excel spreadsheets (supported by look-up tables) at site and subsequently validated as it is imported into the centralised Access database. • Hard copies of logs, survey and sampling data are stored in the local office and electronic data is stored on the main server. • Results were reported as Li (ppm) and were converted to a percentage by dividing by 10,000 and then to Li_2O% by multiplying by 2.153.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The coordinate of each drill hole was taken at the time of collecting using a handheld GPS with an accuracy of 5m. All collars were subsequently surveyed using DGPS with an accuracy of 0.2m. • The grid system used is WSG84. • An accurate, aerial topographic survey was obtained with accuracy of +/- 0.5m.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drilling was irregular and up to 130m spacings at Pinheiro. • Drill data is at sufficient spacing to define Inferred Mineral Resource. • Compositing to 1m has been applied prior to resource estimation.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• At Pinheiro, holes have been drilled in various directions as the geometry of the deposit has been refined. A number of holes have been drilled down-dip but later holes have intersected at a more optimal angle. • No orientation-based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	• Samples were delivered to a courier and chain of custody is managed by Savannah.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Internal company auditing and a review by PayneGeo during the April 2018 site visit found that all data collection and QA/QC procedures were conducted to industry standards.

JORC Table 1 Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.*	• All work was completed inside the Mina do Barroso project C-100. • Savannah has received written confirmation from the DGEG that under article 24 of Decree-Law no. 88/90 of March 16 being relevant justification based on the resources allocated exploited and intended, Savannah has been approved an expansion up to 250m of C100 mining concession in specific areas where a resource has been defined and the requirement for the expansion can be justified.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Limited exploration work has been carried out by previous operators. • No historic information has been included in the Mineral Resource estimates.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The lithium mineralisation is predominantly in the form of Spodumene-bearing pegmatites which are hosted in meta-pelitic and mica schists, and occasionally carbonate schists of upper Ordovician to lower Devonian age. The pegmatites vary in thickness from 15m-109m.

Drill hole information	• *A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:*
	  • *easting and northing of the drill hole collar*
	  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  • *dip and azimuth of the hole*
	  • *down hole length and interception depth*
	  • *hole length*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• Grid used WSG84.
		• No material data has been excluded from the release.
		• Drill hole intersections used in the resource have been previously reported.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Length weighted average grades have been reported. • No high-grade cuts have been applied to reported grades for lithium. A high grade cut of 60ppm was applied to the tantalum data. • Metal equivalent values are not being reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g.'down hole length, true width not*	• The majority of holes have been drilled at angles to intersect the mineralisation approximately perpendicular to the orientation of the mineralised trend. • The geometry of the pegmatite at Pinheiro was difficult to define initially, and some holes have drilled at a close angle to the mineralisation in that part of the deposit.

Criteria	JORC Code explanation	Commentary
	known').	
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• A relevant plan showing the drilling is included within this release.
Balanced Reporting	• *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.* • *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.*	• All relevant results available have been previously reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Geological mapping and rock chip sampling has been conducted over the project area.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further RC and DD drilling to test for further extensions and to increase confidence. • Economic evaluation of the defined Mineral Resources.

Appendix 2

Mina do Barroso Lithium Project

JORC Code (2012) Table 1

Section 3

JORC Table 1 Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The assay data was captured electronically to prevent transcription errors. • Validation included visual review of results.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Numerous site visits were undertaken by Dale Ferguson in 2017 which included an inspection of the drilling process, outcrop area and confirmation that no obvious impediments to future exploration or development were present. • A site visit by Paul Payne was undertaken in April 2018 to confirm geological interpretations, drilling and sampling procedures and general site layout.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The pegmatite dykes hosting the Pinheiro mineralisation defined in outcrop and in drilling and boundaries are generally very sharp and distinct. • The shape and extent of the >0.5% Li_2O mineralisation is clearly controlled by the general geometry of the pegmatites. • Zonation of lithium within the pegmatite is evident, and typically the margins are weakly mineralised.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The Pinheiro deposit comprise two parallel pegmatites with a maximum drilled extent of 240m NS and the deepest intersection 110m below surface. The thickness of the mineralisation ranges from 5m to 10m.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation*	• Inverse distance squared interpolation was used to estimate block grades within the resource. • Surpac software was used for the estimation. • Samples were composited to 1m intervals to match the sample lengths. Due to the extremely low CV of the data no high grade cuts were applied to Li_2O in the estimate. A cut of 60ppm was applied to Ta values. • At Pinheiro the parent block dimensions were 5m EW by 20m NS by 5m vertical with sub-cells of 1.25m by 5m by 1.25m. • There was no previous estimate for the Pinheiro deposit. • No assumptions have been made regarding recovery of by-products. • The grade of Fe_2O_3 was estimated for the deposit, using factored Fe data to eliminate Fe introduced in the sample preparation stage. The mean grade of Fe_2O_3 was determined to be 0.7% at Pinheiro. • An orientated ellipsoid search was used to select data and was based on drill hole spacing and the geometry of the pegmatite dyke. • A search of 50m was used with a minimum of 10 samples and a maximum of 24 samples

Criteria	JORC Code explanation	Commentary
	was used to control the resource estimates. • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	which resulted in 66% of blocks being estimated at Pinheiro. The remaining blocks were estimated with search radii of 100m. • Selective mining units were not modelled in the Mineral Resource model. The block size used in the model was based on drill sample spacing and deposit geometry. • The deposit mineralisation was constrained by wireframes prepared using a 0.35% Li2O grade envelope. • For validation, quantitative comparison of block grades to assay grades was carried out for each estimated body. • Global comparisons of drill hole and block model grades were also carried out.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The shallow, outcropping nature of both deposits suggests good potential for open pit mining if sufficient resources can be delineated to consider a mining operation. As such, the Mineral Resource has been reported at a 0.5% Li_2O lower cut-off grade to reflect assumed exploitation by open pit mining.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Based on comparison with other similar deposits, the Mineral Resource is considered to have sufficient grade and metallurgical characteristics for economic treatment if an operation is established at the site. • No mining parameters or modifying factors have been applied to the Mineral Resource.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Metallurgical test work has been conducted by Savannah on representative mineralisation at the Grandao deposit. The work was completed by Nagrom Metallurgical in Australia and confirmed that high grade lithium, low grade iron concentrate can be generated from the mineralisation using conventional processing technology. Microscopy confirmed that the concentrate was almost entirely spodumene. • Additional metallurgical test work is underway and there is no reason to consider that the Pinheiro mineralisation will behave any differently to the Grandao deposit.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of*	• The area is not known to be environmentally sensitive and there is no reason to think that proposals for development including the dumping of waste would not be approved if planning and permitting guidelines are followed.

Criteria	JORC Code explanation	Commentary
	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.	
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Bulk density values from the Grandao deposit were applied to both the Pinheiro deposit. • The Grandao densities were based on determinations using 3,370 core samples. • Bulk density values applied to the estimates were 2.5t/m^3 for transitional lithologies, 2.65t/m^3 for unoxidised pegmatite and 2.67t/m^3 for unoxidised schist.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Mineral Resources was classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). • The entire Mineral Resource at Pinheiro was classified as Inferred due the sparse drilling. • The results reflect the view of the Competent Person.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The Mineral Resource estimate has been checked by an internal audit procedure.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The estimate utilised good estimation practices, high quality drilling, sampling and assay data. The extent and dimensions of the mineralisation are sufficiently defined by outcrop and the detailed drilling. The deposit is considered to have been estimated with level of accuracy reflected in the resource classification. • The Mineral Resource statement relates to global estimates of tonnes and grade. • There is no historic production data to compare with the Mineral Resource.

Appendix 3

Mina do Barroso Lithium Project

Mineral Resource Tables –Pinheiro Deposit

Pinheiro March 2019 Mineral Resource Estimate
0.5% Li2O Cut-off

Inferred

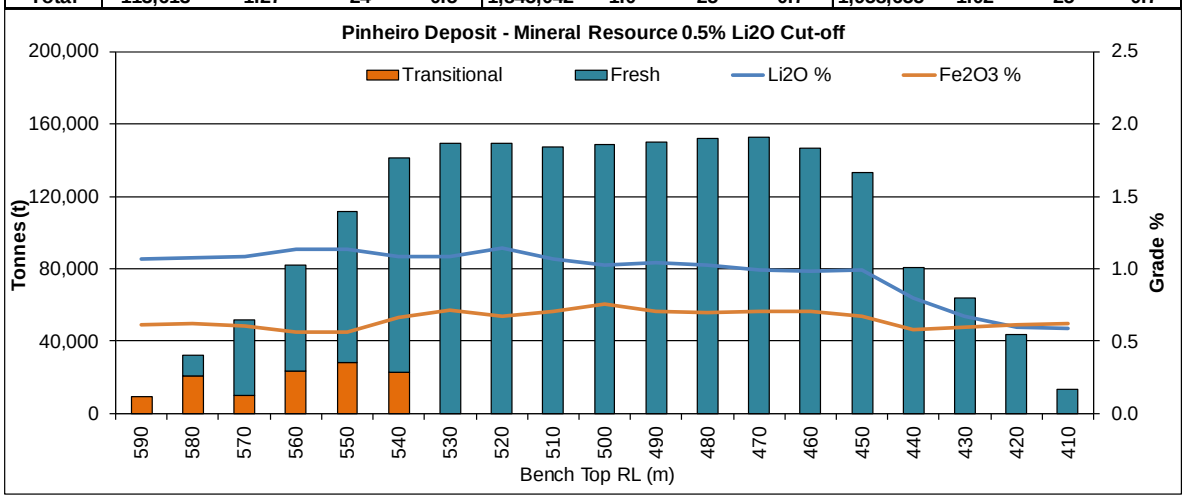
Bench	Transitional				Fresh				Total				
Top	Tonnes	Li_2O	Ta_2O_5	Fe_2O_3	Tonnes	Li_2O	Ta_2O_5	Fe_2O_3	Tonnes	Li_2O	Ta_2O_5	Fe_2O_3	Li_2O
RL	t	%	ppm	%	t	%	ppm	%	t	%	ppm	%	Tonnes
590	9,199	1.06	46	0.61					9,199	1.06	46	0.61	98
580	20,469	1.10	31	0.62	11,697	1.03	37	0.63	32,166	1.07	33	0.62	346
570	9,727	1.17	25	0.56	42,234	1.06	28	0.61	51,961	1.08	28	0.60	564
560	23,379	1.31	19	0.49	58,404	1.07	30	0.58	81,783	1.14	27	0.56	929
550	28,066	1.37	19	0.46	83,351	1.06	29	0.60	111,417	1.14	27	0.57	1,265
540	22,773	1.38	20	0.46	118,194	1.03	28	0.70	140,967	1.08	27	0.66	1,528
530					149,394	1.08	26	0.71	149,394	1.08	26	0.71	1,619
520					149,290	1.14	26	0.67	149,290	1.14	26	0.67	1,707
510					147,593	1.07	25	0.71	147,593	1.07	25	0.71	1,572
500					148,462	1.02	25	0.76	148,462	1.02	25	0.76	1,518
490					150,180	1.05	24	0.70	150,180	1.05	24	0.70	1,570
480					152,271	1.02	25	0.70	152,271	1.02	25	0.70	1,560
470					152,561	0.99	25	0.71	152,561	0.99	25	0.71	1,510
460					146,682	0.99	23	0.71	146,682	0.99	23	0.71	1,449
450					132,873	1.00	20	0.67	132,873	1.00	20	0.67	1,323
440					80,908	0.80	19	0.58	80,908	0.80	19	0.58	648
430					63,683	0.67	18	0.59	63,683	0.67	18	0.59	428
420					43,787	0.60	19	0.62	43,787	0.60	19	0.62	261
410					13,478	0.59	20	0.62	13,478	0.59	20	0.62	79
Total	**113,613**	**1.27**	**24**	**0.52**	**1,845,042**	**1.00**	**25**	**0.68**	**1,958,655**	**1.02**	**25**	**0.67**	**19,973**

Total Mineral Resource

Bench	Transitional				Fresh				Total				
Top	Tonnes	Li_2O	Ta_2O_5	Fe_2O_3	Tonnes	Li_2O	Ta_2O_5	Fe_2O_3	Tonnes	Li_2O	Ta_2O_5	Fe_2O_3	Li_2O
RL	t	%	ppm	%	t	%	ppm	%	t	%	ppm	%	Tonnes
590	9,199	1.06	46	0.61					9,199	1.06	46	0.61	98
580	20,469	1.10	31	0.62	11,697	1.03	37	0.63	32,166	1.07	33	0.62	346
570	9,727	1.17	25	0.56	42,234	1.06	28	0.61	51,961	1.08	28	0.60	564
560	23,379	1.31	19	0.49	58,404	1.07	30	0.58	81,783	1.14	27	0.56	929
550	28,066	1.37	19	0.46	83,351	1.06	29	0.60	111,417	1.14	27	0.57	1,265
540	22,773	1.38	20	0.46	118,194	1.03	28	0.70	140,967	1.08	27	0.66	1,528
530					149,394	1.08	26	0.71	149,394	1.08	26	0.71	1,619
520					149,290	1.14	26	0.67	149,290	1.14	26	0.67	1,707
510					147,593	1.07	25	0.71	147,593	1.07	25	0.71	1,572
500					148,462	1.02	25	0.76	148,462	1.02	25	0.76	1,518
490					150,180	1.05	24	0.70	150,180	1.05	24	0.70	1,570
480					152,271	1.02	25	0.70	152,271	1.02	25	0.70	1,560
470					152,561	0.99	25	0.71	152,561	0.99	25	0.71	1,510
460					146,682	0.99	23	0.71	146,682	0.99	23	0.71	1,449
450					132,873	1.00	20	0.67	132,873	1.00	20	0.67	1,323
440					80,908	0.80	19	0.58	80,908	0.80	19	0.58	648
430					63,683	0.67	18	0.59	63,683	0.67	18	0.59	428
420					43,787	0.60	19	0.62	43,787	0.60	19	0.62	261
410					13,478	0.59	20	0.62	13,478	0.59	20	0.62	79
Total	**113,613**	**1.27**	**24**	**0.52**	**1,845,042**	**1.00**	**25**	**0.68**	**1,958,655**	**1.02**	**25**	**0.67**	**19,973**

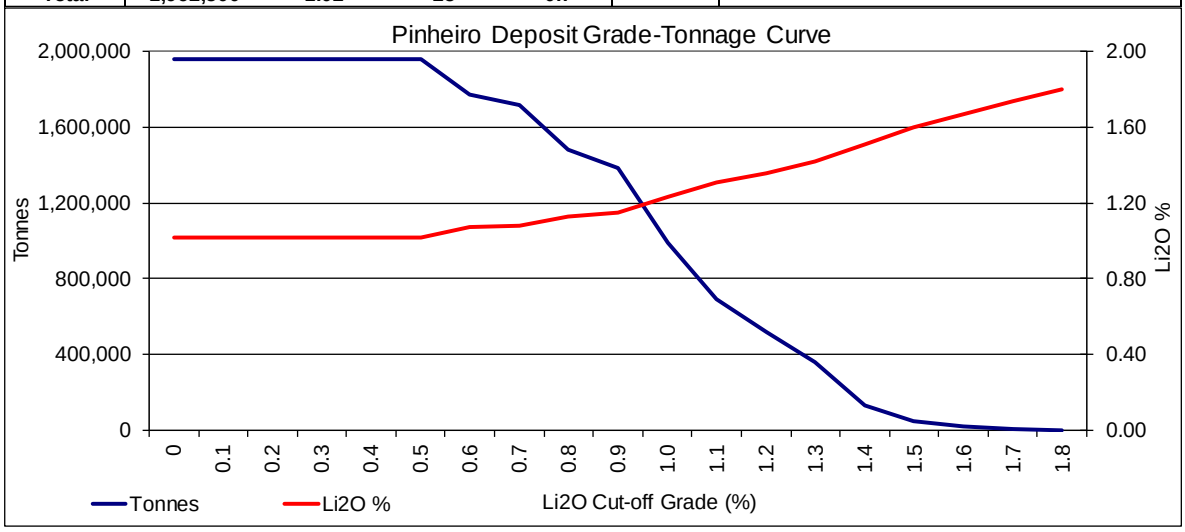
Pinheiro March 2019 Mineral Resource Estimate
0.5% Li2O Cut-off

	Transitional				Fresh				Total			
Bench Top RL	Tonnes t	Li_2O %	Ta_2O_5 ppm	Fe_2O_3 %	Tonnes t	Li_2O %	Ta_2O_5 ppm	Fe_2O_3 %	Tonnes t	Li_2O %	Ta_2O_5 ppm	Fe_2O_3 %
590	9,199	1.06	46	0.6					9,199	1.06	46	0.6
580	20,469	1.10	31	0.6	11,697	1.0	37	0.6	32,166	1.07	33	0.6
570	9,727	1.17	25	0.6	42,234	1.1	28	0.6	51,961	1.08	28	0.6
560	23,379	1.31	19	0.5	58,404	1.1	30	0.6	81,783	1.14	27	0.6
550	28,066	1.37	19	0.5	83,351	1.1	29	0.6	111,417	1.14	27	0.6
540	22,773	1.38	20	0.5	118,194	1.0	28	0.7	140,967	1.08	27	0.7
530					149,394	1.1	26	0.7	149,394	1.08	26	0.7
520					149,290	1.1	26	0.7	149,290	1.14	26	0.7
510					147,593	1.1	25	0.7	147,593	1.07	25	0.7
500					148,462	1.0	25	0.8	148,462	1.02	25	0.8
490					150,180	1.0	24	0.7	150,180	1.05	24	0.7
480					152,271	1.0	25	0.7	152,271	1.02	25	0.7
470					152,561	1.0	25	0.7	152,561	0.99	25	0.7
460					146,682	1.0	23	0.7	146,682	0.99	23	0.7
450					132,873	1.0	20	0.7	132,873	1.00	20	0.7
440					80,908	0.8	19	0.6	80,908	0.80	19	0.6
430					63,683	0.7	18	0.6	63,683	0.67	18	0.6
420					43,787	0.6	19	0.6	43,787	0.60	19	0.6
410					13,478	0.6	20	0.6	13,478	0.59	20	0.6
Total	**113,613**	**1.27**	**24**	**0.5**	**1,845,042**	**1.0**	**25**	**0.7**	**1,958,655**	**1.02**	**25**	**0.7**



Pinheiro Deposit - March 2019 Mineral Resource

Grade Range Li2O%	Incremental Resource Tonnes t	Li2O %	Ta2O5 ppm	Fe2O3 %	Cut-off Grade Li2O %	Cumulative Resource Tonnes t	Li2O %	Ta2O5 ppm	Fe2O3 %
0.0 -> 0.1					0	1,962,500	1.02	25	0.7
0.1 -> 0.2	1,200	0.17	30	4.4	0.1	1,962,500	1.02	25	0.7
0.2 -> 0.3					0.2	1,961,300	1.02	25	0.7
0.3 -> 0.4	700	0.38	16	0.8	0.3	1,961,300	1.02	25	0.7
0.4 -> 0.5	2,000	0.45	33	3.7	0.4	1,960,600	1.02	25	0.7
0.5 -> 0.6	188,300	0.58	20	0.6	**0.5**	**1,958,700**	**1.02**	**25**	**0.7**
0.6 -> 0.7	52,500	0.65	22	0.8	0.6	1,770,400	1.07	25	0.7
0.7 -> 0.8	237,300	0.76	23	0.8	0.7	1,717,900	1.08	25	0.7
0.8 -> 0.9	98,300	0.85	28	1.0	0.8	1,480,600	1.13	25	0.7
0.9 -> 1.0	394,200	0.96	35	0.8	0.9	1,382,400	1.15	25	0.6
1.0 -> 1.1	296,500	1.03	21	0.6	1.0	988,100	1.23	21	0.6
1.1 -> 1.2	175,800	1.16	27	0.6	1.1	691,600	1.31	21	0.6
1.2 -> 1.3	158,900	1.23	22	0.6	1.2	515,800	1.36	20	0.5
1.3 -> 1.4	224,300	1.36	19	0.5	1.3	356,900	1.42	19	0.5
1.4 -> 1.5	81,700	1.45	19	0.6	1.4	132,600	1.51	17	0.6
1.5 -> 1.6	28,000	1.55	17	0.6	1.5	50,900	1.6	16	0.6
1.6 -> 1.7	18,600	1.65	15	0.6	1.6	23,000	1.7	15	0.6
1.7 -> 1.8	3,100	1.72	14	0.7	1.7	4,400	1.7	14	0.6
1.8 -> 1.9	1,300	1.80	13	0.5	1.8	1,300	1.8	13	0.5
Total	**1,962,500**	**1.02**	**25**	**0.7**					



Appendix 4

Mina do Barroso Lithium Project

Pinheiro Deposit- Resource Validation Tables

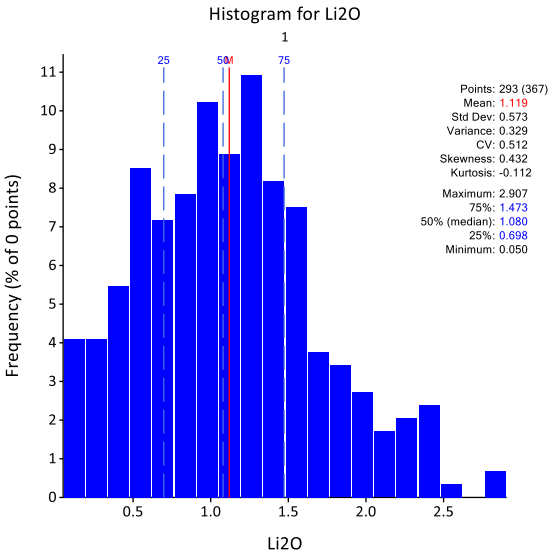
Pinheiro Block Model Validation by Domain - Min									
	Wireframe	Block Model			Composites			Comparison	
Domain	Lode Volume	Resource Volume	Li2O %	Fe %	Number of Comps	Li2O %	Fe %	OK V Comp Li2O	OK V Comp Fe%
1	412,704	398,844	1.05	0.94	293	1.12	0.92	-7.04%	2.57%
2	376,915	367,578	0.93	0.76	74	0.91	0.78	1.66%	-3.37%
Total	**789,619**	**766,422**	**0.99**	**0.85**	**367**	**1.02**	**0.85**	**-3.13%**	**0.04%**

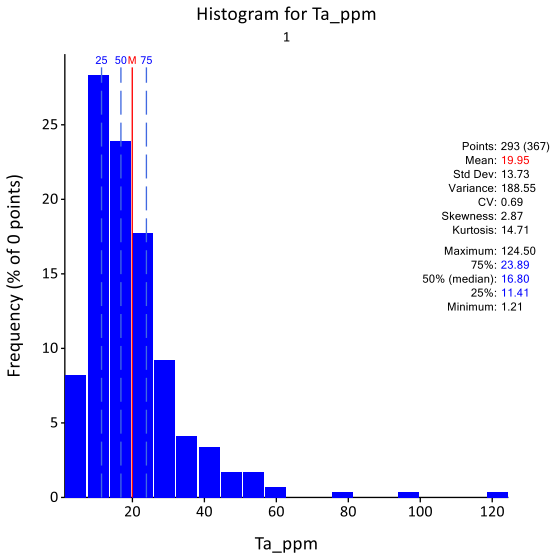
Appendix 5

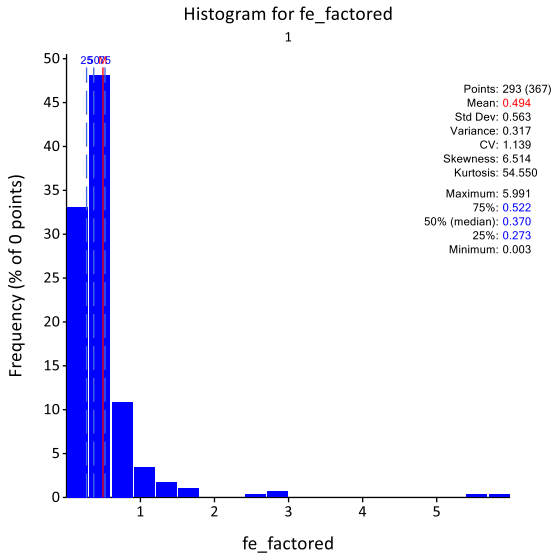
Mina do Barroso Lithium Project

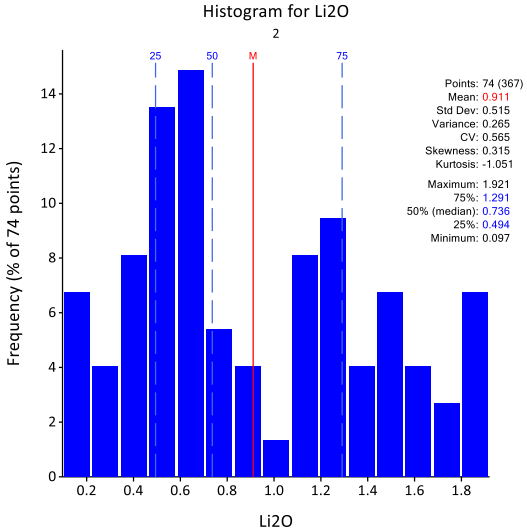
Multi-Element Histograms Pinheiro

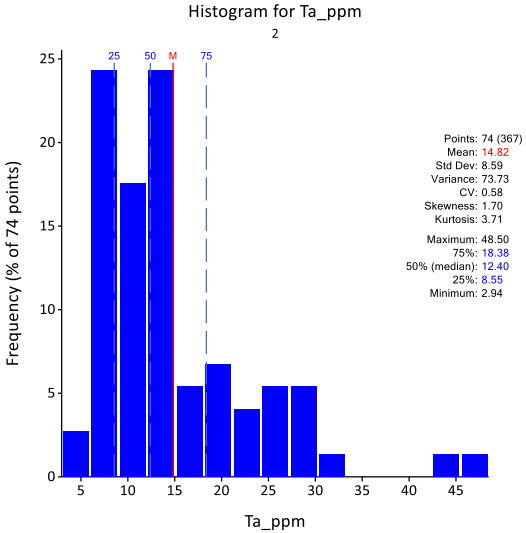
Pinheiro Deposit

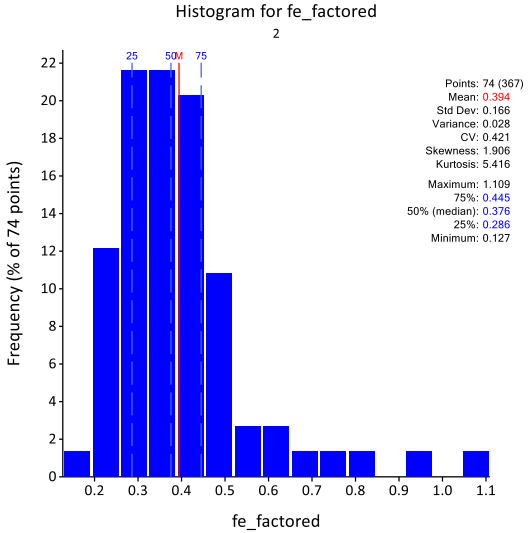












Appendix 6

Mina do Barroso Lithium Project

Pinheiro Deposit Estimation Macro Inputs

Pinheiro Pegmatites

#interp	object	element	field	min_sam	maj_dis	strike	plunge	dip	semi	minor	pass
# pass1											
interp	1	li2o_pct	1	10	50	0	0	0	1	1	1
interp	1	ta_ppm	2	10	50	0	0	0	1	1	1
interp	1	fe_pct	3	10	50	0	0	0	1	1	1
interp	1	fe_factore	4	10	50	0	0	0	1	1	1
interp	2	li2o_pct	1	10	50	0	0	0	1	1	1
interp	2	ta_ppm	2	10	50	0	0	0	1	1	1
interp	2	fe_pct	3	10	50	0	0	0	1	1	1
interp	2	fe_factore	4	10	50	0	0	0	1	1	1
# pass2											
interp	1	li2o_pct	1	4	100	0	0	0	1	1	2
interp	1	ta_ppm	2	4	100	0	0	0	1	1	2
interp	1	fe_pct	3	4	100	0	0	0	1	1	2
interp	1	fe_factore	4	4	100	0	0	0	1	1	2
interp	2	li2o_pct	1	4	100	0	0	0	1	1	2
interp	2	ta_ppm	2	4	100	0	0	0	1	1	2
interp	2	fe_pct	3	4	100	0	0	0	1	1	2
interp	2	fe_factore	4	4	100	0	0	0	1	1	2

Appendix 7

Pinheiro March 2019 Mineral Resource

Surpac String File Descriptions

DIRECTORIES

Pinheiro Deposit

-Wireframes	
201903_mineralisation.dtm	Mineralisation wireframes for Pinheiro
-Block model	
201902_Pinheiro.mdl	Pinheiro resource block model
-Data	
barroso_db_be.mdb	Access database for Mina do Barroso Project
-Nat Surf	
mb_topo_wgs84_20180424.dtm	natural surface
-Reports and Spreadsheets	
Pinheiro Lithium Deposit March 2019 Mineral Resource Estimate.pdf	Mineral Resource Report
Pinheiro Resource Tables_201903.xls	Pinheiro Resource Tables

The Pinheiro resource estimate was completed using Surpac Mining Software version 6.8.