ASX RELEASE | September 13, 2018 | **ASX:PLL; NASDAQ:PLLL**

UPDATED SCOPING STUDY IMPROVES PROJECT ECONOMICS

Piedmont Lithium Limited ("Piedmont" or "Company") is pleased to report the results of the Company's updated Scoping Study for its vertically-integrated Piedmont Lithium Project **("Project")** located within the Carolina Tin-Spodumene Belt in North Carolina, USA **("TSB")**. The Project includes a lithium hydroxide chemical plant **("Chemical Plant")** supplied with spodumene concentrate from an open pit mine and concentrator **("Mine/Concentrator")**.

The Project has compelling projected economics due to attractive capital and operating costs, significant by-product credits, short transportation distances, minimal royalties and low corporate income taxes.

This updated Scoping Study incorporates the production of by-product quartz, feldspar and mica. The addition of these by-product credits to the Project's economics are made possible by Piedmont's location within the industrial heartland of the mid-Atlantic United States. The benefits which by-product credits convey onto the Project will ensure Piedmont's highly competitive cost position within the growing lithium chemical industry.

Updated Scoping Study Parameters – Cautionary Statements

The updated Scoping Study referred to in this announcement has been undertaken to determine the potential viability of an open pit mine, spodumene concentrator and lithium hydroxide plant constructed in North Carolina, USA and to reach a decision to proceed with more definitive studies. The Scoping Study has been prepared to an accuracy level of ±35%. The results should not be considered a profit forecast or production forecast.

The updated Scoping Study is a preliminary technical and economic study of the potential viability of the vertically-integrated Piedmont Lithium Project. In accordance with the ASX Listing Rules, the Company advises it is based on low-level technical and economic assessments that are not sufficient to support the estimation of Ore Reserves. Further evaluation work including infill drilling and appropriate studies are required before Piedmont will be able to estimate any Ore Reserves or to provide any assurance of an economic development case.

Approximately 55% of the total production targets are in the Indicated Mineral Resource category with 45% in the Inferred Mineral Resource category. 100% of the production targets in years 1-2 and 70% of the production targets in years 3-6 are in the Indicated Mineral Resource category. The Company has concluded that it has reasonable grounds for disclosing a production target which includes an amount of Inferred material. However, there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work (including infill drilling) on the Piedmont deposit will result in the determination of additional Indicated Mineral Resources or that the production target itself will be realised.

The updated Scoping Study is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Piedmont considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the range outcomes indicated in the updated Scoping Study, additional funding will likely be required. Investors should note that there is no certainty that Piedmont will be able to raise funding when needed. It is also possible that such funding may only be available on terms that dilute or otherwise affect the value of the Piedmont's existing shares. It is also possible that Piedmont could pursue other 'value realisation' strategies such as sale, partial sale, or joint venture of the Project. If it does, this could materially reduce Piedmont's proportionate ownership of the Project.

The Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a reasonable basis to expect it will be able to fund the development of the Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

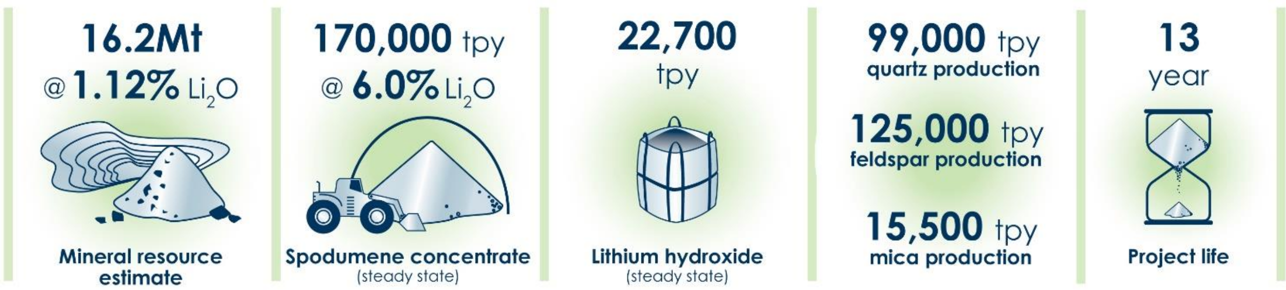
EXECUTIVE SUMMARY

Piedmont is pleased to report the results of the updated Scoping Study for its vertically integrated lithium hydroxide chemical project located in the Carolina Tin-Spodumene Belt in North Carolina, USA. The updated Scoping Study includes a 22,700 tonne per year Chemical Plant supported by a Mine/Concentrator producing 170,000 tonnes per year ("tpy") of 6% Li_2O spodumene concentrate. By-products quartz (99,000 tpy), feldspar (125,000 tpy), and mica (15,500 tpy) will provide credits to the cost of lithium production.

- **Integrated project to produce 22,700 tonnes per year of lithium hydroxide**
- **Initial 13-year mine life with 2 years of spodumene concentrate sales and 11 years of integrated operations**
- **Staged development to minimise up-front capital requirements and equity dilution**
    - **Stage 1 initial capex of US$109mm for the Mine/Concentrator and by-product circuits (excluding contingency)**
    - **Stage 2 capex for Chemical Plant funded largely by internal cash flow**
- **Estimated 1st quartile spodumene concentrate costs of US$193/t and lithium hydroxide costs of US$3,112/t, both net of by-product credits and inclusive of royalties**
- **Conventional technology selection in all project aspects**
- **Steady-state annual EBITDA of US$225-245mm and after-tax cash flow of US$180-190mm**
- **Estimated $NPV_{8\%}$ of US$888mm and after-tax IRR of 46% with ~2-year payback**
- **Potential mine and project life extension provide the opportunity for further economic upside**

The updated Scoping Study contemplates a staged development approach to minimise start-up risk and up-front capital requirements, with revenue from open-market spodumene concentrate and by-product sales in the Project's initial years helping defray capital requirements for the Chemical Plant.

The Scoping Study demonstrates the compelling economics of the prospective integrated Project, highlighted by low operating costs, high after-tax margins and strong free cash flow.



First-Quartile Operating Costs

The integrated Piedmont project is projected to have an average life of project cash operating cost of approximately US$3,112 per tonne including royalties and net of by-product credits, positioning Piedmont as one of the industry's lowest-cost producer as reflected in the 2023 lithium hydroxide cost curve in Figure 1.

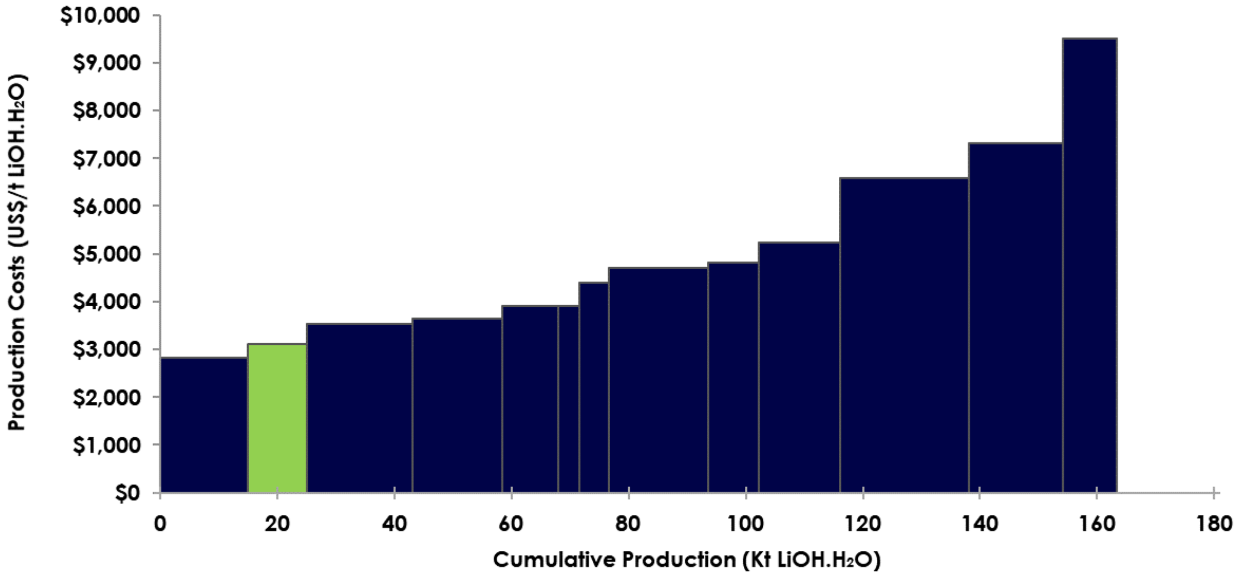


Figure 1 – Lithium hydroxide 2023 cost curve (Source – Roskill)

Low operating costs and the application of by-product credits to Piedmont's expected spodumene concentrate cash costs places Piedmont as one of the lowest cost producers of spodumene concentrate as reflected in the 2023 spodumene concentrate cost curve in Figure 2.

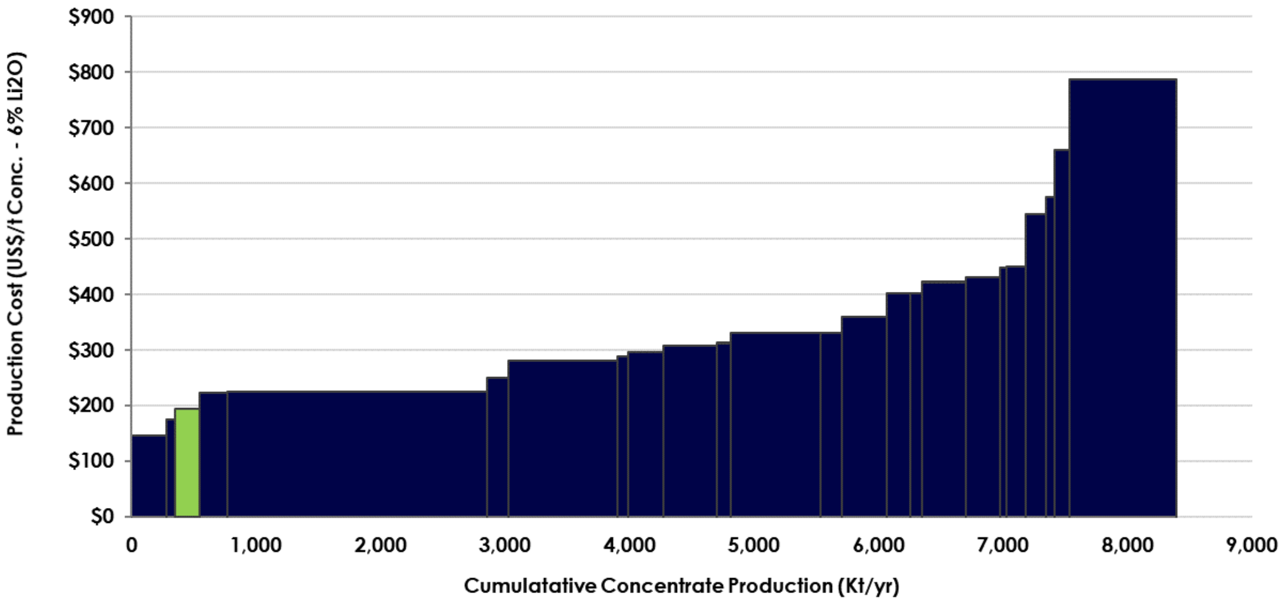


Figure 2 – Spodumene concentrate 2023 cost curve (Source – Roskill)

Attractive After-Tax Margins and Free Cash Flow

Low operating costs, low royalties, and low corporate tax rates potentially allow Piedmont to achieve **after-tax margins approaching US$9,500 per tonne**, or approximately **68%.** The Project generates an estimated **US$9,270 per tonne of free cash flow** during life-of-mine operations after construction of the Chemical Plant.

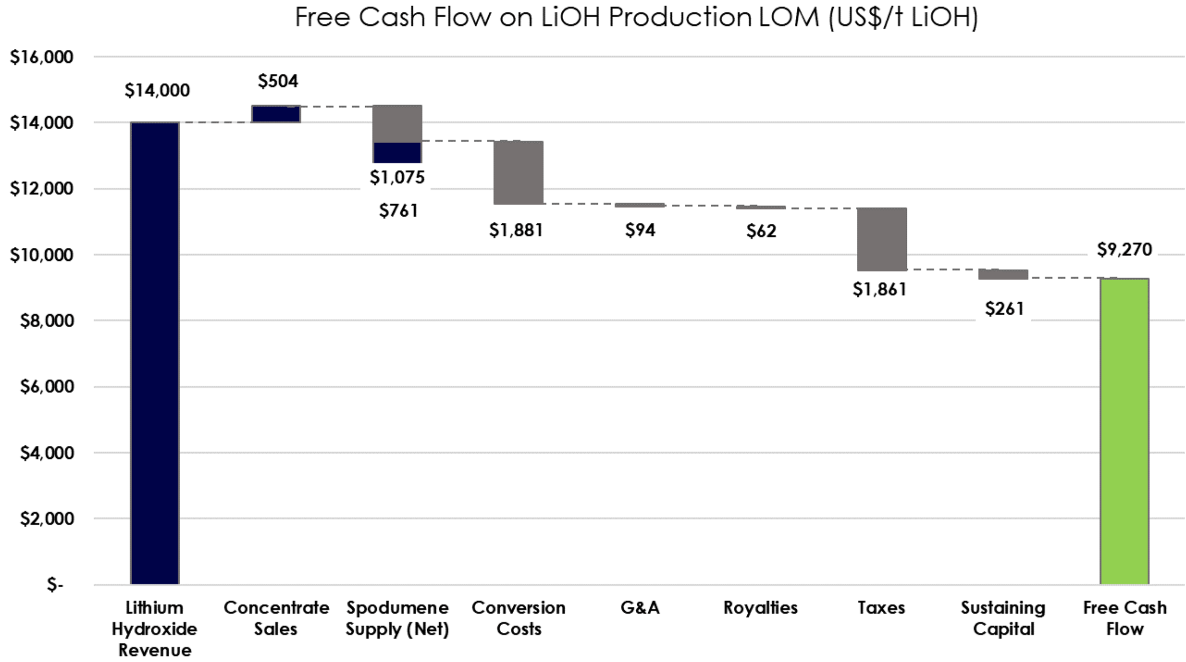


Figure 3 – After tax free cash flow on lithium hydroxide sales during life-of-mine operations

Similarly, when evaluated on a stand-alone basis, the spodumene concentrate business delivers exceptional margins through low operating costs, by-product credits, favourable tax treatment, and low royalties (Figure 4).

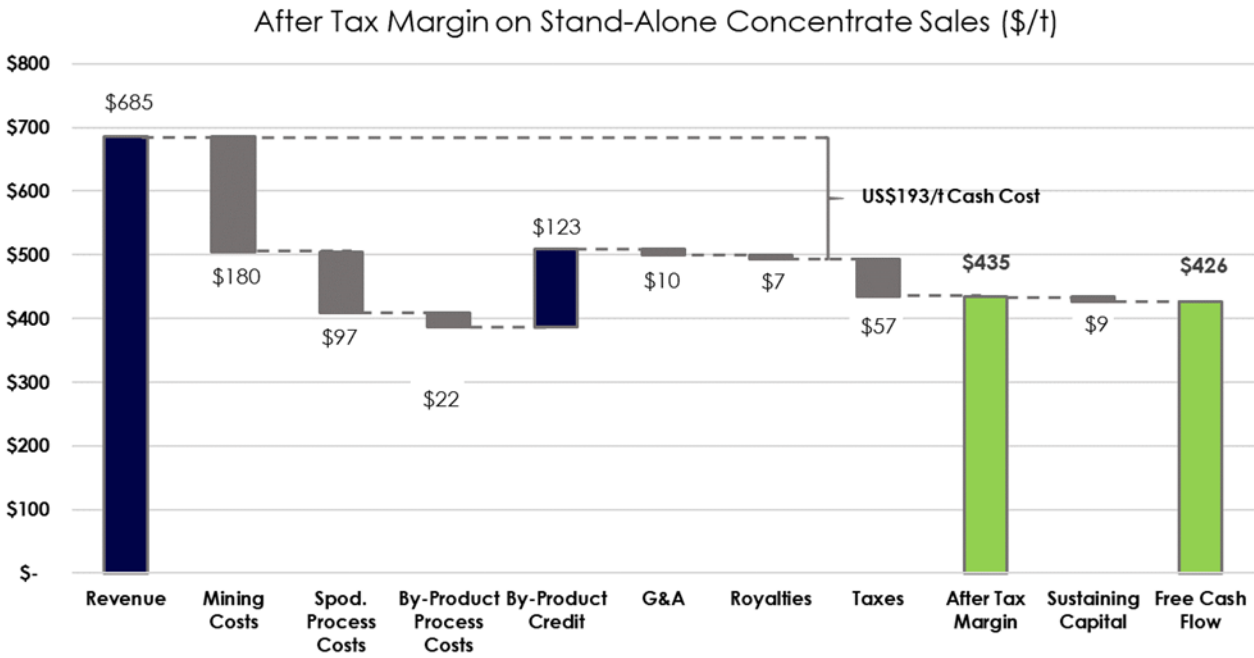


Figure 4 – After tax free cash flow on spodumene concentrate sales as a stand-alone business

Staged Development Approach Minimises Equity Dilution

The Scoping Study contemplates a staged development approach to minimise start-up risk and up-front capital requirements, with revenue from open-market sales of spodumene and by-product concentrates in the Project's initial years helping defray capital requirements for the Chemical Plant. After-tax free cash flow of approximately US$163 million is expected to be generated prior to completion of construction of the Chemical Plant, and an additional US$158 million of operating cash flow from concentrate and by-product sales is expected to be generated during the Chemical Plant's ramp-up.

The establishment of positive cash flow from spodumene and by-product concentrate sales will position Piedmont to attract financing on terms not available to greenfield developments, including access to the US corporate bond market. This is expected to lead to lower costs of capital when financing the Chemical Plant, and to allow Piedmont to minimise equity dilution to the Company's shareholders.

Conclusions and Next Steps

The Scoping Study demonstrates the integrated Project's strong commercial potential, centred on very low operating and capital costs, and the staged development puts Piedmont in a strong position to engage in discussions around future financing of the Project, including with prospective strategic and off-take partners.

Piedmont will now move forward with a Pre-Feasibility Study ("**PFS**") targeted for completion in 2019. The Company will undertake the following work in developing the PFS:

- Additional drilling on the Core property to potentially extend mine and project life by converting the previously announced current Exploration Target into a Mineral Resource;
- Metallurgical studies including the evaluation of the potential for a Dense Medium Separation ("**DMS**") before the flotation circuit to further enhance operating costs in the Concentrator;
- Continued expansion of the Company's land position in the TSB with a focus on areas of high mineral prospectivity;
- Continued permitting activities related to the Company's Core property; and
- Ongoing discussions with potential strategic partners.

Keith D. Phillips, President and Chief Executive Officer, said, *"We are very pleased with the results of the updated Scoping Study, which incorporate the substantial economic benefits of recovering and selling the by-products quartz, feldspar and mica that is inherent in our ore body. The economic benefit of developing an integrated lithium chemical business in North Carolina, USA is clear, driven by the exceptional infrastructure and human resource advantages of our location, as well as the competitive royalty and tax regime offered in the United States. We will now focus on continued growth in our land position and resource base, advancing toward permit submittals in late-2018, and refining project economics as part of a pre-feasibility study targeted for Q2 2019".*

For further information, contact:

Keith D. Phillips
President & CEO
T: +1 973 809 0505
E: kphillips@piedmontlithium.com

Anastasios (Taso) Arima
Executive Director
T: +1 347 899 1522
E: tarima@piedmontlithium.com

SCOPING STUDY RESULTS

The Scoping Study is based on the maiden Mineral Resource Estimate for the Piedmont Lithium Project reported in June 2018, comprising 16.2Mt grading at 1.12% Li_2O and the By-Product Mineral Resource Estimates comprising 4.9Mt of quartz, 6.8Mt of feldspar and 1.6Mt of mica reported in September 2018.

The Scoping Study assumes a lithium hydroxide chemical plant production life of 11 years commencing in year 3 of mining operations. The ramp up period for Chemical Plant operations is estimated to achieve nameplate capacity after a 3 year ramp up period. The mining production target is approximately 13.3Mt at an average run of mine grade of 1.12% Li_2O (undiluted) over a 13-year mine life. Table 1 provides a summary of production and cost figures for the integrated project.

Table 1: Piedmont Lithium Project – Life of Mine ("LOM") Integrated Project	*Unit*	*Estimated Value*
PHYSICAL – MINE/CONCENTRATOR		
Mine life	years	13
Steady-state annual spodumene concentrate production	tpy	170,000
LOM spodumene concentrate production	t	1,950,000
LOM quartz by-product production	t	1,188,000
LOM feldspar by-product production	t	1,500,000
LOM mica by-product production	t	185,000
LOM feed grade (excluding dilution)	%	1.12
LOM average concentrate grade	%	6.0
LOM average process recovery	%	85
LOM average strip ratio	waste:ore	8.2:1
PHYSICAL – LITHIUM CHEMICAL PLANT		
Steady-state annual lithium hydroxide production	tpy	22,700
LOM lithium hydroxide production	t	206,000
LOM concentrate supplied from mining operations	t	1,300,000
Chemical Plant life	years	11
Commencement of lithium hydroxide chemical production	year	3
OPERATING AND CAPITAL COSTS – INTEGRATED PROJECT		
Average LiOH production cash costs using self-supplied concentrate	US$/t	$3,112
Mine/Concentrator – Direct development capital	US$mm	$61.0
Mine/Concentrator – By-Product direct development capital	US$mm	$17.7
Mine/Concentrator – Owner's costs	US$mm	$11.0
Mine/Concentrator – Land acquisition costs	US$mm	$18.9
Mine/Concentrator – Contingency	US$mm	$21.7
Mine/Concentrator – Sustaining and deferred capital	US$mm	$19.6
Chemical Plant - Direct development capital	US$mm	$252.6
Chemical Plant – Owner's costs	US$mm	$12.1
Chemical Plant - Contingency[1]	US$mm	$79.4
Chemical Plant – Sustaining and deferred capital	US$mm	$37.9
FINANCIAL PERFORMANCE – INTEGRATED PROJECT – LIFE OF PROJECT		
Annual steady state EBITDA	**US$mmpy**	**$225-$245**
Annual steady state after-tax cash flow	**US$mmpy**	**$180-$190**
Net operating cash flow after tax	**US$mm**	**$2,220**
Free cash flow after capital costs	**US$mm**	**$1,700**
After tax Internal Rate of Return (IRR)	**%**	**46**
After tax Net Present Value (NPV) @ 8% discount rate	**US$mm**	**$888**

Note 1: Contingency was applied to all direct and indirect costs at a rate of 20% (Mine/Concentrator) and 30% (Chemical Plant).

Project Overview

Piedmont Lithium Limited (ASX: PLL; Nasdaq: PLLL) holds a 100% interest in the Piedmont Lithium Project located within the TSB and along trend to the Hallman Beam and Kings Mountain mines, which historically provided most of the western world's lithium between the 1950s and the 1980s. The TSB has been described as one of the largest lithium regions in the world and is located approximately 25 miles west of Charlotte, North Carolina.

The Project was originally explored by Lithium Corporation of America which was eventually acquired by FMC Corporation. A Canadian exploration company, North Arrow Minerals, completed a 19-drill hole, 2,544 metre exploration drill program on the property in 2009-2010.

The Company has completed three drill campaigns on the project totalling 231 drill holes and 35,540 metres of drilling.

Piedmont, through its 100% owned U.S. subsidiary, Piedmont Lithium Inc., has entered into exclusive option agreements and land acquisition agreements with local landowners, which upon exercise, allow the Company to purchase (or in some cases long-term lease) approximately 1,200 acres of surface property and the associated mineral rights. The Company also controls a 60-acre parcel in Kings Mountain, North Carolina for the site of the Company's planned Chemical Plant.

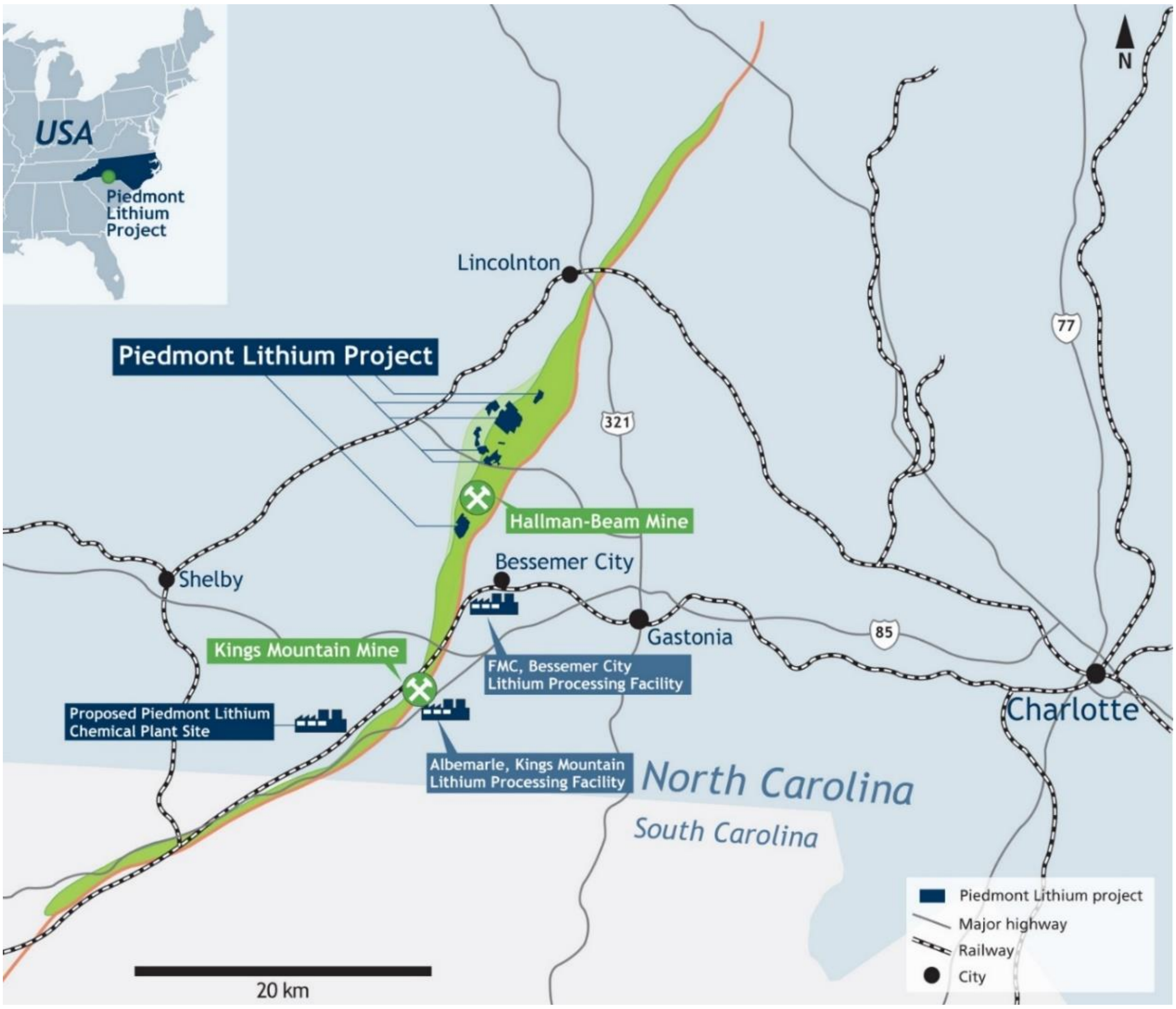


Figure 5 - Piedmont Lithium Project located within the TSB

Scoping Study Consultants

The Scoping Study uses information and assumptions provided by a range of independent consultants, including the following consultants who have contributed to key components of the Scoping Study.

Table 2: Piedmont Lithium Project Scoping Study Consultants	
Consultant	**Scope of Work**
CSA Global Pty Ltd	Resource estimation
North Carolina State University's Minerals Research Laboratory	Metallurgical testwork
Hazen Research, Inc.	Metallurgical assays
CSA Global Pty Ltd	Mine design and scheduling
Primero Group Limited	Process engineering and infrastructure
HDR Engineering, Inc. of the Carolinas	Permitting, environment, and social studies
Johnston, Allison, and Hord	Land title and legal
Global Lithium, LLC	Lithium Products Marketability
CSA Global Pty Ltd	By-Products Marketability

Geology and Mineral Resource Estimate

Regionally, the TSB extends for 40 kilometres along the litho-tectonic boundary between the Inner Piedmont and Kings Mountain belts. The mineralised pegmatites are thought to be concurrent and cross-cutting dike swarms extending from the Cherryville granite (Figure 6). As the dikes progressed further from their sources, they became increasingly enriched in incompatible elements such as lithium (Li) and tin (Sn). The dikes are considered to be unzoned.

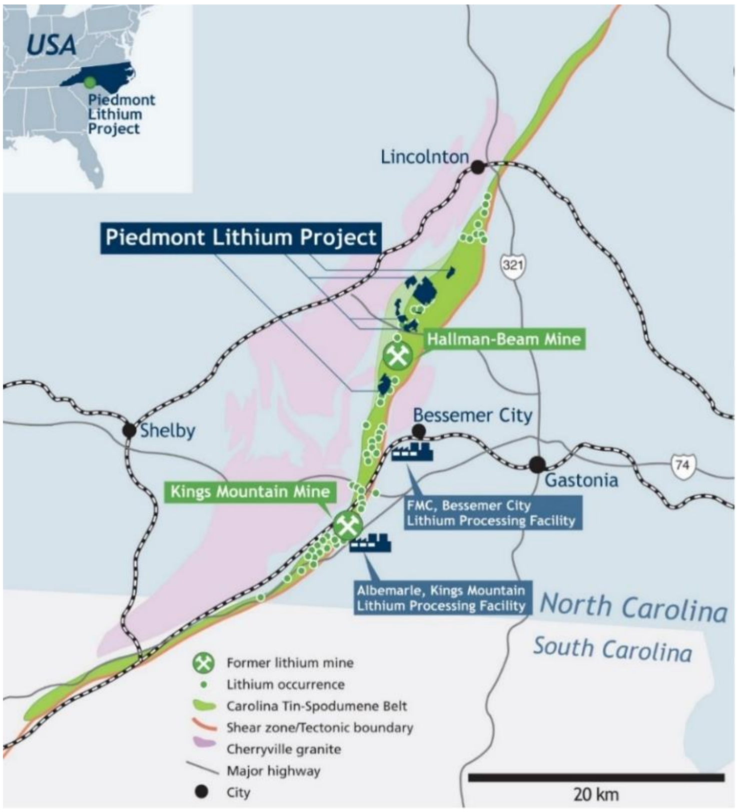


Figure 6 - Regional Location Map

On June 14, 2018 the Company announced a maiden Mineral Resource Estimate prepared by independent consultants CSA Global Pty Ltd (**"CSA Global"**) in accordance with JORC Code (2012 Edition).

Table 3: Mineral Resource Estimate for the Piedmont Lithium Project (0.4% cut-off)				
Category	**Resource (Mt)**	**Grade (Li_2O%)**	**Li_2O (t)**	**LCE (t)**
Indicated	8.50	1.15	98,000	242,000
Inferred	7.70	1.09	84,000	208,000
Total	**16.19**	**1.12**	**182,000**	**450,000**

Furthermore, on September 6, 2018 the Company announced Mineral Resource Estimates for by-products quartz, feldspar and mica. By-Product Mineral Resource estimates were based on normative mineralogy compositions for 2,289 samples in 231 drill holes previously analysed for lithium. The results are shown in Table 4. The Mineral Resource estimates have been prepared by independent consultants, CSA Global and are reported in accordance with the JORC Code (2012 Edition).

The economic extraction of by-product minerals is contingent on the economic extraction of lithium mineral resources at the project. Accordingly, the By-Product Mineral Resource Estimate is reported at a 0.4% Li_2O cut-off grade, in line with lithium cut off grades utilized at comparable deposits.

Table 4: Mineral Resource Estimate – Piedmont Lithium Project									
Category	**Tonnes (Mt)**	**Li_2O**		**Quartz**		**Feldspar**		**Mica**	
		Grade (%)	**Tonnes (t)**	**Grade (%)**	**Tonnes (Mt)**	**Grade (%)**	**Tonnes (Mt)**	**Grade (%)**	**Tonnes (Mt)**
Indicated	8.50	1.15	98,000	30.3	2.57	43.5	3.69	4.4	0.38
Inferred	7.69	1.09	84,000	30.0	2.31	44.4	3.41	4.5	0.34
Total	**16.19**	**1.12**	**182,000**	**30.1**	**4.88**	**43.9**	**7.11**	**4.5**	**0.72**

Within the Project, spodumene pegmatites are hosted in a fine to medium grained, weakly to moderately foliated, biotite, hornblende, quartz feldspar gneiss or commonly referred to as amphibolite. The spodumene pegmatites range from fine grained (aplite) to very coarse-grained pegmatite with primary mineralogy consisting of spodumene, quartz, plagioclase, potassium-feldspar and muscovite. The primary mineralogy and compositional averages for the modelled resource pegmatites are summarized in Table 5.

Table 5: Mineralogy and Compositional Averages for the Modelled Resource Pegmatites	
Secondary Mineral	Compositional Average (%)
Spodumene	14.4
Quartz	30.1
Albite	34.9
K-spar	9.0
Muscovite	4.5
Biotite	1.8
Other	5.4

Three main zones of mineralisation have been extensively drilled leading to Indicated and Inferred Mineral Resource classifications. The largest is in the western portion of the property, known as the B-

G Corridor (Figure 7), where close spaced drilling has identified mineralisation for 1,400 metres along strike and to a depth of 150 to 200 metres below surface. This corridor accounts for 54% of the total resource reported.

The F Corridor is the second largest area of mineralisation (Figure 7) and accounts for 30% of the total resource reported. This corridor is located along the eastern portion of the property and also consists of multiple pegmatite dikes, these dikes have been drilled for 750 metres along strike and 150 to 200 metres below surface.

The third area, known as the S Corridor (Figure 7), is divided into two zones of mineralisation and accounts for the remaining 16% of the total resource reported.

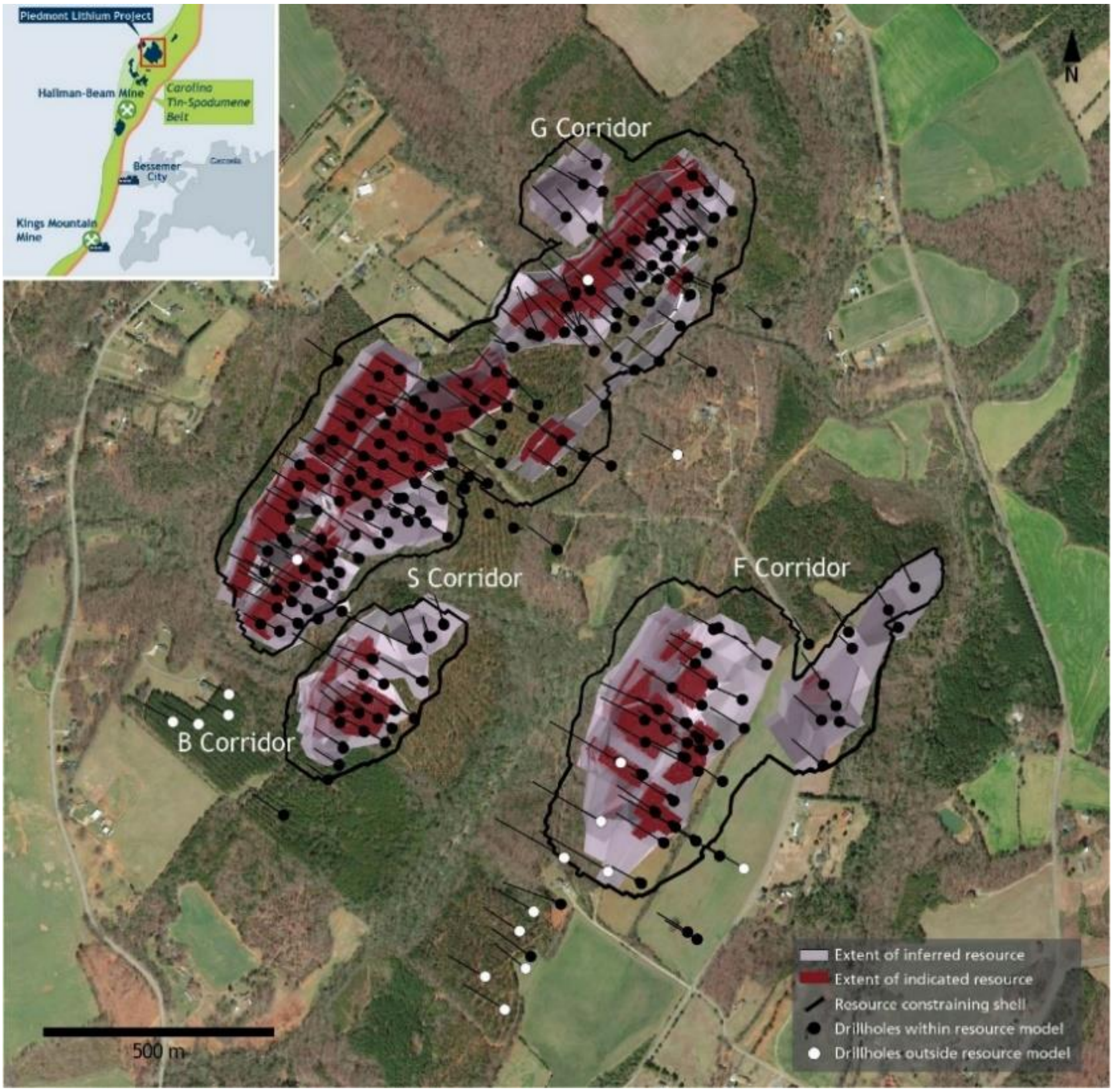


Figure 7 - Plan View of Core Property Showing Drill Hole Locations, Resource, and Resource Shell

Mining and Production Target

Independent consultants CSA Global utilised Whittle™ software to generate a series of economic pit shells using the Mineral Resource block model and input parameters as agreed by Piedmont. Overall slope angles were estimated in conjunction with the Company using batter and berm configurations from a nearby former hard rock lithium mine site.

Overall slope angles of 45 degrees were estimated for overburden and oxide material. Overall slope angles of 52 degrees were estimated for fresh material which includes a ramp width of 24.8 metres.

Production schedules were prepared for the Project based on the following parameters:

- A targeted process plant output of 160-190kt per year of 6.0% Li_2O spodumene concentrate
- By-product output of 99kt of quartz, 125kt of feldspar, and 15kt of mica concentrate annually
- Plant throughput of 1.20Mt per year
- Six-month plant commissioning and ramp up in the first operating year
- Mining dilution of 10%
- Mine recovery of 95%
- Processing recovery of 85%
- A mining sequence targeting maximised utilisation of Indicated Mineral Resources at the front end of the schedule

Pit optimisations were completed by CSA Global to produce a production schedule on an annual basis, resulting in a total production target of approximately 1.95Mt of concentrate, averaging approximately 160,000 tonnes of concentrate per year over the 13-year mine life. This equates to an average of 1,110,000 tonnes of ore processed per year, totalling approximately 13.3Mt of run-of-mine ("ROM") ore at an average ROM grade of 1.12% Li_2O (undiluted) over the 13-year mine life. Table 6 shows the production schedule.

Table 6: Annual Mine Production Schedule

Year	ROM Tonnes Processed (kt)	Waste Tonnes Mined (kt)	Stripping Ratio (W:O t:t)	ROM Li_2O Diluted Grade (%)	Tonnes of Concentrate (kt)
1	600	5,300	5.8	1.13	96.2
2	1,200	6,500	4.3	1.19	202.5
3	1,200	16,700	13.7	0.94	161.1
4	1,200	8,200	8.3	0.97	165.2
5	1,200	7,800	6.0	1.06	180.9
6	1,200	9,100	7.8	1.05	178.0
7	1,200	9,500	11.9	0.92	156.7
8	1,200	8,400	4.5	1.11	189.3
9	1,200	15,200	19.8	0.99	168.0
10	1,200	14,800	12.1	1.00	170.7
11	1,200	8,300	5.6	1.05	178.8
12	710	200	2.4	1.08	108.2
Total	**13,310**	**110,000**	**8.2**	**1.04**	**1,953.8**

Multiple sequence scenarios were evaluated, including scenarios which provided for low strip, high yield ratios early in the mining schedule followed by even strip ratios to level equipment requirements. Further mine sequencing optimisation will be undertaken during the PFS.

The Scoping Study assumes a lithium Chemical Plant production life of 11 years, commencing in year 3 of mining operations. Of the total production target of 1.95 million tonnes of concentrate, approximately 0.64 million tonnes of concentrate will be sold to third parties during years 1 to 5 of mining operations and approximately 1.32 million tonnes will be supplied to Piedmont's Chemical Plant for conversion into lithium hydroxide during years 3 to 13 of mining operations, resulting in a total production target of approximately 206,000 tonnes of lithium hydroxide, averaging approximately 18,800 tonnes of lithium hydroxide per year over the 11-year production life.

Conservatively, the Scoping Study assumes only a portion of the by-product potential will be realised as saleable product annually. Forecasted production of by-products is based on market potential rather than the ability to maximise production of these minerals. The Company has assumed that approximately one-third of the by-product potential will be converted to product with production and sales of approximately 1.19 million tonnes of quartz concentrate, 1.50 million tonnes of feldspar concentrate, and 0.19 million tonnes of mica concentrate over the life of mine. By-product sales are based on displacement of import supply as outlined in the Marketing section of this Scoping Study.

There is significant opportunity to increase the mine life beyond 13 years by discovery of additional resources within the TSB within a reasonable trucking distance to the proposed concentrator.

The Scoping Study contemplates a contract mining strategy with management and processing retained by Piedmont personnel. A contract-mined versus owner-operated mining operation will be evaluated in the PFS.

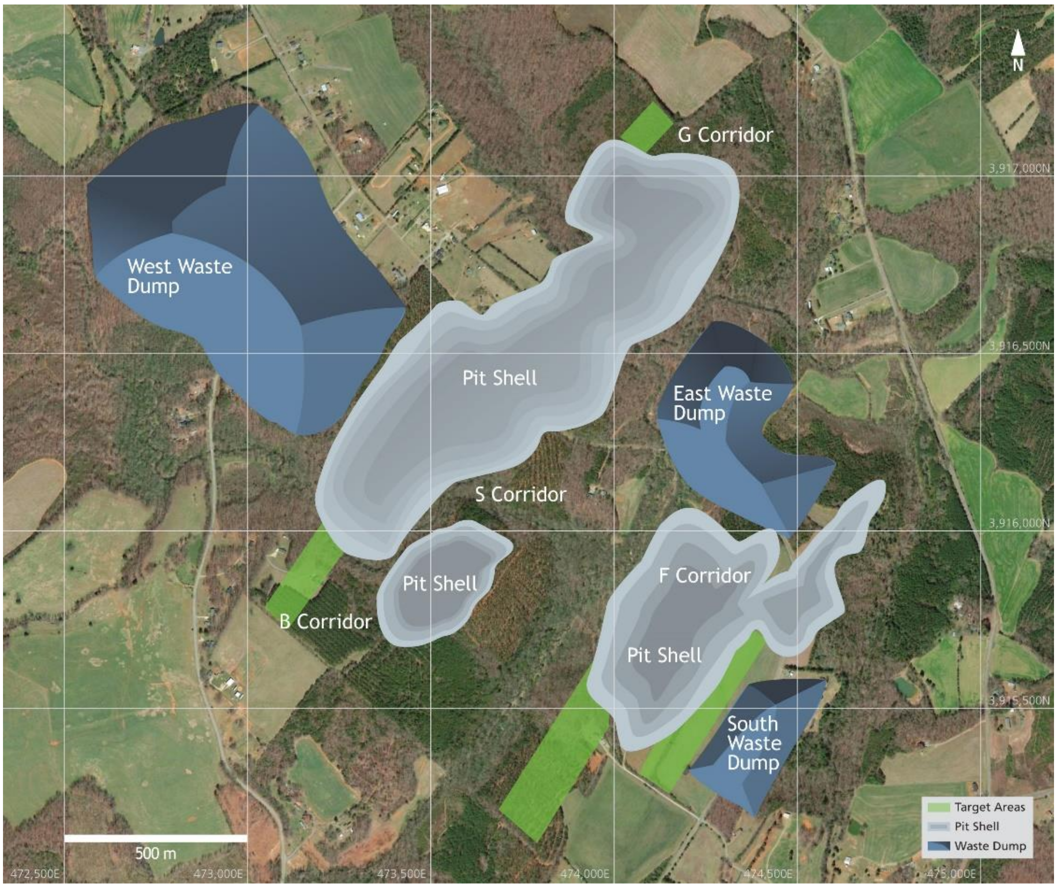


Figure 8 - Mine Site Plan Showing Exploration Target

The mine design is based on an open pit concept assuming the following wall design configuration for oxide and overburden material in this Scoping Study:

- Batter face angle of 60 degrees
- Batter height of 10 vertical metres
- Berm width of 6 metres
- Overall slope angle of 45 degrees

The following wall design configuration was used for fresh material in this Scoping Study:

- Batter face angle of 80 degrees
- Batter height of 12.2 vertical metres (40 ft.)
- Berm width of 6.1 metres (20 ft.)
- Overall slope angle of 52 degrees, which includes a ramp width of 24.8 metres (80 ft.)

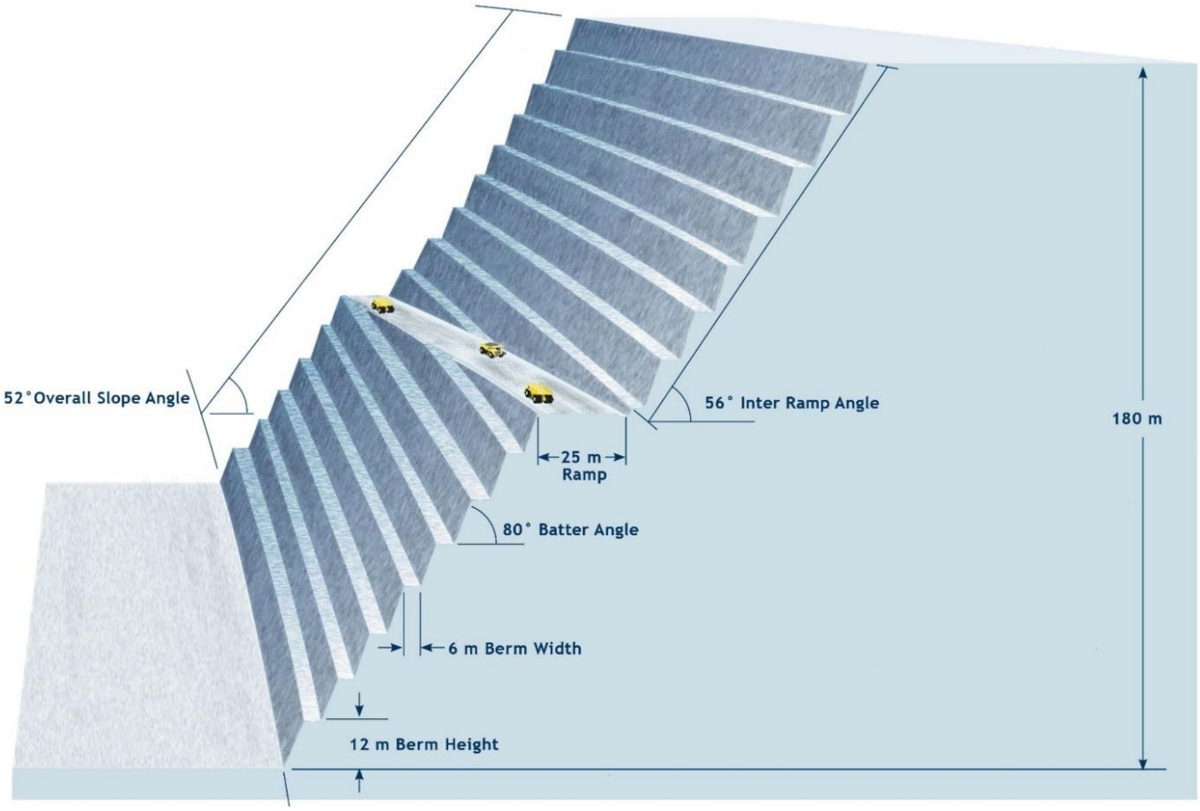


Figure 9 – Representation of the Piedmont pit wall design based on wall design configuration assumptions

Waste Management

Waste rock dumps have been designed to contain approximately 50% of all pit waste and have an overall slope angle of 20 degrees. The remaining waste rock is assumed to be placed in pit backfill once final pit voids have been defined. Filter cake from the concentrator will be conveyed to the waste rock dumps via belt conveyor and co-disposed with waste rock.

Metallurgy

Piedmont engaged North Carolina State University's Minerals Research Laboratory (**"MRL"**) to conduct a comprehensive bench-scale testwork and optimisation program on samples obtained from the Company's Core land area. The objective of the testwork program was to develop optimised conditions for spodumene flotation and magnetic separation for both grade and recovery which would then be applied to future testwork.

MRL modelled the testwork flowsheet based on historical research which MRL had previously performed on TSB pegmatites. Over 70 flotation and magnetic separation tests were performed to optimize the process to produce spodumene concentrate with >6.0% Li_2O and <1.0% Fe_2O_3. These tests used four metallurgical composite samples from different corridors of the Piedmont Core Property. The samples were labelled as B, F, F2, and G with Li_2O grades of 1.62%, 1.22%, 1.38%, and 1.32%, respectively

The range of concentrate results achieved under bench-scale optimised conditions are reported in Table 7 below.

Table 7: Final Spodumene Concentrate Obtained from Flotation Followed by Magnetic Separation of Four Piedmont Ore Samples

Stream	Mass Pull (%)	Li_2O Performance		Fe_2O_3 (%)
		Grade (%)	Distribution (%)	
Spodumene Final Concentrate	14.0-19.0	6.0-6.5	71.3-82.4	0.66-0.76

Tailings performance results achieved under optimised conditions are reported in Table 8.

Table 8: Tailings Bench Scale Test Performance Ranges

Stream	Mass Pull (%)	Li_2O Performance			Fe_2O_3 (%)
		Grade (%)	Distribution (%)	Cumulative Distribution (%)	
Final Magnetic Tailings	1.0-1.8	3.36-4.69	3.0-4.8	3.0-4.8	8.62-13.70
Scavenger Tailings	52.7-59.4	0.02-0.03	0.9-1.2	4.0-5.8	0.08-0.11
-20 micron Tailings	7.4-10.7	1.05-1.55	7.5-9.0	12.2-14.2	

Preliminary Heavy Liquid Separation (HLS) testwork was completed as part of MRL's initial testwork program. Table 9 shows the potential for final concentrate products from a DMS circuit based on various feed top sizes. These results have not been incorporated into this Scoping Study. The DMS trade-off studies will be undertaken as part of future phases of study.

Table 9: HLS Results - 2.95 Sink Products at Varying Feed Top Sizes

Top Size (mm)	Bottom Size (mm)	Weight (%)	Li_2O (%)	Fe_2O_3 (%)	Recovery (%)
12.7	0.5	6.9	5.04	2.78	30.11
9.5	0.5	7.4	5.37	2.53	34.13
6.35	0.5	9.3	5.75	1.99	45.89
3.35	0.5	12.7	6.09	1.73	62.80

By-Product Metallurgy

Quartz (also known as silica) is produced commercially from a wide variety of deposits including pegmatite. Silica sand and quartz are economical sources of silica (SiO_2) used in glass and ceramics manufacture. Key deleterious elements include iron (Fe) and titanium (Ti).

Feldspar is produced commercially from rocks of granitic composition such as pegmatites in addition to feldspar quartz sands. Feldspar may be used as a source of aluminium (Al), sodium (Na), potassium (K) and silicon (Si) in the manufacture of glass and in ceramics. Feldspar finds application as a functional filler in products such as paint and plastics where its hardness, low quartz content, chemical inertness and low oil absorption are beneficial physical properties.

Mica occurs as several minerals (e.g. biotite, phlogopite or muscovite) depending on geological association and chemistry. Muscovite is most commonly sourced from pegmatites and granitic rocks and finds application as an insulator, in fillers, in plastics, paint and drilling mud. Specifications for mica include particle size distribution, colour, mechanical strength and bulk density.

Likely product specifications for the Piedmont deposit are supported by the results of the bench-scale metallurgical test work program undertaken by Piedmont Lithium in 2018 at MRL.

Figure 10 - Examples of quartz, feldspar and mica concentrates from the Piedmont Project

Quartz Results

Quartz data in three (3) samples showed results which may be favourable for the glass or optical glass markets (Table 10).

Table 10: Bench Scale Quartz Concentrate Results			
Parameter	**Sample B**	**Sample F**	**Sample G**
% SiO_2	99.8	99.7	99.7
% Al_2O_3	0.10	0.10	0.14
% K_2O	0.026	0.022	0.029
% Na_2O	0.05	0.06	0.06
% CaO	<0.01	<0.01	<0.01
% Fe_2O_3	0.01	0.01	<0.01
% Li_2O	0.013	0.011	0.013
% MgO	0.05	0.05	0.03
% MnO	<0.008	<0.008	<0.008
% P_2O_5	0.007	0.005	0.007
% TiO_2	<0.0010	<0.0010	<0.0010

Typical market specifications for quartz of various grades are shown in the tables below for comparative purposes.

Table 11: Specialty Silica Sand and Quartz Specifications by Market[1]			
Specification	**SiO_2 Min. %**	**Other Elements Max %**	**Other Elements Max ppm**
Clear glass-grade sand	99.5	0.5	5,000
Semiconductor filler, LCD and optical glass	99.8	0.2	2,000
"Low Grade" HPQ	99.95	0.05	500

[1]Source – Modified from Richard Flook and the December 2013 Issue of Industrial Minerals Magazine (p25)

Table 12: Specifications for Silica as Raw Material for Glass and Ceramics by Market[2]			
Market	**SiO_2 (%)**	**Al_2O_3 (%)**	**Fe_2O_3 (%)**
Flat glass	>99.5	<0.3	<0.04
Container flint glass	>98.5	<0.5	<0.035
Insulation fibreglass	>95.5	<2.2	<0.3
Porcelain	>97.5	<0.55	<0.2
Enamels	>97.5	<0.55	<0.02

[2] Source - Sinton (2006) Raw materials for glass and ceramics - sources, processes and quality control. Wiley, ISBN-13 978-0-471-47942-0

Feldspar Results

Feldspar data in three (3) samples are reported in Table 13.

Table 13: Bench Scale Feldspar Concentrate Results			
Parameter	Sample B	Sample F	Sample G
% SiO_2	68.9	68.8	68.8
% Al_2O_3	18.5	18.6	18.6
% K_2O	3.99	3.81	3.84
% Na_2O	8.35	8.45	8.49
Total Na_2O+K_2O	12.34	12.26	12.33
% CaO	0.07	0.12	0.08
% Fe_2O_3	0.02	0.01	0.02
% Li_2O	0.026	0.019	0.047
% MgO	<0.01	<0.01	<0.01
% MnO	<0.008	<0.008	<0.008
% P_2O_5	0.151	0.154	0.150
% TiO_2	<0.0010	<0.0010	<0.0010

Table 14 shows representative feldspar market specifications for reference.

Table 14: Examples of Feldspar Product Chemical Specifications[3]							
Product	Source	Al_2O_3	Fe_2O_3	CaO	K_2O	Na_2O	K_2O+Na_2O
K-spar	North Carolina	18.0	0.07	0.14	10.1	3.6	13.7
Na-spar	North Carolina	19.0	0.07	1.6	4.0	7.0	11.0

[3] *Source: Harben (2002) Industrial Minerals Handbook. ISBN 1 904333 04 4*

Mica Results

Mica quality is measured by its physical properties including bulk density, grit, colour/brightness, and particle size.

Bulk Density

The bulk density of mica by-product generated from processing of the individual composite samples are listed in Table 15. The bulk density was in the range of 0.680-0.682 g/cm³.

Table 15: Bulk Density of Mica	
Sample ID	Bulk Density (g/cm³)
F	0.681
G	0.682
B	0.682

Grit

The National Gypsum Grit test is used mostly for minus 100-mesh mica which issued as joint cement compound and textured mica paint. The specification for total grit for mica is 1.0% (Table 16).

Table 16: Grit Test for Mica			
Sample	F	G	B
Total Grit (%)	0.70	0.79	0.76

Colour/Brightness Test

Colour/brightness is usually determined on minus 100-mesh material. Several instruments are used for this determination including the Hunter meter, Technedyne and the Photovoltmeter. The MRL uses the Photovoltmeter for the determination of colour or brightness. The tristimulus values determined from the Photovoltmeter can be converted to Hunter values. The green reflectance is often reported for micas and talcs (Table 17).

Table 17: Colour/Brightness Test Results for Mica				
Test Method	Sample ID	B	G	F
Photovoltmeter	Amber Reflectance	13.8	13.4	13.5
	Blue reflectance	2.4	2.4	2.3
	Green Reflectance	11.6	11.2	11.4
CIE	X tristimulus	11.47	11.15	11.21
	Y tristimulus	11.60	11.20	11.40
	Z tristimulus	2.83	2.83	2.71
	L (Luminosity)	40.57	39.92	40.25
Hunter Values	± a [Redness(+)Greenness(-)]	0.71	1.25	0.27
	± b [Yellowness(+)Blueness(-)]	45.90	44.77	46.07
ASTM E-313	Y (Yellowness Index)	100.4	100.4	100.4

Particle Size Analysis

Particle size analysis of mica is determined on a set of sieves by sifting on a Ro-tap machine. The data are reported as percent weight retained in microns.

Table 18: Particle Size Analysis (PSA) of Mica						
Size (microns)	F		G		B	
	Wt. (%)	Cum (%) Passing	Wt. (%)	Cum (%) Passing	Wt. (%)	Cum (%) Passing
425	0.3	99.7	0.3	99.7	0.0	100.0
300	1.0	98.7	1.3	98.3	1.4	98.6
250	3.6	95.0	3.6	94.7	4.8	93.9
212	9.6	85.5	9.9	84.8	9.5	84.4
180	11.2	74.3	10.9	73.9	10.9	73.5
150	18.8	55.4	18.5	55.4	18.4	55.1
125	12.9	42.6	13.2	42.2	12.6	42.5
106	12.2	30.4	12.9	29.4	11.9	30.6
75	2.3	28.1	3.3	26.1	3.7	26.9
53	18.8	9.2	17.5	8.6	17.7	9.2
45	6.6	2.6	5.9	2.6	5.8	3.4
20	1.7	1.0	1.3	1.3	2.0	1.4
-20	1.0		1.3		1.4	

Process Design

The concentrator process design is based on the MRL's bench-scale testwork and the historical practices of neighbouring mines for both spodumene and by-products recovery. Future study will evaluate the opportunity to enhance the flowsheet through the potential addition of DMS.

The basic process flow is described below and shown schematically in Figure 11:

- ROM trucks will deliver ore to the ROM pad and truck dump
- Ore will be reduced in primary sizing via a jaw crusher
- Further reduction of ROM ore will be achieved in closed-circuit crushing using a secondary cone crusher
- Sized ore will be stockpiled in an open stockpile
- Optical sorting will be used to separate dilute material from sized ore. Optical sort product will be further sized for liberation and to feed the ball mill. Optical sort rejects will go to waste.
- Sorted and sized ROM ore will be milled to a nominal size of minus 300 microns.
- Milled ore will be deslimed at approximately 20 microns.
- Deslimed ore will be scrubbed in high density attrition scrubbers, deslimed, and conditioned for flotation feed.
- Spodumene will be recovered to concentrate via rougher flotation, 1st cleaner, 2nd cleaner, and 3rd cleaner flotation. Internal streams from cleaner flotation will be recycled.
- Spodumene rougher tailings will be re-processed in scavenger flotation. Scavenger concentrate will be recycled. Scavenger tailings will report to the tailings thickener.
- 3rd cleaner spodumene concentrate will be processed in Wet High Intensity Magnetic Separators (WHIMS) for iron removal. A secondary WHIMS circuit will be used to recover spodumene concentrate from magnetic tailings.
- The final WHIMS concentrate product will report to the concentrate thickener and to final concentrate product. Magnetic tailings will report to the tailings thickener.
- A portion of the spodumene scavenger tailings will report to the by-product recovery circuit.

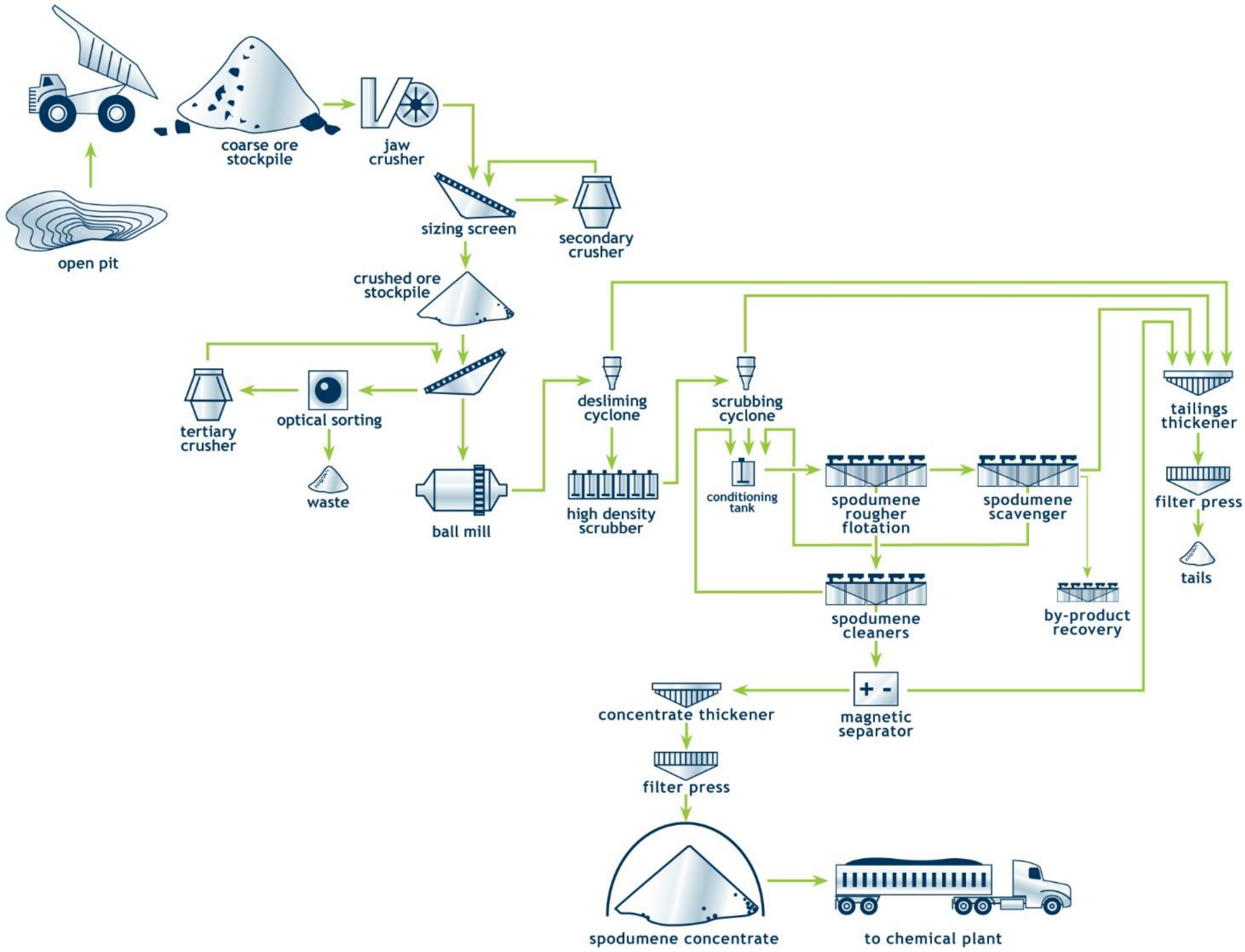


Figure 11 – Proposed Spodumene Concentrator Flowsheet

Quartz, feldspar and mica will be recovered via a series of flotation and magnetic separation circuits:

- The by-products circuit feed may be deslimed to a coarser bottom size based on market requirements.
- Mica will be recovered to concentrate first via rougher flotation followed by 1st cleaner, 2nd cleaner, and 3rd cleaner flotation. Internal mica cleaner streams will be recycled to mica flotation feed.
- Iron will be removed from mica tailings prior to feldspar flotation using an iron flotation circuit.
- Feldspar will be recovered to concentrate via rougher / scavenger flotation followed by 1st cleaner, 2nd cleaner, and 3rd cleaner flotation.
- 3rd cleaner feldspar concentrate will be processed in Wet High Intensity Magnetic Separators (WHIMS) for iron removal.
- Feldspar scavenger tailings will be processed in WHIMS for iron removal. The non-magnetics from the final stage of iron removal will be sold as quartz concentrate.

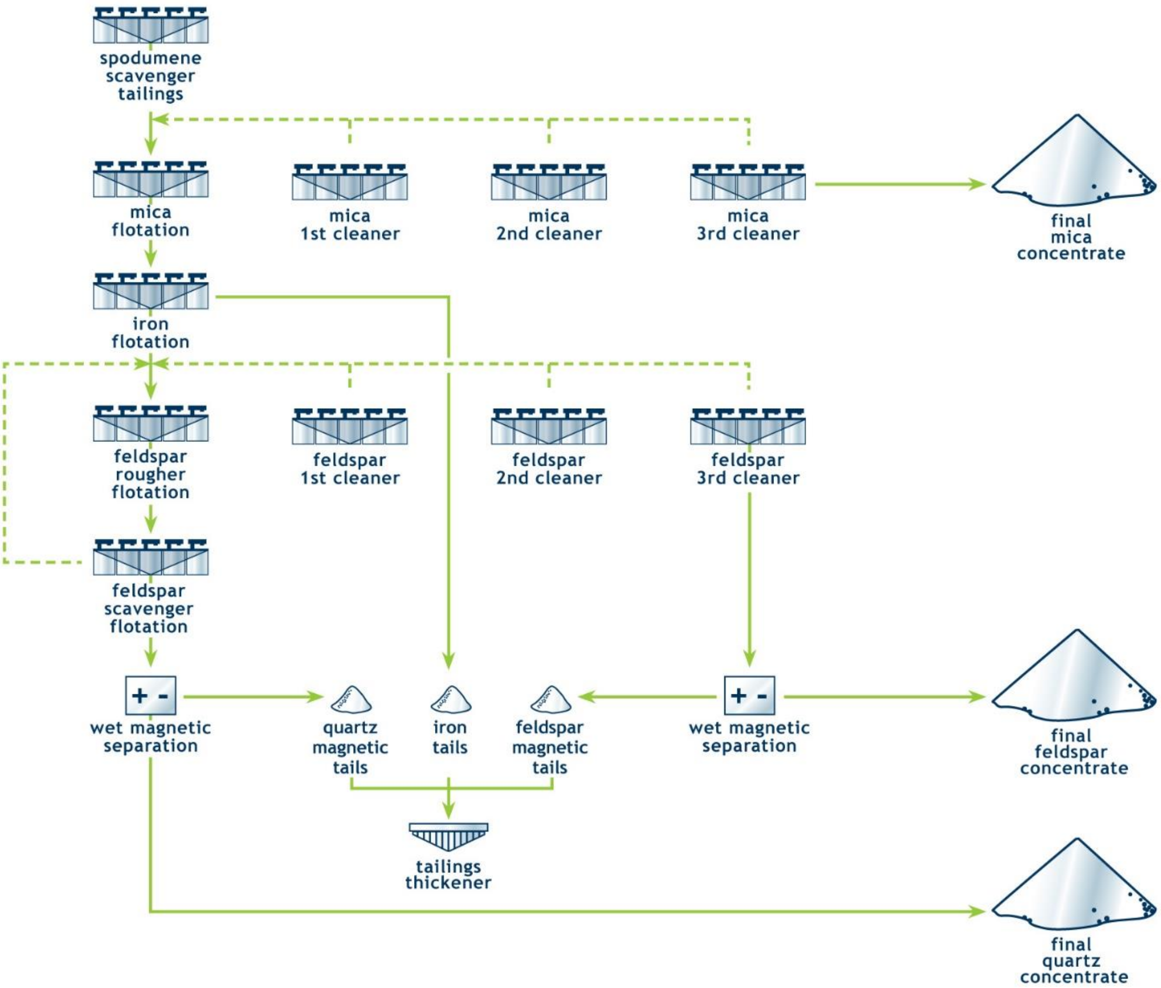


Figure 12 – By-Product Circuits

After review of multiple conventional and novel lithium conversion techniques, Piedmont proposes to use a direct-to-hydroxide conversion approach in its Chemical Plant. This process has been developed within the Chinese lithium industry and is also under construction at Tianqi Lithium Australia's Kwinana lithium refinery.

Piedmont selected the direct-to-hydroxide process based on an analysis of various process alternatives taking into consideration capital and operating costs, total economic return, technology risk, and other factors.

The Chemical Plant will focus on the maximisation of production of battery grade quality lithium hydroxide monohydrate but will maintain future optionality to produce lithium carbonate products.

Generally, the process flowsheet will include:

- Decrepitation of α-spodumene to β-spodumene
- Comminution of β-spodumene
- Acid roasting of β-spodumene to produce lithium sulphate
- Reaction with caustic to generate lithium hydroxide solution
- Purification and crystallisation steps to remove sodium sulphate and impurities
- Drying and packaging

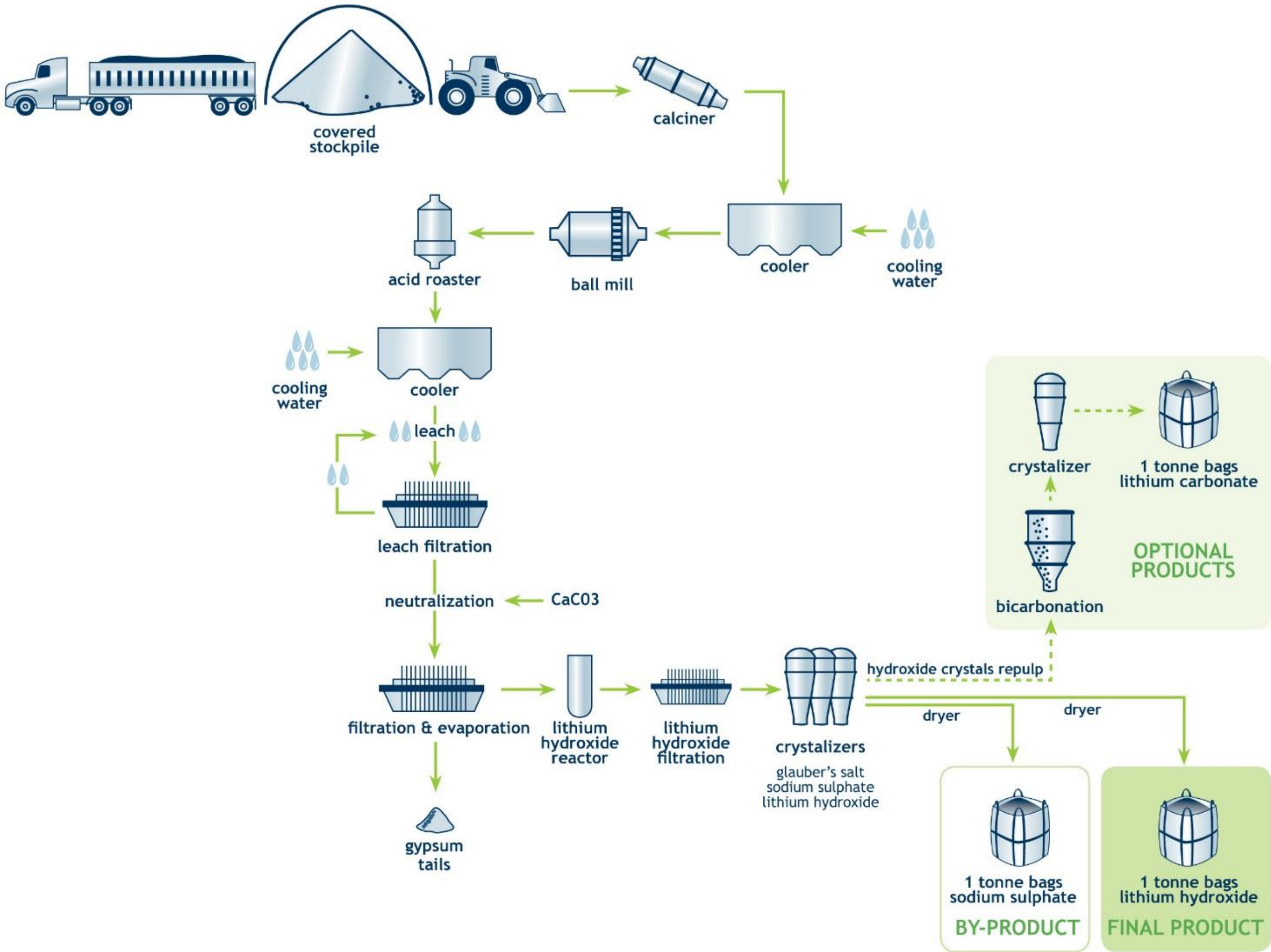


Figure 13 – Proposed Lithium Hydroxide Chemical Plant Flowsheet

Lithium conversion testwork is expected to commence in the second half of 2018. Piedmont will evaluate multiple decrepitation techniques using proven technologies.

Site Plans

Mining Operations

A preliminary integrated site plan including mining operations, waste disposal, and concentrator was developed by Primero Group during the course of this Scoping Study. The Site plan will be refined in future study phases. Additional drilling of current exploration targets is required as well as condemnation drilling of planned waste rock stockpile and concentrator locations.

The site plan has been designed to avoid major drainage features and any flood zones. Optimisation of mine sequence, pit shells, waste placement, drainage, erosion and sediment control and permit design will be undertaken during the PFS.

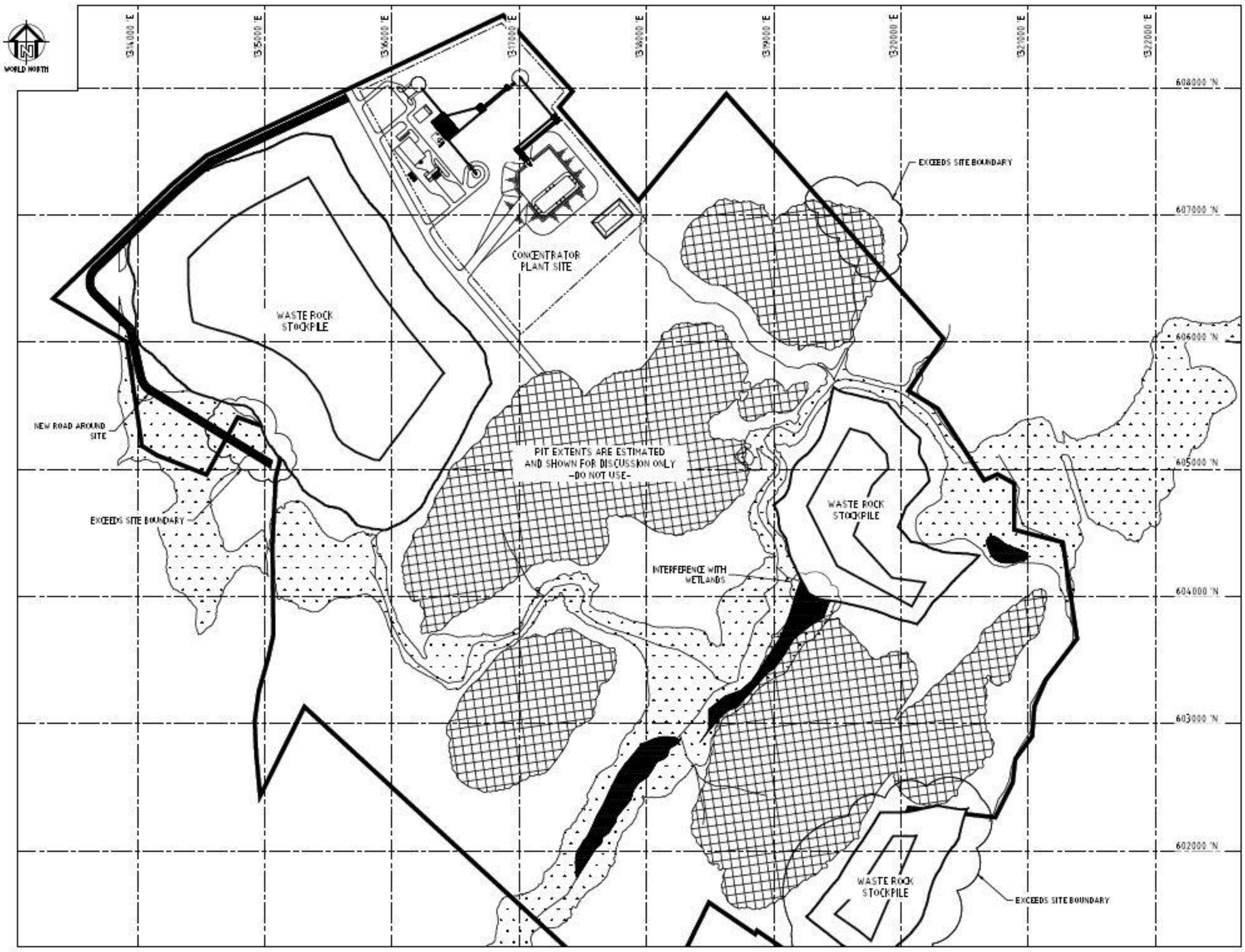


Figure 14 – Overall Mine/Concentrator Site Plan

The concentrator is located to the northwest of the planned open pits. The selected site is expected to be non-mineralised based on preliminary data, and this will be confirmed with condemnation drilling during the PFS.

Run-of-mine ore will be delivered to the ROM pad via haul truck. Primary and secondary crushing operations will take place in independent enclosed structures. A secondary stockpile will be reclaimed to optical sorting and tertiary crushing buildings.

The main concentrator structure will feature modular construction of the process plant within a pre-engineered building structure. Concentrate will be stockpiled in covered storage and reclaimed to the Chemical Plant, rail siding, or direct to port via on-road haul trucks.

Concentrator Site

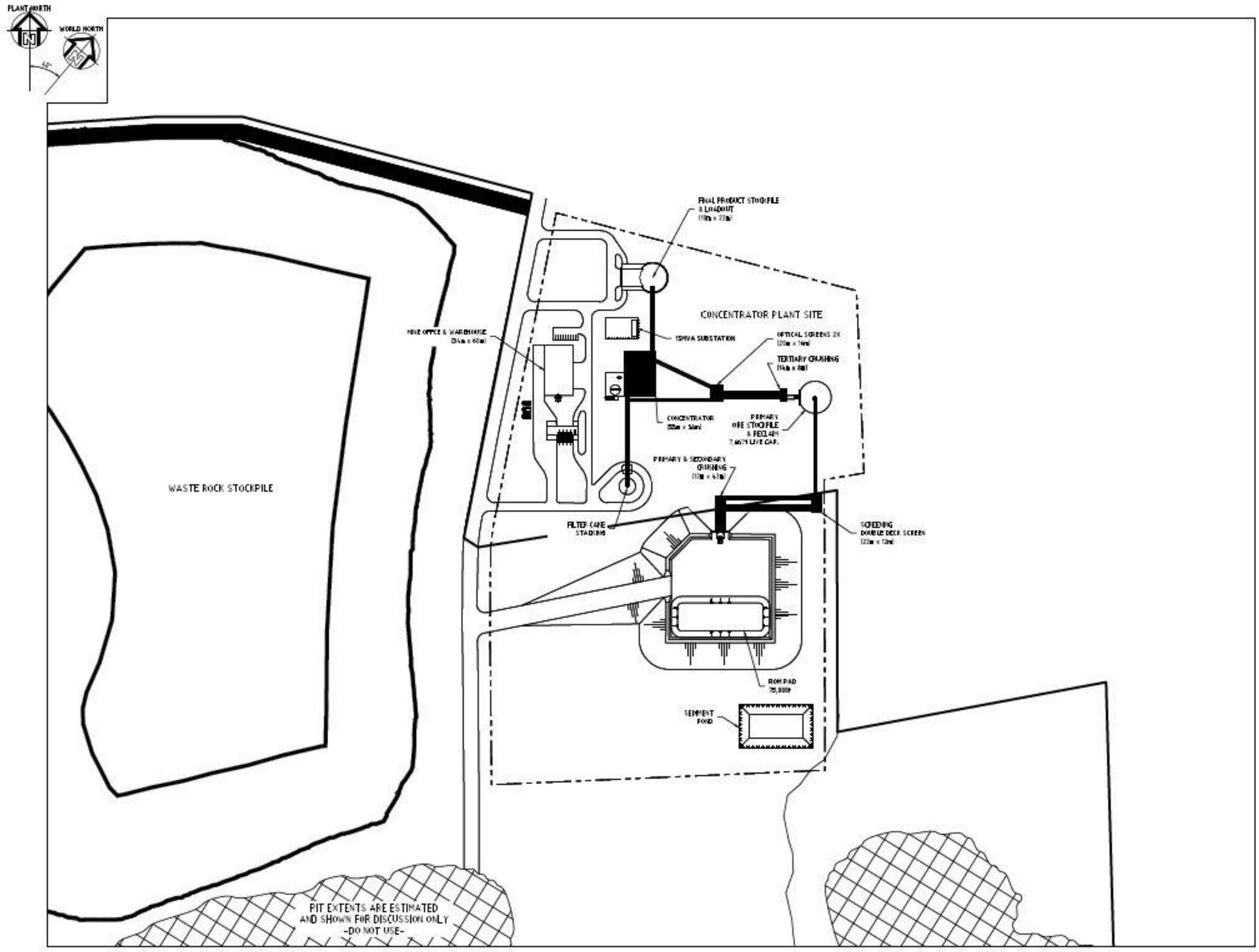


Figure 15 – Piedmont Lithium Concentrator Plot Plan

Chemical Plant Site

Piedmont has secured a 60.6-acre property in King's Mountain, North Carolina as a proposed site for the Chemical Plant. The site is a 20.3 mile truck haul from the planned mine site and is accessible by a combination of NC state highways, US-highways, and US Interstate.

An indicative site plan for the Chemical Plant was developed as part of the Scoping Study. Further layout design will start during the PFS.

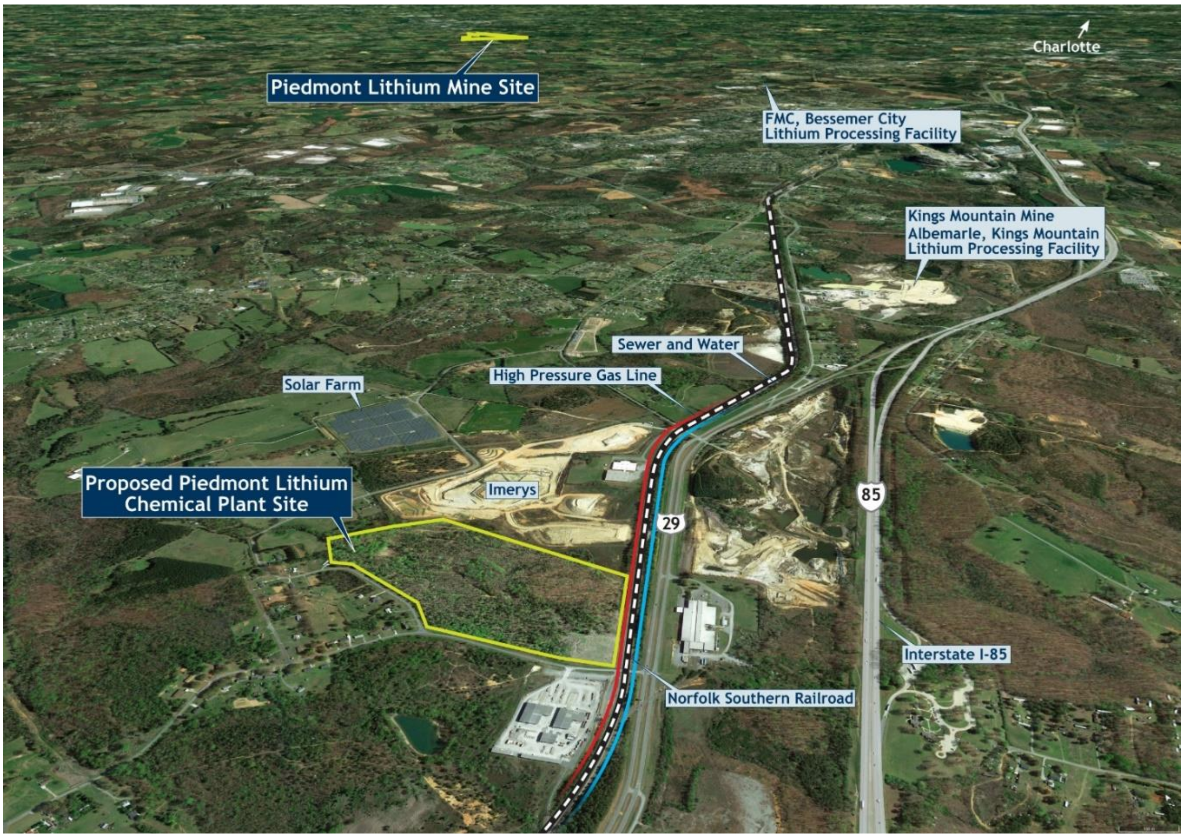


Figure 16 – Location of Proposed Piedmont Lithium Chemical Plant

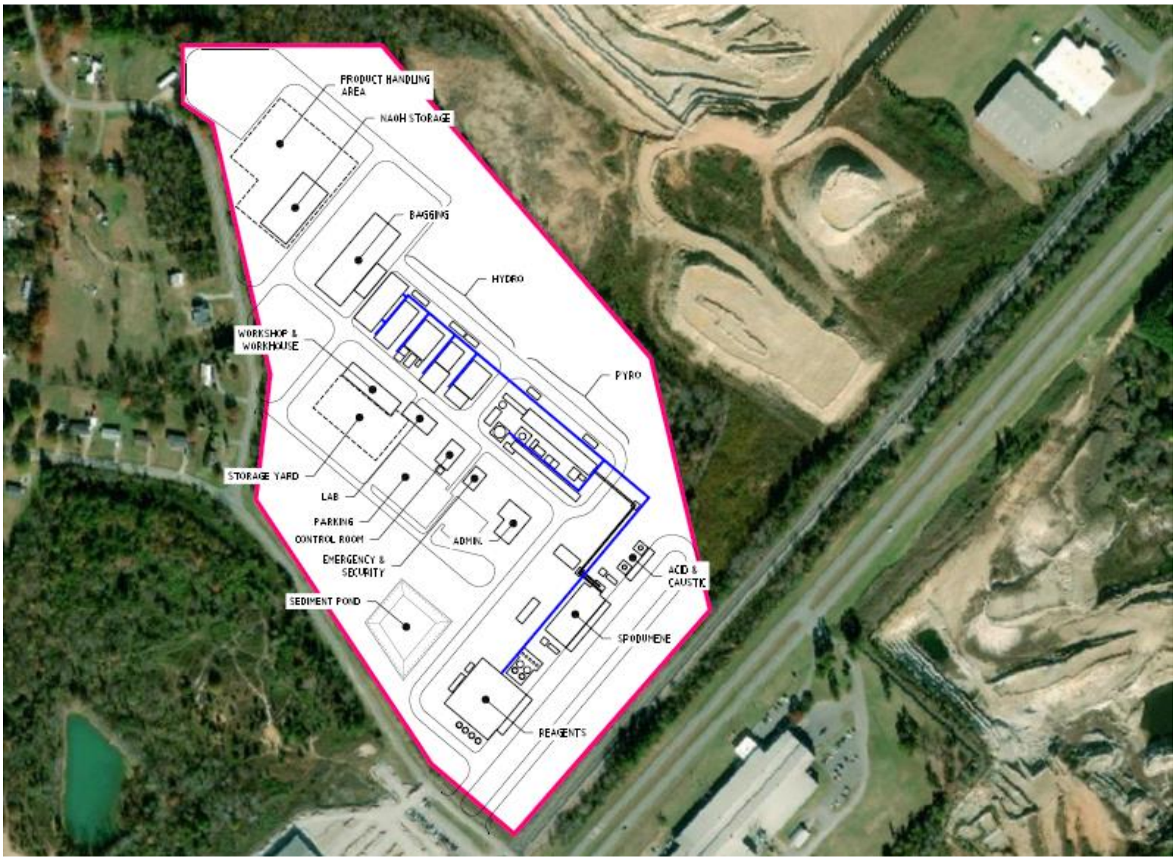


Figure 17 – Indicative Site Plan of Piedmont's Proposed 22,700 tpy Lithium Hydroxide Plant

Infrastructure

The Piedmont Lithium Project holds a superior infrastructure position relative to many mining projects globally. The proposed mine site is approximately 25 miles west of Charlotte, North Carolina. The mine site is directly accessible by multiple state highways and is in close proximity to US Highway 321 and US Interstate I-85.

The project has close access to Class I railroads Norfolk Southern and CSX Transportation. These are the two largest rail operators in the Eastern United States and have main lines which are 20 miles and 4 miles from the mine site, respectively.

The proposed Chemical Plant site is immediately proximate to the Norfolk Southern railroad, with the main rail line easement immediately adjacent to Piedmont's Chemical Plant site. A short line railroad operated by Progressive Rail, connects the Class-I railroads in Gastonia, NC.

The Mine/Concentrator and Chemical Plant sites are in proximity to four (4) major US ports:

- Charleston, SC - 197 miles
- Wilmington, NC - 208 miles
- Savannah, GA - 226 miles
- Norfolk, VA - 296 miles

Charlotte-Douglas International Airport is 19.8 miles from the mine site and 31.7 miles from the proposed Chemical Plant site. It is the 6th largest airport in the United States and has direct international routes to Canada, the Caribbean, South America, and Europe.

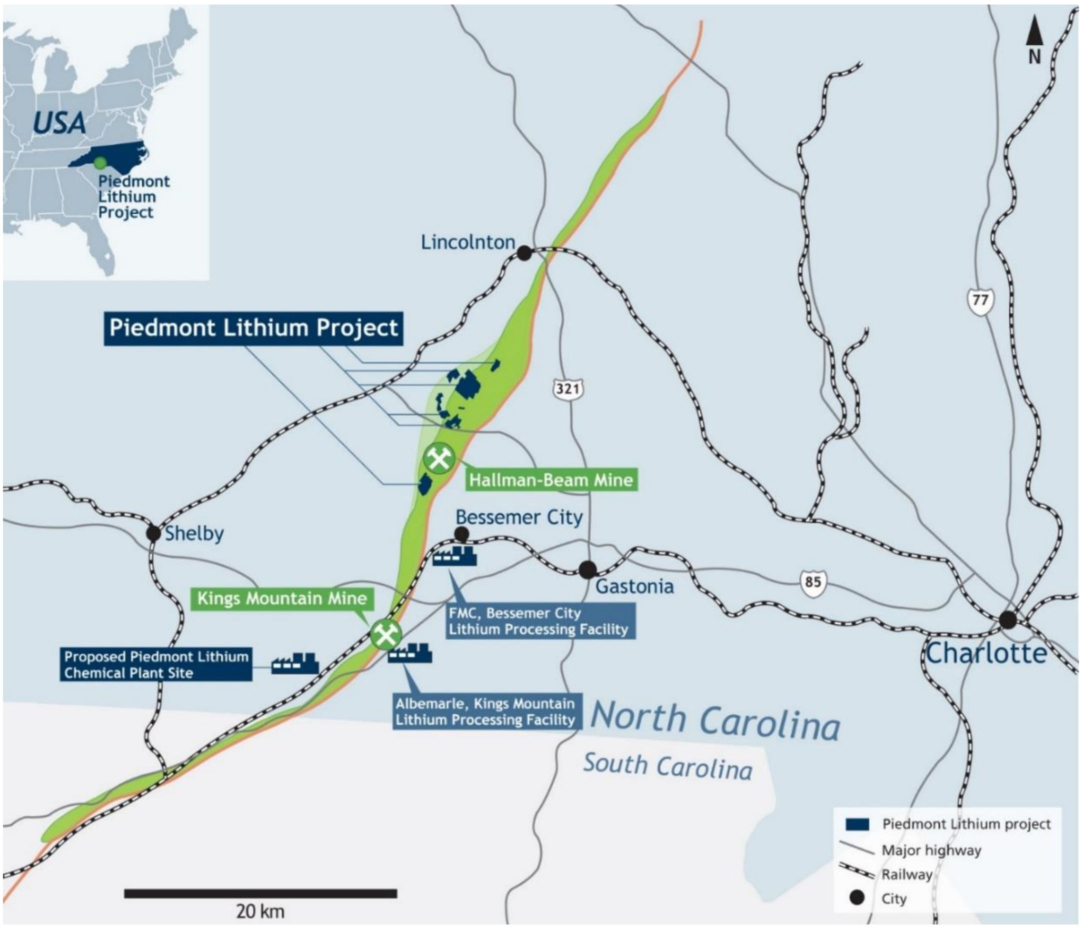


Figure 18 – Piedmont Project Locations Showing Regional Infrastructure

Temporary or permanent camp facilities will not be required as part of the project. According to information provided by Gaston County Economic Development Commission (EDC) over 26% of the labour force is employed in manufacturing.

FMC Corporation and Albemarle lithium chemical plants are in close proximity to the proposed Piedmont operations, and the local region is well serviced by fabrication, maintenance, and technical service contractors experienced in the sector.

Logistics

Most spodumene concentrate produced by Piedmont will be consumed by the Piedmont Chemical Plant. A US$6.00/t cost is included in the financial model for transport between the Mine/Concentrator and Chemical Plant which is based on a US$1.25/t haul charge for the first mile and US$0.25/t per additional mile. It is a 20-mile truck haul between sites.

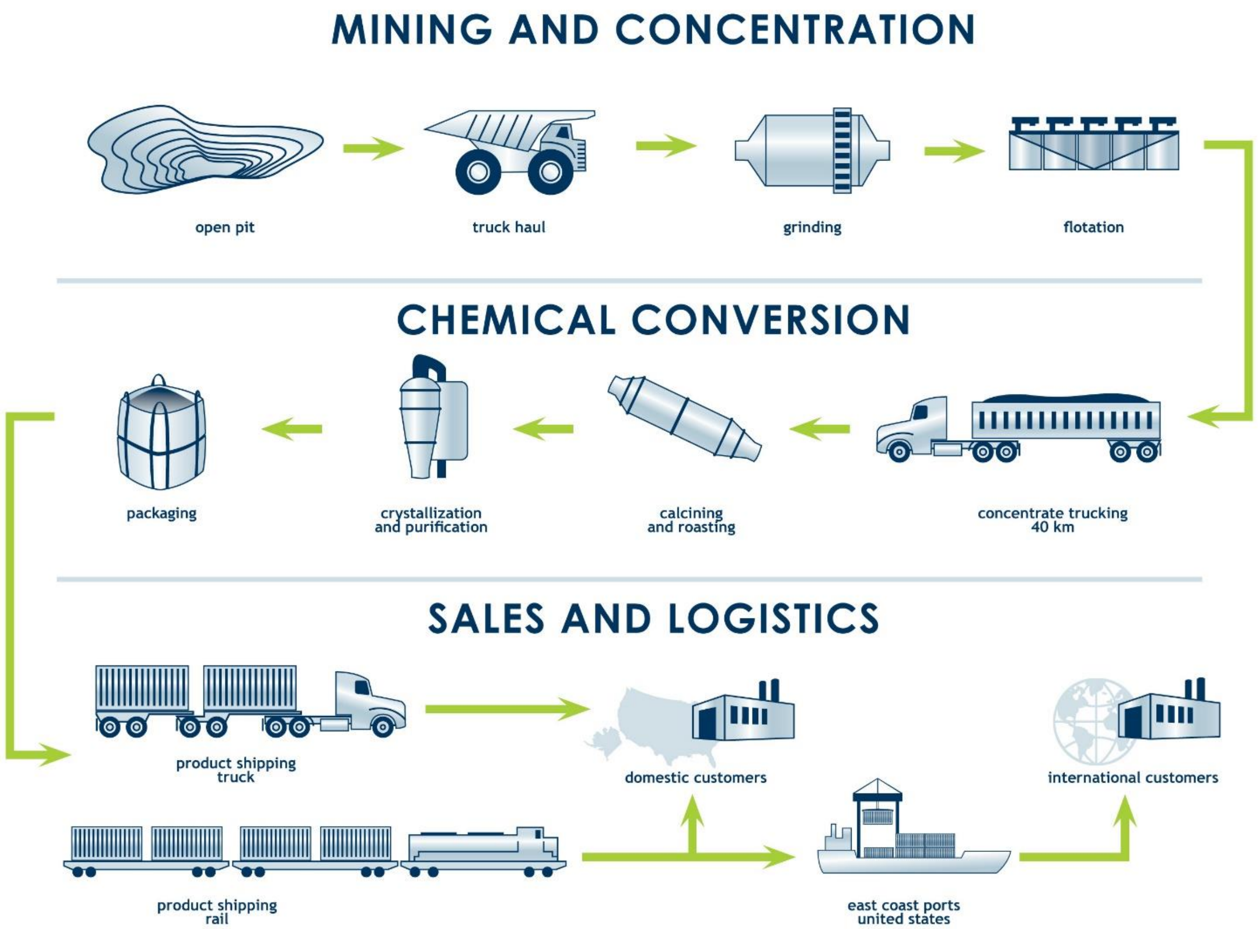


Figure 19 – Logistics Plan for Lithium Hydroxide Distribution from Piedmont Lithium

North Carolina is a significant producer of quartz, feldspar and mica. Piedmont has assumed current by-product pricing based on FOB mine gate terms, and that given Piedmont's location within the mid-Atlantic industrial corridor and existing industrial mineral consumers that by-products can be delivered by truck or rail on a cost-competitive basis to regional customers.

Environmental and Social Impact Assessment

HDR Engineering has been retained by Piedmont to support permitting activities on the project. HDR completed a critical issues analysis of the Project in February 2018 which identified the various local, state, and federal permits which will be required to commence mining and concentrator activities.

Threatened and endangered species and habitat surveys were started in February 2018 and are expected to conclude by the end of summer 2018. To date no instance of threatened or endangered species has been noted.

Baseline activities required to submit a 404 permit were started in April 2018 and wetlands inventory work was completed in May 2018. A jurisdictional determination request was submitted to the US ACE in May 2018.

Monitoring, observations and pump wells were installed on the property in June and July 2018. Observations and pump tests commenced in July 2018.

Piedmont has authorised HDR to undertake a detailed cultural survey of the site at the request of the North Carolina State Historical Preservation Office (SHPO).

HDR started preparation of a 404 permit application and mining permit application in September 2018.

Piedmont's overall permitting timeline for the mine and concentrator is shown in Table 19.

Table 19: Estimated Permitting Timeline for Piedmont Lithium's Mine / Concentrator

	2018												2019											
Task	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Critical Issues Analysis																								
Stream and Wetland Delineation																								
Threatened and Endangered Species Survey																								
Baseline Surface Water Sampling																								
Groundwater Sampling and Analysis																								
404 Permit Application Preparation																								
404 Permit Review and Approval Process																								
Mining Permit Application Preparation																								
Mining Permit Review and Approval																								

HDR performed a fatal flaw analysis of the proposed Chemical Plant site including a one-day site survey. The proposed site is already zoned heavy-industrial. HDR will perform a Critical Issues Analysis of the proposed Chemical Plant within the second half of 2018.

Regionally, North Carolina was named by Forbes Magazine as the #1 state for business in 2017. Piedmont has initiated discussion with the Gaston County Economic Development Commission (EDC) to assist in coordination of permitting and interface with utility and rail providers. Gaston County local government actively recruits manufacturing businesses to the region. The county relies heavily on manufacturing for employment (26%) and is generally expected to support the vertically-integrated project.

Marketing

Lithium Demand Outlook

Forecasted growth in both global lithium demand and supply varies among analysts and industry experts. Roskill forecasts overall growth in lithium consumption to average 15.3% per year to 2027 (Roskill's Base-Case Scenario).

Consumption of lithium will continue to be driven by the rechargeable battery sector, which is forecast to register 22.4 % per year growth through to 2027 (Roskill).

Global Lithium, LLC projects sustained relatively firm lithium hydroxide pricing over the next five to seven years based on the consensus opinion of lithium producers, purchasers and industry experts that lithium demand will grow a minimum of 300% between 2017 and 2025. Lithium hydroxide is expected to be the fastest growing segment of the market based on the growth of high nickel cathode for E-Transportation (Global Lithium).

Lithium Supply Outlook

Outlook for supply varies between analyst and industry expert projections. In the mid-term, strong demand growth, driven by the lithium-ion battery industry, is forecast to reduce the oversupply of refined lithium into the mid-2020s, with markets for specific battery grade materials expected to once again become particularly tight. Significant volumes of additional refined lithium supply will be required in the long term, particularly during the period between 2025 and 2027. Forecast refined lithium capacity is expected to be sufficient to meet demand growth, though historically capacity utilisation has rarely exceeded 75%. If a similar capacity utilisation is applied to forecast capacity, it suggests refined lithium capacity will be insufficient to meet demand in 2027 (Roskill) (Figure 20).

Global Lithium, however, forecasts that at no point between 2016 and 2025 is capacity utilisation below 90% (Figure 21). Global Lithium's demand estimate is lower than many others and the consensus average. It should be noted that a portion of capacity additions will not be of sufficient quality to be used in battery applications further exacerbating a tight supply situation (Global Lithium).

Figure 20 – Forecasted Refined Lithium Output and Consumption (Roskill)

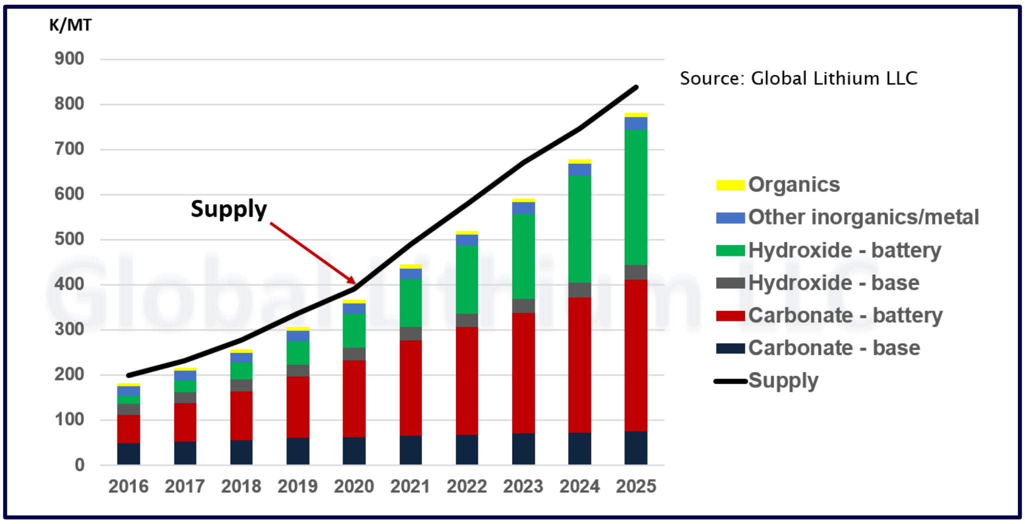


Figure 21 – Lithium Supply and Demand 2016-2025 (Global Lithium)

Marketing Strategy

Piedmont is focusing on initial entry into the lithium market through high quality, low iron spodumene concentrate sales to third party chemical plant operations. Piedmont's focus on quality will allow the business to compete with other concentrate producers while development of Piedmont's Chemical Plant is ongoing.

Production from Piedmont's Chemical Plant will be targeted to the battery-grade quality lithium hydroxide market. Hydroxide is required for the higher-nickel chemistry batteries the market is transitioning toward, so demand for hydroxide is expected to grow far faster than carbonate demand, and a pricing premium is generally projected to be sustainable over the forecast period. It is noted that testwork of Piedmont concentrate and lithium chemicals and the market assessments of those products are being conducted in parallel to enable Piedmont to capitalise on future growth in the demand for battery materials.

Product Pricing

Market forecasts for lithium hydroxide prices vary between industry analysts, available market data, and consultants. Piedmont has consulted the price forecasts of several industry analysts, including Global Lithium (Figure 22) and Roskill (Figure 23). Based on the range of price forecasts presented, Piedmont has estimated an average lithium hydroxide price of US$14,000/t.

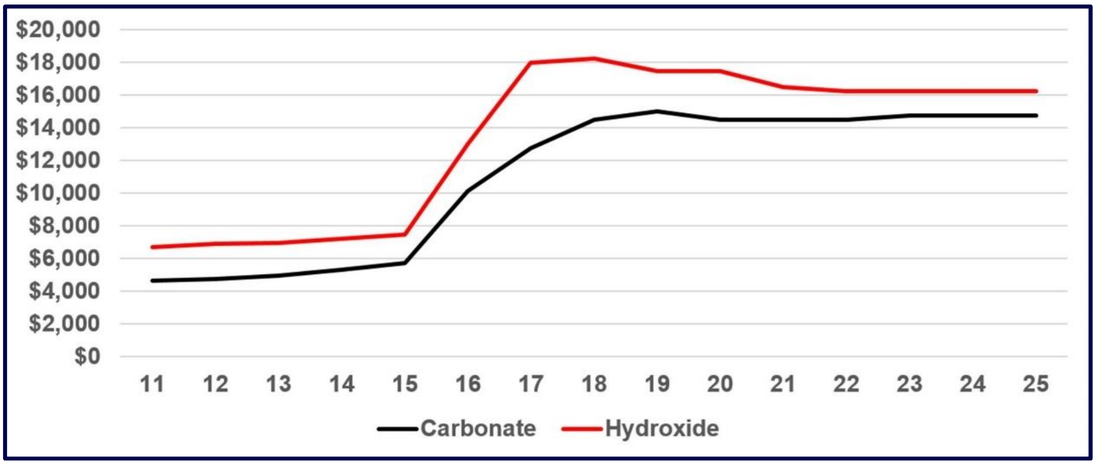


Figure 22 – Lithium Chemical Price Forecast (Global Lithium)

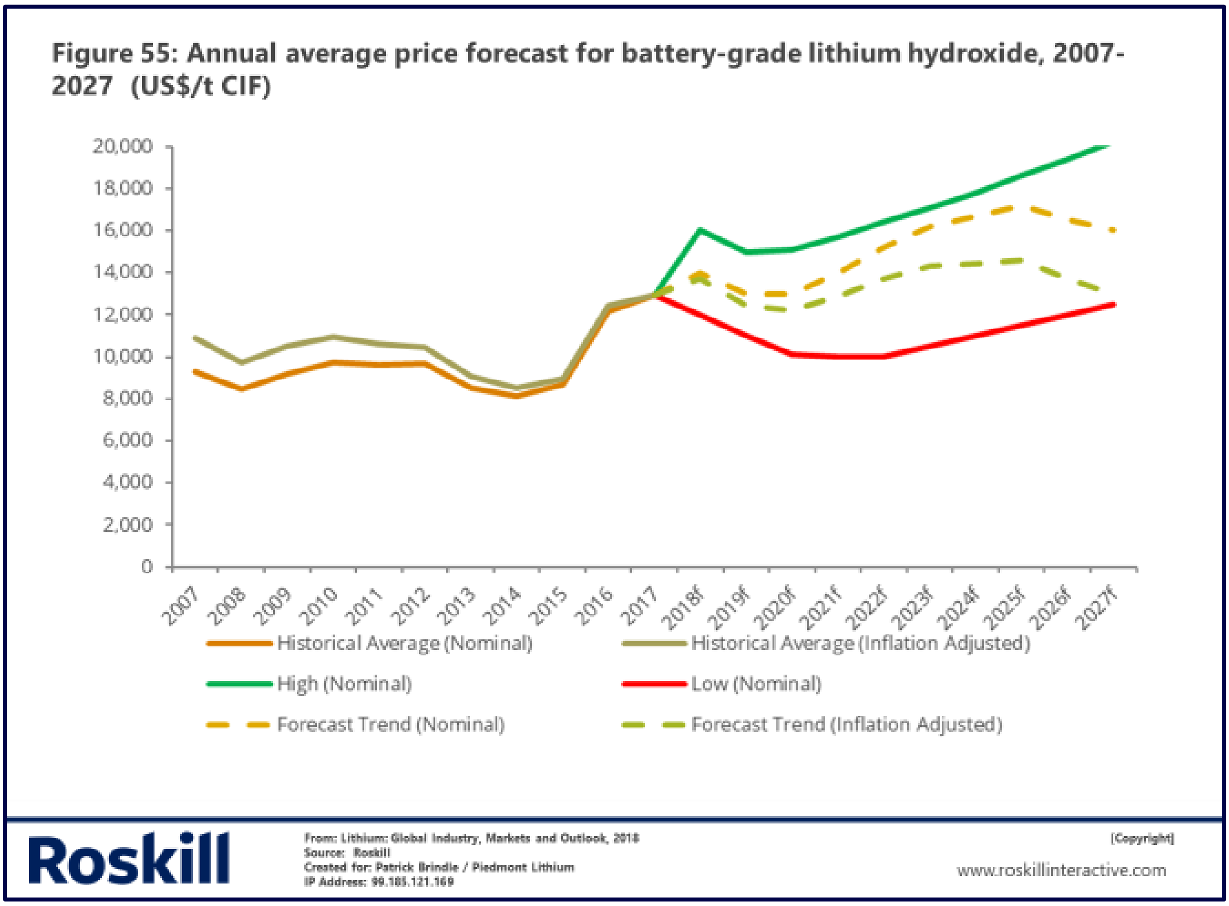


Figure 23 - Lithium Chemical Price Forecast (Roskill)

Market forecasts for 6.0% spodumene concentrate prices vary widely. Current prices as of Q2 2018 remained above US$870/t (Benchmark Minerals).

Piedmont consulted a range of spodumene concentrate prices from various industry analysts and recent studies (Table 20). The LOM average price assumption for 6.0% Li_2O concentrate used in this Scoping Study is US$685/t based on a gradually decreasing price over time.

Table 20: Price Forecasts for 6.0% Li_2O Spodumene Concentrate (US$/tonne)

Forecast	2019	2020	2021	2022	2023	2024	2025
Roskill	$861	$751	$644	$540	$538	$536	$534
Canaccord	$888	$790	$758	$686	$716	$735	$767
Morgan Stanley (CIF China)	$744	$627	$550	$562	$574	$601	$612
Credit Suisse	$850	$750	$675	$575	$600	$650	$675
UBS	$886	$793	$606	$606	$628	$644	$660
Kidman	$685	$685	$685	$685	$685	$685	$685
Savannah	$685	$685	$685	$685	$685	$685	$685
Minimum	$685	$627	$550	$540	$538	$536	$534
Maximum	$888	$793	$758	$686	$716	$735	$767
Average	$800	$726	$658	$620	$632	$648	$660

Marketability of Piedmont Lithium Products

Piedmont engaged Global Lithium, a specialist consulting firm and information provider for the lithium industry, to assess the marketability of Piedmont Lithium products.

Global Lithium's assessment is that Piedmont Lithium's North Carolina project is capable of becoming a world class spodumene mine. In addition, should the output of the mine and the planned chemical plant meet the projected specifications and costs, there should be no issue placing the product in the global spodumene and lithium chemicals market over the next decade.

By-Products

Piedmont proposes to produce quartz, feldspar and mica as by products of spodumene concentration. CSA Global evaluated Piedmont's by-product metallurgical testwork results, planned production volumes, and potential market applications. Table 21 illustrates summary market opportunities for Piedmont Lithium's by-product output.

Table 21: Price Forecasts for By-Products (US$/tonne)

By-product	Annual Volume (tpy)	Assumed Average Sales Price (US$/t)	CSA Global Indicative Price Range (US$/t)	Markets
Quartz	99,000	$100	$70-$100	Low-iron glass including solar panel cover glass and others, industrial ceramics.
Feldspar	125,000	$75	$75-$85 (chips); $130 (powder)	Glass, frit, and industrial ceramics.
Mica	15,500	$50	$270-$350	Specialty paints including automotive, filler uses, joint-compound.

Based on the results of bench-scale testwork, by-products from Piedmont's lithium operations are expected to have low-iron content, which will be desirable in many industrial applications.

Quartz

Quartz is one of the most common minerals in the earth's crust and has many industrial applications, including in glass-making, foundry sand, chemicals, ground silica, and whole grain-fillers. The United States is a world leader in silica sand production, including production of high purity quartz sourced from Spruce Pine district, North Carolina.

The price of quartz varies depending on chemical purity and lack of deleterious contaminants including various metal oxides including iron (Fe_2O_3), titanium (TiO_2) and others. Low iron quartz such as the material from the Piedmont Project has an increasing demand for solar panel cover glass or other ultra-clear glasses requiring a neutral transparent colour. Low iron allows an increase of 4% UV penetration over normal glass which is significant in solar panel applications.

Tables 22 (Flock) and 23 (CSA Global) provide market pricing ranges for quartz products based on overall silica (SiO_2) content and content of deleterious elements.

Table 22: Silica Sand and Quartz Specifications by Market[2]				
Specification	SiO_2 Min. %	Other Elements Max %	Other Elements Max ppm	Indicative Price Range (US$/t)
Clear glass-grade sand	99.5	0.5	5,000	$30
Semiconductor filler, LCD and optical glass	99.8	0.2	2,000	$150
"Low Grade" HPQ	99.95	0.05	500	$300
"Medium Grade" HPQ	99.99	0.01	100	$500
"High Grade" HPQ	99.997	0.003	30	>$5,000

[2] *Source – Modified from Richard Flook and the December 2013 Issue of Industrial Minerals Magazine (p25)*

Table 23: Quartz Market Applications and Price Ranges by Quality			
Purity	Total ppm impurities	Source/treatment	Price guide (US$/t)
Standard	>500	Quartz suitable for clear flint glass, etc.; Ultraclear glass	$60-$75
Intermediary	300-500	Quartz with high purity capability through further chemical beneficiation, floated and magnetically treated. Suitable for auto electronics (EMC) and spherical silica.	$250-$500
High	2-50	Natural quartz, acid leached, magnetically separated, calcined or hot chlorination.	$1,200 - $1,800
Ultrahigh	1-8	Exceptional natural quartz after complete physical and chemical beneficiation (Iota 6)	$3,000-$5,000

Feldspar

U.S. feldspar production has an estimated value of US$43.6 million with an average realised price of US$72-85/t. Delivery is in bulk as chips or bulk bags for powdered grades. The three leading producers mined and processed about 80% of production, with four other companies supplying the remainder. Producing States were North Carolina, Idaho, California, Virginia, Oklahoma, and South Dakota, in descending order of estimated tonnage. Feldspar processors reported coproduct recovery of mica and silica sand. Feldspar is ground to about 20 mesh for glassmaking and to 200 mesh or finer for most ceramic and filler applications.

In pottery and glass, feldspar functions as a flux. The estimated 2015 end-use distribution of domestic feldspar and nepheline syenite was glass, 60%, and ceramic tile, pottery, and other uses, 40%. Table 24 shows historical trends in domestic (US) feldspar markets.

Table 24: Trends in Domestic (US) Feldspar Market Data						
	Material	2012	2013	2014	2015	2016[e]
Production (kt)	Feldspar	560	550	530	520	600
Imports (kt)	Feldspar	2	4	8	120	50
	Nepheline syenite	386	491	503	449	470
Exports (kt)	Feldspar	14	18	16	15	6
Apparent Consumption[1] (kt)	Feldspar	550	540	520	625	640
	Feldspar & nepheline syenite	930	1,000	1,000	1,100	1,100
Average Price (US$/t)	Feldspar	66	73	66	73	73

Notes: [e] Estimated. [1.] Defined as mine production + imports – exports

According to statistical data provided by the United States Geological Survey (USGS), importation of feldspar increased in 2017 to 190kt, while apparent domestic (US) consumption increased to 710kt.

Worldwide reserves of feldspar are shown in Table 25. Feldspar is a widely available mineral, but low iron grades are less common.

Table 25: Worldwide Feldspar Reserves

Country	Mine Production (kt)		Reserves (kt)
	2015	2016^{e}	
United States	520	600	NA
Brazil	330	330	320,000
China	2,500	2,500	NA
Czech Republic	430	430	28,000
Egypt	300	300	1,000,000
India	1,500	1,500	45,000
Iran	1,200	1,300	630,000
Italy	4,700	4,700	NA
Korea, Republic of	601	400	NA
Malaysia	343	350	NA
Poland	400	400	14,000
Russia	400	400	NA
Spain	600	600	NA
Thailand	1,300	1,500	NA
Turkey	5,000	5,000	240,000
Venezuela	500	500	NA
Other countries	2,090	2,200	NA
World total (rounded)	**22,700**	**23,000**	**Large**

Notes: ^{e} Estimated. NA Not available.

In the United States, feldspar is a raw material commonly used in the manufacture of plate glass, ceramic tiles and sanitaryware, and insulation. Domestic feldspar consumption has been gradually shifting toward glass markets from that of ceramics. A growing segment in the glass industry is solar glass, used in the production of solar panels. This increases the demand for lower iron raw materials. Feldspar is used in the paints and coatings industry as a filler. Additional potential non-metallurgical applications include glass and ceramics, all of which require higher purity (low-iron) feldspar.

Mica

Scrap and flake mica production, excluding low-quality sericite, was estimated to be 30,200 tons valued at $4 million with an average price of $125/t in 2017. Scrap mica is recovered principally from mica and sericite schist and as a by-product from feldspar, industrial sand beneficiation, and kaolin. Seven companies produced 49,900 tons of ground mica valued at about $15 million ($270-350/t) from domestic and imported scrap and flake mica. The majority of domestic production was processed into small particle size mica by either wet or dry grinding.

Uses for mica are numerous. Primary uses for mica include applications in joint compounds, anti-corrosive (automotive and marine) paints, plastics, rubber, and wallboard additives. Market volume and pricing trends published by the USGS are shown in Table 26 below.

Table 26: Trends in Domestic (US) Mica Market Data						
Salient Statistics—United States	Material	2013	2014	2015	2016	2017[e]
Production (t)	Mined Scrap & Flake	48,100	48,200	32,600	30,900	31,700
	Ground	79,200	79,400	53,700	68,100	67,000
Imports (t)	Scrap & Flake	30,900	33,400	33,200	31,500	30,300
Exports (t)	Scrap & Flake	6,380	7,900	7,380	6,230	7,100
Apparent Consumption[1] (t)	Scrap & Flake	72,600	73,700	58,400	56,200	54,900
Average Price (US$/t)	Scrap &Flake	124	117	142	107	125
	Ground – Dry	279	285	290	262	270
	Ground – Wet	360	369	375	321	350

Notes: [e] Estimated. [1]. Defined as mine production + imports – exports

Domestic production and consumption of scrap and flake mica were estimated to have decreased in 2016. Apparent consumption of scrap and flake mica decreased slightly because the 7% decrease in production was offset by the 3% increase in imports. Apparent consumption of sheet mica increased by 13% in 2016. Future supplies of mica for U.S. consumption were expected to come increasingly from imports, primarily from Brazil, Canada, China, India, and Finland.

Development Schedule

Piedmont established an illustrative development timeline in April 2018. The Scoping Study sets out a potential project development timeline for the Piedmont Lithium Project. The current development schedule may be impacted by the results of discussions with potential strategic or off-take partners.

Piedmont estimates completion of technical studies within 2019 followed by a construction decision in late-2019. The development plan targets a 12-month construction timeline with commissioning of the concentrator commencing is Q2 2020 and commercial shipments of spodumene concentrate beginning in Q1 2021.

Further refinement of the project schedule will be undertaken in the PFS.

Table 27: Estimated Development Timeline for the Piedmont Lithium Mine / Concentrator Project

Mine Concentrator Development	2018				2019				2020				2021				2022				2023			
Task	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Permitting	■	■	■	■	■	■	■	■																
Testwork	■	■	■	■	■	■	■																	
Scoping - COMPLETE	□	□	□																					
Pre-Feasibility			■	■	■																			
Feasibility						■	■	■																
Contract Negotiations							■	■																
Construction									▲	▲	▲	▲												
Commissioning												▲	▲											
Operations													▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

Piedmont has staged development of the Chemical Plant to create early cash flow from spodumene concentrate sales this will allow time to complete necessary pilot testwork, technical studies, and project permitting.

The estimated timeline for design and construction of the Chemical Plant may be impacted by the results of discussions with potential strategic or off-take partners.

Table 28: Estimated Development Timeline for the Piedmont Lithium Hydroxide Chemical Plant

Chemical Plant	2018				2019				2020				2021				2022				2023			
Task	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Land Acquisition																								
Permitting																								
Testwork																								
Scoping - COMPLETE																								
Pre-Feasibility																								
Feasibility																								
Contract Negotiation																								
Construction																								
Commissioning																								
Operations																								

Economics

Operating Costs

Piedmont forecasts operating costs for lithium hydroxide based on a self-supply of spodumene concentrate during the life of mining operations. Excess spodumene concentrate sales during ramp-up of chemical operations are applied as a co-product credit to lithium hydroxide cash costs. Early spodumene sales prior to Chemical Plant commissioning are excluded from the co-product credits (Figure 24).

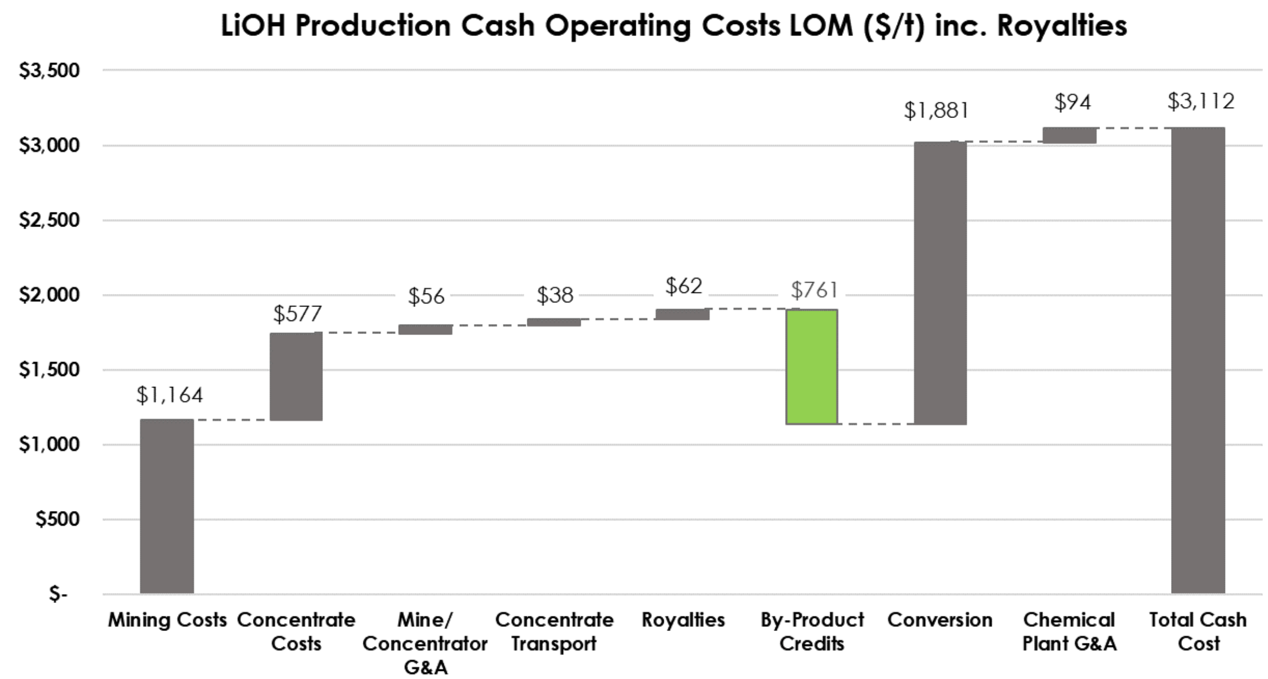


Figure 24 – Lithium hydroxide production cash operating costs life of mine

Figure 25 shows the breakdown of lithium hydroxide conversion cash costs, excluding spodumene concentrate supply, by major cost centre.

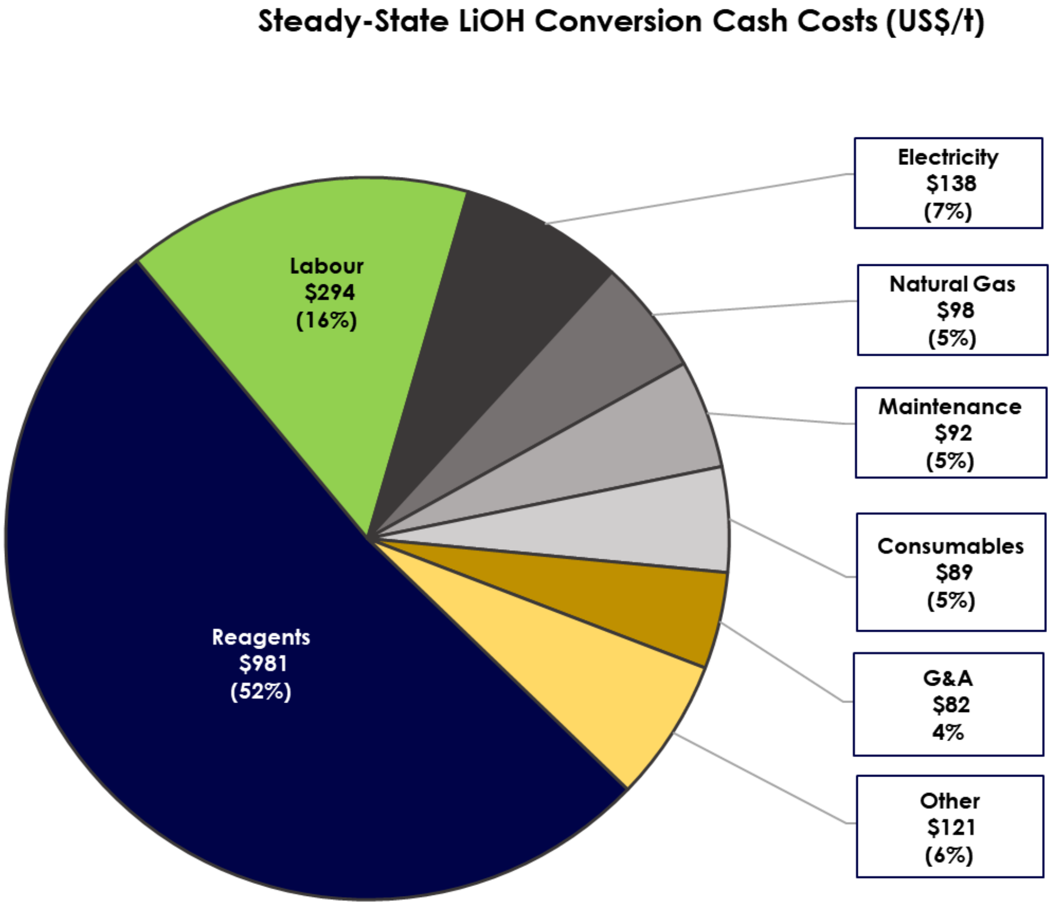


Figure 25 – Cash costs for lithium hydroxide conversion during steady-state conditions (22,700 tpy)

Cash operating costs for spodumene mining and concentration were estimated at an average of US$ 193/t net of by-product credits delivered to the Chemical Plant site in King's Mountain. The estimated cost is inclusive of G&A associated with mining operations, royalties and transportation. A breakdown of spodumene mining and concentration costs is shown in Figure 26.

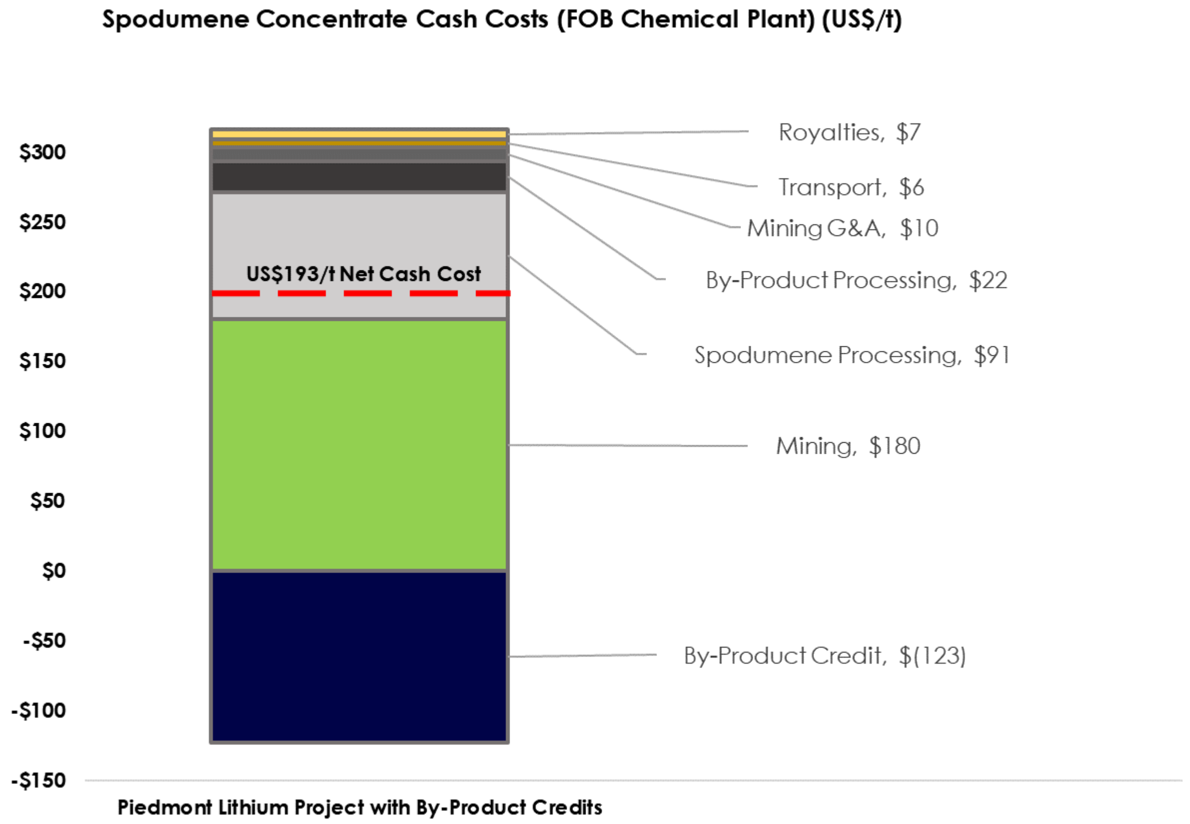


Figure 26 – Cash operating costs for spodumene concentrate life of mine ($/t) (170,000tpy)

Capital Costs

Piedmont estimates the capital cost to construct the mine and concentrator at US$78.7 million, excluding contingency, land expenses, and Owner's costs. US$17.7M of initial capital costs are attributable to by-product recovery. Table 29 highlights the total estimated capital expenditures for the Mine/Concentrator. A 20% contingency has been carried on all costs in the economic modelling of the Mine/Concentrator project.

Table 29 Mine/Concentrator Estimated Capital Costs	
Cost Centre	**Life-of-mine total (US$ million)**
Mining	$2.6
Process Plant	$45.4
By-Product Circuits	$17.7
Non-Process Infrastructure	$2.6
Contractor Indirects	$8.9
Spares and commissioning	$1.5
Total	**$78.7**
Land acquisition	$18.9
Owner's Costs	$11.0
Contingency	$21.7
Total Development Capital	**$130.3**
Deferred and sustaining capital	$19.6

Piedmont estimates the capital cost to construct the Chemical Plant at US$253M before Owner's Costs and Contingency. A contingency of 30% has been carried in the economic modelling of the Chemical Plant project. Approximately US$163 million of free cash flow is expected to be generated prior to completion of construction of the Chemical Plant from sales of spodumene concentrate in early years.

Table 30 Lithium Hydroxide Chemical Plant Estimated Capital Costs

Cost Centre	Life-of-mine total (US$ million)
Contractor directs – Chemical Plant	$208.4
Contractor indirects	$37.5
Spares and commissioning	$6.7
Total	**$252.6**
Owner's Costs	$12.1
Contingency	$79.4
Total Development Capital	**$344.1**
Development Capital to be funded from free cash flows	$165.0
Development Capital to be funded from additional sources	$179.1
Deferred and sustaining capital	$37.9

Royalties, Taxes, Depreciation, and Depletion

The Scoping Study project economics include the following key parameters related to royalties, tax, depreciation, and depletion allowances.

- Royalties are US$1.00 per ROM tonne based on the average land option agreement
- North Carolina state corporate taxes are 2.5% starting in January 2019
- Federal tax rate of 21% is applied and state corporate taxes are deductible from this rate
- Effective base tax rate of 22.975%
- Depletion allowance of 22% is applied to the spodumene concentrate sales price
- Depletion allowances for quartz, feldspar, and mica concentrates are 14%, 14% and 22%, respectively
- Depreciation is assumed as 80% within the first year of operations and 50% of the remaining balance in each subsequent year, with a 5% premium occurring in year 2

Financial Modelling

A comprehensive economic model has been prepared which fully integrates Piedmont's Chemical Plant with its Mine/Concentrator. The Scoping Study assumes a Chemical Plant production life of 11 years commencing in year 3 of mining operations. The mining production target is approximately 13.3Mt at an average run of mine grade of 1.12% Li_2O (undiluted) over a 13-year mine life. Table 28 provides a summary of production and cost figures for the integrated project.

The current economic model assumes that 50% of capital costs are incurred in the year prior to commissioning of both the Mine/Concentrator and Chemical Plant, and that 50% of the capital costs are incurred in the year in which each plant is commissioned.

Table 31: Piedmont Lithium Project – Life of Mine Integrated Project	*Unit*	*Estimated Value*
PHYSICAL – MINE/CONCENTRATOR		
Mine/Concentrator Life	years	13
Steady-state annual spodumene concentrate production	tpy	170,000
LOM spodumene concentrate production	t	1,950,000
LOM quartz by-product production	t	1,188,000
LOM feldspar by-product production	t	1,500,000
LOM mica by-product production	t	185,000
LOM feed grade (excluding dilution)	%	1.12
LOM average concentrate grade	%	6.0
LOM average process recovery	%	85
LOM average strip ratio	waste:ore	8.2:1
PHYSICAL – LITHIUM CHEMICAL PLANT		
Steady-state annual lithium hydroxide production	tpy	22,700
LOM lithium hydroxide production	t	206,000
LOM concentrate supplied from mining operations	t	1,300,000
Chemical Plant Life	years	11
Commencement of lithium hydroxide chemical production	year	3
OPERATING AND CAPITAL COSTS – INTEGRATED PROJECT		
Average LiOH production cash costs using self-supplied concentrate	US$/t	$3,112
Mine/Concentrator - Direct development capital	US$mm	$61.0
Mine/Concentrator – By-Product direct development capital	US$mm	$17.7
Mine/Concentrator - Owner's costs	US$mm	$11.0
Mine/Concentrator – Land Acquisition Costs	US$mm	$18.9
Mine/Concentrator – Contingency	US$mm	$21.7
Mine/Concentrator – Sustaining and deferred capital	US$mm	$19.6
Chemical Plant - Direct development capital	US$mm	$252.6
Chemical Plant – Owner's Costs	US$mm	$12.1
Chemical Plant - Contingency[1]	US$mm	$79.4
Chemical Plant – Sustaining and deferred capital	US$mm	$37.9
FINANCIAL PERFORMANCE – INTEGRATED PROJECT – LIFE OF PROJECT		
Annual Steady State EBITDA	**US$mmpy**	**$225-$245**
Annual Steady State After-Tax Cash Flow	**US$mmpy**	**$180-$190**
Net operating cash flow after tax	**US$mm**	**$2,220**
Free cash flow after capital costs	**US$mm**	**$1,700**
After Tax Internal Rate of Return (IRR)	**%**	**46**
After Tax Net Present Value (NPV) @ 8% discount rate	**US$mm**	**$888**

1. *Contingency was applied to all direct and indirect costs at a rate of 20% (Mine/Concentrator) and 30% (Chemical Plant).*

As a sub-project to the vertically-integrated Chemical Plant, Piedmont has modelled the Mine/Concentrator as an independent project. The cost structures reported in Table 32 below are carried through into the integrated model; whereas the revenue and economic returns are based on a strategy of sales of spodumene concentrate into the open market during life of mine.

It is Piedmont's stated objective to develop a fully integrated lithium chemical business within the TSB. The data presented in Table 32 are illustrative only and shown to demonstrate the robustness of a stand-alone mining project.

Table 32: Piedmont Lithium Mine/Concentrator Sub-Project Parameters	Unit	Estimated Value
PHYSICAL – MINE/CONCENTRATOR		
Life of project spodumene concentrate production	kt	1,950
LOM quartz concentrate production	kt	1,188
LOM feldspar concentrate production	kt	1,500
LOM mica concentrate production	kt	185
Steady-state run-of-mine production	ktpy	1,200
Average annual spodumene concentrate production	tpy	150,000
Steady-state annual spodumene concentrate production	tpy	170,000
Steady-state annual quartz concentrate production	tpy	99,000
Steady-state annual feldspar concentrate production	tpy	125,000
Steady-state annual mica concentrate production	tpy	15,500
LOM feed grade (undiluted)	%	1.12
LOM average concentrate grade	%	6.0
LOM average process recovery	%	85
Mine Life	Years	13
LOM average strip ratio	waste:ore (t/t)	8.2:1
ECONOMIC – MINE/CONCENTRATOR		
Average mine-gate cash operating cost per spod concentrate tonne	US$/T	$281
Average mine-gate by-products as credits to spod concentrate costs	US$/T	($101)
Transportation and logistics cost	US$/T	$6
Average royalty expense	US$/T	$7
Average spodumene concentrate sales price	US$/T	$685
Average quartz sales price	US$/T	$100
Average feldspar sales price	US$/T	$75
Average mica sales price	US$/T	$50
Direct development capital	US$mm	$61.0
By-Product direct development capital	US$mm	$17.7
Owner's costs	US$mm	$11.0
Land acquisition costs	US$mm	$18.9
Contingency	US$mm	$21.7
Sustaining and deferred capital	US$mm	$19.6
FINANCIAL PERFORMANCE – MINE/CONCENTRATOR		
Life of project net operating cash flow after tax	**US$mm**	**$851**
Free cash flow after capital costs	**US$mm**	**$713**
Internal Rate of Return (IRR)	**%**	**68%**
Average steady-state EBITDA	**US$mm**	**$85**
Net Present Value (NPV) @ 8% discount rate	**US$mm**	**$443**

When evaluated as a stand-alone project, concentrate sales deliver an estimated US$426/t free cash flow during LOM operations (Figure 27).

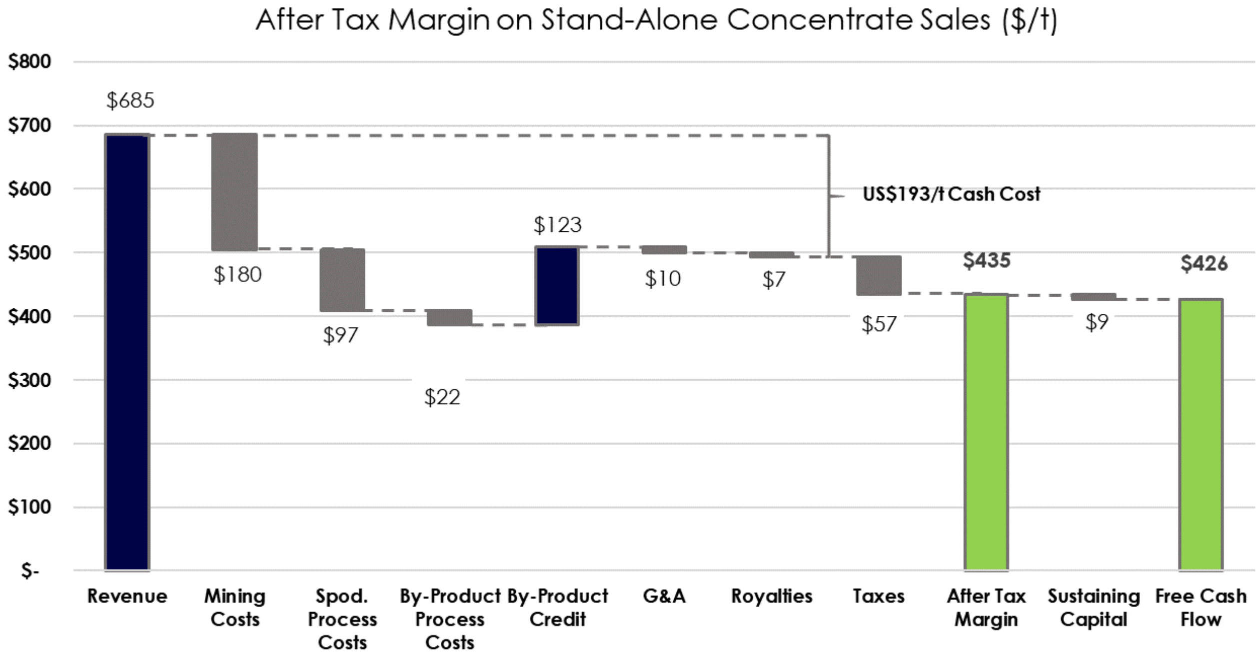


Figure 27 – Free cash flow from spodumene concentrate sales as a stand-alone project (US$/t)

Payback Period

Payback periods for the Mine/Concentrator and Chemical Plant are approximately 1.6 years and 2.5 years, respectively. The payback periods are based on free-cash flow, after taxes.

Sensitivity Analyses

The Scoping Study was prepared at a ± 35% level of accuracy to investigate the technical and economic parameters of a fully-integrated lithium chemical operation located within the TSB. Key inputs into the Scoping Study have been tested by the following sensitivities (Table 33).

Table 33: Integrated Lithium Chemical Business Sensitivity Analysis

Test	Opportunity Case	Base Case	*Risk Case*
Capital Cost	-10%	-	+20%
Product Pricing	+20%	-	-30%
Operating Costs	-15%	-	+15%

The robust project economics insulate Piedmont's proposed integrated lithium chemical business from variation in market pricing, capital expense, or operating expenses. At a lithium hydroxide price of US$9,800/t combined with spodumene concentrate prices of US$480/t the project displays a positive NPV of US$400 million and IRR of 25%. Table 34 shows the summary of pricing sensitivity analyses. In each of the pricing sensitivity models the value of by-product credits has been held constant.

Table 34: Product Pricing Sensitivity Analysis								
Sensitivity (%)	LiOH Price Sensitivity			Concentrate Price Sensitivity			Combined Price Sensitivity	
	LiOH Price ($US/t)	NPV (US$ mm)	IRR (%)	Con Price (US$ mm)	NPV (US$ mm)	IRR (%)	NPV (US$ mm)	IRR (%)
-30%	$9,800	$489.8	33	$480	$801.8	37	$400.9	25
-15%	$11,900	$689.5	40	$582	$845.2	41	$645.6	35
-10%	$12,600	$756.0	42	$617	$860.1	43	$727.1	39
Base (0%)	**$14,000**	**$888.6**	**46**	**$685**	**$888.6**	**46**	**$888.6**	**46**
10%	$15,400	$1,021	49	$754	$916.9	49	$1,049	53
15%	$16,100	$1,087	51	$788	$930.7	51	$1,129	56
20%	$16,800	$1,153	53	$1,024	$1,026	65	$1,291	72
Spot Price	$19,013	$1,363	57	$915	$982.1	58	$1,456	70

Table 35 summarises the sensitivities associated with variations in capital and operating costs.

Table 35: Capital and Operating Costs Sensitivity Analysis				
Sensitivity (%)	Capital Cost Sensitivity		Operating Cost Sensitivity	
	NPV (US$ mm)	IRR (%)	NPV (US$ mm)	IRR (%)
-30%	N/A	N/A	N/A	N/A
-15%	N/A	N/A	$964.8	50
-10%	$936.3	52	$939.5	48
Base (0%)	**$888.6**	**46**	**$888.6**	**46**
10%	$840.9	41	$837.7	43
15%	$817.1	38	$812.1	42
20%	$793.2	36	$786.4	41

Next Steps

Based on the results of the Scoping Study, the Company plans to proceed to a Pre-Feasibility Study of the vertically-integrated Chemical Plant project.

Additionally, the Company has identified short-term study opportunities to improve project economics, which include:

- Commencement of a Phase 4 drilling campaign on the Core Property to potentially convert the previously announced current Exploration Target to an updated Mineral Resource Estimate.
- MRL completed Heavy Liquids Separation (HLS) testwork to evaluate the potential of a Dense Medium Separation (DMS) circuit in June. Piedmont, together with Primero Group, will complete a trade-off study evaluating potential process opportunities through the addition of DMS circuitry in the concentrator.

Conclusions

Piedmont is pleased to present a Scoping Study that clearly demonstrates the advantages of locating a vertically-integrated lithium business in North Carolina, USA. The Scoping Study supports the Company's first-mover position to restart hard rock lithium mining operations in the historic Carolina Tin-Spodumene Belt where the access to infrastructure, labour, low costs, and favourable tax and royalty regimes contribute to robust Project economics.

The Project has the potential to offer the market diversification from current lithium supply sources. The Project meets an important strategic need for domestic US lithium production and will confer substantial economic benefits to the local region.

The addition of by-product credits to the Project's economics are made possible by Piedmont's location within the industrial heartland of the mid-Atlantic United States. The benefits which by-product credits convey onto the project will ensure Piedmont's highly competitive cost position within the growing lithium chemical industry.

Forward Looking Statements

This announcement may include forward-looking statements. These forward-looking statements are based on Piedmont's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Piedmont, which could cause actual results to differ materially from such statements. Piedmont makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of that announcement.

Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Mineral Resources

The information contained herein has been prepared in accordance with the requirements of the securities laws in effect in Australia, which differ from the requirements of United States securities laws. The terms "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" are Australian mining terms defined in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). However, these terms are not defined in Industry Guide 7 ("SEC Industry Guide 7") under the U.S. Securities Act of 1933, as amended (the "U.S. Securities Act"), and are normally not permitted to be used in reports and filings with the U.S. Securities and Exchange Commission ("SEC"). Accordingly, information contained herein that describes Piedmont's mineral deposits may not be comparable to similar information made public by U.S. companies subject to reporting and disclosure requirements under the U.S. federal securities laws and the rules and regulations thereunder. U.S. investors are urged to consider closely the disclosure in Piedmont's Form 20-F, a copy of which may be obtained from Piedmont or from the EDGAR system on the SEC's website at http://www.sec.gov/.

Competent Persons Statements

The information in this report that relates to Exploration Results is based on, and fairly represents, information compiled or reviewed by Mr. Lamont Leatherman, a Competent Person who is a Registered Member of the 'Society for Mining, Metallurgy and Exploration', a 'Recognized Professional Organization' (RPO). Mr. Leatherman is a consultant to the Company. Mr. Leatherman has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Leatherman consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Exploration Targets and Mineral Resources is based on, and fairly represents, information compiled or reviewed by Mr. Leon McGarry, a Competent Person who is a Professional Geoscientist (P.Geo.) and registered member of the 'Association of Professional Geoscientists of Ontario' (APGO no. 2348), a 'Recognized Professional Organization' (RPO). Mr. McGarry is a Senior Resource Geologist and full-time employee at CSA Global Geoscience Canada Ltd. Mr. McGarry has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves'. Mr. McGarry consents to the inclusion in this report of the results of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Metallurgical Testwork Results is based on, and fairly represents, information compiled or reviewed by Dr. Hamid Akbari, a Competent Person who is a Registered Member of the 'Society for Mining, Metallurgy and Exploration', a 'Recognized Professional Organization' (RPO). Dr. Akbari is a consultant to the Company. Dr. Akbari has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves'. Dr. Akbari consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Process Design, Process Plant Capital Costs, and Process Plant Operating Costs is based on, and fairly represents, information compiled or reviewed by Mr. Kiedock Kim, a Competent Person who is a Registered Member of 'Professional Engineers Ontario', a 'Recognized Professional Organization' (RPO). Mr. Kim is full-time employee of Primero Group. Mr. Kim has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves'. Mr. Kim consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Mining Engineering and Mining Schedule is based on information completed by Mr Daniel Grosso and reviewed by Mr Karl van Olden, both employees of CSA Global Pty Ltd. Mr van Olden takes overall responsibility for the Report as Competent Person. Mr van Olden is a Fellow of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC Code (2012 Edition). The Competent Person, Karl van Olden has reviewed this document and consents to the publication of this information in the form and context within which it appears.

SUMMARY OF MODIFYING FACTORS AND MATERIAL ASSUMPTIONS

The Modifying Factors included in the JORC Code (2012) have been assessed as part of the Scoping Study, including mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and government factors. The Company has received advice from appropriate experts when assessing each Modifying Factor.

A summary assessment of each relevant Modifying Factor is provided below.

Mining	Refer to section entitled 'Mining and Production Target' in the Announcement. The Company engaged independent engineers CSA Global to carry out pit optimisations, mine design, scheduling, and waste disposal. Whittle modelling and pit sequencing were compiled by Mr. Daniel Grosso, a Senior Engineer with CSA Global. The mine design is based on an open pit design assuming the following wall design configuration for oxide and overburden material in this Scoping Study: • Batter face angle of 60 degrees • Batter height of 10 vertical metres • Berm width of 6 metres • Overall slope angle of 45 degrees. The following wall design configuration was used for fresh material in this Scoping Study: • Batter face angle of 80 degrees • Batter height of 12.2 vertical metres • Berm width of 6.1 metres • Overall slope angle of 52 degrees, which includes a ramp width of 24.8 metres. Production schedules have been prepared for the Piedmont Lithium Project based on the following parameters: • Target a process plant output of 160-190 kt/a of 6% Li_2O concentrate • Plant throughput of 1.2 Mt/a • Six-month plant commissioning in Year 1 • Mine dilution of 10% • Mine recovery of 95% • Processing recovery of 85% • A mining sequence targeting maximised utilisation of Indicated resources at the front end of the schedule • Annual scheduling periods. It is planned that conventional drill and blast, load and haul open pit mining will be used to extract the mineralised material. ROM feed will be defined by grade control procedures in the pit and delivered by truck to the ROM pad located next to the processing facility. It is planned that mining will be carried out by an experienced earthmoving contractor. No alternative mining methods were considered in this Scoping Study.

Concentrator tailings will be co-disposed with waste rock from mining operations. The disposal method will not require the construction of a tailings impoundment.

No other tailings disposal methods were considered in this Scoping Study.

The initial production target is approximately 170,000 tonnes of 6.0% (Li_2O) or greater spodumene concentrate which will convert to 22,700 tonnes of lithium hydroxide monohydrate. This equates to approximately 1.15-1.2 million tonnes of ore processed per year totalling 13.3 million ROM tonnes grading at 1.04% (diluted) Li_2O over 13 years. The production target was derived from selection of the Whittle shell which provided the best estimate NPV.

Over the LOM, 55% of the material processed is in the Indicated category. 100% of the tonnes processed in years 1-2 of operations are from the Indicated category, and 70% of the material processed in years 3-6 of operations are from the Indicated category.

Processing (including Metallurgical)

Refer to sections entitled 'Metallurgy' and 'Process Design' in the Announcement.

The Company engaged North Carolina State University's Minerals Research Lab (MRL) to complete bench level testwork including spodumene flotation optimization, iron removal from spodumene concentrate and Heavy Liquid Separation (HLS) to evaluate the potential for a Dense Medium Separation (DMS) circuit.

Piedmont engaged with North Carolina State University's Minerals Research Laboratory ("MRL") to complete bench-scale testwork to produce quartz, feldspar, and mica concentrates from spodumene flotation tailings.

In the past, the MRL has provided research and development services for the spodumene mines that operated in the Kings Mountain area until the 1990s when spodumene mineral activities were terminated. MRL archives contain numerous research reports on recovery of spodumene from the pegmatites in the TSB.

Dr. Hamid Akbari is a researcher with MRL who developed and managed the testwork program for the Piedmont Lithium Project at MRL. Dr. Akbari has more than 17 years' experience conducting mineral and metallurgical processing research.

The summary results of bench-scale flotation for spodumene recovery are shown. These results were produced from multiple samples of Piedmont Lithium ore. Details of the testwork program and results were previously announced on July 17, 2018.

Stream	Mass Pull (%)	Li_2O Performance		Fe_2O_3 (%)
		Grade (%)	Distribution (%)[2]	
Final Spodumene Concentrate	14.0-19.0	6.0-6.5	71.3-82.4	0.66-0.76
Internal Streams	13.6-22.9	0.27-0.82	3.5-14.6	-
Scavenger Flotation Tailings	52.7-59.4	0.02-0.03	0.9-1.2	0.08-0.11
Final Magnetic Tailings	1.0-1.8	3.4-4.7	3.0-4.8	8.62-13.70
Fines (-20 micron) Tailings	7.4-10.7	1.05-1.55	7.5-9.0	-
Analysed Head Feed	-	1.17-1.59	-	0.39-0.52

Based on the results of bench-scale flotation and iron removal testwork, Primero Group developed the process design for the Concentrator.

The flowsheet involves ore sorting pre-concentration, comminution, desliming, attrition scrubbing, conditioning, rougher, scavenger, and three-stage cleaner flotation followed by acid washing, iron removal using WHIMS, and concentrate dewatering.

Overall Li_2O recovery of 85% is used in the Scoping Study. It is acknowledged that laboratory scale testwork will not always represent the actual results achieved from a production plant in terms of grade, recovery, or iron content. Further pilot plant scale testwork will be required to gain additional confidence of specifications and recoveries that will be achieved at full-scale production.

For detailed by-product metallurgical testwork results in bench-scale refer to the 'Metallurgy' and 'Process Design' sections of this Announcement and the detailed testwork results previously announced on September 4, 2018.

The summary results of bench-scale flotation for by-product qualities are shown. These results were produced from multiple samples of spodumene flotation tailings composited into by-product circuitry feed material.

Bench Scale Quartz Concentrate Results			
Parameter	Sample B	Sample F	Sample G
% SiO_2	99.8	99.7	99.7
% Al_2O_3	0.10	0.10	0.14
% K_2O	0.026	0.022	0.029
% Na_2O	0.05	0.06	0.06
% CaO	<0.01	<0.01	<0.01
% Fe_2O_3	0.01	0.01	<0.01
% Li_2O	0.013	0.011	0.013
% MgO	0.05	0.05	0.03
% MnO	<0.008	<0.008	<0.008
% P_2O_5	0.007	0.005	0.007
% TiO_2	<0.0010	<0.0010	<0.0010

Bench Scale Feldspar Concentrate Results			
Parameter	Sample B	Sample F	Sample G
% SiO_2	68.9	68.8	68.8
% Al_2O_3	18.5	18.6	18.6
% K_2O	3.99	3.81	3.84
% Na_2O	8.35	8.45	8.49
Total Na_2O+K_2O	12.34	12.26	12.33
% CaO	0.07	0.12	0.08
% Fe_2O_3	0.02	0.01	0.02
% Li_2O	0.026	0.019	0.047
% MgO	<0.01	<0.01	<0.01
% MnO	<0.008	<0.008	<0.008
% P_2O_5	0.151	0.154	0.150
% TiO_2	<0.0010	<0.0010	<0.0010

	Bench Scale Mica Physical Properties Results Parameter / Unit / Optimized Value Particle Size / Medium to Very Fine / 60 – 325 Mesh Bulk Density / g/cm^3 / 0.681-0.682 Grit / % / 0.70-0.79 Photovoltmeter / Green Reflectance / 11.2-11.6 Hunter Value / ± a [Redness(+) Greenness(-)] / 0.27-2.27 Hunter Value / ± b [Yellowness(+) Blueness(-)] / 44.77-46.07 The by-product recovery flowsheet involves desliming of the spodumene flotation tailings, mica flotation, iron removal by flotation, feldspar flotation followed by several stages of iron removal using WHIMS, and by-product concentrate dewatering. Overall metallurgical recovery of by-products was not calculated. The Company expects to process approximately one-third of the spodumene flotation tailings material and therefore the by-product process design is not sensitive to metallurgical recovery rates.
Infrastructure	Refer to section entitled 'Infrastructure' in the Announcement. Piedmont's proximity to Charlotte, North Carolina effectively means that no regional infrastructure requirements exist outside of the non-process infrastructure associated with the Project located within the Project battery limits. The Scoping Study was managed by Primero Group. Primero Group is a leader in lithium processing with capabilities including technical study, detailed engineering, procurement, construction management, and contract operations. All infrastructure including on site non-process infrastructure related capital and operating costs were estimated by Primero Group.
Marketing	Refer to section entitled 'Marketing' in the Announcement Piedmont has used a basket of price forecasts from independent industry analysts, investment banks, and industry advisors as well as a current market review of suppliers, consumers, global consumption, and recently announced studies. The LOM average price assumption for 6.0% Li_2O concentrate used in this Scoping Study is US$685 per tonne based on a gradually decreasing price over time. Piedmont has estimated a price of US$14,000 per tonne price for lithium hydroxide based on several industry analyst forecasts including Roskill and Global Lithium. Piedmont has established the following pricing for by-product concentrates based on information provided from the United States Geological Survey and marketability commentary from CSA Global following a preliminary evaluation of the Company's bench-scale metallurgical results for by-products.

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<tr><td>By-product</td><td>Annual Volume</td><td>Average Sales Price</td></tr>
<tr><td>Quartz</td><td>99,000</td><td>$100</td></tr>
<tr><td>Feldspar</td><td>125,000</td><td>$75</td></tr>
<tr><td>Mica</td><td>15,500</td><td>$50</td></tr>
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Piedmont will continue to focus on developing market relationships and discussions with potential off-take partners for both lithium products and industrial mineral by-products.
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<td>Economic</td>
<td>
Refer to sections entitled ‘Economics’ in the Announcement.
Capital Estimates have been prepared by Primero Group, a global expert in lithium processing, using a combination of cost estimates from suppliers, historical data, reference to recent comparable projects, and benchmarked construction costs for North Carolina, USA relative to other global lithium producing jurisdictions. Costs are presented in real 2018 terms and are exclusive of escalation. The overall accuracy is deemed to be ± 35%.
Capital costs include the cost of all services, direct costs, contractor indirects, EPCM expenses, non-process infrastructure, sustaining capital and other facilities used for the operation of the Mine/Concentrator and Chemical Plant. Capital costs make provision for mitigation expenses and mine closure and environmental costs.
Capital costs do not make provision for the following:

Mining fleet is excluded from the capital cost estimate as the unit rates applied in the operating cost estimate assume a contract mining operation
Social responsibility costs, although these would not be expected given the Project location

Working capital requirements prior to plant commissioning and full ramp up have been excluded from the capital estimate.
All cost information has been estimated to a scoping study level of accuracy (±35%). Costs are presented in real 2018 terms and are exclusive of escalation.
Mining costs have been estimated by CSA Global, a global leader in mining and geology consulting engineering. Mining costs have been developed from similar projects and adjusted for specific benchmarked costs attributable to North Carolina, United States.
Processing and general & administrative costs have been estimated by Primero Group, a global leader in lithium processing. Processing costs are based on a combination of first principles build-up, direct supplier quotes, and experience on similar project with unit rates benchmarked to costs attributable to North Carolina, United States.
Labour costs have been developed based on a first-principles build-up of staffing requirements with labour rates from bench marks for the Charlotte, North Carolina region.
There are no government royalties associated with the project.
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	A royalty of US$1.00 per ROM tonne delivered to the concentrator is applied to the project economics, and are included in the headline figure of $193/t concentrate cash costs. Rehabilitation and mine closure costs are included within the reported cash operating cost figures. The reported cash operating costs do not make provision for the following: • Corporate head office costs • Social responsibility costs, although these are not expected in this jurisdiction A detailed financial model and discounted cash flow (DCF) analysis has been prepared in order to demonstrate the economic viability of the Project. The financial model and DCF were modelled with conservative inputs to provide management with a baseline valuation of the Project. The DCF analysis demonstrated compelling economics of the prospective integrated Project, with an NPV (ungeared, after-tax, at an 8% discount rate) of US$888 million, assuming a LOM lithium hydroxide price of US$14,000/t and a LOM spodumene concentrate price of US$685/t, and an (ungeared) IRR of 46%. The DCF analysis also highlighted the low operating costs, low royalties, and low corporate tax rates which potentially allow Piedmont to achieve high after-tax margins approaching US$9,500 per tonne, or approximately 68%. The Project generates an estimated US$9,270 per tonne of free cash flow during life-of-mine operations after construction of the chemical plant. Sensitivity analysis was performed on all key assumptions used. The robust project economics insulate Piedmont's proposed integrated lithium chemical business from variation in market pricing, capital expense, or operating expenses. At a lithium hydroxide price of US$9,800/t (being 30% lower than the Scoping Study price of US$14,000) combined with spodumene concentrate prices of US$480/t (being 30% lower than the Scoping Study price of US$685) the Project still displays a positive NPV of US$453 million and IRR of 27%. Payback periods for the Mine/Concentrator and Chemical Plant are 1.6 years and 2.5 years, respectively. The payback periods are based on free-cash flow, after taxes. Piedmont estimates the stage 1 capital cost to construct the mine and concentrator to be US$130 million (which includes a 20% contingency on all costs) including US$17.7 million for delivery of by-product processing circuitry. Piedmont estimates the stage 2 capital cost to construct the chemical plant to be US$344 million (which includes a 30% contingency on all costs). In respect of the stage 2 capital, approximately US$165 million is expected to be generated in free cash flows from sales of spodumene concentrate in early years before completion of construction of the chemical plant. This leaves approximately US$179 million in capital required for stage 2 capital cost to construct the chemical plant. An assessment of various funding alternatives available to Piedmont has been made based on precedent transactions that have occurred in the mining industry, including an assessment of alternatives available to companies that operate in industrial and specialty minerals sector. Importantly, Piedmont expects its mine and concentrator to be operating and producing free cash

	flows when it comes to funding its stage 2 capital for construction of the chemical plant. The Company engaged the services of Foster Stockbroking, a boutique investment bank and stockbroking firm, which specialises in the natural resources and technology sectors. Foster Stockbroking offers specialist corporate advice and capital markets services to a range of corporate clients and we have managed in excess of $700m in capital raisings during the last 3 years. Following the assessment of a number of key criteria, Foster Stockbroking has confirmed in writing that, provided a Definitive Feasibility Study arrives at a result not materially worse than the Scoping Study, the Company should be able to raise sufficient funding to develop the Project, subject to global capital market conditions at the time not being materially worse than they are currently. Since acquisition of the Piedmont Lithium Project in September 2016, the Company has completed extensive drilling, sampling and geophysical surveys to understand the geological setting and define spodumene resources within the Piedmont Project area. Over this period, with these key milestones being reached and the Project de-risked, the Company's market capitalisation has increased from approximately A$20 million to over A$100 million. As the Project continues to achieve key develop milestones, which can also be significant de-risking events, the Company's share price is likely to increase. The Company is debt free and is in a strong financial position, with approximately A$10 million cash on hand at 30 June 2018. The current strong financial position means the Company is soundly funded to continue the drilling, metallurgical testwork, and studies to further develop the project. Piedmont has a high-quality Board and management team comprising highly respected resource executives with extensive finance, commercial and capital markets experience. The Directors have previously raised more than A$1 billion from debt and equity capital markets for a number of exploration and development companies. Piedmont's shares are listed on the Australian Securities Exchange ("ASX") and its American Depositary Receipts ("ADR's") are listed on the Nasdaq Capital Market ("Nasdaq"). Nasdaq is one of the world's premier venues for growth companies and provides increased access to capital from institutional and retail investors in the United States. As a result, the Board has a high level of confidence that the Project will be able to secure funding in due course, having particular regard to: • Required capital expenditure; • Piedmont's market capitalisation; • Recent funding activities by Directors in respect of other resource projects; • Recently completed funding arrangements for similar or larger scale development projects; • The range of potential funding options available; • The favourable key metrics generated by the Project; and • Investor interest to date.

Environmental	Refer to the section entitled 'Environmental and Social Impact Assessment in the Announcement. In December 2017, Piedmont Lithium retained HDR Engineering, Inc. to provide a Critical Issues Analysis of the Piedmont Lithium Project. HDR Engineering preliminarily concluded that at the Project's current stage of development "potentially identified environmental conditions have not been identified in association with the Study Area". Piedmont advises that in addition to a Mining Permit issued by the North Carolina Department of Environmental Quality (DEQ) that a US Army Corps of Engineers 404 Permit for streams and wetlands impacts will be required. HDR Engineering has completed a wetlands inventory of the Project and submitted a jurisdictional determination request to the US ACE in May 2018. Piedmont has additionally completed preliminary field surveys for cultural and historic artefacts, field surveys for threatened and endangered species and habitats, and commenced groundwater monitoring programs. Additional environmental and permitting activities will be required prior to issuance of state and federal permits. Additional land acquisitions for process infrastructure, waste disposal, and other facilities or buffer areas are required before the Company can submit permit applications for the Project.
Social, Legal and Governmental	The Company has taken legal advice in relation to relevant Modifying Factors. The Project is located entirely within private lands. Piedmont engaged Johnston, Allison & Hord P.A. ("JAH") to provide legal advice regarding the nature, scope and status of the Company's land tenure and mineral tenement rights for the Project in considering the results of the Scoping Study. The 530 acres which contain the Project's Mineral Resource are currently owned by sixteen (16) individual landowners. Piedmont has executed option agreements with each landowner granting the exclusive right to explore and evaluate the mineral products located on the land and to purchase or lease the land in Piedmont's sole discretion. For each option agreement: • The Company has made all required payments under each option agreement • Each private landowner has recorded a Memorandum of Option and each Memorandum is recorded in the Gaston County Register of Deeds. These Memoranda were recorded in September and October 2016. • Title searches on all properties were completed as of the date of recording of each Memorandum of Option. • All title searches have confirmed that landowners hold fee simple ownership of all land and mineral rights related to the land with certain real estate taxes, and utility accesses or easements which do not materially impact Piedmont's option rights or ability to extract minerals from the land. Additional property which does not contain the Mineral Resource, but which will be required to construct infrastructure, waste piles, or serve as Project buffer area are not currently owned or optioned by the Company.

	The Company is not aware of any reason why this additional land cannot be acquired through lease or option by the Company. A rezoning of the Project's Mine/Concentrator property from agricultural use to industrial use will be required prior to a construction decision. Additionally, a Conditional Use Permit (CUP) issued by Gaston County will be required. The Company has held initial meetings with the Gaston County planning office and the Economic Development Commission of Gaston County. The Company is not aware of any reason why rezoning and a CUP would not be granted. The Company controls 60.6 acres of property in Cleveland County for the proposed Chemical Plant.

Material Assumptions

Project Start Date	2020
Cost and Pricing Basis	2018 Dollars
Currency	US Dollars
Cost Escalation	0%
Revenue Escalation	0%
Scoping Study Accuracy	±35%
Capex Contingency (Mine/Concentrator)	±20%
Capex Contingency (Chemical Plant)	±30%
Mining	
Mineral Resource	16.2Mt
Portion of Production Target – Indicated	55%
Portion of Production Target - Inferred	45%
Annual Production (steady state)	1.2Mtpy
Grade (Undiluted) LOM	1.12% Li_2O
Grade (Diluted) LOM	1.04% Li_2O
Life of mine	13 Years
Dilution	10%
Mining Recovery	95%
Mining Cost Base ($/t)	US$1.85/t
Total Ore Mined (Diluted)	13,330,000 tonnes
Total Waste Rock	109,950,000 tonnes
LOM average strip ratio	8.2:1 waste:ore
Concentration	
Spodumene Production per Year	150,000 – 170,000 tonnes
Quartz Production per Year	99,000 tonnes
Feldspar Production per Year	125,000 tonnes
Mica Production per Year	15,500 tonnes
Average Quality	6.0% Li_2O
Process Recovery	85%
Total Concentrate Production	1,950,000 tonnes
Concentrate Sold to 3rd Party	639,000 tonnes
Chemical Conversion	
Conversion Rate	93%
Annual Production Lithium Hydroxide	22,700 tonnes
Conversion Rate (concentrate:LiOH t:t)	6.39:1
Total LiOH Produced	206,000 tonnes
Pricing	
Spodumene Concentrate Avg. Price	US$685/t
Lithium Hydroxide Avg. Price	US$14,000/t
Quartz Concentrate Avg. Price	US$100/t
Feldspar Concentrate Avg. Price	US$75/t
Mica Concentrate Avg. Price	US$50/t
Other	
Direct development capital – Mine/Concentrator	US$61.0 million
Direct development capital – By-Products	US$17.7 million
Direct development capital – Chemical Plant	US$252.6 million
Owner's costs – Chemical Plant + Mine/Concentrator	US$23.1 million
Land acquisition costs	US$18.9 million

Sustaining and deferred capital	US$57.8 million
Contingency	US$101.1 million
Royalties	$1.00/t average per ROM ton ore
Corporate tax rate	21% Federal – 2.5% State (22.975% Aggregate)
Discount rate	8%