

## CHEMICAL PLANT PFS DEMONSTRATES EXCEPTIONAL ECONOMICS AND OPTIONALITY OF USA LOCATION

Piedmont Lithium Limited (“Piedmont” or “Company”) is pleased to report the results of the Company’s pre-feasibility study (“PFS”) for its proposed lithium hydroxide chemical plant (“Chemical Plant”) in Kings Mountain, North Carolina, USA. The PFS assumes a stand-alone merchant Chemical Plant that would convert spodumene concentrate purchased on the global market to battery-grade lithium hydroxide (“Merchant Project”).

Concurrently, Piedmont has updated the scoping study (“Scoping Study”) for its integrated mine-to-hydroxide project (“Integrated Project”) to reflect the updated Chemical Plant PFS. Both studies confirm that Piedmont will be a strategic and low-cost producer of battery-grade lithium hydroxide. Piedmont benefits from access to the exceptional infrastructure, low operating costs and low corporate taxes enjoyed by American industrial companies.

Piedmont’s Chemical Plant would create an alternative to the numerous merchant spodumene converters currently operating in China and dominating the world lithium hydroxide market, thus providing US and European automotive companies a secure and independent American source of the lithium hydroxide required for their supply chains.

### Cautionary Statements

The Scoping Study referred to in this announcement has been undertaken to determine the potential viability of the Integrated Project comprising a Mine/Concentrator and Chemical Plant constructed in North Carolina, USA and to reach a decision to proceed with more definitive studies. The Scoping Study for the Integrated Project has been prepared to an intended accuracy level of  $\pm 25\%$ . The results should not be considered a profit forecast or production forecast.

The Scoping Study is a preliminary technical and economic study of the potential viability of the Integrated 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 53% of the total production targets are in the Indicated Mineral Resource category with 47% in the Inferred Mineral Resource category. 100% of the production target in years 1-3 is 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 Mineral Resource. 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 realized.

The 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 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 realization’ strategies such as sale, partial sale, or joint venture of the Integrated Project. If it does, this could materially reduce Piedmont’s proportionate ownership of the Integrated 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 Integrated Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

# HIGHLIGHTS

## LiOH

### LITHIUM HYDROXIDE FOR THE ELECTRIC VEHICLE MARKET

- Electric Vehicle (“EV”) demand to grow 12x by 2030 driven by falling battery costs
- Lithium Hydroxide (“LiOH”) required in the high-nickel batteries used in longer range EVs
- LiOH demand forecast to grow 31% per year through 2030
- 22,720 tonnes per year (“t/y”) of LiOH production under either development scenario



### PREMIER USA LOCATION

- An American source of lithium hydroxide to serve the important vehicle and stationary storage markets in the USA and Europe
- Advantageous North Carolina location with well-developed infrastructure, deep experienced lithium industry talent pool, inexpensive power and reagents, stable regulatory environment, and favorable taxes
- Piedmont will provide an alternative supply source for Western auto makers as currently 80% of the world’s LiOH is produced in China



### POSITIVE ESG PROFILE

- LiOH will power the electrification of the vehicle business, dramatically reducing emissions vs. traditional internal combustion vehicles
- Automotive companies prefer spodumene-sourced hydroxide for sustainability reasons
- Chemical Plant to be powered entirely by low carbon sources in North Carolina
- USA labor, environmental and safety standards



### EXCEPTIONAL FINANCIAL RESULTS DRIVEN BY LOW OPERATING COSTS

- Merchant Project post-tax NPV<sub>8</sub> of US\$714 million and post-tax IRR of 26%
- Integrated Project post-tax NPV<sub>8</sub> of US\$1.1 billion and post-tax IRR of 26%
- Both projects at the low end of their respective cost curves
  - Average Merchant Project LiOH cash costs of US\$6,689/t
  - Average Integrated Project LiOH cash costs of US\$3,716/t



### LEVERAGE TO RISING LITHIUM PRICES

- Lithium prices are currently at 3-year lows and the pricing forecasts utilized herein reflect prices that are ~\$4,000/t lower than those used in previous studies
- For every \$1,000/t increase in LiOH prices Piedmont would see an annual EBITDA boost of over US\$20 million and an increase to NPV<sub>8</sub> of ~US\$150 million

# EXECUTIVE SUMMARY

Piedmont has a strategically significant lithium footprint in the United States which positions the Company to become a low-cost producer of high-quality lithium hydroxide for the automotive industry. This announcement presents the results of two studies:

1. The Chemical Plant PFS supports a potential Merchant Project that assumes a stand-alone Chemical Plant converting spodumene concentrate purchased on the global market to battery-grade lithium hydroxide.
2. The Scoping Study covers the Integrated Project comprising a Mine/Concentrator that will produce spodumene concentrate which will be transported to a Chemical Plant and converted into battery-grade lithium hydroxide.

Both studies deliver excellent economics and robust internal rates of return over 25-year project lives. The Company will continue to progress both studies and assess the staging of development activities to maximize returns to shareholders.

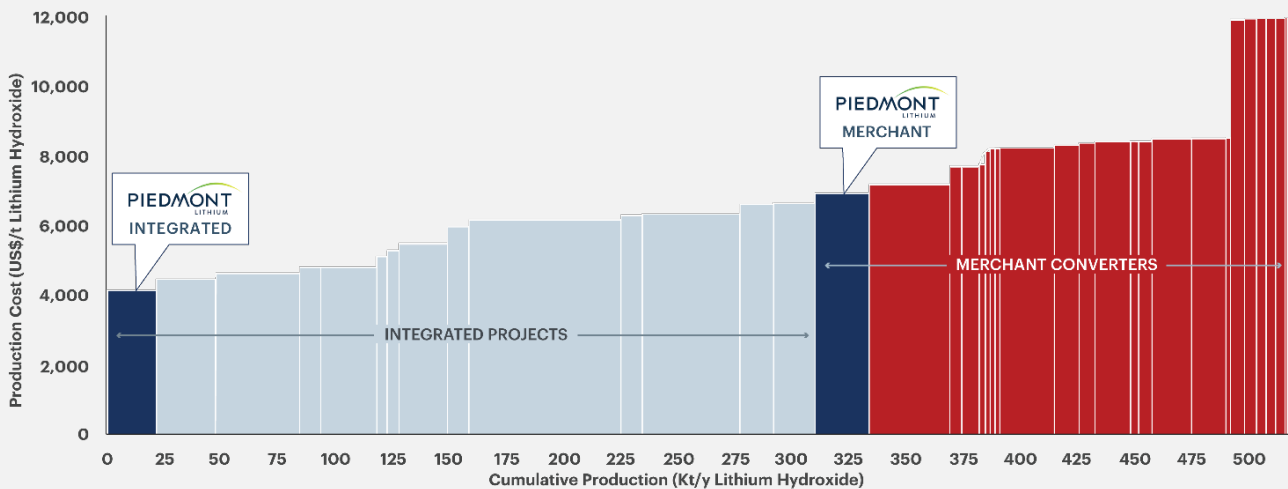
**Table 1: Summary outcomes of Merchant Project PFS and Integrated Project Scoping Study**

Outcomes	Unit	Merchant Project	Integrated Project
Project Life	years	25	25
Annual average lithium hydroxide production (steady-state)	t/y	22,720	22,720
Annual average spodumene concentrate production (steady-state)	t/y	N/A	160,000
Average cash cost of lithium hydroxide production (steady-state)	US\$/t	\$6,689	\$3,712
Average cost of spodumene concentrate (steady-state)	US\$/t	\$651	\$201
Mine/Concentrator - initial capital cost (including contingency)	US\$M	N/A	\$168
Chemical Plant - initial capital cost (including contingency)	US\$M	\$377	\$377
Annual average EBITDA (steady-state)	US\$M/y	\$149	\$218
After tax Net Present Value ("NPV") @ 8% discount rate	US\$M	\$714	\$1,071
After tax Internal Rate of Return ("IRR")	%	26%	26%
Payback from start of operations	y	3.34	3.23
Assumed long term LiOH price (real) <sup>1</sup>	US\$/t	\$12,910	\$12,910

1. Based on Benchmark Mineral Intelligence's revised Q1 2020 lithium pricing forecast.

## Compelling Operating Costs for Two Development Cases

A cost-curve comparing Piedmont's position relative to the 2028 operating and highly-probable projects according to Roskill demonstrates the 1st quartile position of Piedmont's Integrated Project and the competitive position of Piedmont's Merchant Project vs. other (Chinese) merchant spodumene or lithium carbonate-to-hydroxide converters. (See Figure 1). The competitive cost position allows Piedmont to provide an alternative source of supply to US and European automotive customers.



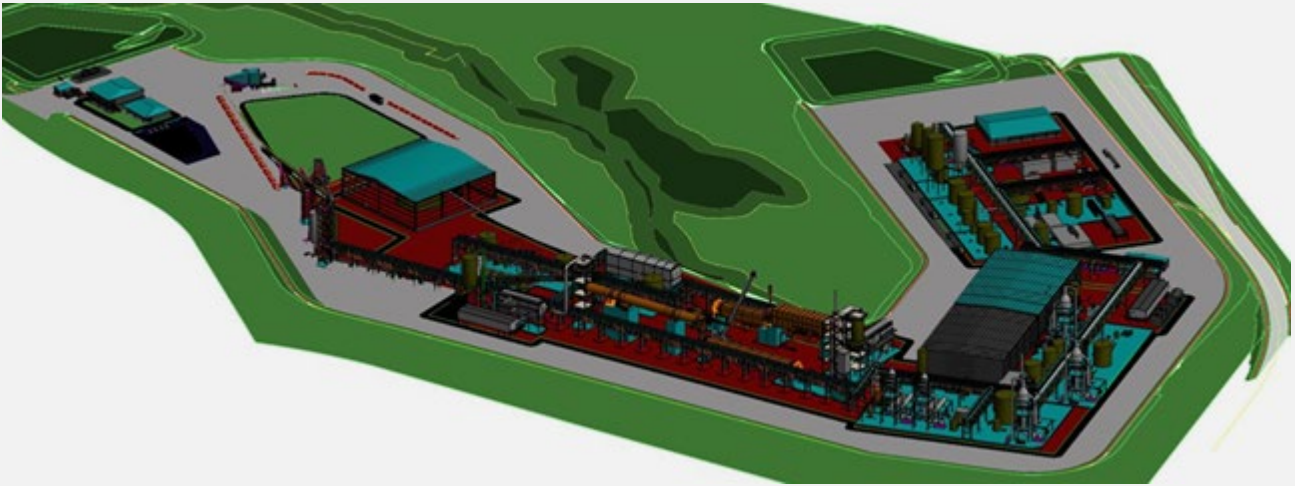
**Figure 1 – Lithium Hydroxide 2028 AISC Cost Curve (Real Basis) (Roskill)**

AISC includes all direct and indirect operating costs including feedstock costs (internal AISC or external supply), refining, on-site G&A costs and selling expenses. It does not include costs associated with corporate-level G&A.

## MERCHANT PROJECT

The Chemical Plant PFS features a lithium hydroxide conversion plant to be supplied by spodumene concentrate purchased on the global market, rather than by Piedmont's own Mine/Concentrator. The Merchant Project will compete against the numerous merchant spodumene converters currently operating in China, providing US and European automotive companies a secure and independent American source of the lithium hydroxide required for their supply chains.

The Merchant Project will provide the growing number of spodumene concentrate producers in Australia, North America, South America, Europe and Africa an alternative non-Chinese processing route for their material for the first time. Piedmont is actively engaged with several such parties and is progressing the securing of feed material for the plant.



*Figure 2 – Isometric Depiction of Piedmont's 22,720 t/y Lithium Hydroxide Chemical Plant*

The design basis of the Chemical Plant is identical in the merchant and integrated scenarios and features:

- Nameplate production capacity of 22,720 tonnes per year (“t/y”) of LiOH
- Process equipment selection based on conventional, proven technologies
- An estimated ramp-up to nameplate capacity within 24 months of plant commissioning

The Merchant Project operating cost estimate assumes an average life-of-project spodumene concentrate cost of US\$651/t delivered to the Chemical Plant in Kings Mountain, North Carolina. Based on this long-term incentive spodumene concentrate price projection, Benchmark Minerals Intelligence (“Benchmark”) estimates that adequate spodumene concentrate would be available in the market, including from sources within the Atlantic Basin, to provide feedstock for the merchant conversion business contemplated by Piedmont.

Table 2 highlights the key economic outcomes of the Merchant Project.

Table 2: Piedmont Merchant Project Key Economic Outcomes	Unit	Estimated Value
Initial capital cost	US\$M	\$377
Life of Project lithium hydroxide cash costs	US\$/t	\$6,689
Life of Project revenue (real)	US\$M	\$7,336
Life of Project EBITDA	US\$M	\$3,627
Net operating cash flow after tax	US\$M	\$2,911
Free cash flow after capital costs	US\$M	\$2,380
Average annual steady state EBITDA	US\$M/y	\$149
Average annual steady state free cash flow	US\$M/y	\$114
After tax Net Present Value (NPV) @ 8% discount rate	US\$M	\$714
After tax Internal Rate of Return (IRR)	%	26%
Payback from start of operations	y	3.34

## INTEGRATED PROJECT

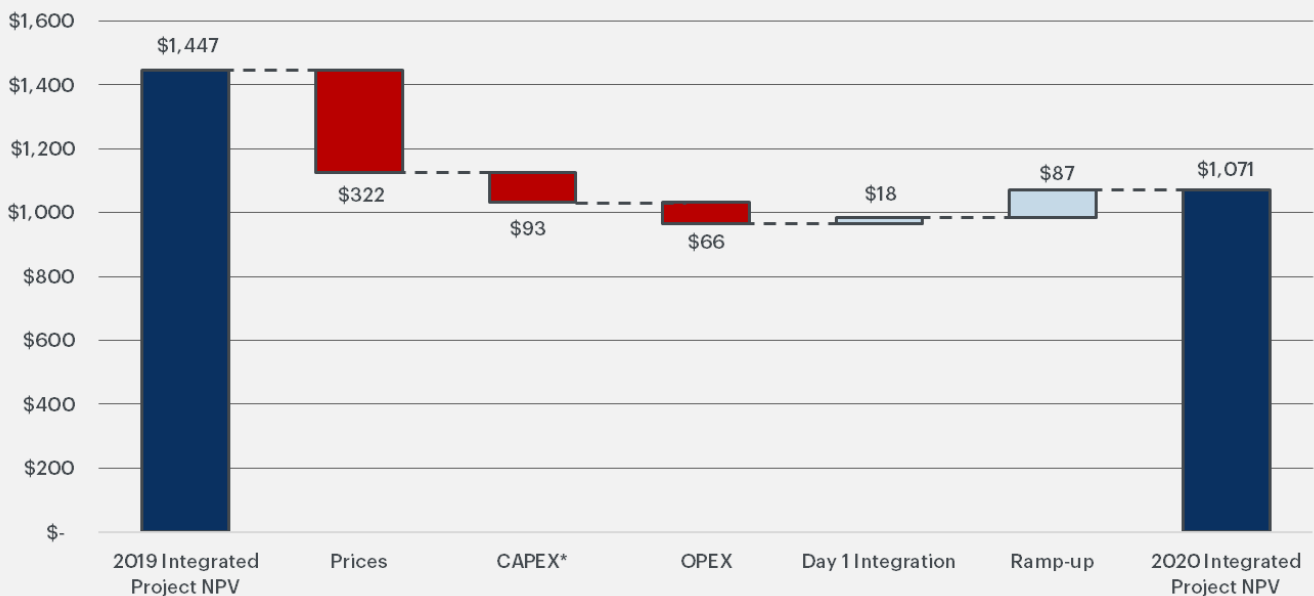
Piedmont has also updated the Integrated Project Scoping Study for its spodumene-to-hydroxide business located in North Carolina, USA. Piedmont holds a 100% interest in the Integrated Project located within the Carolina Tin-Spodumene Belt (“TSB”) and along trend to the Hallman Beam and Kings Mountain mines, which historically provided most of the 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 Integrated Project Scoping Study includes a steady-state 22,720 t/y lithium hydroxide Chemical Plant supported by a Mine/Concentrator producing 160,000 t/y of 6% Li<sub>2</sub>O spodumene concentrate (“Concentrate” or “SC6.0”). By-products quartz, feldspar, and mica will provide credits to the cost of lithium production. The Integrated Project Scoping Study features:

- 25-year project life with Mine/Concentrator and Chemical Plant constructed in a single phase
- 1st quartile operating costs
  - Lithium hydroxide cash costs of US\$3,712/t (AISC of US\$4,209/t)
  - Spodumene concentrate cash costs of US\$201/t (AISC of US\$240/t)
- Exceptional project economics
  - NPV<sub>8</sub> of US\$1.1B
  - After-tax IRR of 26%
  - Steady-state annual average EBITDA of US\$218M
- Mine/Concentrator and Chemical Plant engineering completed to PFS-level

Piedmont’s Integrated Project is projected to have cash operating costs of \$3,712/t LiOH and an average life of project all-in sustaining cost (“AISC”) of approximately \$4,209/t, including royalties and net of by-product credits, positioning Piedmont as the industry’s lowest-cost producer as reflected in Roskill’s 2028 lithium hydroxide cost curve (see Figure 1).

In comparison to the prior scoping study published in August 2019, the Integrated Project Scoping Study results have been negatively impacted by the use of more conservative lithium pricing, with the current Scoping Study utilizing long-term pricing forecasts that are \$3,979/t lower than were used in the prior study. Operating costs have remained in the first quartile, while capital expenditures have increased modestly after more detailed study. The shift to a single-phase integrated approach as well as a more conventional production ramp-up schedule have partially offset these factors. Figure 3 shows the impact of key project changes to Integrated Project NPV.



**Figure 3 – Impact to NPV<sub>8</sub> of Integrated Project Due to Various Economic Model Changes**

\* Impacts associated under the category CAPEX are inclusive of total initial capital cost, changes to sustaining capital, and a more conservative view of timing of construction cash flow.



*“The Chemical Plant PFS demonstrates the economic benefit of developing a lithium chemical business in North Carolina, USA, with its exceptional infrastructure, low operating costs and competitive tax regime.*

*80% of the world’s lithium hydroxide is produced in China, largely by non-integrated ‘merchant’ producers sourcing spodumene concentrate from Western Australia. As global automotive companies electrify their fleets, we expect them to increasingly seek ex-China sources of lithium supply, and North Carolina is ideally-positioned to benefit given its proximity to major auto markets in the US and Europe, and the deep lithium talent pool resident in the region.*

*Piedmont will now advance the Chemical Plant through the permitting and definitive feasibility processes, providing us the option to move aggressively on either a merchant or integrated basis toward first lithium production in 2023 as the transition to electric vehicles begins to seriously take hold”.*

*Keith D. Phillips, President and Chief Executive Officer*

**For further information, contact:**

Keith D. Phillips  
President & CEO  
T: +1 973 809 0505

E: [kphillips@piedmontlithium.com](mailto:kphillips@piedmontlithium.com)

Tim McKenna  
Investor & Government Relations  
T: +1 732 331 6457

E: [tmckenna@piedmontlithium.com](mailto:tmckenna@piedmontlithium.com)





**PLL**

# **CHEMICAL PLANT PRE-FEASIBILITY STUDY**



## 1.0 CHEMICAL PLANT PFS

The Chemical Plant PFS features a lithium processing plant that includes spodumene concentrate receiving/short term storage facilities, reagent receiving and storage facilities, process facilities, and site infrastructure. The PFS excludes a Mine/Concentrator and residue storage facilities. The Merchant Project contemplates a 25-year project life. The ramp-up period for Chemical Plant operations is assumed to achieve nameplate capacity including both overall production and battery quality production after a 24-month ramp-up period. Table 3 provides a summary of production and cost figures for the Merchant Project.

<b>Table 3: Life of Merchant Project</b>	<b>Unit</b>	<b>Estimated Value</b>
<b>Physical – Chemical Plant – Merchant Project</b>		
Steady-state annual lithium hydroxide production	t/y	22,720
Steady-state annual battery quality lithium hydroxide production	t/y	22,493
Steady-stage annual technical quality lithium hydroxide production	t/y	227
Lithium hydroxide production – life-of-project	t	554,600
Battery quality LiOH production – life-of-project	t	535,900
Technical quality LiOH production – life of project	T	18,700
Spodumene concentrate consumed – life of project	T	3,663,000
Chemical Plant life	Years	25
<b>Operating and Capital Costs – Chemical Plant – Merchant Project</b>		
Average LiOH production cash costs using purchased concentrate	US\$/t	\$6,689
Chemical Plant - Direct costs	US\$M	\$226.5
Chemical Plant – Indirect costs	US\$M	\$65.8
Chemical Plant – Owner’s costs	US\$M	\$11.3
Chemical Plant – Contingency	US\$M	\$73.1
Chemical Plant – Sustaining and deferred capital	US\$M	\$108.7
<b>Financial Performance – Merchant Project – Life of Project</b>		
Life of Project revenue (real)	US\$M	\$7,336
Life of Project EBITDA	US\$M	\$3,627
Net operating cash flow after tax	US\$M	\$2,911
Free cash flow after capital costs	US\$M	\$2,380
Average annual steady state EBITDA	US\$M/y	\$149
Average annual steady state free cash flow	US\$M/y	\$114
After tax Net Present Value (NPV) @ 8% discount rate	US\$M	\$714
After tax Internal Rate of Return (IRR)	%	26%
Payback from start of operations	y	3.34



## 1.1 Chemical Plant Overview

The Company owns approximately 61 acres of freehold property in Kings Mountain, North Carolina for the site of the Company’s planned Chemical Plant. The site is in proximity to existing lithium operations owned by Albemarle and Livent and about 20 miles from the Company’s Mineral Resources located in Gaston County, North Carolina.

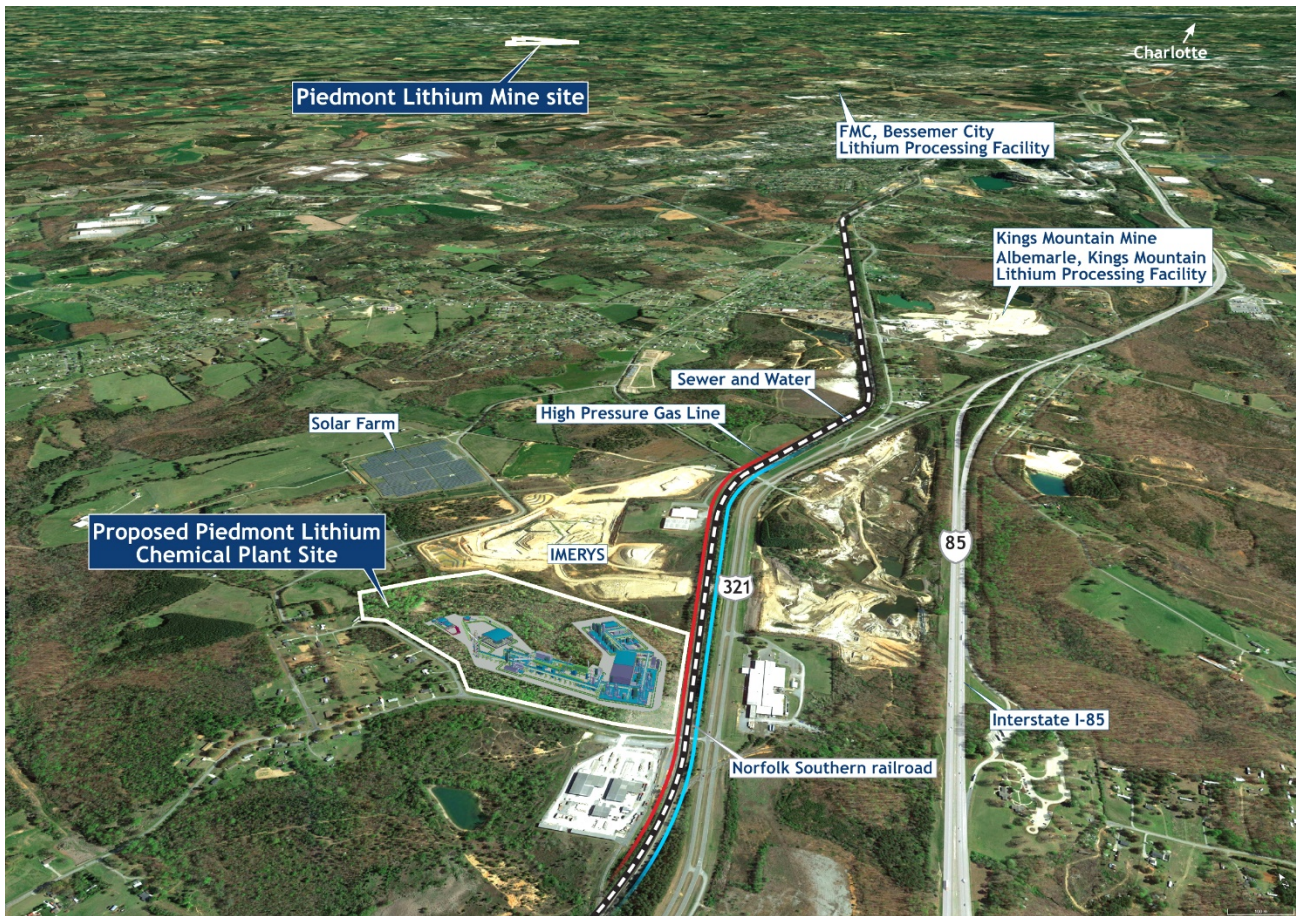


Figure 4 – Piedmont Chemical Plant Site Located South of Kings Mountain, NC

## 1.2 PFS Consultants

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

Table 4: PFS Consultants

Consultant	Scope of Work
Hatch	Chemical Plant engineering, initial capital cost and operating cost estimates
SGS Lakefield	Metallurgical testwork
HDR Engineering, Inc.	Permitting, environment, and social studies
Benchmark Mineral Intelligence	Lithium market research
Roskill	Lithium market research

## 1.3 Environmental, Sustainability, and Governance

The Company maintains a strong commitment to responsible project development.

Potential electricity supply from the City of Kings Mountain is sourced from low-carbon sources including from the nearby 475 Kings Mountain energy center, a newly constructed advanced natural gas generating station, and from non-carbon nuclear and solar sources in the region. The Company is committed to excluding coal-fired power generation from its energy mix.

Piedmont will consider environmental impacts and carbon emissions as part of decision making with respect to spodumene concentrate supply, noting that a number of the projects in the Atlantic Basin, including in Brazil and Quebec, are reliant on zero-emission hydroelectric power for electricity supply.

The Company is committed to a policy of Environmental Justice (“EJ”) to ensure the fair treatment of all people with respect to the Merchant Project regardless of race, color, national origin, or income level.

## Permitting

HDR Engineering has been retained by Piedmont to support permitting activities on the Chemical Plant. Permitting work for the Chemical Plant is advanced with key permit applications to be submitted shortly after PFS completion.

The following environmental, field investigation, and social studies are underway on the Chemical Plant:

- Streams and wetlands delineation are complete and jurisdictional determination (“JD”) concluded with the US Army Corps of Engineers. Based on the JD a Section 404 Standard Individual or Nationwide Permit will not be required for the Chemical Plant.
- Air emissions data has been estimated for the Chemical Plant. Emissions modeling has commenced. Based on the outcomes of the PFS the Company will pursue a synthetic minor air permit under the EPA Title V program.
- The City of Kings Mountain for water supply and wastewater discharge criteria.
- Characterization tests on aluminosilicate byproduct is underway at SGS. These tests are intended to confirm the non-hazardous of these inert tails which will allow this material to be used for reclamation.
- An environmental justice snapshot study has been undertaken by HDR.
- Heavy industrial zoning of the Kings Mountain property is complete; a Conditional Use Permit application will be prepared following completion of the PFS.

A list of key permits required prior to final investment decision has been identified in Table 5.

Table 5: Chemical Plant – Permits Required Before Construction	
Permit	Regulatory Authority
Clean Air Act Title V Permit	North Carolina DEQ – Division of Air Quality
Construction Stormwater Permit (“NCG01”)	North Carolina DEQ
Conditional Use Permit (“CUP”)	Cleveland County Zoning
Driveway Permit	North Carolina Department of Transportation
MS4 Stormwater Permit	Cleveland County
Utility connections (water/wastewater)	City of Kings Mountain

The Company expects permits required prior to construction decision to be approved by the end of 2020.

## 1.4 Chemical Plant Process Design

The Chemical Plant flowsheet incorporates as far as practical ‘conventional’ or proven in operation, equipment, and process stages, in order to minimize process, technology and equipment risk. The Chemical Plant is designed to produce 22,720 t/y of lithium hydroxide monohydrate (20,000 t/y of lithium carbonate equivalent). Sodium sulfate and alumina silicate are produced as by-products.

### Process Flow Diagram

A simplified graphic flowsheet is presented in Figure 5 below. Two stages of lithium hydroxide crystallization have been included in the design based on current battery grade lithium hydroxide specifications. An evaporation step is included between ion exchange and causticization but only operates during start-up, plant upset conditions, or when additional primary filtration washing is required.

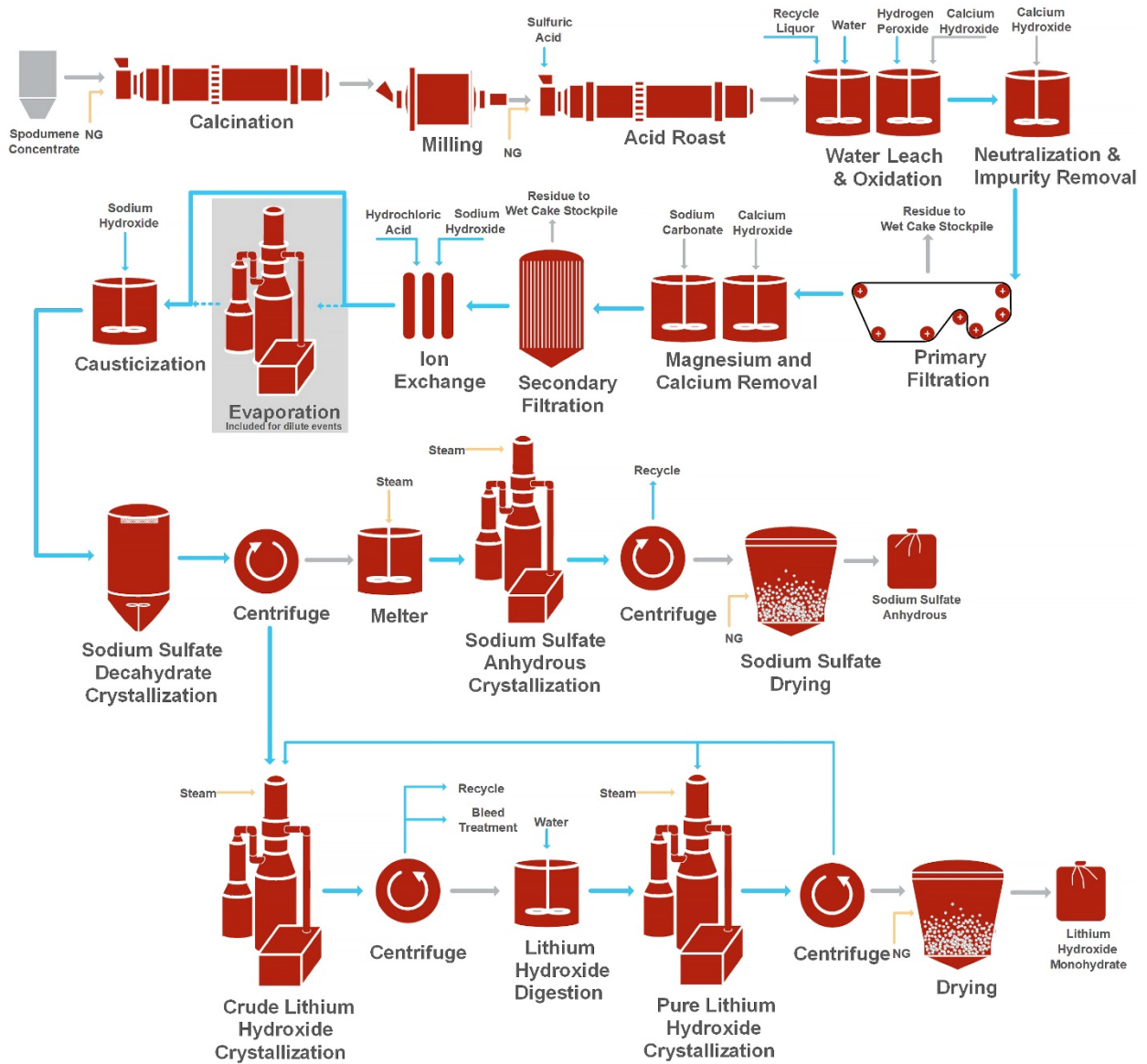


Figure 5 - Piedmont Chemical Plant Simplified Overall Flowsheet

## Commissioning and Ramp-Up

Piedmont has selected a standard route for lithium hydroxide production with selection of standard in-use process equipment where possible to limit the use of novel equipment. A key objective is to take advantage of the 'lessons learned' by the first wave of lithium chemical plants to ensure Piedmont is able to achieve its production ramp-up targets. Piedmont intends to work with equipment suppliers with experience on operating lithium chemical plants in order to realize this objective.

The proposed ramp-up profile follows a McNulty series 2 curve for 12 months and then move on to a McNulty series 1-2 profile to achieve 100% capacity. The ramp-up profile is shown in Table 6 in terms of product throughput and percentage of product at battery-grade quality. The ramp-up profile does not take into consideration purchasers product qualification periods.

Table 6: Proposed Chemical Plant Ramp-Up Profile

Parameter	Months from Plant Start Up			
	6 months	12 months	18 months	24 months
Feed ore rate as % of nameplate capacity	45%	80%	90%	100%
Battery grade product as % of total product made	10%	40%	70%	99%

## 1.5 Site Plan

A preliminary site plan and 3D model of the Chemical Plant was prepared using site topographic information. The model supports the capital cost estimate and will provide the basis for subsequent stages of engineering. The layout includes preliminary site grading and stormwater management features.

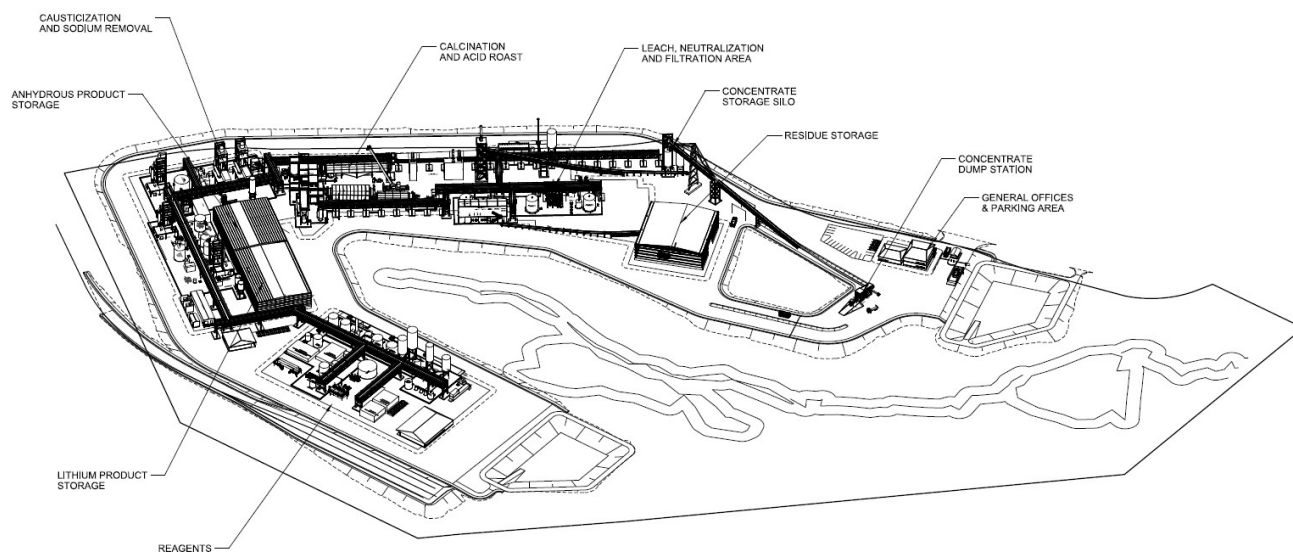


Figure 6 – Isometric View of Piedmont’s Chemical Plant (looking West)

## 1.6 Capital Cost Estimate

The initial capital cost estimate was prepared in accordance with guidelines established by the Association for the Advancement of Cost Engineering (“AACE”) for a Class 4 (Equipment Factored or Parametric Modelled) estimate. The anticipated level of accuracy is -25% to +25%. A project contingency allowance of 25% has been applied to all estimated project direct and indirect costs. Piedmont estimated the Owner’s Costs as US\$ 11.3 million. All costs are presented in 2020 US dollars. No allowance is made for escalation. Costs as presented exclude sunk costs prior to final investment decision. A summary of the total initial capital costs is presented in Table 7.

Table 7: Chemical Plant Level 1 CAPEX Summary

WBS	Description	Estimated Cost (US\$)
<b>Direct Costs</b>		
3100	Site Infrastructure and Utilities	\$62,332,000
3200	Calcination and Acid Roast	\$49,256,000
3300	Leach, Neutralization, and Filtration	\$12,846,000
3400	Impurity Removal	\$11,341,000
3500	Causticization and Sodium Removal	\$34,989,000
3600	Lithium Production	\$42,216,000
3700	Bleed and Effluent Treatment	\$6,303,000
3800	Reagent Storage and Distribution	\$7,256,000
<b>Subtotal Direct Costs</b>		<b>\$226,539,000</b>
7000	Indirect Costs	\$65,771,000
8000	Contingency	\$73,077,000
<b>Subtotal Installed Costs Before Owner’s Costs</b>		<b>\$365,386,000</b>
9000	Owner’s Costs	\$11,327,000
<b>Total Initial Capital Costs (Excluding Working Capital)</b>		<b>\$376,713,000</b>

## 1.7 Operating Costs

### Merchant Chemical Plant Operating Cost Estimate

The operating cost estimate was prepared based on producing 22,720 t/y of lithium hydroxide monohydrate (20,000 t/y LCE). Table 8 summarizes the estimated operating costs at steady-state, including the long term spodumene concentrate price according to Benchmark Mineral Intelligence. Costs are presented on an FOB Chemical Plant basis. Sodium sulfate and aluminosilicate byproducts are assumed to have zero credit value.

Table 8: Chemical Plant Cash Operating Cost Summary – Merchant Chemical Plant Basis		
Operating Cost Component	Total Annual Cost (US\$M/y)	Cost US\$/t LiOH
<b>Chemical Conversion Costs</b>		
Salaries	\$10.26	\$452
Reagents	\$28.04	\$1,234
Consumables	\$1.93	\$85
Utilities	\$5.94	\$261
Maintenance	\$3.64	\$160
G&A	\$1.79	\$79
Waste removal <sup>1</sup>	\$2.26	\$100
<b>Subtotal Chemical Conversion Costs</b>	<b>\$53.86</b>	<b>\$2,371</b>
Spodumene Concentrate Purchases	\$84.64	\$3,725
Spodumene Concentrate Freight	\$11.26	\$496
<b>Total Cash Operating Costs</b>	<b>\$149.76</b>	<b>\$6,592</b>

1. Waste removal costs in the merchant Chemical Plant scenario include costs for hauling and disposal of aluminosilicate residue to a clean fill disposal location near the Chemical Plant site.

The operating cost estimate is based on 2020 US dollars with no escalation provision. The target accuracy of the operating cost estimate is  $\pm 25\%$ . Operating costs are based on steady-state production with long term spodumene concentrate prices. The operating costs are not reflective of the construction, commissioning, or ramp-up phases of the Chemical Plant.

### Concentrate Supply Strategy and Cost Forecast

To support a Merchant Project Piedmont would purchase spodumene concentrate from the open market and have it delivered to Kings Mountain, North Carolina via the Port of Charleston. Piedmont has engaged in preliminary discussions with several current spodumene concentrate producers in Australia, as well as engaged with projects under development in South America and Europe who could be potential suppliers to the Merchant Project.

Benchmark Mineral Intelligence forecasts spodumene concentrate supply to increase from 195,300 tonnes (LCE basis) in 2020 to up to 517,500 tonnes (LCE basis) in 2025. Of this increase, 52% (167,700 t LCE) is expected to come from existing operators.

Additionally, according to Benchmark, global spodumene supplies could reach up to 690,000 t/y LCE by 2030. Based on Benchmark's latest supply, demand and cost analysis, a long-run incentive price of \$564/tonne (adjusted for freight to US east-coast) would be adequate to support the introduction of further volumes beyond this point.

Benchmark states that the diversification of cathode supply outside Asia is expected to necessitate more regional lithium conversion facilities capable of refining various lithium feedstocks. The emergence of new non-integrated lithium feedstock suppliers provides a foundation for these facilities.

Benchmark forecasts modest price recovery for spodumene concentrate beginning in 2023 before settling to a long-term price of \$564/t (Real). Piedmont has assumed Benchmark prices plus an average of US\$75/t for delivery of spodumene concentrate to Kings Mountain, NC.

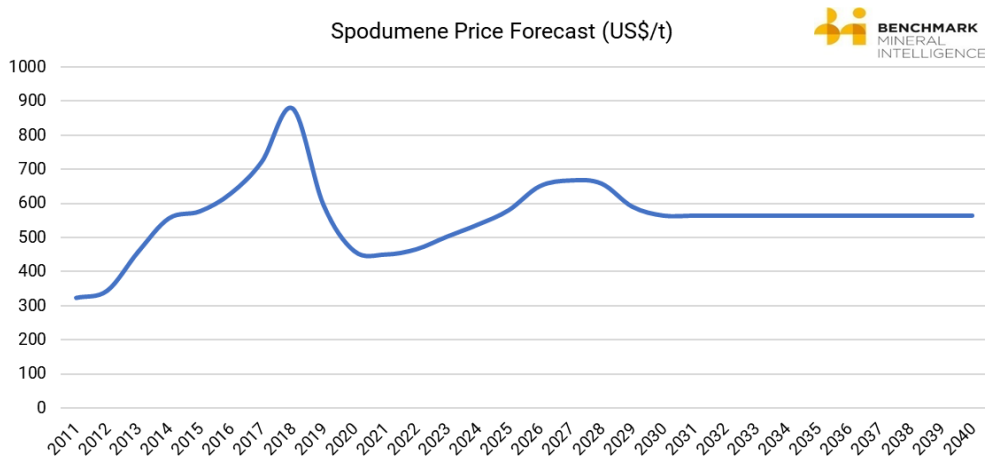


Figure 7 – Spodumene Concentrate Price Forecast 2011-2040 (FOB Australia) (Benchmark)

## 1.8 Project Schedule

A preliminary schedule was prepared as part of a PFS level execution plan. At the PFS level of project detail schedule development is limited to high level activities including feasibility study, detailed engineering, procurement of long lead items, critical contract formation and award, construction, and pre-operational testing activities. Key milestones from the PFS level schedule are presented in Table 9.

**Table 9: Chemical Plant Milestone Project Schedule**

Milestone Description	Milestone Date
Start Chemical Plant Permitting	March 2020
Start Chemical Plant DFS	July 2020
Air Permit Approval	November 2020
Other Construction Permit Approval	November 2020
Complete Chemical Plant DFS	April 2021
Financial Investment Decision (“FID”)	June 2021
Start Detailed Design Engineering	June 2021
Award Long Lead Equipment	September 2021
Start Construction	March 2022
Engineering Completion	April 2022
Pre-Operational Testing Start	December 2022
Mechanical Completion	April 2023
Pre-Operational Testing Completion	May 2023
Commissioning Start	May 2023

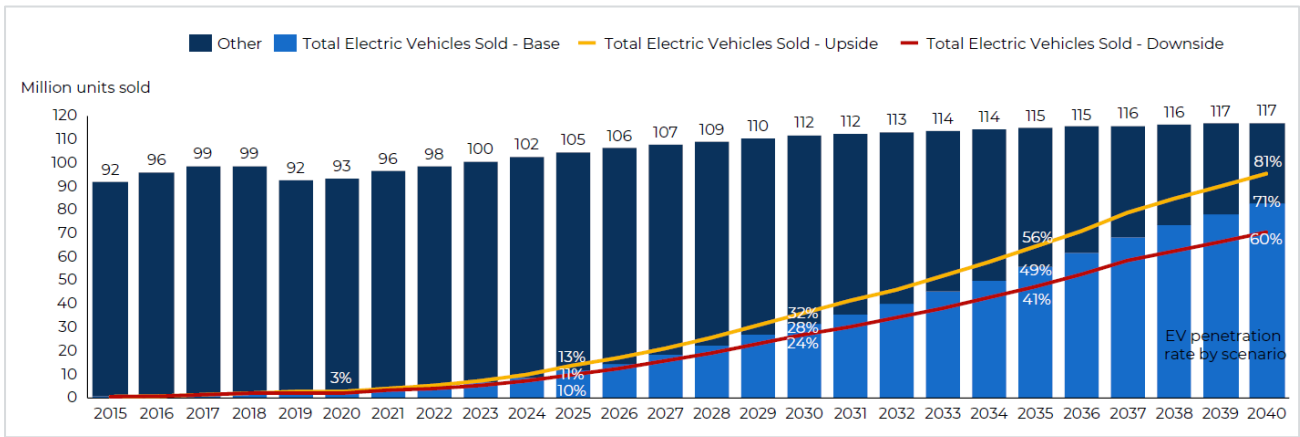
## 1.9 Marketing

### Lithium Market Outlook

Benchmark Mineral Intelligence (“Benchmark”) reports that an excess lithium chemical and spodumene concentrate supply to continue into 2020. Nevertheless, oversupply will reduce on 2019 levels due to more conservative production and expansion strategies from existing producers.

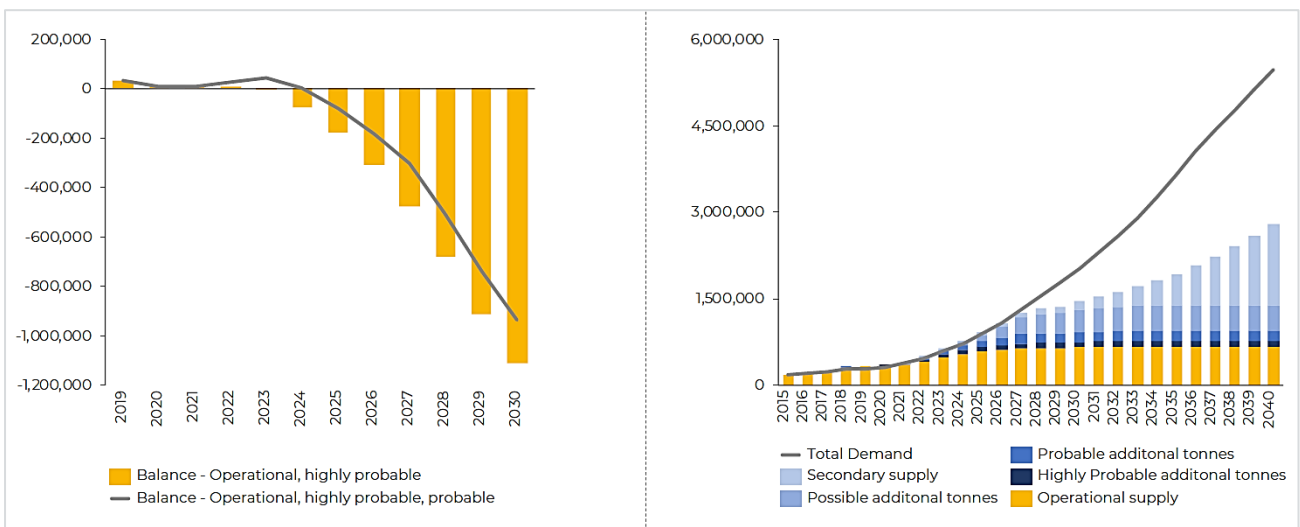
No new lithium chemical supply is expected in 2020, with modest increases (14,000 t) expected in 2021. Benchmark expects supply surplus to reduce through to 2022, with the market set to move into structural deficit from 2023 onwards. The outbreak of COVID-19 has had a major impact across all market segments, with global macroeconomic pressures expected to hinder growth levels into 2021. The global EV penetration rate for 2020 has been revised down from 3.2% to 2.7%. However, the Benchmark base case forecasts growth in lithium demand at a 20% compound annual growth rate (“CAGR”) rate over the next 10 years.

Benchmark additionally forecasts the base case for EV demand growth at a CAGR of 28.9% over the coming 10 years, accounting for COVID-19 impacts.

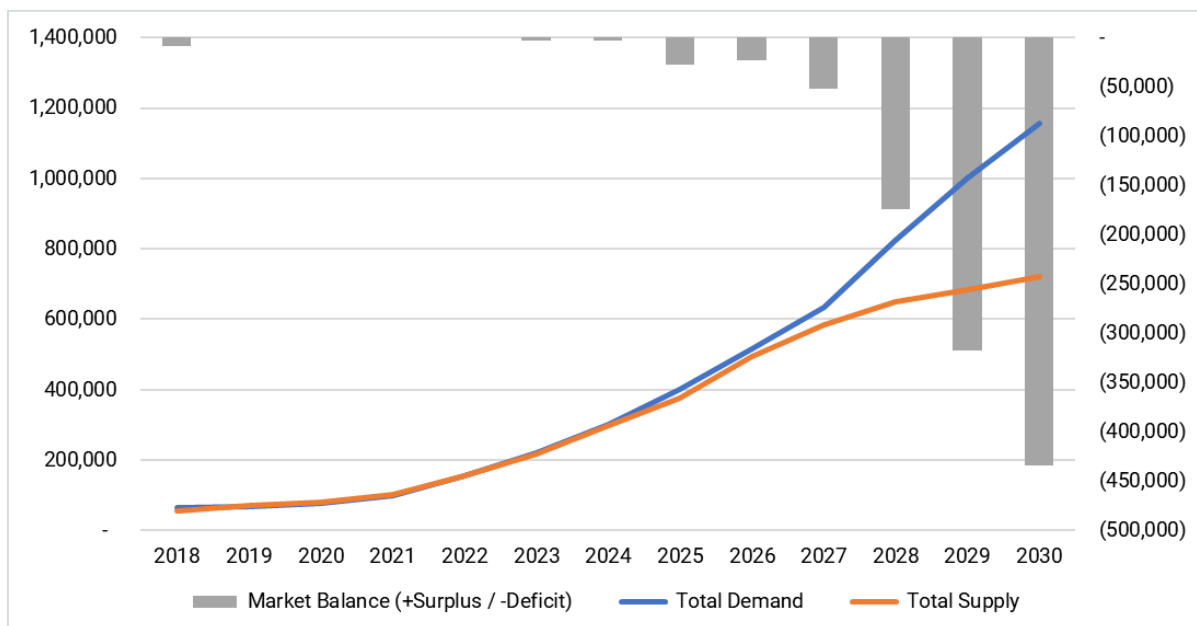


**Figure 8 – Growth in EV Demand 2015-2040 (Benchmark Mineral Intelligence)**

Benchmark forecasts a structural deficit in lithium supply beyond 2023. Existing supply plus probable and possible new capacity does not meet demand forecasts from 2028 onwards.



**Figure 9 –Lithium Market Balance (tonnes LCE) Showing Structural Deficits from 2023 Onwards (Benchmark)**



**Figure 10 –Lithium Hydroxide Market Balance 2018-2030 (Benchmark)**

Importantly for Piedmont, supply deficits for lithium hydroxide are expected to exceed (430,000 t/y) by 2030.

## Pricing Forecasts

Benchmark forecasts lithium hydroxide prices to recover starting in 2023 before settling to a long-term incentive price of US\$12,910/t (Real).

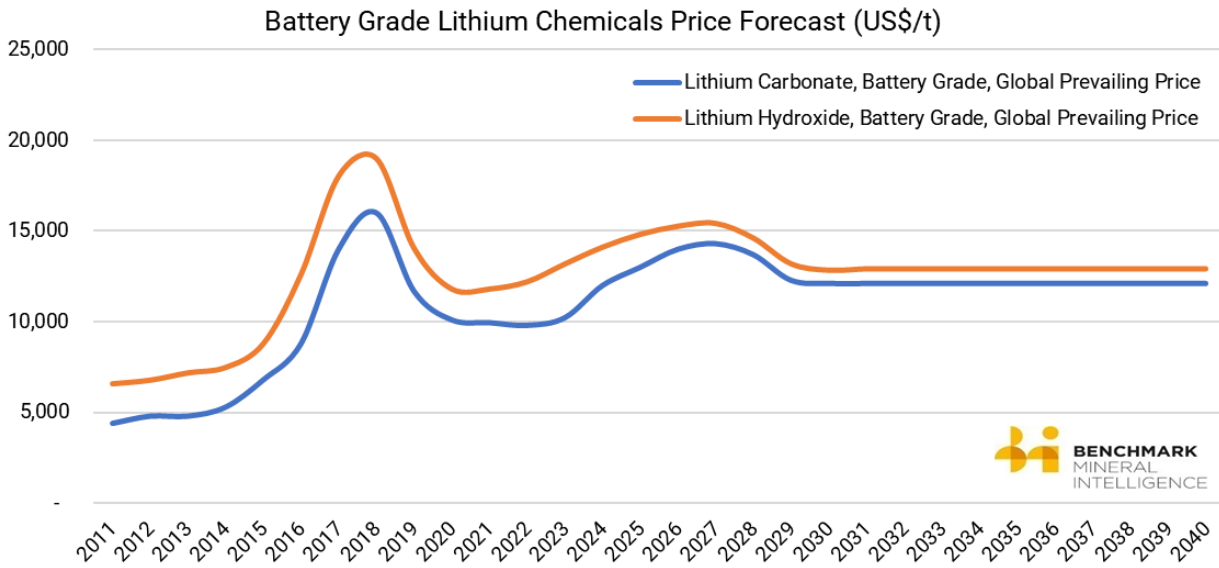


Figure 11 –Battery Grade Lithium Chemical Price Forecast 2011-2040 (Benchmark)

Piedmont has carried the Benchmark lithium hydroxide price forecasts in the PFS economic model. Importantly, it is noteworthy that prices for lithium hydroxide imports into South Korea from China remain above US\$14,000/t, well above prevailing price forecasts, with increasing volumes. These values currently represent greater than 80% of the lithium imports to South Korea.

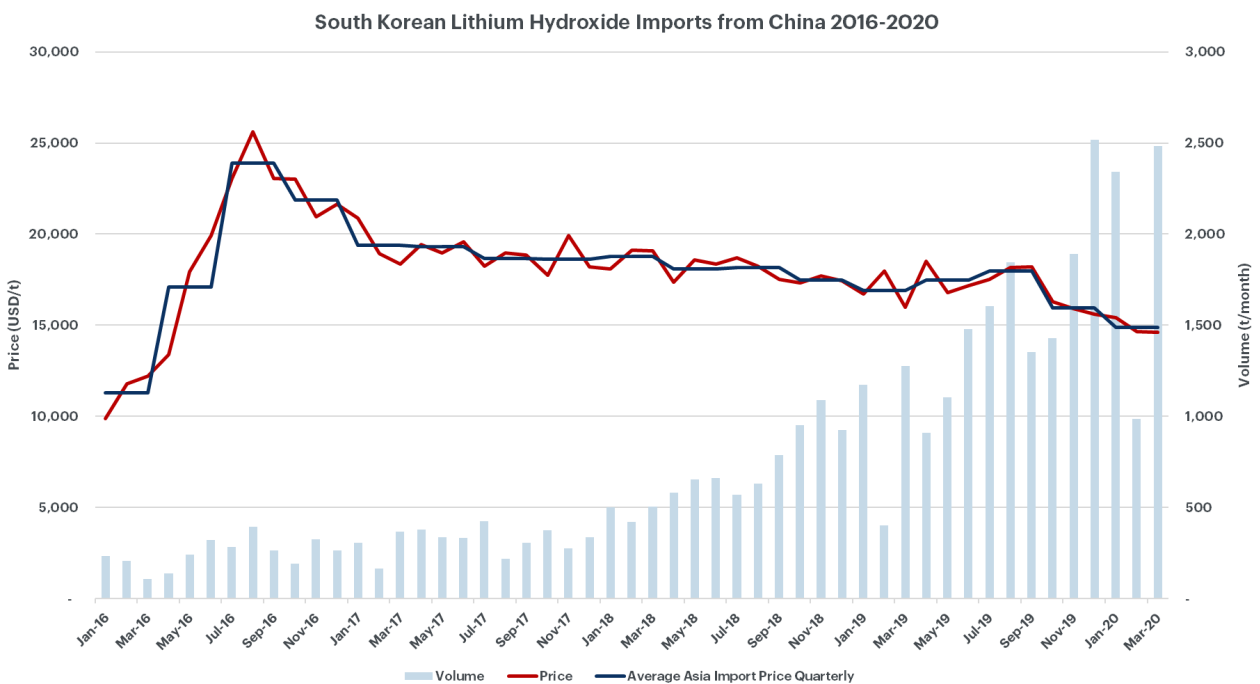


Figure 12 –International Trade Statistics for South Korean Lithium Imports (courtesy Infinity Lithium)

## Market Strategy

Piedmont is focused on establishing strategic partnerships with customers for battery grade lithium hydroxide with emphasis on a customer base which is focused on EV demand growth in North America and Europe. Piedmont will concentrate this effort on these growing EV supply chains, particularly in light of the growing commitments to US battery manufacturing by groups such as Tesla, SK Innovation, LG, Volkswagen and others.



Piedmont's target customers are automakers and battery manufacturers with operating, under construction, or planned battery manufacturing and electric vehicle assembly capacity in the United States and Europe. Piedmont has engaged in extensive confidential discussions with Japanese and Korean battery makers with announced expansion plans into the US market. Offtake discussions continue with these battery companies and their cathode suppliers. Additional conversations with global car manufacturers with US based electric vehicle assembly capability have also been initiated.

Initial samples from the Company's lithium hydroxide bench-scale testwork program will be delivered to prospective customers upon completion at SGS labs, and the Company will enhance its sales and marketing capability through recruitment of marketing leadership positions in the coming months.

## Product Specifications

The flowsheet developed in the PFS targets the product specification shown in Table 10 for high purity battery quality lithium hydroxide monohydrate. This table also compares the proposed product specification against published example battery quality specifications from Livent and Ganfeng Lithium. In addition, the typical product quality values for Ganfeng are reported. The difference between higher and lower quality product relates to the tolerable impurity levels. The flowsheet development has considered impurity removal and product purification stages to achieve these targets.

Piedmont expects to negotiate the required specification when setting off-take agreements with customers.

Parameter	Units	Piedmont Target	Livent Example	Ganfeng Lithium	
		Battery Grade	Battery Grade	Battery Grade	Reported as Typical
LiOH	wt% min	56.5	56.5	56.5	56.5
LiOH.H <sub>2</sub> O	wt% min	99.0	99.0	-	-
CO <sub>2</sub>	wt% max.	0.35	0.35	0.5	0.3
Cl	wt% max.	0.002	0.002	0.002	0.0012
SO <sub>4</sub> <sup>2-</sup>	wt% max.	0.01	0.01	0.01	0.002
Ca	ppm max.	15	15	15	10
Fe	ppm max.	5	5	5	3
Na	ppm max.	20	20	20	15
Al	ppm max.	10	10	10	2
Cr	ppm max.	5	5	-	-
Cu	ppm max.	5	5	5	2
K	ppm max.	10	10	10	5
Mg	ppm max.	-	-	10	2
Mn	ppm max.	-	-	5	3
Ni	ppm max.	10	10	10	3
Pb	ppm max.	-	-	5	2
Si	ppm max.	30	30	30	15
Zn	ppm max.	10	10	10	2
CO <sub>3</sub> <sup>2-</sup>	wt% max.	-	-	-	-
Insoluble in H <sub>2</sub> O	wt% max.	-	-	-	-
Heavy metals as Pb	ppm max.	10	10	-	-
Acid insolubles	wt% max.	0.01	0.01	0.01	0.005

## 1.10 PFS Economics

### Modeling Assumptions

A detailed project economical model was completed by the Company as part of the PFS. The Merchant Project economics include the following key assumptions.

- Capital and operating costs are in accordance with technical study outcomes
- Ramp-up is based on a 24-month time frame to nameplate production
- Financial modeling has been completed on a monthly basis, including estimated cash flow for construction activities and project ramp-up.
- Pricing information for lithium hydroxide sales and spodumene concentrate supply are based on long term forecasts provided by Benchmark with an effective date of end of Q1 2020.
- North Carolina state corporate taxes are 2.5%
- Federal tax rate of 21% is applied and state corporate taxes are deductible from this rate
- Effective base tax rate of 22.975%
- No credit is taken for byproduct sodium sulfate or aluminosilicate sales in the PFS
- Depreciation in the chemical plant is based on Asset Class 28.0 – Mfg. of Chemical and Allied Products in Table B-1 using GDS of 5 years with the double declining balance method.
- Bonus depreciation of 80% has been applied based on the bonus depreciation allowance in the Tax Cuts and Jobs Act assuming a place in service date of the Mine/Concentrator and chemical plant by December 31, 2023.

### Sensitivity Analysis

The Chemical Plant has been designed to a PFS level of detail with a capital and operating accuracy of  $\pm 25\%$ . Key inputs into the PFS have been tested by capital cost, operating cost, and price sensitivities (Figure 13 and Figure 14).

Although spodumene concentrate is an input cost to lithium hydroxide, for the purpose of the sensitivity analysis the cost of spodumene is flexed with the price of lithium hydroxide. This is based on the assumption that concentrate and hydroxide prices will trend together.

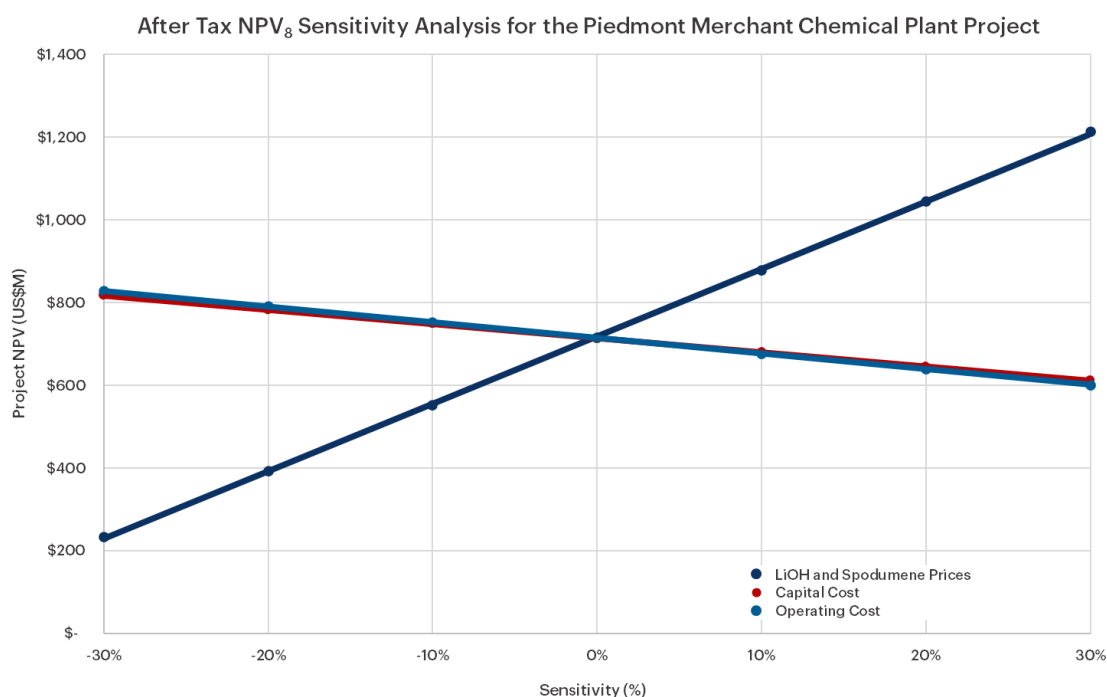


Figure 13– Net Present Value Sensitivity Analysis for Piedmont’s Merchant Project

After Tax IRR Sensitivity Analysis for the Piedmont Merchant Chemical Plant Project

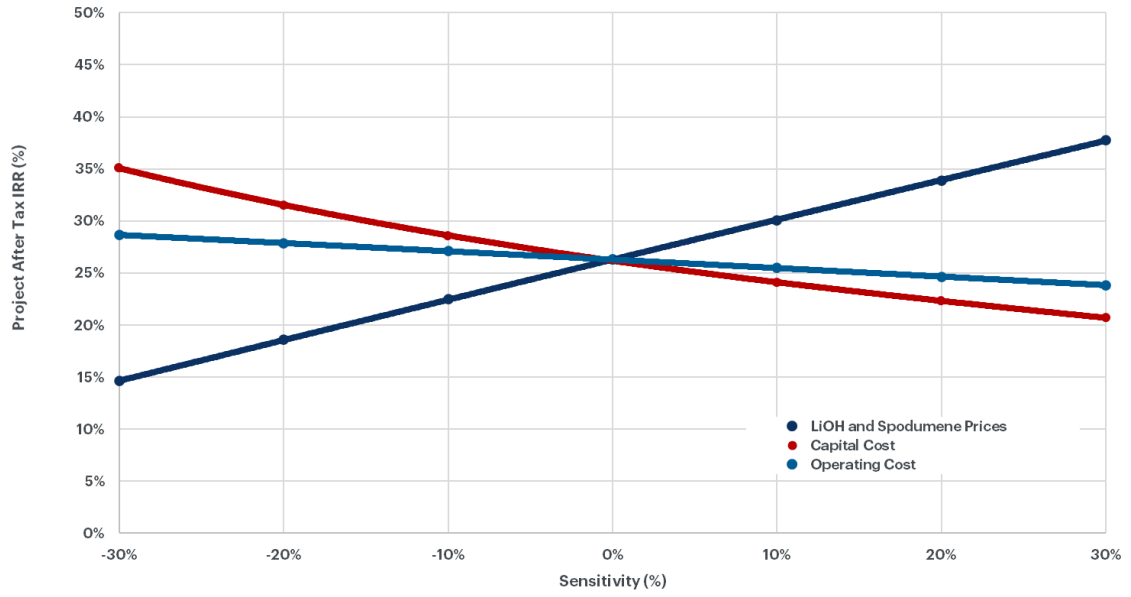


Figure 14 – Internal Rate of Return Sensitivity Analysis for Piedmont’s Merchant Project

**PLL**

# **INTEGRATED SCOPING STUDY UPDATE**



## 2.0 INTEGRATED SCOPING STUDY

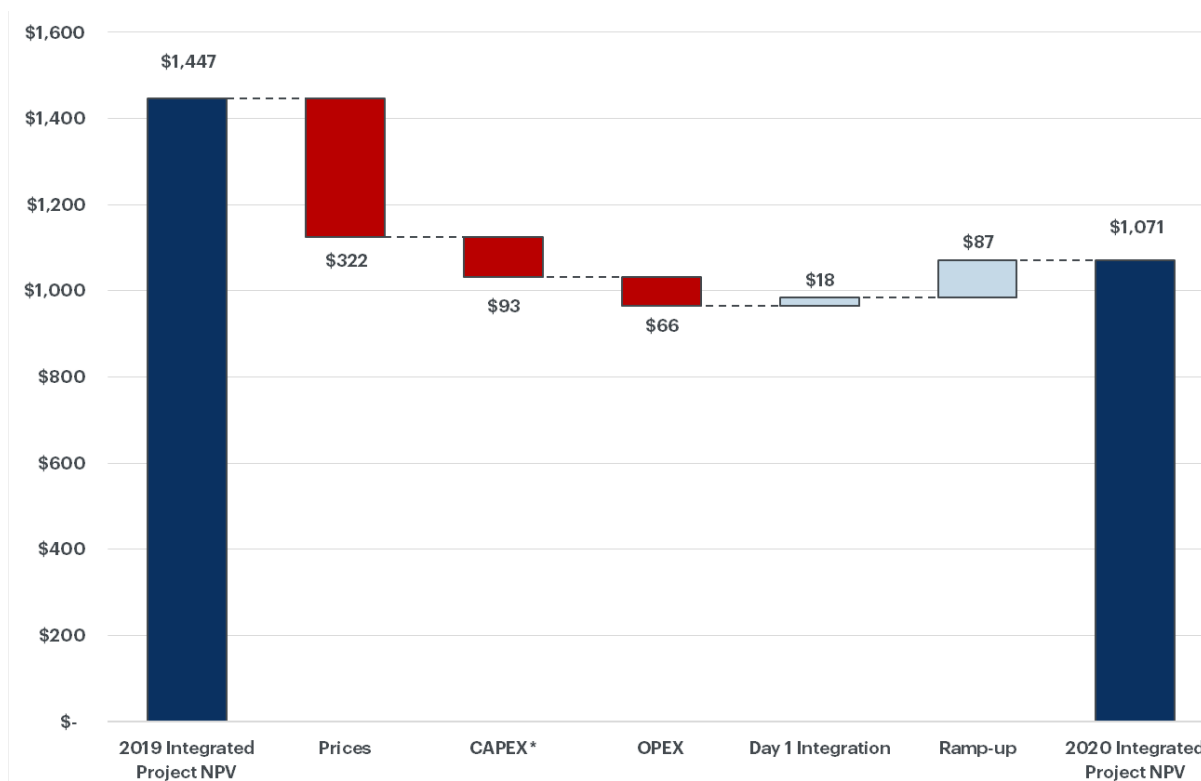
The Integrated Project Scoping Study is based on the Company's Mineral Resource Estimate reported in June 2019, of 27.9 Mt at a grade of 1.11% Li<sub>2</sub>O and the By-Product Mineral Resource Estimates comprising 7.4 Mt of quartz, 11.1 Mt of feldspar and 1.1 Mt of mica reported in July 2019.

The Integrated Project Scoping Study contemplates a 25-year project life, with the downstream lithium hydroxide chemical plant commencing concurrently with mining operations. The ramp-up period for Chemical Plant operations is assumed to achieve nameplate capacity after a 24-month ramp-up period. The mining production target is approximately 25.6 Mt at an average run of mine grade of 1.11% Li<sub>2</sub>O (undiluted) over the 25-year project life. Table 11 provides a summary of production and cost figures for the Integrated Project.

<b>Table 11: Integrated Project – Life of Mine (“LOM”)</b>	<b>Unit</b>	<b>Estimated Value</b>
<b>Physical – Mine/Concentrator</b>		
Mine life	years	25
Steady-state annual spodumene concentrate production	t/y	160,000
LOM spodumene concentrate production	t	3,805,000
LOM quartz by-product production	t	1,920,000
LOM feldspar by-product production	t	2,795,000
LOM mica by-product production	t	275,000
LOM feed grade (excluding dilution)	%	1.11
LOM average concentrate grade	%	6.0
LOM average process recovery	%	85
LOM average strip ratio	waste:ore	10.4:1
<b>Physical – Lithium Chemical Plant</b>		
Steady-state annual lithium hydroxide production	t/y	22,720
LOM lithium hydroxide production	t	554,600
LOM concentrate supplied from Piedmont mining operations	t	3,655,000
Chemical Plant life	years	25
<b>Operating and Capital Costs – Integrated Project</b>		
Average LiOH production cash costs using self-supplied concentrate	US\$/t	\$3,712
Mine/Concentrator – Direct development capital	US\$M	\$106.2
Mine/Concentrator – Owner's costs	US\$M	\$11.3
Mine/Concentrator – Land acquisition costs	US\$M	\$28.3
Mine/Concentrator – Contingency	US\$M	\$22.1
Mine/Concentrator – Sustaining and deferred capital	US\$M	\$147.9
Mine/Concentrator – Working Capital	US\$M	\$20.0
Chemical Plant - Direct and indirect development capital	US\$M	\$292.3
Chemical Plant – Owner's costs	US\$M	\$11.3
Chemical Plant – Contingency	US\$M	\$73.1
Chemical Plant – Working Capital	US\$M	\$27.5
Chemical Plant – Sustaining and deferred capital	US\$M	\$108.7
<b>Financial Performance – Integrated Project – Life of Project</b>		
Average annual steady state EBITDA	US\$/y	\$218
Average annual steady state after-tax cash flow	US\$/y	\$179
Net operating cash flow after tax	US\$M	\$4,429
Free cash flow after capital costs	US\$M	\$3,563
After tax Net Present Value (NPV) @ 8% discount rate	US\$M	\$1,071
After tax Internal Rate of Return (IRR)	%	26
Payback from Start of Operations	years	3.2

Notable changes in this Scoping Study update have been made compared with the prior scoping study published in August 2019. Importantly, it is noted that most of the impact to project NPV is attributable to more conservative product price assumptions compared with prior studies, whereas changes to capital and operating costs contribute lesser impacts. Changes include:

- Total LiOH production has increased life-of-project by over 66,000 tons due to:
  - Revision in the ramp-up assumption to nameplate capacity from 4 years to 2 years; and,
  - Construction of the Integrated Project in a single phase which brings forward first hydroxide production by 24 months.
- Models now consider production of some technical grade lithium hydroxide.
- Total spodumene concentrate consumed in conversion has increased by over 564,000 tonnes life-of-mine.
- Capital and operating costs for the Chemical Plant have been updated using PFS outcomes.
- Product pricing assumptions have been updated using current market forecasts from Benchmark Minerals Intelligence (“Benchmark”).



**Figure 15 – Impact to NPV<sub>s</sub> of Integrated Project Due to Various Economic Model Changes**

\* Impacts associated under the category CAPEX are inclusive of total initial capital cost, changes to sustaining capital, and a more conservative view of timing of construction cash flow.

## 2.1 Scoping Study Overview

Piedmont holds a 100% interest in the Integrated 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.

Portions of the property controlled by Piedmont were originally explored by Lithium Corporation of America which was eventually acquired by FMC Corporation (now Livent Corporation). A Canadian exploration company, North Arrow Minerals, completed a 19-drill hole, 2,544 meter exploration drill program on the property in 2009-2010.

The Company has reported Mineral Resource Estimates for the Company’s Core and Central properties. Piedmont has completed 351 drill holes and these properties totaling 55,110 meters to date spanning four drill campaigns.

As at March 31, 2020, Piedmont controlled approximately 2,131 acres, of which Piedmont owns approximately 391 acres of land and associated mineral rights in fee simple and has entered into exclusive option agreements with local landowners, which upon exercise, allow Piedmont to purchase (or in some cases long-term lease)

approximately 1,740 acres of surface property and the associated mineral rights from the private landowners. In addition, the Company also owns a property in Kings Mountain, North Carolina, comprising approximately 61 acres for the site of the Company’s planned Chemical Plant.

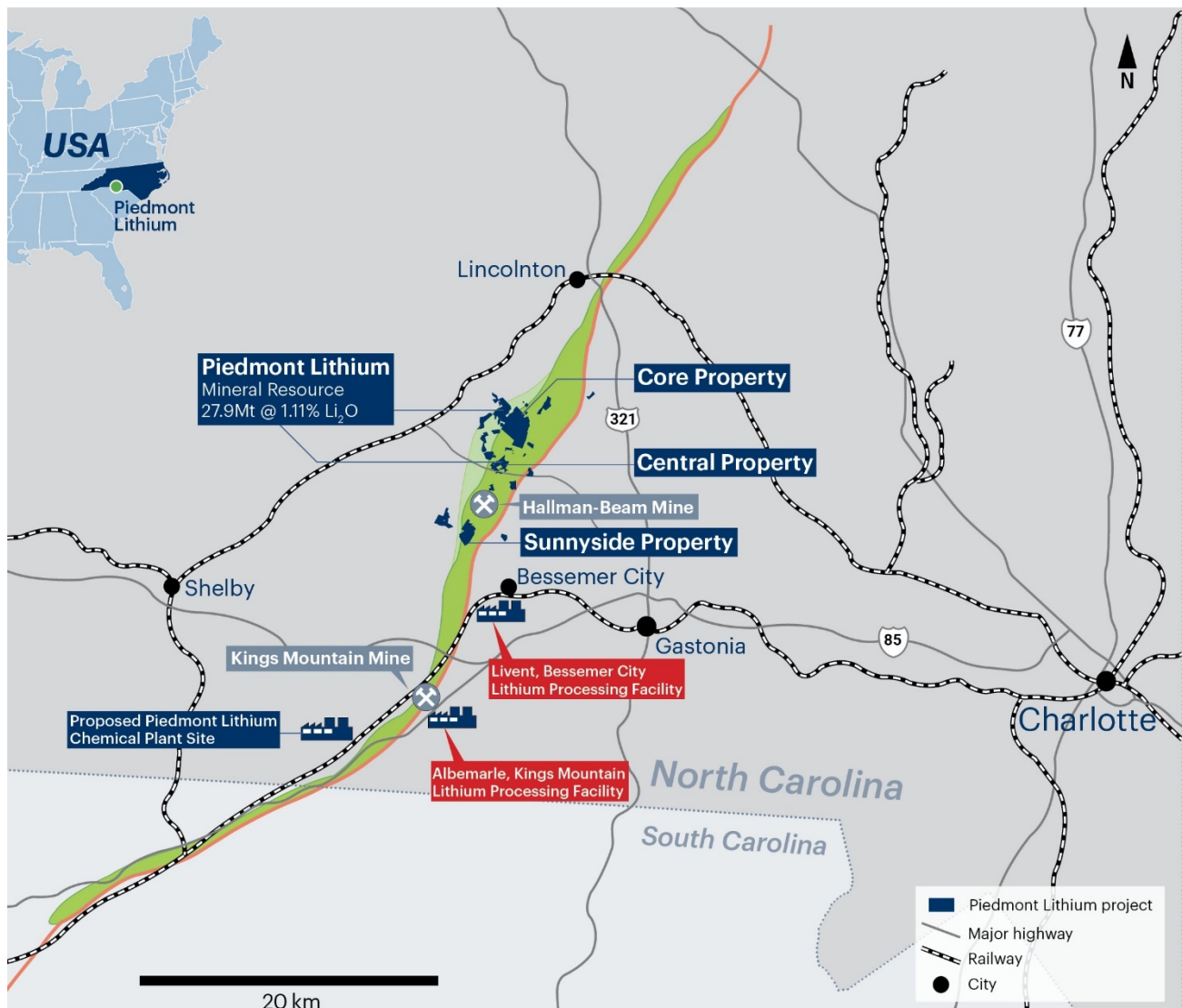


Figure 16 - Piedmont’s location within the TSB

## 2.2 Scoping Study Consultants

The Integrated Project Scoping Study combines the information from the Chemical Plant PFS with Mine/Concentrator information and assumptions provided by a range of independent consultants, including the following consultants who have contributed to key components of the Mine/Concentrator.

Table 12: Scoping Study Consultants

Consultant	Scope of Work
Primero Group Limited	Concentrator process engineering and infrastructure
SGS Lakefield	Metallurgical testwork
Marshall Miller and Associates	Mine design and scheduling
CSA Global Pty Ltd	Resource estimation
HDR Engineering, Inc.	Permitting, environment, and social studies
Johnston, Allison, and Hord	Land title and legal
Benchmark Mineral Intelligence	Lithium Products Marketability
CSA Global Pty Ltd	By-Products Marketability

## 2.3 Mineral Resource Estimates

On June 25, 2019 the Company announced an updated Mineral Resource Estimate (“MRE”) prepared by independent consultants CSA Global Pty Ltd (“CSA Global”) in accordance with JORC Code (2012 Edition). The total Mineral Resources for reported by Piedmont for its Core and Central properties located within the TSB are 27.9 Mt grading at 1.11% Li<sub>2</sub>O.

**Table 13: Piedmont Mineral Resource Estimate (0.4% cut-off)**

Resource Category	Core property		Central property		Total			
	Tonnes (Mt)	Grade (Li <sub>2</sub> O%)	Tonnes (Mt)	Grade (Li <sub>2</sub> O%)	Tonnes (Mt)	Grade (Li <sub>2</sub> O%)	Li <sub>2</sub> O (t)	LCE (t)
Indicated	12.5	1.13	1.41	1.38	13.9	1.16	161,000	398,000
Inferred	12.6	1.04	1.39	1.29	14.0	1.06	148,000	366,000
<b>Total</b>	<b>25.1</b>	<b>1.09</b>	<b>2.80</b>	<b>1.34</b>	<b>27.9</b>	<b>1.11</b>	<b>309,000</b>	<b>764,000</b>

An important feature of the Core property MRE, is that 74% or 18.6 Mt is located within 100 meters of surface. Table 14 shows the details of the MRE with regards to depth from surface.

**Table 14: Depth from Surface for the Core Mineral Resource Estimate (25.1 Mt @ 1.09% Li<sub>2</sub>O)**

Depth (from surface) (m)	Tonnes (Mt)	Percentage of Resource (%)	Cumulative Tonnes (Mt)	Cumulative % of Resource
0 - 50	8.7	35	8.7	35
50 - 100	9.9	39	18.6	74
100 - 150	5.7	23	24.3	97
150 +	0.8	3	25.1	100

On July 31, 2019 the Company announced updated MRE’s for by-products quartz, feldspar and mica. The results are shown in Table 15. The by-product MRE’s 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 Piedmont’s economic extraction of lithium mineral resources. Accordingly, the by-product Mineral Resource Estimates are reported at a 0.4% Li<sub>2</sub>O cut-off grade, consistent with the reported lithium MRE.

**Table 15: Mineral Resource Estimates – Piedmont Core Property**

Category	Tonnes (Mt)	Li <sub>2</sub> O		Quartz		Feldspar		Mica	
		Grade (%)	Tonnes (t)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)
Indicated	12.5	1.13	141,000	30.0	3.75	44.4	5.55	4.5	0.56
Inferred	12.6	1.04	131,000	28.7	3.61	44.4	5.58	4.4	0.56
<b>Total</b>	<b>25.1</b>	<b>1.09</b>	<b>272,000</b>	<b>29.3</b>	<b>7.36</b>	<b>44.4</b>	<b>11.13</b>	<b>4.5</b>	<b>1.12</b>

Figure 17 shows the relative position of the Core and Central resources, resource constraining shells, and exploration targets.



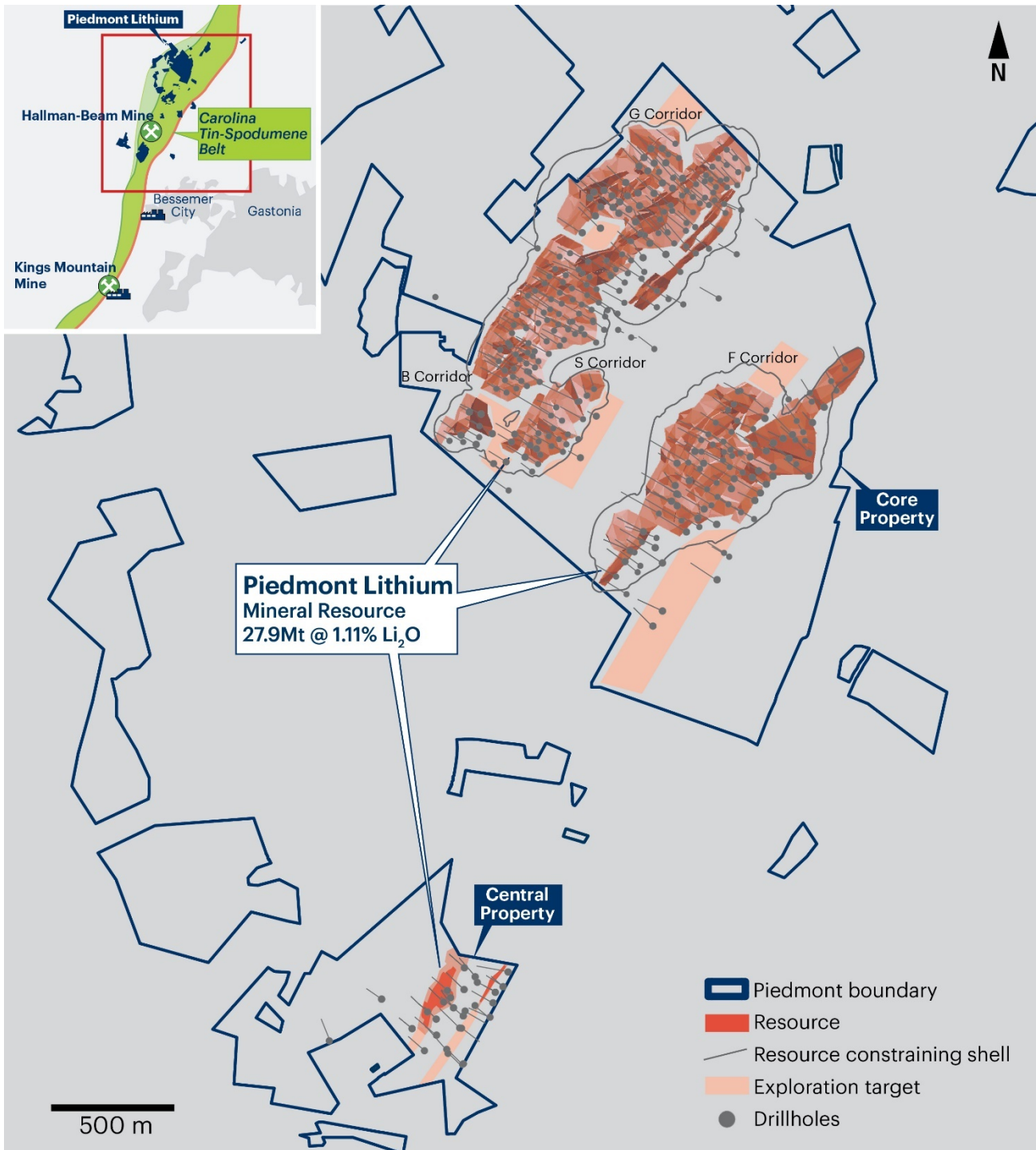


Figure 17 - Plan View of Core Property Showing Drill Hole Locations, Resource, and Resource Shell

## 2.4 Production Target

Pit optimizations were completed by Marshall Miller to produce a production schedule on an annual basis, resulting in a total production target of approximately 3.8 Mt of spodumene concentrate, averaging approximately 160,000 t/y of spodumene concentrate over the 25-year mine life. This equates to an average of 1.15 Mt/y of ore processed, totaling approximately 25.6 Mt of run-of-mine (“ROM”) ore at an average ROM grade of 1.11%  $\text{Li}_2\text{O}$  (undiluted) over the 25-year mine life.

The Integrated Project Scoping Study assumes a lithium Chemical Plant production life of 25 years, commencing in year 1 of the Integrated Project. It is assumed that Mine/Concentrator operations will commence about 90 days in advance of Chemical Plant operations to build initial spodumene concentrate inventory. Some third party spodumene concentrate sales have been allowed for during the ramp-up phase of the Chemical Plant operations. Of the total production target of 3.8 Mt of concentrate, approximately 0.14 Mt will be sold to third parties during

chemical plant ramp-up and approximately 3.65 Mt will be supplied to Piedmont’s Chemical Plant for conversion into lithium hydroxide, resulting in a total production target of approximately 554,600 t of lithium hydroxide, averaging approximately 22,120 t/y of lithium hydroxide over the 25-year production life.

Of the 554,600 t production target 535,900 t are expected to be sold as battery quality lithium hydroxide with 18,700 t sold as technical quality based on the estimated ramp-up of the lithium chemical plant.

The Integrated Project Scoping Study assumes that approximately one-third of the by-product potential will be converted to product based on processing spodumene flotation tailings with approximately two-thirds of potential by-products reporting to waste via dense medium separation tailings. This results in production targets of 1.9 Mt of quartz concentrate, 2.7 Mt of feldspar concentrate, and 0.3 Mt of mica concentrate over the life of mine. If market conditions support additional sales potential then Piedmont will evaluate reprocessing of dense medium separation tailings to produce additional byproduct concentrates.

There remains significant opportunity to increase the mine life beyond 25 years or to increase annual capacity of the Integrated Project by discovery of additional resources within the TSB within a reasonable trucking or conveying distance to the proposed concentrator.

## 2.5 Mining

Independent consultants Marshall Miller and Associates used SimSched™ software to generate a series of economic pit shells using the updated Mineral Resource block model and input parameters as agreed by Piedmont. Overall slope angles in rock were estimated following a preliminary geotechnical analysis that utilized fracture orientation data from oriented core and downhole geophysics (Acoustic Televiewer), as well as laboratory analysis of intact rock strength. The preliminary geotechnical assessment involved both kinematic and overall slope analyses utilizing Rocscience™ modeling software.

Overall slope angles of 45 degrees were assumed for overburden and oxide material. Overall slope angles of 53 degrees were estimated for fresh material which includes a ramp width of 30 meters. Production schedules were prepared for the Integrated Project based on the following parameters:

- A targeted run-of-mine production of 1.15 Mt/y targeting a process plant output of about 160,000 t/y of 6.0% Li<sub>2</sub>O spodumene concentrate from the Core property
- The Central property production target was based on a process plant throughput of about 900,000 t/y to produce about 160,000 t/y of 6.0% Li<sub>2</sub>O spodumene concentrate
- By-product output of 86 kt of quartz, 125 kt of feldspar, and 13 kt of mica concentrate annually
- About 75% of average annual production realized in the first year of operations accounting for commissioning and ramp-up
- Mining dilution of 5%
- Mine recovery of 95%
- Concentrator processing recovery of 85%
- A mining sequence targeting maximized utilization of Indicated Mineral Resources at the front end of the schedule

The results reported are based upon a scenario which maximizes extraction of Indicated Resources in the early years of production. Indicated resources represent 100% of the tonnes processed in years 1-3 of operations. The results shown assume that the Core property is mined from year 1-20 with Central property operations commencing in year 21. Table 16 shows the production target.

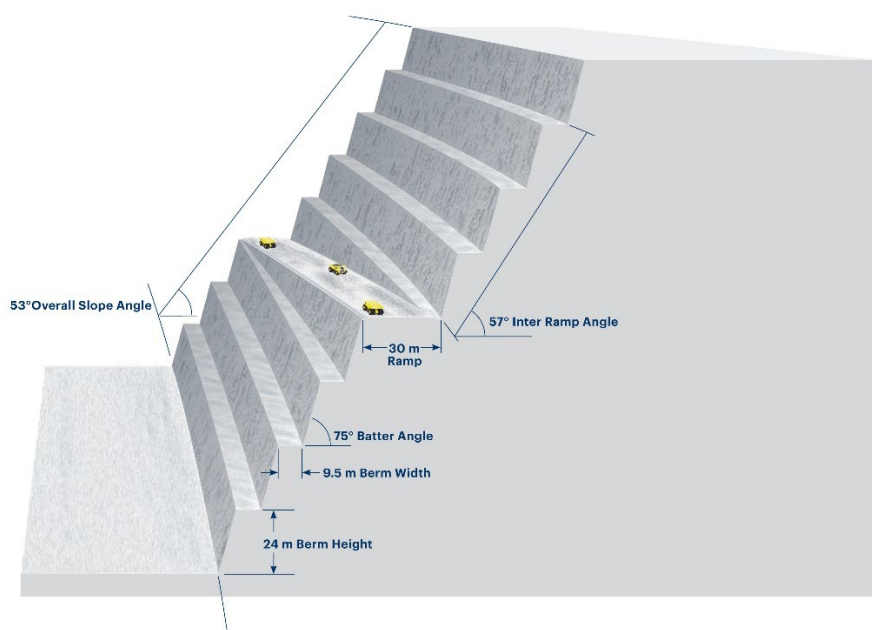
Property	ROM Tonnes Processed (kt)	Waste Tonnes Mined (kt)	Stripping Ratio (W:O t:t)	ROM Li <sub>2</sub> O Diluted Grade (%)	Production Years	Tonnes of Concentrate (kt)
Core	22,616	227,200	10.0	1.03	1-20	3,284
Central	2,951	38,790	13.1	1.25	21-25	521
<b>Total</b>	<b>25,567</b>	<b>265,990</b>	<b>10.40</b>	<b>1.05</b>	<b>1-25</b>	<b>3,805</b>

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 45 degrees
- Batter height of 10 vertical meters
- Berm width of 0 meters
- Overall slope angle of 45 degrees

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

- Batter face angle of 75 degrees
- Batter height of 24 vertical meters (80 ft.) for final wall
- Berm width of 9.5 meters (30 ft.) for final wall
- Overall slope angle of 53 degrees for final wall, which includes a ramp width of 30 meters (98 ft.)



*Figure 18 – Representation of the pit wall design based on wall design configuration estimates*

The pit wall design parameters indicated above are based on the results of a preliminary geotechnical assessment that utilized available fracture orientation measurements from exploration drilling and downhole geophysical logging, along with laboratory results for intact rock strength. The preliminary geotechnical analysis focused on assessment of fresh rock material. The pit wall dimensions indicated above are based on a final wall configuration. Working benches during mining are expected to be on the order of 12 meters high and 8 meters wide, with a batter angle of 75-degrees. The current mine plan takes into consideration the nature of the Mineral Resource and allows for smaller internal bench dimensions. The current pit wall dimensions are considered representative of average conditions. More detailed pit wall geotechnical assessment in specific areas is to be completed during a future DFS.

## 2.6 Concentrate Metallurgy

### 2019 Composite Testwork Program

Piedmont engaged SGS laboratories in Lakefield, Ontario to undertake testwork on variability and composite samples. Dense Medium Separation (“DMS”) and flotation Locked-Cycle Tests (“LCT”) produced high quality spodumene concentrate with a grade above 6.0% Li<sub>2</sub>O, iron oxide below 1.0%, and low impurities from composite samples. Table 17 shows the results of composite tests on the preferred flowsheet which were previously announced on July 17, 2019. The feed grade of the composite sample was 1.11% Li<sub>2</sub>O.

**Table 17: 2019 Dense Medium Separation and Locked Cycle Flotation Test Results (Composite Sample 1)**

Sample	Concentrate Grade Li <sub>2</sub> O (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	Na <sub>2</sub> O (%)	K <sub>2</sub> O (%)	CaO+ MgO + MnO (%)	P <sub>2</sub> O <sub>5</sub> (%)
Dense Medium Separation	6.42	0.97	0.56	0.45	0.51	0.12
Locked-Cycle Flotation	6.31	0.90	0.68	0.52	1.25	0.46
Combined Concentrate	6.35	0.93	0.63	0.49	0.96	0.32

The composite samples were prepared to approximate the average lithium grade of Piedmont’s Mineral Resources. Overall lithium recovery during testwork for the preferred flowsheet was 77% at a grade of 6.35% Li<sub>2</sub>O. Simulations based on the testwork results support an overall plant design recovery of 85% when targeting a 6.0% Li<sub>2</sub>O spodumene concentrate. Further optimization will be undertaken in a future feasibility-level pilot testwork program. Figure 19 shows photographs of the coarse and fine DMS concentrates produced.



*Figure 19 - Coarse and fine DMS concentrates produced from Piedmont composite samples*

## Bench-Scale Lithium Hydroxide Testwork Sample Preparation

To support lithium conversion testwork, Piedmont composited approximately 1.75 tonnes of pegmatite from drill core. This composite was collected from early, middle and late years of the deposit and resulted in a head grade of 1.25% Li<sub>2</sub>O and 0.38% Fe<sub>2</sub>O<sub>3</sub>.

Overall, the testwork program produced 122 kg of spodumene concentrate including 105 kg of DMS product and 17 kg of flotation product. This concentrate is now being progressed through a lithium hydroxide testwork program at SGS labs with results expected in Q2 2020. Table 18 presents the testwork results previously announced on May 13, 2020.

**Table 18: Combined DMS and Locked Cycle Flotation Testwork Results (Composite Sample)**

Product	Wt. (%)	Assay (%)		Distribution (%)	
		Li <sub>2</sub> O	Fe <sub>2</sub> O <sub>3</sub>	Li <sub>2</sub> O	Fe <sub>2</sub> O <sub>3</sub>
DMS Concentrate	7.5	6.30	0.93	38.9	13.8
Flotation Concentrate	8.6	6.13	0.83	43.5	14.2
Combined Concentrate	16.1	6.21	0.87	82.4	28.0

## 2.7 By-Product Metallurgy

The production of bulk quartz and feldspar concentrates as byproducts from the spodumene locked-cycle flotation tailings was investigated. Six (6) individual batch tests were conducted with the quartz and feldspar concentrates being composited. The results of these tests that were previously announced on May 13, 2020 are provided in Table 19. Quartz samples were provided to a potential solar glass manufacturer and met customer specifications. Follow up samples are planned.

	Li <sub>2</sub> O	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	Na <sub>2</sub> O	CaO	MgO	MnO	P <sub>2</sub> O <sub>5</sub>	Fe <sub>2</sub> O <sub>3</sub>
Quartz Concentrate	0.02	99.0	0.32	0.04	0.11	0.01	0.01	0.01	0.01	0.01
Feldspar Concentrate	0.12	68.0	19.35	2.45	9.30	0.17	0.04	0.01	0.15	0.05

## Mica Results (2018 MRL Program)

Piedmont engaged North Carolina State University’s Minerals Research Laboratory (“MRL”) in 2018 to conduct a bench-scale testwork on samples obtained from the Company’s MRE within the Core Property for byproducts quartz, feldspar, and mica. The objective of the testwork program was to develop optimized conditions for spodumene flotation and magnetic separation for both grade and recovery which would then be applied to future testwork. Summary mica concentrate data are shown in Table 20. Complete mica data were previously announced on September 4, 2018. Further mica product optimization will be undertaken at SGS in future testwork phases.

Parameter	Unit	Optimized Value
Particle Size	Medium to Very Fine	40 – 325 Mesh
Bulk Density	g/cm <sup>3</sup>	0.681-0.682
Grit	%	0.70-0.79
Photovoltmeter	Green Reflectance	11.2-11.6
Hunter Value	± a [Redness(+) Greenness(-)]	0.27-1.25
Hunter Value	± b [Yellowness(+) Blueness(-)]	44.77-46.07

Mica quality is measured by its physical properties including bulk density, grit, color/brightness, and particle size. The bulk density of mica by-product generated from Piedmont composite samples was in the range of 0.680-0.682 g/cm<sup>3</sup>.

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%. Piedmont sample grit results were in the range of 0.70-0.79. Color/brightness is usually determined on minus 100-mesh material. Several instruments are used for this determination including the Hunter meter, Technedyn and the Photovoltmeter. The green reflectance is often reported for micas and talcs. Piedmont Green Reflectance results were in the range of 11.2-11.6.

## 2.8 Concentrator Process Design

The concentrator process design is based on SGS composite testwork. The flowsheet will be optimized during future DFS level pilot testwork. The basic process flow is shown schematically in Figure 20. Notably, DMS tailings and flotation tailings will be processed separately with the DMS and flotation process water circulated separately within the concentrator.

Final design trade-off studies to be undertaken during feasibility study include optimization of iron removal via a combination of both ore sorting and magnetic separation as well as mica pre-flotation as a method of improving overall spodumene recovery and product quality.



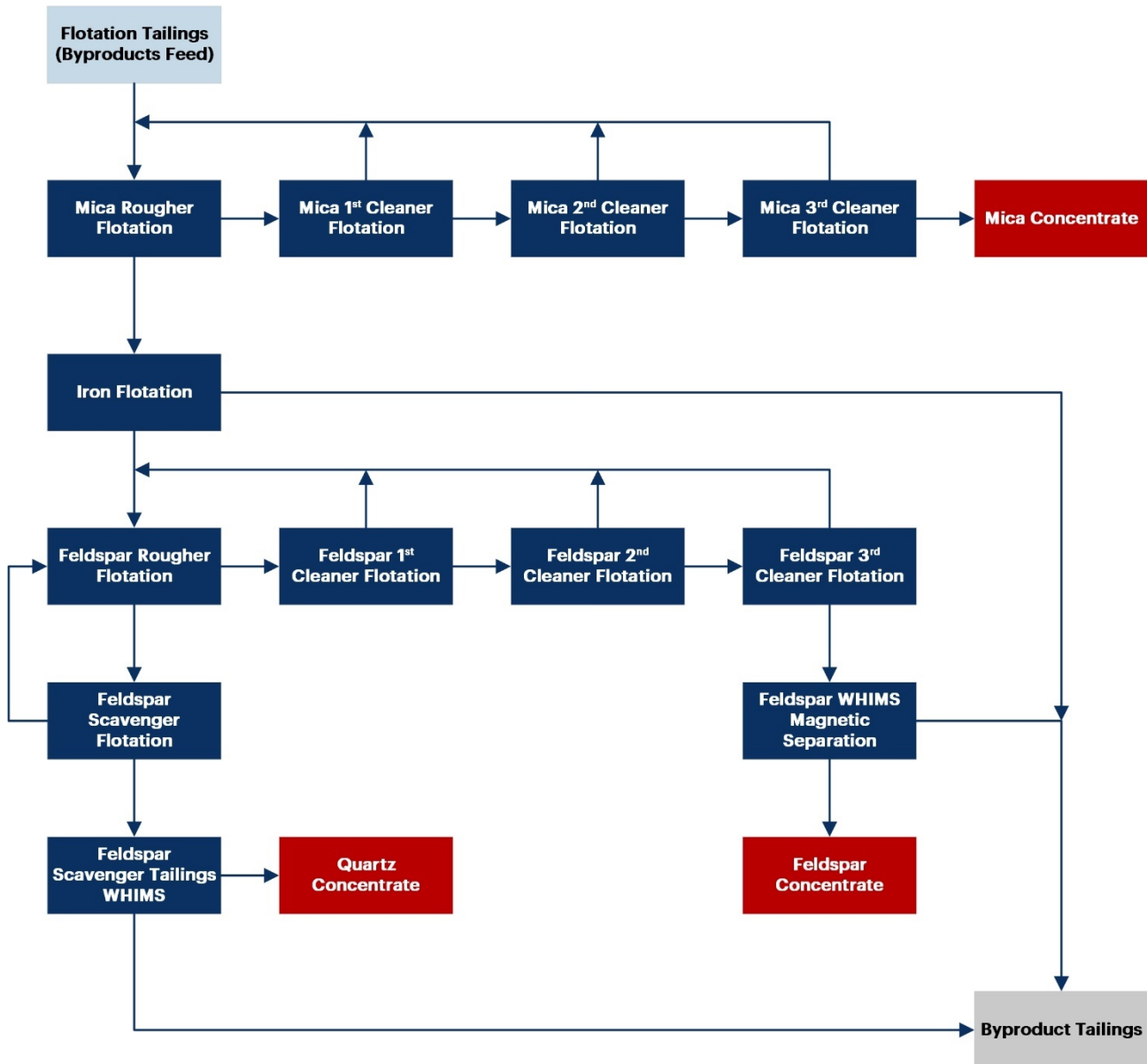


Figure 21 – By-Product Process Design Block Flow Diagram

## 2.9 Chemical Plant Process Design

The Chemical Plant flowsheet incorporates as far as practical ‘conventional’ or proven in operation, equipment, and process stages, in order to minimize process, technology and equipment risk. The Chemical Plant is designed to produce 22,720 t/y of lithium hydroxide monohydrate (20,000 t/y of lithium carbonate equivalent). Sodium sulfate and alumina silicate are produced as by-products. For additional details refer to Section 1.4 above.

## 2.10 Mine / Concentrator Site Plan

A preliminary integrated site plan including mining operations, waste disposal, and concentrator was developed by Marshall Miller and Primero Group during the course of Mine/Concentrator design and Integrated Project Scoping Study. The site plan has been developed to a pre-feasibility level of detail and with sufficient definition to acquire permits (Figure 22).

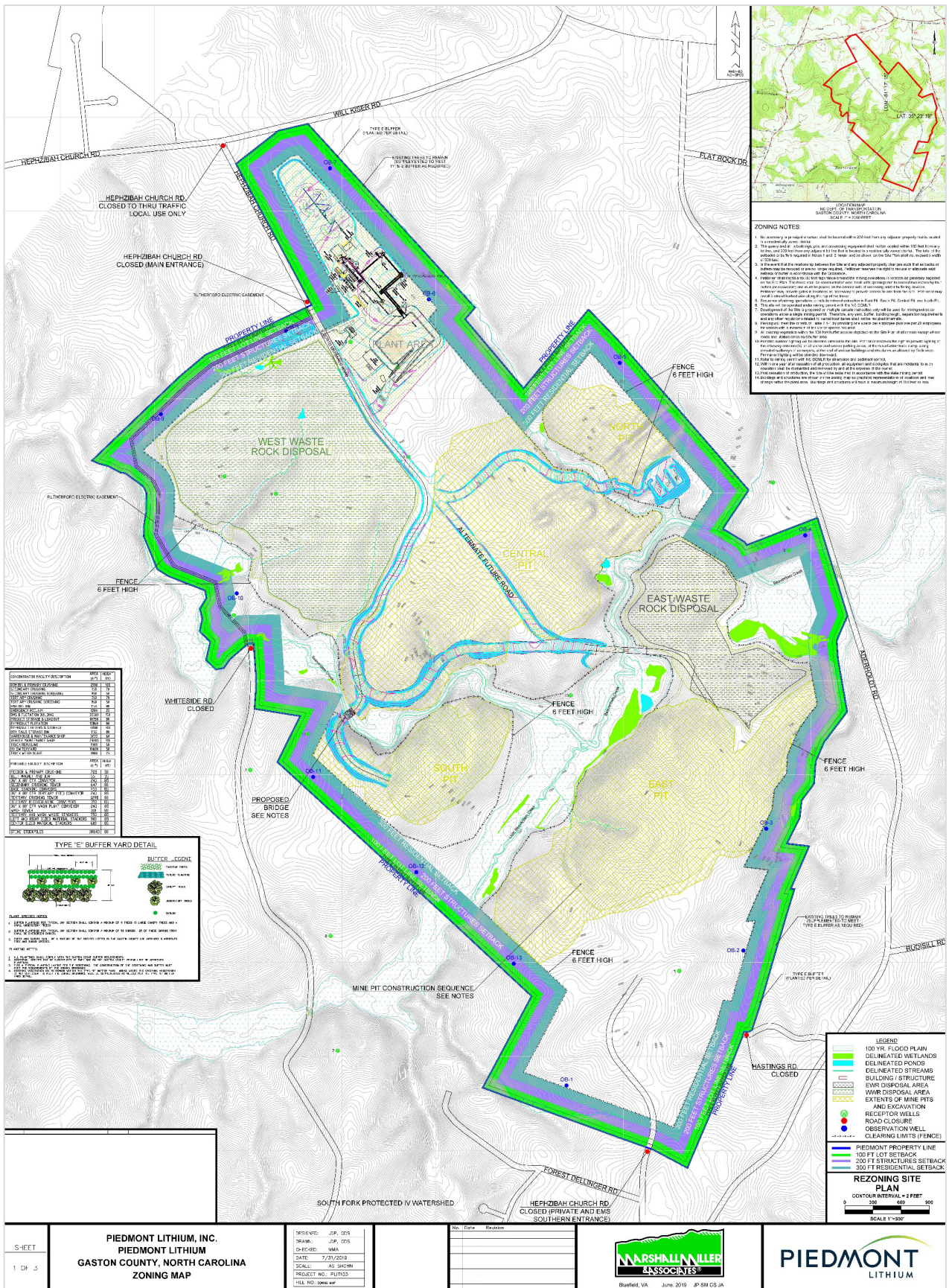


Figure 22 – Overall Mine/Concentrator Site Plan



## 2.11 Infrastructure

---

Piedmont enjoys a superior infrastructure position relative to most lithium projects globally. The proposed Mine/Concentrator site is approximately 25 miles west of Charlotte, North Carolina. The Mine/Concentrator 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 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 20 miles from the mine site and 32 miles from the proposed Chemical Plant site. It is the 6<sup>th</sup> largest airport in the United States and has direct international routes to Canada, the Caribbean, South America, and Europe.

Temporary or permanent camp facilities will not be required as part of the project. Furthermore, Livent Corporation and Albemarle Corporation operate lithium chemical plants 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.

## 2.12 Logistics

---

Most spodumene concentrate produced by the Piedmont Mine/Concentrator will be consumed by the Piedmont Chemical Plant. A US\$6.00/t cost is included in the financial model for the 20-mile transport between the Mine/Concentrator and Chemical Plant. For third-party spodumene concentrate sales Piedmont has assumed a US\$75/t freight cost from mine gate to CIF China delivery.

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.

## 2.13 Environment, Sustainability, and Governance

---

The Company maintains a strong commitment to responsible project development. The Company has taken concrete steps to minimize the impact of operations on the environment. These measures include:

- Commitment to dry-stacked tailings and elimination of tailings storage facilities from consideration in the project design from day one.
- Avoidance of streams and wetlands within the project permit boundaries.
- Production of by-product minerals improves the efficient use of the mineral resources and provides enhanced benefits within the same footprint.
- Quartz concentrates are principally targeted to the US solar glass manufacturing market, an important component of growth in renewable energy.
- Regional supply chain for battery materials reduces emissions associated with global supply chains.

## 2.14 Permitting

---

HDR Engineering has been retained by Piedmont to support permitting activities on the Integrated Project. Permitting activities for the Mine/Concentrator are well advanced.

In November 2019 the Company received a Clean Water Act Section 404 Standard Individual Permit from the US Army Corps of Engineers ("USACE") for the Mine/Concentrator. This is the only federal permit required for the Mine/Concentrator. The Company has also received a Section 401 Individual Water Quality Certification from the North Carolina Division of Water Resources ("NCDWR").

Additionally, the following environmental, field investigation and social studies have been concluded at the Mine/Concentrator:

- Threatened and endangered species surveys, which concluded that no federally protected species occur at the Mine/Concentrator site.
- A detailed cultural resources survey including a comprehensive archaeological investigation of the Mine/Concentrator site was undertaken. Cultural resources surveys which concluded that no properties listed in or eligible for listing in the National Register of Historic Places would be adversely affected by the Integrated Project.
- Hydrogeological modeling.
- Ground and surface water monitoring which will continue for a minimum of 12 months prior to the start of construction on the Mine/Concentrator.
- Waste rock characterization including acid/base accounting and neutralization potential which indicated that the waste rock from the Mine/Concentrator does not have the potential to be acid forming.
- Traffic analysis.

A mining permit application and rezoning application will be submitted to the state of North Carolina and Gaston County, respectively, in the coming months.

## 2.15 Marketing

### Lithium Hydroxide Marketing

Piedmont is focused on establishing strategic partnerships with customers for battery grade lithium hydroxide with emphasis on a customer base which is focused on EV demand growth in North America and Europe. Piedmont will concentrate this effort on these growing EV supply chains, particularly in light of the growing commitments to US battery manufacturing by groups such as Tesla, SK Innovation, LG, Volkswagen and others.

For additional details refer to Section 1.9 above.

### By-Product Marketing

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

By-product	Annual Volume (t/y)	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.

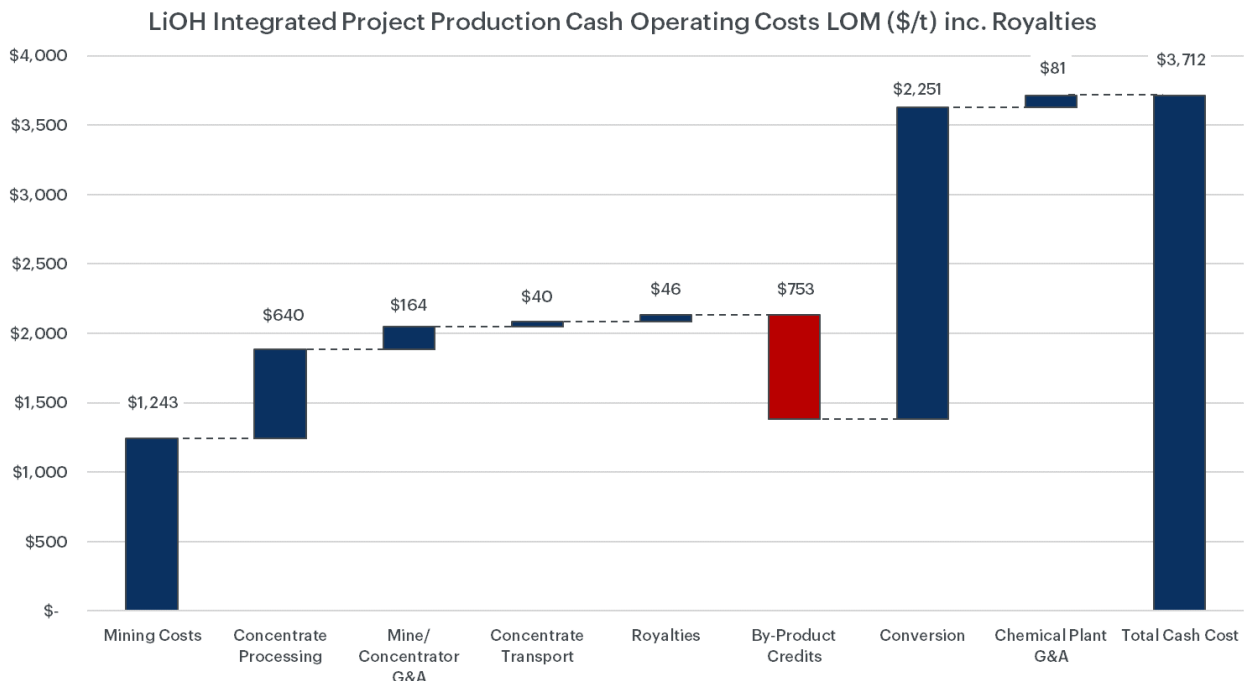
Based on the results of bench-scale testwork, by-products from Piedmont’s lithium operations are expected to have low-iron content, which will be desirable in many industrial applications.

In October 2019 Piedmont entered into a letter-of-intent (“LOI”) for a by-product marketing arrangement with Ion Carbon, a division of AMCI. Under the terms of the LOI Piedmont and Ion Carbon have provided samples of Piedmont quartz concentrates to solar glass manufacturers who have reported that the potential products have qualities favorable for the solar glass market.

Piedmont will actively pursue offtake agreements with solar glass manufacturers for quartz concentrate sales with an objective to sign offtake commitments within 2020.

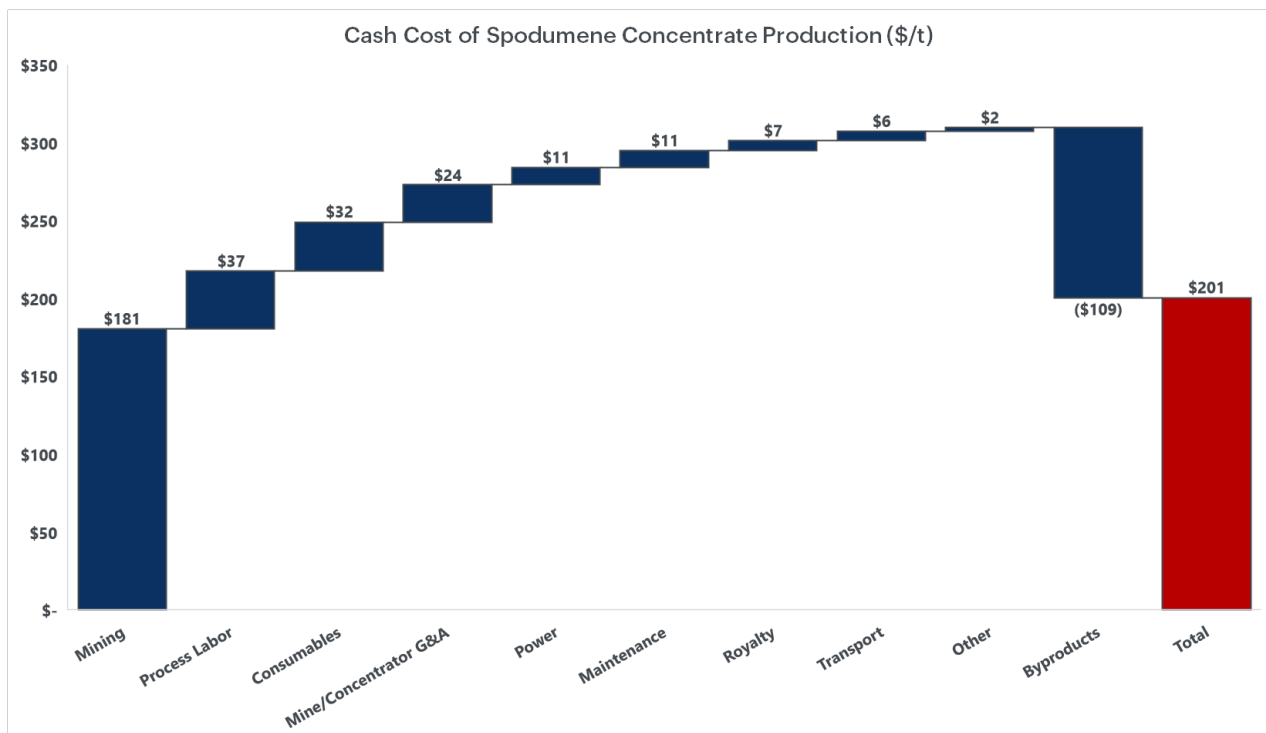
## 2.16 Operating Cost Estimate

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 by-product credits (Figure 23).



*Figure 23 – Lithium hydroxide production cash operating costs life of mine*

Cash operating costs for spodumene mining and concentration were estimated at an average of US\$ 201/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 24.



*Figure 24 – Cash operating costs for spodumene concentrate life of mine (\$/t) (160,000 t/y)*

## 2.17 Capital Cost Estimate

Piedmont estimates the capital cost to construct the Mine/Concentrator at US\$106.2M, excluding contingency, land expenses, owner's costs, and working capital. The sustaining capital includes the costs for financed mobile equipment including rebuild and replacement costs through the 25-year mine life.

Table 22 highlights the total estimated capital expenditures for the Mine/Concentrator. A 20% contingency has generally been carried on costs in the economic modelling of the Mine/Concentrator project except where contracted values, such as land expenses, have been defined.

<b>Table 22: Mine/Concentrator Estimated Capital Costs</b>	
<b>Cost Center</b>	<b>Life-of-mine total (US\$ million)</b>
Site establishment and bulk earthworks	\$13.8
Pre-stripping expenses	\$8.0
Process plant	\$63.3
Non-process infrastructure	\$3.9
Engineering, procurement, construction management ("EPCM")	\$13.4
Construction indirects	\$2.3
Spares and commissioning	\$1.5
<b>Total</b>	<b>\$106.2</b>
Land acquisition	\$28.3
Owner's costs	\$11.3
<b>Total Initial Capital (Excluding Contingency)</b>	<b>\$145.8</b>
Contingency	\$22.1
<b>Total Development Capital</b>	<b>\$167.9</b>
Deferred and sustaining capital (including contingency)	\$147.9
Working capital (including contingency)	\$20.0

Piedmont estimates at a PFS level the capital cost to construct the Chemical Plant at US\$292M before owner's costs and contingency. A contingency of 25% has been carried in the overall capital cost estimate and economic modelling of the Merchant Project.

<b>Table 23: Lithium Hydroxide Chemical Plant Estimated Capital Costs</b>	
<b>Cost Center</b>	<b>Life-of-mine total (US\$ million)</b>
Contractor directs – Chemical Plant	\$226.5
Contractor indirects	\$65.8
<b>Total</b>	<b>\$292.3</b>
Owner's costs	\$11.3
Contingency	\$73.1
<b>Total Development Capital</b>	<b>\$376.7</b>
Deferred and sustaining capital (including contingency)	\$108.7
Chemical plant working capital	\$27.5

## 2.18 Royalties, Taxes, Depreciation, and Depletion

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

- Royalties of US\$1.00 per ROM tonne based on the average land option agreement
- North Carolina state corporate taxes are 2.5%

- 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 in the Mine/Concentrator is based on Asset Class 10.0 - Mining in IRS Table B-1 using the general depreciation system ("GDS") over 7 years with the double declining balance method.
- Depreciation in the Chemical Plant is based on Asset Class 28.0 - Mfg. of Chemical and Allied Products in Table B-1 using GDS of 5 years with the double declining balance method.
- Bonus depreciation of 80% has been applied based on the bonus depreciation allowance in the Tax Cuts and Jobs Act assuming a place in service date of the Mine/Concentrator and chemical plant by December 31, 2023.

## 2.19 Scoping Study Economics

### Financial Modelling

A comprehensive economic model has been prepared which fully integrates Piedmont's Chemical Plant with its Mine/Concentrator. The Integrated Project Scoping Study assumes a Chemical Plant production life of 25 years commencing 3 months after the start of mining operations. The mining production target is approximately 25.6 Mt at an average run of mine grade of 1.11% Li<sub>2</sub>O (undiluted) over a 25-year mine life. The overall project life is 25 years.

The current economic model is based on a monthly projection of capital costs and assumes that the full capital cost is spent across 21 months prior to commissioning of the Mine/Concentrator and across 24 months prior to the commissioning of the chemical plant. The Mine/Concentrator is assumed to ramp to full production over a one-year period while the Chemical Plant is assumed to ramp to full production over a 24-month period.

### Payback Period

Payback periods for the Integrated Project constructed in a single phase is 3.2 years after the start of chemical plant operations or 5.2 years from the start of construction. Payback period is calculated on the basis of after-tax free cash flow.

### Sensitivity Analyses

The Mine/Concentrator and Chemical Plant components of the Integrated Project Scoping Study have been designed to a PFS level of detail with an intended accuracy of ± 25%. Key inputs into the Integrated Project Scoping Study have been tested by pricing, capital cost, and operating cost sensitivities (Figure 25 and Figure 26).

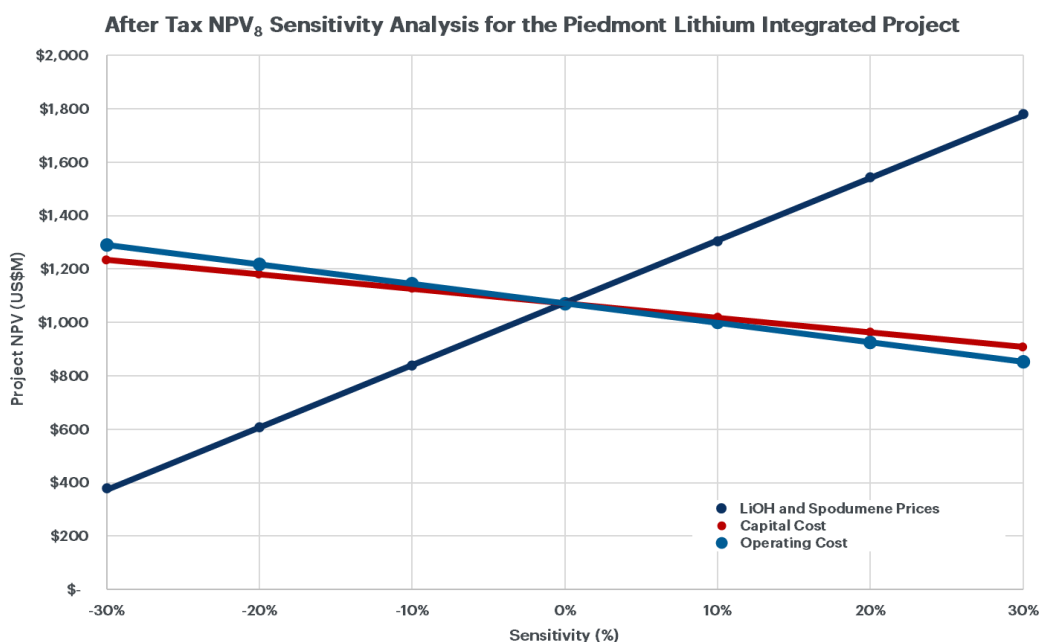
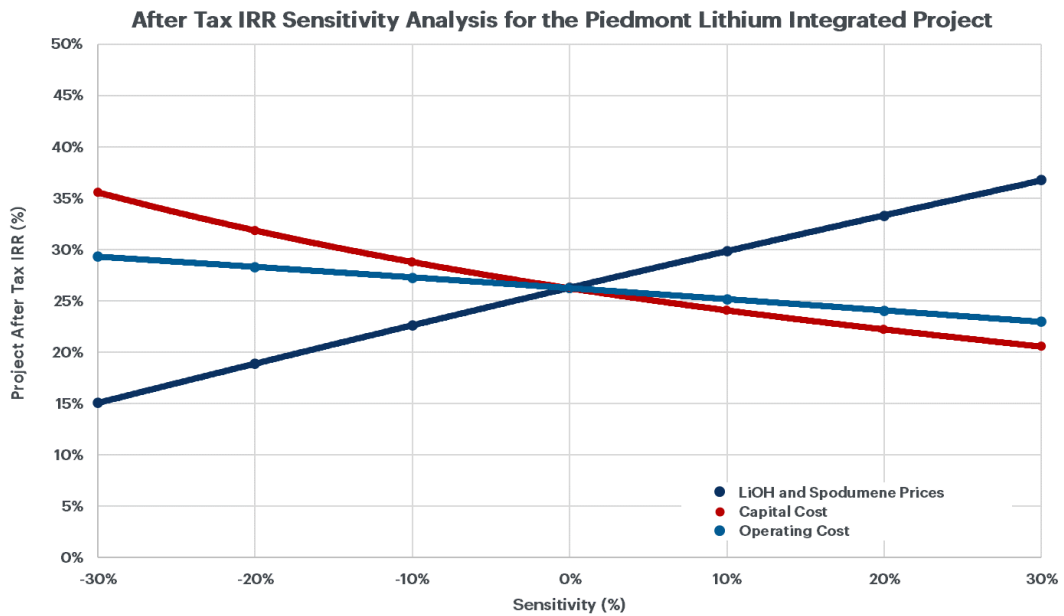


Figure 25 – Net Present Value Sensitivity Analysis for the Piedmont Integrated Project



*Figure 26 – Internal Rate of Return Sensitivity Analysis for the Piedmont Integrated Project*

## 2.20 Conclusions and Next Steps

The Integrated Project Scoping Study results demonstrate the potential for Piedmont to become a major American lithium hydroxide producer on a fully integrated spodumene mine to lithium hydroxide chemical plant basis. The Company will now concentrate on the following initiatives to drive the Integrated Project forward:

- Finalize the bench scale lithium hydroxide testwork and ship initial samples to potential customers.
- Recruit senior leadership positions to bolster the Company’s execution capability.
- Build out the execution team for the Integrated Mine/Concentrator.
- Recruit senior sales and marketing leadership to coordinate product offtake conversations.
- Submit key chemical plant permit applications for the Kings Mountain, NC location targeting approvals by the end of 2020.
- Advance the Integrated Project to a definitive feasibility study (“DFS”)-level.
- Evaluate the opportunity to expand by-product production at the Mine/Concentrator based on positive feedback from prospective customers.
- Continue to evaluate strategic partnering options.

## 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 announcement 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 mineralization 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 announcement that relates to lithium Mineral Resources is extracted from our ASX announcement entitled "Piedmont Increases Lithium Resource by 47% to 27.9 Million Tonnes" dated June 25, 2019. The information in this announcement that relates to by-product Mineral Resources is extracted from our ASX announcement entitled "Significant Increase in By-Product Mineral Resources" dated August 1, 2019. Both ASX announcements are available to view on the Company website at [www.piedmontlithium.com](http://www.piedmontlithium.com). Piedmont confirms that: a) it is not aware of any new information or data that materially affects the information included in the original ASX announcements; b) all material assumptions and technical parameters underpinning the Mineral Resources in the original ASX announcements continue to apply and have not materially changed; and c) the form and context in which the Competent Person's findings are presented in this announcement have not been materially modified from the original ASX announcements.

The information in this announcement that relates to Metallurgical Testwork Results is based on, and fairly represents, information compiled or reviewed by Dr. Jarrett Quinn, a Competent Person who is a Registered Member of 'Ordre des Ingénieurs du Québec', a 'Recognized Professional Organization' (RPO). Dr. Quinn is consultant to Primero Group. Dr. Quinn 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. Quinn consents to the inclusion in the report of the matters based on information in the form and context in which it appears.

The information in this announcement that relates to Concentrator Process Design, Concentrator Capital Costs, and Concentrator Operating Costs is based on, and fairly represents, information compiled or reviewed by Mr. Jacques Parent, a Competent Person who is a Registered Member of 'Ordre des Ingénieurs du Québec', a 'Recognized Professional Organization' (RPO). Mr. Parent is a full time employee of Primero Group. Mr. Parent has sufficient experience that is relevant to the style of mineralization 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. Parent consents to the inclusion in this 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 compiled by Mr. Chris Scott and reviewed by Dr. Steven Keim, both of whom are employees of Marshall Miller and Associates (MM&A). Dr. Keim takes overall responsibility as Competent Person for the portions of the work completed by MM&A. Dr. Steven Keim is a Competent Person who is a Registered Member of the 'Society for Mining, Metallurgy & Exploration Society', a 'Recognized Professional Organization' (RPO). Dr. Keim has sufficient experience, which is relevant to the style of mineral extraction under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC Code (2012 Edition). Dr. Keim has reviewed this document and consents to the inclusion in this report of the matters based on his information in the form and context within which it appears.

## APPENDIX A: 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 Sections 2.4 and 2.5 entitled 'Production Target and Mining' in the Announcement.

The Company engaged independent engineers Marshall Miller to carry out pit optimizations, mine design, scheduling, and waste disposal. Modelling and pit sequencing were compiled by Mr. Chris Scott, a Senior Engineer with Marshall Miller.

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 45 degrees
- Batter height of 10 vertical meters
- Berm width of 0 meters
- Overall slope angle of 45 degrees.

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

- Batter face angle of 75 degrees
- Batter height of 24 vertical meters
- Berm width of 9.5 meters
- Overall slope angle of 52 degrees, which includes a ramp width of 30 meters.

The pit wall design parameters indicated above are based on the results of a preliminary geotechnical assessment that utilized available fracture orientation measurements from exploration drilling and downhole geophysical logging, along with laboratory results for intact rock strength.

Production schedules have been prepared for the mine based on the following parameters:

- Target a process plant output of 160 kt/y of 6% Li<sub>2</sub>O concentrate
- Plant throughput of 1.15 Mt/y
- Approximately 70% of production will be achieved in Year 1 of operations
- Mine dilution of 5%
- Mine recovery of 95%
- Processing recovery of 85%
- A mining sequence targeting maximized utilization 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 mineralized 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 site development and pre-strip activities will be carried out by an experienced earthmoving contractor.

Costs carried in the Integrated Project Scoping Study assume an owner-performed mining operation with an OEM financed mine fleet.

No alternative mining methods were considered in this Integrated Project 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 Integrated Project Scoping Study.

The initial production target is approximately 160,000t of 6.0% (Li<sub>2</sub>O) or greater spodumene concentrate which will convert to 22,720t of lithium hydroxide monohydrate. This equates to approximately 1.15 Mt of ore processed per year totaling 25.6 Mt grading at 1.05% (fully diluted) Li<sub>2</sub>O over 25 years. The production target was derived from selection of the SimSched shell which provided the best estimate NPV.

The total production target is based on 53% Indicated Resources and 47% Inferred Resources for the mine life covered under the Scoping Study. The Company has concluded that it has reasonable grounds for disclosing a production target which includes an amount of Inferred material on the basis that the Inferred Resources included in the early mine plan is modest and over the life of the mine the amount of Inferred Resources is not the determining factor in project viability.

Approximately 47% of the total life-of-mine plan relates to Inferred material, however 0% of the mine plan relates to Inferred material in years 1-3 (the estimated payback period for the mine and concentrator is 2.4 years) and 47% of the mine plan relates to Inferred Resources in years 4-13.

Mine Production Schedule with % Indicated Category Processed by Time Period				
Years	ROM Tonnes (kt)	Inferred Tonnes (kt)	Indicated Tonnes (kt)	% Indicated Tonnes (%)
1-3	3,066	0	3,066	100%
4-13	11,500	5,400	6,100	53%
14-25	11,001	6,744	4,257	39%
LOM	25,567	12,144	13,423	53%

Based on the advice from the relevant Competent Persons, the Company has a high degree of confidence that the Inferred Mineral Resources will upgrade to Indicated Mineral Resources with further infill drilling. As support for this, the Company's Indicated Mineral Resources have already increased by 5.4 Mt (or 64%) from 8.5 Mt @ 1.15% Li<sub>2</sub>O (in June 2018) to 13.9 Mt @ 1.16% Li<sub>2</sub>O (in June 2019), such increase resulting from a large proportion of previously Inferred Mineral Resources being upgraded to Indicated Mineral Resources from infill drilling.

In the unlikely event that the remaining Inferred Mineral Resources are not able to be upgraded, the Integrated Project's viability is not affected. This is supported by a stand-alone DCF analysis prepared that assumes only Indicated Resources are included the mine plan in order to demonstrate the economic viability of the Integrated Project. Assuming only Indicated Resources are mined, the revised production target would be approximately 11.1 Mt ROM ore and the mine life would be approximately 12 years. This DCF analysis demonstrates that the Integrated Project would still be expected to exhibit levels of profitability that would contribute significant value to Piedmont shareholders, even if no additional Indicated Resources are upgraded from existing Inferred Resources or replaced with new Indicated Resources that are yet to be discovered.

Piedmont is 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. The TSB was the most important lithium producing region in the western world prior to the establishment of the brine operations in Chile and Argentina in the 1990s. Livent and Albemarle both historically mined the lithium bearing spodumene pegmatites from the TSB, with the historic Kings Mountain lithium mine being described as one of the richest spodumene deposits in the world by Albemarle.

The lithium chemical plant mass balance assumes that 150,075 t/y (dry basis) of 6.0% spodumene concentrate is required to achieve the production target. Excess concentrate produced each year after the lithium chemical plant achieves full capacity will be carried in inventory and consumed at the end of life-of-mine.

**Processing  
(including  
Metallurgical)**

Refer to Sections 2.6 'Concentrate Metallurgy' and 2.8 'Concentrator Process Design' in the Announcement.

The Company engaged SGS laboratories in Lakefield, Ontario to complete variability and composite testwork on various flowsheet options using a combination of Dense Medium Separation (DMS) and flotation processing techniques. The summary results for the preferred flowsheet alternative are shown. Details of the testwork program and results were previously announced on July 17, 2019.

Parameter	DMS Results	Locked Cycle Test Results	Composite Sample Results
Feed Grade Li <sub>2</sub> O (%)			1.11
Concentrate Grade Li <sub>2</sub> O (%)	6.42	6.31	6.35
Fe <sub>2</sub> O <sub>3</sub> (%)	0.97	0.90	0.93
Na <sub>2</sub> O (%)	0.56	0.68	0.63
K <sub>2</sub> O (%)	0.45	0.52	0.49
CaO+ MgO + MnO (%)	0.51	1.25	0.96
P <sub>2</sub> O <sub>5</sub> (%)	0.12	0.46	0.32

The composite samples were prepared to approximate the average grade of Piedmont's Mineral Resource. Overall lithium recovery during testwork for the preferred flowsheet was 77% at a grade of 6.35% Li<sub>2</sub>O. Simulations based on the testwork results support an overall plant design recovery of 85% when targeting a 6.0% Li<sub>2</sub>O spodumene concentrate product.

To support lithium conversion testwork, Piedmont composited approximately 1.75 tonnes of pegmatite from drill core. This composite was collected from early, middle and late years of the deposit and resulted in a head grade of 1.25% Li<sub>2</sub>O and 0.38% Fe<sub>2</sub>O<sub>3</sub>.

DMS and Locked-Cycle Flotation Testwork ("LCT") were undertaken on this sample. The summary results for this testwork are shown. The detailed results of this testwork program were previously announced on May 13, 2020.

Product	Wt. (%)	Assay (%)		Distribution (%)	
		Li <sub>2</sub> O	Fe <sub>2</sub> O <sub>3</sub>	Li <sub>2</sub> O	Fe <sub>2</sub> O <sub>3</sub>
DMS Concentrate	7.5	6.30	0.93	38.9	13.8
Flotation Concentrate	8.6	6.13	0.83	43.5	14.2
Combined Concentrate	16.1	6.21	0.87	82.4	28.0

Overall Li<sub>2</sub>O recovery of 85% is used in the Integrated Project 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 byproduct quartz and feldspar results refer to Sections 2.7 'By-Product Metallurgy' and 2.8 'Concentrator Process Design' of this Announcement and the detailed testwork results previously announced on May 13, 2020.

The summary results of quartz and feldspar qualities are shown. Over 8kg of each product was produced from a composite of six (6) individual batch samples of spodumene flotation tailings.

	Li <sub>2</sub> O	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	Na <sub>2</sub> O	CaO	MgO	MnO	P <sub>2</sub> O <sub>5</sub>	Fe <sub>2</sub> O <sub>3</sub>
Quartz Concentrate	0.02	99.0	0.32	0.04	0.11	0.01	0.01	0.01	0.01	0.01
Feldspar Concentrate	0.12	68.0	19.35	2.45	9.30	0.17	0.04	0.01	0.15	0.05

For detailed mica metallurgical testwork results in bench-scale refer to Sections 2.7 'By-Product Metallurgy' and 2.8 'Concentrator Process Design' of this Announcement and the detailed testwork results previously announced on September 4, 2018.

<b>Bench Scale Mica Physical Properties Results</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Optimized Value</b>
Particle Size	Medium to Very Fine	40 – 325 Mesh
Bulk Density	g/cm <sup>3</sup>	0.681-0.682
Grit	%	0.70-0.79
Photovoltmeter	Green Reflectance	11.2-11.6
Hunter Value	± a [Redness(+) Greenness(-)]	0.27-1.25
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 2.11 entitled 'Infrastructure' in the Announcement.

Piedmont's proximity to Charlotte, North Carolina effectively means that no regional infrastructure requirements for project development exist outside of the project's battery limits.

The Integrated Project 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 Sections 1.9 and 2.15 entitled 'Marketing' in the Announcement

Piedmont has used lithium hydroxide pricing (real terms) from Benchmark's long-term price forecast published in Q1 2020.

Piedmont has used spodumene concentrate FOB pricing (real terms) from Benchmark's long-term forecast published in Q1 2020.

Piedmont has established the following pricing for by-product concentrates based on consultation with byproduct marketing partners Ion Carbon and 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.

<b>By-product</b>	<b>Annual Volume</b>	<b>Average Sales Price</b>
Quartz	99,000	\$100
Feldspar	125,000	\$75
Mica	15,500	\$50

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.

**Economic** Refer to Sections 2.16 'Operating Cost Estimate', 2.17 'Capital Cost Estimate', 2.18 'Royalties, Taxes, Depreciation, and Depletion', and 2.19 'Scoping Study Economics' in the Announcement.

Capital Estimates for the Concentrator have been prepared by Primero Group, a global expert in spodumene 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 2019 terms and are exclusive of escalation. The intended accuracy of the initial capital cost estimate for the Mine/Concentrator is  $\pm 25\%$ .

Initial Capital Estimates for the Lithium Chemical Plant have been prepared in accordance with the standards of an AACE Class 4 estimate. Costs presented are in real 2020 terms and are exclusive of escalation. Intended accuracy of the Chemical Plant initial capital cost estimate is  $\pm 25\%$ .

Marshall Miller and Associates prepared the capital estimate for the mine including site development, mine infrastructure, fixed and mobile equipment, and pre-strip expenses. Mining equipment costs are based on OEM financing and are included in sustaining capital.

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 social responsibility costs, although these would not be expected given the Mine/Concentrator and Chemical Plant locations.

Working capital requirements prior to plant commissioning and full ramp-up have been included in the capital estimate.

Mining costs have been estimated from first principles by Marshall Miller, a regional leader in mining and geology consulting engineering. Mining costs have been built up from first principles based on equipment, vendor, and contractor quotations, local unit cost rates, and benchmarked costs attributable to North Carolina, United States.

Spodumene processing and general & administrative costs for the concentrator 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.

Chemical conversion costs, excluding costs of spodumene supply, for the production of lithium hydroxide have been estimated based on a combination of first principles build-up, budgetary quotes from suppliers, database costs, and experience from similar projects with unit rates benchmarked to costs attributable to North Carolina, United States.

Labor costs have been developed based on a first-principles build-up of staffing requirements with labor rates from benchmarks for the Charlotte, North Carolina region.

There are no government royalties associated with the project.

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 \$201/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 by the Company in order to demonstrate the economic viability of the Integrated Project. The financial model and DCF were modelled with conservative inputs to provide management with a baseline valuation of the Integrated 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\$1,071 million, assuming a variable LOM lithium hydroxide price and a variable LOM spodumene concentrate price based on Benchmark market forecasts, and an (ungeared) IRR of 26%.

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 of over US\$9,000/t, or approximately 70%.

Sensitivity analysis was performed on all key assumptions used. The robust project economics insulate Piedmont's proposed Integrated Project lithium chemical business from variation in market pricing, capital expense, or operating expenses. At a lithium hydroxide and spodumene concentrate price 30% lower than the Scoping Study prices the Integrated Project still displays a positive NPV of US\$378 million and IRR of 15%.

Payback period for the Integrated Project is 3.2 years from the start of operations. The payback period is based on free-cash flow, after taxes.

Piedmont estimates the total capital cost to construct the mine, concentrator and chemical plant to be US\$545 million (which includes a 20% contingency on most Mine/Concentrator costs and 25% on all initial Chemical Plant costs excluding Owner's Costs).

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.

In the last 12 months there were a number of similar pure play hard rock spodumene lithium projects that successfully completed funding arrangements. These lithium projects were financed by a range of different methods including, traditional equity, strategic equity, senior secured loan facilities, sale of royalty, joint ventures, mergers, takeovers, and sale of a minority interests, including:

- AVZ Minerals Ltd (May 2020) – completed a A\$10.7 million placement to China's Yibin Tianyi Lithium Industry Co, for a 9% stake in the company. Funds were used to advance development of its Manono lithium hard rock project, and strengthen its balance sheet;
- European Metals Holdings Limited (April 2020) – completed a EUR29.1 million transaction wherein CEZ a.s. purchased a 51% stake in Geomet, the Company's operating subsidiary, to fund the Company's hard rock lithium project in the Czech Republic to a construction decision;
- Lake Resources Ltd (February 2020) – raised A\$5.9 million via a A\$3.4 million equity placement, including \$1.9 million to Microsoft founder Bill Gates, and a A\$2.5 million SPP, for development of its extraction technology at its Kachi lithium brine project;
- Lilac Solutions (February 2020) – raised US\$20 million in Series A funding led by Breakthrough Energy Ventures, a US\$1 billion fund established by many of the world's top business leaders to support companies with the potential to significantly reduce greenhouse gas emissions.
- Standard Lithium (February 2020) – raised C\$12 million in common stock to fund development of its demonstration plant in southern Arkansas, USA.
- Advantage Lithium Corp. (February 2020) - entered into an agreement whereby Orocobre Ltd acquired 100% of Advantage shares that it did not already own, via issuing its own shares as consideration. Implied value of the transaction was approximately A\$52 million;
- Loneer Ltd. (November 2019 – completed a fully underwritten Institutional Placement to raise A\$40 million to fund its Rhyolite Ridge project in Nevada, USA project through Final Investment Decision;

- Altura Mining Ltd (November 2019) – closed a non-renounceable entitlement offer raising A\$9.2 million. Funds were for optimizing its Pilgangoora plant, exploration, and general working capital;
- Mineral Resources Ltd (October 2019) – announced completion of its sale of a 60% interest in its Wodgina spodumene mine to Albemarle for US\$1.3 billion, consisting of cash payment of US\$820 million and transfer to Mineral Resources of a 40% interest in two 25ktpa lithium hydroxide conversion plants being built by Albemarle at Kemerton, WA;
- Pilbara Minerals Ltd (September 2019) – announced a A\$55 million strategic placement to China’s largest EV battery manufacturer CATL, who emerged with a 8.5% interest. Additionally, PLS undertook a A\$36.5 million underwritten institutional placement and a A\$20 million SPP, raising a total of A\$111.5 million;
- Core Lithium Ltd (June 2019) – completed A\$8 million strategic investment via the sale of a 2.5% royalty from its Finniss lithium project in Australia, and also secured A\$29mm of offtake prepayment from Sichuan Yahua Industrial;
- Kidman Resources Ltd (September 2019) – completed a scheme of arrangement whereby Wesfarmers acquired Kidman and its Mt Holland lithium project in Australia for a transaction value of approximately A\$776 million;
- Lithium Americas (August 2019) – closed a US\$160mm project equity investment by Ganfeng Lithium to fund the construction of the Cauchari lithium brine project in Argentina. Ganfeng has additionally committed US\$250mm of debt to Lithium Americas as part of the company’s project financing;
- Liontown Resources Ltd (August 2019) – completed A\$18 million equity raising to fund development of its Kathleen Valley lithium project in Australia;
- Nemaska Lithium Corporation (July 2019) – announced an underwritten rights offering for C\$600 million to be led by Pallinghurst Group, a UK-based resources private equity investor. Nemaska is developing an integrated spodumene-to-hydroxide project in Quebec, Canada, and raised US\$805mm in 2018 through equity, debt and royalty financings to initiate project construction; and,
- Bacanora Lithium (May 2019) – announced strategic investments by Ganfeng Limited aggregating £22mm to underpin the US\$420mm financing required to develop Bacanora’s lithium clay project in Sonora, Mexico.

The capital raisings, financings and transactions achieved above demonstrate the availability of appropriate funding and also the strategic importance of key hard rock lithium assets/companies to strategic players.

The Company considers that given the nature of the Project, funding is likely to involve specialist funds and possibly strategic investors and end user customers, with potential funding sources including, but not limited to traditional equity and debt, offtake prepayments and streams, royalty prepayments and streams, and strategic equity, at either the Company and/or Project level.

In this regard, the Company has already engaged in numerous preliminary off-take, financing and strategic conversations over the past several months. Interested parties are of a global nature, and include companies from the lithium, mining, chemicals, battery, automotive and private equity sectors.

In particular, the Company is engaged in ongoing discussions related to multi-year offtake of spodumene concentrate and/or lithium chemicals offtake with several merchant Chinese lithium chemicals producers, Korean cathode and battery manufacturers, and Japanese cathode manufacturers, battery manufacturers, and trading firms. These discussions have contemplated potential equity participation in capital of the Project and potential prepayment of spodumene concentrate and lithium chemicals. Prepayment is expected to fund a portion

of the capital costs for the capital of the Project. Additionally, offtake agreements will assist in obtaining future debt facilities to finance capital costs.

The Company has also had preliminary financing discussions with a number of other strategic investors, end user customers, and other corporates, related to potential equity and/or debt funding at the Company and/or Project level.

The Company expects to appoint financial and legal advisors to assist in the evaluation of strategic and financing options.

The Board has sought the advice of a suitably qualified financial services firm who, following the assessment of a number of key criteria, 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 lithium market and global capital market conditions at the time not being worse than they are currently.

Since acquisition of initial exploration rights 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 Company's exploration properties. Over this period, with these key milestones being reached and the Integrated Project de-risked, the Company's market capitalization has increased from approximately A\$20 million to approximately A\$95 million. As the Integrated 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 US\$9 million cash on hand at the end of Q1 2020. 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 Integrated Project will be able to secure funding in due course, having particular regard to:

- Required capital expenditure;
- Piedmont's market capitalization;
- 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 favorable key metrics generated by the Integrated Project; and
- Investor interest to date.

#### **Environmental**

Refer to the Sections 1.3 and 2.13 entitled 'Environmental, Sustainability, and Governance' in the Announcement.

In November 2019, the Company received a Section 404 Standard Individual Permit application from the US Army Corps of Engineers ("USACE") for the Company's Mine/Concentrator. Timing of this permit approval was in line with Company expectations.

The Company also received a Section 401 Individual Water Quality Certification from the North Carolina Division of Water Resources ("NCDWR"). The Section 404 and 401 permits represent the longest lead permits associated with the Mine/Concentrator construction.

Piedmont has completed all necessary background studies required for the submission of all permit applications for the Mine/Concentrator as of July 2019.

Additional land acquisitions for process infrastructure, waste disposal, and other facilities or buffer areas are required before the Company can submit a mining permit application and a rezoning application for the Mine/Concentrator.

The Company expects to submit key applications for the Chemical Plant within Q2 2020 including an application for a Synthetic Minor Air Permit under the EPA Title V Project. The Company expects to receive this permit and other permits associated with the Chemical Plant by the end of 2020.

**Social, Legal  
and  
Governmental**

The Company has taken legal advice in relation to relevant Modifying Factors.

The Mine/Concentrator and Chemical Plant are 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 Integrated Project in considering the results of the Scoping Study.

The 2,131 acres which contain the Company's Mineral Resources are currently held within (153) individual parcels, of which (15) totaling (370) acres are owned by Gaston Land Company, LLC, a subsidiary of the Company, either free and clear or in some cases under seller-financed structures and (130) parcels are owned by (80) individual landowners. Piedmont has executed option or deferred purchase 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 and associated mineral rights in Piedmont's sole discretion. For each landowner agreement:

- The Company has made all required payments under each option agreement
- Piedmont has received a Memorandum of Option or Memorandum of Contract signed by each landowner and each Memorandum is recorded in the Gaston County Register of Deeds. These Memoranda were recorded between September 2016 and March 2020.
- Title searches on all properties were completed prior to recording 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 the exception of real estate taxes, certain utility access and easements which do not materially impact Piedmont's option or purchase rights or ability to extract minerals from the land, and mortgage liens to be paid by the private landowner or subordinated to Piedmont's rights to the land and the minerals upon acquisition or long term lease by Piedmont.

Four (4) properties totaling 49.0 acres which do not contain the Mineral Resource, but which are shown on the indicative site plan and which may be required to construct infrastructure, waste piles, or serve as Mine/Concentrator 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 or the prospective site plan modified to exclude these properties.

A Conditional District ("CD") for the proposed Mine/Concentrator approved 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 CD would not be granted.

The Company owns 61 acres of property in Cleveland County for the proposed Chemical Plant.



## MATERIAL ASSUMPTIONS

Study	Integrated Project	Merchant Project
Project Start Date	2021	2021
Life of project	25 Years	25 Years
Cost and Pricing Basis	2019 US\$ (Mine/Concentrator) 2020 US\$ (Chemical Plant)	2020 US\$ (Chemical Plant)
Currency	US Dollars	US Dollars
Cost Escalation	0%	0%
Revenue Escalation	0%	0%
Study Accuracy	±25%	±25%
Capex Contingency (Mine/Concentrator)	±20%	N/A
Capex Contingency (Chemical Plant)	±25%	±25%
<b>Mining</b>		
Mineral Resource	27.9 Mt	N/A
Portion of Production Target – Indicated	53%	N/A
Portion of Production Target - Inferred	47%	N/A
Annual Production (steady state)	1.15 Mt/y	N/A
Grade (Undiluted) LOM	1.11% Li <sub>2</sub> O	N/A
Grade (Diluted) LOM	1.05% Li <sub>2</sub> O	N/A
Dilution	5%	N/A
Mining Recovery	95%	N/A
Mining Cost Base (\$/t)	US\$2.36/t	N/A
Total Ore Mined (Diluted)	25,567,000 tonnes	N/A
Total Waste Rock	266,000,000 tonnes	N/A
LOM average strip ratio	10.4:1 waste:ore	N/A
<b>Concentration</b>		
Spodumene Production per Year	160,000 tonnes	N/A
Quartz Production per Year	86,000 tonnes	N/A
Feldspar Production per Year	125,000 tonnes	N/A
Mica Production per Year	13,000 tonnes	N/A
Average Quality	6.0% Li <sub>2</sub> O	N/A
Process Recovery	85%	N/A
Total Concentrate Production	3,805,000 tonnes	N/A
Concentrate Sold to 3 <sup>rd</sup> Party	142,000 tonnes	N/A
<b>Chemical Conversion</b>		
Conversion Rate	89.6%	89.6%
Annual Production Lithium Hydroxide	22,720 tonnes	22,720 tonnes
Conversion Rate (concentrate:LiOH t:t)	6.61:1	6.61:1
Battery Grade LiOH Produced	535,900 tonnes	535,900 tonnes
Technical Grade LiOH Produced	18,700 tonnes	18,700 tonnes
<b>Pricing</b>		
Spodumene Concentrate Avg. Price	US\$534/t (FOB Basis) (Sales)	US\$651/t (Purchased)
Battery Grade Hydroxide Avg. Price	US\$13,281/t	US\$13,281/t
Technical Grade Hydroxide Avg. Price	US\$11,727/t	US\$11,727/t
Quartz Concentrate Avg. Price	US\$100/t	N/A
Feldspar Concentrate Avg. Price	US\$75/t	N/A
Mica Concentrate Avg. Price	US\$50/t	N/A
<b>Other</b>		
Direct development capital – Mine/Concentrator	US\$106.2 million	N/A
Direct development capital – Chemical Plant	US\$292.3 million	US\$292.3 million
Owner’s costs – Integrated Project	US\$22.6 million	US\$11.3 million
Land acquisition costs	US\$28.3 million	N/A
Sustaining and deferred capital	US\$256.6 million	US\$108.7 million
Contingency	US\$95.2 million	US\$73.1 million
Royalties	\$1.00/t avg. per ROM ton ore	N/A
Corporate tax rate	21% Federal – 2.5% State	21% Federal – 2.5% State
Discount rate	8%	8%