UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number 001-38427

PIEDMONT LITHIUM INC.
(Exact name of Registrant as specified in its Charter)

Delaware	**36-4996461**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
32 North Main Street, Suite 100 Belmont, North Carolina	**28012**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (704) 461-8000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.0001 per share	PLL	The Nasdaq Capital Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes X No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
Emerging growth company	☒		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of November 5, 2021, there were 15,869,395 shares of the Registrant's common stock outstanding.

Table of Contents

Part I - Financial Information

Item 1. Financial Statements.

PIEDMONT LITHIUM INC.
CONSOLIDATED BALANCE SHEETS
(Unaudited)

	September 30, 2021	June 30, 2021
Assets		
Cash and cash equivalents	$ 81,953,152	$ 142,651,648
Other current assets	2,468,945	1,251,322
Total current assets	84,422,097	143,902,970
Exploration and evaluation assets	36,030,540	26,597,803
Property, plant and equipment, net	746,124	725,863
Operating lease right-of-use assets	100,862	139,797
Other non-current assets	206,561	222,698
Equity investments in unconsolidated affiliates	58,539,329	16,262,498
Total assets	$ 180,045,513	$ 187,851,629
Liabilities and Stockholders' Equity		
Accounts payable	$ 2,832,978	$ 2,561,834
Accrued expenses	3,666,928	2,397,197
Current portion of long-term debt	1,287,318	1,085,142
Operating lease liabilities	100,437	140,435
Other current liabilities	40,157	29,906
Total current liabilities	7,927,818	6,214,514
Long-term debt, net of current portion	1,072,471	1,226,404
Total liabilities	9,000,289	7,440,918
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Common stock; $0.0001 par value, 100,000,000 shares authorized; 15,869,395 and 15,764,533 shares issued and outstanding at September 30, 2021 and June 30, 2021, respectively	1,560	1,550
Additional paid-in capital	253,962,258	252,571,659
Accumulated deficit	(82,196,004)	(71,334,645)
Accumulated other comprehensive loss	(722,590)	(827,853)
Total stockholders' equity	171,045,224	180,410,711
Total liabilities and stockholders' equity	$ 180,045,513	$ 187,851,629

The accompanying notes are an integral part of these unaudited financial statements.

PIEDMONT LITHIUM INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended September 30,	
	2021	2020
Operating expenses:		
Exploration and evaluation expenses	$ 5,563,028	$ 1,113,675
General and administrative expenses	4,818,647	731,973
Loss from operations	(10,381,675)	(1,845,648)
Other (expense) income:		
Interest (expense) income, net	(59,051)	(56,589)
(Loss) gain from foreign currency exchange	(10,095)	18,977
Loss before income taxes (benefit)	(10,450,821)	(1,883,260)
Income tax expense (benefit)	—	—
Loss from equity investments in unconsolidated affiliates, net of tax	(410,538)	—
Net loss	$ (10,861,359)	$ (1,883,260)
Basic and diluted loss per weighted-average share	$ (0.68)	$ (0.17)
Basic and diluted weighted-average number of shares outstanding	15,863,027	11,086,970

The accompanying notes are an integral part of these unaudited financial statements.

PIEDMONT LITHIUM INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(Unaudited)

	Three Months Ended September 30,	
	2021	2020
Net loss	$ (10,861,359)	$ (1,883,260)
Equity investment income in unconsolidated affiliates	105,263	—
Other comprehensive income (loss), net of tax	105,263	—
Comprehensive loss	$ (10,756,096)	$ (1,883,260)

The accompanying notes are an integral part of these unaudited financial statements.

PIEDMONT LITHIUM INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020
Cash flows from operating activities:		
Net loss	$ (10,861,359)	$ (1,883,260)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	3,733	4,236
Stock-based compensation	833,509	136,466
Noncash lease expense	38,935	32,643
Loss on equity investments in unconsolidated affiliates	410,538	—
Changes in operating assets and liabilities:		
Other assets	(1,201,486)	(34,544)
Operating lease liabilities	(39,998)	(32,537)
Accounts payables	271,144	(254,178)
Accrued expenses and other current liabilities	1,279,982	321,003
Net cash used in operating activities	(9,265,002)	(1,710,171)
Cash flows from investing activities:		
Purchase of exploration and evaluation assets	(9,191,735)	(3,256,708)
Capital expenditures	(23,994)	(2,269)
Purchase of equity investments in unconsolidated affiliates	(42,582,106)	—
Net cash used in investing activities	(51,797,835)	(3,258,977)
Cash flows from financing activities:		
Proceeds from issuance of common stock, net of issuance costs	—	7,690,251
Proceeds from exercise of stock options	557,100	—
Principal payments on long-term debt	(192,759)	(149,310)
Net cash provided by financing activities	364,341	7,540,941
Net (decrease) increase in cash	(60,698,496)	2,571,793
Cash and cash equivalents at beginning of period	142,651,648	18,857,088
Cash and cash equivalents at end of period	$ 81,953,152	$ 21,428,881
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 59,051	$ 65,946
Noncash acquisitions of exploration and evaluation assets financed by sellers	241,002	389,500

The accompanying notes are an integral part of these unaudited financial statements.

PIEDMONT LITHIUM INC.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(Unaudited)

	Three Months Ended September 30, 2020					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at beginning of period	10,356,762	$ 1,025	$ 76,187,975	$ (51,589,139)	$ (796,565)	$ 23,803,296
Issuance of common stock, net	1,200,000	120	7,690,131	—	—	7,690,251
Stock-based compensation expense	—	—	136,466	—	—	136,466
Expiration of stock options	—	—	(234,078)	234,078	—	—
Net loss	—	—	—	(1,883,260)	—	(1,883,260)
Balance at end of period	11,556,762	$ 1,145	$ 83,780,494	$ (53,238,321)	$ (796,565)	$ 29,746,753

	Three Months Ended September 30, 2021					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at beginning of period	15,764,533	$ 1,550	$ 252,571,659	$ (71,334,645)	$ (827,853)	$ 180,410,711
Stock-based compensation expense	—	—	833,509	—	—	833,509
Shares issued for exercise/vesting of stock-based compensation awards	104,862	10	557,090	—	—	557,100
Equity investment income in unconsolidated affiliates	—	—	—	—	105,263	105,263
Net loss	—	—	—	(10,861,359)	—	(10,861,359)
Balance at end of period	15,869,395	$ 1,560	$ 253,962,258	$ (82,196,004)	$ (722,590)	$ 171,045,224

The accompanying notes are an integral part of these unaudited financial statements.

PIEDMONT LITHIUM INC.
NOTES TO THE UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF COMPANY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business

Piedmont Lithium Inc. ("Piedmont Lithium," "we," "our," "us," or the "Company") is an exploration stage company centered on developing a multi-asset, integrated lithium business that enables the transition to a net zero carbon world and the creation of a clean energy economy in North America. Through this endeavor, we are focused on developing and manufacturing lithium products for the fast-growing electric vehicle industry. The centerpiece of our operations, our wholly-owned Carolina Lithium Project ("Carolina Lithium Project"), is located in the renowned Carolina Tin-Spodumene Belt of North Carolina. We are geographically diversified with equity investments in strategic partnerships that own lithium resource assets in Canada and Ghana. Collectively, these resource assets and the location of these assets in the United States, Canada and Ghana, strategically position us to be a large, low-cost, sustainable producer of lithium products and byproducts, including quartz, feldspar and mica, serving the North American and European electric vehicle and battery supply chains. The geology, geography and proximity of our resources, planned production operations and customer base, should allow us to deliver a valuable continuous supply of high-quality, sustainably produced lithium hydroxide from spodumene concentrate, which is preferred by most electric vehicle manufacturers. Our diversified operations should enable us to play a pivotal role in supporting the move toward decarbonization and the electrification of transportation and energy storage in the United States of America.

Redomiciliation

Piedmont Lithium Inc. acquired all of the issued and outstanding ordinary shares of Piedmont Lithium Limited ("Piedmont Australia"), our Australian predecessor and a wholly owned subsidiary, pursuant to a Scheme of Arrangement under Australian law, which was approved by Piedmont Australia's shareholders on February 26, 2021, and the Supreme Court of Western Australia on May 5, 2021 (collectively referred to as "Redomiciliation"). As part of the Redomiciliation, the Company changed its place of domicile from Australia to the state of Delaware in the United States, effective on May 17, 2021.

Piedmont Australia's ordinary shares were listed on the Australian Securities Exchange ("ASX"), and Piedmont Australia's American Depositary Shares ("ADSs"), each representing 100 of Piedmont Australia's ordinary shares, were traded on the Nasdaq Capital Market ("Nasdaq"). Following the approval of the Redomiciliation, the Company moved its primary listing from the ASX to Nasdaq and retained an ASX listing via Chess Depositary Interests ("CDIs"), each representing 1/100th of a share of common stock of Piedmont Lithium Inc.

All issued and outstanding shares of our common stock and per share amounts have been retroactively adjusted in these consolidated financial statements to reflect the 100:1 ratio and share consolidation. Shares of the Company's common stock issued in connection with the Redomiciliation trade on Nasdaq under the symbol "PLL."

Basis of Presentation

The accompanying unaudited consolidated financial statements and related notes have been prepared on the accrual basis of accounting in conformity with United States generally accepted accounting principles ("GAAP") and in conformity with the rules and regulations of the Securities and Exchange Commission ("SEC") applicable to interim financial information. Certain information and note disclosures normally included in the consolidated financial statements prepared in accordance with GAAP have been omitted pursuant to such rules and regulations. Therefore, these interim consolidated financial statements should be read in conjunction with the audited financial statements and notes included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2021. These unaudited consolidated financial statements reflect all adjustments and reclassifications that, in the opinion of management, are considered necessary for a fair statement of the results of operations, financial position and cash flows for the periods presented. The current period's results of operations will not necessarily be indicative of results that ultimately may be achieved for the year ending June 30, 2022, for any other interim period or for any other future fiscal year.

Our fiscal year ends on June 30 of each calendar year. Our reporting currency is in Unites States dollars ("USD"), and unless otherwise indicated, all references to "$" are to USD.

Risk and Uncertainties

We are subject to a number of risks similar to those of other companies of similar size in our industry, including but not limited to, the success of our exploration activities, need for additional capital (or financing) to fund operating losses, competition from substitute products and services from larger companies, protection of proprietary technology, patent litigation, and dependence on key individuals.

We have accumulated deficits of $82.2 million and $71.3 million, as of September 30, 2021 and June 30, 2021, respectively. We have incurred net losses and utilized cash in operations since inception, and expect to incur future additional losses, as well. We have cash available on hand and believe that this cash will be sufficient to fund operations and meet our obligations as they come due within one year from the date these consolidated financial statements are issued. In the event our cash requirements change during the next twelve months, management has the ability and commitment to reduce operating expenses, as necessary. Until commercial production is achieved from our planned operations, we will continue to incur operating and investing net cash outflows associated with, among other things, maintaining and acquiring exploration properties and undertaking ongoing exploration activities. Our long-term success is dependent upon our ability to successfully raise additional capital or financing or enter into strategic partnership opportunities. Our long-term success is also dependent upon our ability to obtain certain permits and approvals, develop our planned mine, concentrator plant and chemical plant, earn revenues, and achieve profitability.

Our consolidated financial statements have been prepared on a going-concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates, assumptions, and allocations that affect amounts reported in the consolidated financial statements and related notes. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets, fair value of stock-based compensation, income tax uncertainties, contingent assets and liabilities, legal claims, and environmental remediation. Actual results could differ due to the uncertainty inherent in the nature of these estimates.

Significant Accounting Policies

There have been no material changes in the significant accounting policies followed by us during the three months ended September 30, 2021 from those disclosed in our Annual Report on Form 10-K for the year ended June 30, 2021.

Recently Issued and Adopted Accounting Pronouncements

We have considered the applicability and impact of all recently issued accounting pronouncements and have determined that they were either not applicable or were not expected to have a material impact on our financial statements.

2. EXPLORATION AND EVALUATION ASSETS

We own land, specifically surface properties and the associated mineral rights, for the purpose of exploration and evaluation activities in North Carolina, United States. Additionally, we have entered into exclusive option agreements or land acquisition agreements, which upon exercise, allow us to purchase, or in some cases lease, surface properties and the associated mineral rights in North Carolina from landowners. For those properties under option, no liability is recorded until we are certain of exercising the option.

Total exploration and evaluation assets were $36,030,540 and $26,597,803 as of September 30, 2021 and June 30, 2021, respectively. We made land acquisition payments and land option payments to landowners, which included legal fees and other direct costs to enter into these contract agreements, that have been capitalized as acquisition costs and recorded in "Exploration and evaluation assets" in the consolidated balance sheets. Noncash acquisitions of exploration and evaluation assets financed by sellers were $241,002 and $389,500 for the three months ended September 30, 2021 and September 30, 2020, respectively.

We assess our exploration and evaluation assets for impairment in accordance with Accounting Standards Codification ("ASC") 360, *"Property, Plant, and Equipment,"* whenever events or circumstances indicate that the carrying value of the assets may not be recoverable. We did not record impairment charges during the three months ended September 30, 2021 or 2020.

3. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following:

	September 30, 2021	June 30, 2021
Land	$ 688,829	$ 688,829
Office equipment	96,097	72,103
Property, plant, and equipment	784,926	760,932
Accumulated depreciation	(38,802)	(35,069)
Property, plant, and equipment, net	$ 746,124	$ 725,863

Depreciation expense was $3,733 and $4,236, for the three months ended September 30, 2021 and 2020, respectively, and is included in "General and administrative expenses" in the consolidated statements of operations.

4. EQUITY INVESTMENTS IN UNCONSOLIDATED AFFILIATES

On August 31, 2021, we entered into a strategic partnership with IronRidge Resources, Limited ("IRR") by acquiring an equity interest of approximately 10% in IRR for $15,949,288. As part of our strategic partnership, we entered into a long-term supply agreement whereby IRR will sell 50% of spodumene concentrate produced in Ghana to Piedmont Lithium, subject to the Company exercising our ability to acquire an equity interest of 50% in IRR's lithium-based portfolio in Ghana through expected future staged investments totaling approximately $87 million. Based on the relevant factors of the agreement, management concluded that we have significant influence over IRR and its operating and financial interests, but not a controlling financial interest, as defined in ASC Topic 323, *"Investments—Equity Method and Joint Ventures."* Accordingly, management recorded this investment interest under the equity method in accordance with ASC 323. Our share of the income or loss from IRR is recorded on a one quarter lag.

We account for our existing investments in Sayona Mining Limited ("Sayona") and Sayona Quebec Inc. ("Sayona Quebec") as equity method investments. Our ownership interests in Sayona and Sayona Quebec enable us to influence the operating and financial decisions of both companies, but we do not have a controlling financial interest in either company. Our share of the income or loss from Sayona and Sayona Quebec is recorded on a one quarter lag.

On August 30, 2021, Sayona Quebec acquired substantially all of the assets of North American Lithium Inc. for CAD 97.9 million ($77.8 million). We paid CAD 24.5 million ($19.5 million) to Sayona Quebec, representing our 25% equity interest contribution, and Sayona paid CAD 73.4 million ($58.3 million), representing Sayona's 75% equity interest contribution, which collectively gave Sayona Quebec the ability to fund the purchase of North American Lithium Inc.'s assets.

On August 20, 2021, we invested AUD 9.8 million ($7.0 million) in equity offerings by Sayona. Our equity interest in Sayona, including the additional shares acquired, was approximately 19% on September 30, 2021. Our additional investment in Sayona was proportional to additional investments made by other Sayona shareholders; therefore, our investment ownership percentage did not materially change.

We did not have equity investments in unconsolidated affiliates in the three months ended September 30, 2020. The following table summarizes the carrying amount, including changes therein, of our equity method investments in the three months ended September 30, 2021:

	Sayona Mining Limited	Sayona Quebec Inc.	IronRidge Resources Limited	Total equity investments in unconsolidated affiliates
Balance at beginning of period	$ 11,194,905	$ 5,067,593	$ —	$ 16,262,498
Initial investment[1]	—	—	15,949,288	15,949,288
Additional investment[2]	7,183,273	19,449,545	—	26,632,818
Loss from equity method investments	(374,151)	(36,387)	—	(410,538)
Share of income from equity method investments included in other comprehensive loss	105,263	—	—	105,263
Balance at end of period	$ 18,109,290	$ 24,480,751	$ 15,949,288	$ 58,539,329

(1) Initial investment includes transaction costs of $90,856 for the three months ended September 30, 2021.

(2) Additional investment includes transaction costs of $150,465 for the three months ended September 30, 2021.

5. EQUITY

Pursuant to the Redomiciliation, holders of Piedmont Australia's ordinary shares received one (1) CDI in Piedmont Lithium Inc. for each ordinary share held in Piedmont Australia on the Redomiciliation record date; and holders of ADSs in Piedmont Australia received one (1) share of common stock of Piedmont Lithium Inc. for each ADS held in Piedmont Australia on the Redomiciliation record date with each ADS representing 100 Piedmont Australia ordinary shares.

On the effective date of the Redomiciliation, the number or ordinary outstanding shares was reduced from 1,574,597,320 to 15,764,533 shares of common stock. All share and per share amounts in these consolidated financial statements and related notes for periods prior to the Redomiciliation have been retroactively adjusted to reflect the effect of the exchange ratio.

We are authorized to issue up to 100,000,000 shares of common stock, par value $0.0001 per share, and 10,000,000 shares of preferred stock, par value $0.0001 per share. We have no outstanding shares of preferred stock.

On September 24, 2021, we filed a $500 million automatic shelf registration statement with the SEC to provide us with capacity to publicly offer, common stock, preferred stock, warrants, debt, convertible or exchangeable securities, depositary shares, or units, or any combination thereof. We may from time to time raise capital under our shelf registration statement in amounts, at prices, and on terms to be announced when and if any securities are offered. The shelf registration statement expires on September 24, 2024. As of September 30, 2021, we have not utilized the shelf registration statement for any equity or debt financings.

6. STOCK-BASED COMPENSATION

Stock Incentive Plans

In March 2021, our Board of Directors adopted, in connection with the planned Redomiciliation, the Piedmont Lithium Inc. Stock Incentive Plan ("Incentive Plan"). A total of 3,000,000 shares of common stock are reserved for issuance under the Incentive Plan. The Incentive Plan authorized the grant of stock options, stock appreciation rights, restricted stock units and restricted stock, any of which may be performance-based. Our Compensation Committee determines the exercise price for stock options and the base price of stock appreciation rights, which may not be less than the fair market value of our common stock on the date of grant. Generally, stock options or stock appreciation rights vest after three years of service and expire at the end of ten years. Performance rights awards ("PRAs") vest if we achieve certain pre-established performance targets that are based on specified performance criteria over a performance period. As of September 30, 2021, 2,945,251 shares of common stock were available for issuance under the Incentive Plan.

We include the expense related to stock-based compensation in the same financial statement line item as cash compensation paid to the same employee. Stock-based compensation expense related to all stock-based incentive plans is included in our consolidated statements of operations as follows:

	Three Months Ended September 30,	
	2021	2020
Exploration and evaluation expenses	$ 336,375	$ 50,043
General and administrative expenses	497,134	86,423
Total stock-based compensation expense(1)	$ 833,509	$ 136,466

(1) For the three months ended September 30, 2021 and 2020, we did not reflect a tax benefit associated with stock-based compensation expense in the consolidated statements of operations because we had a full tax valuation allowance during these periods. As such, the table above does not reflect the tax impacts of stock-based compensation expense.

Stock Option Awards

Stock options granted are equal to the market value of the underlying common stock on the date of grant. We use the Black-Scholes valuation model to measure stock option expense as of each respective grant date. As of September 30, 2021, we had unvested remaining stock-based compensation expense of $2,800,778 to be recognized through the fourth quarter of fiscal year 2024.

The activity under our stock option awards for the periods presented is reflected in the following table:

	Three Months Ended September 30,			
	2021		2020	
	Shares	Weighted-Average Exercise Price (per share)	Shares	Weighted-Average Exercise Price (per share)
Outstanding at beginning of period	392,504	$ 21.16	536,250	$ 16.88
Options granted	—	—	30,000	12.38
Options exercised or surrendered	(120,000)	13.93	—	—
Options expired	—	—	(60,000)	8.13
Outstanding at end of period	272,504	$ 24.34	506,250	$ 17.65

Restricted Stock Unit Awards

Restricted stock units ("RSUs") are granted to employees and non-employee directors based on the market price of our common stock on the grant date and recognized in stock-based compensation expense over the vesting period, subject to the passage of time and continued service during the vesting period. In some instances, awards may vest concurrently with or following an employee's termination. There was no activity during the three months ending September 30, 2021 and 2020. There were 36,745 RSUs outstanding as of September 30, 2021.

Performance Rights Awards

The fair value of PRAs is estimated at the date of grant based on the underlying share price (being the seven-day volume weighted average share price prior to issuance). PRAs are subject to milestones and the performance conditions must be satisfied in order for the PRAs to vest. Upon vesting of PRAs, common stock is automatically issued for no consideration. Each performance right automatically converts into one share of common stock upon vesting of the performance right. The performance right will expire if a performance condition of a performance right is not achieved by the expiry date.

The PRAs outstanding as of September 30, 2021 had the following performance conditions and expiration dates:

	Shares	Expiration Date
Performance rights subject to Integrated Feasibility Study Milestone	30,000	December 31, 2021
Performance rights subject to Construction Milestone	30,000	December 31, 2022

The activity under our PRAs for the periods presented is reflected in the following table:

	Three Months Ended September 30,			
	2021		2020	
	Shares	Weighted-Average Grant-Date Fair Value	Shares	Weighted-Average Grant-Date Fair Value
Unvested at beginning of period	60,000	$ 5.42	50,000	$ 5.20
PRAs granted	—	—	15,000	6.50
Unvested at end of period	60,000	$ 5.42	65,000	$ 5.50

7. LOSS PER SHARE

Basic and diluted loss per share is reflected in the following table:

	Three Months Ended September 30,	
	2021	2020
Net loss	$ (10,861,359)	$ (1,883,260)
Weighted average number of common shares used in calculating basic and dilutive earnings per share[(1)(2)]	15,863,027	11,086,970
Basic and diluted loss per weighted average share	$ (0.68)	$ (0.17)

(1) As of September 30, 2021, 272,504 stock options, 60,000 performance rights and 36,745 restricted stock units, collectively, represented 369,249 potential common shares and were considered anti-dilutive as they would decrease the loss per share. As of September 30, 2020, 506,250 stock options and 65,000 performance rights, collectively, represented 571,250 potential common shares and were considered anti-dilutive as they would decrease the loss per share.
(2) The weighted average number of common shares used in calculating basic and dilutive earnings per share has been adjusted to reflect the impact of the exchange ratio caused by the Redomiciliation.

8. INCOME TAXES

For the three months ended September 30, 2021, we recorded an income tax provision of $0 on a loss before taxes of approximately $10.5 million, resulting in an effective tax rate of 0%. For the three months ended September 30, 2020, we recorded an income tax provision of $0 on a loss before taxes of approximately $1.9 million, resulting in an effective tax rate of 0%. The effective tax rate and the federal statutory rate of 0% for the three months ended September 30, 2021 and the three months ended September 30, 2020 is primarily related to the full valuation allowance on net deferred tax assets.

As of September 30, 2021, we maintained a full valuation allowance against our net deferred tax assets. We continually review the adequacy of the valuation allowance and intend to continue maintaining a full valuation allowance on our net deferred tax assets until there is sufficient evidence to support reversal of all or a portion of the allowance. Should our assessment change in a future period, we may release all or a portion of the valuation allowance at such time, which would result in a deferred tax benefit in the period of adjustment.

9. SEGMENT REPORTING

We report our segment information in the same way management internally organizes the business in assessing performance and making decisions regarding allocation of resources in accordance with ASC Topic 280, *"Segment Reporting."* We have a single reportable operating segment which operates as a single business platform. In reaching this conclusion, management considered the definition of the Chief Operating Decision Maker ("CODM"), how the business is defined by the CODM, the nature of the information provided to the CODM, how the CODM uses such information to make operating decisions, and how resources and performance are accessed. The results of operations provided to and analyzed by the CODM are at the consolidated level and accordingly, key resource decisions and assessment of performance are performed at the consolidated level. We have a single, common management team and our cash flows are reported and reviewed at the consolidated level only with no distinct cash flows at an individual business level.

10. COMMITMENTS AND CONTINGENCIES

Legal Proceedings

We are involved from time to time in various claims, proceedings, and litigation. We establish reserves for specific legal proceedings when we determine that the likelihood of an unfavorable outcome is probable, and the amount of loss can be reasonably estimated.

In July 2021, a lawsuit was filed against us in the United States District Court for the Eastern District of New York on behalf of a class of putative plaintiffs claiming violations of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The complaint alleged, among other things, that we made false and/or misleading statements and/or failed to make disclosure relating to proper and necessary permits. We have not recorded a reserve for this matter as we intend to vigorously defend against these claims. Although there can be no assurance as to the outcome, we do not believe these claims have merit.

On October 14, 2021, Vincent Varbaro, a purported holder of the Company's American Depositary Shares and equity securities, filed a shareholder derivative suit in the United States District Court for the Eastern District of New York, purporting to bring claims on behalf of the Company against certain of the Company's officers and directors. The complaint alleges that the defendants breached their fiduciary duties in connection with the Company's statements regarding the timing and status of government permits for the Company's North Carolina lithium project at various times between March 16, 2018 and July 19, 2021. No litigation demand was made to the Company in connection with this action. We have not recorded a reserve for this matter as we intend to vigorously defend against these claims. Although there can be no assurance as to the outcome, we do not believe these claims have merit.

11. RELATED PARTIES

Ledger Holdings Pty Ltd, a company associated with a non-executive director of the Company, was paid $0 and $25,000 in the three months ended September 30, 2021 and September 30, 2020, respectively, for services related to business development activities. These fees and associated payments were included in the non-executive director's remuneration.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q. The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report on Form 10-Q and those in the sections of our Annual Report on Form 10-K for the year ended June 30, 2021 entitled "Risk Factors," "Cautionary Note Regarding Forward-Looking Statements," and "Cautionary Note Regarding Disclosure of Mineral Properties."

Executive Overview

Piedmont Lithium Inc. is an exploration stage company developing a multi-asset, integrated lithium business contributing to the transition to a net zero carbon world and the creation of a clean energy economy in North America. Through this endeavor, we are focused on developing and manufacturing lithium products for the fast-growing electric vehicle industry. The centerpiece of our operations, our wholly-owned Carolina Lithium Project, is located in the renowned Carolina Tin-Spodumene Belt of North Carolina. We are geographically diversified with equity investments in strategic partnerships that own lithium resource assets in Canada and Ghana. Collectively, these resource assets and the location of these assets in the United States, Canada and Ghana, strategically position us to be a large, low-cost, sustainable producer of lithium products, serving the North American and European electric vehicle and battery supply chains. The geology, geography and proximity of our resources, planned production operations and customer base, should allow us to deliver a valuable supply of high-quality, sustainably produced lithium hydroxide from spodumene concentrate, which is preferred by most electric vehicle manufacturers. Our diversified operations should enable us to play a pivotal role in supporting the move toward decarbonization and the electrification of transportation and energy storage.

Redomiciliation

Piedmont Lithium Inc. acquired all of the issued and outstanding ordinary shares of Piedmont Australia, our Australian predecessor and a wholly-owned subsidiary, pursuant to a Scheme of Arrangement under Australian Law, which was approved by Piedmont Australia's shareholders on February 26, 2021 and the Supreme Court of Western Australia on May 5, 2021 (collectively referred to as "Redomiciliation"). As part of the Redomiciliation, the Company changed its place of domicile from Australia to the State of Delaware in the United States, effective May 17, 2021.

Piedmont Australia's ordinary shares were listed on the ASX, and Piedmont Australia's American Depositary Shares ("ADSs"), each representing 100 of Piedmont Australia's ordinary shares, were traded on Nasdaq. Following the approval of the Redomiciliation, the Company moved its primary listing from the ASX to Nasdaq and retained an ASX listing via CDIs, each representing 1/100th of a share of common stock of Piedmont Lithium Inc.

Pursuant to the Redomiciliation, holders of Piedmont Australia's ordinary shares received one (1) CDI in Piedmont Lithium Inc. for each ordinary share held in Piedmont Australia on the Redomiciliation record date; and holders of ADSs in Piedmont Australia, each of which represented 100 ordinary shares of Piedmont Australia, received one (1) share of common stock in the Company of Piedmont Lithium Inc. for each ADS held in Piedmont Australia on the Redomiciliation record date.

All issued and outstanding shares of the Company's common stock and per share amounts have been retroactively adjusted in these consolidated financial statements to reflect the 100:1 ratio and share consolidation.

Investments

On August 31, 2021, we paid approximately $15.9 million to acquire an equity interest of approximately 10% in IRR and to establish a strategic partnership with IRR. As part of our strategic partnership, we entered into a long-term supply agreement whereby IRR will sell 50% of spodumene concentrate produced in Ghana to Piedmont Lithium, subject to the Company exercising our ability to acquire an equity interest of 50% in IRR's lithium-based portfolio in Ghana through expected future staged investments totaling $87 million.

On August 30, 2021, Sayona Quebec acquired substantially all of the assets of North American Lithium Inc. for CAD 97.9 million ($77.8 million). The assets acquired primarily consisted of an existing mine and related mining assets in the Abitibi region near Val d'Or, Quebec, Canada. We paid CAD 24.5 million ($19.5 million) to Sayona Quebec, representing our

25% equity interest contribution, and Sayona paid CAD 73.4 million ($58.3 million), representing Sayona’s 75% equity interest contribution, which collectively gave Sayona Quebec the ability to fund the purchase of North American Lithium Inc.’s assets.

On August 20, 2021, we invested AUD 9.8 million ($7.0 million) in equity offerings by Sayona. Our equity interest in Sayona, including the additional shares acquired, was approximately 19% on September 30, 2021. Our additional investment in Sayona was proportional to additional investments made by other Sayona shareholders; therefore, our investment ownership percentage did not materially change.

COVID-19 Impact

COVID-19 was declared a pandemic by the World Health Organization on March 11, 2020. In response, we implemented generally accepted protocols to protect the health and safety of our employees, contractors and communities during this pandemic, including allowing our employees to work remotely. Our business was not materially impacted by the negative impacts from COVID-19.

Components of our Results of Operations

Exploration and Evaluation Expenses

Exploration and evaluation expenses include drilling and sampling costs, technical and engineering studies, permitting costs and overhead costs, such as maintaining our exploration field offices and other professional services, associated with the exploration and evaluation of the Carolina Lithium Project. Expenditures for exploration and evaluation incurred by us are expensed as incurred up and until the completion of a definitive feasibility study, other than costs directly associated with acquiring the exploration properties, which are capitalized. Costs associated with the acquisition and maintenance of exploration rights are capitalized, rather than expensed.

General and Administrative Expenses

General and administrative expenses include overhead costs, such as employee compensation and benefits for corporate management and office staff including accounting, legal, human resources and other support personnel, professional service fees, insurance, and costs associated with maintaining our corporate headquarters. Included in employee compensation expenses are cash- and stock-based compensation expenses.

Other Income (Expense)

Other income (expense) consists of interest income (expense) and foreign currency exchange gain (loss). Interest income consists of interest earned on our cash and cash equivalents. Interest expense consists of interest incurred on long-term debt related to noncash acquisitions of exploration and evaluation assets financed by the seller as well as interest incurred for lease liabilities. Foreign currency exchange gain (loss) relates to our foreign bank accounts denominated in Australian dollars.

Loss from Equity Investments in Unconsolidated Affiliates, Net of Tax

Loss from equity investments in unconsolidated affiliates, net of tax, reflects our proportionate share of the net loss resulting from our investments in Sayona, Sayona Quebec and IRR. We have a significant influence but not a controlling interest in these investments. As such, these investments are reported at cost and adjusted each period, on a one-quarter lag, for our share of each investee’s loss.

Results of Operations

We operate as one reportable segment. The following table summarizes our results of operations:

	Three Months Ended September 30,			
	2021	2020	$ Change	% Change
Exploration and evaluation expenses	$ 5,563,028	$ 1,113,675	$ 4,449,353	399.5 %
General and administrative expenses	4,818,647	731,973	4,086,674	558.3 %
Loss from operations	(10,381,675)	(1,845,648)	(8,536,027)	462.5 %
Other income (expense)	(69,146)	(37,612)	(31,534)	83.8 %
Loss from equity investments in unconsolidated affiliates, net of tax	(410,538)	—	(410,538)	*
Net loss	$ (10,861,359)	$ (1,883,260)	$ (8,978,099)	476.7 %

* Not meaningful.

Three months ended September 30, 2021 compared to three months ended September 30, 2020

Exploration and Evaluation Expenses

Exploration and evaluation expenses increased $4.4 million, or 399.5%, to $5.6 million in the three months ended September 30, 2021 compared to $1.1 million in the three months ended September 30, 2020. The increase in exploration and evaluation expenses was primarily due to increased engineering expenses and, to a lesser extent, permitting and metallurgical testing expenses associated with our Carolina Lithium Project. Drilling costs were not material for the three months ended September 30, 2021 and 2020.

General and Administrative Expenses

General and administrative expenses increased $4.1 million, or 558.3%, to $4.8 million in the three months ended September 30, 2021 compared to $0.7 million in the three months ended September 30, 2020. The increase in general and administrative expenses was primarily due to increased employee compensation expenses related to added headcount, including key management personnel and support staff at our headquarters in Belmont, North Carolina, professional and consulting fees such as legal and accounting costs, and insurance expenses. Employee compensation expenses include cash- and stock-based compensation expenses.

Other Income (Expense)

Other expense increased $31,534, or 83.8%, to $69,146 in the three months ended September 30, 2021 compared to $37,612 in the three months ended September 30, 2020. The increase in other expense was due to increases in interest expense, net, and foreign currency exchange loss.

Loss from Equity Investments in Unconsolidated Affiliates

Loss from equity investments in unconsolidated affiliates, net, was $410,538 in the three months ended September 30, 2021 compared to $0 in the three months ended September 30, 2020. The loss reflects our proportionate share of the net loss resulting from our investments in Sayona and Sayona Quebec. We did not record income (loss) for IRR in the three months ended September 30, 2021 as our investment in IRR was made in August 2021 and we record income (loss) for our equity investments on a one quarter lag. We did not have equity investments in unconsolidated affiliates during the three months ended September 30, 2020.

Liquidity and Capital Resources

Sources and Uses of Cash

As of September 30, 2021, our cash balances totaled $82.0 million and were held as cash deposits with banks. $76.1 million, or 92.8%, of our cash balances were held in the United States and the remaining $5.9 million, or 7.2%, of our cash balances were held in Australia. Cash balances in Australia can be repatriated to the United States with inconsequential tax consequences.

Our predominant sources of liquidity are cash flows from financing activities, primarily related to equity financing from issuances of our common stock, and our available cash balances. We have also entered into noncash seller financed debt associated with land acquisitions for exploration and evaluation activities related to our Carolina Lithium Project. We believe these sources will be sufficient to fund our cash requirements for at least the next twelve months.

Our primary uses of cash include: (i) operating costs primarily for exploration and evaluation activities for our Carolina Lithium Project, employee-related costs, professional and consulting fees, and administrative support costs, (ii) expenditures related to land acquisitions in North Carolina as part of our Carolina Lithium Project, (iii) capital expenditures, and (iv) investments in Sayona and Sayona Quebec as part of our Quebec Projects and our investment in IRR as part of our Ghana Project.

During the three months ended September 30, 2021, we made strategic equity investments totaling $42.6 million, consisting of $19.4 million in Sayona Quebec for our pro rata contribution to Sayona Quebec's purchase of North American Lithium Inc., $7.2 million in Sayona for additional shares, and $15.9 million in IRR for an approximately 10% equity interest, as discussed above.

On September 24, 2021, we filed an automatic shelf registration statement with the SEC to provide us with capacity to publicly offer, common stock, preferred stock, warrants, debt, convertible or exchangeable securities, depositary shares, or units, or any combination thereof. We may from time to time raise capital under our shelf registration statement in amounts, at prices, and on terms to be announced when and if any securities are offered. The shelf registration statement expires on September 24, 2024. As of September 30, 2021, we have not utilized the shelf registration statement for any equity or debt financings.

We will incur significant cash expenditures for the construction of the proposed mine, concentrator plant and chemical plant at our proposed Carolina Lithium Project in North Carolina. Additionally, we will incur significant cash expenditures for construction and development costs associated with our equity investments in lithium projects in Canada with Sayona and Sayona Quebec and Ghana with IRR. As we approach construction decisions for our projects, we will evaluate various project financing options, including possible strategic partnering opportunities.

On August 31, 2021, we submitted a draft loan application to the Loan Programs Office of the U.S. Department of Energy for potential funding of construction costs for our proposed Carolina Lithium Project's concentrator plant and chemical plant. We cannot be certain that our loan application will be approved or will have terms acceptable to us.

There are many factors that we have no control over yet have the potential to influence the timing of our future cash flows. These factors include, but are not limited to, permitting and approvals for our projects, our ability to access capital markets, stock price volatility, commodity price volatility, market conditions and access to labor. See "Part I Item 1A - Risk Factors" in our Annual Report on Form 10-K for the year ended June 30, 2021.

We had working capital of $76.5 million and $137.7 million as of September 30, 2021 and June 30, 2021, respectively, resulting in a decrease in working capital of $61.2 million mostly attributable to a decrease in cash of $60.7 million. The decrease in cash was primarily due to equity investments in our Quebec Projects and Ghana Project of $42.6 million; net loss, adjusted for noncash items, of $9.6 million; and cash purchases of $9.2 million related to exploration and evaluation assets, specifically land acquisitions in North Carolina.

The following table is a condensed schedule of cash flows provided as part of the discussion of liquidity and capital resources:

	Three Months Ended September 30,	
	2021	2020
Net cash used in operating activities	$ (9,265,002)	$ (1,710,171)
Net cash used in investing activities	(51,797,835)	(3,258,977)
Net cash provided by financing activities	364,341	7,540,941
Net (decrease) increase in cash and cash equivalents	$ (60,698,496)	$ 2,571,793

Cash Flows from Operating Activities

Operating activities used $9.3 million and $1.7 million in the three months ended September 30, 2021 and 2020, respectively, resulting in an increase in cash used in operating activities of $7.6 million. The increase in cash used in operating activities was primarily due to an increase in net loss of $9.6 million, adjusted for noncash items, partially offset by an increase from changes in operating assets and liabilities.

Cash Flows from Investing Activities

Investing activities used $51.8 million and $3.3 million in the three months ended September 30, 2021 and 2020, respectively, resulting in an increase in cash used in investing activities of $48.5 million. The increase in cash used in investing activities was mainly due to our equity investments in IRR, Sayona and Sayona Quebec totaling $42.6 million in the three months ended September 30, 2021, as discussed above, and an increase in cash purchases of exploration and evaluation assets for our Carolina Lithium Project of $5.9 million in the three months ended September 30, 2021 compared to the three months ended September 30, 2020.

Cash Flows from Financing Activities

Financing activities provided $0.4 million and $7.5 million in three months ended September 30, 2021 and 2020, respectively, resulting in a decrease in cash provided by financing activities of $7.2 million. The decrease in cash provided by financing activities was primarily due to a decline in equity financing as we received cash of $0.6 million through the exercise of employee stock options in the three months ended September 30, 2021 compared to $7.7 million in cash received through issuance of our common stock, net of issuance costs, in the three months ended September 30, 2020. Principal payments on long-term debt totaled $0.2 million and $0.1 million in the three months ended September 30, 2021 and 2020, respectively.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

Critical Accounting Polices and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our unaudited consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements, as well as the reported expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

There have been no material changes in the significant accounting policies followed by us during the three months ended September 30, 2021 from those disclosed in our Annual Report on Form 10-K for the year ended June 30, 2021.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Our market risks have not changed significantly from those disclosed in our Annual Report on Form 10-K for the year ended June 30, 2021.

Item 4. Controls and Procedures.

Our management, under supervision and with the participation of our Chief Executive Officer (our Principal Executive Officer) and Chief Financial Officer (our Principal Financial Officer and Principal Accounting Officer), evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of September 30, 2021. Based on the evaluation of our disclosure controls and procedures, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of September 30, 2021. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

Changes in Internal Control over Financial Reporting

There were no changes in internal control over financial reporting identified in the evaluation for the quarter ended September 30, 2021, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

As of September 30, 2021, we were not a party to any material legal proceedings.

In July 2021, a lawsuit was filed against us in the United States District Court for the Eastern District of New York on behalf of a class of putative plaintiffs claiming violations of the Exchange Act. The complaint alleged, among other things, that we made false and/or misleading statements and/or failed to make disclosure relating to proper and necessary permits. We intend to vigorously defend against these claims. Although there can be no assurance as to the outcome, we do not believe these claims have merit.

On October 14, 2021, Vincent Varbaro, a purported holder of the Company's American Depositary Shares and equity securities, filed a shareholder derivative suit in the United States District Court for the Eastern District of New York, purporting to bring claims on behalf of the Company against certain of the Company's officers and directors. The complaint alleges that the defendants breached their fiduciary duties in connection with the Company's statements regarding the timing and status of government permits for the Company's North Carolina lithium project at various times between March 16, 2018 and July 19, 2021. No litigation demand was made to the Company in connection with this action. We intend to vigorously defend against these claims. Although there can be no assurance as to the outcome, we do not believe these claims have merit.

Item 1A. Risk Factors.

There have been no material changes in our risk factors from those disclosed in "Part I Item 1A - Risk Factors." in our Annual Report on Form 10-K for the year ended June 30, 2021.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable because we do not currently operate any mines subject to the U.S. Federal Mine Safety and Health Act of 1977.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit Index

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation of Piedmont Lithium Inc. (filed with the SEC as Exhibit 3.1 to the Company's Current Report on Form 8-K12B filed on May 18, 2021)
3.2	Amended and Restated Bylaws of Piedmont Lithium Inc. (filed with the SEC as Exhibit 3.2 to the Company's Current Report on Form 8-K12B filed on May 18, 2021)
23.1*	Consent of Qualified Person
23.2*	Consent of Qualified Person
31.1*	Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Certification of Principal Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Principal Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
96.1*	Technical Report Summary, dated October 20, 2021
101.INS*	XBRL Instance Document - - embedded within the Inline XBRL document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover page Interactive Data file (formatted as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Piedmont Lithium Inc.
(Registrant)

Date: November 12, 2021

By: /s/ Michael White

Michael White
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 23.1

Consent of Qualified Person

I consent to:

a. the filing of the Technical Report Summary, dated October 20, 2021, with respect to the Piedmont Lithium Project (the "TRS") as an exhibit to this Quarterly Report on Form 10-Q (the "Form 10-Q");
b. the incorporation by reference of the TRS in the Registration Statements on Form S-8 (No. 333-256454) and Form S-3 (No. 333-259798) (the "Registration Statements"); and
c. being named as a Qualified Person in the Form 10-Q and the Registration Statements.

Date:	November 12, 2021
By:	/s/ Lamont Leatherman
Name:	Lamont Leatherman
Title:	Vice President and Chief Geologist, Piedmont Lithium

Exhibit 23.2

Consent of Qualified Person

I consent to:

a. the filing of the Technical Report Summary, dated October 20, 2021, with respect to the Piedmont Lithium Project (the "TRS") as an exhibit to this Quarterly Report on Form 10-Q (the "Form 10-Q");
b. the incorporation by reference of the TRS in the Registration Statements on Form S-8 (No. 333-256454) and Form S-3 (No. 333-259798) (the "Registration Statements"); and
c. being named as a Qualified Person in the Form 10-Q and the Registration Statements.

Date:	November 12, 2021
By:	/s/ Leon McGarry
Name:	Leon McGarry
Title:	Principal Consultant, McGarry Geoconsulting Corp.

Exhibit 31.1

I, Keith D. Phillips, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the fiscal period ended September 30, 2021 of Piedmont Lithium Inc. (the "Company");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;

4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15(d)-15(f)) for the Company and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the fiscal quarter ended September 30, 2021 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and

5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

Date: November 12, 2021

By: /s/ Keith D. Phillips
Name: Keith D. Phillips
Title: President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

I, Michael White, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the fiscal period ended September 30, 2021 of Piedmont Lithium Inc. (the "Company");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;

4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15(d)-15(f)) for the Company and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the fiscal quarter ended September 30, 2021 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and

5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

Date: November 12, 2021

By: /s/ Michael White
Name: Michael White
Title: Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

In connection with the Quarterly Report of Piedmont Lithium Inc. (the "Company") on Form 10-Q for the fiscal period ended September 30, 2021 (the "Report") as filed with the Securities and Exchange Commission on the date hereof, I, Keith D. Phillips, Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act, as amended; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2021

By: /s/ Keith D. Phillips
Name: Keith D. Phillips
Title: President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

In connection with the Quarterly Report of Piedmont Lithium Inc. (the "Company") on Form 10-Q for the fiscal period ended September 30, 2021 (the "Report") as filed with the Securities and Exchange Commission on the date hereof, I, Michael White, Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act, as amended; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2021

By: /s/ Michael White

Name: Michael White
Title: Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Piedmont Lithium Inc. - Technical Report Summary and Statement of Resources for the Carolina Lithium Project, Gaston County, North Carolina in Accordance with the JORC Code and United States SEC Standards as of October 20, 2021

October 2021

Prepared for:
Piedmont Lithium Inc.
32 North Main Street Ste 100
Belmont, North Carolina 28012

Prepared by:
McGarry Geoconsulting Corp.

And

Marshall Miller & Associates, Inc.
582 Industrial Park Road
Bluefield, Virginia 24605
www.mma1.com

Statement of Use and Preparation

This Technical Report Summary (*TRS*) was prepared for the sole use of **Piedmont Lithium Inc. (PLI)** and its affiliated and subsidiary companies and advisors. Copies or references to information in this report may not be used without the written permission of PLI.

The report provides a statement of lithium resources for PLI, as defined under the ***Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves*** (***JORC Code***) as well as under the **United States Securities and Exchange Commission (*SEC*)** Regulation S-K 1300 Modernization of Property Disclosures.

The statement is based on information provided by PLI and resource estimates calculated by Leon McGarry, Principal Consultant, **McGarry Geoconsulting Corp. (*MGG*)**. Kevin Andrews, CPG and Steve Keim, PhD, PE of **Marshall Miller & Associates, Inc. (*MM&A*)** have reviewed the data and resource estimates.

Leon McGarry is a Qualified Person who is a Professional Geoscientist (P.Geo.) and registered member of 'Professional Geoscientists Ontario' (PGO No. 2348)' a 'Recognized Professional Organization' (*RPO*). Mr. McGarry is a Principal Resource Geologist and full-time employee at MGG. Mr. McGarry has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Qualified Person (*QP*) as defined in SEC Regulation S-K 1300.

Lamont Leatherman is Vice President and Chief Geologist for PLI. Mr. Leatherman is a Registered Member of the **Society of Mining Engineers (*SME*)**. Mr. Leatherman has over 25 years of industry experience and is recognized as a QP for the exploration work associated with the resource estimate.

Steve Keim is a licensed Professional Engineer (*PE*) and Registered Member of the **Society of Mining Engineers (*SME*)**, Golden, Colorado, USA. Kevin Andrews is a Certified Professional Geologist (*CPG*) under requirements of the **American Institute of Professional Geologists (*AIPG*)** and a Registered Member of SME. SME and AIPG are **Recognized Professional Organizations (*RPO*)**. Both Mr. Keim and Mr. Andrews are full-time employees of MM&A and are recognized as qualified individuals to review the resource estimate and associated data.

The information in this TRS related to lithium and by-product Mineral Resources is based on, and fairly represents, information compiled by the QPs. At the time of reporting, the QP's have sufficient experience relevant to the style of mineralization and type of deposit under consideration and to the activities they are undertaking to qualify as a QP as defined by the JORC Code and the SEC. Each QP consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

McGarry Geoconsulting Corp. (*MGG*) and **Marshall Miller & Associates, Inc. (*MM&A*)** hereby consents to the use of the information contained in this report dated October 20, 2021, relating to estimates of lithium and by-product Mineral Resources controlled by PLI.

This report was prepared by:

MARSHALL MILLER & ASSOCIATES, INC.

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Table of Contents

FIGURES (IN REPORT)

TABLES (IN REPORT)

Appendices

1 Executive Summary

Piedmont Lithium Inc. (*"Piedmont"*, *"PLI"* or *the "Company"*) commissioned **McGarry Geoconsulting Corp. ("*MGG*")** to prepare an updated Mineral Resource Estimates (*"MRE"*) for lithium and by-product minerals for the Company's proposed integrated lithium hydroxide business (*"Carolina Lithium Project"* or *the "Project"*). PLI commissioned **Marshall Miller & Associates, Inc. ("MM&A")** to review the resource and associated data presented in this report and to provide assistance with preparation of the Technical Report Summary (*"TRS"*).

The Project is located in a rural area of Gaston County, North Carolina, USA approximately 40 km northwest of the city of Charlotte. The Property is centered at approximately 35°23'20"N 81°17"20"W and is comprised of approximately 3,245 total acres, of which: 1,526 acres are claims on private property through option or deferred purchase agreements, 113 acres are under a long-term mineral leased agreement, 79 acres are under lease to own agreements, and 1,527 acres are owned by PLI. For the properties hosting the MREs in this report, PLI controls 100% of the surface and mineral rights per one or more of the agreement scenarios described above.

Within the Project, spodumene-bearing pegmatites are hosted in amphibolite and metasedimentary host rocks. Pegmatites range from fine-grained (aplite) to very coarse-grained with primary mineralogy consisting of spodumene, quartz, plagioclase, potassium-feldspar (*K-spar*) and muscovite. Bench-scale and pilot-plant scale metallurgical test work on pegmatites within the Mineral Resource model demonstrate that lithium occurs almost exclusively within spodumene and that concentrates of greater than 6.0% Li_2O were achievable with an iron content less than 1.0% Fe_2O_3. Quartz, feldspar, and mica concentrates were produced as by-products of the spodumene concentrate. Initial results demonstrate commercial potential for each by-product.

MRE for the project, representing in-situ lithium-bearing pegmatites, are reported below in accordance with the U.S. Securities and Exchange Commission (*SEC*) Regulation S-K 1300 standards and are therefore suitable for public release. Global lithium MRE for the Project are reported by classification in *Table 1-1.*

Table 1-1: Carolina Lithium Project —Summary of Lithium Mineral Resources at October 20, 2021 Based on US$15,239/t $LiOH \cdot H_2O$

	Tonnes (Mt)	Grade (Li_2O%)	Li_2O (kt)	LCE (kt)	$LiOH \cdot H_2O$ (kt)	Cut-Off Grade (% Li_2O)	Metallurgical Recovery[1]
Indicated	28.2	1.11	313,000	774,000	879,000	0.4	71.2
Inferred	15.9	1.02	162,000	401,000	455,000		
Total	44.2	1.08	475,000	1,175,000	1,334,000		

Note 1 – Overall metallurgical recovery from spodumene ore to lithium hydroxide monohydrate

Lithium MRE include tonnage estimates for lithium oxide (Li_2O), Lithium Carbonate Equivalent (*LCE*) whereby one tonne of Li_2O is equivalent to 2.473 tonnes LCE, and lithium hydroxide mono-hydrate ($LiOH \cdot H_2O$) tonnage whereby one tonne of Li_2O is equivalent to 2.81 tonnes $LiOH \cdot H_2O$.

By-product MRE for the Project incorporates Indicated and Inferred category resources totaling 12.99 Mt of quartz, 20.00 Mt of feldspar and 1.82 Mt of mica. Lithium and by-product MRE are reported above a 0.4% Li_2O cut-off grade and are current to October 20, 2021. MRE are based on appropriate recovery factors and a lithium hydroxide price of US$15,239 per metric tonne and by-product mineral basket price of US$79.50 for calendar year 2021. Updated MRE will support completion of a Definitive Feasibility Study with an estimated completion date within Q4 2021.

Between 2017 and 2021, PLI completed five phases of exploratory drilling that has defined the Mineral Resources presented in this report. The current Mineral Resource block models were prepared using all drilling data available on 3 August 2021.

A total of 542 core holes amounting to 80,029 meters (*m*) define the Core Property deposit. As of the cut-off date, 511 assayed drillholes intersect 76 interpreted mineralized pegmatite bodies. A total of 36 diamond core holes totaling 5,563 m define the Central Property deposit, with 31 holes intersecting 11 interpreted mineralized pegmatite bodies. A total of 14 diamond core holes totaling 2,151 m define the Huffstetler Property deposit, with 11 holes intersecting six interpreted mineralized pegmatite bodies.

The Piedmont deposits were sampled using core drillholes at a nominal 40 m spacing along 40 m spaced sections extending out to 80 m on the peripheries of each deposit. Drill hole inclinations were set to optimally intersect pegmatite dikes and inclined sheets at a perpendicular angle. Holes were generally angled at a –45° to –80° inclination. Drill hole bearings were typically between 300° and 310° at the Core and Central properties where pegmatites dip to the southeast and between 135° and 155° at the Huffstetler property where pegmatites dip to the northwest.

Mineralization wireframe models were primarily defined by the interpreted extent of spodumene-bearing dikes. Wireframe surfaces were modelled to represent the base of overburden and base of saprolite. Block models were built and constrained by the interpreted pegmatite wireframe model, and weathering and topography boundary surfaces. Block models are oriented to align with deposit trends. Samples composited to 1 m length were used to interpolate percent Li_2O, quartz, albite, K-spar and muscovite grades into the block model using Ordinary Kriging (*OK*). Block grades were validated both visually and statistically.

Dry bulk density determinations were obtained using the displacement method. Average densities assigned to MRE models are based on the following rock categorizations with density ranges across the Core, Central and Huffstetler properties in parenthesis: fresh pegmatite (2.70 to 2.85 t/m^3), pegmatite saprolite (1.86 to 1.90 t/m^3), overburden waste (1.23 to 1.31 t/m^3), saprolite waste rock (1.36 to 1.41 t/m^3) and fresh waste rock (2.84 to 2.95 t/m^3).

The QP concludes that sufficient data have been obtained through various exploration, sampling, and metallurgical testwork programs to support the geological interpretation of lithium-bearing pegmatite deposits on the Property. The data are of sufficient quantity and reliability to reasonably support the MRE presented in this TRS. The MRE has been classified as Indicated and Inferred based on the guidelines specified by S-K 1300 and the JORC Code. Classification is based upon an assessment of geological understanding of the deposit, geological and grade continuity, drill hole spacing, quality control results, search and interpolation parameters, and an analysis of available density information. Modeled Mineral Resources for each deposit appear to be of sufficient grade, quality, quantity, and coherence to have reasonable prospects for eventual economic extraction by open pit mining methods.

The Qualified Person recommends the following actions are completed to support the ongoing Mineral Resource development effort at the Carolina Lithium Project:

> Investigate shallow portions of Core Property deposits deemed amenable to early-stage mining through infill drilling and appropriate surface methods, at 20 m to 40 m spacings. An understanding of the short-range variability of mineralization, pegmatite dike orientation, and weathering should be developed, and Measured resource classification criteria established.

> Model the extent of major metavolcanic and metasedimentary host rock units to support mine planning at the Core property. Models will improve bulk density estimation and support environmental and geotechnical characterization of waste rock.

> Conduct infill drilling to increase data density and support the upgrading of Mineral Resources from Inferred to Indicated throughout the Project.

> Undertake a study to identify new exploration targets and prioritize step-out drill targets that expand defined resource pegmatites.

> To support exploration targeting across its properties, and to direct future property acquisitions, PLI should continue to synthesize a mineral system model for spodumene bearing pegmatites along the TSB.

2 Introduction

2.1 Registrant and Terms of Reference

This report was prepared for the sole use of **Piedmont Lithium Inc.** (***Piedmont***, ***PLI*** or ***the Company***) and its affiliated and subsidiary companies and advisors. The Report is intended to provide sufficient information in a single document to support the disclosure of a statement of lithium and by-product Mineral Resources by the Company, as defined under the **United States Securities and Exchange Commission** (***SEC***) Regulation S-K 1300 Modernization of Property Disclosures, as well as under the **Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves** (***JORC Code***).

All units of measurement used in this report are International System of Units (*SI*) metric unless otherwise stated. Lithium and by-product resources are reported in metric tonnes.

2.2 Information Sources

This technical report is based on information provided by PLI. **McGarry Geoconsulting Corp.** (***MGG***) has supplemented this information where necessary with other publicly available information.

PLI commissioned MGG to prepare an updated Mineral Resource Estimates (*MRE*) for lithium and by-product minerals for the Company's proposed integrated lithium hydroxide business (*Carolina Lithium Project* or *the Project*) in Gaston County, North Carolina, USA. By-product minerals include quartz, feldspar, and muscovite mica.

The deliverables under the scope of work included:

- Geological models and MRE for the Project,
- Qualified Person consent for release ("sign-off") of the MRE generated by MGG,
- Technical documentation describing methodology of the resource estimate including required information for JORC *Table 1 Section 3*.
- Technical Report Summary (*TRS*) providing a statement of lithium resource estimation with compliance elements as stated under the JORC Code and the SEC Regulation S-K 1300.

PLI commissioned **Marshall Miller & Associates, Inc.** (***MM&A***) to review the resource and associated data presented in this report and to provide assistance with preparation of the report. Kevin Andrews, CPG and Steven A. Keim, PhD, PE completed the review and have contributed to the report.

2.3 Personal Inspections

MGG Qualified Person, Leon McGarry (P.Geo) and Author of the TRS, has undertaken multiple personal inspections of the property during 2017, 2018 and 2019 to review exploration sites, drill core and work practices. An initial site visit was made between 7 September and 8 September 2017. Data, drilling and geological records were found to be well maintained by PLI personnel and adherence to comprehensive field procedures developed by PLI was observed.

Travel to the site was curtailed during 2020 and 2021 due to the impact of the COVID-19 pandemic. MGG Qualified Person monitored exploration at the property completed during this period through remote review of core photography and exploration activities via regular video conferencing with the exploration team. The outcome of site visits and subsequent remote review was the determination that controls to the mineralization are well-understood and that data has been collected in a manner that supports reporting Mineral Resource estimates for the Project in accordance with the JORC Code and SEC Regulation S-K 1300.

2.4 Previously Filed Technical Report Summary

No previous Technical Report Summaries have been filed.

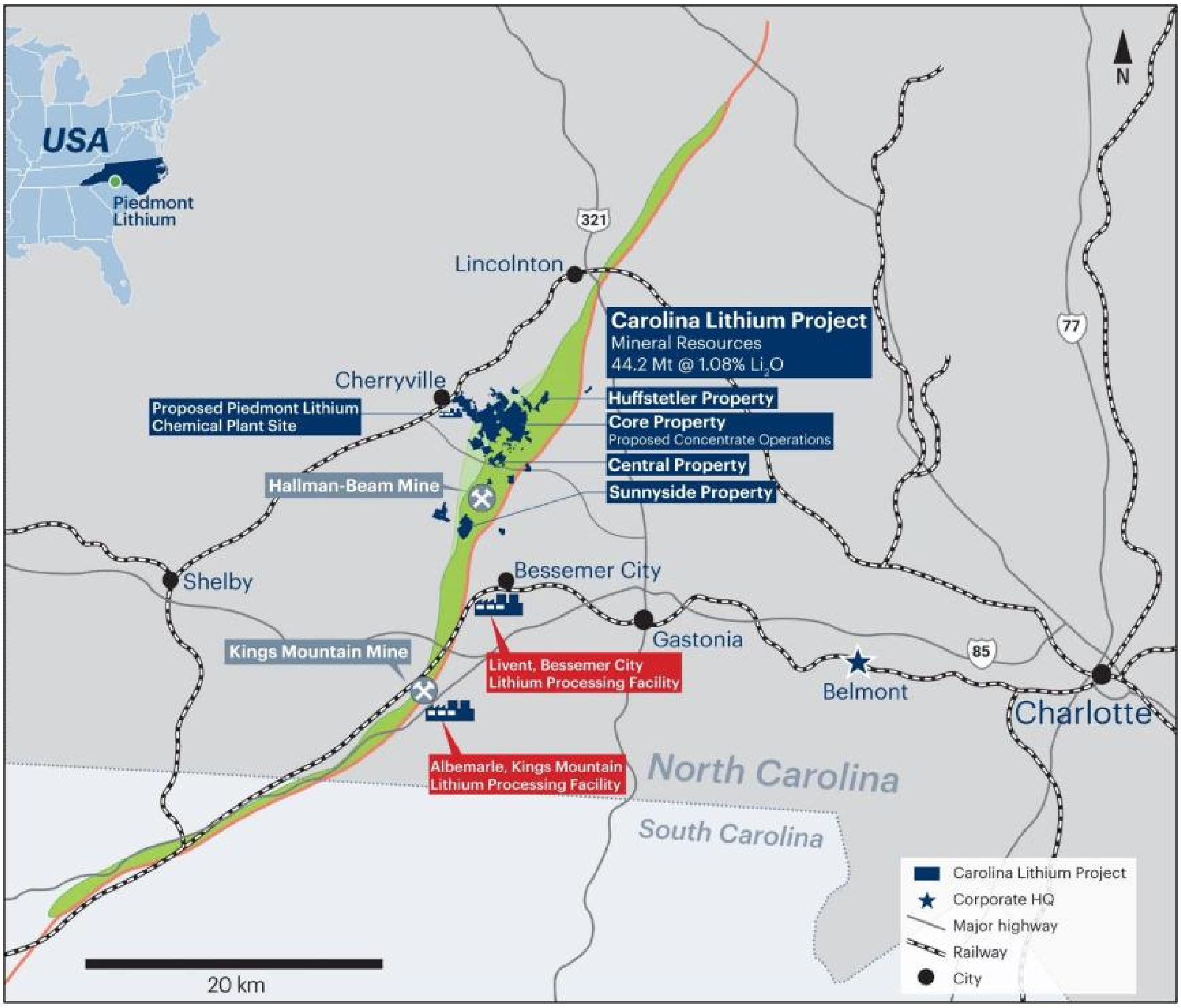
3 Property Description

3.1 Location

The Carolina Lithium Project is located in a rural area of Gaston County, North Carolina, USA (*Figure 3-1*), approximately 40 km northwest of Charlotte, North Carolina; 15 km northeast of the town of Kings Mountain, North Carolina; and 10 km southwest of the town of Lincolnton, North Carolina.

The Property is centered at approximately 35°23’20”N 81°17”20”W. The Project is located on **United States Geological Survey (*USGS*)** Quadrangles: Bessemer City, Lincolnton West and Lincolnton East. The coordinate system and datum for the modeling is UTM-17N, NAD-83.

Figure 3-1: Piedmont Lithium Property Location Map

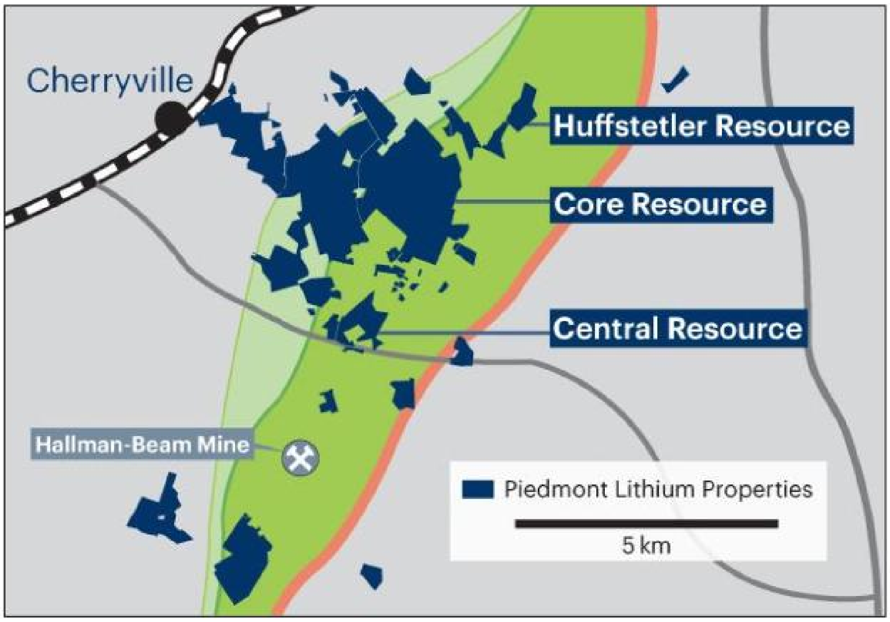


3.2 Titles, Claims or Leases

Piedmont Property that is the subject of this Report comprise approximately 3,245 total acres (*Figure 3-2*), of which: 1,526 acres are claims on private property through option or deferred purchase agreements, 113 acres are under a long-term mineral leased agreements, 79 acres are under lease to own agreements, and 1,527 acres are owned by PLI.

Private option agreements between PLI and its subsidiaries and the respective landowners grant PLI the exclusive and irrevocable right to access, enter and occupy each property for the purpose of mineral exploration and, upon exercise of the option, to either purchase each property or enter into a long-term mining lease.

Figure 3-2: PLI Total Land Package



For the properties hosting the MRE's in this report, PLI controls 100% of the surface and mineral rights per one or more of the agreement scenarios described above.

Table 3-1 below summarizes the surface and minerals rights per agreement type for all PLI properties.

Table 3-1: Summary of land agreement type and acreage for all PLI properties

Agreement Type *	Total Acres	Surface Rights Acres	Mineral Rights Acres
Option or Deferred Option Agreements	1,526	1,526	1,472.7
Long Term Mineral Lease Agreements	113	113	113
Lease to Own Agreements	79	79	79
Owned Properties	1,527	1,527	1,392.8
Acres - Total	3,245	3,245	3,056.8

**As of August 2021*

Neither MGG nor MM&A has carried out a separate title verification for the property and neither company has verified leases, deeds, surveys, or other property control instruments pertinent to the subject resources. PLI has represented to MGG and MM&A that it controls the mining rights to the resources as shown on its property maps, and both MGG and MM&A have accepted these as being a true and accurate depiction of the mineral rights controlled by PLI. The TRS assumes the Property is developed under responsible and experienced management.

3.3 Mineral Rights

PLI supplied property control maps to MGG and MM&A related to properties for which mineral and/or surface property are controlled by PLI. While MGG and MM&A accepted these representations as being true and accurate, MGG and MM&A have no knowledge of past property boundary disputes or other concerns that would signal concern over future mining operations or development potential.

Legal mining rights may reflect a combination of fee or mineral ownership and fee or mineral leases through various surface and mineral lease agreements.

3.4 Encumbrances

No Title Encumbrances are known. By assignment, MGG and MM&A did not complete a query related to Title Encumbrances.

On August 31, 2021 PLI subsidiary Piedmont Lithium Carolinas, Inc. submitted a mining permit application to North Carolina's Division of Energy, Mineral and Land Resources. The application is under review as of the publication date of this report.

In order to undertake mining activities within Gaston County, North Carolina, properties must be zoned I-3 under the Gaston County Unified Development Ordinances. Additionally, mining and quarrying operations within Gaston County require a Special Use Permit approved by the Gaston County Board of Commissioners. As of the date of this report PLI has not submitted applications for I-3 zoning or for a Special Use Permit.

3.5 Other Risks

There is always risk involved in property control. PLI has had its legal teams examine the deeds and title control in order to minimize the risk.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Topography, Elevation, and Vegetation

Topography of the area surrounding the Project is typical of the Piedmont Plateau characterized by relatively low, rolling hills. Several creeks bisect the property and are surrounded by flat, swampy floodplains that can extend up to 100 m away from the drainage channel. Surface elevations at the Project range from approximately 300 m above sea level in upland regions to approximately 220 m at stream level.

The area surrounding the Property is considered rural with a mixture of cleared farmland and forest in the temperate broadleaf category. Vegetation, where present, is a combination of large trees with smaller underbrush and is easily traversable by foot.

4.2 Access and Transport

General access to the Project is via a well-developed network of primary and secondary roads. Interstate highway I-85 lies 10 km to the south of the Project area and provides easy access to Charlotte Douglas International Airport 30 km to the east. A rail line borders the Property to the northwest (*Figure 3-1*).

4.3 Proximity to Population Centers

Transport links provide access to Charlotte, North Carolina's largest city, within an hour's drive from the Project. The Charlotte metropolitan region has a 2020 population of 2.66 million people.

4.4 Climate and Length of Operating Season

North Carolina has a humid subtropical climate with short, mild winters and hot summers. The area around Lincolnton experiences summer temperatures ranging from approximately 20°C to 32°C, with July being the hottest month at an average maximum of 31.4°C. Winter temperatures tend to be close to freezing, with January being the coldest month at an average minimum temperature of –1.4°C. Average precipitation is around 120 cm and is evenly distributed throughout the year, with March being the wettest month with approximately 12 cm of rain. Average annual snowfall for the area totals less than 15 cm per year. The relatively mild climate allows for exploration year-round with little to no weather-related interruptions. Seasonal variations and weather events would be expected to have a small effect on the efficiency of surface mining and concentrator plant operations. Negative impacts would be on a limited basis and last less than a few days.

4.5 Infrastructure

There is a significant potential human resource available from towns in the vicinity of the Project, including skilled heavy machinery operators. The Charlotte metropolitan area is home to multiple universities providing for a highly skilled pool of talent.

A rail line borders the Property to the northwest. An electrical power infrastructure is already in place feeding power to nearby residents and property owners. Water is also accessible with a shallow water table and two convergent creeks running through the middle of the property.

Major transmission lines run immediately south of the Project with 11.5 GW of large scale, low-cost power, within 50 km from the Project. The Transcontinental Gas Pipeline runs through Bessemer City.

5 History

5.1 Previous Lithium Mining in the Region

The Project lies within the Carolina tin-spodumene belt. Mining in the belt began in the 1950's with the Kings Mountain Mine, currently owned by Albemarle Corporation, and the Hallman-Beam mine near Bessemer City, currently owned by Martin Marietta Corporation. Both former mines are located within approximately 20 km of the Project to the south, near Bessemer City and Kings Mountain, respectively (*Figure 3-1*). Portions of the Project area were explored and excavated to shallow depths in the 1950's as the Murphy-Houser mine, owned by the Lithium Corporation of America (predecessor to Livent) (Cooley, 2010).

5.2 Previous Exploration

In 2009, Vancouver based North Arrow Minerals Inc. ("North Arrow") commenced exploration at the property. North Arrow collected a total of 16 rock grab samples in the Core Property area, of which 14 returned above 1% Li_2O (Cooley, 2010). Extensive geological mapping outlined over 37 spodumene-bearing pegmatite dikes at the Core Property and confirmed localized historical trenching of these dikes by Lithium Corporation of America (Cooley, 2010). Geological mapping, which captured the location and visual estimate for spodumene, were used for drill hole targeting. North Arrow completed 19 diamond drillholes in 2009/2010. North Arrow subsequently terminated all their property agreement soon thereafter.

In 2016, Piedmont (formerly **WCP Resources Limited**) began optioning surface and mineral rights at the property. Piedmont commenced a renewed exploration effort at the Project which is detailed in S*ection 7* of this report.

6 Geological Setting, Mineralization and Deposit

6.1 Regional, Local and Property Geology

The Project is situated in the Inner Piedmont belt near the Kings Mountain shear zone (*Figure 3-1*). The Inner Piedmont belt is characterized by Cambrian or Neoproterozoic gneisses, amphibolites, and schists of varying metamorphic grade. These rocks typically lack primary structures and the relationships amongst the rock types are generally undetermined. Several major intrusions occur in the Inner Piedmont, including the nearby Mississippian-aged Cherryville granite. Concurrent dike events extend from the granite, mainly to the east, with a strike that is sub-parallel to the northeast-trending Kings Mountain shear zone. As the dikes progress further from their sources, they become increasingly enriched in incompatible elements including lithium. The enriched pegmatitic dikes are located within a 3.5 km wide zone extending from the town of Kings Mountain through Lincolnton. This zone is known as the Carolina Tin-Spodumene Belt (*TSB*). As shown in *Figure 3-1*, the Project lies within the TSB.

Spodumene pegmatites on the Property are hosted in a fine to medium grained, foliated biotite, hornblende, quartz feldspar gneiss commonly referred to as amphibolite, and metasedimentary rocks including shists and mudstones. The extent of major host rocks is shown in *Figure 6-1*. Massive to weakly foliated gabbro dikes are encountered over limited extents. Testing indicates that the metasedimentary rocks have the potential to generate acidic conditions.

Pegmatites at the Project include spodumene-bearing and spodumene-free dikes. Spodumene-bearing dikes host the lithium and by-product mineral deposits at the Project.

Spodumene-free pegmatite dikes have variable orientations. Some share the same trend as the spodumene-bearing dikes and in some instances, there is a gradational contact between them. Spodumene-free pegmatite dikes represent either: an early stage (pre-spodumene) fractionated magma; or a later barren pegmatite system. Intervals logged as barren pegmatite can also represent altered portions of the spodumene-bearing pegmatite.

On the Core Property, spodumene-bearing pegmatites are cut by steeply dipping west-northwest trending diabase dikes of 5 m to 10 m thickness at a coordinate northing of approximately 3,916,600 m (*Figure 6-1*).

A schematic stratigraphic column representing the geological setting of the Carolina Lithium Project is presented in *Figure 6-2*.

Figure 6-1: Plan View of Core Property Lithology and Mineralized Pegmatite Dikes

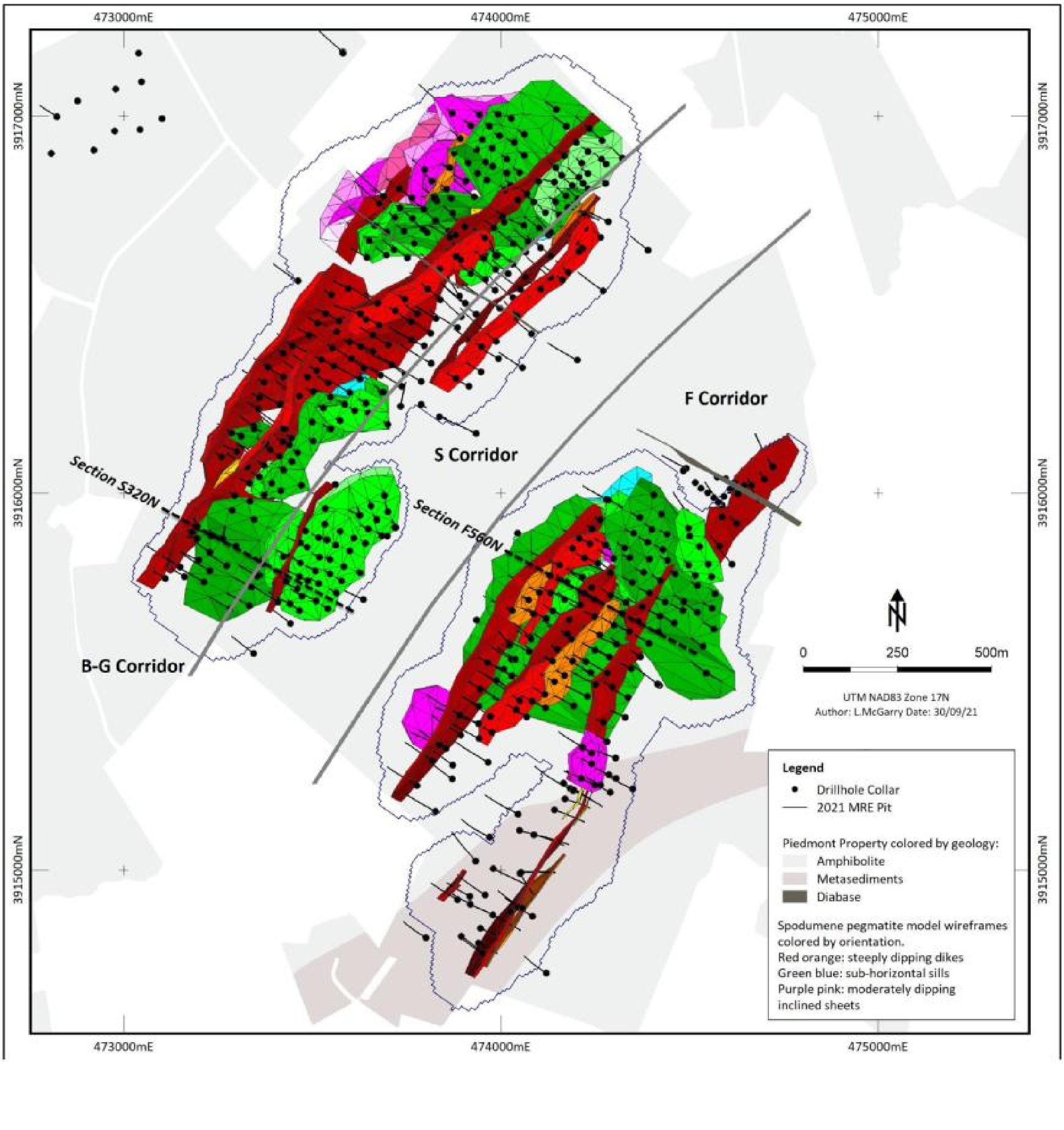
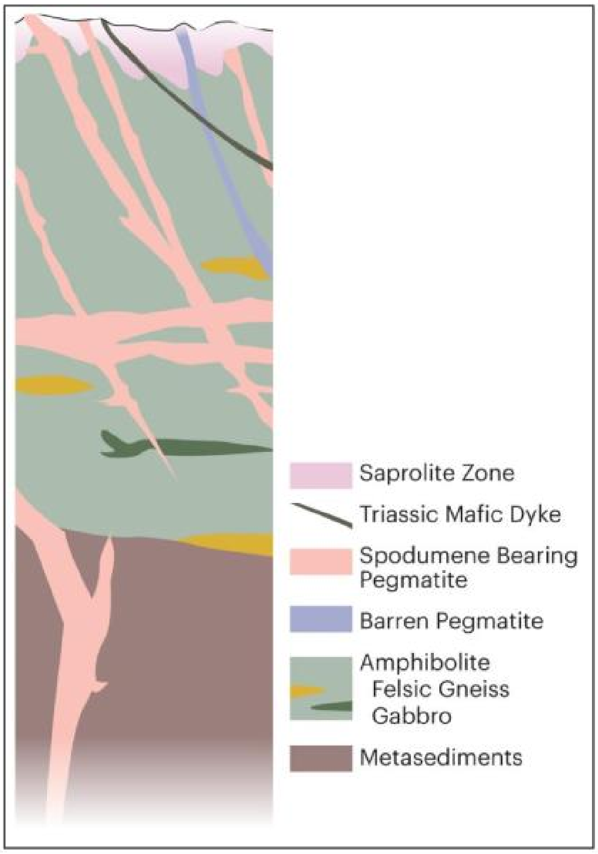


Figure 6-2: Stratigraphic Column – Carolina Lithium Project



6.2 Mineralization

The spodumene-bearing pegmatites are un-zoned having no apparent systematic variation in primary mineralogy and range from fine grained (aplite) to very coarse-grained. Primary mineralogy consists of spodumene, quartz, plagioclase, potassium-feldspar, and muscovite. *Table 6-1* presents average compositional mineral proportions derived from normative minerology calculations on X-ray Fluorescence (*XRF*) drill core assay data .

Table 6-1. Average Compositional Mineral Proportions for Spodumene-bearing Pegmatites at the Project

Mineral	Compositional Average (%)		
	Core	Central	Huffstetler
Spodumene	13.6	16.7	11.8
Quartz	29.4	29.4	28.8
Albite	35.7	35.6	36.4
K-spar	9.7	8.9	12.2
Muscovite	4.3	3.7	3.2
Biotite	1.9	1.6	3.4
Residual	5.5	4.1	4.1

6.3 Alteration

Several types of alteration are observed at the Project. Within the amphibolite and metasedimentary host rock, the most common types of alteration are chlorite, epidote, and potassic alteration.

Holmquistite alteration of the amphibolite occurs as a metasomatic replacement at the margins of lithium rich pegmatites. At the Project, holmquistite alteration is distinguished by a light blue color and acicular habit (*Figure 6-3*) and is observed as both small veinlets and massive zones that usually occur within 2 m of the contact between amphibolite and spodumene pegmatite (Piedmont Lithium, 2017).

Within the spodumene pegmatites, spodumene shows varying alteration intensity from fresh to complete replacement. Spodumene is typically altered to a greater degree than other compositional minerals. The most common types of spodumene alteration are clay, muscovite, and feldspar replacement (Piedmont Lithium, 2017). The distinguishing features of clay alteration of spodumene are the softness and lack of cleavage planes in the spodumene crystals. Muscovite alteration of spodumene results in pseudomorphs of muscovite after spodumene (*Figure 6-4*).

Figure 6-3: Examples of Holmquistite

Left: Sample of massive holmquistite showing asbestiform habit (hole 17-BD-54, 94.73–94.90 m).
Right: Sample of amphibolite with vein of blue-colored holmquistite (hole 17-BD-82 94.49–94.59 m).

Figure 6-4. Pegmatite showing Pseudomorphs of Muscovite after Spodumene (Hole 17-BD-121 72.24–72.44 m

6.4 Deposits

6.4.1 Core

Spodumene-bearing pegmatites on the Core Property are assigned to three major corridors shown in *Figure 6-1*: the B-G corridor and S corridor (cross section view in *Figure 6-5*) and the F corridor (cross section view in *Figure 6-6*). Corridors extend over a strike length of up to 2 km and commonly have a set of thicker dikes of 10 m to 20 m true thickness at their core. These major dikes strike northeast and dip steep to moderately toward the southeast. Dikes are intersected by drilling to a depth of 300 m down dip. Dikes are curvi-planar in aspect.

At the Core property, dikes are commonly interconnected by flat to shallow-dipping sills and inclined sheets that are encountered over broad lateral extents but rarely outcrop at surface. These sills and sheets are tested by drilling over 600 m along strike and 500 m down dip where they remain open and can be projected between major corridors as shown in *Figure 6-5* and *Figure 6-6*. The true thickness of individual sills and inclined sheets range from 1 m to 18 m. A representative closely spaced series of sills and inclined sheets typically has a cumulative thickness greater than 10 m.

Spodumene-bearing pegmatites, or a closely spaced series of such pegmatites, can be traced between drillhole intercepts and surface outcrops for over 1.7 km. Although individual units may pinch out, the deposit is open at depth. The Mineral Resource has a maximum vertical depth of 210 m from surface. Ninety-two (92) percent of the Mineral Resource is within 150 m of the topography surface.

6.4.2 Central

Spodumene-bearing pegmatites on the Central Property fall within a corridor that extends over a strike length of up to 0.6 km and contains a pair of 10 m to 20 m true thickness dikes (see inset plan map in *Figure 6-7*). These major dikes strike northeast and dip steeply to the southeast. Dikes are intersected by drilling to a depth of 225 m down dip (*Figure 6-7*). Although individual pegmatite bodies may pinch out, the deposit is open along strike and down dip and is primarily confined by the property boundary. The Central mineral resource has a maximum vertical depth of 275 m below surface. On average, the model extends to 200 m below surface. Seventy-five (75) percent of the Central Mineral Resource model is within 150 m of the topography surface.

6.4.3 Huffstetler

Spodumene-bearing pegmatites on the Huffstetler Property fall within a corridor that extends over a strike length of up to 0.4 km (see inset plan map in *Figure 6-8*) and form a stacked series of inclined sheets that range from 2 m to 18 m true thickness (*Figure 6-8*). Inclined sheets strike northeast and dip moderately to the northwest. Spodumene bearing pegmatites are intersected by drilling to a depth of 200 m down dip from surface; however, up-dip extents are limited by the southeastern edge of the permit boundary. Although individual units may pinch out, the deposit is open at depth and along strike. The Huffstetler Mineral Resource has a maximum vertical depth of 150 m below the ground surface.

Figure 6-5: Cross section of Steep Dikes at Core B-G Corridor (left) and S Corridor (right) Connected by a Sill

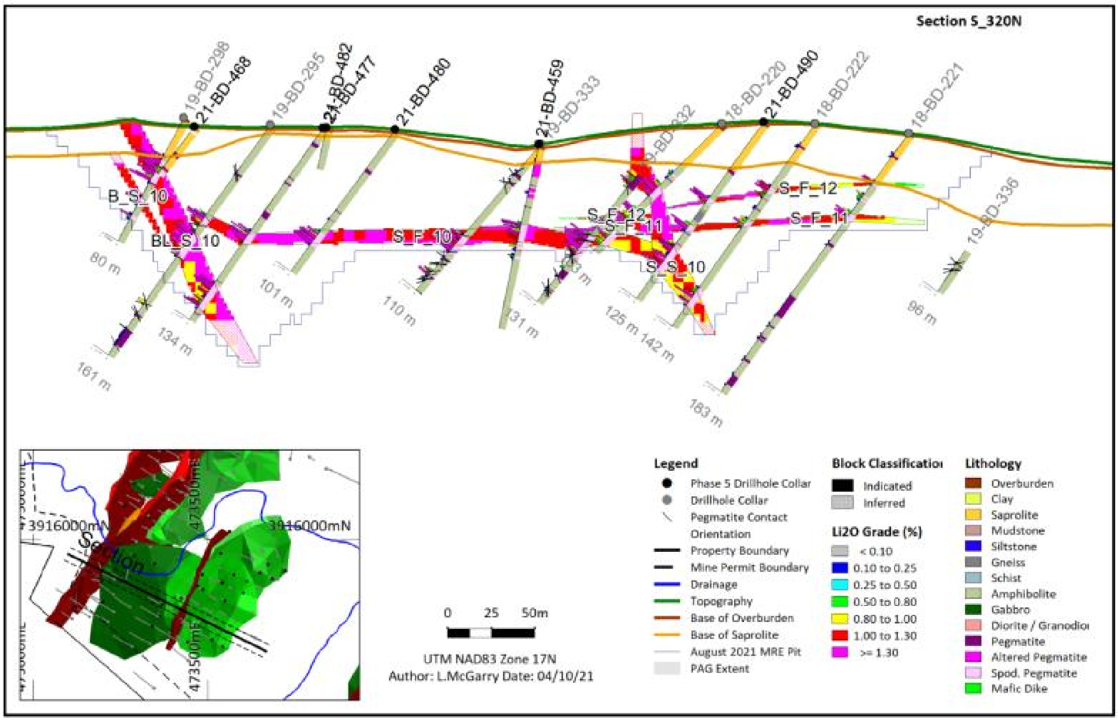


Figure 6-6: Cross Section of Steep Dikes at Core F Corridor Interconnected by Sills

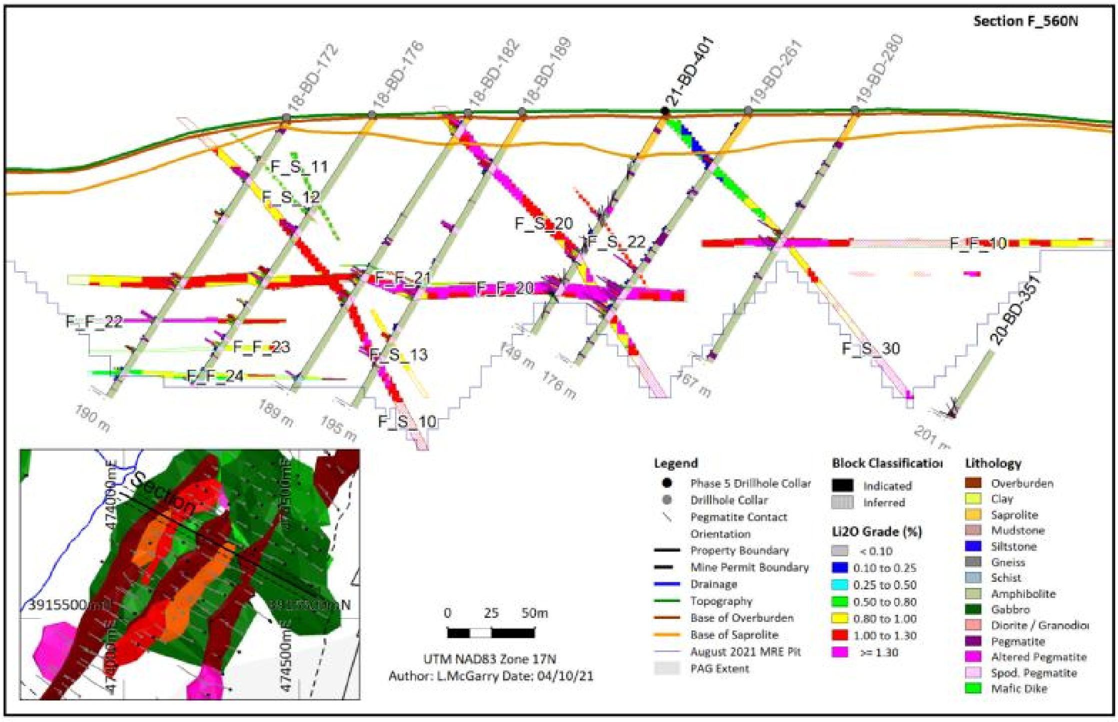


Figure 6-7: Cross Section of Steep Dikes at the Central Property

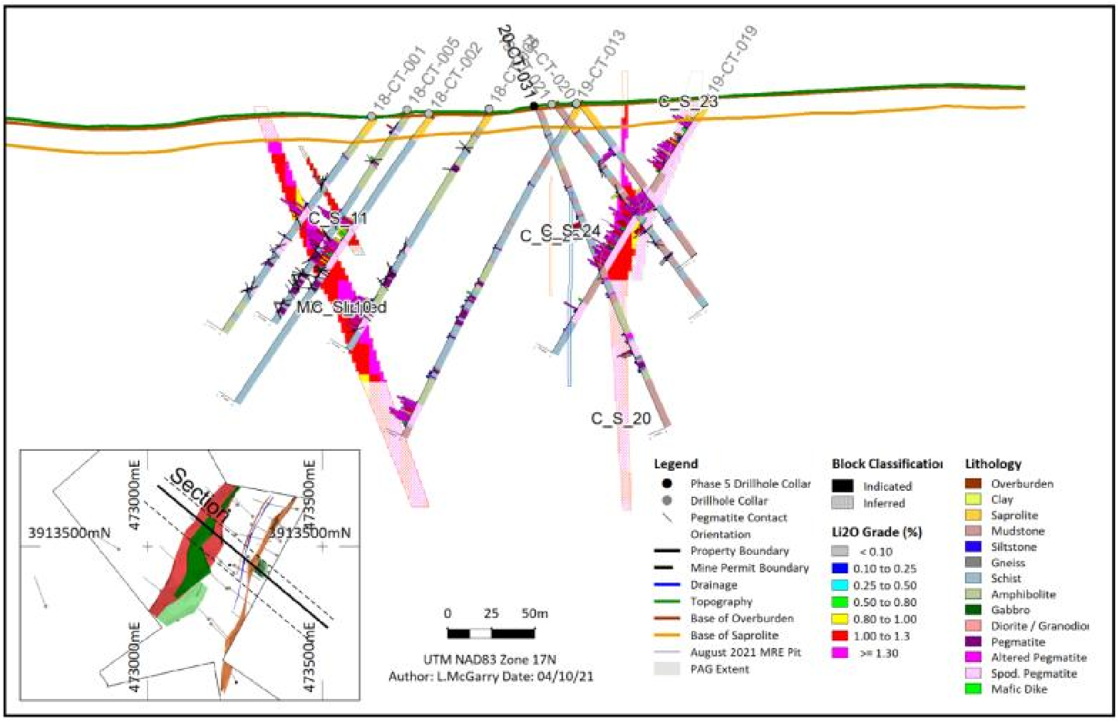
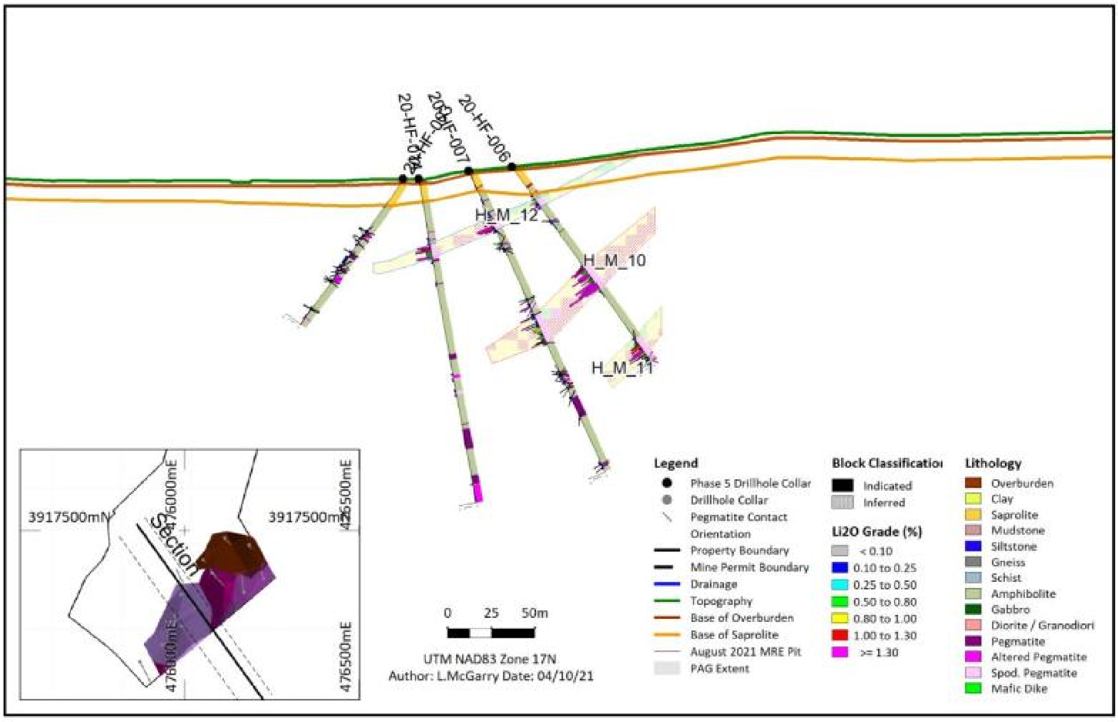


Figure 6-8: Cross Section at the Huffstetler Property



7 Exploration

7.1 Nature and Extent of Exploration

Extensive exploration supports this resource estimate and is comprised of surface mapping and extensive subsurface drilling carried out on the Property. Exploration has predominantly been carried out by PLI, with a small number of initial exploratory holes completed by North Arrow. PLI's exploration of the Property has been carried out by professional geologists in adherence to established operating procedures that have been verified by the QP. To date, exploration has been concentrated on the Core, Central and Huffstetler deposit areas detailed below.

7.1.1 Core Property

As of the 3 August 2021 cut-off date, 542 core holes totaling 80,029 m had been drilled at the Core Property. *Table 7-1* shows the breakdown of drilling with regard to the historical drilling completed by North Arrow and the subsequent drilling programs completed by PLI which include 505 diamond core holes and 18 sonically drilled holes. The extent of drilling at the Core property is shown in *Figure 7-1*.

Table 7-1: Core Drilling Campaigns Undertaken by Piedmont and Historical Data Included in the Core Property MRE

Year(s)	Company	Phase	No. of holes	Hole size*	Meters	Hole ID (from)	Hole ID (to)
2009–2010	North Arrow	Historical	19	HQ/NQ	2,544	09-BD-01	10-BD-19
2017	Piedmont	Phase 1	12	HQ/NQ	1,667	17-BD-20	17-BD-31
2017	Piedmont	Phase 2	93	HQ/NQ	12,408	17-BD-32	17-BD-124
2017–2018	Piedmont	Phase 3	124	HQ/NQ	21,530	17-BD-125	18-BD-248
2018–2020	Piedmont	Phase 4	90	HQ/NQ	14,766	17-BD-249	19-BD-338
2020-2021	Piedmont	Phase 5	186	HQ/NQ	26,825	20-BD-339	21-BD-524
2020	Piedmont	Phase 5	18	Sonic	289	20-SBD-001	20-SBD-0018
ALL	Piedmont	Total	542	HQ/NQ	80,029	09-BD-01	21-BD-524

At the cut-off date, lithology data were available for all holes up to and including drillhole 21-BD-524. Assay results were available up to and including drill hole 21-BD-491, drill hole 21-BD-494, and drillholes 21-BD-496 to 21-BD-502.

7.1.2 Central Property

At the cut-off date, 36 diamond core holes totaling 5,563 m had been drilled at the Central Property as detailed in *Table 7-2*. The extent of drilling at the Core property is shown in *Figure 7-2*.

Table 7-2: Core drilling campaigns undertaken by Piedmont and historical data included in the Central Property MRE

Year(s)	Company	Phase	No. of holes	Hole size*	Meters	Hole ID (from)	Hole ID (to)
2018–2019	Piedmont	Phase 4	30	HQ/NQ	4,675	18-CT-001	19-CT-030
2020	Piedmont	Phase 5	6	HQ/NQ	888	20-CT-031	20-CT-036
ALL	Piedmont	Total	36	HQ/NQ	5,563	18-CT-001	20-CT-036

7.1.3 Huffstetler Property

At the cut-off date, 14 diamond core holes totaling 2,151 m had been drilled at the Huffstetler Property as detailed in *Table 7-3*. The extent of drilling at the Core property is shown in *Figure 7-3*.

Table 7-3: Core Drilling Campaigns Undertaken by Piedmont and Historical Data Included in the Huffstetler Property MRE

Year(s)	Company	Phase	No. of holes	Hole size*	Meters	Hole ID (from)	Hole ID (to)
2020	Piedmont	Phase 5	14	HQ/NQ	2,151	20-HF-001	20-HF-0014

Figure 7-1: Extent of drilling at the Core property

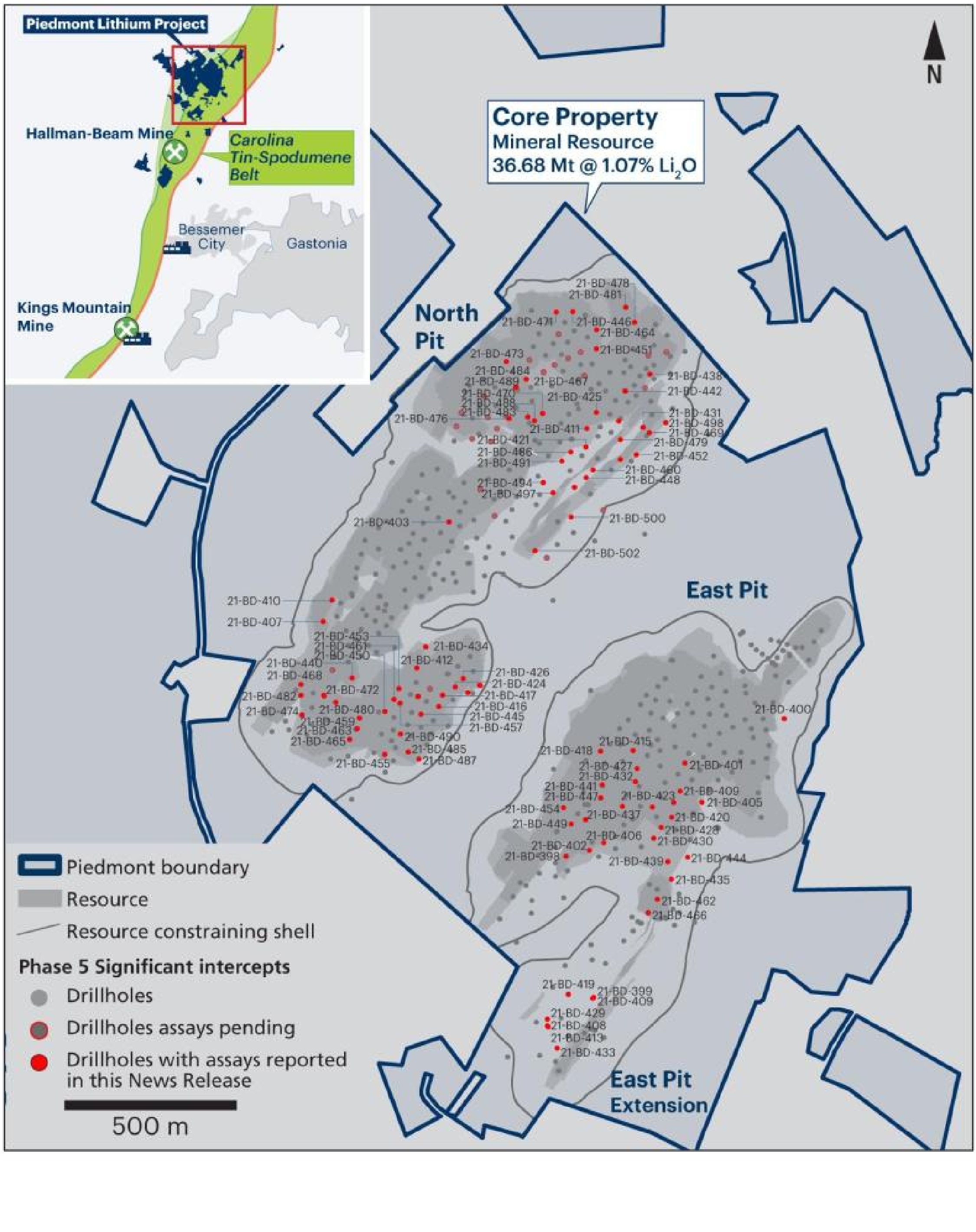


Figure 7-2: Extent of drilling at the Central property

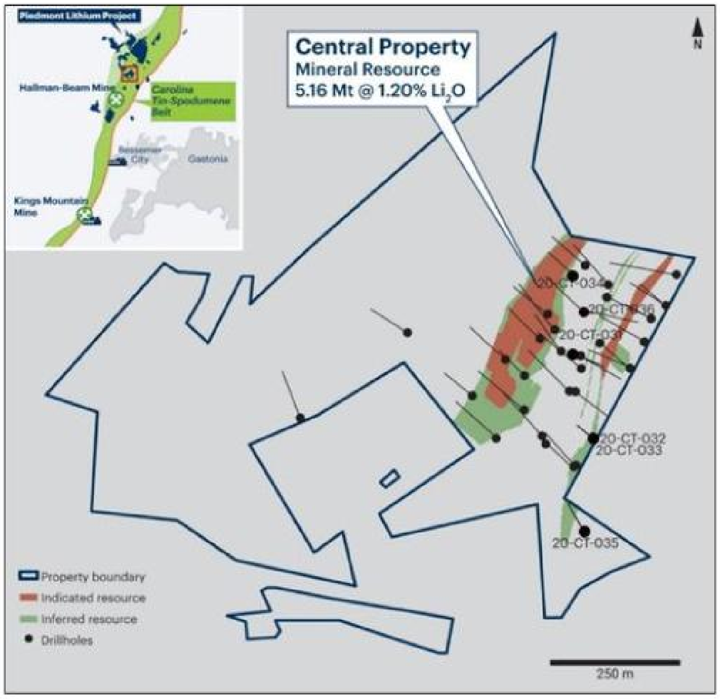
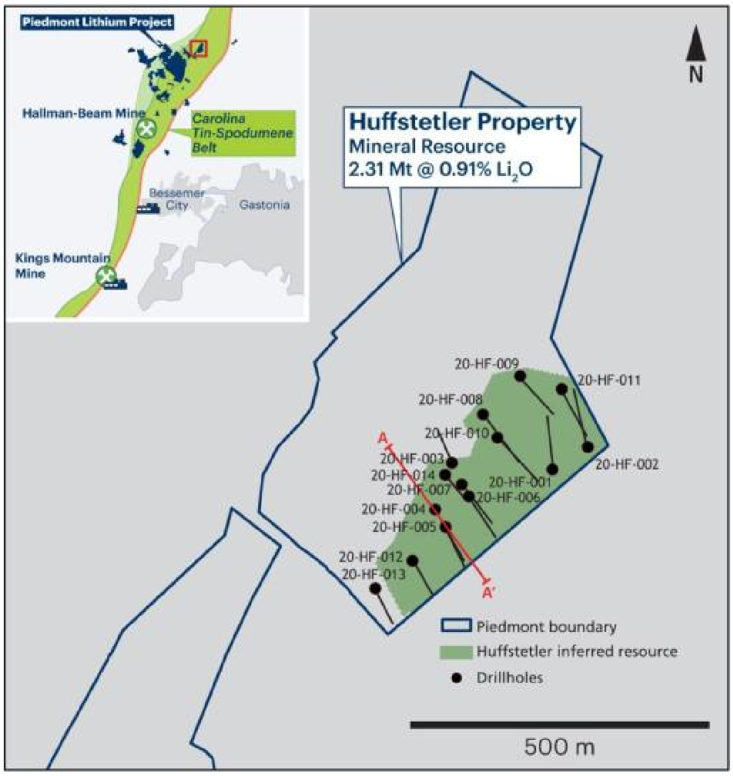


Figure 7-3: Extent of drilling at the Huffstetler property



7.2 Non-Drilling Procedures and Parameters

Non-drilling exploration procedures included testing of soil samples and surface rock exposures, geologic mapping, and surface geophysics surveying. The soil sampling program, along with surface rock sampling and mapping, proved successful in identifying high priority drill targets for spodumene-bearing pegmatites. Soil and rock testing, as well as geologic mapping, results were only used as prospecting tools and are not included as data points for the resource estimate.

Soil testing to identify blind spodumene-bearing pegmatite dikes involved collection, documentation, and laboratory testing of 2,410 soil samples from numerous test lines across PLI's properties. The soil sampling was initially calibrated in areas known to contain spodumene-bearing pegmatites, and then subsequently used as a guide for planning core drilling locations as exploration progressed. Soil samples were collected using a hand-operated soil auger from depths ranging from six to 36 inches below top of ground. Lithium assays ranged from below detection limit (*BDL*) to 2,306 ppm.

Rock collected and tested included float, subcrop and outcrop samples. These occurrences ranged in size from fist-size float to meter-scale subcrop blocks. Lithium values from the samples ranged from 0.01% Li_2O to 4.37% Li_2O. Locations of the samples were recorded with a handheld GPS unit. Outcrop was observed to exist predominantly associated with moderately southeast-dipping pegmatites. The presence of spodumene in surface exposures was found to be indicative of spodumene down-dip. Mapping and testing of the surface exposures were only used as prospecting tools and are not included as data points for the mineral resource estimate.

Geophysics, in the form of a ground magnetic survey, totaling 43.05 line-km, was conducted over Core and Central properties with a minimum of 40 m line spacing. The ground magnetic survey was marginal, at best, in Identifying pegmatites.

7.3 Drilling Procedures

A substantial amount of drilling has been completed for the Project. The drilling has ranged from exploration to deposit delineation. The vast majority of the drilling has been diamond core drilling with one small sonic drilling campaign completed.

7.3.1 North Arrow

North Arrow completed a total of 2,544 m of core drilling in 19 drillholes in programs conducted in the fall of 2009 and spring of 2010. Drill cores were recovered as HQ for weathered bedrock (saprolite) with high clay content and as NQ for deeper un-weathered bedrock. The dip of the drill hole at depth was measured with up to four acid tests per hole.

Descriptions of the drill core were logged and are stored digitally. The drill logs include notes on the lithological units, alteration, estimated amount of spodumene mineralization in pegmatite units, textures, grain size, and magnetic susceptibility.

7.3.2 Piedmont

PLI has completed a total of 85,199 m of core drilling in 574 drillholes at the Core, Central and Huffstetler properties. Drilling was conducted in five phases from 2017 to 2021.

All diamond drillholes were collared with HQ and were transitioned to NQ once non-weathered and unoxidized bedrock was encountered. Oriented core was collected by a qualified geologist at the drill rig from 103 drillholes using the Reflex ACT III tool. Orientated core measurements were collected for lithology contact, foliation, vein, fault, shear, and fold plane angles. Downhole surveying was performed on each hole using a Reflex EZ-Trac multi-shot instrument. Readings were taken approximately every 15 m that recorded depth, azimuth, and inclination. Drill collars were located with the differential global positioning system (*GPS*) with the Trimble Geo 7 unit which resulted in accuracies of less than 1 m.

Geological data was collected in sufficient detail to aid in Mineral Resource estimation. Core logging consisted of marking the core, describing lithologies, geologic features, percentage of spodumene and structural features measured to core axis. The core was photographed wet before logging and again immediately before sampling with the sample numbers visible. All the core from the 574 holes reported was logged.

7.4 Hydrology and Hydrogeology

Hydrogeological assessment for the project was completed by **HDR, Inc. (*HDR*)**. The tasks involved included surface water and groundwater quality monitoring; streamflow monitoring; pump testing; groundwater level monitoring; and creation of a groundwater model using MODFLOW. MM&A has received and reviewed memorandums and data summaries from HDR. HDR reports on the hydrogeology of the project area include "*Technical Memorandum: Aquifer Test, Piedmont Lithium – Gaston County, North Carolina*" (revised version submitted February 18, 2019) and "*Technical Memorandum: Groundwater Model, Piedmont Lithium – Gaston County, North Carolina*" (submitted June 28, 2019). An additional groundwater modeling report, titled "*Technical Memorandum: Groundwater Model – Piedmont Lithium, Gaston County, North Carolina*", was also completed by HDR in August 2021.

HDR's groundwater modeling results form a basis for selection of pit dewatering equipment and operating cost considerations. The project will involve pumping from two pits simultaneously at times throughout the mine life, with pumping rates varying depending on the stage of mining and pits being excavated. The predicted dewatering rates range from 575 gallons per minute (*gpm*) in the first year to maximum pumping rates of 2,300 gpm and 2,000 gpm in years 2 and 12, respectively. The estimated average for the mine life is on the order of 1,400 gpm.

7.5 Geotechnical Data

MM&A has completed geotechnical characterization and pit slope stability assessment tasks including basic laboratory rock strength testing, discontinuity orientation data collection, kinematic bench-scale stability assessment, and overall pit slope stability assessment. The pit slope stability assessment, initially completed in 2019 and supplemented in 2021, provides guidance with regard to bench, inter-ramp, and overall pit slope for pit design. In January 2021, MM&A conducted additional geotechnical drilling and data collection for specific areas of the planned pits. Results of the geotechnical assessment yielded recommendations for an overall pit wall angle of 51 degrees assuming a bench angle of 75 degrees, a final bench height of 24 m, a final berm width of 9.5 m, and a single 30 m haul road ramp width.

8 Sample Preparation Analyses and Security

8.1 Sample Collection and Security

Diamond drill core was cut in half with a diamond saw. Standard sample intervals were a minimum of 0.35 m and a maximum of 1.5 m for both HQ and NQ drill core, taking into account lithological boundaries (i.e., sampled to, and not across, major contacts). Core was cut in half with a diamond saw.

Samples were numbered sequentially with no duplicates and no missing numbers. Triple tag books using nine-digit numbers were used, with one tag inserted into the sample bag and one tag stapled or otherwise affixed into the core tray at the interval the sample was collected. Samples were placed inside pre-numbered sample bags with numbers coinciding to the sample tag.

Drill core samples and surface rock samples were shipped directly from the core shack by the project geologist in sealed rice bags or similar containers using a reputable transport company with shipment tracking capability to maintain chain of custody. Each bag was sealed with a security strap with a unique security number. The containers were locked in a shed if they were stored overnight at any point during transit, including at the drill site prior to shipping. The laboratory confirmed the integrity of the rice bag seals upon receipt.

8.2 Laboratory Procedures

8.2.1 North Arrow

Historical samples (holes 09-BD-01 through 10-BD-19) were submitted to the commercial independent laboratory **Acme Analytical Laboratories (*AcmeLabs*)** in Vancouver for analysis. AcmeLabs was accredited with ISO/IEC 17025 by the Standards Council of Canada (*SCC*) for the methods employed. Each sample was subjected to: a four-acid digestion and analysis for 40 elements (including lithium) using a combination of ICP-ES (inductively coupled plasma emission spectrometry) and ICP-MS (inductively coupled plasma mass spectrometry) methods (Acme method 7TX); or sodium peroxide fusion and lithium analysis by ICP-ES (Acme method 7PF-Li).

8.2.2 Piedmont Phase 1 Exploration

Piedmont Phase 1 samples were shipped to the independent commercial laboratory **Bureau Veritas Minerals Laboratory (*BV*)** in Reno, Nevada. BV is accredited with ISL-certification for the methods employed.

> The preparation code was PRP70-250 (crush to 70% of sample <2 mm, pulverize 250 g to 85% <75 µm).

> The analysis code was MA270 (multi-acid digestion with either an ICP-ES or ICP-MS finish), which has a range for Li of 0.5% to 10,000 ppm (1%) Li. This digestion provides only partial analyses for many elements in refractory minerals, including Ta and Nb. It does not include analyses for Cs.

> The over-range method code for Li >10,000 ppm is PF370, which uses a peroxide fusion with an ICP-ES finish and has lower and upper detection limits of 0.001% and 50%, respectively. The laboratory was instructed to implement the over-range method in all samples that exceed 5,000 ppm Li to allow for poor data precision near the upper limit of detection using MA270.

8.2.3 Piedmont Phases 2 to Phase 5 Exploration

All surface and drill core rock samples were shipped to the independent commercial laboratory **SGS Minerals - Lakefield (*SGS*)**, Ontario, Canada. SGS is accredited with ISO/IEC 17025 certification and has a Quality Management System that conforms to ISO 9001:

> Prior to 2020, the preparation code was CRU21 (crush to 75% of sample <2mm). Starting in 2020 the code was changed to CRU16 (crush to 90% of sample <2 mm). The pulverization code remains PUL45 (pulverize 250g to 85% <75 µm).

> Prior to August 2017 the analysis code was GE ICM40B (multi-acid digestion with either an ICP-ES or ICP MS finish), which has a range for Li of 1 to 10,000 (1%) ppm Li.

> Starting in August 2017, samples were analyzed using GE ICP91A Li only. The over-range method code for Li >5,000 ppm is GE ICP90A, which uses a peroxide fusion with an ICP finish, and has lower and upper detection limits of 0.001% and 5% respectively.

> In 2020, the analysis code was changed to GE ICP92A50, which uses a peroxide fusion with an ICP finish, and has lower and upper detection limits of 0.001% and 5% respectively.

8.2.3.1 Soil samples

Soil samples were analyzed using GE_ICM40B (49 element ICP package) at **SGS Laboratories** in Lakefield, Ontario & Burnaby, British Columbia. Blanks and certified standard materials (*CRM's*) were inserted at the recommended rate.

8.2.3.2 Bulk Density

Bulk density measurements for Phase 2 drilling were made on each drillhole (one host rock and one mineralized rock) at SGS using the immersion method analyses code GPHY04V. Saturated and dry bulk densities for Phase 3, Phase 4 and Phase 5 drill programs were collected by Piedmont geologists using a triple beam scale and the immersion method.

8.2.3.3 X-Ray Fluorescence

Upon completion of Phase 3 drill sample lithium analysis, sample intervals falling within the Core Property deposit model were identified for subsequent whole rock analysis by SGS using borate fusion followed with XRF (SGS analysis code GO XRF76V). The same analytical procedure was used for whole rock analysis of all Phase 4 and Phase 5 drill core containing spodumene-bearing pegmatite at the Core, Central and Huffstetler properties.

8.2.3.4 Normative Minerology Calculations

Normative mineralogy was calculated from total fusion XRF major element data using a least squares method (MINSQ – Herrmann, W. and Berry, R.F., 2002, Geochemistry: Exploration, Environment, Analysis, volume 2, pp. 361-368). The normative calculations were validated against and corrected where necessary using x-ray diffraction (*XRD*) Rietveld semi-quantitative mineralogical data from 38 sample pulps selected to represent a range of chemical compositions and mineralogy, as well as three QEMSCAN analyses of composite samples prepared for metallurgical test work.

8.3 QAQC Controls

Examination of the QAQC sample data obtained by PLI and North Arrow indicates satisfactory performance of field sampling protocols and assay laboratories providing acceptable levels of precision and accuracy.

Based on an assessment of the data, the Qualified Person considers the entire dataset to be acceptable for resource estimation with assaying posing minimal risk to the overall confidence level of the MRE.

8.3.1 North Arrow

Data quality was monitored through the submission of coarse blank (marble) material and two company Standard Reference Materials (*SRMs*) produced from spodumene concentrates from the Tanco Li-Cs-Ta (*LCT*) pegmatite mine, Manitoba, Canada (Arne, 2016). Marble was used as coarse blank material submitted with the core samples (Arne, 2016). No duplicate were collected during the program.

A review undertaken by independent consulting geochemist Dennis Arne in 2016 found that "*The standard reference materials used by North Arrow Minerals and AcmeLabs have returned acceptable results within their control limits. There is evidence for only slight possible cross contamination of Li between samples*" but that "*the cross-contamination has not been of a significant level*".

8.3.2 Piedmont

PLI has maintained QAQC protocols and surveillance of CRM, blank and duplicate sample results during all exploration phases. PLI QAQC data undergo regular independent review by consulting geochemist Dennis Arne. The following section contains a summary of information provided in Arne (2017, 2017a, 2018, 2018b, 2019, 2019b, 2021 and 2021a).

A CRM or coarse blank was included at the rate of one for every 20 drill core samples (i.e., 5%). The CRMs used for this program were supplied by Geostats Pty Ltd of Perth, Australia. A sequence of these CRMs covering a range in Li values and, including blanks, were submitted to the laboratory along with all dispatched samples so as to ensure each run of 100 samples contains the full range of control materials. The CRMs were submitted as "blind" control samples not identifiable by the laboratory. Marble was used as coarse blank material submitted with the core samples.

Sampling precision was monitored by selecting a sample interval likely to be mineralized and splitting the sample into two quarter-core duplicate samples over the same sample interval. These samples were consecutively numbered after the primary sample and recorded in the sample database as "field duplicates" and the primary sample number recorded. Field duplicates were collected at the rate of 1:20 samples when sampling mineralized drill core intervals.

Random sampling precision was monitored by splitting samples at the sample crushing stage (coarse crush duplicate) and at the final subsampling stage for analysis (pulp duplicates). The coarse jaw-crushed, reject material was split into two preparation duplicates, sometimes referred to as second cuts, crusher, or preparation duplicates, which were then pulverized and analyzed separately. These duplicate samples were selected randomly by the laboratory.

Analytical precision was also monitored using pulp duplicates, sometimes referred to as replicates or repeats. Data from all three types of duplicate analyses was used to constrain sampling variance at different stages of the sampling and preparation process.

9 Data Verification

9.1 Procedures of Qualified Person

MGG's QP Leon McGarry visited the site on several occasions as detailed in *Section 2.3* on page 4. Visual validation of mineralization against assay results was undertaken for several holes. Verification core samples were collected by Leon McGarry.

9.1.1 Data Import and Validation

All drill hole data was imported into Micromine™ software version 15.08. Validation of the data was then completed which included checks for:

> Logical integrity checks of drillhole deviation rates
> Presence of data beyond the hole depth maximum
> Overlapping from-to errors within interval data.

Visual validation checks were also made for obviously spurious collar coordinates or downhole survey values.

9.2 Limitations

Travel to the site was curtailed during 2020 and 2021 due to the impact of the COVID-19 pandemic which limited the QP's ability to independently verify aspects of Phase 5 exploration that required personal inspection. This limitation was mitigated by remote monitoring of exploration activities via regular video conferencing and through review of core photography. The QP did undertake personal inspections from 2017 to 2019 to verify exploration phases 1 to 4.

As with any exploration program, localized anomalies cannot always be discovered. The greater the density of the samples taken, the less the risk. Once an area is identified as being of interest for inclusion in the mine plan, additional samples are taken to help reduce the risk in those specific areas.

9.3 Opinion of Qualified Person

Sufficient data have been obtained through various exploration and sampling programs to support the geological interpretations at the Property. The data are of sufficient quantity and reliability to reasonably support the lithium resource estimates in this TRS.

10 Mineral Processing and Metallurgical Testing

The company has completed multiple phases of metallurgical testwork that adequate to support the disclosure of Mineral Resource estimates. On 17 July 2019 the company reported the ASX results of an updated Scoping Study ("Scoping Study") for the project. The Scoping Study report presented a summary of metallurgical test work completed, extracts of which are presented below.

10.1 2019 Program

In 2019 PLI engaged the independent commercial laboratory SGS, Ontario, Canada, to undertake a metallurgical testwork program. SGS is accredited with ISO/IEC 17025 certification and has a Quality Management System that conforms to ISO 9001.

The testwork program included sample preparation, mineralogical analyses, grindability, magnetic separation, hydraulic classifier test, heavy liquid separation (HLS), dense medium separation (DMS), flotation optimization bench-scale testwork, locked cycle test (LCT), and solid/liquid separation (Primero, 2021).

The goals of the testwork program were to collect sufficient metallurgical data for a PEA-level study, and to develop a preliminary flowsheet for lithium beneficiation. The target final spodumene concentrate grade was 6% Li_2O with lithium recovery of 80% or higher. The key contaminant level of Fe_2O_3 in the spodumene concentrate was targeted below 1% (Primero, 2021).

10.1.1 Samples

The completed test work programs examined composited samples collected from multiple exploration corridors within the Project's Core Property area.

Ten variability samples from the Piedmont Lithium Project were shipped to SGS for a Preliminary Economic Assessment (PEA) level metallurgical testwork program. Var 1, Var 3, Var 4, Var 5, and Var 7 were the main variability samples to be tested and were combined to create three samples (New Var 1, Var 3, New Var 7), based on instructions from Piedmont Lithium. (Piedmont, 2021a)

The amount and areal extent of sampling for geological data is generally sufficient to represent the quality characteristics of the lithium-bearing pegmatites.

10.1.2 Concentrate Metallurgy

Dense Medium Separation ("DMS") and flotation Locked-Cycle Tests ("LCT") produced high quality spodumene concentrate with a grade above 6.0% Li_2O, iron oxide below 1.0%, and low impurities from composite samples. Table 10-1 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_2O. (Piedmont, 2021a)

Table 10-1: Dense Medium Separation and Locked Cycle Flotation Test Results - Composite Sample 1 (Piedmont, 2021a)

Sample	Concentrate Grade Li_2O (%)	Fe_2O_3 (%)	Na_2O (%)	K_2O (%)	CaO+ MgO + MnO (%)	P_2O_5 (%)
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

10.1.2.1 Quartz and Feldspar Metallurgy

The production of bulk quartz and feldspar concentrates as by-products from the spodumene locked-cycle flotation tailings was investigated. Six 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 10-2 (Piedmont, 2021a).

Table 10-2: Average Results of Locked Cycle By-product Tests (from Spodumene Concentrate Tailings) (Piedmont, 2021a)

	Li_2O	SiO_2	Al_2O_3	K_2O	Na_2O	CaO	MgO	MnO	P_2O_5	Fe_2O_3
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

10.2 2018 MRL Program

In 2018 Piedmont engaged the independent fee-for-service **Minerals Research Laboratory (*MRL*)** at North Carolina State University, USA to conduct bench-scale testwork on samples obtained from the Company's MRE within the Core Property for by-products quartz, feldspar, and mica. MRL is recognized as a center of expertise in the specific field of mineral characterization, analysis, and economic utilization.

An objective of the testwork program was to develop optimized conditions for spodumene and by-product flotation and magnetic separation for both grade and recovery which would then be applied to future testwork.

The results of the 2018 program were announced on July 17, 2018. Except for Mica testwork summarized below, the results of the 2018 MRL Program are superseded by the 2019 SGS program.

10.2.1 Samples

The completed test work programs examined composited samples collected from Phase 1 and Phase 2 drill core obtained from the B, G and F Corridors at the Core property. Four samples were prepared for the flotation testwork program named B, G, F, and F2. The amount and areal extent of sampling for geological data is generally sufficient to represent the quality characteristics of the lithium-bearing pegmatites.

10.2.2 Mica Metallurgy

Summary mica concentrate data are shown in *Table 10-3*.

Table 10-3: Bench Scale Mica Physical Properties Results (Piedmont, 2021a)

Parameter	Unit	Optimized Value
Particle Size	Medium to Very Fine	40 – 325 Mesh
Bulk Density	g/cm^3	0.681-0.682
Grit	%	0.70-0.79
Photovoltmeter	Green Reflectance	11.2-11.6
Hunter Value	± a [Redness(+) Greenness(-)]	0.27-1.25
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/cm³. (Piedmont, 2021a)

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, Technedyne 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 (Piedmont, 2021a). The ratio of the reflected green light to the incident light was approximately 11%.

10.3 Discussion

The materials targeted for extraction comprise spodumene, quartz, feldspar, and mica minerals for which metallurgical processing methods are well established. Data derived from the metallurgical testwork reported by the company is adequate to support the disclosure of Mineral Resource estimates and indicates that:

> Spodumene concentrate grades exceed 6.0% Li_2O and are less than 1.0% Fe_2O_3.

> Quartz samples have characteristics comparable to marketable quartz products.

> Feldspar concentrate, comprised of albite and K-spar minerals, has characteristics comparable to marketable feldspar products.

> Muscovite mica concentrate has physical properties comparable to marketable muscovite products.

The QP has assumed that metallurgical concerns will not pose any significant impediment to the economic processing and extraction of spodumene from mined pegmatite. Pegmatites at the Central and Huffstetler properties have comparable physical properties to Core Property pegmatites and have similar mineralogical proportions. Central and Huffstetler pegmatites are therefore concluded to have comparable spodumene and by-product specifications.

11 Mineral Resource Estimates

11.1 Assumptions, Parameters and Methods

11.1.1 Geological Modelling

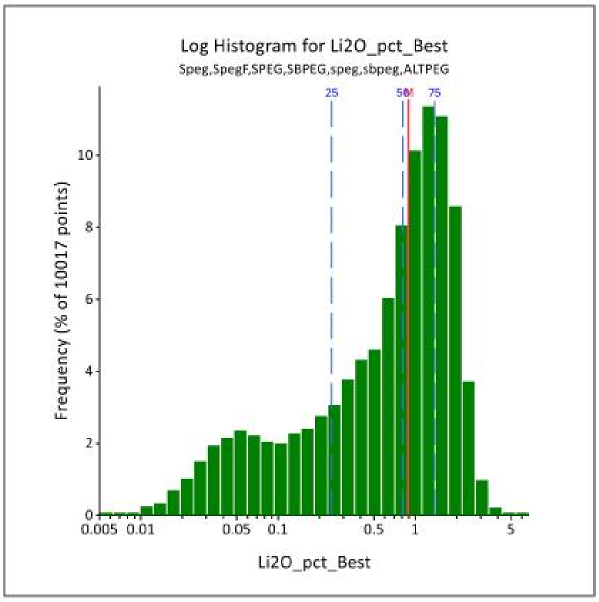
MGG Qualified Person Leon McGarry created a geologic model to define the lithium and by-product Mineral Resources for the Project. Geological modeling was undertaken by MGG using Micromine™ geological modelling software version 15.08. Lithological and structural features were defined based upon geological knowledge of the deposit derived from drill core logs and geological observations on surface. The following features were wireframed:

11.1.1.1 Spodumene Dikes

At the Carolina Lithium project, lithium mineralization is present within spodumene-bearing pegmatite dikes which are hosted in altered amphibolite and metasediments. The lithium bearing mineral holmquistite occurs as a metasomatic replacement alteration that locally occurs within the host rocks adjacent to the mineralized pegmatites. Lithium cannot be economically recovered from holmquistite, and intervals of wall rock are excluded from the model where possible. Resource modeling is based on logged spodumene pegmatite lithology (coded "SBPEG" or "SPEG" in Piedmont logging), not Li_2O mineralization grade alone.

In discreet areas of limited extent, spodumene is altered with clay, muscovite, and feldspar replacement of varying intensity. A nominal low-grade limit of 0.25% Li_2O for pegmatite interpretation was developed to approximate the boundary between less and more intensely altered pegmatite seen in the histogram of Li_2O grades for spodumene bearing pegmatite samples (*Figure 11-1*). Pegmatite intervals below 0.25% Li_2O were reviewed on a case-by-case basis. Where low-grade intervals occur at the periphery of the deposit, they are excluded from the mineralization model.

Figure 11-1: Li_2O % Grades in Spodumene-bearing Pegmatites



Pegmatite orientations are interpreted to be controlled by their emplacement within hydro-fractures propagated along preferential structural pathways within the amphibolite and metasedimentary facies host rocks. Pegmatites are classified as either steep dikes, moderately dipping inclined sheets, or shallow dipping sills.

At the Core and Central properties, dikes and inclined sheets strike northeast and dip to the southeast at between 40° and 90°. At the Core and Huffstetler Properties, numerous flatter pegmatite sheets dip at between 0° and 45° in directions ranging from the north-northeast to south-southeast, and less frequently to the northwest as at the Huffstetler property.

String polygons are interpreted on sections spaced at 40 m in well drilled areas, with section spacings of up to 80 m in sparsely drilled areas. Each cross section was displayed with drillhole traces color-coded according to lithology code and with Li_2O values.

The following techniques were employed whilst interpreting the mineralization:

> Each cross section was displayed on screen with a clipping window equal to a half distance from the adjacent sections.

> Polygon nodes were snapped to drillhole intervals of spodumene pegmatite. Additional nodes were inserted to strings and snapped to regular 40 mRL intervals to aid wireframe modeling and modeling tie lines in plan view.

> Entire intervals of spodumene pegmatite were typically selected for modeling, regardless of the presence of low-grade material associated with partial alteration. Occasionally interstitial waste of up 2 m may be included for the sake of continuity. However, if there is a gap of more than 2 m, or the interval is likely to be a separate feature, it was not included in the modeled interval. These rules were applied on a case-by-case basis.

> No minimum thickness criteria are used for modeling, but a pegmatite must be present in at least two drillholes and on at least two sections.

> If a mineralized envelope did not extend to the adjacent drill hole section, it was projected halfway to the next section and terminated. The general direction and dip of the envelopes was maintained, although the dike thickness was reduced from the last known intersection.

> Polygon interpretations are extended a typical distance of 40 m to 60 m from the nearest SPEG interval, dependent on the local continuity of dikes.

The interpreted strings were used to generate three-dimensional (*3D*) solid wireframes for the mineralized envelopes. Every section was displayed on-screen along with the closest interpreted section. If the corresponding envelope did not appear on the next cross section, the former was projected halfway to the next section, where it was terminated.

> On the Core Property, 76 spodumene-bearing pegmatite dike portions are modeled that are considered sufficient for use as MRE domains.

> On the Central Property, 11 spodumene-bearing pegmatite dike portions are modeled that are considered sufficient for use as MRE domains.

> On the Huffstetler Property, six spodumene-bearing pegmatite dike portions are modeled that are considered sufficient for use as MRE domains.

11.1.1.2 Topography

Modelling utilized a topographic digital terrain model (*DTM*) that incorporates LiDAR and photogrammetry data with high accuracy RTN-GPS survey control. The LiDAR data has an accuracy class of +/- 0.1 m. Relative to the topography, surveyed collar coordinates have an average difference of 2 m ranging from -6 m to 26 m. Obvious differences are noted where tree cover and vegetation is dense often associated with gullies and ridges. To account for these differences drill collars are projected on to the DTM surface.

11.1.1.3 Weathering

At the Carolina Lithium Project properties, weathering profiles were modeled for the following features described in Section 6.3:

> Base of overburden surface, extending to a maximum depth of approximately 12 m with an average depth of approximately 2 m.

> Base of saprolite surface, extending to a maximum depth of approximately 48 m with an average depth of approximately 15 m.

For each feature, 3D points representing the base overburden interval and saprolite depth are extracted from each drillhole log. Points are filtered to remove inconsistent and possibly mis-logged intervals. Depths are contoured at a 10 m^2 resolution. Overburden and saprolite wireframes are generated from gridded overburden depths offset from the topography surface.

Example cross sections through the base of overburden model and base of saprolite model are shown in *Figure 6-5 to Figure 6-7*.

11.1.2 Statistical and Geostatistical Analysis

Before undertaking the resource estimate, statistical assessment of the data was completed to understand how the estimate should be accomplished. Exploration sample data were statistically reviewed, and variograms were calculated to determine spatial continuity for Li_2O grades and quartz, feldspar, and mica grades. Statistical analysis was carried out using Snowden Supervisor™ software version 8.6.

11.1.2.1 Data Coding and Composite Length Selection

Samples were selected for individual mineralized envelopes and flagged for each mineralization zone and geological domain. A summary of the codes used to distinguish the data during geostatistical analysis and estimation is shown below.

Wireframes are first classified by deposit, or Core deposit corridor from west to east:

Core			
	Ballard	=	1000
	B Corridor	=	2000
	G Corridor	=	3000
	Star	=	4000
	F Corridor	=	5000
Central		=	6000
Huffstetler		=	7000

Wireframes receive an additional code if they have a shallow, steep or moderate dip:

Flat	=	100
Steep	=	200
Moderate	=	300

Domains receive an additional qualifier to distinguish between multiple stacked dikes (10, 20, 30, etc.). Using this system, alpha numeric codes that uniquely describe all dikes and dike segments are generated.

Compositing is undertaken whereby the maximum composite length is defined by the dominant sample length (1 m) and the minimum composite length is set to 0.3 m.

11.1.2.2 Unsampled Intervals

At the Core Property there are eight intervals present within the spodumene pegmatite model that were not sampled and do not have an assayed lithium grade. These intervals include zones of poor recovery and very thin dikes that were not sampled. At the Central Property there are two unsampled intervals within the spodumene pegmatite model that do not have an assayed lithium grade. These intervals include a zone of poor recovery and an unsampled waste parting. Unsampled intervals are assigned a null grade rather than a zero grade and are ignored during resource estimation. There are no unsampled intervals at the Huffstetler deposit.

There are several intervals that do not have XRF analyses or calculated normative minerology values derived from them. Historical holes completed prior to drillhole 17-BD-47 did not have material available for XRF analysis and normative minerology could not be calculated for those samples. Given that intervals from these holes will contain by-product minerals, albeit at unknown grades, they are assigned a null grade rather than a zero grade and are ignored during resource estimation.

11.1.3 Statistical Analysis

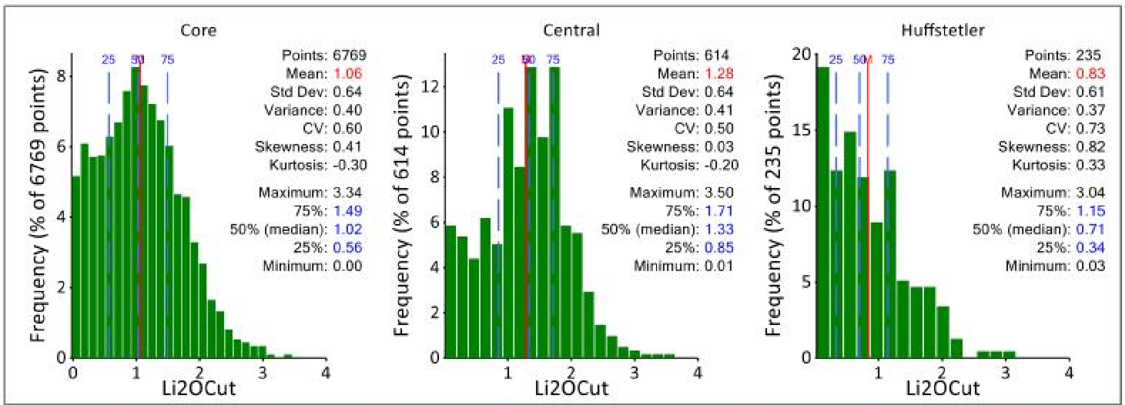
Samples were assigned to the spodumene-bearing pegmatite domains detailed in *Section 11.1.2.1*. Samples that fell outside of these domains were excluded from further analysis.

Univariate statistical assessments of composited Li_2O grade data and normative minerology calculations were undertaken. Histograms and summary statistics for composited Li_2O, quartz, albite, potassium-feldspar (*K-spar*) and muscovite values for each property are presented below. Results of the statistical analysis indicate that a single estimation approach is appropriate for all properties.

11.1.3.1 Li_2O

At all properties, Li_2O grades have broadly comparable asymmetric distributions with moderate positive skew (*Figure 11-2*). At Core and Central, most samples are above 1% Li_2O with median grades of 1.02% and 1.33%, respectively. Li_2O grades are slightly lower at the Huffstetler property which has a median grade of 0.71% Li_2O. At all properties Li_2O analyses have a low coefficient of variation (*CV* - i.e., the ratio of the standard deviation to the mean) ranging from 0.50 at Central and 0.73 at Huffstetler. Within modeled mineral resource wireframes, Li_2O grade distributions are comparable for fresh and weathered rock. Weathered pegmatite samples have slightly lower grade on average.

Figure 11-2: Li_2O Histograms and Statistics by Property Area

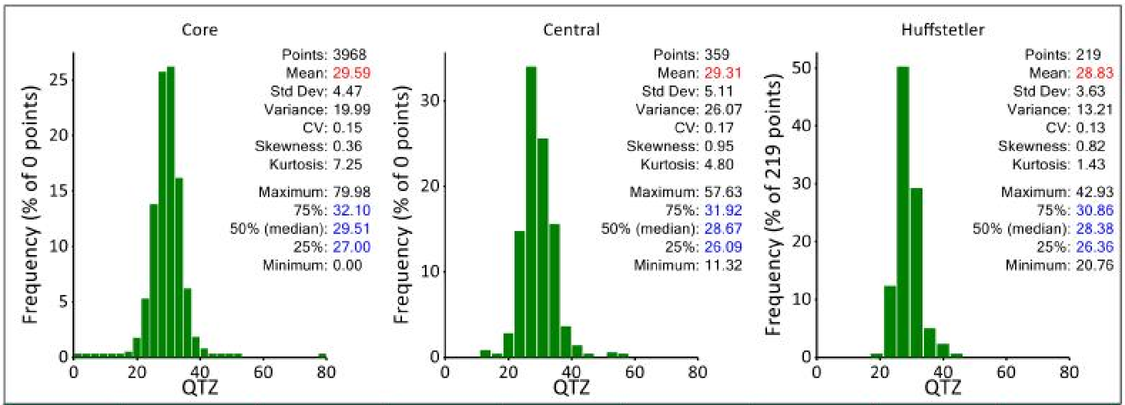


Filters	Area	Count	Minimum	Median	Maximum	Average	Std. Dev.	CV
Li_2O %	Core	6769.0	0.00	1.02	3.34	1.06	0.64	0.60
	Central	614.0	0.01	1.33	4.10	1.28	0.65	0.50
	Huffstetler	235.0	0.03	0.71	3.04	0.83	0.61	0.73

11.1.3.2 Quartz

At all properties quartz has a tight symmetrical distribution with very similar average grades ranging from 28.83% at Huffstetler to 29.59% at Core (*Figure 11-3*). All properties have low CVs less than 0.2. Low quartz grade variability is reflected by an interquartile range of 6% or less. There is no significant difference between quartz grade distributions or average grades for fresh and weathered rock.

Figure 11-3: Quartz Histograms and Statistics by Property Area

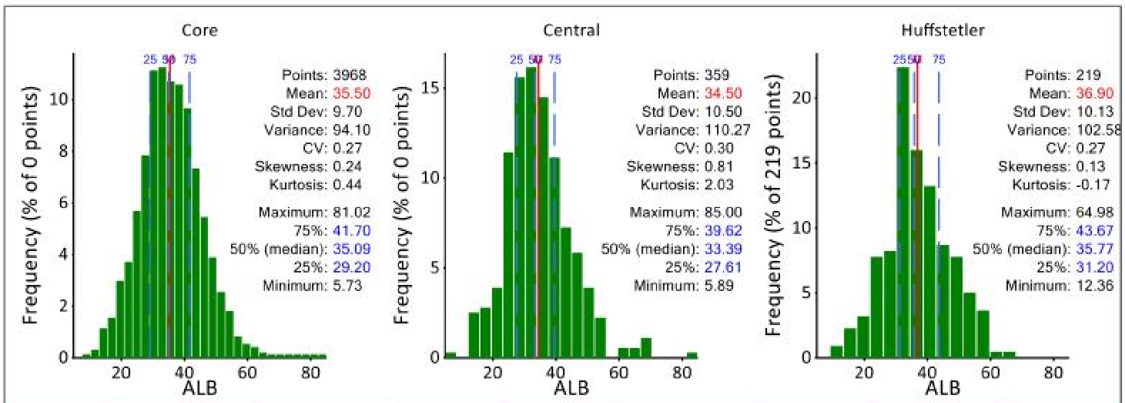


Filters	Area	Count	Minimum	Median	Maximum	Average	Std. Dev.	CV
Quartz %	Core	3,968.0	0.00	29.51	79.98	29.59	4.47	0.15
	Central	359.0	11.32	28.67	57.63	29.31	5.11	0.17
	Huffstetler	219.0	20.76	28.38	42.93	28.83	3.63	0.13

11.1.3.3 Albite

At all properties Albite grades have a symmetrical distribution (*Figure 11-4*) and have very similar average grades ranging from 33.39% at Central (where Li grades are highest) to 36.90% at Huffstetler (where Li grades are lowest). All properties have a low CV of 0.3 or less. The average calculated grades show very good agreement with the average logged minerology grades. There is no significant difference between albite grade distributions or average grades for fresh and weathered rock.

Figure 11-4: Albite histograms and statistics by property area

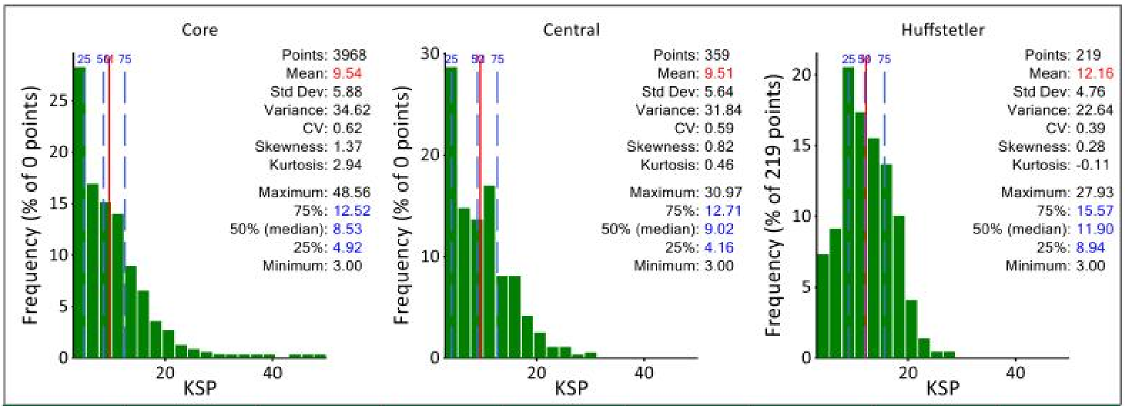


Filters	Area	Count	Minimum	Median	Maximum	Average	Std. Dev.	CV
Albite %	Core	3,968.0	5.73	35.09	81.02	35.50	9.70	0.27
	Central	359.0	5.89	33.39	85.00	34.50	10.50	0.30
	Huffstetler	219.0	12.36	35.77	64.98	36.90	10.13	0.27

11.1.3.4 K-Spar

At Core and Central properties, K-spar grades have asymmetric distributions with a moderate to strong positive skew (*Figure 11-5*). At Core and Central, most grades (75%) are below 13% with mean grade of 9.54% and a CV of approximately 0.62. At Huffstetler, the distribution is less skewed with a higher average K-Spar grade of 12.16% and lower CV of 0.39. The average calculated grade is comparable to the average logged minerology grade of 12% K-spar. Weathered pegmatites have lower K-spar values across all grade ranges.

Figure 11-5: K-spar Histograms and Statistics by Property Area

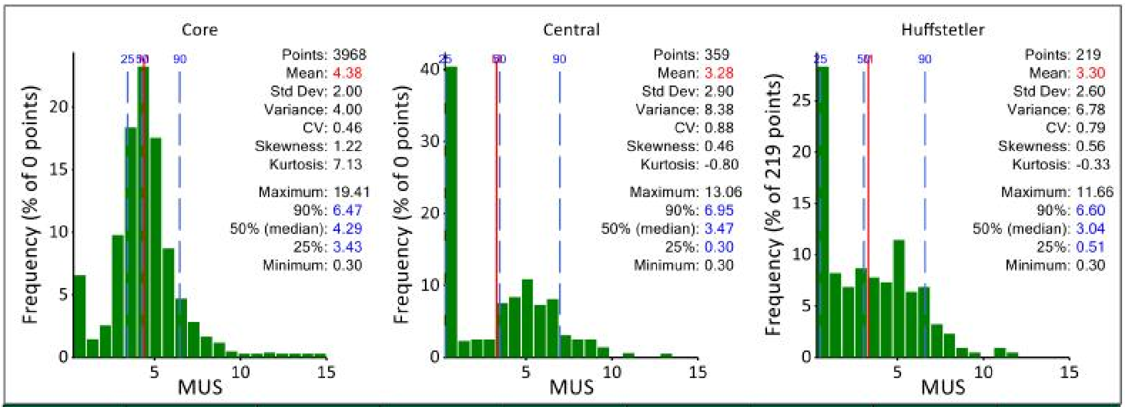


Filters	Area	Count	Minimum	Median	Maximum	Average	Std. Dev.	CV
K-spar %	Core	3,968.0	3.00	8.53	48.56	9.54	5.88	0.62
	Central	359.0	3.00	9.02	30.97	9.51	5.64	0.59
	Huffstetler	219.0	3.00	11.90	27.93	12.16	4.76	0.39

11.1.3.5 Muscovite

At all properties Muscovite grades have a positively skewed distribution with a long tail of high grades. At all properties, 90% percent of samples have a muscovite grade of 7 % or less, while the remaining 10% have grades ranging up to 19.41% at Core and 11.66% at Huffstetler. The Core property has an average grade of 4.29% and a CV of 0.46. Central and Huffstetler have an average muscovite grade of 3.3%, lower than at Core. The average calculated grades show very good agreement with the average logged minerology grades. Pegmatites above the base of saprolite surface have higher muscovite values across all grade ranges. This is in accordance with observed weathering of K-spar to muscovite.

Figure 11-6: Muscovite histograms and statistics by property area



Filters	Area	Count	Minimum	Median	Maximum	Average	Std. Dev.	CV
Muscovite %	Core	3,968.0	0.30	4.29	19.41	4.38	2.00	0.46
	Central	359.0	0.30	3.47	13.06	3.28	2.90	0.88
	Huffstetler	219.0	0.30	3.04	11.66	3.30	2.60	0.79

11.1.4 Treatment of Outliers

A review of grade outliers was undertaken to ensure that extreme grades are treated appropriately during grade interpolation. Although extreme grade outliers within the grade populations of variables are real, they are potentially not representative of the volume they inform during estimation. If these values are not cut, they have the potential to result in significant grade over-estimation on a local basis.

11.1.4.1 Lithium

At Core a review of composite statistics did not present a compelling case for the application of top cuts. The CV of all domained composites is close to one (see statistics and histograms in *Figure 11-2*). For individual domains, CVs are less than one (see *Appendix 3*). An inflection at the 99.8 percentile grade of 2.8% Li_2O is seen in the probability plot for composite Li_2O grades. This value was used to identify "extreme grades" samples that are compared to surrounding sample grades. The majority of extreme grades are encountered in high-grade portions of the deposit, and they are well constrained by surrounding drillholes. In domains 1220, 3311, 4210, 5210 and 5220 twelve extreme grades ranging from 3.02% to 4.30% Li2O were unusually high relative to surrounding samples and were capped at 3.0 % Li_2O.

At Central, a sample with an extreme grade of 4.10% Li_2O was identified in hole 19-CT-014 within domain 6220 which was particularly high relative to surrounding samples and was capped at 3.5% Li_2O.

At Huffstetler, no extreme grade samples were identified, and none were capped.

11.1.4.2 By-Product Minerals

In general, domained mineral grade data show distributions that are not heavily skewed and do not contain extreme values. The CVs for these grade data are less than one. On this basis, it is not necessary to cap by-product mineral grades.

11.1.5 Geostatistical Analysis

Modeled spodumene-bearing pegmatites were grouped into orientation domains. For each orientation domain a representative pegmatite, or set of pegmatites, with a sufficient number of samples was selected to generate meaningful lithium grade variation models that could support block model estimation.

11.1.5.1 Lithium

Composite Li_2O values underwent a normal score transform prior to being assessed for anisotropy, or directional dependence. Maps of Li_2O value continuity were used to investigate the strike, dip, and pitch direction axis of spodumene mineralization trends within the domains. For all domains, semi-variogram charts for Li_2O were modeled using two spherical functions. Normal score variograms were back-transformed to give the semi-variogram parameters used for estimation.

Core Property: Fourteen (14) orientation domains were identified, wireframes colored by orientation domain are shown in *Figure 11-7* with corresponding mineralization trends. Along strike and down dip Li_2O grade continuity typically ranges from 80 m to 110 m with shorter ranges in more thin, variable or discontinuous domains (*Table 11-4*). Across strike and down hole variograms indicate short grade continuity across pegmatites with ranges typically less than 15 m. Nugget effect (i.e., short range grade variability) at the Core deposit is low with domain nugget values averaging 25%, indicative of the Li_2O low-grade variability discussed in *Section 11.1.3*.

Central Property: Three (3) orientation domains were identified. Wireframes colored by orientation domain are shown in *Figure 11-8* with corresponding mineralization trends. Central mineralization trends are broadly comparable to those at Core.

Huffstetler Property: Two (2) orientation domains were identified, and wireframes colored by orientation domain are shown in *Figure 11-8* with corresponding mineralization trends. Huffstetler mineralization trends are broadly comparable to those at Core.

11.1.5.2 By-Product Minerals

Semi-variogram models for Li_2O are appropriate for modeling of by-product minerals.

Figure 11-7: Piedmont Orientation Domains with Associated Search Ellipse for Core Resource

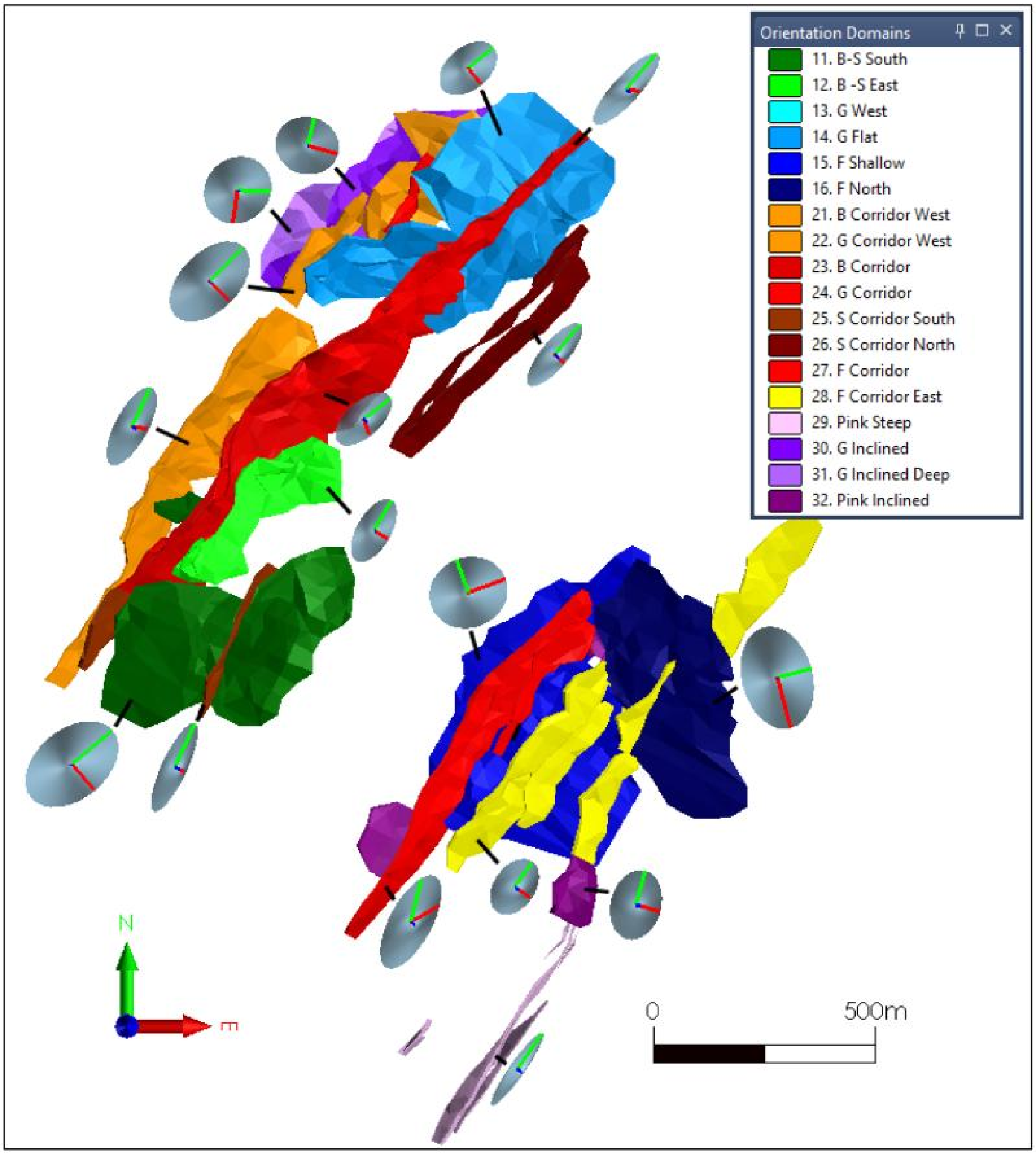
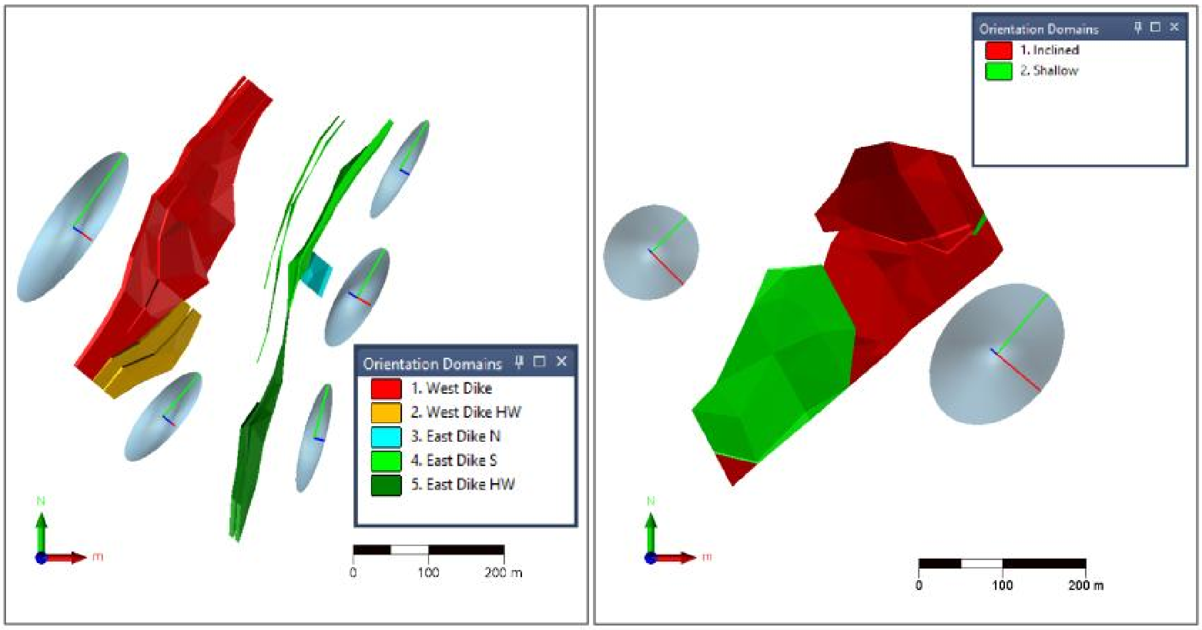


Figure 11-8: Piedmont Orientation Domains with Associated Search Ellipse for Central Resource (left) and Huffstetler Resource (right).



11.1.6 Density

In situ dry bulk densities for the Core, Central and Huffstetler Mineral Resource were assigned on a lithological basis using representative averages.

11.1.6.1 Methodology

Dry bulk density measurements for Phase 2 drilling were made on half-core fragments sent for geochemical analysis at SGS using the immersion method (code GPHY04V). One host rock and one spodumene-bearing pegmatite measurement was taken for each drillhole.

Saturated and dry bulk densities for Phase 3, Phase 4 and Phase 5 drill programs were collected by Piedmont geologists using a triple beam scale and the immersion method. Core fragments are typically 6 cm to 10 cm in length and 90 cm^3 to 120 cm^3 in volume. Porosity was considered and porous samples were coated with cling film prior to immersion. During Phase 3 and Phase 4 measurements were primarily collected from the saprolite zone and amphibolite and metasediment host rocks. During Phase 5 measurements were made on all lithologies at regular 10 m intervals with closer spacings in spodumene pegmatites and weathered zones.

The two methods of density measurement are considered appropriate and determinations from each appear reasonable and can be grouped together for subsequent analysis.

11.1.6.2 Analysis and Results

Sampled intervals were tagged as being above or below the saprolite surface. Density estimates are generated for spodumene-bearing dike, waste, and overburden lithologies within fresh and saprolite weathering domains.

The number of density determinations for individual pegmatite domains is variable, but there is a sufficient number to estimate a representative density for spodumene-bearing dikes. This approach is also used for the other material units in the block model listed above. At all properties, units have low bulk density standard deviations (*Table 11-1*) which supports the use of representative averages for each material unit.

11.1.6.2.1 Core Property

There is a broad spread of density determinations throughout the Core deposit. Average bulk densities for spodumene bearing pegmatite and waste rock were derived from 3,434 determinations on selected drill core from the Property made by Piedmont geologists in the field and 139 by SGS Labs. Using an updated base of saprolite model generated in August 2021, simple averages presented in *Table 11-1* were generated.

Five density determinations made on overburden waste rock material returned spurious values ranging from 0.75 t/m^3 to 0.79 t/m^3 and 2.85 t/m^3 to 5 t/m^3. Four density determinations made on saprolite waste rock material returned spurious values ranging from 3.36 t/m^3 to 9.52 t/m^3. Nine determinations made on saprolite returned spurious low dry bulk density values ranging from 0.21 t/m^3 to 0.79 t/m^3. Two density determinations made on fresh rock had spurious low-density values of 0.99 t/m^3 and 1.22 t/m^3. Four had erroneous high values ranging from 8.27 t/m^3 to 58.61 t/m^3. These results were not used to calculate rock density.

11.1.6.2.2 Central Property

At Central, average bulk densities for spodumene-bearing pegmatite and waste rock were derived from 197 determinations made by Piedmont geologists in the field on selected drill core from the Property. Density of weathered spodumene-bearing pegmatite is taken from available data at Core property as of January 8, 2021. For the Central Property, simple averages presented in *Table 11-1* were generated.

11.1.6.2.3 Huffstetler Property

At Huffstetler, average bulk densities for fresh spodumene-bearing pegmatite and waste rock were derived from 55 determinations made by Piedmont geologists in the field on selected drill core from the Property. Densities of weathered spodumene-bearing pegmatite and waste rock are taken from available data at Core property as of February 15, 2021. For the Huffstetler Property, simple averages presented in *Table 11-1* were generated.

Table 11-1: MRE Dry Bulk Density Values (t/m3)

Material		Count	Minimum	Maximum	Average	Standard deviation
Core						
Overburden		165	0.81	2.44	1.31	0.25
Saprolite	Waste	730	0.81	3.35	1.41	0.46
	SPEG	60	1.17	2.71	1.90	0.53
Fresh	Waste	1876	1.05	7.14	2.88	0.18
	SPEG	436	2.15	3.03	2.70	0.09
Central						
Overburden		9	0.92	1.59	1.23	0.20
Saprolite	Waste	37	0.84	2.19	1.36	0.30
	SPEG	10	1.22	2.52	1.86	0.45
Fresh	Waste	131	1.68	7.91	2.95	0.50
	SPEG	29	2.55	3.73	2.85	0.24
Huffstetler						
Overburden*		141	0.75	2.85	1.30	0.27
Saprolite	Waste*	602	0.66	3.16	1.36	0.43
	SPEG*	52	1.2	2.93	1.86	0.52
Fresh	Waste	41	2.53	3.02	2.84	0.13
	SPEG	14	2.64	2.81	2.70	0.06

**Includes data from Core as of 15th February 2021.*

11.1.7 Block Modeling

11.1.7.1 Block Model Construction

Block models created to encompass the full extent of the Core, Central and Huffstetler Properties were constrained by the interpreted pegmatite wireframe model and by DTMs representing weathering and topography boundary surfaces. Block model parameters for each property are shown in *Table 11-2*.

Block models were rotated to align with pegmatite deposit trends at an azimuth orientation of 35° for the Core deposit and 40° for the Central and Huffstetler deposits. To honor the variable orientation and thinness of the pegmatite domains, parent cell sizes of 6 m (E) by 12 m to 18 m (N) by 6 m to 18 m (Z) were selected. Sub-celling to a minimum block size of 4 m to 6 m along strike, 2 m across strike and 1 m elevation was selected to maintain an appropriate model resolution.

Table 11-2: Block Model Parameters

Deposit	Coordinate	Origin (min)	Range (m)	Parent cell (m)	Sub-cell (m)	No. of sub cells
Core	X	472,503.344	1,854	6	2	284
	Y	3,915,510.429	2,352	12	4	167
	Z	23.5	252	6	1	43
Central	X	472,756.08	550	6	2	275
	Y	3,913,338.51	800	18	6	133
	Z	-29	330	18	1	330
Huffstetler	X	475,594.824	546	6	2	160
	Y	3917221.438	684	12	4	40
	Z	50.50	202	6	1	15

11.1.7.2 Grade Interpolation

Pegmatite domain shell contacts are interpreted as hard boundaries for grade interpolation, such that Li_2O, quartz, feldspar, and muscovite grades in one domain cannot inform blocks in another domain.

The Kriging interpolation method uses measured mineralization trends to weight composite assay values when estimating block grades. The Ordinary Kriging (*OK*) estimation process also incorporates a locally varying average sample grade and is therefore an appropriate method for estimating block grades at the Piedmont deposits where mineralization has a locally variable nature.

For validation purposes, an IDW interpolation was also undertaken. The IDW technique weights sample grades proportionally to the inverse of their distance from the block raised by a power of three (IDW^3).

For the Core, Central and Huffstetler Property deposit models, blocks were estimated in multiple passes with at least three drillholes informing the block, minimum of 10 samples, maximum of 12 samples and a maximum of four samples per drillhole. A maximum of four samples per hole and a minimum of eight resulted in at least two drillholes being used. Search parameters are presented in *Table 11-3*.

Table 11-3: Search parameters

	Pass 1	Pass 2	Pass 3	Pass 4*
Search volume multiple	× 1	× 2	× 4	× 6
Minimum samples	8	8	8	4
Maximum samples	16	16	16	16
Maximum per hole	4	4	4	3
Discretization	3 x 3 x 3			
Boundaries	Hard			
Ellipse Segments	1			

*Applied to a small number of blocks.

Up to four search passes were used if block was not estimated in the first pass. The first search distance was equal to approximately 50% of the variogram range; subsequent searches were undertaken using two and four times this distance. A small number of blocks did not receive an estimate in passes one to three. For these domains, an additional "filler" search run was used that allowed a minimum of four samples and a maximum of three samples per hole.

For a given block, the closest composite sample grades are the best indicators of the likely block grade. De-clustering via an octant search method was not necessary. The estimation performed using a 3 × 3 × 3 discretization of the parent block.

11.1.7.2.1 Lithium

The search ellipses detailed in *Table 11-4* were used for both OK and IDW^3 estimates.

11.1.7.2.2 By-Product Minerals

Grades for by-product minerals were estimated independently using OK in a univariate sense, using the same search ellipses and parameters utilized for the lithium resource. This was done with the goal of ensuring block grade proportions and grade correlations honor input samples, and that mineral grade estimates approach 100%.

Table 11-4: Search Ellipse Parameters

	Orientation			Range		
Orientation domain	Strike	Dip	Plunge	Major	Semi-major	Minor
Core Property						
11. B-S South	50.0	-5.0	9.0	120.0	80.0	15.0
12. B -S East	30.0	0.0	15.0	80.0	40.0	15.0
13. G West	45.0	0.0	15.0	40.0	40.0	15.0
14. G Flat	50.0	0.0	15.0	75.0	50.0	15.0
15. F Deep	-20.0	-4.0	3.0	80.0	90.0	15.0
16. F Shallow	75.0	0.0	10.0	80.0	120.0	15.0
21. B Corridor West	26.0	-12.0	54.0	100.0	60.0	15.0
22. G Corridor West	45.0	0.0	35.0	110.0	80.0	15.0
23. B Corridor	53.2	15.2	48.2	80.0	60.0	15.0
24. G Corridor	39.7	-17.2	58.4	110.0	50.0	15.0
25. S Corridor South	25.0	0.0	65.0	110.0	60.0	15.0
26. S Corridor North	40.0	0.0	70.0	90.0	80.0	15.0
27. F Corridor	14.3	-31.8	47.6	120.0	110.0	15.0
28. F Corridor East	35.0	0.0	65.0	70.0	90.0	15.0
29. Pink Steep	35.0	0.0	85.0	100.0	100.0	15.0
30. G Moderate	92.2	18.9	16.7	80.0	80.0	15.0
31. G Moderate East	50.0	0.0	25.0	65.0	80.0	15.0
32. Pink Steep	15.0	0.0	45.0	80.0	80.0	15.0
Central Property						
1. West Dike	35	0	70	120	90	15
2. West Dike HW	40	0	70	75	60	15
3. East Dike N	30	0	90	75	60	15
4. East Dike S	15	0	90	75	60	15
5. East Dike HW	30	0	-70	75	60	15
Huffstetler						
1. Inclined	40.0	0.0	-40.0	95	90	10
2. Shallow	45.0	0.0	-25.0	60	60	10

11.2 Block Model Validation

Validation of the Core Property and Central Property block model grade estimates was completed by:

> Visual checks on screen in cross-section and plan view to ensure that block model grades honor the grade of sample composites.

> Statistical comparison of composite and block grades.

> Generation of swath plots to compare input and output grades in a semi-local sense, by easting, northing, and elevation.

11.2.1 Visual Validation

For all properties, block grades correlate very well with input sample grades. The distribution and tenor of grades in the composites are well honored by the block model and are appropriate considering known levels of grade continuity and the variogram.

> Core: Poorly informed deposit areas with widely spaced samples are more smoothed which is expected. Example cross-section views of block models colored by Li_2O are shown in *Figure 6-5* and *Figure 6-6* on on page 17.

> Central: As in the Core Property block model, poorly informed deposit areas with widely spaced samples are more smoothed. An example cross-section views of block models colored by Li_2O are shown in *Figure 6-7* on page 17.

> Huffstetler: As in the Core Property block model, poorly informed deposit areas with widely spaced samples are more smoothed. An example cross-section views of block models colored by Li_2O are shown in *Figure 6-8* on page 18.

11.2.2 Comparison of Means

A comparison of the average Li_2O, quartz, albite, K-spar and muscovite grade of input composites and estimated block grades was undertaken for each resource estimate domain. For major domains that account for the majority of the resource model volumes at each property, a further comparison was made between de-clustered composite Li_2O grades and estimated block grades.

11.2.2.1 Core

The mean input composite grade and both the OK and IDW block model grades are comparable. The volume weighted average of Li_2O grades estimated by OK is equal to input samples. For 72 of 76 domains, differences are within ±10% for Li_2O grade estimates. Larger differences are seen for domains with greater grade variance, and/or fewer samples. Comparable results are seen for by-product minerals.

For 14 major domains, accounting for 55% of the Core resource model volume, both the OK and IDW method are within ±3% of de-clustered input composite mean grades and have an average difference of 0.72% and 2.68% respectively (*Table 11-5*).

Table 11-5: Comparison of Means for Major Core Property MRE Domains

Domain	Sample Count	Li_2O Mean	Declus mean	Block Count	Li_2O OK	Diff. OK	Li_2O ID^3	Diff. ID^3
B Corridor South (1220)	125	1.36	1.40	6,901	1.44	2.56	1.44	2.74
B Corridor (2210)	298	0.92	0.95	30,769	0.95	-0.32	0.97	1.87
B Corridor (2220)	512	1.11	1.10	38,394	1.13	3.12	1.13	2.78
B Corridor (2221)	200	0.82	0.82	10,951	0.84	2.96	0.85	3.47
G Corridor (3230)	443	1.16	1.14	32,096	1.12	-1.43	1.13	-0.46
G Inclined (3321)	111	0.92	0.90	16,641	0.93	3.61	0.94	4.62
G Flat (3321)	251	1.25	1.25	20,211	1.24	-0.71	1.27	1.52
S Corridor (4110)	225	1.25	1.23	12,386	1.19	-3.53	1.24	0.80
F Flat (5110)	235	1.08	1.09	13,289	1.13	3.73	1.18	7.52
F Flat (5120)	372	1.20	1.14	19,341	1.15	0.97	1.19	4.19
F Corridor (5210)	447	1.13	1.14	33,657	1.12	-1.89	1.14	-0.35
F Corridor (5220)	208	1.08	1.10	14,153	1.13	2.84	1.13	2.22
F Corridor (5230)	179	0.89	0.87	17,135	0.89	1.59	0.91	4.39
F Corridor (5250)	172	1.33	1.24	17,670	1.25	0.99	1.35	9.05
All						0.72%		2.68 %

11.2.2.2 *Central*

The volume weighted average of Li_2O grades estimated by OK are 5% lower than input samples. For 8 of 10 domains, differences are within ±10% for Li_2O grade estimates. Larger differences are seen for domains with greater grade variance, and/or fewer samples. Comparable results are seen for by-product minerals. For two major domains, accounting for 70% of the Central resource model volume, both the OK and IDW method differences are within ±5% of de-clustered input composite mean grades and have an average difference of 0.45% and 2.48 % respectively (*Table 11-6*).

Table 11-6: Comparison of means for Central Property MRE domains

Domain	Sample Count	Li_2O Mean	Declus mean	Block Count	Li_2O OK	Diff. OK	Li_2O ID^3	Diff. ID^3
West Dike (6210)	173	1.21	1.17	55,650	1.17	-0.18	1.20	3.05
East Dike (6220)	230	1.47	1.42	29,016	1.44	1.66	1.45	2.54
All						0.45%		2.48%

11.2.2.3 Huffstetler

The volume-weighted average of Li_2O grades estimated by OK are 5% higher than input samples. For 6 of 8 domains, differences are within ±10% for Li_2O grade estimates. For two major domains, accounting for 69% of the Huffstetler resource model volume, both the OK and IDW method differences are within ±5% of de-clustered input composite mean grades and have an average difference of 3.51% and 0.62% respectively.

Table 11-7: Comparison of means for Huffstetler Property MRE domains

Domain	Sample Count	Li_2O Mean	Declus mean	Block Count	Li_2O OK	Diff. OK	Li_2O ID³	Diff. ID³
Inclined (7310)	116	0.92	0.97	57,223	1.01	5.07	0.97	0.73
Shallow (7311)	41	0.65	0.58	21,254	0.57	-0.69	0.58	1.39
All						3.51%		0.62%

11.2.3 Swath Plots

Swath plots were generated for the for major domains that account for the majority of resources each property. Swath plots compare the grades of composites and grade estimates that fall within regular slices along strike and depth slices. Plots identify slices that contain high-grade samples and low-grade blocks, or vice versa, which might indicate a problem with the estimation technique.

For all domains, block grades estimated by OK and IDW^3 have a smoother profile relative to input samples. Where there are more samples, good agreement is seen between the trends of input composites and block grades estimated by each technique. The OK profile is slightly smoother than IDW. Both models reflect drillhole data on a local basis.

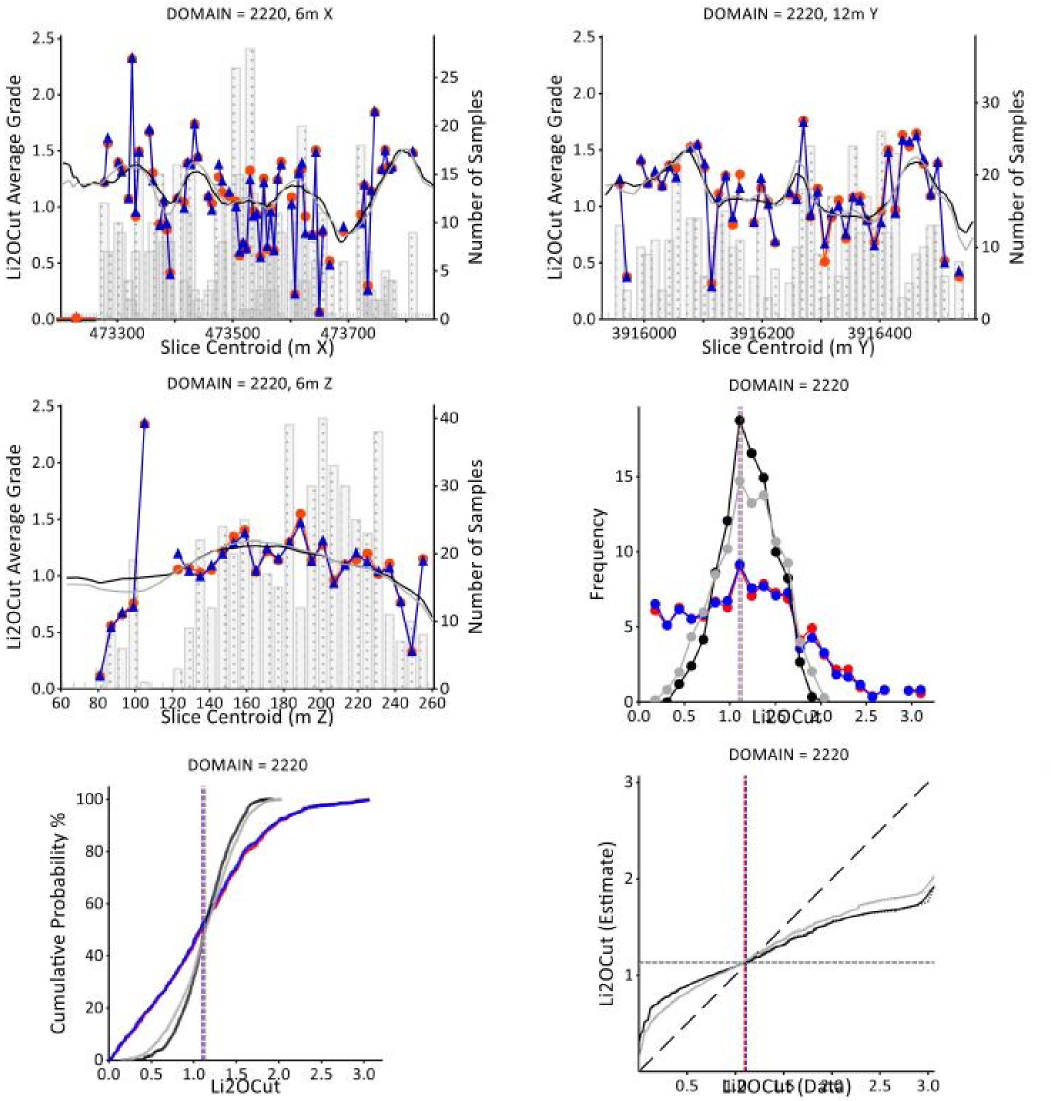
11.2.3.1 Core

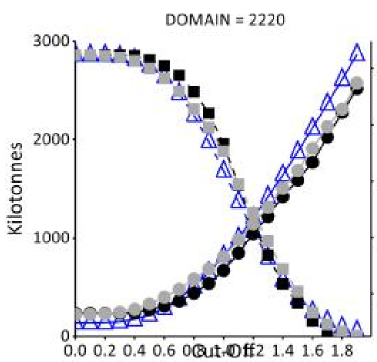
Swath plots were generated for the 14 major domains which compare the grades of composites and grade estimates that fall within 12 m northing slices and 4 m easting and elevation slices. Example swath plots for Li_2O in the B_S_20 domain are shown in *Figure 11-11*.

11.2.3.2 Central

Swath plots were generated for the two major domains which compare the grades of composites and grade estimates that fall within 20 m northing slices and 5 m easting and elevation slices. The OK profile is slightly smoother than IDW. Both models reflect drillhole data on a local basis.

Figure 11-9: Validation Plots for the B_S_20 Domain





Validation plots include swath plots, histograms, CDF plots, Q-Q plots and GCOS plots (generated using the Li_2O variogram used for estimation).

Sample data:

Red – composite data,

Blue – de-clustered data (based on de-clustering weights for Li_2O grades).

Model data:

Black – OK block estimates,

Grey – IDW3 block estimates.

11.2.4 Correlation Coefficients

The correlation coefficient between modeled variables was compared with input data derived from lithium assays and normative calculations.

Both positive and negative correlations between variables are present in input composites and the block model. Although regularized weight percent grades are modeled independently in a univariate sense, the selected search parameters result in block model grade estimates that broadly honor mineral grade correlations in input composites.

Table 11-8: Comparison of correlation coefficients for Core assay and block data

	Li_2O comp	Li_2O blocks	QTZ comp	QTZ blocks	ALB comp	ALB blocks	KSP comp	KSP blocks	MUS comp	MUS blocks
Li_2O	1.00	1.00								
QTZ	0.15	0.04	1.00	1.00						
ALB	-0.56	-0.31	-0.46	-0.51	1.00	1.00				
KSP	-0.02	-0.12	-0.28	-0.24	-0.30	-0.37	1.00	1.00		
MUS	-0.22	-0.25	0.30	0.45	-0.18	-0.16	-0.27	-0.27	1.00	1.00

Table 11-9: Comparison of correlation coefficients for Central assay and block data

	Li_2O comp	Li_2O blocks	QTZ comp	QTZ blocks	ALB comp	ALB blocks	KSP comp	KSP blocks	MUS comp	MUS blocks
Li_2O	1.00	1.00								
QTZ	0.15	0.11	1.00	1.00						
ALB	-0.59	-0.46	-0.47	-0.45	1.00	1.00				
KSP	-0.06	-0.13	-0.31	-0.27	-0.32	-0.39	1.00	1.00		
MUS	-0.20	-0.25	0.32	0.38	-0.13	-0.11	-0.26	-0.28	1.00	1.00

Table 11-10: Comparison of correlation coefficients for Huffstetler assay and block data

	Li_2O comp	Li_2O blocks	QTZ comp	QTZ blocks	ALB comp	ALB blocks	KSP comp	KSP blocks	MUS comp	MUS blocks
Li_2O	1.00	1.00								
QTZ	-0.22	-0.27	1.00	1.00						
ALB	-0.63	-0.45	-0.39	-0.22	1.00	1.00				
KSP	0.24	0.27	-0.35	-0.55	-0.36	-0.40	1.00	1.00		
MUS	-0.43	-0.62	0.46	0.60	-0.04	0.16	-0.48	-0.57	1.00	1.00

11.3 Classification

The Mineral Resource has been classified in accordance with guidelines specified in the JORC Code and with definitions specified in SEC Regulation S-K 1300. The classification level is primarily based upon an assessment of the validity and robustness of input data and the estimator's judgment with respect to the proximity of resource blocks to sample locations and confidence with respect to the geological continuity of the pegmatite interpretations and grade estimates. Significant sources of uncertainly presented in *Table 11-11* are considered when classifying resources at the Property.

Table 11-11: Sources of Uncertainty

Uncertainty Source	Discussion
Drilling techniques, drill sample recovery.	Majority of drilling utilizes NQ or larger core diameters that provide representative sample volumes. High core recoveries provide confidence that core samples, and the assay values derived from them, are representative of the material drilled and suitable for inclusion in resource estimation studies.
Logging	Digital lithology files have sufficient information to enable interpretations of pegmatite continuity and orientation. Core logging practices and lithology codes are consistent across exploration phases.
Sampling techniques, assay quality	Comprehensive and documented sampling, security and QA/QC measures were employed for all Piedmont exploration drill programs accounting for 97% of the drill holes in the resource database. Examination of the QA/QC sample data indicates satisfactory performance of field sampling protocols and assay laboratories providing acceptable levels of precision and accuracy.
Location of data points	Reliable collar surveys are available for all drilling. Reliable downhole surveys are available for recent drilling. Survey data allow modeling of pegmatite intercepts with high degree of spatial accuracy.
Data processing and handling,	Geological and geotechnical observations are recorded digitally using the Geospark® Database System directly into a central relational database using standardized logging codes developed for the project. To minimize risk of transcription errors sample data and analytical results are imported directly into the central database from the independent laboratory. An extract of the Core database was validated for internal integrity via Micromine® validation functions.
Data spacing and distribution	Deposits are well understood based on surface pegmatite outcrops and extensive drilling at spacings sufficient to provide multiple points of observation for modeled geological features. Lithology domain and grade continuity are well established where drill density is greater than 40 m x 40 m; however, there remain portions of the Core, Central and Huffstetler Properties where sample density is insufficient to establish continuity beyond an Inferred level. On the Core Property: • Thin, sub 2 m true thickness, dikes and inclined sheets throughout the B-G, S and F corridors. • Dikes informed by widely spaced drilling at the north-western end of the B-G Corridor and S Corridor and the Pink Dike in the East Pit Extension area of the F Corridor. • Inclined sheets and sills informed by widely spaced drilling at S Corridor south of Beaverdam Creek and eastern and northern parts of the upper sill at F corridor. On the Central Property: • At the periphery of major dikes to the south and at depth, • Thin, sub 2 m true thickness, dikes and inclined sheets throughout the Property. On the Huffstetler Property: • The entire deposit is Inferred.
Geological Modelling	Geological models are underpinned by a good understanding of the deposit geology. Mineral resources are controlled by the presence of spodumene pegmatite, and the intensity of spodumene alteration to muscovite and amount of weathering. Spodumene pegmatite dikes were modeled based on input drillhole data at nominal 40 m spacings, including orientated core measurements, and surface mapping. Where drill data is sparse alternative interpretations of the continuity of individual pegmatites between holes could be made. Alternate interpretations would adjust tonnage estimates locally but would not likely yield a more geologically reasonable result. Pegmatites are un-zoned Albite – Spodumene type with unproblematic minerology. Within resource pegmatites, discrete zones of intense spodumene to muscovite alteration result locally lower Li_2O grades. A small portion of resource pegmatite (i.e. <5%) extends into weathered rock and has a variable clay content (<25%) that may be associated with locally lower Li_2O grades.
Estimation	Lithium and by-product grade estimation and modeling techniques are classified as robust after consideration of the validation exercises undertaken as part of this study. Grade data have distributions with limited skew, and few extreme values, allowing established linear estimation techniques to be used. Estimated block grades reflect input samples, are not sensitive to cut-off grade choice, and are comparable when calculated by OK or IDW^3 methods. At the current typical data spacing (i.e., 40 m x 40 m), pegmatites appeared curvi-planner and were estimated using domain scale anisotropy models with appropriately large parent block sizes. Where data is closer spaced, local undulations in pegmatite morphology could be resolved better using dynamic (i.e., locally adjusting) anisotropy models with smaller block sizes. Estimated in situ dry bulk densities were assigned to resource pegmatites and waste rocks on a weathering domain basis using representative averages obtained from an extensive database of bulk density determinations. No correlation was modeled between density and pegmatite Li_2O grade, or individual waste rock units.
Deleterious Elements	Within the Core resource model, deleterious elements, such as iron are reported to be at acceptably to low levels. Metallurgical test work demonstrates that deleterious elements will not impede the economic extraction of the modeled spodumene hosted lithium and by-product minerals. Core Property pegmatites have comparable mineralogical and physical properties to pegmatites at the Central and Huffstetler properties.

Resource classification was undertaken using classification boundary strings assigned to the block model in a "cookie-cutter" fashion. Strings define a region of blocks that, on average, met criteria set out in *Table 11-12*.

Table 11-12: Classification Criteria and Justification

Classification	Criteria and Justification
Inferred	Criteria: All blocks captured in pegmatite dike interpretation wireframes below the topography surface are classified as Inferred. Intensely weathered near surface pegmatite segments, or zones of intensely altered pegmatite are classified as Inferred, irrespective of local drill spacing. Justification: As detailed in *Table 11-11*, spodumene pegmatite is modelled where supported by at least limited data of sufficient certainty and spacings (i.e., 80 m) to enable a reasonable estimate of Mineral Resource quantity and grade.
Indicated	Criteria: Indicated Resources are defined within major pegmatite dikes that have an along strike and down dip continuity greater than 200 m and 50 m respectively and are informed by at least two drillholes and eight samples within a range of approximately 30 m to the nearest drillhole in the along strike or strike and down dip directions. Justification: As detailed in *Table 11-11*, multiple drill holes at a nominal spacing of 40 m can provide adequate data to resolve major spodumene pegmatites with a certainty to support broad estimates of Mineral Resource quantity and grade adequate for long-term mine planning.
Measured	Criteria: No Measured Resources are estimated. Justification: Data density does not allow conclusive spodumene pegmatite, weathering domain, and waste rock resolution that can support local estimates of Mineral Resource quantity and grade that are adequate for detailed mine planning.

Distance between drill holes and Indicated and Inferred resource blocks is shown in *Figure 11-10*, 75% of Indicated resource blocks are within 27 m to the nearest drill hole. The resource classification applied at the Core and Central properties is illustrated in *Figure 11-10*.

Figure 11-10: Classified Block Distances from Drill Hole

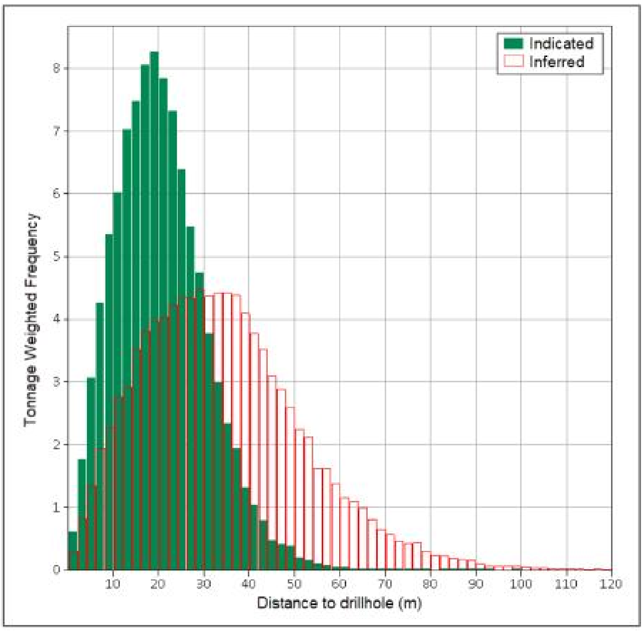
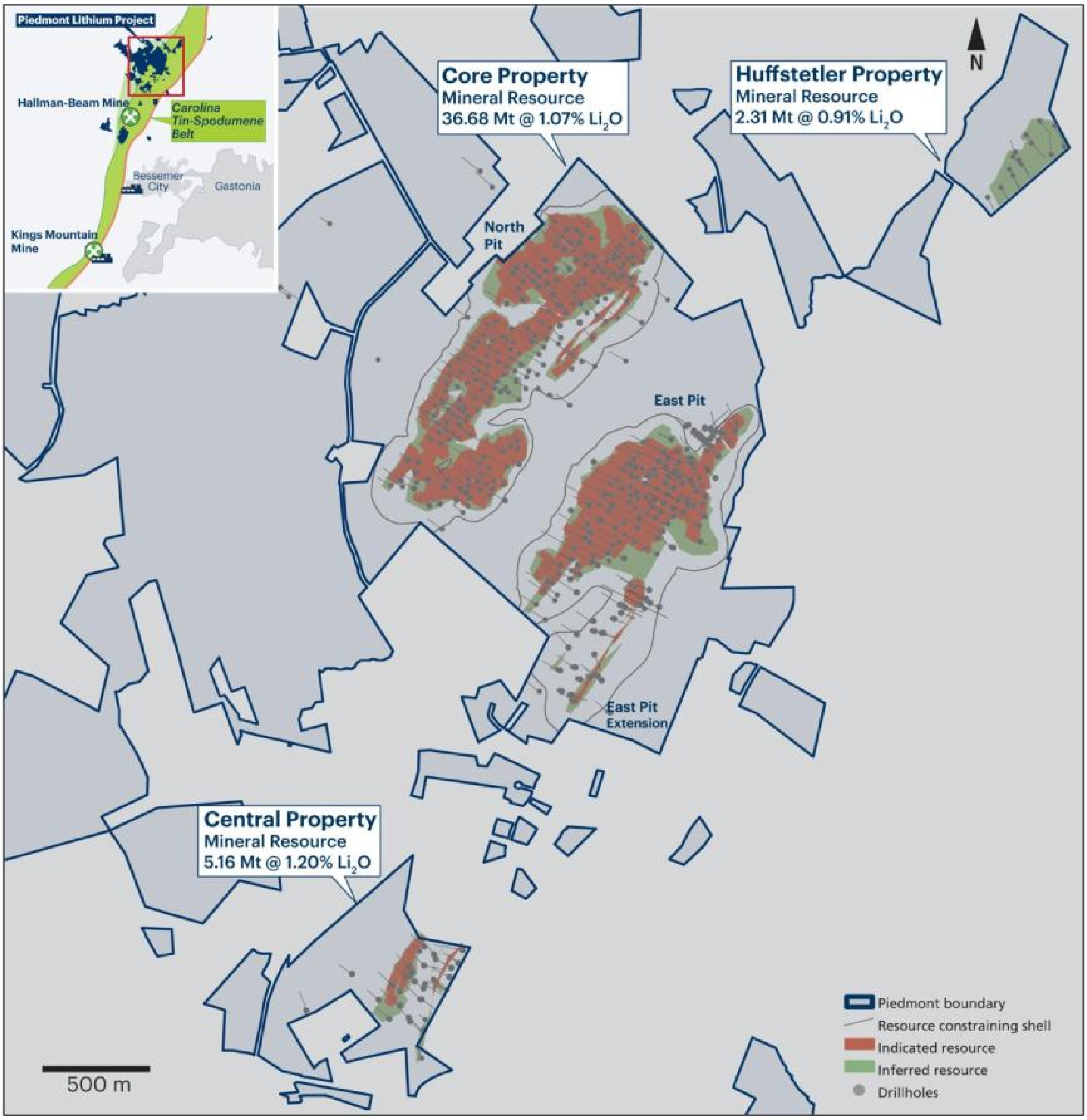


Figure 11-11 Carolina Lithium Property Mineral Resource Classification



11.4 Reasonable Prospects for Economic Extraction

SEC Regulations S-K 1300 require that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction regardless of the classification of the resource.

The depth, geometry, and grade of pegmatites at the Piedmont Project make them amenable to exploitation by open cut mining methods. Inspection of drill core from the Carolina Lithium Project properties and the close proximity of open pit mines in similar rock formations indicate that ground conditions are suitable for this mining method.

11.4.1.1 Lithium

The lithium Mineral Resource has been reported above a cut-off of 0.4% Li_2O cut-off which approximates cut-off grades used at comparable spodumene-bearing pegmatite deposits exploited by open pit mining.

As detailed in the 2021 Scoping Study, Mineral Resources are amenable to exploitation by an integrated operation with an open pit mine and concentrator supplying spodumene concentrate to a lithium hydroxide chemical plant. The Scoping Study envisioned a multi-decade mine life and the application of conventional mining and processing technology. PLI has used Roskill's long term lithium hydroxide price average of US$15,239/t $LiOH{\cdot}H_2O$ as the basis determining reasonable prospects for eventual economic extraction. $LiOH{\cdot}H_2O$ recovery parameters include a spodumene concentration recovery of 80% and a $LiOH{\cdot}H_2O$ processing recovery of 89% which together result in an overall metallurgical recovery of 71.2%.

11.4.1.2 By-Products

Quartz, feldspar, and muscovite mica occur as essential rock-forming minerals of the Carolina Lithium Project pegmatites and comprise approximately 80% of the mineral assemblage and estimated Mineral Resources that are reported in *Table 6-1* on page 13.

Feldspar and mica have been historically mined and produced from North Carolina where spodumene -bearing pegmatite deposits located northwest of Kings Mountain were mined until 1998. The historically mined pegmatite feed grade is quoted to be *"20% spodumene, 32% quartz, 27% albite, 14% microcline, 6% muscovite, and 1% trace minerals"*, and that the *"fairly uniform grade of the crude ore allowed recovery of feldspar and mica by-products"* (Kestler, 1961).

Bulk samples of the quartz, feldspar and mica by-products from the Piedmont deposits have been evaluated for attributes such as product size distribution, chemical composition, purity, and color. Piedmont lithium announced the results of by-product test work programs undertaken at SGS Lakefield on May 13, 2020, and at North Carolina State University's Mineral Research Laboratory on September 4, 2018. Test work results demonstrate that by-products have specifications that are marketable to prospective regional customers in the solar glass, engineered quartz, ceramic tile, and other industries.

On 17 July 2021, the company announced an evaluation of by-product metallurgical testwork results, planned production volumes, and potential market applications. Independent consultant John Walker, working together with Piedmont joint-venture partner- Pronto Minerals and the Company, have estimated the market opportunities for Piedmont by-products as shown in *Table 11-13*. Quartz and Feldspar recoveries are assumed to be 50.8% and 51.1% respectively. Mica recovery is assumed to be 35.5%. An updated study of by-product recovery is underway but has not been concluded as part of this Initial Assessment. The Qualified Person has assumed that recovery concerns will not pose any significant impediment the eventual economic extraction of by-products.

Table 11-13 Market Forecasts and Basket Pricing for By-Products - US$/t (Piedmont, 2021a)

Quartz (t/y)	Feldspar (t/y)	Mica(t/y)	Average Realized Price ($/t) Mine Gate
252,000	392,000	69,700	$79.50

Pegmatites at the Central and Huffstetler properties have comparable physical properties to those at the Core Property and have similar mineralogical proportions as illustrated in *Table 11-16*. Central and Huffstetler pegmatites are therefore concluded to have comparable co-product specifications.

The economic extraction by-product Mineral Resources is contingent on the economic extraction of lithium minerals. Therefore, the by-product Mineral Resource is also reported using 0.4% Li_2O cut-off grade. By-product mineral value is not used for pit optimization or for cut-off grade calculation.

11.4.2 Core Property

The Core resource model is constrained by a conceptual pit shell derived from a Whittle optimization using estimated block value and mining parameters appropriate for determining reasonable prospects of economic extraction (*Table 11-14*). These include: maximum pit slope of 50° and strip ratio of 12, mining cost of US$2.90/t, spodumene concentration cost of US$25/t, a processing cost of US$2,616/t $LiOH{\cdot}H_2O$, a commodity price equivalent to US$15,239/t $LiOH{\cdot}H_2O$ and with appropriate recovery and dilution factors. Material falling outside of this shell is considered to not meet reasonable prospects for eventual economic extraction.

Table 11-14. Piedmont Whittle Resource Constraining Pit Shell Parameters

Item	Value
$LiOH{\cdot}H_2O$ price	US$15,239/t
Mineralization mining cost	US$2.90/t
Waste mining cost	US$2.90/t
Mining recovery	100%
Mining dilution	10%
SC6 concentration cost	US$25/t
Spodumene recovery	80%
$LiOH{\cdot}H_2O$ processing cost	US$2,616/t
$LiOH{\cdot}H_2O$ processing recovery	89%
Pit slope angle	50°

Out of a total tonnage of 37.90 Mt, 36.68 Mt falls within the conceptual shell. Areas excluded include speculative blocks at depth and at the periphery of the deposit. The surface extent of the resource constraining shell is shown in *Figure 11-11*. A cross-section view of the resource constraining shell at the south of B-G and S corridors is shown in *Figure 6-5* and at the F corridor is shown in *Figure 6-6*.

11.4.3 Central and Huffstetler Properties

Conceptual shells for Central and Huffstetler resource models, developed using the above parameters, extended to the base of the resource model where the deposit is open, and beyond the modeled strike extent of the resource model where the deposit is open. Accordingly, the entire Central and Huffstetler resource models are considered to have reasonable prospects of eventual economic extraction.

11.5 Qualified Person's Mineral Resource Estimates

Mineral Resources for the project, representing in-situ lithium-bearing pegmatites, are reported below in accordance with (*SEC*) Regulation S-K 1300 standards and are therefore suitable for public release. Based on the work described, detailed modelling of the deposits, and after considering all the parameters defined, MRE were prepared as of October 20, 2021 for property controlled by PLI.

Lithium MRE include tonnage estimates for lithium oxide (Li_2O), Lithium Carbonate Equivalent (*LCE*) whereby one tonne of Li_2O is equivalent to 2.473 tonnes LCE, and lithium hydroxide mono-hydrate ($LiOH{\cdot}H_2O$) tonnage whereby one tonne of Li_2O is equivalent to 2.81 tonnes $LiOH{\cdot}H_2O$.

The current global lithium MRE is reported above a cut-off of 0.4% Li_2O by classification in *Table 11-15*. The current by-product MRE is reported globally and for each property by classification in *Table 11-16*. The economic extraction of by-product minerals is contingent on the economic extraction of lithium minerals. Therefore, by-product Mineral Resources are also reported above a cut-off of 0.4% Li_2O.

Pricing and recovery data as provided by PLI is described in *Section 11.4*. The pricing data assumes a long-term lithium hydroxide price of US$15,239 per metric tonne and by-product mineral basket price of US$79.5 per metric tonne for calendar year 2021.

Table 11-15: Carolina Lithium Project —Summary of Lithium Mineral Resources at October 20, 2021 Based on US$15,239 /t $LiOH{\cdot}H_2O$

	Tonnes (Mt)	Grade (Li_2O%)	Li_2O (kt)	LCE (kt)	$LiOH{\cdot}H_2O$ (kt)	Cut-Off Grade (% Li_2O)	Metallurgical Recovery[1]
Indicated	28.2	1.11	313,000	774,000	879,000	0.4	71.2
Inferred	15.9	1.02	162,000	401,000	455,000		
Total	44.2	1.08	475,000	1,175,000	1,334,000		

Note 1 – Overall metallurgical recovery from spodumene ore to lithium hydroxide monohydrate

Table 11-16: Carolina Lithium Project – Summary of By-Product Quartz, Feldspar, and Mica Mineral Resources at October 20, 2021 Based on Long-Term Pricing of US$ 15,239/t $LiOH \cdot H_2O$, Average By-Product Pricing of US$ 79.50/t

			Li_2O		Quartz		Feldspar		Mica	
Cut-Off Grade (Li_2O %)			0.4		0.4		0.4		0.4	
Metallurgical Recovery (%)			71.2[1]		50.8		51.1		35.5	
Category	Deposit	Tonnes (Mt)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)	Grade (%)	Tonnes (Mt)
Indicated	Core	25.75	1.10	0.282	29.59	7.62	45.06	11.60	4.29	1.10
	Central	2.47	1.30	0.031	28.79	0.71	45.16	1.12	3.24	0.08
	Huffstetler	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
	Total	28.22	1.11	0.313	29.52	8.33	45.07	12.72	4.20	1.18
Inferred	Core	10.93	1.02	0.111	29.13	3.18	45.52	4.97	4.18	0.46
	Central	2.69	1.10	0.030	29.99	0.81	43.88	1.18	4.08	0.11
	Huffstetler	2.31	0.91	0.021	28.82	0.67	48.60	1.12	3.24	0.08
	Total	15.93	1.02	0.162	29.22	4.66	45.67	7.28	4.03	0.64
Total		44.15	1.08	0.475	29.42	12.99	45.30	20.00	4.12	1.82

Note 1 – Overall metallurgical recovery from spodumene ore to lithium hydroxide monohydrate

11.6 Qualified Person's Opinion

Based on the data review, the attendant work done to verify the data integrity and the creation of an independent geologic model, McGarry Geoconsulting and MM&A believe this is a fair and accurate representation of PLI's lithium resources.

12 Mining Methods

A study of mining methods is underway but has not been concluded as part of the Initial Assessment and is therefore not disclosed in this TRS.

13 Processing and Recovery Methods

A study of processing and recovery methods is underway but has not been concluded as part of the Initial Assessment and is therefore not disclosed in this TRS.

14 Infrastructure

A study of infrastructure is underway but has not been concluded as part of the Initial Assessment and is therefore not disclosed in this TRS.

15 Market Studies

Market studies are underway but have not been concluded as part of the Initial Assessment and are therefore not disclosed in this TRS.

16 Environmental Studies, Permitting and Plans, Negotiations or Agreements with Local Individuals

An assessment of Environmental Studies, Permitting and Plans, Negotiations or Agreements with Local Individuals is underway but has not been concluded as part of the Initial Assessment and is therefore not disclosed in this TRS.

17 Capital and Operating Costs

A study of Capital and Operating Costs is underway but has not been concluded as part of the Initial Assessment and is therefore not disclosed in this TRS.

18 Economic Analysis

An economic analysis is underway but has not been concluded as part of the Initial Assessment and is therefore not disclosed in this TRS.

19 Adjacent Properties

No proprietary information associated with neighboring properties was used as part of this study.

20 Other Relevant Data and Information

MM&A previously completed a concept level study for the property. Leon McGarry previously completed lithium and by product MRE for the Project that were announced to the ASX between 2018 and 2021. Estimates of Li_2O and by-product grades and tonnages show good agreement with previous estimates. At all deposits, tonnages show incremental increases attributable to drilling completed since the previous estimates.

21 Interpretation and Conclusions

21.1 Conclusion

Sufficient data have been obtained through various exploration and sampling programs to support the geological interpretations of the lithium-bearing pegmatite deposit on the Property. The data are of sufficient quantity and reliability to reasonably support the resource estimates in this TRS.

The geology of the Project area and controls to mineralization are well-understood. Exploration techniques employed on the Project are appropriate and data derived from them are of sufficient quality to support the modelling of Mineral Resources in accordance with the JORC Code.

Based on an assessment of available QAQC data, the entire lithium and whole-rock drill core assay dataset is acceptable for resource estimation with assaying posing minimal risk to the overall confidence level of the MRE.

On the Core Property, 76 spodumene-bearing pegmatite dike portions are modeled within three major corridors that extend over a strike length of up to 2 km and commonly have a set of thicker spodumene-bearing pegmatite dikes of 10 m to 20 m true thickness at their core. Major dikes strike northeast and dip moderately to the southeast and can be traced between drillhole intercepts and surface outcrops for over 1.7 km. Dikes are intersected by drilling to a depth of 300 m down dip. Although individual units may pinch out, the deposit is open at depth and along strike. The Mineral Resource model has a maximum vertical depth of 210 m from surface. On average, the deposit extends to 150 m below surface.

On the Central Property, 11 spodumene-bearing pegmatite dikes fall within a corridor that extends over a strike length of up to 350 m and contains a pair of thicker spodumene-bearing pegmatite dikes of 10 m to 20 m true thickness. These major dikes strike northeast and dip steeply to the southeast dipping. Dikes are intersected by drilling to a depth of 200 m down dip. Although individual units may pinch out, the deposit is open at depth and along strike. The Central Mineral Resource has a maximum vertical depth of 250 m from surface. On average, the model extends to 200 m below surface.

On the Huffstetler Property, six spodumene bearing pegmatites fall within a corridor that extends over a strike length of up to 0.4 km and form a stacked series of inclined sheets that range from 2 m to 18 m true thickness. Inclined sheets strike northeast and dip moderately to the northwest. Spodumene bearing pegmatites are intersected by drilling to a depth of 200 m down dip from surface however up-dip extents are limited by the southeastern edge of the permit boundary. Although individual units may pinch out, the deposit is open at depth and along strike. The Huffstetler Mineral Resource has a maximum vertical depth of 150 m below the topography surface.

Spodumene, quartz, muscovite mica and feldspar occur as essential rock-forming minerals of the modeled pegmatites and together comprise approximately 90% of the mineral assemblage. Sufficient data are available to generate reliable mineral grade estimates using the ordinary kriging method for the Piedmont properties.

Metallurgical test work on composite bulk samples of spodumene-bearing pegmatite from the property was conducted at bench scale at MRL in 2018, and at pilot-plant scale at SGS Lakefield in 2019. Flotation results showed that that lithium occurs almost exclusively within spodumene and that concentrates of greater than 6.0% Li_2O were achievable with an iron content to less than 1.0% Fe_2O_3. Quartz, feldspar, and mica concentrates were produced as by-products of the spodumene concentrate. Initial results demonstrate commercial potential for each by-product.

The depth, geometry, and grade of pegmatites on the properties make them amenable to exploitation by open cut mining methods. At the Core Property, reasonable prospects for economic extraction are specified for 97% of the resource model (36.68 Mt) that falls within a resource constraining conceptual pit shell. Reasonable prospects for economic extraction are specified for the entire Central resource model (5.16 Mt) and for the entire Huffstetler resource model (2.31 Mt).

For the Carolina Lithium Project, this study has defined (at a 0.4% Li_2O reporting cut-off) a global Inferred and Indicated MRE of 44.15 Mt at 1.08% Li_2O, containing 475,000 tonnes of lithium oxide with an effective date of October 20, 2021. Within the reported resource model, global by-product Mineral Resources are 12.99 Mt of quartz, 20.00 Mt of feldspar and 1.82 Mt of mica and have an effective date of October 20, 2021.

The global total incorporates: An Indicated Mineral Resource of 21.55 Mt at 1.121% Li_2O with 6.34 Mt of quartz, 9.69 Mt of feldspar and 0.90 Mt of mica; and An Inferred Mineral Resource of 17.61 Mt at 1.03% Li_2O with 5.16 Mt of quartz, 8.08 Mt of feldspar and 0.73 Mt of mica.

The completed Phase 5 drill program has partially tested previous Exploration Targets reported by the Company on 25 June 2019 and has successfully delineated new lithium and by-product Mineral Resources for the Project. Currently, the Company is conducting geological mapping, and exploration targeting study at the Project. No new exploration targets are presented for the Project. This updated MRE will support the completion of a Definitive Feasibility Study currently scheduled for 2021.

22 Recommendations

PLI is continuing to work both internally and with outside assistance to continue to further define their Resource Base and to Optimize the proposed LOM Plan.

MGG recommends the following actions are completed to support the ongoing Mineral Resource development effort at the Carolina Lithium Project:

> Investigate shallow portions of Core Property deposits deemed amenable to early-stage mining through infill drilling and appropriate surface methods, at 20 m to 40m spacings. An understanding of the short-range variability of mineralization, pegmatite dike orientations, and weathering should be developed, and Measured resource classification criteria established.

> Model the extent of major metavolcanic and metasedimentary host rock units to support mine planning at the Core property. Models will improve bulk density estimation and support environmental and geotechnical characterization of waste rock.

> Conduct infill drilling to increase data density and support the upgrading of Mineral Resources from Inferred to Indicated throughout the Project.

> Undertake a targeting study to identify new exploration targets and prioritize step-out drill targets that expand defined resource pegmatites.

> To support exploration targeting across its properties, and to direct future property acquisitions, Piedmont should continue to synthesize a mineral system model for spodumene bearing pegmatites along the TSB.

23 References

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Arne, D., 2018, Review of 2018 QAQC data for the Beaverdam Li pegmatite project Phase 3 drilling program, North Carolina. CSA Global Report R359.2018_PDLGCD01V3_2018_QAQCreview_V1, 9 p.

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Piedmont Lithium, 2018d, "Piedmont Produces Quartz, Feldspar and Mica in Benchscale as By-Products of Spodumene Concentrate", September 4, 2018, available: **https://piedmontlithium.com/investors/press-releases/.**

Piedmont Lithium, 2019, "Initial Central Mineral Resource Estimate Boosts Total Project Resources", April 24, 2019, available: **https://piedmontlithium.com/investors/press-releases/.**

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Piedmont Lithium, 2019d, "Updated Scoping Study Extends Project Life and Enhances Exceptional Economics", August 7, 2019, available: https://piedmontlithium.com/investors/press-releases/.

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Piedmont Lithium, 2021, "Piedmont Increases Lithium Resources By 40%", April 8, 2020, available: https://piedmontlithium.com/investors/press-releases/.

Piedmont Lithium, 2021a, "Piedmont Focused on Increased Sustainability with 40% Increase in Quartz, Feldspar, and Mica Mineral Resources", June 8, 2021, available: https://piedmontlithium.com/investors/ press-releases/.

Piedmont Lithium, 2021b, "Scoping Update Highlights The Exceptional Economics And Industry-Leading Sustainability Of Piedmont's Carolina Lithium Project" available: https://piedmontlithium.com/investors/ press-releases/.

Primero, 2021 "Updated Scoping Study Report Piedmont Lithium Project – Mine & Concentrator" prepared for Prepared for Piedmont Lithium Inc. by Primero Group Ltd.

24 Reliance on Information Provided by Registrant

For the purpose of this TRS, McGarry Geoconsulting and MM&A utilized the Geological data provided by PLI. This information was subjected to verification of its integrity and completeness.

APPENDIX

A

BIOGRAPHIES OF QUALIFIED PERSONS (QP'S)

Leon McGarry

Principal Resource Geologist

BSc (Hons) Earth Science, P.Geo

Leon is a geologist with 15 years' experience as a consultant to the mining and exploration industry focusing on project development, mineral resource estimation, technical reporting, and due diligence. Leon is a practicing member of Professional Geoscientists Ontario.

Experience

Present — Principal Consultant, McGarry Geoconsulting Corp., Toronto, Canada
Provides exploration management, target generation and mineral resource estimation services for base, precious and battery metal projects. Prepares technical disclosures for private, TSX and ASX listed companies, adhering to NI 43-101 and the JORC code.

2019 – 2020 — Senior Corporate Resource Geologist, Teranga Gold Corp., Toronto, Canada
Provided technical support to exploration, mining and corporate development activities. Developed best practice data management and resource modelling procedures.

2016 – 2019 — Senior Resource Geologist, CSA Global Canada, Toronto, Canada
Undertook site visit audits, geological modelling and mineral resource estimation and due diligence studies for a variety of deposit and commodity types.

2008– 2016 — Project Geologist, A.C.A. Howe International Ltd, UK and Canada
Responsible for mineral property evaluation, resource estimation, and exploration program planning. Executed successful exploration strategies in challenging operational environments in adherence to best practice guidelines.

2007 — Geotechnical Geologist, Fugro Limited, Wallingford, UK
Responsible for onsite geotechnical investigation work, contractor management and site agent duties. Effectively undertook soil and rock logging, density and geotechnical testing. Oversaw auger, sonic and core drill rigs. Supervised machine and hand dug excavations.

Countries Worked In

Australia, Canada, Brazil, Costa Rica, Democratic Republic of Congo, Ethiopia, Ghana, Kazakhstan, Lesotho, Peru, Romania, Turkey, United Kingdom, United States of America.

Software

Expert user of geological modelling and GIS software: Vulcan, Micromine, Datamine, SuperVisor, Leapfrog, QGIS, MapInfo and Whittle Optimization.

McGarry Consulting Corp. ☎ +1 416 837 6934 ✉ leon@mcgarrygeo.com

Notable Projects

Industrial Minerals

- Supports resource development drill targeting at Piedmont Lithium's North Carolina projects. Prepares geological models and Mineral Resource Estimates ("MRE") for spodumene and industrial mineral by-products in support of mine planning and FS work. Prepares technical disclosures in accordance with the JORC code (2017 to present).
- Provides resource estimation and JORC disclosure guidance to Hyperion Metals for the Titan heavy mineral and silica sand project (2021 to present).
- Undertook due diligence review of MRE of the Sonora lithium clay project on behalf of Terra Modelling Services (2021).

Base metals

- Undertook due diligence of studies on behalf of Hatch Advisory Ltd. for base and precious and metal mining projects at feasibility study ("FS") and operational stages of development. Projects include layered mafic intrusion deposits in Brazil (Cu) and USA (Cu, Ni, Pt, Pd, Co), and copper-gold porphyry deposits in Canada (2017 to 2021).
- Provided drill hole targeting, MRE studies and NI 43-101 reporting services for Fireweed Zinc's Tom and Jason SEDEX deposits, Yukon (2017 to 2019).
- Established a diamond drill programme at the Kangeshi sediment hosted copper project in the Dem. Rep. Congo for Rift Valley Resources Ltd. (2011).

Gold

- Guided geo-metallurgical characterization and resource development drill programs in support of FS work on the complex Massawa refractory gold deposit in Senegal. Prepared MRE and technical documentation for the Golden Hill gold deposit in Burkina Faso. Teranga Gold (2019 to 2020).
- Generated MRE for three gold deposits in Nevada on behalf of a Waterton Global Resource Management. Phased work was undertaken through competitive process. A collaborative and rigorous estimation approach was key to the selection of Leon's work for subsequent mine planning (2019).
- Prepared MRE studies and authored NI 43-101 technical reports for numerous structurally controlled, lode gold deposits in Canadian Archean-Proterozoic terranes. Clients include: Gowest Gold Ltd. (2011), Wescan Goldfields Inc. (2011), Nighthawk Gold Corp. (2012 to 2018), Northern Gold Ltd. (2013 to 2015), Minnova Corp. (2014 to 2017) and Sage Gold Inc. (2014).

Diamonds

- Prepared geological models supporting resource estimates for kimberlite hosted diamonds at Star Diamond Corp's Fort à la Corne project. Provides ongoing geological modelling support (2015 to present).
- Supervised a large diameter RC drilling and bulk sampling programme for an advanced kimberlite hosted diamond project in Lesotho on behalf of Kopane Diamond Developments Plc (2008).

Steven A. Keim

Current Position
President

Profession
Mining Engineering

Years' Experience
10+

Education
PhD – Mining & Minerals Engineering, Virginia Polytechnic Institute & State University, Blacksburg, VA

BS – Mining & Minerals Engineering, Virginia Polytechnic Institute & State University, Blacksburg, VA

Professional Registrations
PE - WV

Society for Mining, Metallurgy and Exploration (SME) – Registered Member (04151568)

Summary of Experience
Dr. Keim provides engineering services for energy & mineral resource projects including geologic modelling, reserve estimation, mine planning, and financial modelling.

Significant Projects & Experience
> College-level teaching in Rock Mechanics, Ground Control and Mine Surveying

> Geological modelling and subsequent reserve estimation and financial modelling for Securities and Exchange Commission (*SEC*) and Joint Ore Reserve Committee (*JORC*) compliant reporting for domestic and international projects.

> Preparation plant based experience, including daily plant logistic management, development of protocols for preparation plant efficiency studies to maximize plant yield and quality and analysis of potential upgrades/enhancements

> Risk assessment experience, including risk matrix and RISKGATE methods

> Participation in expert witness teams for various litigation cases

> Management & participation in projects pertaining to independent, third-party verification of production tonnage to ensure correct allocation of royalty payments

> Participation and management of due diligence teams for large scale deep mine and surface mine acquisitions, including operational assessments as related to attainable production enhancements and operational improvements

Specific Projects
> **China:** Evaluation of low permeable reservoirs for coalbed methane recovery as related to environmental, financial and safety factors, including development of best practices for coalbed methane recovery and modelling reservoir characteristics

> **Turkey:** Development of degasification plan ahead of mining and predictive modeling for gassy coal seams for *Methane to Markets* partnership

> **United States.** Management of United States Department of Energy (*DOE*) funded carbon sequestration project for injection of carbon dioxide in depleted coalbed methane wells

> **Mozambique.** Estimation of plant yield for large scale surface mine through analysis of exploration based washability data, flotation release curves and coal sizing data, including the development of predictive model for plant yield & quality based upon slimcore data, thus eliminating the need for large diameter exploration drill holes

> **Australia.** *JORC* compliant reserve reporting pertaining to greenfield coal deposit, including multiple iterations of potential mine plans and mining methods and estimation of preparation plant yield and product quality

Awards
> 2014 SME J.W. Woomer Award (formerly the Young Engineers Award) - given to one recipient annually for distinguished contributions to the advancement of coal mining.

> Old Timers Award, which is presented to the outstanding undergraduate mining engineering student at Virginia Tech

> Outstanding Ph.D. student award in Mining and Minerals Engineering at Virginia Tech.

Kevin M. Andrews

Current Position

Vice President,
Principal Geologist

Profession

Geology,
Hydrogeology,
Mining Engineering

Years' Experience

20

Education

MS – Mining & Minerals Engineering,
Virginia Polytechnic & State University, Blacksburg, VA

MS – Geology,
West Virginia University,
Morgantown, WV

BS – Geology,
Juniata College, Huntingdon, PA

Professional Registrations

Certified Professional Geologist (C.P.G.)

SME Registered Member

Affiliations

Member of American Institute of Professional Geologists (A.I.P.G.)

Society of for Mining, Metallurgy, and Exploration

www.mma1.com

Summary of Experience

Mr. Andrews performs geological, hydrogeological, and engineering work. Specifically, he:

> Authors and prepares proposals, cost estimates, and technical reports for geological, geotechnical, and hydrogeological projects, as well as for professional conferences
> Manages technical aspects of mining projects and conducts business development activities
> Conducts rock quality and stability assessments for open pit and underground mining
> Conducts geological field mapping and evaluation of geological discontinuities associated with mine stability and mineral exploration
> Evaluates aspects of underground mine roof, rib, and floor stability (hard rock, aggregate, and coal) via underground observations, engineering concepts, and modelling programs
> Analyzes underground mine pillar and entry stability using industry standard methodologies
> Utilizes NIOSH programs including SPILLAR, ARMPS, ALPS, AMSS, CMRR, etc., as well as ACPS to design and assess the stability of underground mine workings
> Collects geological and geotechnical logging data including fracture frequency and Rock Mass Rating (RMR) information
> Utilizes Rocscience programs such as DIPS, Swedge, RocPlane, RocTopple, SLIDE, SLIDE3 for slope stability assessment
> Uses the Surface Deformation Prediction System (SDPS), a land surface subsidence modelling program, to predict mine subsidence and assess long-term landscape stability
> Assesses potential impacts of underground and surface mining on hydrogeological environments
> Conducts numerous aspects of mine permitting-related work
> Evaluates groundwater and surface water quantity and quality conditions
> Conducts Probable Hydrologic Consequences (PHC) assessments for mining operations
> Prepares portions of definitive feasibility and pre-feasibility geology and hydrogeology evaluations for proposed mine complexes

Continued

> Evaluates water volumes in inundated underground mines
> Assesses water balance issues associated with surface and underground mining activities
> Investigates mitigation options for mining-related selenium water discharges
> Assesses mining hydrogeological issues related to litigation matters
> Conducts mine barrier pillar stability and seepage assessments
> Works with staff to develop groundwater flow models using modeling programs such as Groundwater Vistas (MODFLOW) and AnAqSim
> Conducts yield testing and water sampling field work, and evaluates mining effects on water well conditions
> Conducts geological modeling of ore bodies and other strata (aquifers, aquitards) using Carlson software
> Conducts hydrogeological field work including acid-base account (acid-producing potential) sample selection, monitoring well installation, hydraulic conductivity (packer) testing, groundwater and surface water sampling, and water user inventory data collection
> Plans and supervises mineral exploration field activities (domestic and international); drill rig and field geologist management, data collection quality control, core recovery confirmation, geophysical logging scheduling, site preparation and reclamation, access road maintenance, etc.
> Develops mineral exploration drilling and mapping database files
> Contributes to mineral valuations to meet Australasian Joint Ore Reserves Committee (*JORC*) and US Securities and Exchange Commission (*SEC*) regulations

LAMONT E. LEATHERMAN

EXPLORATION GEOLOGIST

1983 – 1988 BSc in Geology, Appalachian State University, Boone, NC
SME – Society for Mining, Metallurgy and Exploration Registered Member

I have 30 years of mineral exploration experience in a variety commodities and deposit styles. Specifically, my experience ranges from:

- Project generation
- Drill target identification and testing
- Property scale geologic mapping, reconnaissance sampling, project evaluations
- Conducting industry training courses for data management and geologic mapping techniques
- Extensive work in privately owned land acquisition in the southeast of the United States
- Managing resource scale program – including personnel, QAQC, drillhole placement and geologic interpretation, working closely with the resource geologist in defining the maiden resource for Piedmont Lithium, North Carolina
- Drafting JORC compliant press releases as the Competent Person.
- Successful oversight of the maiden resource for Piedmont Lithium, Gaston County, North Carolina.
- Involvement in Lithium metallurgy testing and spodumene process testing (bench and pilot scale)
- Assist in determination of Lithium scoping study factors

COMMODITIES/DEPOSIT TYPES

Heavy Mineral Sands Titanium, Zircon, monazite, staurolite, kyanite
High Calcium Carbonate Limestone

Gold	Epithermal, Orogenic, Intrusion-related, Manto, Archean, Iron Formation hosted	**Iron Ore**	Superior Type Iron Formations
Base metals	VMS, Beshi, BHT	**Copper**	Porphyry Cu, Sediment Hosted
Lithium	Spodumene Pegmatite	**Silver**	Epithermal, manto

COUNTRIES WORKED IN

Canada, United States, Mexico, Greenland, China, Australia

LANGUAGES

None other than English

SOFTWARE

MapInfo/ 3D Datamine Discover

Discover Mobile

Global Mapper

WORK EXPERIENCE

July 2016 – present	Piedmont Lithium, Chief Geologist, Gaston County, North Carolina
July 2014 – June 2016	Pure Gold Mining, Contract Geologist, Red Lake, Ontario
October 2013	Westhaven Ventures, Contract Geologist, Brookemere, British Columbia
July 2013	Entourage Exploration, Contract Geologist, Earn Hills, Yukon Territory
May-Sep 2013	Comstock Metals, Contract Geologist, Yukon Range, Yukon Territory
Mar 2012-2013	Jack's Fork Exploration, Contract Geologist, Alta Vista, Virginia, USA
Jan-Feb 2012	International North Air, Contract Geologist, Serra Rosario, Sinaloa, Mexico
Nov–Dec 2011	Revolution Resources, Contract Geologist, Universo, San Louis Potosi, Mexico
October 2011	Strongbow Exploration, Contract Geologist, Kershaw, South Carolina
August 2011	Tarsis Resources, Contract Geologist, White River, Yukon Territory
August 2011	Smash Minerals, Contract Geologist, White Gold District, Yukon Territory
July 2011	Full Metal Minerals, Contract Geologist, Pyramid, Alaska
June 2011	Tarsis Resources, Contract Geologist, White River, Yukon Territory
June 2011	Smash Minerals, Contract Geologist, White Gold District, Yukon Territory
April 2011	Jack's Fork Exploration, Contract Geologist, Altavista, Virginia, USA
Feb–Mar 2011	Revolution Resources, Contract Geologist, Asheboro, North Carolina, USA
Sep 2010–Feb 2011	Strongbow Exploration, Contract Geologist, Kershaw, South Carolina, USA
Aug–Sep 2010	Revolution Resources, Contract Geologist, Asheboro, South Carolina, USA
Jun–Jul 2010	Nuukfjord Gold, Contract Geologist, Nuuk, Greenland
Apr–Jun 2010	Strongbow Exploration, Contract Geologist, Kershaw, South Carolina, USA
Sep 2009–Mar 2010	North Arrow Minerals, Contract Geologist, Gaston County, North Carolina, USA
May 2009–Aug 2009	Underworld Resources, Contract Geologist, White Gold District, Yukon Territory
October 2008	Almaden Minerals, Contract Geologist, Yerington, Nevada
September 2008	Underworld Resources, Contract Geologist, White Gold District, Yukon Territory
Jun–Aug 2008	Full Metal Minerals, Contract Geologist, Crooked Creek, Alaska
Jan–Mar 2008	Almaden Minerals, Contract Geologist, Caballo Blanco, Veracruz, Mexico
Jun–Sep 2007	Strongbow Exploration, Contract Geologist, Lyton and Merritt, British Columbia
Jan–Apr 2007	Almaden Minerals, Contract Geologist, Caballo Blanco, Veracruz, Mexico
Jun 2005–Oct 2006	Strongbow Exploration, Contract Geologist, Anialik NWT, Lytton, British Columbia
Jul 2003–May 2005	Commander Resources, Project Geologist, Baffin Island, Nunavut
Jul–Aug 2002	BHP Minerals, Contract Geologist, Baffin Island, Nunavut
July 2001	BHP Minerals, Contract Geologist, Baffin Island, Nunavut
Jun 1992-Feb 2001	BHP Minerals, Project Geologist, Canada and USA
May 1990-Jun 1992	Noranda, Geologist, Cary, North Carolina, USA
May 1988-May 1990	North American Exploration, Geologist, Charlottesville, Virginia, USA

APPENDIX

B

GLOSSARY OF TERMS

Abbreviation	Definition
%	percent
°	degrees
°C	degrees Celsius
3D	three-dimensional
AAS	atomic absorption spectroscopy
AcmeLabs	Acme Analytical Laboratories
APGO	Association of Professional Geoscientists of Ontario
ASX	Australian Securities Exchange
BV	Bureau Veritas Minerals Laboratory
CDF	cumulative distribution function
Cooley	Cooley Consulting Ltd
cm	centimeter(s)
CRM	certified reference material
CSA Global	CSA Global Consultants Canada Ltd
CV	coefficient of variation
DMS	dense media separation
DTM	digital terrain model
g	gram(s)
GCOS	global change of support
GPM	gallons per minute
GPS	global positioning system
HLS	heavy liquid separation
ICP-ES	inductively coupled plasma emission spectrometry
ICP-MS	inductively coupled plasma mass spectrometry
IDW	inverse distance weighting
ISO	International Organization for Standardization
K-Spar	Potassium-feldspar
KE	kriging efficiency
kg	kilogram(s)
km	kilometers
km^2	square kilometers
KNA	kriging neighborhood analysis
K-spar	potassium feldspar
LCE	Lithium carbonate equivalent
LCT	locked cycle test
LiDAR	light detection and ranging (survey)
m	meter(s)
m^2	square meter(s)
m^3	cubic meter(s)
MGG	McGarry Geoconsulting Corporation
MLR	(North Carolina State University's) Minerals Research Laboratory
mm	millimeter(s)
Mm^3	million cubic meters
MM&A	Marshall Miller Associates
MRE	Mineral Resource estimate
MRL	(Northern Carolina State University's) Minerals Research Laboratory
Mt	million tonnes

Abbreviation	Definition
North Arrow	North Arrow Minerals Inc.
OK	ordinary kriging
Piedmont	Piedmont Lithium Incorporated
PLI	Piedmont Lithium Incorporated
QA	quality assurance
QAQC	quality assurance/quality control
Q-Q	quantile-quantile
RC	reverse circulation (drilling)
RMS	root mean squared
RPO	Recognized Professional Organization
RSD	relative standard deviation
RTN-GPS	Real-Time Network Global Positioning System
S-K 1300	Regulation S-K 1300 Modernization of Property Disclosures
SEC	Securities and Exchange Commission
SMU	selective mining unit
SOR	slope of regression
SQL	structured query language
SRM	standard reference material
t	tonne(s)
TSB	Carolina Tin-Spodumene Belt
WHIMS	wet high intensity magnetic separation
XRD	x-ray diffraction
XRF	x-ray fluorescence