

## SEPTEMBER 2019 QUARTERLY REPORT

Piedmont Lithium Limited (ASX: PLL; NASDAQ: PLL) ("Piedmont" or "Company") is pleased to present its September 2019 guarterly report. Highlights during and subsequent to the guarter were:

- Completed an updated Scoping Study for the fully-integrated Project, which was managed by independent consultants, Primero Group Limited, and delivered outstanding results including:
  - a 25-year mine life and compelling economics including an NPV of US\$1.45 billion and an after-tax IRR of 34%, due to attractive capital and operating costs;
  - a chemical plant producing 22,700tpa of lithium hydroxide supported by an open pit mine and concentrator producing 160,000tpa of 6% spodumene concentrate; and
  - by-product quartz (86,000tpa), feldspar (125,000tpa), and mica (13,000tpa) providing credits to the cost of lithium production;
- In response to strong interest from prospective lithium hydroxide customers, the Company has decided to accelerate development of its lithium chemical plant by compressing its project timeline into a single-stage, effectively accelerating chemical plant development by one year while deferring the mine/concentrator construction start date by one year, resulting in integrated operations from day one.
- Completed PFS-level metallurgical test work demonstrating high quality spodumene concentrate product with a grade above 6.0% Li<sub>2</sub>O, iron oxide below 1.0%, and low impurities from representative samples using a combination of Dense Medium Separation ("DMS") and flotation technology;
- Continued the 25,000-meter Phase 4 drill program, where a total of 103 holes have been completed to date for a total of 17,187 meters;
- Completed Mineral Resource estimates and bench-scale metallurgical testwork for by-product quartz, feldspar and mica as by-products of spodumene concentrate from the Project. The Mineral Resource estimates were prepared by independent consultants, CSA Global Pty Ltd;
- Continued numerous preliminary off-take, financing and strategic conversations, including companies from the lithium, mining, chemicals, battery, automotive and private equity sectors;
- Completed an institutional placement of 145 million shares at A\$0.145 per share to raise gross proceeds of A\$21 million, led by cornerstone investor, Fidelity International ("Fidelity") and the Company's largest shareholder, AustralianSuper.

#### Next steps:

- Complete permitting to commence mining and processing operations at the Project;
- Commence permitting for the chemical plant in Q4 2019;
- Commence lithium hydroxide testwork in Q4 2019;
- Complete pre-feasibility study ("PFS") for the chemical plant in Q2 2020;
- Continue offtake discussions for lithium hydroxide with participants in the global battery supply chain; and
- Continue to evaluate strategic partnering options.

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PIEDMONT LITHIUM LIMITED

## **Project Overview**

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

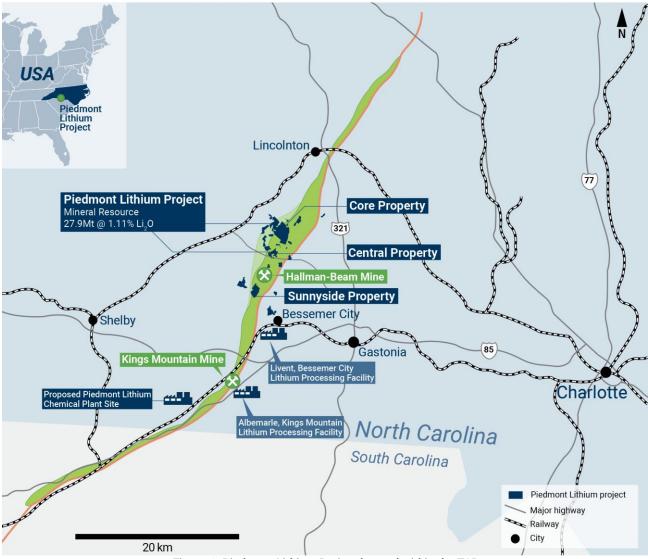


Figure 1: Piedmont Lithium Project located within the TSB

In August 2019 the Company published an updated Scoping Study for an integrated lithium hydroxide business, which featured a 25-year project life, NPV $_8$  of US\$1.45 billion, a US\$3,105 per tonne lithium hydroxide cash operating cost, and a US\$199 per tonne spodumene concentrate cash operating cost.

## **Expanded Scoping Study**

During the quarter, the Company announced the results of its updated Scoping Study ("Scoping Study") for its vertically integrated Piedmont Lithium Project located within the Carolina TSB in North Carolina, USA. This updated Scoping Study incorporates the expanded Mineral Resource update published in June 2019 which has extended the overall project life to 25 years.

The Project includes a lithium hydroxide chemical plant ("Chemical Plant") supplied with spodumene concentrate from an open pit mine and concentrator ("Mine" or "Mine/Concentrator"). The Project has compelling projected economics due to attractive capital and operating costs, long mine life, significant by-product credits, short transportation distances, minimal royalties and low corporate income taxes.

The Scoping Study includes a steady-state 22,700 tonnes per year ("t/y") lithium hydroxide ("LiOH") Chemical Plant supported by a Mine/Concentrator producing 160,000t/y of 6%  $\text{Li}_2\text{O}$  spodumene concentrate ("Concentrate" or "SC6.0"). By-products quartz, feldspar, and mica will provide credits to the cost of lithium production.

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

Highlights of the Scoping Study are as follows:

- Integrated project to produce 22,700t/y of LiOH;
- 25-year project life with 2 years of concentrate-only sales and 23 years of integrated operations;
- More than 100% increase in life-of-project LiOH production compared with prior studies;
- 1st quartile operating costs:
  - Lithium hydroxide cash costs of US\$3,105/t (AISC of US\$3,565/t);
  - Spodumene concentrate cash costs of US\$199/t (AISC of US\$238/t);
- Exceptional project economics:
  - NPV<sub>8</sub>% of US\$1.45B;
  - After-tax IRR of 34%;
- Steady-state annual average EBITDA of US\$298M;
- Mine/Concentrator engineering and metallurgical testwork completed to PFS-level; and
- Conventional technology selection in all project aspects.

#### First-Quartile Operating Costs

The integrated Piedmont project is projected to have an average life of project all-in sustaining cost ("AISC") of approximately \$3,565/t, including royalties and net of by-product credits, positioning Piedmont as the industry's lowest-cost producer as reflected in the 2028 lithium hydroxide cost curve<sup>1</sup> (see Figure 2).

<sup>&</sup>lt;sup>1</sup> AISC includes all direct and indirect operating costs including feedstock costs (internal AISC or external supply), refining, on-site G&A costs and selling expenses. It does not include costs associated with corporate-level G&A

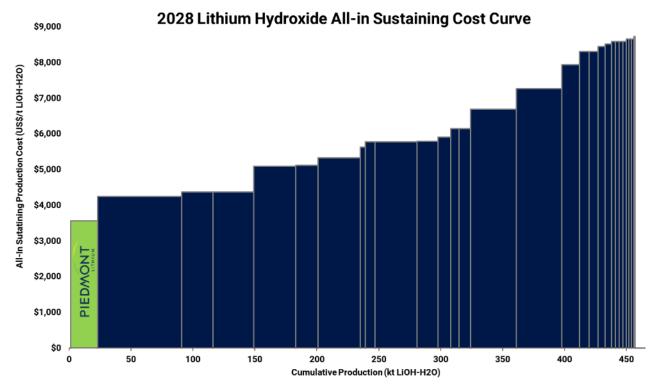


Figure 2: Lithium Hydroxide 2028 Cost Curve (Source - Roskill Lithium Cost Service)

#### **Comparison to Prior Studies**

In comparison to the prior Scoping Study published in September 2018, every year of additional project life is a year of 'integrated operation', resulting in higher levels of cash flow than in the early 'concentrate only' years.

Life-of-project LiOH production has thus more than doubled vs. the prior study, and EBITDA and NPV have correspondingly increased significantly. The project IRR has declined largely due to a more conservative assumption about the timing of initial capital spending and production ramp-up at the Mine/Concentrator.

Operating costs have remained in the first quartile after detailed scrutiny at a PFS-level, while capital expenditures at the Mine/Concentrator have increased by ~\$38M to reflect the increased scale of the Company's land position and more rigorous assessment of the Project's infrastructure requirements.

Table 1: Updated Scoping Study Comparative Results	Unit	2019 Study	2018 Study	% Change
Mineral Resource Estimate	Mt	27.9Mt @ 1.11% Li <sub>2</sub> O	16.2Mt @ 1.12% Li <sub>2</sub> O	72%
Project Life	years	25	13	92%
LOM Lithium Hydroxide Produced	kt	489	216	126%
LOM Spodumene Concentrate Produced	kt	3,810	1,960	94%
After-Tax Net Present Value (NPV <sub>8</sub> )	US\$M	\$1,447	\$888	63%
Average Steady State EBITDA	US\$M/y	\$298	\$235	27%
Internal Rate of Return (IRR)	%	34	46	-26%
Initial Capex - Integrated Project	US\$M	512	470	9%
Lithium Hydroxide Cash Costs	US\$/t	3,105	3,112	-

#### **Scoping Study Results**

The Scoping Study contemplates a 25-year project life, with the downstream lithium hydroxide chemical plant commencing in year 3 of mining operations. The ramp up period for Chemical Plant operations is estimated to achieve nameplate capacity after a 3 year ramp up period. The mining production target is approximately 25.6Mt at an average run of mine grade of 1.11% Li<sub>2</sub>O (undiluted) over the 25-year project life.

The following table provides a summary of production and cost figures for the integrated project.

Table 2: Piedmont Lithium Project – LOM Integrated Project	Unit	Estimated Value
PHYSICAL - MINE/CONCENTRATOR		
Mine life	years	25
Steady-state annual spodumene concentrate production	t/y	160,000
LOM spodumene concentrate production	t	3,805,000
LOM quartz by-product production	t	1,920,000
LOM feldspar by-product production	t	2,795,000
LOM mica by-product production	t	275,000
LOM feed grade (excluding dilution)	%	1.11
LOM average concentrate grade	%	6.0
LOM average process recovery	%	85
LOM average strip ratio	waste:ore	10.4:1
PHYSICAL - LITHIUM CHEMICAL PLANT	<u>.</u>	
Steady-state annual lithium hydroxide production	t/y	22,700
LOM lithium hydroxide production	t	489,000
LOM concentrate supplied from Piedmont mining operations	t	3,100,000
Chemical Plant life	years	23
Commencement of lithium hydroxide chemical production	year	3
OPERATING AND CAPITAL COSTS - INTEGRATED PROJECT		
Average LiOH production cash costs using self-supplied concentrate	US\$/t	\$3,105
Mine/Concentrator - Direct development capital	US\$M	\$106.2
Mine/Concentrator - Owner's costs	US\$M	\$11.3
Mine/Concentrator - Land acquisition costs	US\$M	\$28.3
Mine/Concentrator - Contingency	US\$M	\$22.1
Mine/Concentrator - Total initial capex	US\$M	\$167.9
Mine/Concentrator - Sustaining and deferred capital	US\$M	\$147.9
Mine/Concentrator - Working Capital	US\$M	\$20.0
Chemical Plant - Direct development capital	US\$M	\$252.6
Chemical Plant – Owner's costs	US\$M	\$12.1
Chemical Plant – Contingency	US\$M	\$79.4
Chemical Plant – Total initial capex	US\$M	\$344.1
Chemical Plant – Sustaining and deferred capital	US\$M	\$86.5
FINANCIAL PERFORMANCE - INTEGRATED PROJECT - LIFE OF PROJECT		
Annual steady state EBITDA	US\$M/y	\$240-\$340
Annual steady state after-tax cash flow	US\$M/y	\$195-\$260
Net operating cash flow after tax	US\$M	\$5,370
Free cash flow after capital costs	US\$M	\$4,630
After tax Net Present Value (NPV) @ 8% discount rate	US\$M	\$1,447
After tax Internal Rate of Return (IRR)	%	34

## **Phase 4 Drilling Program**

To date, 103 exploration holes have been completed totaling 17,187 meters as part of the Company's 25,000-meter Phase 4 drill program at the Project. Table 4 below outlines the details for the Phase 4 program.

Table 4: Phase 4 Drill Program Details					
Property	Holes Completed	Meters Completed	Holes - Reported		
Core	79	13,397	78		
Central	24	3,790	15		
Total	103	17,187	93		

Separately, the Company has drilled 6 sterilization holes totaling 925m on the proposed concentrator and waste rock stockpile sites. Assays are pending for those 6 holes.

## **Metallurgical Test Work**

During the quarter, Piedmont announced positive results from pre-feasibility study ("PFS") level metallurgical test work conducted on composite samples of ore from the Project performed at SGS testing laboratories in Lakefield, Ontario.

Dense Medium Separation ("DMS") and flotation Locked-Cycle Tests ("LCT") test work results showed high quality spodumene concentrate product with a grade above 6.0% Li<sub>2</sub>O, iron oxide below 1.0%, and low impurities from composite samples. Piedmont test results compare favorably in several quality categories with the reported shipments of three emerging Australian spodumene producers.

Table 6: Results of Dense Medium Separation + Locked Cycle Flotation Test Results (Composite Sample 1)							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$							P <sub>2</sub> O <sub>5</sub> (%)
Piedmont Composite Sample 1	1.11	6.35	0.93	0.63	0.49	0.96	0.32
Australian Producer 1	NR	6.00	1.20	NR	NR	NR	NR
Australian Producer 2	NR	5.90	1.50	NR	NR	NR	NR
Australian Producer 3	NR	6.10	0.61	0.80	0.76	0.79	0.30

NR: Not Reported

The composite samples were prepared to approximate the average grade of the Project's ore body. Overall lithium recovery during testwork for the preferred flowsheet was 77% at a grade of  $6.35\%~Li_2O$ . Simulations based on the testwork results support an overall plant design recovery of 85% when targeting a  $6.0\%~Li_2O$  spodumene concentrate product. Further optimization will be undertaken in a future feasibility level pilot testwork program.

The Company's forthcoming Scoping Study update will incorporate the updated flow sheet developed during this test work program. The benefit of incorporating DMS technology into the flow sheet will be reduced operating costs and accelerated ramp-up.

Figure 3 shows photographs of the coarse and fine DMS concentrates produced using the preferred process flow diagram. Piedmont spodumene concentrate is generally light green to white colored.



Figure 3. Coarse and fine final DMS concentrates produced from Piedmont composite samples

Based on the results of composite DMS and locked cycle flotation testwork the preferred process flow block diagram for the Project is shown in Figure 4.

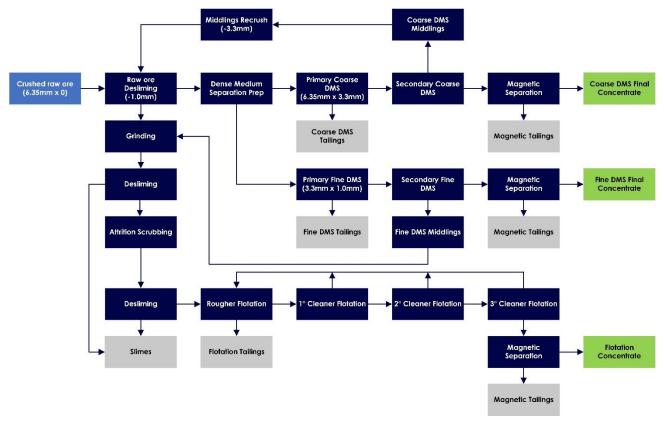


Figure 4. Potential concentrator block diagram showing dense medium and flotation circuits

## Corporate

#### Placement

During the quarter, the Company successfully completed an institutional placement of 145 million shares at an issue price of A\$0.145 per share to institutional investors to raise gross proceeds of A\$21 million ("Placement").

The Placement was led by cornerstone investor, Fidelity International ("Fidelity"), a global asset manager, and the Company's largest shareholder, AustralianSuper, the largest industry super fund in Australia. The remaining Placement shares were issued to a number of high-quality Australian and Asian institutions, including some existing shareholders and others new to the Piedmont story.

#### Strategic Discussions

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

### **Exploration Interests**

As at September 30, 2019, the Company owns or has entered into exclusive option agreements or land acquisition agreements with local landowners, which upon exercise, allow the Company to purchase (or in some cases long-term lease) approximately 2,279 acres of surface property and the associated mineral rights from the private landowners. During the quarter, the Company entered into exclusive option agreements and/or land acquisition agreements with local landowners for an additional approximately 72 acres of surface property and the associated mineral rights from the private landowners.

#### **Forward Looking Statements**

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

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

The Project's Core Property Mineral Resource of 25.1Mt @ 1.13%  $Li_2O$  comprises Indicated Mineral Resources of 12.5Mt @ 1.13%  $Li_2O$  and Inferred Mineral Resources of 12.6Mt @ 1.04%  $Li_2O$ . The Central Property Mineral Resource of 2.80Mt @ 1.34%  $Li_2O$  comprises Indicated Mineral Resources of 1.41Mt @ 1.38%  $Li_2O$  and 1.39Mt @ 1.29%  $Li_2O$ .

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

#### **Competent Persons Statements**

The information in this report that relates to Exploration Results, Exploration Targets, Mineral Resources, Metallurgical Testwork Results, Process Design, Process Plant Capital Costs, and Process Plant Operating Costs, Mining Engineering and Mining Schedule was extracted from our ASX announcement dated August 7, 2019 entitled "Updated Scoping Study Extends Project Life and Enhances Exceptional Economics" which is available to view on the Company's website at <a href="https://www.piedmontlithium.com">www.piedmontlithium.com</a>.

Piedmont confirms that: a) it is not aware of any new information or data that materially affects the information included in the original ASX announcements; b) all material assumptions and technical parameters underpinning Mineral Resources, Exploration Targets, Production Targets, and related forecast financial information derived from Production Targets included in the original ASX announcements continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this report have not been materially modified from the original ASX announcements.

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## **Appendix 5B**

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

#### Name of entity

Piedmont Lithium Limited				
ABN Quarter ended ("current quarter")				
50 002 664 495	September 30, 2019			

Con	solidated statement of cash flows	Current quarter US\$000	Year to date (3 months) US\$000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(1,776)	(1,776)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(657)	(657)
	(e) administration and corporate costs	(251)	(251)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	39	39
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Research and development refunds	-	-
1.8	Other (provide details if material):		
	(a) business development & investor relations	(285)	(285)
1.9	Net cash from / (used in) operating activities	(2,930)	(2,930)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	(734)	(734)
	(c) investments	-	-
	(d) other non-current assets	-	-

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<sup>+</sup> See chapter 19 for defined terms

Cons	olidated statement of cash flows	Current quarter US\$000	Year to date (3 months) US\$000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(734)	(734)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	14,690	14,690
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	(751)	(751)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	13,939	13,939

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	4,432	4,432
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(2,930)	(2,930)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(734)	(734)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	13,939	13,939
4.5	Effect of movement in exchange rates on cash held	(180)	(180)
4.6	Cash and cash equivalents at end of period	14,527	14,527

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

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5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter US\$000	Previous quarter US\$000
5.1	Bank balances	4,317	1,955
5.2	Call deposits	10,210	2,477
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	14,527	4,432

6.	Payments to directors of the entity and their associates	Current quarter US\$000
6.1	Aggregate amount of payments to these parties included in item 1.2	(260)
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-

6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

Payments include directors' fees, superannuation, executive remuneration, company secretarial services and provision of a fully serviced office.

7.	Payments to related entities of the entity and their associates	Current quarter US\$000
7.1	Aggregate amount of payments to these parties included in item 1.2	-
7.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-

7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

Not applicable.

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end US\$000	Amount drawn at quarter end US\$000
8.1	Loan facilities	-	-
8.2	Credit standby arrangements	-	-
8.3	Other (please specify)	-	-

8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.

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<sup>+</sup> See chapter 19 for defined terms

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9.	Estimated cash outflows for next quarter	US\$000
9.1	Exploration and evaluation	(2,100)
9.2	Development	-
9.3	Production	-
9.4	Staff costs	(610)
9.5	Administration and corporate costs	(800)
9.6	Other (provide details if material)	-
9.7	Total estimated cash outflows	(3,510)

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	-	-	-	-
10.2	Interests in mining tenements and petroleum tenements acquired or increased		Freehold land and/or options to purchase or lease surface property and associated mineral rights from private landowners	100% (2,207 acres)	100% (2,279 acres)

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

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#### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here: Date: October 31, 2019

(Director/Company secretary)

Print name: Gregory Swan

#### **Notes**

- The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
- 2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

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<sup>+</sup> See chapter 19 for defined terms