Pure Minerals (ASX: PM1), through its wholly owned subsidiary Queensland Pacific Metals Pty Ltd, is focused on developing a modern battery metals refinery in northern Queensland.

Pure Minerals Limited

For personal use only

ASX RELEASE
28 October 2020

Quarterly Activities Report - September 2020

Highlights

- **Significant progress on pilot plant works at ALS Global Hydrometallurgy Centre of Excellence in preparation for first run in November 2020**
- **Ongoing discussions with potential offtakers resulting in Memorandum of Understanding being executed with LG Chem**
- **Joint iron development initiative undertaken with Sun Metals (100% subsidiary of Korea Zinc) regarding hematite product**
- **Research and development Memorandum of Understanding signed with James Cook University with initial focus on commercial use of TECH Project residue**
- **$4.4M capital raised in strongly supported placement**
- **Appointment of Chief Executive Officer Dr Stephen Grocott**

Pure Minerals Limited (ASX:PM1) ("**PM1**" or "the **Company**") is pleased to provide the following update on its activities for the quarter ending 30th September 2020.

During the quarter, PM1's wholly owned subsidiary, Queensland Pacific Metals Pty Ltd ("**QPM**") continued to advance the Townsville Energy Chemicals Hub Project ("**TECH**" or the "**Project**").

Pilot Plant Activities

QPM assessed two options for its piloting activities:

- Use of existing DNi Process™ pilot plant located at CSIRO, which required refurbishment and modification; and
- Undertaking piloting activities at ALS Global Hydrometallurgy Centre of Excellence ("**ALS Global**").

After tending the various work streams required, it was decided that undertaking the pilot plant trials at ALS Global was the preferred option from a cost and schedule perspective.

During the quarter, a number of key tasks were either advanced or completed in preparation for first pilot plant trials in November. This includes:

Pure Minerals Limited (A.C.N: 125 368 658)
A: Level 1, 1 Altona Street, West Perth, WA, 6005
E: info@pureminerals.com.au
W: www.pureminerals.com.au

For personal use only

- Establishment of pilot plant team which includes representatives from QPM, Altilium (formally Direct Nickel), ALS Global, CSIRO and Hatch.
- Preparation of bulk sample including drying and assaying;
- Confirmatory batch testwork as part of pilot plant set up and equipment selection;
- Finalisation of flowsheet and pilot plant setup; and
- Ordering of consumables.

At the time of this quarterly report, QPM remains on schedule to commence piloting in November.

The main goals of the pilot plant operation are:

- Reconfirm flowsheet with representative ore from New Caledonia;
- Generate samples for potential offtakers, including LG Chem; and
- Generate supplementary results to feed into Bankable Feasibility Study.



Figure 1: Drying of bulk sample

For personal use only



Figure 2: Assembling pilot plant at ALS Global

Offtake Discussions

To date, the majority of QPM's offtake marketing efforts have been focussed on Asia, largely due to constraints associated with COVID-19. Moving forward, QPM plans to increase its efforts into include Europe and North America.

During the quarter, extensive discussions were held with potential customers interested in purchasing nickel and cobalt from the TECH Project, in the form of mixed hydroxide precipitate ("**MHP**") or sulfate battery chemicals.

These discussions have culminated in Pure Minerals entering into a non-binding Memorandum of Understanding ("**MOU**") with LG Chem, Ltd. ("**LG Chem**") (announced subsequent to quarter end). As part of the MOU, Pure Minerals and LG Chem have agreed to negotiate in good faith to enter into a binding offtake agreement on the following key terms:

- 10,000tpa contained nickel in the form of MHP or nickel sulphate;
- 1,000tpa contained cobalt in the form of MHP or cobalt sulphate;
- Pricing linked to the underlying price of nickel and cobalt on the London Metals Exchange with consideration given to purity and specification;
- 3 – 5 year term; and

For personal use only

- Consideration of a prepayment by LG Chem.

The tonnage considered in the MOU for nickel and cobalt exceeds the levels contemplated as part of the TECH Project Pre-Feasibility Study. As such, in order for the TECH Project to meet the demand of LG Chem, the parties will work together to evaluate the opportunity to increase the scale of the TECH Project. This workstream is being accelerated to ensure timely commencement of a bankable feasibility study in 2021.

The parties will also work together on product specification, so Pure Minerals can meet the technical requirements of LG Chem.

The MOU with LG Chem is a significant milestone for the Company. LG Chem is the largest producer in the world of lithium ion batteries and a top 10 global chemicals company.

Joint Iron Development with Sun Metals (100% Korea Zinc subsidiary)

One of the co-products produced by the TECH Project is a high grade, low impurity haematite, or iron oxide. As part of the DNi Process™, the haematite is a natural co-product, with iron being one of the first metals recovered. In order to improve materials handling for transport purposes and ultimate sale, the iron co-product will be agglomerated into pellets.

Sun Metals Corporation Pty Ltd ("**Sun Metals**") owns and operates the Sun Metals zinc refinery in Townsville. Sun Metals is currently undertaking an expansion and upgrade of the refinery which will result in the production of its own iron oxide product.

During the quarter, QPM and Sun Metals entered into an MOU to assess the potential of combining the two iron oxide products to create a single, saleable product. The potential benefits for this include:

- Increased scale and market presence; and
- Potential cost savings arising from synergies relating to product agglomeration, logistics and marketing.

As part of the MOU, the parties have agreed to form a Project Team to undertake the following:

- An assessment into the marketability of a joint iron oxide product with consideration given to grade, physical properties, impurities and other factors that would influence pricing and appeal to potential offtakers;
- Testwork to verify the ability to produce a combined product;
- A scoping study to determine preliminary economic results of producing a combined product; and
- An investigation of any other opportunities and benefits that may arise from this project.

The team of the MOU is for 12 months and costs will be shared equally.

For personal use only

If the Project studies are successful, QPM and Sun Metals have agreed to negotiate in good faith a commercial arrangement that is mutually beneficial. This may include joint venture, offtake for each parties' respective product or some other commercial structure.

Agglomeration test work has commenced, converting iron fines into pellets, which will help facilitate sale into blast furnace feed market for steel making. Initial trials have been successful, demonstrating successful agglomeration.



Figure 3: Agglomeration of iron fines into pellets

Tailings Research and Development

QPM has entered into a MOU with James Cook University, Townsville ("JCU Townsville") regarding joint studies for the TECH Project. The initial focus of the research program relates to the leach residue produced from the TECH Project.

A sustainability advantage of the TECH project is that the remaining inert residue is only ~20% of the feed ore. This compares with high pressure acid leach ("HPAL"), which produces a greater mass of waste than its feed ore (~120%).

Another advantage of the TECH Project is that this benign residue can be dry-stacked. This eliminates the need for risky tailings dams or pressure filtration plants associated with HPAL operations and which are expensive to build and maintain. One HPAL operation practices ocean disposal of tailings and others are contemplating this.

The initial focus of the research program with JCU Townsville is on the characterisation of this residue and the potential to convert it to commercial applications. These include engineered land fill and non-structural construction material applications such as blocks, pavers and cement feed.

If the TECH Project was able to redirect its small amount of inert residue to commercial application, it would deliver an additional revenue stream. More importantly though, the TECH Project would effectively become the world's first "zero-waste" nickel/cobalt production facility. This step-change

For personal use only

would be attractive to the end users of battery chemicals, international conglomerates who are focussed on ensuring that their raw materials are responsibly sourced, both from an environmental and social perspective.

Corporate and Cash

Dr Stephen Grocott was appointed as Chief Executive Officer effective 21st July. Dr Grocott brings a wealth of experience in mining and mineral processing with almost 40 years of domestic and international experience.

In August, Metamor Capital increased the size of R&D facility to $632k (increase of $35k). The remaining balance of $222k was drawn down. During September, Pure Minerals submitted its R&D tax return, and expects a return of $702k. Upon receipt of the tax return, Pure Minerals will repay the Metamor capital facility.

During September, Pure Minerals completed a placement of $4.4m (gross of fees) to institutional and sophisticated investors. The placement was heavily over-subscribed. Tranche 1 of the placement has been settled, with tranche 2 to be settled next quarter, subject to approval from shareholders.

The cash balance as at 30 September was $2.3m.

Additional ASX Information

ASX Listing Rule 5.3.1

Exploration and Evaluation during the quarter was $1,199,000. The majority of this was spent on the Company's TECH Project.

ASX Listing Rule 5.3.2

There were no substantive mining production and development activities during the quarter.

Tenement Table: ASX Listing Rule 5.3.3

Tenements currently held by PM1 as at 30 September 2020 are detailed in the table below.

Tenement ID	Status	Applic Date	Granted Date	Expiry Date	Holding	Name	Registered Co.
EPM27035	GRANTED	28-Aug-2018	12-Feb-19	12-Feb-21	100%	Serpentinite Ridge	Queensland Pacific Metals Pty ltd

ASX Listing Rule 5.3.5

Related Party	Amount	Description
Directors	$54,291	Periodical Director Fees in accordance with Director Agreement

This announcement has been authorised by the board of directors of Pure Minerals Limited.

For personal use only

For more information, please contact:

John Downie
Managing Director
jdownie@qpmetals.com.au
+61 (0) 408 329 262

Stephen Grocott
Chief Executive Officer
sgrocott@qpmetals.com.au
+61 (0) 409 417 326

About Pure Minerals

Pure Minerals (ASX: PM1), through its wholly owned subsidiary Queensland Pacific Metals Pty Ltd (QPM), is focused on developing a modern battery metals refinery in northern Queensland.

The Townsville Energy Chemicals Hub or TECH, will process imported, high grade Ni-Co laterite ore from New Caledonia to produce nickel sulphate, cobalt sulphate and other valuable co-products.

Pure Minerals' senior management has combined experience of more than 60 years in nickel refinery operations and is well versed in dealing with nickel and cobalt buyers around the world.

With established infrastructure, a well-developed labour pool and a long history of processing imported laterite ore, Townsville is the ideal location for the project.

Forward Looking Statement

This Announcement contains certain forward-looking statements with respect to the financial condition, results of operations, and business of the Company, and certain plans and objects of the management of the Company. These forward-looking statements involved known and unknown risks, uncertainties and other factors which are subject to change without notice, and may involve significant elements of subjective judgement and assumptions as to future events which may or may not occur. Forward-looking statements are provided as a general guide only and there can be no assurance that actual outcomes will not differ materially from these statements. Neither the Company or its directors, QPM or its directors, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. In particular, those forward-looking statements are subject to uncertainties and contingencies, many of which are outside of the control of the Company. A number of important factors could cause actual results or performance to differ materially from the forward-looking statements. Accordingly, Investors should consider the forward-looking statements contained in this Announcement in light of these disclosures.

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Pure Minerals Limited

ABN	Quarter ended ("current quarter")
61 125 368 658	30 September 2020

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation (if expensed)	(913)	(913)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(44)	(44)
	(e) administration and corporate costs	(286)	(286)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	2	2
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	266	266
1.8	Other (provide details if material)	-	-
1.9	**Net cash from / (used in) operating activities**	**(975)**	**(975)**

2.	**Cash flows from investing activities**		
2.1	Payments to acquire:		
	(a) entities		
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation (if capitalised)	(3)	(3)
	(e) investments	-	-
	(f) other non-current assets	-	-

For personal use only

For personal use only

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) 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**	**(3)**	**(3)**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	1,634	1,634
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(131)	(131)
3.5	Proceeds from borrowings	220	220
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	(16)	(16)
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	**Net cash from / (used in) financing activities**	**1,707**	**1,707**

4.	**Net increase / (decrease) in cash and cash equivalents for the period**		
4.1	Cash and cash equivalents at beginning of period	1,557	1,557
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(975)	(975)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(3)	(3)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	1,707	1,707

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	**Cash and cash equivalents at end of period**	**2,286**	**2,286**

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 $A'000	Previous quarter $A'000
5.1	Bank balances	2,286	1,557
5.2	Call deposits	-	-
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)**	**2,286**	**1,557**

6.	Payments to related parties of the entity and their associates	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	(54)
6.2	Aggregate amount of payments to related parties and their associates included in item 2	

Director and consulting fees paid to Directors and/or Director related entities $54,291

For personal use only

7.	**Financing facilities** *Note: the term "facility' includes all forms of financing arrangements available to the entity.* *Add notes as necessary for an understanding of the sources of finance available to the entity.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
7.1	Loan facilities	632	632
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	**Total financing facilities**	632	632

7.5	**Unused financing facilities available at quarter end**	-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.	

Queensland Pacific Metals entered into a facility agreement with Metamor Capital Partners, the Company utilised the full facility. The interest rate is set at 13.5%. Pure Minerals is guarantor under the facility agreement and the loan is secured against the assets of Pure Minerals.

8.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (Item 1.9)	(975)
8.2	Capitalised exploration & evaluation (Item 2.1(d))	(3)
8.3	Total relevant outgoings (Item 8.1 + Item 8.2)	(978)
8.4	Cash and cash equivalents at quarter end (Item 4.6)	2,286
8.5	Unused finance facilities available at quarter end (Item 7.5)	-
8.6	Total available funding (Item 8.4 + Item 8.5)	2,286
8.7	**Estimated quarters of funding available (Item 8.6 divided by Item 8.3)**	2

8.8 If Item 8.7 is less than 2 quarters, please provide answers to the following questions:

1. Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer:

2. Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer:

3. Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

For personal use only

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.

Date: 28 October 2020

Authorised by: The Board of PM1.

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.

2. If this quarterly cash flow 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 cash flow 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.

4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".

5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

For personal use only