ASX RELEASE
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Successful Pilot Plant Campaign Provides Confidence to Proceed to DFS

Highlights

- **Successful pilot plant campaign confirms flowsheet, providing QPM with the confidence to proceed towards DFS for the TECH Project**
- **14 dry tonnes of representative New Caledonian ore processed, which has produced MHP product to send to potential offtakers and to facilitate nickel and cobalt sulfate refining testwork**
- **Nitric acid ore leach performance exceeded expectations with 98.7% nickel extraction, 96.0% cobalt extraction and 95.3% iron extraction**
- **Solid-liquid separation performance of leach residue exceeded design expectations confirming that the TECH Project will not require any tailings dam**
- **Iron precipitation yielded high-grade 61.6% Fe hematite product that will now be prepared for agglomeration and testing as blast furnace feed for steel making**
- **Successful recovery of nitric acid from iron hydrolysis circuit producing acid at the design concentration which was recycled directly back to the leach circuit**

Queensland Pacific Metals Ltd (ASX:QPM) ("**QPM**" or "the **Company**") is pleased to provide an update on pilot plant activities associated with the proposed development of the Townsville Energy Chemicals Hub (TECH) Project in north Queensland.

Pilot Plant Testwork Overview

QPM's pilot plant testwork has focussed on the Direct Nickel process ("**DNi Process™**") and its application to representative ore sourced from QPM's ore supply partners Societe des Mines de la Tontouta ("**SMT**") and Societe Miniere Georges Montagnat S.A.R.L ("**SMGM**").

The piloting has been undertaken by ALS Global at its Balcatta Centre of Hydrometallurgy Excellence for QPM, in conjunction with consultants and partners including Altilium Group, CSIRO and Hatch. The second pilot plant campaign concluded on Saturday 13th February with the pilot plant in operation for 15 days.

Across the two campaigns, 14 dry tonnes of ore have been processed through the pilot plant, yielding nickel-cobalt mixed hydroxide precipitate ("**MHP**"), co-products and leach residue. The pilot plant testwork has demonstrated the successful application of the DNi Process™ to representative ore that QPM plans to process at the TECH Project. No fatal flaws were identified throughout which gives QPM the confidence to proceed with undertaking a Definitive Feasibility Study ("**DFS**") for the TECH Project.

QPM CEO Stephen Grocott commented,

"Continuous pilot plant operation is difficult work given the scale and limited automation compared with a commercial plant, so I would like to share my appreciation for the hard work put in by all involved. Overall, the pilot testwork has been a success, delivering on key outcomes and also identifying potential areas of improvement which will be incorporated into the DFS. We are now ready to select an Engineering Contractor with which to undertake the DFS."

Leach Characteristics

The DNi Process™ utilises nitric acid leaching under atmospheric conditions. The pilot plant used a ratio of 2.5 tonnes 100% equivalent acid for every dry tonne of ore under a leach residence time of 4 hours. These were the same assumptions utilised in the Pre-Feasibility Study. Leach extractions of primary battery metals nickel and cobalt and co-products exceeded expectations, yielding the following results:

Metal	Leach extraction
Nickel	98.7%
Cobalt	96.0%
Iron	95.3%

Table: Pilot plant leach extraction

Other co-product metals also leached very well and extraction levels will be reported in due course.

MHP Production

Sufficient MHP was produced to allow QPM to provide samples to potential offtakes and undertake its sulfate refining testwork. MHP is currently being prepared for sending to potential offtakers.

In the flowsheet, nickel and cobalt are the penultimate metals to precipitate. In this step, the selectivity of nickel over manganese (which is also present in the ore) is important to ensure good quality MHP is produced. The selectivity of nickel over manganese in the MHP exceeded expectations.

Leach Residue

One of the important sustainability characteristics of the TECH Project is that it will not require a tailings dam to store residue from ore processing. Tailings dams are expensive both from a capital and operating cost point of view and obviously have a large sustainability footprint and create environmental risks.

Electric vehicle manufacturers are concerned with how key battery metals are produced. Therefore, sustainability criteria are important when assessing nickel and cobalt supply. QPM notes the recent decision by the Indonesian government not to grant additional permits for deep sea tailings disposal. This will affect new nickel projects being built in Indonesia, which will now require tailings dams that are generally unsuitable in regions with high seismic activity and heavy rainfall.

Once all the metals were leached from the ore, counter current thickening and washing was used to settle out the solids. The solids were then filtered and washed to remove any residual acid resulting in the final leach residue product shown below.

Figure: Leach residue for evaluation as engineered landfill

The worst-case scenario for the TECH Project, and what was considered in the PFS, is that the residue will be dry stacked (producing ~0.15 dry t residue per tonne of ore versus 1.2 – 1.4 t/t for the competitor HPAL projects). As previously announced, QPM is working with James Cook University in Townsville to assess commercial applications for the residue. The first step is to undertake characterisation testwork on the residue, which will commence soon.

Proving up the TECH Project to be a zero liquid / zero solids discharge project will further increase its appeal to potential offtakers and green investment funds. This would be a major sustainability step-change for nickel production.

Hematite

Iron is the first metal product precipitated after leaching and is a valuable co-product for the TECH Project. Iron precipitation yielded a high-grade 61.6% Fe hematite product that was also extremely low in aluminium, silica and phosphorus impurities that affect pricing of DSO iron ore.

Figure: Precipitated iron from pilot plant

Metal	Concentration
Fe	61.6%
Cr	1.15%
Mn	1.10%
Al	0.52%
SI	0.17%
S	0.22%
P	<0.005%

Table: Hematite product assays

The hematite produced from the pilot plant is now being prepared for agglomeration testwork and subsequent testing as blast furnace feed for steel making.

Current iron ore pricing is strong and high grade products with extremely low impurities such as alumina, silica and phosphorus will be produced by the TECH project should attract significant premiums over spot prices. The hematite product produced by the TECH Project has the potential to add significant value.

Acid Recovery and Recycle

Acid recovery and recycle are key components of the DNi Process™. After leaching of the ore and removal of insoluble silicates, iron hydrolysis is the next step in the flowsheet. The nitric acid is what keeps the iron in solution, and removal of this nitric acid results in the iron precipitating as high purity hematite.

The pilot plant confirmed successful recovery of nitric acid from the iron hydrolysis circuit producing acid at the design concentration which was recycled directly back to the leach circuit.

Next Steps

The next steps for QPM are:

- Testwork relating to refining of pilot plant products into final saleable products (nickel sulfate, cobalt sulfate, high purity alumina, hematite, magnesia and nitric acid recycle);
- Preparation and distribution of samples to offtakers;
- Collection of pilot plant data for use as part of DFS;
- Evaluation of potential flowsheet improvements to be evaluated in the DFS that further enhance the TECH project; and
- Selection of an Engineering Contractor.

This announcement has been authorised for release by the Board.

For more information, please contact:

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

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

Luke Forrestal
Media Enquiries
Luke.forrestal@mcpartners.com.au
+61 (0) 411 479144

Competent Persons Statement

Information in this announcement relating to the processing and metallurgy is based on technical data compiled by Mr Boyd Willis, an Independent Consultant trading as Boyd Willis Hydromet Consulting (BWHC). Mr Willis is a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Willis has sufficient experience which is relevant to metal recovery from the style of mineralisation and type of deposits in New Caledonia where the ore will be sourced (from third parties pursuant to an ore supply agreement) and to the activity which they are undertaking to qualify as a Competent Person under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. This includes over 21 years of experience in metal recovery from Laterite ores. Mr Willis consents to the inclusion of the technical data in the form and context in which it appears.

ANNEXURE – JORC TABLES

1.1 Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The leach ore bulk sample was sourced directly from the mine face by laterite supplier SMT in New Caledonia. • The bulk sample direct from the mine face was loaded using a small backhoe into individually sampled 1 tonne bulk bags, containerised (with security seal) and shipped directly from New Caledonia to SGS Minerals Metallurgy in Malaga, Western Australia • The 80 off 1 tonne bulk bags making up the bulk sample, monitored by a QPM representative was indicative of the specification required under the terms outlined an ore supply MoU between QPM, SMT and SMGM.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• No exploration drilling was undertaken

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• No exploration drilling was undertaken
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• No exploration drilling or logging was undertaken
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• No exploration drilling or logging was appropriate, required or undertaken. • The bulk sample was supplied to SGS on the 29/05/20 and was classified as being type SMT by QPM. • It was received from the mine site as a moist, lumpy material ranging from extremely weathered rock to hard clay and silt consistency. • Prior to delivery to SGS, the bulk sample was inspected in accordance with Australian Quarantine requirements. • The bulk sample bulk bags were individual auger sampled. The sample was dried and assayed to confirm the grade. The bulk bags were individually decanted into large stainless steel trays and dried, screened to -100mm to remove large rocks and milled to 100% passing 1.4mm The dried and milled bulk sample was blended and loaded into 200L sealed drums. The bulk sample quantity was selected to be appropriate for the pilot plant campaign requirements.
Quality of assay data	• *The nature, quality and appropriateness of the assaying and laboratory*	• The method used to assay solid and leach

Criteria	JORC Code explanation	Commentary
and laboratory tests	*procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	liquor samples is included in SGS's NATA certifications • No geophysical tools were used for assay purposes. • Quality control and assay procedures covered by SGS's NATA accreditation.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No exploration drilling or sampling was undertaken
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• No exploration drilling was undertaken
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• No exploration drilling was undertaken.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• No exploration drilling was undertaken.

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• The bulk sample was collected, secured and sent in sealed containers via a registered transport company (QUBE), and delivered directly to the SGS laboratory.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Ni Labs in New Caledonia assayed the sub samples taken from each bulka bag, SGS auger sampled each bag at their laboratory in Western Australia and the assays were found to within industry acceptable range

1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Not Applicable • The bulk Sample was sourced from third party supplier SMT in New Caledonia.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Not Applicable
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Not Applicable.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly*	• No exploration drilling or sampling was undertaken.

Criteria	JORC Code explanation	Commentary
	explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No exploration drilling or sampling was undertaken. • Metal equivalents were not used or reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• No exploration drilling was completed.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• No exploration drilling was completed.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• No exploration results have been reported sampling was carried out on in situ laterite.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Exploration drilling was not carried out.

Criteria	JORC Code explanation	Commentary
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• No drilling or exploration work is planned.