Pure Minerals Limited

28 September 2017

ASX Announcement

DRILLING PLANS FINALISED AND INITIAL ROCK CHIP RESULTS FOR BATTERY HUB MANGANESE PROJECT, WA

- **Program of Work for RC drilling at Battery Hub submitted to the Western Australian Department of Mines, Industry Regulation and Safety**
- **Drilling program expected to deliver maiden JORC 2012-compliant resource**
- **Initial rock chip assays include a high-grade result of 47.0% Mn from the Pools prospect, representing new drilling target**

Pure Minerals Limited (ASX: PM1) ("Pure Minerals", "the Company") is pleased to announce the completion of plans for drilling at its Battery Hub project in Western Australia's Gascoyne region, as well as initial results from rock chip sampling completed during August 2017.

Program of Work Submitted

Pure Minerals has submitted an Exploration Program of Work (PoW) to the WA Department of Mines, Industry Regulation and Safety, seeking approval to begin Reverse Circulation drilling on tenement E09/2217 within the Battery Hub project.

The initial focus will be zones of high grade and thick manganese mineralisation identified in a detailed review of historic drilling completed by the Company and the recent rock chip sampling. These zones are considered to possess the most potential to deliver a JORC 2012-compliant resource.

The drilling program, which will comprise more than 50 RC drill holes for more than 2,000 metres, will also focus on new areas of mineralisation identified in Pure Minerals' rock chip sampling (Figures 1 and 2).

Proposed drill holes are outlined in Figure 1. The first drill targets are expected to be the Isle and Julia prospects.

Initial Rock Chip Sampling Results

Numerous manganese prospects are known to occur along the entire strike length of the Battery Hub host formation, many of which have previously been drill-tested. In total, previous operators have drilled more than 500 individual holes on the tenements.

Pure Minerals, however, is focusing on areas that have received minimal attention in the past. One such area, the Pools prospect in the south of E09/2217, returned rock chip samples with grades of 25.7% Mn and 47.0% Mn in recent assays.

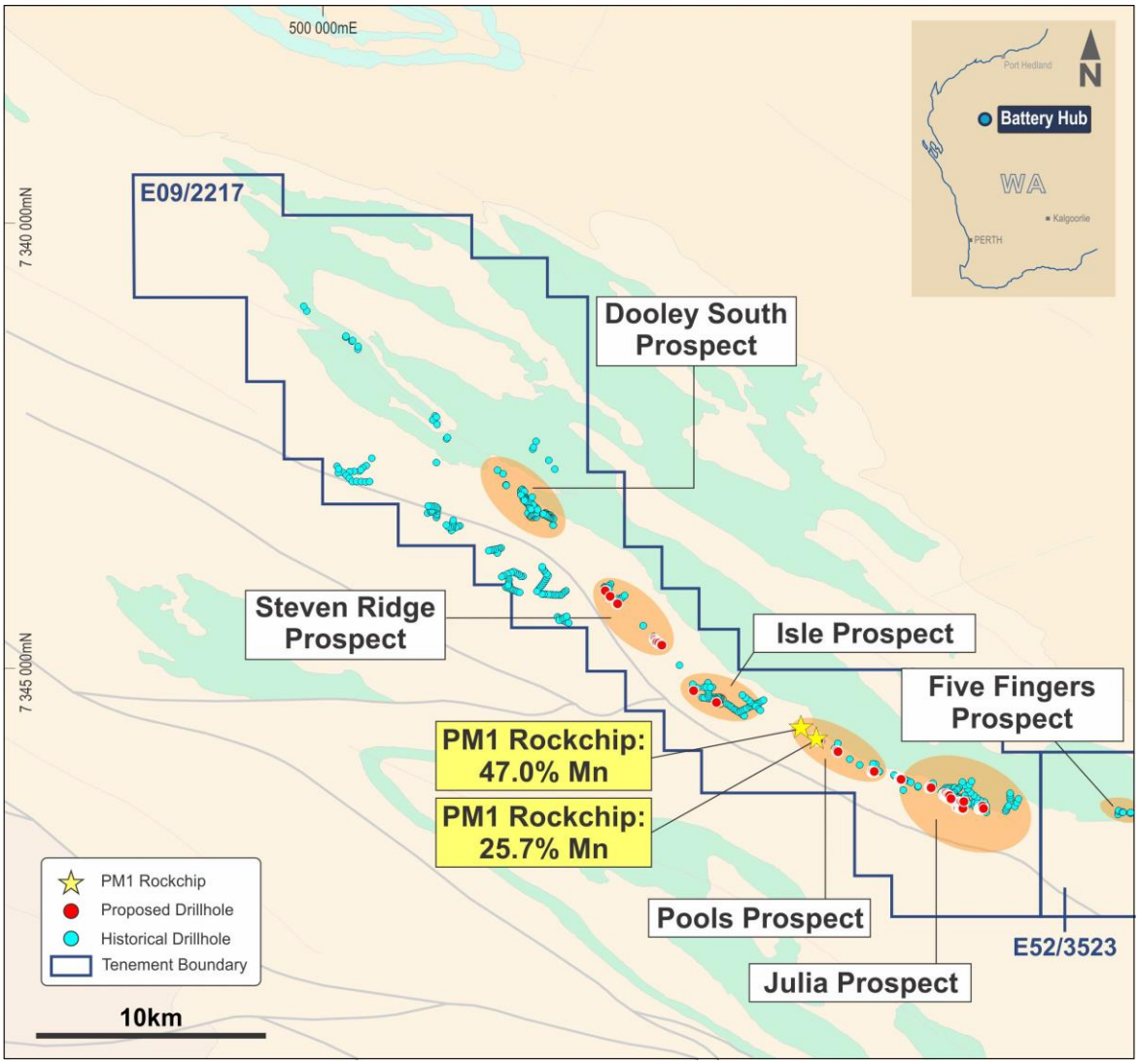

Figure 1: Location map of prospects, historic and proposed drill collars and rock chip results at Battery Hub

Sample ID	Prospect Name	MnO (%)	Mn (%)
BHS01	Pools	33.2	**25.7**
BHS02	Pools	60.7	**47.0**

Figure 2: Rock Chip Results from Battery Hub project in Western Australia. Analysis completed by ALS Global Laboratories located in Malaga, Western Australia, using fused disc XRF (ALS method ME-XRF26s) technique and reported as a MnO (%) grade. Mn (%) content was calculated by multiplying MnO (%) by 0.7745.

The **Pools prospect** occurs more than 5km along strike to the west of the Julia prospect, which was a focus of historic drilling activities. The outcrop represents a gently-dipping zone of mineralisation of more than 9m width at surface and 80-100m strike length (Figure 3, below).

Figure 3: Outcropping manganese mineralisation at the Pools prospect. Source: Pure Minerals Ltd.

Pure Minerals has submitted rock chip samples for petrographic analysis. This analysis will determine the mineralogy and grain sizes of manganese and non-manganese minerals, with the ultimate objective of establishing preliminary processing options for manganese ore beneficiation.

Pure Minerals Executive Director and CEO, Sean Keenan, said: "*Pure Minerals is in the fortunate position of being able to utilise a historic database of more than 500 drill holes to assist in the planning of drilling and resource definition. The surface results have identified extensive zones of manganese mineralisation with enriched grades that are above the thresholds for direct shipping, as well as new high-priority targets for follow-up drilling.*"

Other Work at Battery Hub

Pure Minerals continues to review historic data and has engaged in reconnaissance of the area with a view to developing a drilling program at the neighbouring E52/3523 tenement, which Pure Minerals anticipates will be granted in late October 2017. This tenement hosts the Five Fingers target, which the Company views as highly prospective for manganese mineralisation.

FURTHER INFORMATION:

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Appendix A: Rock Chip Sampling Results

Sample ID	Easting	Northing	MnO (%)	Mn (%)
BHS01	522,210	7,316,947	33.2	**25.7**
BHS02	521,516	7,317,445	60.7	**47.0**

Locations determined using GPS operated by Pure Minerals Limited.
Rock Chip Results from Battery Hub project in Western Australia. Analysis completed by ALS Global Laboratories located in Malaga, Western Australia, using fused disc XRF (ALS method ME-XRF26s) technique and reported as a MnO (%) grade. Mn (%) content was calculated by multiplying MnO (%) by 0.7745.

Appendix B. The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of Exploration Results for the Battery Hub Project

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

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.*	• Rock Chip sampling was carried out at geologist's discretion by a suitably qualified geologist. Sampling was taken to test geological features therefore may not be representative of mineralisation at the project.
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).*	• Not relevant as no drilling results are presented.
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.*	• Not relevant as no drilling results are presented.

Criteria	JORC Code explanation	Commentary
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.*	• Not relevant as no drilling results are presented.
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.*	• Standard lab preparation and sub sampling techniques used. • Appropriate protocols used for reconnaissance sampling.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Rock chip samples were analysed by ALS Laboratory in Perth (a quality certified laboratory). • Two sub samples were analysed, the first prepared using multi acid digestion and analysed for a suite of elements by ICP-AES and ICP-MS (ALS method ME-MS61). The second was analysed by fused disc XRF (ALS method ME-XRF26s). • No QA/QC samples were added which is not unusual for first pass / reconnaissance exploration. • These assay methods are considered appropriate for the metals being investigated.
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..*	• All primary data is held by the Company. • No adjustments to assay data have been made.
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*	• Sample points were located in GDA94 Zone 50 datum using a handheld GPS (+/- 5m accuracy). • The quality and adequacy of topographic control is not

Criteria	JORC Code explanation	Commentary
	used in Mineral Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	known.
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 regular spacing utilised as reconnaissance sampling. • Samples not appropriate for use in a Mineral Resource.
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.*	• Insufficient data to determine whether there is any bias in results from orientation or the actual orientation of mineralisation.
Sample security	• *The measures taken to ensure sample security.*	• All samples were submitted the geologist who collected them, or freighted directly to the laboratory from Carnarvon by a haulage contractor.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• None completed to date.

Section 2 Reporting of Exploration Results

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.*	• The Battery Hub Project is comprised of two exploration licences E09/2217 and E52/3523 wholly owned by Pure Manganese Pty Ltd with a total combined area of 724.43 km^2. E52/3523 remains as an application, however no objections have been raised. There are no joint ventures or other agreements in place. • Exploration licences 09/2217 and 52/3523 fall wholly within the Wajarri Yamatji (WC2004/010) Native Title Claimant (NTC) group. The Yamatji Marlpa Aboriginal Corporation (YMAC) is the Native Title Representative Body (NTRB) for the NTC.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Battery Hub Project has had previous exploration completed by Aztec Mining Company, Rio Tinto Exploration and Aurora Minerals. The majority of exploration was completed by Aurora Minerals which included soil and rock chip assays and 509 holes of reverse circulation drilling.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The primary exploration target at the Battery Hub Project is manganese mineralisation associated with specific stratigraphic units with other targeted minerals including graphite, copper, zinc and other base metals. • Geological information is included in the attachment.

Criteria	JORC Code explanation	Commentary

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 explain why this is the case.*
		• All information is included in Appendix 1.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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 data aggregation or metal equivalents have been used.
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 (eg 'down hole length, true width not known').*	• No drilling widths are presented so not relevant.
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.*	• Maps and appropriate plans are included in this announcement.
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.*	• All results are tabulated in Appendix 1 and shown on figures in this announcement.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological*	• Substantive historical data is summarised in previous announcements by Pure Minerals (and Aurora Minerals) and is being reviewed as part of the

Criteria	JORC Code explanation	Commentary
	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 of the Battery Hub Project. These include historical drilling results, an XTEM survey and preliminary metallurgical test results of samples.
Further work	• *The nature and scale of planned further work (eg 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.*	• As detailed in the Report.