12 June 2018

ASX Announcement

PRELIMINARY METALLURGICAL TEST RESULTS POINT TO POTENTIAL TO PRODUCE HIGH-VALUE MANGANESE PRODUCTS AND COBALT VIA LEACHING

- **Mineralogical testwork points to attractive leach kinetics to produce manganese sulphate, electrolytic manganese dioxide (EMD), electrolytic manganese metal (EMM)**
- **Previously overlooked cobalt content may represent valuable by-product in leaching scenario**
- **Pure Minerals re-assayed previous drilling for by-product cobalt with highly encouraging results**
  - **Cobalt associated with manganese in all drilled prospects and majority of drill holes at Battery Hub project**
  - **Higher grade cobalt by-product targets have been identified worthy of follow-up (e.g. 4m @ 0.114% Co at Isle prospect)**
- **Modelling metallurgical testwork on stratiform samples suggests a 14.4% Mn grade sample can beneficiate to >32.0% Mn concentrate**
  - **Such zones identified along the entire >70km strike length**
  - **Along with cobalt, these represent the highest-priority targets**

Pure Minerals Limited (ASX: PM1) ("Pure Minerals", "the Company") is pleased to announce the results of preliminary metallurgical testwork for the Battery Hub manganese project, located in Western Australia's Gascoyne region.

The objectives of the testwork were to (a) determine whether the medium-grade manganese mineralisation can beneficiate to a marketable grade for steel industry consumption, and (b) determine whether the mineralisation appears amenable to leaching and the production of high-purity manganese sulphate, electrolytic manganese dioxide (EMD) and electrolytic manganese metal (EMM).

In order to do this, Pure Minerals engaged METS Engineering ("METS") to design a proof-of-concept flowsheet that entailed crushing and screening, mineralogical testwork using

QEMSCAN analysis, heavy liquid separation and magnetic separation. Testwork was conducted by ALS Global laboratories, located in Western Australia, and supervised by METS.

Appendix A provides more detail on the sampling, testwork and other analytical results summarised below.

Composite Sample Assays Identify Cobalt

Multiple reverse circulation drill holes and regional mapping identified two main types of mineralisation at Battery Hub:

1) **Detrital/lateritic** mineralisation which occurs in localised mesas and paleao-channels thought the Battery Hub project, and
2) **Stratiform** mineralization which occurs over the entire >70km strike length of Battery Hub within a sedimentary siltstone formation.

Pure Minerals gathered two composite samples to test each form of mineralisation. A composite sample of the detrital/lateritic mineralisation was sourced from RC drill holes within the Julia prospect, whereas composite sample of stratiform mineralisation was gathered from multiple drill holes within the Pools prospect.

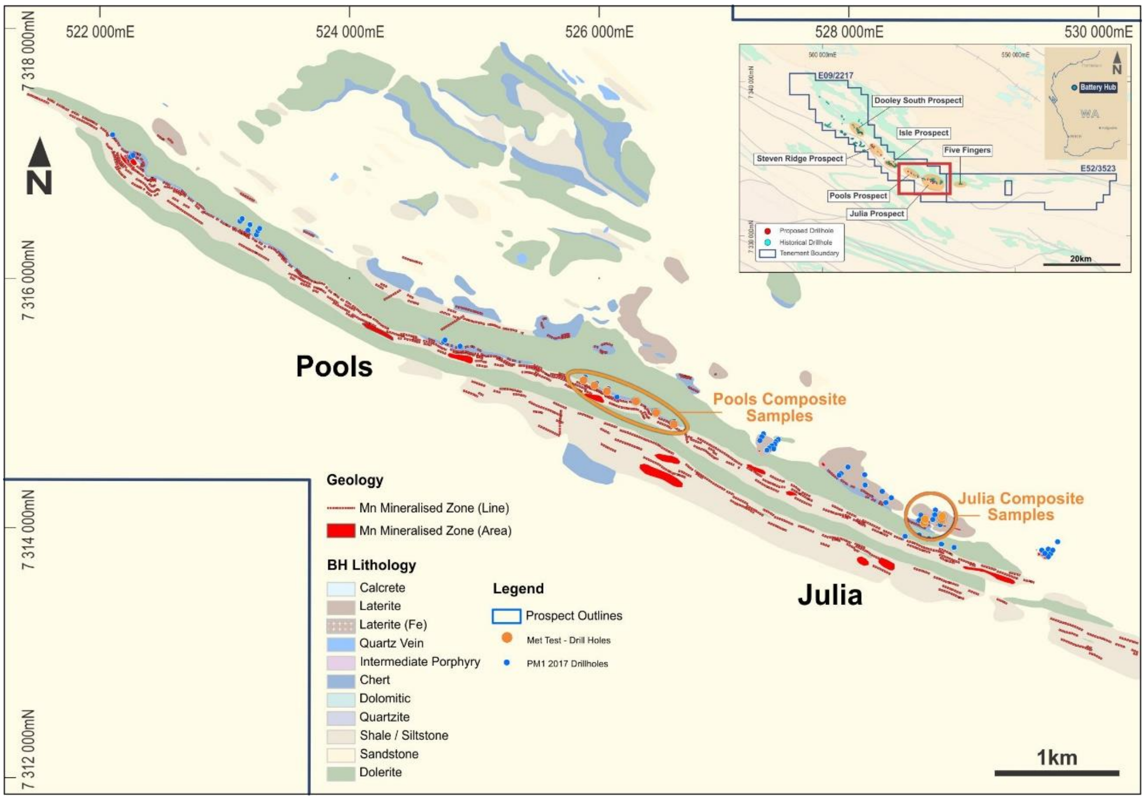


Figure 1: Location of metallurgical samples from Julia prospect (five holes) and Pools (six holes)

The actual assayed grades correlated well with the expected composite grades from the drilling, with the Julia composite grading 10.8% Mn and the Pools sample grading 11.1% Mn. The Julia composite was noticeably higher in iron and aluminium compared to the Pools composite, although much lower in silica. Of note, the cobalt by-product content was anomalously high in both samples, with a grades of 0.03% Co and 0.02% Co at Julia and Pools, respectively.

Composite	Mn (%)	Fe_2O_3 (%)	SiO_2	Al_2O_3	Co
Julia (Detrital)	10.8	43.2	13.3	11.7	0.030%
Pools (Stratiform)	11.1	29.2	37.7	6.3	0.020%

Table 1: Composite head grades of metallurgical samples

This previously unrealised value reinforces the strategic potential of the Battery Hub project if the cobalt can be recovered as a by-product in a hydrometallurgical leaching scenario, as further described below.

Mineralogical Testwork Identifies Leaching Potential

QEMSCAN analysis indicated a complex manganese mineralogy. However, a large portion of the manganese mineralisation appears to derive from potassium associations, and likely cryptomelane.

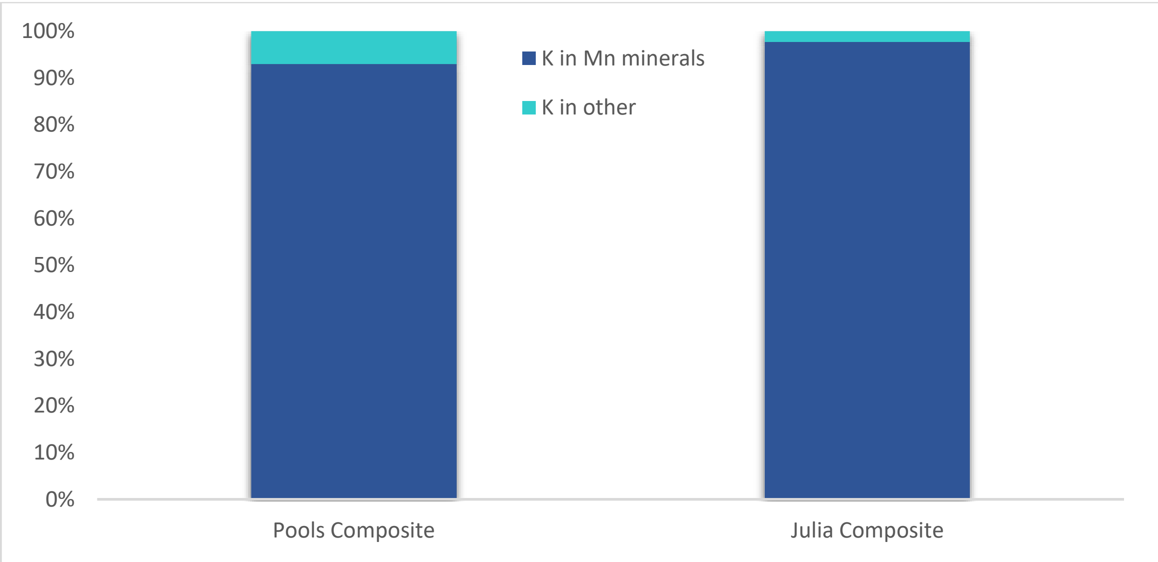


Figure 2: QEMSCAN potassium deportment analysis. The majority of potassium deports to manganese minerals.

QEMSCAN analysis could not identify any specific cobalt mineral; however, it is correlated with manganese grades and likely formed surface precipitates/coatings on the manganese minerals.

Most significantly, the mineralogy would appear to be conducive to leaching. Oxide-style manganese ores normally leach well, especially when the manganese minerals have low silica and aluminium associations, as the Battery Hub samples do. In addition, METS believes that cryptomelane, the potassium substitution mineral which is present in both the Pools and Julia samples, can actually open the structure and increase leach kinetics.

Furthermore, the rock was low in carbonate and clay minerals, suggesting efficient acid digestion of the rock.

METS Engineering believes that the Battery Hub mineralisation may be amenable to whole ore leaching, and testwork on similar lower-grade ores elsewhere in the world has exhibited very good results. More testwork needs to be undertaken to better understand this option.

Positive leaching testwork results would yield the opportunity for Pure Minerals to produce a high-purity manganese product with a very meaningful cobalt credit. High-value, high-purity manganese products include manganese sulphate, electrolytic manganese dioxide (EMD), electrolytic manganese metal (EMM). Manganese sulphate is primarily used in the agricultural sector as a soil additive, especially in situations when high rates of phosphate fertiliser are used in the soil. It is also a precursor to EMM, EMD and many other chemical compounds. EMD and EMM are both used in the production of rechargeable EV batteries in association with lithium, cobalt and nickel.

Heavy Liquid Separation and Magnetic Separation Testwork

Heavy Liquid Separation testwork was undertaken to test the composite samples propensity to beneficiate to a marketable concentrate to the steel industry. The testwork revealed the following results for each composite sample:

- **Julia (detrital)** achieved a combined manganese grade of 16.69% Mn with a 63.8% recovery.
- **Pools (stratiform)** achieved an overall manganese grade of 26.13% Mn with a 56.8% recovery.

The Pools composite sample achieved a higher grade and degree of beneficiation, but its recovery was slightly lower than the Julia composite sample. The recovery figures account for the loss of manganese to the finest fraction, which is expected to be elevated due to the fine nature of samples obtained from Reverse Circulation drilling.

Iron is the main gangue mineral in the concentrates and is contributing most to the dilution of manganese grade. Magnetic separation testwork revealed that, unlike the conclusions of the QEMSCAN analysis, iron is closely associated with manganese and therefore magnetic separation was unsuccessful in increasing grade.

METS and Pure Minerals modelled the results to determine what minimum primary manganese grade is required to upgrade, using only density separation, to a quality that may be marketable (more than 32% Mn). Modelling suggests a detrital (Julia) grade of 20.0% Mn is required to achieve such a grade. However, for Pools (stratiform mineralisation) the required grade is much lower with a primary grade of 14.4% Mn required.

Fortunately, significant mineralisation exists at Battery Hub above such manganese grade thresholds. Furthermore, iron content is highly variable and poorly correlated with manganese content at grades below 20% Mn, especially in detrital mineralisation such as Julia.

Cobalt was not a focus of the beneficiation testwork and more conclusive testwork is required; however, it still beneficiated alongside the manganese content, especially in the Pools composite sample. The cobalt grade in manganese concentrate at Pools was 0.039% Co.

Extensive Cobalt Mineralisation Identified in Drilling

Given metallurgical testwork detected anomalously high grades of cobalt in the composite samples submitted (0.03% at Julia and 0.02% Co at Pools) and attractive beneficiation ratios, Pure Minerals re-assayed the entirety of its most recent drilling campaign (79 RC drill holes) for cobalt mineralisation.

A review of drilling results identified the following highlights:

Isle
BH0079: 12m @ 0.068% Co and 18.42% Mn,
incl. 4m @ 0.114% Co and 33.39% Mn
BH0077: 6m @ 0.071% Co and 11.61% Mn

Julia
BH0002: 15m @ 0.027% Co and 8.59% Mn
incl. 3m @ 0.066% Co and 19.88% Mn
BH0006: 9m @ 0.037% Co and 10.93% Mn
BH0015: 12m @ 0.031% Co and 10.74% Mn
BH0021: 5m @ 0.042% Co and 16.80% Mn

Pools
BH0045: 2m @ 0.051% Co and 26.43% Mn
BH0046: 9m @ 0.024% Co and 14.47% Mn
incl. 2m @ 0.055% Co and 31.90% Mn

Steven Ridge
BH0068: 9m @ 0.032% Co and 17.92% Mn
incl. 3m @ 0.068% Co and 31.79% Mn

Significantly, highly-anomalous cobalt by-product mineralisation was observed in the majority of drill holes and throughout the entire project area (see map below). Cobalt by-product grades observed at Isle, which was not sampled from metallurgical testwork, exceeded the resource grades of many primary cobalt projects.

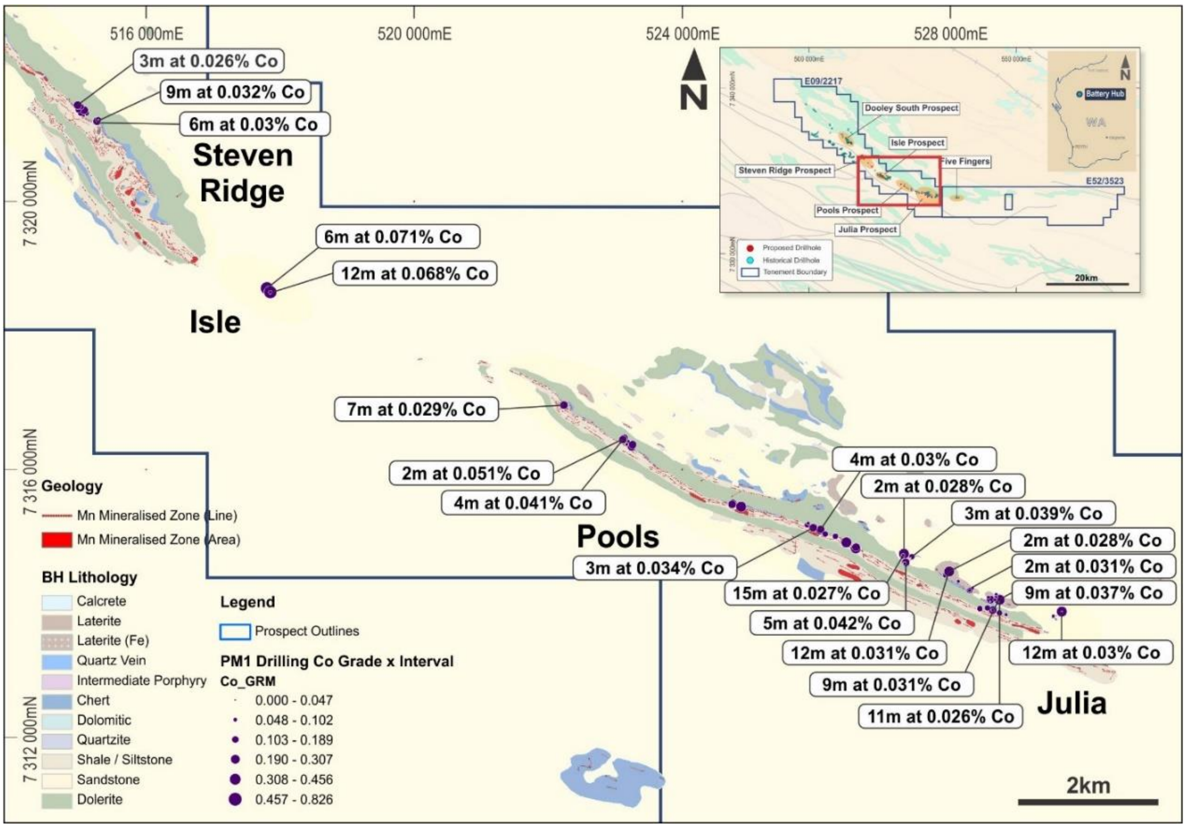


Figure 3: Select cobalt by-product intercepts identified in drilling. All cobalt intercepts listed in Appendix B.

Revised Battery Hub Strategy

The company's strategy of suspending resource drilling until metallurgical testwork was completed has enabled a far more efficient use of exploration capital going forward. This testwork has increased the priority given to low-iron, high-silica stratiform mineralisation its dual potential of being beneficiated to a marketable concentrate for use in steel making <u>and</u> leached to high-purity battery metals.

Metallurgical testwork showed stratiform mineralisation showed much higher manganese and cobalt upgrade ratios. In addition, we believe that stratiform mineralisation has significantly larger resource tonnage potential.

The primary targets for exploration will be:

- Stratiform mineralisation, particularly zones that are likely to exceed 14.4% Mn content and/or have lower iron content and higher silica content.
- Detrital mineralisation exceeding a grade of 20% Mn or having low iron content.
- Once proof-of-concept leaching has seen testwork completed, areas with high primary cobalt grade, such as Isle, will require further testing.

Pure Minerals has subsequently screened the entire database of rock chips and drilling samples of manganese mineralisation at Battery Hub for obvious areas of known thick stratiform manganese mineralisation with lower than average iron-to-silica ratios. Priority targets have been identified along the entire >70km strike length between the Bluffs prospect and the Five Fingers/Syndicate prospect (illustrated below). Some detrital areas, such as parts of Julia, were also deemed to be attractive targets.

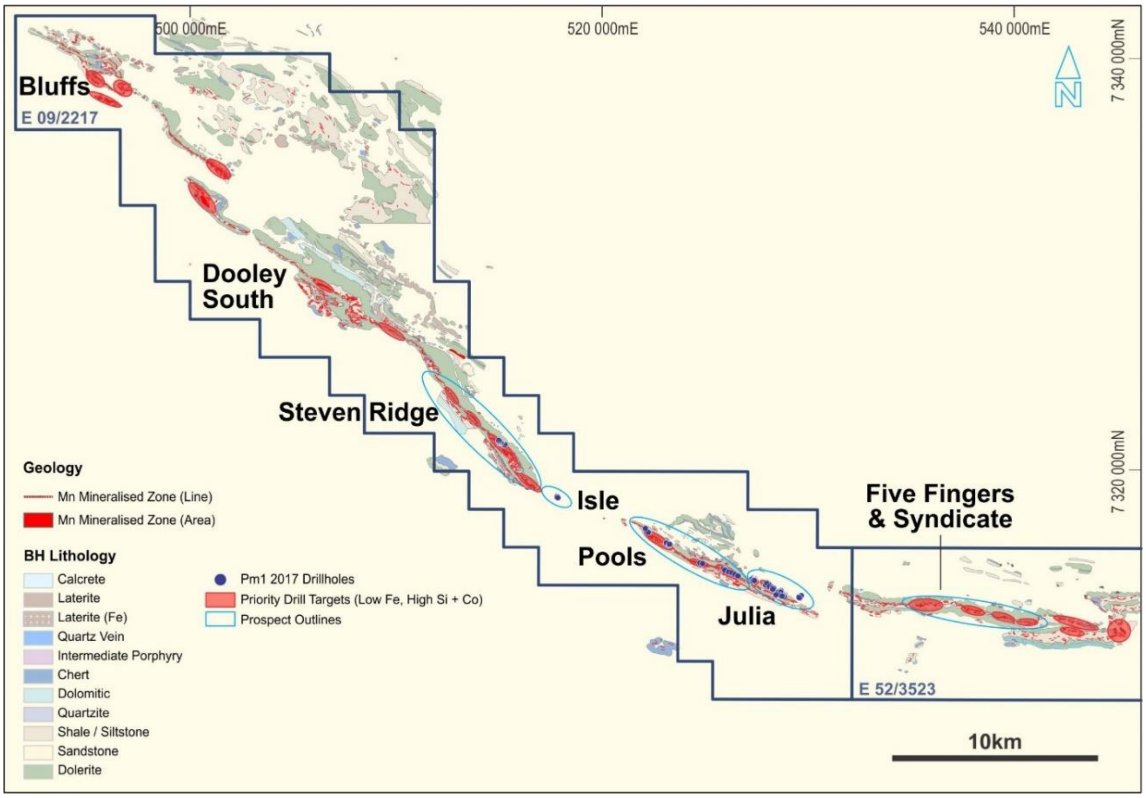


Figure 4: Identified areas of low Fe, high silica (and high cobalt) within zones of known manganese mineralisation.

Ongoing studies

Pure Minerals' main focus in the near-term will be to assess on the leachability of manganese and cobalt of the different ore types at Battery Hub. This will involve initial proof-of-concept leach tests in order to gauge the maximum manganese and cobalt extraction. Further work will focus on optimising reagent consumption and assess low cost hydrometallurgical routes.

Any future drilling is likely to be focussed on the higher-grade areas of stratiform mineralisation and areas with lower iron content. If leaching testwork is successful, areas of elevated cobalt by-product grade will be of high-priority.

For and on behalf of the Board,

Mauro Piccini
Company Secretary

Competent Persons Statements

The information in this report that relates to Exploration Results complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Mr Kell Nielsen BSc (Geol.), MSc (Mineral Econ.), a consultant to Pure Minerals Limited and director of Mannika Resources Group Pty Ltd. Mr Nielsen is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Nielsen consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. The Exploration Results are based on standard industry practises for drilling, logging, sampling, assay methods including quality assurance and quality control measures as detailed in Appendix C.

The information in this report that relates to the Processing and Metallurgy for the Battery Hub project is based on and fairly represents information and supporting documentation compiled by Damian Connelly who is a Fellow of The Australasian Institute of Mining and Metallurgy and a full time employee of METS Engineering (METS). Damian Connelly has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Damian Connelly consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

Appendix A: Testwork Summary and Results

METS Engineering designed a proof-of-concept flowsheet that entailed crushing and screening, mineralogical testwork using QEMSCAN analysis, heavy liquid separation and magnetic separation.

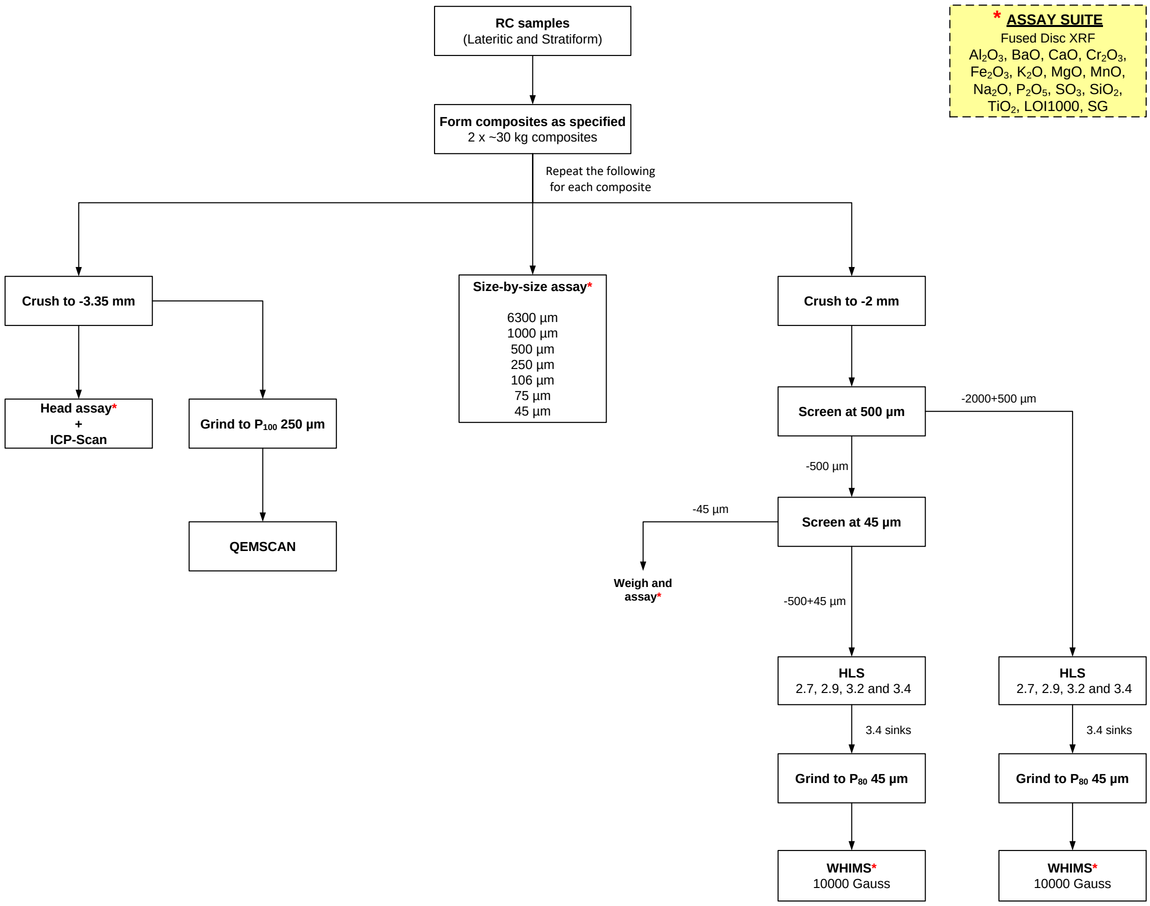


Figure A-1: Metallurgical testwork flowchart as designed by METS Engineering

Sample Sources

Composite samples were selected to be representative of a potential "intermediate" grade potential resource extending over broad areas of greater drill density, with intercept thicknesses and depths that would be amenable to modern open pit mining techniques. The samples were separated by two geological types:

- **Detrital mineralisation**: 25.2 kg sample sourced from seven intercepts averaging 4.4m thickness from five different reverse circulation drill holes in the **Julia** prospect.
- **Stratiform mineralisation**: 40.1 kg sample sourced from 13 intercepts averaging 3.5m thickness from six different reverse circulation drill holes in the **Pools** prospect.

Prospect	Hole ID	Interval	Mass (g)	Mn (%)	Fe_2O_3 (%)	SiO_2 (%)	Al_2O_3 (%)
Julia	BH0005	15-20 m	4,210	11.11	46.08	8.92	13.63
Julia	BH0005	20-24 m	3,500	15.75	46.20	7.29	10.23
Julia	BH0006	5-10 m	4,900	8.10	42.49	13.46	14.95
Julia	BH0007	1-6 m	4,430	1.17	55.71	14.08	13.08
Julia	BH0009	11-15 m	4,260	9.58	47.16	13.98	11.35
Julia	BH0009	15-19 m	4,200	12.97	36.41	17.94	12.54
Julia	BH0010	0-4 m	4,150	9.46	38.98	22.58	11.63
Pools	BH0050	7-9 m	1,740	15.79	38.55	20.55	6.18
Pools	BH0050	9-12 m	1,820	2.31	26.96	51.81	6.80
Pools	BH0053	2-5 m	1,900	12.72	43.97	15.12	8.54
Pools	BH0053	5-7 m	1,940	27.53	24.18	14.72	6.79
Pools	BH0053	7-10 m	2,700	19.04	22.72	33.96	4.97
Pools	BH0055	1-6 m	3,970	22.88	32.22	13.45	6.88
Pools	BH0055	6-12 m	4,600	8.65	23.94	48.70	6.58
Pools	BH0057	1-4 m	3,030	7.94	36.89	32.54	6.30
Pools	BH0058	1-5 m	4,200	8.04	27.85	48.66	5.88
Pools	BH0058	5-8 m	3160	6.87	32.28	46.60	5.58
Pools	BH0058	15-18 m	3030	10.85	29.00	42.38	6.37
Pools	BH0059	1-6 m	4360	7.86	28.58	47.14	5.61
Pools	BH0059	52-56 m	3670	5.04	24.86	52.04	7.72

Table A-1: List of sample intervals and their associated assay results. Collar co-ordinates are listed in Appendix B.

Head Grades and Size-by-Size Analysis

The Julia and Pools composites underwent a head assay analysis via x-ray fluorescence (XRF) and inductively coupled plasma (ICP) analysis. The actual assayed grades correlated well with the expected composite grades from the drilling, with the Julia composite grading 10.8% Mn and the Pools sample grading 11.1% Mn. PM1 believes these grades to be representative of the overall project in a mining scenario.

The Julia composite was noticeably higher in iron and aluminium compared to the Pools composite, although much lower in silica. The cobalt content was anomalously high in both samples, but especially Julia (0.03% Co).

Analyte	Pools	Julia
Ag (ppm)	2	4
Al (%)	3.35	6.18
Ba (ppm)	120	1765
Be (ppm)	<5	<5
Bi (ppm)	<10	<10
Ca (%)	0.25	0.41
Cd (ppm)	<5	<5
Co (ppm)	195	305
Cr (ppm)	40	80
Cu (ppm)	126	100
Fe (%)	20.4	30.2
K (%)	0.43	0.30
Li (ppm)	30	70
LOI1000 (%)	8.24	12.80
Mg (%)	0.17	0.27
Mn (%)	11.1	10.8
Mo (ppm)	<5	<5
Na (ppm)	880	680
Ni (ppm)	70	50
P (%)	0.11	0.11
Pb (ppm)	20	30
S (%)	<0.01	0.03
SiO2 (%)	37.7	13.3
Sr (ppm)	192	152
Ti (ppm)	2800	6600
V (ppm)	90	276
Y (ppm)	<100	<100
Zn (ppm)	160	82
SG	3.214	3.347

Table A-2: Composite head grades of metallurgical samples

The assay data for each of the size fractions suggest that the manganese minerals are slightly concentrated in the coarser fraction, with silica and alumina concentrated in the finer fractions.

Mineralogical Testwork

QEMSCAN analysis determined that there is no dominant discrete manganese mineral, with both the Pools and Julia samples having a range of manganese mineralogies. A large portion of the manganese mineralisation appears to derive from potassium associations, and likely cryptomelane. QEMSCAN indicated only a very small portion of the manganese is associated with iron minerals, which implied the possibility of separating the iron from the manganese mineralisation.

Most significantly, the mineralogy would appear to be conducive to leaching, as oxide-style manganese ores normally leach well. In addition, METS believes that cryptomelane, the potassium substitution mineral which is present in both the Pools and Julia samples, can actually open the structure and increase leach kinetics.

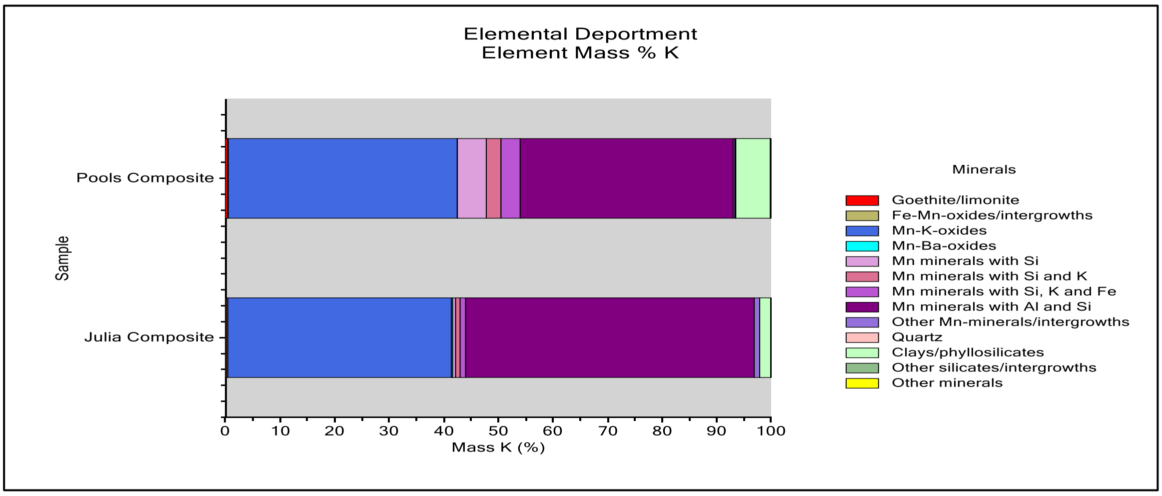


Figure A-2: QEMSCAN elemental deportment to potassium showing the relatively high content of Mn (manganese) associated with K (potassium) that could improve leach kinetics (*Source: METS Engineering*).

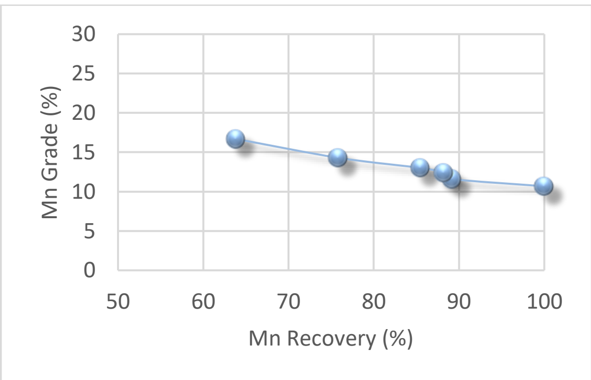
Furthermore, the rock was low in carbonate and clay minerals, suggesting efficient acid digestion of the rock.

Heavy Liquid Separation and Magnetic Separation Testwork

The composite sample from Julia (detrital) achieved a combined manganese grade of 16.69% Mn with a 63.8% recovery. The composite sample from Pools (stratiform) achieved an overall manganese grade of 26.13% Mn with a 56.8% recovery. The Pools composite sample achieved a higher grade and degree of beneficiation, but its recovery was slightly lower than the Julia composite sample.

The recovery figures account for the loss of manganese to the -0.045 mm fraction, which is expected to be elevated due to the fine nature of reverse circulation samples.

Grade-recovery charts are below, with the Pools sample showing the steepest curve.



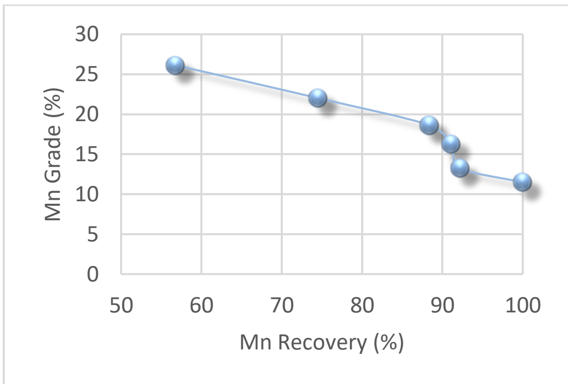


Figure A-3: Grade-recovery curves for Julia (left) and Pools (right) (*Source: METS Engineering*)

Iron is the main gangue mineral in the concentrates and is contributing most to the dilution of manganese grade. Magnetic separation testwork revealed that, unlike the conclusions of the

QEMSCAN analysis, iron is closely associated with manganese and therefore magnetic separation was unsuccessful in increasing grade. The unselective nature of the magnetic separation suggests that the iron may be finely dispersed throughout the mineral structure and hence was not isolated in the QEMSCAN analysis. Magnetic separation at lower magnetic field intensities may be more selective, although additional testwork would be required to validate this.

Modelling of the results suggests a detrital (Julia) grade of 20.0% Mn is required to achieve such a grade. However, the required grade is far lower for stratiform mineralisation (Pools), with a primary grade of 14.4% Mn required. Fortunately, iron content is highly variable and poorly correlated with manganese content at grades below 20% Mn, especially in detrital mineralisation such as Julia, and accordingly there is an opportunity to selectively mine lower-Fe areas.

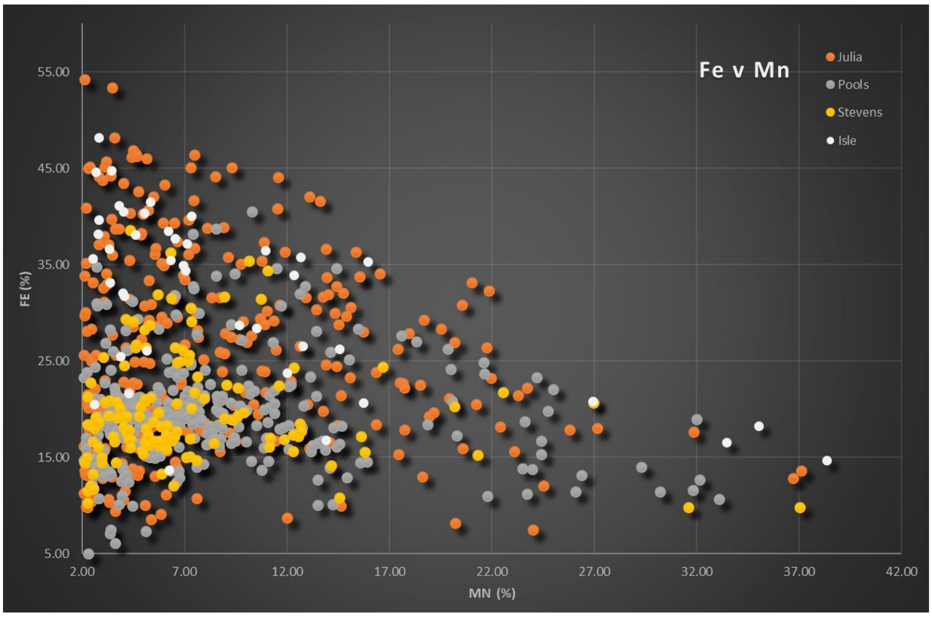


Figure A-4: Weak correlation with iron and manganese at grades lower than 15%-20% Mn, especially at Julia, implies opportunities to selectively extract mineralisation with a lower Fe-Mn ratio.

Appendix B: Cobalt by-product intercepts

Prospect	Hole ID	East	North	RL	Dip / Azim	From	To	Interval	Mn	Co	MnO	Fe_2O_3	SiO_2	Al_2O_3	P_2O_5	K_2O	TiO_2	CoO	LOI
Julia	BH0001	528,119	7,314,417	473	-60 / 210	15	16	1	**5.92**	**0.031**	7.64	50.18	14.57	14.49	0.10	0.13	1.34	0.040	10.99
	BH0002	527,308	7,314,745	489	-60 / 210	0	15	15	**8.59**	**0.027**	11.09	40.69	18.94	14.96	0.09	0.47	1.39	0.034	11.55
	incl.					7	15	8	**12.77**	**0.036**	16.48	42.30	14.11	12.55	0.10	0.65	1.33	0.046	11.60
	BH0003	527,296	7,314,722	486	-60 / 210	3	8	5	**12.44**	**0.011**	16.06	55.01	7.43	6.59	0.53	0.54	0.52	0.014	12.13
	incl.					5	7	2	**26.77**	**0.028**	34.56	35.93	5.71	6.60	0.42	1.22	0.54	0.035	12.93
	BH0004	527,279	7,314,691	491	-60 / 210	0	9	9	**14.85**	**0.007**	19.17	48.96	9.52	7.88	0.18	0.61	0.72	0.009	11.63
	incl.					6	8	2	**28.75**	**0.016**	37.12	32.00	8.94	5.36	0.13	1.10	0.38	0.020	12.34
	BH0005	528,739	7,314,084	479	-60 / 180	13	24	11	**11.77**	**0.026**	15.20	45.05	10.18	13.33	0.12	0.18	1.35	0.033	12.08
	BH0006	528,737	7,314,056	470	-60 / 200	4	15	11	**9.58**	**0.033**	12.37	42.97	13.00	14.32	0.14	0.29	1.55	0.042	12.64
	incl.					5	14	9	**10.93**	**0.037**	14.12	42.67	11.35	13.72	0.15	0.32	1.44	0.047	13.23
	BH0007	528,728	7,314,026	472	-60 / 200	2	3	1	**2.43**	**0.016**	3.14	47.57	15.48	16.78	0.10	0.20	1.70	0.020	12.96
	BH0008	528,724	7,314,015	472	-60 / 200				*NSA*										
	BH0009	528,602	7,314,060	478	-60 / 200	10	19	9	**11.19**	**0.031**	14.45	40.27	16.70	12.77	0.40	0.57	1.02	0.040	12.36
	BH0010	528,596	7,314,031	478	-60 / 200	0	4	4	**9.46**	**0.010**	12.21	38.98	22.58	11.63	0.19	0.53	0.93	0.013	11.10
	BH0011	528,568	7,314,094	475	-60 / 200	6	21	15	**6.20**	**0.005**	8.00	46.46	15.53	13.04	0.20	0.32	1.29	0.007	12.74
	incl.					6	10	4	**5.27**	**0.012**	6.81	56.14	8.85	10.60	0.25	0.26	1.54	0.015	13.15
	BH0012	528,554	7,314,052	478	-60 / 200				*NSA*										
	BH0013	527,930	7,314,428	487	-60 / 225	3	14	11	**7.74**	**0.011**	9.99	57.81	12.15	6.98	0.31	0.38	1.11	0.015	10.39
	BH0014	527,914	7,314,414	488	-60 / 225	0	1	1	**5.14**	**0.000**	6.63	58.37	16.40	7.41	0.10	0.20	0.62	0.000	10.06
	and					2	4	2	**5.98**	**0.004**	7.73	66.46	10.40	4.97	0.32	0.24	0.63	0.005	10.03
	and					9	15	6	**6.59**	**0.010**	8.51	28.93	31.15	15.81	0.16	0.46	2.34	0.013	10.95
	and					9	10	1	**12.90**	**0.024**	16.66	29.50	25.23	12.28	0.16	0.86	1.56	0.030	10.82
	BH0015	527,985	7,314,479	484	-60 / 225	20	35	15	**9.52**	**0.025**	12.29	47.63	11.99	11.63	0.22	0.35	1.37	0.032	12.36
	incl.					20	32	12	**10.74**	**0.031**	13.87	50.97	8.88	9.69	0.21	0.39	1.08	0.039	12.54
	BH0016	527,427	7,314,699	491	-60 / 210	0	3	3	**21.39**	**0.039**	27.61	33.07	13.85	9.05	0.21	1.10	0.71	0.050	12.01
	BH0017	527,407	7,314,680	489	-60 / 225	17	19	2	**0.80**	**0.016**	1.04	17.77	52.86	13.41	0.06	1.45	2.16	0.020	6.18
	BH0018	527,399	7,314,661	496	-60 / 225				*NSA*										
	BH0019	527,376	7,314,650	495	-60 / 225				*NSA*										
	BH0020	527,354	7,314,631	495	-60 / 225	1	6	5	**7.99**	**0.013**	10.32	43.51	21.07	13.03	0.14	0.43	1.21	0.016	10.46
	BH0021	527,336	7,314,614	498	-60 / 225	0	5	5	**16.80**	**0.042**	21.69	42.41	11.96	8.62	0.07	0.87	0.67	0.054	12.20
	BH0022	527,319	7,314,598	498	-60 / 225	0	5	5	**9.06**	**0.016**	11.70	51.41	13.40	9.62	0.15	0.47	1.03	0.020	10.40
	BH0023	527,391	7,314,624	496	-60 / 120				*NSA*										
	BH0024	528,122	7,314,334	483	-60 / 220	14	17	3	**9.06**	**0.021**	11.69	28.89	27.36	16.41	0.16	0.51	1.71	0.027	11.48
	incl.					14	16	2	**12.08**	**0.028**	15.60	31.84	21.53	14.83	0.20	0.66	1.20	0.035	11.89
	BH0025	528,259	7,314,283	479	-60 / 220	18	19	1	**4.58**	**0.008**	5.91	32.60	31.79	15.12	0.50	0.25	1.33	0.010	10.70
	BH0026	528,686	7,314,134	470	-60 / 200	25	29	4	**4.54**	**0.024**	5.87	45.66	10.94	20.05	0.08	0.01	2.05	0.030	12.99
	BH0027	528,681	7,314,097	475	-60 / 200	16	18	2	**6.51**	**0.039**	8.41	39.11	16.01	18.87	0.07	0.03	1.92	0.050	12.84
	and					37	38	1	**18.52**	**0.055**	23.91	18.76	25.38	14.92	0.10	0.77	1.40	0.070	12.35
	BH0028	528,665	7,314,059	477	-60 / 200	6	8	2	**4.21**	**0.028**	5.44	34.41	25.68	19.52	0.05	0.16	1.89	0.035	11.39
	BH0029	528,332	7,314,232	470	-60 / 220	10	12	2	**10.55**	**0.031**	13.63	29.53	26.85	13.61	0.20	0.63	1.66	0.040	11.27
	BH0030	528,288	7,314,194	477	-60 / 200	1	10	9	**13.55**	**0.014**	17.50	27.54	24.76	14.52	0.30	0.78	0.88	0.018	11.62
	and					20	28	8	**3.80**	**0.008**	4.90	14.73	45.66	16.73	0.08	0.71	1.18	0.010	9.65
	BH0031	528,835	7,313,835	476	-60 / 200	29	76	47	**4.38**	**0.002**	5.65	26.16	49.96	7.48	0.23	0.41	0.57	0.002	8.02
	incl.					29	31	2	**5.51**	**0.008**	7.12	12.88	45.24	15.37	0.19	2.57	1.53	0.010	8.01
	BH0032	528,633	7,313,905	477	-60 / 200	38	64	26	**5.88**	**0.009**	7.59	26.59	46.96	8.35	0.23	0.29	0.73	0.012	7.77
	incl.					38	50	12	**6.19**	**0.010**	8.00	29.12	40.42	10.88	0.23	0.37	1.03	0.013	8.87
	and					75	82	7	**5.40**	**0.008**	6.97	27.93	49.26	6.58	0.25	0.03	0.41	0.010	8.36
	BH0033	528,555	7,313,934	481	-60 / 200	44	70	26	**5.50**	**0.005**	7.10	27.68	48.69	6.09	0.27	0.16	0.45	0.006	8.15
	incl.					44	48	4	**8.19**	**0.010**	10.58	31.59	40.14	6.04	0.28	0.25	0.47	0.013	8.72
	BH0034	528,443	7,313,924	487	-60 / 200	14	52	38	**6.04**	**0.004**	7.80	26.52	49.93	6.55	0.21	0.31	0.45	0.005	6.55
	incl.					14	25	11	**6.71**	**0.011**	8.66	29.03	45.61	6.27	0.23	0.37	0.46	0.014	7.52
	BH0035	528,734	7,313,862	465	-60 / 208	21	58	37	**3.38**	**0.004**	4.36	23.70	50.49	10.41	0.24	0.58	0.91	0.005	6.66
	incl.					21	23	2	**4.90**	**0.008**	6.32	17.64	41.89	16.08	0.20	2.03	1.44	0.010	7.95
	BH0036	529,590	7,313,821	463	-60 / 210	6	8	2	**4.26**	**0.000**	5.50	51.59	18.44	9.53	0.66	0.22	0.91	0.000	11.47
	BH0037	529,609	7,313,785	466	-60 / 210				*NSA*										
	BH0038	529,626	7,313,813	468	-60 / 210	5	10	5	**4.69**	**0.000**	6.06	19.69	46.87	13.91	0.09	0.75	1.20	0.000	8.61
	and					17	19	2	**12.90**	**0.004**	16.65	32.18	20.65	14.22	0.31	0.53	1.86	0.005	12.10
	BH0039	529,664	7,313,880	470	-60 / 210	15	27	12	**10.28**	**0.030**	13.27	42.73	13.10	14.91	0.07	0.14	1.37	0.038	12.43
	and					30	34	4	**3.79**	**0.000**	4.89	29.72	32.01	19.90	0.05	1.00	1.50	0.000	9.52
	BH0061	529,590	7,313,761	463	-60 / 210	5	9	4	**8.25**	**0.008**	10.65	26.19	28.87	17.79	0.25	0.35	2.11	0.010	11.95
	BH0062	529,538	7,313,813	466	-60 / 210	0	8	8	**14.66**	**0.009**	18.93	40.75	16.32	7.20	0.67	0.90	0.81	0.011	11.69
	incl.					5	7	2	**30.13**	**0.020**	38.90	25.28	8.65	7.19	0.38	1.42	0.94	0.025	13.24
	BH0063	529,563	7,313,787	453	-60 / 210	0	4	4	**11.80**	**0.008**	15.23	30.97	27.43	11.36	0.34	0.61	1.25	0.010	11.20
	and					8	9	1	**6.06**	**0.008**	7.82	41.62	25.20	12.04	0.33	0.27	1.64	0.010	11.17

Prospect	Hole ID	East	North	RL	Dip / Azim	From	To	Interval	Mn	Co	MnO	Fe_2O_3	SiO_2	Al_2O_3	P_2O_5	K_2O	TiO_2	CoO	LOI
Pools	BH0040	524,757	7,315,496	495	-60 / 200	15	40	25	**7.87**	**0.011**	10.17	29.28	42.29	7.05	0.23	0.33	0.49	0.014	7.78
	incl.					30	33	3	**12.31**	**0.016**	15.89	22.43	41.70	5.27	0.07	0.19	0.30	0.020	9.03
	BH0041	524,746	7,315,481	495	-60 / 200	0	22	22	**10.08**	**0.012**	13.02	26.58	43.48	6.34	0.08	0.42	0.44	0.015	7.22
	incl.					0	10	10	**12.94**	**0.016**	16.70	26.11	37.49	6.02	0.09	0.81	0.42	0.020	9.11
	incl.					4	7	3	**24.85**	**0.031**	32.08	20.33	25.61	4.54	0.07	1.80	0.30	0.040	10.26
	BH0042	524,878	7,315,447	505	-60 / 200	5	34	29	**8.74**	**0.011**	11.28	27.14	46.42	6.54	0.10	0.17	0.46	0.014	6.40
	incl.					10	25	15	**11.68**	**0.015**	15.08	25.67	44.10	6.07	0.08	0.18	0.43	0.019	6.84
	incl.					5	15	10	**9.19**	**0.012**	11.86	28.78	41.88	7.04	0.12	0.25	0.53	0.015	7.82
	BH0043	523,195	7,316,421	468	-60 / 210	40	52	12	**6.62**	**0.008**	8.55	30.14	43.30	6.41	0.15	0.27	0.48	0.010	7.24
	incl.					40	45	5	**7.51**	**0.008**	9.69	29.75	40.93	6.36	0.18	0.44	0.46	0.010	8.33
	BH0044	523,178	7,316,375	476	-60 / 210	0	22	22	**5.94**	**0.005**	7.67	28.21	48.36	7.02	0.08	0.08	0.49	0.006	6.11
	incl.					0	15	15	**6.62**	**0.003**	8.54	29.37	47.05	6.52	0.07	0.08	0.46	0.004	6.14
	BH0045	523,132	7,316,468	467	-60 / 210	32	50	18	**7.96**	**0.012**	10.28	23.48	44.03	8.99	0.23	0.93	0.80	0.015	8.26
	incl.					39	50	11	**11.43**	**0.019**	14.76	25.12	41.09	5.76	0.23	0.87	0.42	0.025	8.39
	and					46	48	2	**26.43**	**0.051**	34.12	18.24	27.06	4.04	0.21	2.05	0.31	0.065	9.90
	BH0046	523,115	7,316,448	475	-60 / 210	17	34	17	**8.85**	**0.014**	11.42	21.09	42.50	9.14	0.20	0.73	0.81	0.018	9.05
	incl.					25	34	9	**14.07**	**0.024**	18.16	23.22	37.48	5.36	0.22	0.98	0.37	0.031	9.29
	and					31	33	2	**31.90**	**0.055**	41.19	17.61	16.01	2.62	0.19	2.18	0.18	0.070	11.93
	and					30	34	4	**22.42**	**0.041**	28.95	18.76	28.96	4.10	0.21	1.54	0.28	0.053	10.46
	BH0047	523,246	7,316,338	468	-60 / 210	5	27	22	**8.73**	**0.010**	11.27	28.34	45.79	6.11	0.09	0.12	0.45	0.013	6.24
	incl.					10	16	6	**10.55**	**0.010**	13.63	28.99	41.81	5.71	0.10	0.15	0.43	0.013	6.82
	BH0048	523,258	7,316,371	464	-60 / 208	21	46	25	**7.58**	**0.011**	9.79	27.81	44.87	6.40	0.11	0.16	0.46	0.014	7.38
	incl.					22	35	13	**7.56**	**0.015**	9.76	28.93	45.93	6.57	0.10	0.16	0.49	0.018	6.65
	BH0049	523,272	7,316,390	473	-60 / 210				*NSA*										
	BH0050	525,867	7,315,174	519	-60 / 200	1	22	21	**5.96**	**0.009**	7.69	25.59	47.89	7.31	0.28	0.38	0.57	0.011	7.88
	incl.					1	14	13	**7.73**	**0.011**	9.98	24.74	46.25	7.77	0.29	0.49	0.61	0.014	8.08
	BH0051	525,879	7,315,199	511	-60 / 200	25	35	10	**5.69**	**0.009**	7.34	25.37	46.49	8.46	0.24	0.84	0.75	0.012	7.72
	incl.					28	30	2	**14.86**	**0.016**	19.19	34.15	29.89	4.05	0.30	1.06	0.32	0.020	9.18
	BH0052	525,970	7,315,152	513	-60 / 200	19	28	9	**6.33**	**0.010**	8.18	33.46	40.65	5.69	0.27	0.48	0.42	0.012	8.13
	incl.					19	23	4	**10.76**	**0.016**	13.89	32.36	33.86	5.81	0.23	0.74	0.42	0.020	9.62
	BH0053	526,055	7,315,086	513	-60 / 200	0	22	22	**10.58**	**0.014**	13.65	31.83	37.26	6.71	0.33	0.47	0.47	0.018	7.64
	incl.					0	10	10	**16.29**	**0.021**	21.03	32.53	23.76	7.21	0.39	0.88	0.51	0.027	10.84
	and					5	9	4	**25.04**	**0.030**	32.33	21.09	23.64	6.00	0.50	1.34	0.40	0.038	11.00
	BH0054	526,065	7,315,107	515	-60 / 200	11	28	17	**7.89**	**0.013**	10.19	31.84	37.41	6.83	0.25	0.43	0.53	0.016	9.17
	incl.					12	23	11	**10.09**	**0.017**	13.03	33.39	31.15	6.57	0.26	0.57	0.51	0.022	10.46
	BH0055	525,955	7,315,133	514	-60 / 200	0	20	20	**10.97**	**0.015**	14.16	29.36	37.95	6.55	0.34	0.44	0.45	0.019	8.23
	incl.					0	15	15	**12.35**	**0.017**	15.94	29.48	35.02	6.99	0.38	0.54	0.48	0.022	8.89
	and					3	6	3	**29.87**	**0.034**	38.56	23.81	13.01	5.54	0.31	1.45	0.39	0.043	12.51
	BH0056	526,134	7,315,039	521	-60 / 200	0	16	16	**5.30**	**0.010**	6.85	25.11	54.58	6.39	0.21	0.17	0.44	0.013	5.30
	BH0057	526,287	7,315,005	515	-60 / 200	1	5	4	**7.78**	**0.006**	10.05	41.39	27.95	6.11	0.26	0.41	0.42	0.008	10.47
	and					15	40	25	**4.80**	**0.006**	6.20	28.55	50.45	6.74	0.20	0.19	0.46	0.008	5.47
	BH0058	526,448	7,314,914	493	-60 / 200	0	9	9	**6.86**	**0.008**	8.86	27.75	50.39	6.12	0.19	0.21	0.42	0.010	5.50
	and					15	55	40	**5.40**	**0.009**	6.97	26.27	53.50	6.83	0.24	0.15	0.42	0.011	4.97
	incl.					15	20	5	**9.18**	**0.016**	11.85	29.65	44.91	6.34	0.21	0.22	0.37	0.020	5.58
	BH0059	526,590	7,314,823	501	-60 / 200	0	65	65	**4.71**	**0.006**	6.09	26.50	52.76	7.01	0.22	0.39	0.46	0.007	5.39
	incl.					0	5	5	**8.82**	**0.013**	11.38	27.71	45.94	5.53	0.13	0.35	0.39	0.016	6.89
	BH0060	526,594	7,314,843	502	-60 / 200	2	30	28	**5.19**	**0.008**	6.70	27.13	49.87	6.56	0.22	0.29	0.46	0.010	6.73
	incl.					2	20	18	**5.64**	**0.010**	7.28	26.99	48.06	6.07	0.20	0.35	0.43	0.012	7.75
	BH0064	522,258	7,316,976	459	-60 / 240	0	10	10	**10.30**	**0.018**	13.30	29.47	20.42	15.77	0.41	0.46	1.24	0.023	13.74
	BH0065	522,236	7,316,962	455	-60 / 240	0	12	12	**11.63**	**0.022**	15.01	39.76	18.29	9.91	0.50	0.48	0.55	0.028	12.28
	incl.					2	9	7	**14.12**	**0.029**	18.23	38.89	14.44	9.76	0.56	0.59	0.52	0.037	13.34
	BH0066	522,100	7,317,148	455	-60 / 240	4	5	1	**18.80**	**0.039**	24.27	26.54	30.44	4.34	0.20	1.39	0.37	0.050	9.83
	and					14	15	1	**6.31**	**0.008**	8.14	27.72	41.84	6.58	0.34	0.34	0.48	0.010	9.40
	and					25	26	1	**5.18**	**0.000**	6.69	24.18	49.93	6.89	0.05	0.01	0.46	0.000	9.05
Steven Ridge	BH0067	515,247	7,321,183	474	-60 / 225	10	34	24	**7.13**	**0.008**	9.20	25.77	47.59	6.47	0.22	0.36	0.47	0.010	8.12
	incl.					10	16	6	**14.76**	**0.030**	19.06	28.15	33.10	5.57	0.17	0.98	0.44	0.038	9.81
	BH0068	515,268	7,321,198	463	-60 / 225	20	40	20	**10.79**	**0.015**	13.93	28.26	39.95	5.70	0.18	0.54	0.41	0.019	9.35
	incl.					20	29	9	**17.92**	**0.032**	23.14	34.89	23.49	4.48	0.13	1.10	0.36	0.041	10.32
	incl.					26	29	3	**31.79**	**0.068**	41.04	19.42	18.38	3.51	0.11	2.03	0.22	0.087	10.96
	BH0069	515,290	7,321,218	467	-60 / 225	25	35	10	**6.01**	**0.013**	7.76	31.12	42.68	6.35	0.26	0.40	0.48	0.017	8.70
	incl.					27	29	2	**13.20**	**0.020**	17.05	33.79	29.49	5.68	0.22	0.89	0.43	0.025	10.01
	and					45	48	3	**4.19**	**0.000**	5.41	24.45	50.95	6.64	0.26	0.01	0.51	0.000	9.82
	BH0070	515,108	7,321,319	479	-60 / 225	17	46	29	**4.87**	**0.004**	6.29	26.46	47.07	6.20	0.27	0.22	0.44	0.005	9.55
	incl.					17	20	3	**5.94**	**0.008**	7.67	33.63	39.57	6.02	0.23	0.51	0.44	0.010	9.27
	and					32	46	14	**5.95**	**0.003**	7.68	24.89	47.22	6.28	0.25	0.13	0.44	0.004	9.84
	BH0071	515,063	7,321,285	483	-60 / 225	3	28	25	**4.64**	**0.004**	5.99	26.06	48.35	6.54	0.25	0.13	0.48	0.005	8.52
	incl.					3	8	5	**6.42**	**0.005**	8.29	31.37	36.17	6.72	0.20	0.33	0.50	0.006	11.18
	BH0072	515,027	7,321,315	488	-60 / 225	2	15	13	**5.32**	**0.009**	6.86	29.39	43.23	6.56	0.20	0.36	0.49	0.012	9.27
	incl.					2	7	5	**6.77**	**0.014**	8.74	35.43	34.72	7.48	0.17	0.35	0.56	0.018	10.14
	BH0073	515,077	7,321,361	482	-60 / 225	21	46	25	**6.94**	**0.008**	8.95	28.98	42.50	6.38	0.26	0.32	0.46	0.010	9.55
	incl.					21	38	17	**7.68**	**0.012**	9.92	29.03	41.28	6.25	0.25	0.46	0.47	0.015	9.07
	BH0074	514,989	7,321,368	484	-60 / 225	2	28	26	**5.31**	**0.006**	6.85	26.15	47.73	6.56	0.23	0.25	0.47	0.008	8.45
	incl.					3	9	6	**8.50**	**0.014**	10.97	30.61	35.94	6.42	0.19	0.53	0.47	0.018	10.47
	BH0075	515,031	7,321,415	486	-60 / 225	22	25	3	**7.36**	**0.008**	9.50	37.56	34.26	6.68	0.16	0.49	0.50	0.010	9.24
	and					30	46	16	**6.89**	**0.007**	8.90	26.51	45.65	6.34	0.26	0.19	0.46	0.009	9.12
	BH0076	514,979	7,321,437	481	-60 / 225	11	40	29	**6.41**	**0.009**	8.28	26.94	45.46	6.35	0.24	0.31	0.46	0.011	9.16
	incl.					27	30	3	**13.07**	**0.026**	16.87	25.13	38.08	5.68	0.26	0.79	0.39	0.033	9.26
Isle	BH0077	517,805	7,318,704	442	-60 / 180	30	76	46	**5.23**	**0.018**	6.76	46.48	18.09	14.79	0.19	0.22	0.94	0.023	10.82
	incl.					47	52	5	**10.47**	**0.020**	13.52	39.14	16.85	13.91	0.17	0.38	0.52	0.026	12.40
	BH0078	517,805	7,318,663	443	-60 / 180				*NSA*										
	BH0079	517,855	7,318,647	439	-60 / 180	44	56	12	**18.42**	**0.068**	23.78	41.10	9.04	10.05	0.11	0.59	0.56	0.086	12.03
	incl.					49	53	4	**33.39**	**0.114**	43.11	25.27	4.02	7.51	0.09	1.34	0.40	0.145	13.96
	and					60	65	5	**3.77**	**0.016**	4.87	58.92	15.02	12.26	0.10	0.08	0.55	0.020	7.26

Appendix C: JORC Tables

JORC Code, 2012 Edition – Table 1 report template

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 (eg 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.*	Drilling was conducted using Reverse Circulation (RC) Drilling utilising a face sampling hammer. Samples were collected over one metre intervals as measured by the progress of the drill pipe in comparison with the mast. Samples were split on the rig into a smaller split sample contained within a sealed bag and a larger bulk sample that was either stored in a plastic bag or bucketed onto the ground using a rotary cone splitter attached to the rig Sampling equipment was cleaned at regular intervals and the end of each rod to maintain clean and representative samples. No tools were used Each metre was geological logged and where manganese was logged within the hole, the one metre split samples were collected and sent for analysis. From the remaining samples parts of the hole where one metre splits were not collected, smaller samples were collected from up to 5 individual metres of the bulk samples using a scoop and composited to form a new sample. Routine QAQC samples were inserted in the RC sample strings at the rate of 4 samples for every 100, comprising Mn standards (CRM's or Certified Reference Materials). RC field duplicate samples were taken at a rate of one every fifty samples. In regard to drilling completed prior to Pure Minerals involvement in the project, no information regarding the practices and quality of sampling, assaying and drilling completed by the previous operator of the project has yet to be verified or assessed by Pure Minerals.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type,*	Drilling was completed by Reverse Circulation (RC) drilling using a face sampling hammer bit. Drilling was conducted by a modern truck mounted rig (Schramm 660WS) utilising a maximum 2,250cfm at 1000psi of onboard

Criteria	JORC Code explanation	Commentary
	whether core is oriented and if so, by what method, etc).	air capacity that was increased and boosted when required using a Sullair 1,350cfm 350psi / 1,150cfm 500psi auxiliary compressor and a Hurricane 1000psi Booster In regards to drilling completed prior to Pure Minerals involvement in the project, no information regarding the practices and quality of sampling, assaying and drilling completed by the previous operator of the project has yet to be verified or assessed by Pure Minerals.
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.*	Drill samples were logged for poor recovery and moisture Water injection was used as required to maximise recovery and maintain sample integrity Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred has not been assessed at this stage of the project.
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.*	All RC chips were geologically logged. Including, lithology, veining, oxidation and weathering are recorded in the geology table of the drill hole database. RC logging is qualitative and descriptive in nature, the geologists collected chip trays and these were photographed at the completion of the hole
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.*	No drill core collected, not applicable One Metre RC samples were sub-sampled using a rig mounted cone splitter to produce original split samples of approximately 3kg weight, a standard industry practice. Composite samples using a scoop of up to 5m were taken from parts of the holes where one metre split samples were not submitted for assay The splitter was routinely cleaned at the end of each drill rod (6m) or as needed if damp material clung to the splitter.

Criteria	JORC Code explanation	Commentary
	• *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.*	Duplicate samples were collected using a scoop from the RC bulk samples to assess the sampling precision Sample size assessment was not conducted, though the sampling method and size used was typical for this type of mineralisation
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.*	RC samples were prepared and assayed at NATA accredited ALS Minerals laboratory in Perth. RC samples were weighed, dried, and pulverized in total to nominal 85% passing 75 micron (Method PUL23), then a portion was collected for analysis by fused disc XRF using lab method ME-XRF26s a Manganese ore speciality analysis Co analysis was not originally supplied by the laboratory to Pure Minerals, this data was requested and obtained from the laboratory once the Co association with Mn mineralisation was identified. With the analysis certificates being reissued with Co. No testing of the ore was completed by PM1 in the field In addition to the Company QAQC samples included within the batches, the laboratory includes its own CRM's, blanks and duplicates with every batch.
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.*	Drill assays were documented by external consultants to Pure Minerals from Mannika Resources Group Pty Ltd and Omni GeoX Pty Ltd on behalf of Pure Minerals Some historic holes were twinned in order to assess their suitability in defining a JORC compliant resource All assay data was received in electronic format from ALS, checked and verified by Pure Minerals and merged into a proprietary database. Assay results were reported as oxides. In the case of Mn, MnO was divided by 1.291 to obtain the compound value (Mn). In the case of Co, CoO was divided by 1.271.
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*	All collars were located using a handheld GPS for easting and northing. An elevation was assigned to the collar using SRTM data obtained from Geoscience Australia

Criteria	JORC Code explanation	Commentary
	Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	All work has been conducted in UTM grid (MGA94 Zone 50). The accuracy of the collar locations is approximately +/- 5m The dip of the hole was set by the driller using a protractor attached to the drill mast, with the azimuth of the hole being set by the geologist utilising a compass. The holes are of yet to be surveyed downhole. The quality and adequacy of topographic control is not 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.*	Drilling has been based on varying section lines to gain an understanding of the requirements for a resource estimation Data spacing and distribution of the holes has yet to be determined if sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure. Sample compositing has been completed outside of the logged mineralisation; Where the composite samples are found to contain elevated levels of Mn, the one metre RC splits shall be collected for analysis
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.*	Where possible drill lines are oriented approximately at right angles to the currently interpreted strike of known mineralisation. No bias is considered to have been introduced by the existing sampling orientation.
Sample security	• *The measures taken to ensure sample security.*	Samples were collected, secured and sent in closed polyweave sacks via either a registered transport company, or were hand delivered directly to the laboratory.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	As this is part of a first pass programme for Pure Minerals, no audits or reviews have been conducted at this stage

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.*	Results reported are from the Julia, Pools, Isle and Steve Ridge Prospects which are wholly located with E09/2217 The Battery Hub Project is comprised of two exploration licences E09/2217 and E52/3523 that are wholly owned by Pure Manganese Pty Ltd, a wholly owned subsidiary of Pure Minerals Limited with a total combined area of 724.43 km2. 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, BHP 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 and laterites with other targeted minerals including graphite, copper, zinc and other base metals. Geological information is included in the attachment.
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*	All information is included in Appendix B.

Criteria	JORC Code explanation	Commentary
	○ *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.*	
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.*	Weighted average techniques were used for the calculation of intersections Intersections were calculated using a low-grade cut-off or trigger value of 3% Mn with internal waste included to report a greater than 5% Mn intersection No 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').*	Drilling was inclined at -60 degrees to assess the ridge lines and the results may not represent a true thickness of the material. Due to this only the down hole length of the mineralisation and not the true width of the material has been reported
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 sections where included in previous announcements to the ASX on receipt of drilling results.
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*	All results are tabulated in Appendix B to reflect the addition of Co.

Criteria	JORC Code explanation	Commentary
	reporting of Exploration Results.	
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.*	Substantive historical data is summarised in previous announcements by Pure Minerals (and Aurora Minerals) and is being reviewed as part of the 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.