

ASX ANNOUNCEMENT

23 July 2018

DEMPSEY
MINERALS LTD

ACN 149 349 646



HOMBRE MUERTO LANDHOLDING INCREASED, EXPANDED GEOPHYSICAL CAMPAIGN TO COMMENCE

- **Expanded geophysical campaign to commence at Candelas and new areas over the Western Basin targets at Hombre Muerto**
- **Land holdings increased through further tenement acquisitions and licence applications**
- **Pending approvals, brine prospective area to increase by ~35% from ~5,000 Ha to ~6,900 Ha**
- **Surface sampling confirms prospectivity of the Western Basin tenure with several values >1,000 mg/l Li**
- **Landholding is adjacent to Galaxy Resources' Sal de Vida project and pending POSCO sale area, and FMC's Fenix lithium operations**

Dempsey Minerals Limited (ASX:DMI) (**Dempsey** or **the Company**) has significantly expanded its land holdings within the prolific Hombre Muerto Basin, located in Catamarca Province, Argentina, through the acquisition of new licences at *Rana de Sal* and *Santa Barbara* and through a new licence application at *Pata Pila*.

Pending licence approvals, including the previously announced Candelas X application (refer ASX announcement dated 6 June 2018), the additional licences will conservatively increase the company's area of interest for the exploration for lithium brines by ~35% from ~5,000 Ha to at least ~6,900 Ha (Figure 1). Land holdings for the Company total ~25,000Ha. The Hombre Muerto salar hosts FMC Corporation's El Fenix operation and Galaxy's Sal de Vida project, a portion of which is subject to sale to POSCO for US\$280M (ASX:GXY 29 May 2018).

Pata Pila covers a large area of alluvial fan thought to conceal the margin of the Hombre Muerto salar in the west (figure 1). The Rana de Sal licence lies in the northwest, is contiguous with the Catalina licence and covers an area of alluvial fan covered salar. The area also hosts the site of FMC's original pilot processing facility (see photos).

The Santa Barbara licences cover a small portion of the salar margin close to FMC's operation. Rana de Sal was purchased for US\$25,000 for 100%. The Santa Barbara licences are held under an option agreement whereby the Company can purchase 100% equity for US\$300,000 within three years, US\$40k was paid upon signing the agreement.

Coinciding with the expansion to the Dempsey landholding in the basin, the Company plans to conduct further geophysical surveys and is in the process of engaging independent contracting consultants Quantec Geo science Ltd (Quantec) to expand upon its recent work over the company's Candelas leases and also over the Company's Western Basin leases at *Santa Barbara*, *Pata Pila*, *Rana de Sal* and *Catalina*.

The Company plans to conduct various CSAMT resistivity and gravity surveys over the western areas. The surveys at Candelas will expand upon the previously reported survey results (see DMI ASX releases dated 6 June 2018 and 15 June 2018) which defined substantial volumes of highly conductive and shallow units compatible with units being saturated with brine that remain open within the Company's ground largely to the west. The surveys are planned to commence in August.

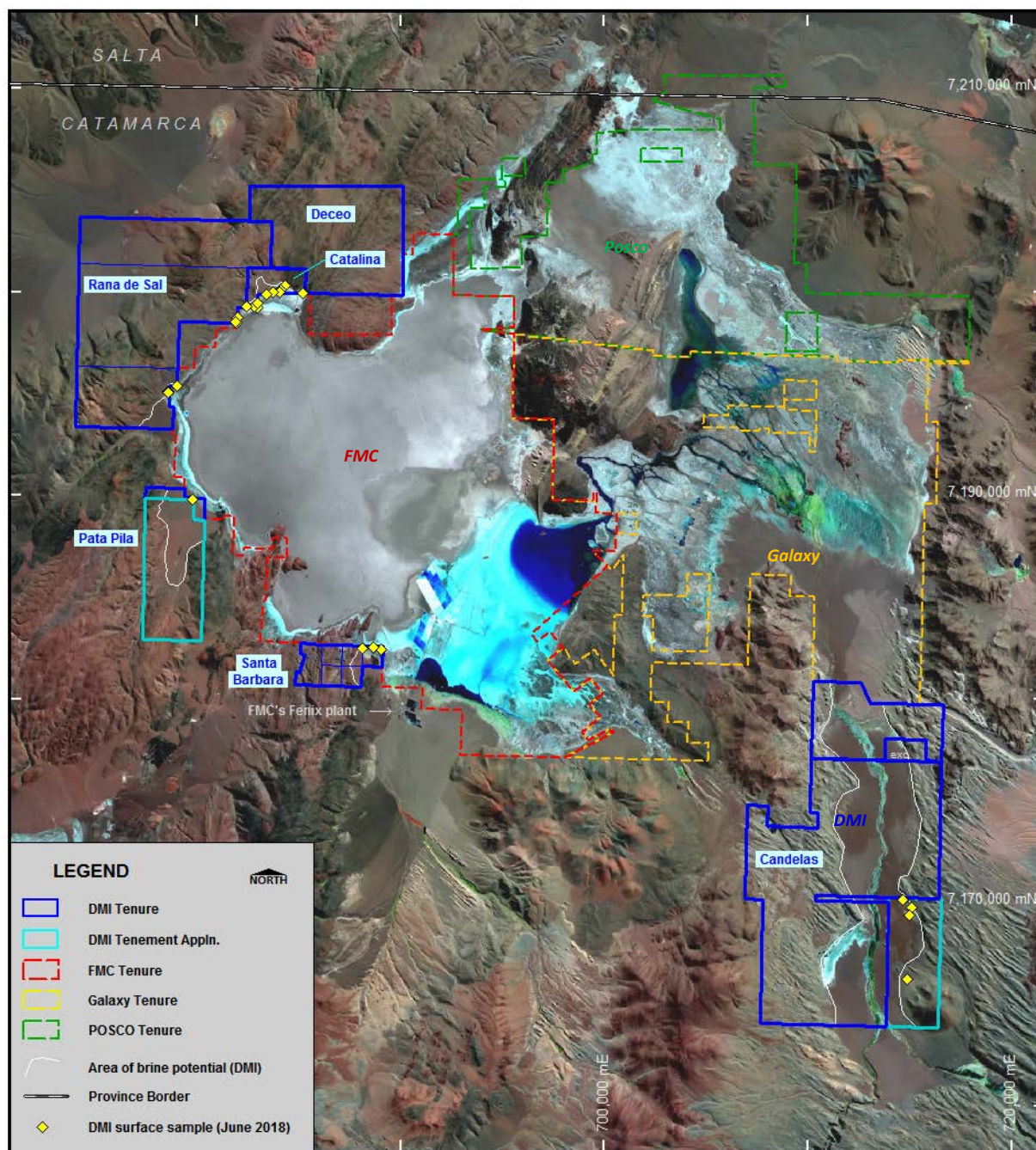


Figure 1: Tenure and recent sample locations, Hombre Muerto

Recent work on site included a programme of near surface water sampling comprising 23 samples undertaken over the Candelas X, Santa Barbara, Pata Pila, Catalina and Rana de Sal licences (Figure 2,

Appendix 1). Water samples were taken from shallow auger holes up to 1.3 metres deep and analysed for conductivity, total dissolved salts and analysed for a range of elements.

Results from the sampling were highly encouraging with several samples recording Li values in excess of 1,000 mg/l Li taken from Catalina and Santa Barbara. Li values observed from samples taken at Rana de Sal was also very encouraging whilst samples from Candelas X were taken above the RL of the adjacent Rio Patos channel from overlying colluvial cover and within the brackish/fresh water zone interpreted to lie above deeper seated brines as evidenced from the previous CSAMT survey.

The Company will utilise the further information gained from the geophysical surveys to define targets for drilling. Applications for permits to conduct the drilling have been submitted and the company is reviewing drilling contractors for the operation which, dependent upon weather conditions, is expected to commence in Q4 this year.

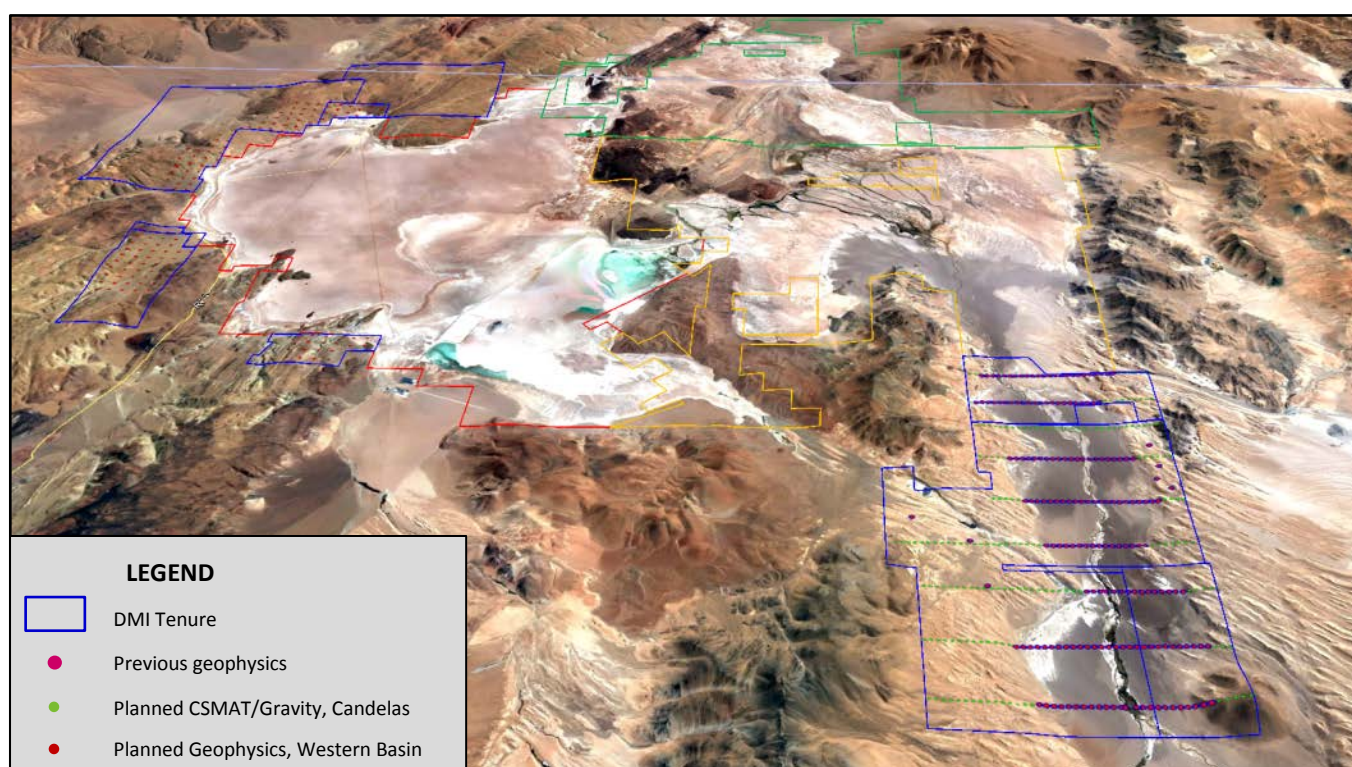


Figure 2: Oblique view of the Hombre Muerto project showing recent and planned geophysical campaigns

Commenting, Dempsey Managing Director Juan Pablo Vargas de la Vega said:

"We are very pleased to have increased our land holdings in the Hombre Muerto region and continue to do as much as we can to expedite exploration over our projects. Results from sampling over our Western Basin targets has given us the encouragement to instigate a programme of ground geophysics which is expected to commence shortly whilst we continue to expand upon our work at Candelas"

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Competent Persons Statement

The information contained herein that relates to Exploration Results is based on information compiled or reviewed by Dr Luke Milan, who has consulted to the Company. Dr Milan is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Milan consents to the inclusion of his name in the matters based on the information in the form and context in which it appears.

PHOTOS: Rana de Sal



Photos: FMC historic pilot plant and evaporation ponds, Rana de Sal project (DMI)

APPENDIX 1

WATER SAMPLING RESULTS

July, 2018

Sample ID	Easting	Northing	Li (mg/l)	Mg (mg/l)	Mg/Li	Location
MC1	682,946.2	7,199,241.6	1,070	2,187	2.04	Catalina
MC2	682,782.8	7,199,308.6	1,156	2,434	2.11	Catalina
MC3	682,940.1	7,199,454.7	690	1,615	2.34	Catalina
MC4	685,204.5	7,199,963.2	304	1,073	3.54	Catalina
MC5	684,311.3	7,200,306.6	149	395	2.66	Catalina
MC6	684,117.3	7,200,124.9	457	1,063	2.33	Catalina
MC7	684,052.1	7,199,990.3	1,272	3,186	2.51	Catalina
MC8	683,717.2	7,200,005.7	1,135	2,597	2.29	Catalina
MC9	683,402.1	7,199,896.6	602	1,295	2.15	Catalina
MR1	682,395.4	7,199,304.7	365	562	1.54	Rana de Sal
MR2	681,966.7	7,198,761.9	921	1,663	1.81	Rana de Sal
MR3	681,953.2	7,198,472.3	434	674	1.55	Rana de Sal
MR4	679,000.5	7,195,375.9	272	3,351	12.33	Rana de Sal
MR6	678,574.4	7,195,090.6	48	649	13.56	Rana de Sal
MR7	678,588.2	7,195,078.1	279	1,821	6.52	Rana de Sal
MD1	679,792.9	7,189,779.0	81	253	3.14	Pata Pila
MW1	714,638.5	7,170,157.4	11	10	0.98	Candelas X
MW2	715,095.6	7,169,765.2	4	12	2.63	Candelas X
MW3	715,005.5	7,169,372.7	18	14	0.79	Candelas X
MW4	714,873.6	7,166,213.5	0	0	0.00	Candelas X
MSTAB1	689,023.1	7,182,449.7	561	1,053	1.88	Santa Barbara
MSTAB2	688,641.5	7,182,532.0	539	1,078	2.00	Santa Barbara
MSTAB3	688,088.0	7,182,512.1	1,086	2,132	1.96	Santa Barbara

DATUM: WGS84 Zone 19S

APPENDIX 2

JORC CODE, 2012 EDITION – TABLE 1

1.1 Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 23 one litre water samples were collected from just below the surface and up to 1.3 metres deep from auger holes drilled into the sediment Water samples were sent to laboratory Alex Stewart Argentina A.A.
Drilling techniques	<ul style="list-style-type: none"> 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, whether core is oriented and if so, by what method, etc). 	<ul style="list-style-type: none"> Four inch diameter auger holes were drilled up to ~1.3 metres deep
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Samples on site were immediately tested for PH, conductivity, total dissolved salts (TDS) and temperature and then transported to the laboratory for chemical analyses
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Water samples only collected

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> The total length and percentage of the relevant intersections logged. 	
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No field duplicates samples were considered necessary for first pass reconnaissance Appropriate sampling protocols were used to maximise ensure all samples were representative. Each sample site was sampled using the same methods.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All samples were analysed using standard laboratory techniques The laboratory inserted duplicate samples. Results reported are within tolerable limits
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All data has been checked internally by DMI staff Location data was collected using a handheld GPS and maps No adjustment to assay data has been made
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All location points were collected using handheld GPS The error in locational data is expected to be up to 10m in easting and northing and up to 20m in RL.
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Sample spacing was adequate for first pass reconnaissance work of this nature and a product of access and exposure of the targeted lithologies The water sampling does not give adequate information on geological and grade continuity and cannot be used for the purpose of Mineral Resource

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Whether sample compositing has been applied. 	<ul style="list-style-type: none"> estimation No compositing of samples was conducted
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> There is not enough information available from this sampling to determine an average grade or to determine sample bias
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Samples were delivered directly to the laboratory in Argentina. The laboratory managed security of samples during prep and analysis
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Data is audited and reviewed in house by senior staff

1.2

1.3 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Sampling is located within the granted Catalina and Santa Barbara licences and licence applications Candela X, Rana de Sal and Pata Pila which are 100% controlled by the Company or by vendors with whom Blue Sky has agreements with. DMI, through Blue Sky, has an access agreement for exploration on the licences with the state of Catamarca, Argentina The granted licences are in good standing with no known impediments to obtaining a license to operate in the area.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> There has been no known previous exploration over the licence areas
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The project lies within the Altiplano- Puna region of Argentina which is 3,700 m asl (meters above sea level). The Altiplano- Puna Volcanic Complex (APVC) is located in the region and is associated with numerous stratovolcanoes and calderas. Recent studies have shown that the APVC is underlain by an extensive magma chamber at 4-8 km depth (de Silva et al., 2006). It is likely that geothermal fluids and the weathering of the voluminous volcanics could be the ultimate source of the anomalously high values of lithium concentrated within salars in the area Northern Argentina is a semi-arid to arid climate with consequent high radiation

Criteria	JORC Code explanation	Commentary
		<p>and evaporation. The combination of internal drainage and arid climate led to the deposition of evaporite precipitates in many of the Puna basins including the Hombre Muerto salar which typically contain subsurface brines, and concentrated the lithium.</p> <ul style="list-style-type: none"> • Brine prospects differ from solid phase industrial mineral prospects by virtue of their fluid nature. Because of the mobility of the brine, the flow regime and other factors such as the hydraulic properties of the aquifer material are considered to be just as important as the chemical constituents of the brine. The clastic, basin fill sediments in Salar de Hombre Muerto are the target units for brine retrieval.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • <i>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:</i> <ul style="list-style-type: none"> ○ <i>easting and northing of the drill hole collar</i> ○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> ○ <i>dip and azimuth of the hole</i> ○ <i>down hole length and interception depth</i> ○ <i>hole length.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Short vertical auger holes were drilled to depths of 0.7 to 1.3 metres. Appendix 1 shows a summary of these holes and the assay results.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> • <i>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.</i> • <i>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.</i> • <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> • No weighted averages, aggregates or metal equivalent values are reported
<i>Relationship between mineralisation widths and intercept</i>	<ul style="list-style-type: none"> • <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is</i> 	<ul style="list-style-type: none"> • Not relevant. Holes were augered to collect single 1 litre water samples

Criteria	JORC Code explanation	Commentary
<i>lengths</i>	<p><i>known, its nature should be reported.</i></p> <ul style="list-style-type: none"> <i>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').</i> 	
<i>Diagrams</i>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Refer to Maps, Figures and Diagrams provided in the document
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> All sample results from the program are reported in the document
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> All meaningful and material information is reported
<i>Further work</i>	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> A programme of geophysics is expected to commence shortly as described in the text and will be followed by drilling within 2018 following the issuance of permits.