



ASX / MEDIA ANNOUNCEMENT

15/7/2021

## SUPPLEMENTARY JORC DISCLOSURE - OAKOVER RAPID DEVELOPMENT PROGRAM UPDATE

Firebird Metals Limited (ASX: FRB, "Firebird" or "the Company") refers to the Company's announcement dated 14 July 2021 "Oakover Rapid Development Program Update". The Company now provides the attached JORC Table 1 disclosure to be read in conjunction with that announcement.

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### Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Mark Pudovskis. Mr Pudovskis is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pudovskis 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 Competent Person as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Pudovskis consents to the disclosure of the information in this report in the form and context in which it appears.

# JORC Code, 2012 Edition Table 1 – Oakover Manganese Project Diamond Core

## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary																				
Sampling techniques	<ul style="list-style-type: none"><li>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.</li><li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li><li>Aspects of the determination of mineralisation that are Material to the Public Report.</li><li>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.</li></ul>	<ul style="list-style-type: none"><li>Samples were collected by PQ3 diamond coring methods. Samples have yet to be selected for analysis or metallurgical work.</li><li>The manganese mineralisation was initially interpreted based on visual logging of the core</li></ul>																				
Drilling techniques	<ul style="list-style-type: none"><li>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).</li></ul>	<ul style="list-style-type: none"><li>Drilling was completed by PQ3 diamond coring methods in 2011. The core was not orientated. Given the relatively shallow nature of the deposit and the supergene overprinting, orientation is not material.</li></ul>																				
Drill sample recovery	<ul style="list-style-type: none"><li>Method of recording and assessing core and chip sample recoveries and results assessed.</li><li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li><li>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.</li></ul>	<ul style="list-style-type: none"><li>The core recoveries from the 2021 CSA Global relogging are summarised below.</li></ul> <table><tr><th>Drill Hole</th><th>Prospect</th><th>Hole length</th><th>Core Recovery % (average 1.5m core runs)</th></tr><tr><td>OKDM001</td><td>66</td><td>49.8</td><td>-</td></tr><tr><td>OKDM002</td><td>66</td><td>45.3</td><td>94.1</td></tr><tr><td>OKDM003</td><td>66</td><td>36.3</td><td>79.6</td></tr><tr><td>OKDM004</td><td>66</td><td>34.8</td><td>73.8</td></tr></table>	Drill Hole	Prospect	Hole length	Core Recovery % (average 1.5m core runs)	OKDM001	66	49.8	-	OKDM002	66	45.3	94.1	OKDM003	66	36.3	79.6	OKDM004	66	34.8	73.8
Drill Hole	Prospect	Hole length	Core Recovery % (average 1.5m core runs)																			
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Criteria	JORC Code explanation	Commentary																								
		<table><tr><td>OKDM005</td><td>66</td><td>34.8</td><td>90.2</td></tr><tr><td>OKDM006</td><td>Karen</td><td>34</td><td>84.9</td></tr><tr><td>OKDM007</td><td>Karen</td><td>27.3</td><td>89.2</td></tr><tr><td>OKDM008</td><td>Karen</td><td>21.3</td><td>97.2</td></tr><tr><td>OKDM009</td><td>Jay Eye</td><td>25</td><td>86.4</td></tr><tr><td>OKDD010</td><td>Jay Eye</td><td>28.8</td><td>93.8</td></tr></table>	OKDM005	66	34.8	90.2	OKDM006	Karen	34	84.9	OKDM007	Karen	27.3	89.2	OKDM008	Karen	21.3	97.2	OKDM009	Jay Eye	25	86.4	OKDD010	Jay Eye	28.8	93.8
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Logging	<ul style="list-style-type: none"><li>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.</li><li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li><li>The total length and percentage of the relevant intersections logged.</li></ul>	<ul style="list-style-type: none"><li>The core was originally logged in 2011 by Brumby Resources then geologically and geotechnically logged by CSA Global consultants in 2021 to a level of detail sufficient to establish appropriate domaining for planned metallurgical test work.</li><li>With the exception of drill hole OKDD001, all drill holes (OKDD002 to OKDD010) were logged from surface to end of hole. Drill depths are summarised in the Table under 'Drill hole Information'</li></ul>																								
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"><li>If core, whether cut or sawn and whether quarter, half or all core taken.</li><li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li><li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li><li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li><li>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.</li><li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li></ul>	<ul style="list-style-type: none"><li>Full core was collected and no sub sampling techniques were adopted for analysis.</li></ul>																								
Quality of assay data and laboratory tests	<ul style="list-style-type: none"><li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li><li>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.</li><li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li></ul>	<ul style="list-style-type: none"><li>Not applicable as no sample analysis was completed.</li></ul>																								

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>• The diamond core holes were not twinned by, or against RCP drill holes; however, were drilled in relative vicinity to each other as illustrated in the attached figures to this release. A visual comparison of the drill core against the adjacent RCP drill assays was made which indicated an approximate correlation for the presence of manganese.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill locations were located by handheld GPS. Expected accuracy is +/- 5m for northing and easting.</li> <li>• GDA94 Zone 51 datum is used as the coordinate system.</li> <li>• There is no record of topographic control.</li> <li>• The Competent Person (CP) considers that the survey techniques adopted were appropriate for the style of mineralisation and for reporting of an Exploration Result.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• 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.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• The 10 drill holes were spaced over Oakover, Jay Eye and Karen prospects as illustrated in the attached maps to this release.</li> <li>• The Competent Person persons considers the spacing of the drill hole an appropriate representation of the style of mineralisation</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• The style of mineralisation is shale hosted manganese with a supergene overprint. Sampling orientation to structure is not applicable.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill core trays are secured safely within the Firebird Metals facility in Osborne Park Perth</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no record of any audits or reviews having been undertaken on the drill data.</li> </ul>

## Section 2 Reporting of Exploration Results – Oakover Manganese Project

(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"><li>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.</li><li>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.</li></ul>	<ul style="list-style-type: none"><li>The Oakover Manganese Project consists of one exploration licence (E52/3577-I) in the East Pilbara region of Western Australia.</li><li>The licence is by Firebird Metals Limited.</li><li>The licence covers 54 blocks, was applied for on 13 September 2017, granted on 11 March 2019 with an expiry date of 10 March 2024.</li></ul>																																										
Exploration done by other parties	<ul style="list-style-type: none"><li>Acknowledgment and appraisal of exploration by other parties.</li></ul>	<ul style="list-style-type: none"><li>The most recent meaningful work completed on the project was by Brumby Resources and included RCP drilling, mapping and a Mineral Resource estimate completed in August 2012 by H &amp; S Consultants Pty Ltd (H&amp;SC) who estimated an Inferred Mineral Resource (using an 8% Mn cut-off) of 64.1 Mt grading 11.5% Mn, 10.1% Fe, 10.5% Al2O3 and 41.3% SiO2.</li><li>The diamond core PQ3 (triple tube) drilling programme, relevant to this release was completed in 2011 and was designed to collect representative samples across the Mineral Resource for metallurgical test work.</li></ul>																																										
Geology	<ul style="list-style-type: none"><li>Deposit type, geological setting and style of mineralisation.</li></ul>	<ul style="list-style-type: none"><li>The manganese mineralisation is stratiform and hosted by dolomitic-rich Balfour Downs shale beds. The mineralisation is tabular in form, dips gently at approximately 10° to the northwest and outcrops at the surface at the southern edge of the deposit. Supergene enrichment of the manganese stratigraphy within the top 5-10m has resulted in massive manganese outcrops at the surface.</li></ul>																																										
Drill hole Information	<ul style="list-style-type: none"><li>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:<ul style="list-style-type: none"><li>easting and northing of the drill hole collar</li><li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li><li>dip and azimuth of the hole</li><li>down hole length and interception depth</li><li>hole length.</li></ul></li><li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from</li></ul>	<ul style="list-style-type: none"><li>All drill holes are vertical and coordinates in MGA1994 Zone 51S.</li></ul> <table><tr><th>Drill Hole</th><th>Prospect</th><th>Easting</th><th>Northing</th><th>RL</th><th>Hole length</th></tr><tr><td>OKDM001</td><td>66</td><td>261308</td><td>7419826</td><td>529</td><td>49.8</td></tr><tr><td>OKDM002</td><td>66</td><td>261295</td><td>7419895</td><td>522</td><td>45.3</td></tr><tr><td>OKDM003</td><td>66</td><td>261277</td><td>7419984</td><td>518</td><td>36.3</td></tr><tr><td>OKDM004</td><td>66</td><td>261225</td><td>7419824</td><td>520</td><td>34.8</td></tr><tr><td>OKDM005</td><td>66</td><td>261554</td><td>7420051</td><td>516</td><td>34.8</td></tr><tr><td>OKDM006</td><td>Karen</td><td>260747</td><td>7415499</td><td>536</td><td>34</td></tr></table>	Drill Hole	Prospect	Easting	Northing	RL	Hole length	OKDM001	66	261308	7419826	529	49.8	OKDM002	66	261295	7419895	522	45.3	OKDM003	66	261277	7419984	518	36.3	OKDM004	66	261225	7419824	520	34.8	OKDM005	66	261554	7420051	516	34.8	OKDM006	Karen	260747	7415499	536	34
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	<i>the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	<table><tr><td>OKDM007</td><td>Karen</td><td>260763</td><td>7415552</td><td>535</td><td>27.3</td></tr><tr><td>OKDM008</td><td>Karen</td><td>260890</td><td>7415570</td><td>535</td><td>21.3</td></tr><tr><td>OKDM009</td><td>Jay Eye</td><td>262788</td><td>7420675</td><td>517</td><td>25</td></tr><tr><td>OKDD010</td><td>Jay Eye</td><td>262810</td><td>7420647</td><td>517</td><td>28.8</td></tr></table>	OKDM007	Karen	260763	7415552	535	27.3	OKDM008	Karen	260890	7415570	535	21.3	OKDM009	Jay Eye	262788	7420675	517	25	OKDD010	Jay Eye	262810	7420647	517	28.8
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<b>Data aggregation methods</b>	<ul style="list-style-type: none"><li><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></li><li><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></li><li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li></ul>	<ul style="list-style-type: none"><li>Not applicable as no grades are being reported.</li></ul>																								
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"><li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li><li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li><li><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></li></ul>	<ul style="list-style-type: none"><li>Not applicable as no grades are being reported</li></ul>																								
<b>Diagrams</b>	<ul style="list-style-type: none"><li><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></li></ul>	<ul style="list-style-type: none"><li>Refer to figures within the body of the release.</li></ul>																								
<b>Balanced reporting</b>	<ul style="list-style-type: none"><li><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></li></ul>	<ul style="list-style-type: none"><li>Not applicable as no grades are being reported.</li><li>Previous owners Brumby Resources announced the ASX 13 July 2011 details of the 10 diamond core drill programme 'Successful follow-up drilling program at Brumby's Oakover Manganese Project'.</li></ul>																								
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"><li><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></li></ul>	<ul style="list-style-type: none"><li>The 10 diamond drill holes were completed across the Oakover, Jay Eye and Karen prospects. Previous project owners Brumby Resources reported a Mineral Resource and JORC Table 1 to the ASX on 8 June 2012.</li><li>The distribution of the RCP drill holes surrounding the diamond core holes is illustrated in the figures as part of this release.</li><li>The drill hole trays were digitally photographed to assist in logging and geological domaining.</li></ul>																								

Criteria	JORC Code explanation	Commentary
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>Detailed metallurgical test work of the core is in the planning process by Firebird Metals.</li> </ul>