

ASX / MEDIA ANNOUNCEMENT

15/6/2021

FIREBIRD ACQUIRES HIGH GRADE MANGANESE PROJECT ROCK CHIPS +60% Mn

Highlights

- Successful direct licence application for the Raggard Hills Manganese Project
- Historic rock chip sampling returned multiple significant results including from a total of nineteen samples (refer Table 1 for sample ID):
 - 1) 61.9Mn
 - 2) 61.5 Mn
 - 3) 60.4% Mn
 - 4) 61.6% Mn
 - 5) 60% Mn
 - 6) 62% Mn
- 15 of the 19 rock chip samples above 40% Mn with majority over 50% Mn
- Limited drilling conducted on prospect with only a single RC hole drilled outside of high grade area
- Located only 33km NNE of the high-grade Woodie Woodie Manganese Mine
- Project to complement Firebird's high-grade DSO strategy

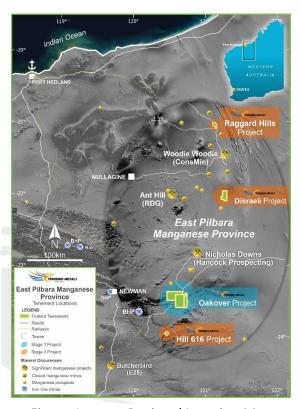


Figure 1: Regional Location Map

Firebird Metals Limited (ASX: FRB, "Firebird" or "the **Company"**) is pleased to announce the expansion of its East Pilbara manganese project portfolio with the acquisition of the high grade Raggard Hills Manganese Project via direct licence application.

Raggard Hills is ideally located 33km NNE of the Woodie Woodie Manganese Mine, straddles the old Woodie Woodie Road and is directly adjacent to the sealed Ripon Hills Road, providing direct haul access to the major exporting hub of Port Hedland.

Commenting on the acquisition of the Raggard Hills Project, Firebird Managing Director Mr Peter Allen stated: "Previous work at Raggard Hills has outlined a particularly compelling high grade manganese target that fits nicely into our long-term strategy of building a significant manganese portfolio in the East Pilbara region.



These are the highest manganese grade rock chip samples I have seen in my career and once the tenement is formally granted, we will look to define the extent and grade of manganese mineralisation already identified."

"However, it is important to note we remain focused on the recently announced Rapid Development Program at our flagship Oakover Manganese project, which is evaluating low capital and fast start-up potential options. Data from the current drill campaign, beneficiation testing and logistics work will feed into a Pre-Feasibility Study to determine the best pathway to market."

Raggard Hills Overview:

Raggard Hills consists of a single exploration licence application covering an area of 25.6km². The project is located in the Eastern Pilbara Region of Western Australia, 280km south-east of Port Hedland. The world class Woodie Woodie Manganese Mine is located 33km SSW of the Project.

The basement to the project is comprised of Archaean granites and gneisses. These are unconformably overlain by rocks of the Fortescue Group including basalt, sandstones, shales, dolomites, cherts, and felsic volcanic.

The basement consists of Archaean granitoids and greenstone which crop out in places. The Gregory Granitic Complex underlies much of the area. It has been divided into the following three units:

- Felsic lava of the Koongaling volcanics
- Intrusive granophyre equivalent of these volcanics
- Southern granite Complex

The basement rocks are unconformably overlain by the Fortescue Group (mafic volcanics, volcanoclastics and clastic sediments) which is, in turn, overlain by the Hamersley Group (predominantly clastic sediments).

The Hamersley Group is subdivided in to the lower 60m thick Marra Mamba Iron Formation (chert, shale, BIFs and jaspilite) and the upper 150m thick Carawine Dolomite (stromatolitic carbonate sequence with intercalated chert beds, veins and nodules). Secondary silicification of the Carawine Dolomite under subaerial conditions has led to the widespread formation of the Mesoproterozoic Pinjian Chert Breccia. The Manganese Group consists of upward fining sediments that unconformably overlie or are faulted against the Hamersley and Fortescue Groups. These sediments are considered to be rift filling or shelf deposits and are correlated with the Bangemall Basin sediments to the south and west.

The Balfour sub basin sequence consists of a basal conglomerate overlain by sandstones, shales, dolomites and dolomitic siltstones. The Balfour sub basin sequence is characterised by extensive folding with steep dips.

These include remnants of Permian glacial sediments (Patterson Formation). Tertiary rocks include silcretes, calcretes, calcareous sandstones, chert breccias, laterite and ferruginous duricrusts.



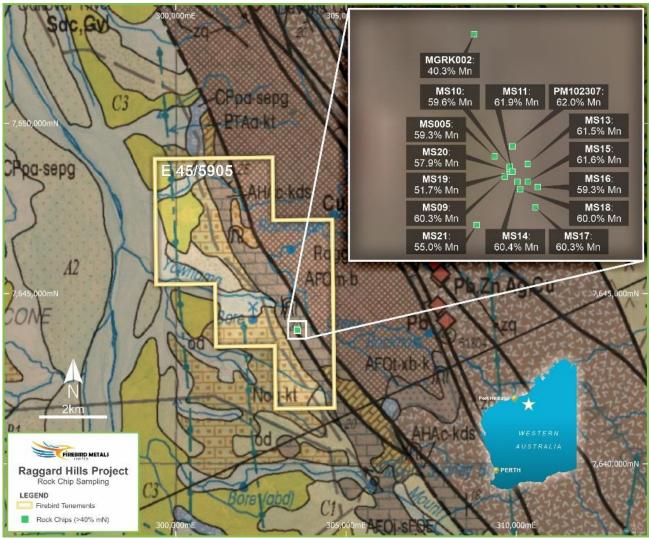


Figure 2: Project geology and significant Mn assay rock chips

Rock chip sampling was undertaken by Pilbara Manganese between 2002 to 2016 which delineated a zone of massive manganese mineralisation allocated within fresh dolomite and is potentially fault hosted.

A total of 19 rock chips were collected along a 160 m trend covering an approximate 2,000m² area, results presented in Table 1. A JORC (2012) Table 1 for the Exploration Results is included in this ASX release.



Table 1: Pilbara Manganese rock chip sampling results on E45/5905

Highlight #	Sample ID	Easting	Northing	Mn %	WAMEX report
	MS09	303564	7643912	60.3	86144
	MS10	303566	7643916	59.6	86144
1	MS11	303567	7643914	61.9	86144
	MS12	303573	7643921	0.92	86144
2	MS13	303573	7643917	61.5	86144
3	MS14	303569	7643910	60.4	86144
4	MS15	303573	7643910	61.6	86144
	MS16	303577	7643908	59.3	86144
	MS17	303576	7643900	60.3	86144
5	MS18	303570	7643907	60	86144
	MS19	303566	7643914	51.7	86144
	MS20	303566	7643915	57.9	86144
	MS21	303553	7643893	55	86144
	MS22	303560	7643888	35.3	86144
	MS23	303559	7643887	36.7	86144
	MS24	303560	7643886	25.9	86144
	MGRK002	303552	7643968	40.3	108909
	MS005	303560	7643920	59.3	108909
6	PM102307	303567	7643924	62	108909

Coordinates in MGA 1994 51S

The objective was to identify targets warranting drill testing which may be analogous to the Woodie Woodie style of mineralisation and geological setting as illustrated in Figure 3. It is interpreted that the fault hosted mineralisation represents a feeder structure which has acted as a mineralisation conduit.

It is noted a RC hole was drilled just north of the northern rock chip sample location. Although no significant manganese mineralisation was intersected in the hole, the hole still needs to be placed into the regional geological context to determine its relevance.

Further exploration work is required to verify any depth extent to the manganiferous surface outcrops associated to the rock chips and to examine the potential of the entire tenement.



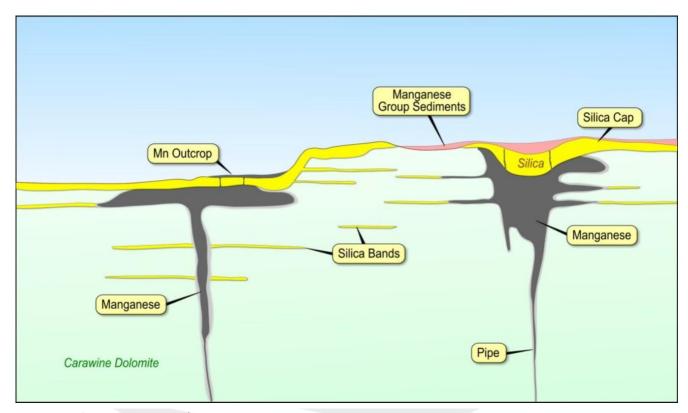


Figure 3: Simplified Deposit Model for Woodie Woodie

The announcement has been authorised by the Board of Directors of Firebird Metals Ltd.

-ENDS-

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About Firebird Metals Limited

FRB is an exploration and development company that owns 100% of three highly prospective manganese projects in the renowned East Pilbara manganese province of Western Australia:

- o Oakover Project Inferred JORC 2012 Mineral Resource estimate of 64 Mt @ 10% Mn
- o Hill 616 Manganese Project >3,500 metres drilled along strike length of 2.6km
- o Disraeli Manganese Project potential Woodie Woodie style mineralisation

The company's primary focus will be on the flagship Oakover Project which is located 85 km east of Newman and covers approximately 360 km². Oakover has an Inferred Mineral Resource estimate of 64Mt at 10% Mn (reported in accordance with the JORC Code 2012(H&SC Consultants, August 2012) at the Sixty Sixer and JayEye prospects.

The Inferred Mineral Resource estimate combined with historical exploration work provides a solid technical foundation for further development, with the company planning to complete additional infill and extensional drilling in conjunction with modern metallurgical test work utilising lower cost DMS and ore sorting techniques to deliver marketable manganese products to the global steel and battery markets.

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.

The information in this Report that relates to Exploration Results and Mineral Resources of the Company is based on, and fairly represents, information and supporting documentation that has been reviewed and prepared by Robert Wason, who is a Senior Consultant - Geology at Mining Insights Pty Ltd and is a member of AuslMM.

Mr. Wason has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which they are undertaking to qualify as an Expert and Competent Person as defined under the VALMIN Code and in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code 2012"). Mr. Wason consents to the inclusion in this announcement of the matters based on the information in the form and context in which they appear.



JORC Code, 2012 Edition Table 1 – Raggard Hills Manganese Project

Section 1 Sampling Techniques and Data

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

Criteria J Sampling • techniques	JORC Code explanation Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate	 Commentary Rock chip samples were collected manually from a small zone of manganese mineralisation in outcropping dolomite. Samples were
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.	 Rock chip samples were collected manually from a small zone of manganese mineralisation in outcropping dolomite. Samples were collected from the surface, however the quantity of material collected is unknown. Several rock chip samples were collected over an approximate 2,000 m² area. Even though it has not been reported, the number of samples collected would increase the representivity of the reported samples. Samples were dried, crushed, ring pulverised and analysed by X-Ray Fluorescence Spectrometry (XRF). The elements determined by XRF were Al₂O₃, Ba, CaO, Cr, Cu, Fe, K₂O, MgO, Mn, P, Pb, SO₃, SiO₂, TiO₂, V₂O₅, Zn. Loss on Ignition results were determined using a TGA system. Furnaces in the system were set to 1,000 degrees Celsius. The Competent Person (CP) considers that the sample techniques adopted were appropriate for the style of mineralisation and for reporting of an Exploration Result.
• 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, whether core is oriented and if so, by what method, etc).	 Not applicable as reporting results of rock chip sampling.
Drill sample • recovery •	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	 Not applicable as reporting results of rock chip sampling.



Criteria	JORC Code explanation	Commentary
Logging	 Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical 	 Rock chip samples were logged for 17 of the 19 samples.
	 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. 	
Sub-	 If core, whether cut or sawn and whether quarter, half or all core taken 	 Rock chip samples of manganese mineralisation in outcropping dolomite collected from the surface. The sampling technique is
techniques	 If non-core, whether riffled, tube sampled, rotary split, etc and 	appropriate as a first pass method to assess manganese anomalism
and sample	whether sampled wet or dry.	at the surface however it is unknown whether the rock chip sampling
preparation	 For all sample types, the nature, quality and appropriateness of the sample preparation technique. 	methods were representative of the outcrop. Several rock chips were collected over an area of approximately of 2,000 m² to increase
	 Quality control procedures adopted for all sub-sampling stages to 	representivity of the samples. No duplicate samples were recorded as
	 Measures taken to ensure that the sampling is representative of the in 	appropriate given the style of mineralisation being targeted.
	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 	 The Competent Person (CP) considers that the sub-sampling techniques adopted were appropriate for the style of mineralisation
	being sampled.	and for reporting of an Exploration Result.
Quality of assay data	 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered 	 A total of 20 rock chip samples were submitted to SGS Australia Pty Ltd at their Woodie Woodie mine site laboratory and analysed by XRF
and	partial or total.	for Al ₂ O ₃ , Ba, CaO, Cr, Cu, Fe, K ₂ O, MgO, Mn, P, Pb, SO ₃ , SiO ₂ ,
tests	 For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument 	TiO ₂ , V ₂ O ₅ , Zn. Loss on Ignition results were determined using a TGA system. Furnaces in the system were set to 1,000 degrees Celsius.
	make and model, reading times, calibrations factors applied and their derivation, etc.	 The use of duplicate, standard and blank samples by the laboratory is not recorded in the data. As the laboratory used internal quality
	 Nature of quality control procedures adopted (eg standards, blanks, 	control procedures to analyse samples, the rock chip analyses are
	duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	considered suitable for regional geochemical exploration to aid in defining manganese targets.
		The Competent Person (CP) considers that the quality of assay data
		and laboratory tests were appropriate for the style of mineralisation and for reporting of an Exploration Result
Verification	 The verification of significant intersections by either independent or 	 Primary data on rock chips including, project, sample number, co-
of sampling	alternative company personnel.	ordinates, zone, sample type, sample date, lithology, tenement



Criteria	JORC Code explanation	Commentary
and	The use of twinned holes. Documentation of primary data data entry procedures data	number and laboratory job number were collated in a Company
assaying	 Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	database, as evidenced by the WAWEX metadata.
Location of	Accuracy and quality of surveys used to locate drill holes (collar and	Rock chip sample locations were located by handheld GPS. Expected
data points	down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	 GDA94 Zone 51 datum is used as the coordinate system.
	 Specification of the grid system used. 	 There is no record of topographic control in the WAMEX metadata.
	 Quality and adequacy of topographic control. 	 The Competent Person (CP) considers that the survey techniques
		adopted were appropriate for the style of mineralisation and for reporting of an Exploration Result.
Data spacing and	 Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the 	 Rock chip sampling was conducted along outcropping dolomite over an area of approximately of 2,000 m². The sample spacing is
distribution	degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and	considered suitable for first pass testing of regional exploration targets for manganese mineralisation.
	classifications applied. Whather sample compositing has been applied.	
Orientation	Whether the orientation of sampling achieves unbiased sampling of	 Rock chip sample spacing, and orientation is considered suitable for
of data in	possible structures and the extent to which this is known, considering	regional geochemical exploration to define manganese targets.
relation to	the deposit type.	
geological	 If the relationship between the drilling orientation and the orientation 	
structure	of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample	 The measures taken to ensure sample security. 	 Rock chip samples were collected during several field trips and were
security		delivered for analysis to SGS Australia Pty Ltd at their Woodie Woodie mine site laboratory.
Audits or reviews	 The results of any audits or reviews of sampling techniques and data. 	 There is no record of any audits or reviews having been undertaken on the sampling data.



Section 2 Reporting of Exploration Results – Raggard Hills Manganese Project

(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 Ragged Hills Manganese Project consists of one exploration licence application (E45/5905) located 33 km NNE of the Woodie Woodie Manganese Mine and 280 km SE of Port Hedland in the Eastern Pilbara Region of Western Australia. The licence application is by Firebird Metals Limited
	 The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	 The licence application is by Firebird Metals Limited. The licence covers 8 blocks, was applied for on 29 April 2021 and is currently pending grant.
Exploration done by	 Acknowledgment and appraisal of exploration by other parties. 	 Historic exploration of relevance has been undertaken by Pilbara Manganese Pty Ltd.
other parties		 Work completed within ELA 45/5905 consisted of rock chip sampling and RC drilling. The majority of the work undertaken was regional based exploration outside the ELA within the larger Woodie Woodie project area.
Geology	 Deposit type, geological setting and style of mineralisation. 	 Manganese mineralisation in the eastern Pilbara is hosted by the Jeerinah Formation. Carawine Dolomite and parts of the Manganese
		Subgroup. The exploration model used for ELA45/5905 is based on Woodie Woodie where manganese mineralisation forms as
		replacement of the host Carawine Dolomite in an interpreted inverted
		200 m long with typical thicknesses of 20 m to 40 m. They form as
		either fault-fill, steeply dipping narrow bodies, or as bedding replacement, flat tabular bodies, or combinations of the two to form
		large "funnel" shaped bodies.
Drill hole	A summary of all information material to the understanding of the	 Not applicable as no drill results being reported.

dip and azimuth of the hole

metres) of the drill hole collar

easting and northing of the drill hole collar
 elevation or RL (Reduced Level – elevation above sea level in

exploration results including a tabulation of the following information

Information

for all Material drill holes:



					Balanced reporting	Diagrams		lengths	intercept	n widths and	mineralisatio	between	Dolationship							methods	aggregation	Data				Criteria
					•	•			•		•	•		•	•				•			•		•		o
				and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades	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.	width not known').	should be a clear statement to this effect (eg 'down hole length, true	If it is not known and only the down hole lengths are reported there	angle is known its nature should be reported	If the aeometry of the mineralisation with respect to the drill hole	I nese relationships are particularly important in the reporting or Exploration Results.	Those relationships are particularly important in the reporting of	should be clearly stated	The assumptions used for any reporting of metal equivalent values	such aggregations should be shown in detail.	for such aggregation should be stated and some typical examples of	results and longer lengths of low grade results, the procedure used	Where aggregate intercepts incorporate short lengths of high grade	grades) and cut-off grades are usually Material and should be stated.	maximum and/or minimum grade truncations (eg cutting of high	In reporting Exploration Results, weighting averaging techniques.	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.	If the exclusion of this information is justified on the basis that the	 down hole length and interception depth hole length. 	JORC Code explanation
• z	ME		Hole ID	s ×	• ⊑0	• 70						•	2							• z	• z :	• z				Com
No signif	MERC002		e ID	as colla mple (I	Collar de Ltd on hi	Refer to t						ot appli	2+ 25							o metal	ot appli	o data :				Commentary
icant ma	303559		East	was collared 7 m eassample (MGRC002)	tails of a storical t	figures w						cable as	Sable as							equival	cable, as	aggregat				V
nganese	7643974		North	east and 02).	relevant enement	to figures within the body of the release						Not applicable as reporting surface rock chip results	5001							No metal equivalents have been reported	Not applicable, as no drill results being reported	No data aggregating of historical results was undertaken.				
mineral		(m)	RL	6 m no	RC hold	body of) surrac	2							been r	esults b	torical r				
lisation	263.915			rth of th	e drilled 94 in O	the relu						e rock (2 500							eportea	eing re	esults v				
was int	60	(°)	Dip	ne north	by Pill ctober :	ease.						onip res	5								ported.	vas uno				
nificant manganese mineralisation was intersected in the hole.	270	(°)	Azimuth	was collared 7 m east and 6 m north of the northern most rock chip sample (MGRC002).	Collar details of a relevant RC hole drilled by Pilbara Manganese Pty Ltd on historical tenement E45/2694 in October 2015. The RC hole							suits.	1								•	dertaken.				
the hole.	135	(m)	Depth	ock chip	anese Pty ₹C hole																					



Further work	Other substantive exploration data	Criteria
 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. 	• 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.	JORC Code explanation
 Detailed geological mapping; other geochemical surveys, if warranted; geophysical surveys; structural interpretation; target generation and drilling. 	 MERC002 was only partially sampled. A geological field observation was made at the time of collecting rock chip sample number PM102307. It was noted there was a small zone of solid manganese mineralisation along a 160° trend in fresh dolomite that appeared to be fault hosted. 	Commentary