



SheffieldResources
LIMITED

ASX and Media Release

23 October, 2013

HIGH GRADE IRON RESULTS FROM NORTH PILBARA PROJECT

KEY POINTS

- Significant new zone of high grade DSO iron mineralisation identified
- Average 61.24% Fe from 37 rock chip samples with very low levels of impurities
- Within potential trucking distance of Port Hedland
- Detailed mapping and sampling to be undertaken ahead of initial drilling in H1 2014

Sheffield Resources ("Sheffield", "the Company") (ASX:SFX) today announced high grade iron results from rock chip sampling at its North Pilbara Iron Project in the Pilbara region of Western Australia (Figure 1). The results define a significant new iron prospect named "Mt Vettel" which lies 150km from Port Hedland and just 20km to the west of Atlas Iron's (ASX:AGO) Mt Webber iron project.

The results of 47 samples taken during a recent helicopter-supported mapping and sampling programme show the iron mineralisation at Mt Vettel occurs as high grade bedded iron mineralisation (BID) with some minor capping detrital iron mineralisation (DID). The mineralisation at surface is characterised by high iron grades and very low contaminant levels, particularly phosphorous.

The results of 37 samples of BID averaged:

61.24 % Fe, 0.038% P, 0.98% Al₂O₃, 4.77% SiO₂, 6.52% LOI

(Refer to Tables 1 & 2 for further details.)

The mineralisation at Mt Vettel is quite distinctive, containing significantly higher levels of hematite than the goethite-dominant deposits typical of the region. The mineralisation at surface appears more comparable to the hematite-rich deposits at Yarrie, Goldsworthy or Spinifex Ridge, located near the northern margin of the Pilbara Craton.

Managing Director, Bruce McQuitty said these results are extremely encouraging and highlight the potential for Mt Vettel to contain significant Direct Shipping Ore (DSO) located within trucking distance of Port Hedland.

"We have identified a high grade, 1km long, hematite-rich zone of iron mineralisation with very low contaminant levels."

"The deposit is well located adjacent to proposed haul roads and is closer to Port Hedland than Atlas Iron's Mt Webber project which is currently in development."

"Due to consolidation in the region, there are few remaining junior companies actively exploring for new iron deposits in the north Pilbara. Sheffield's team has a track record of discovery will continue to target iron deposits adjacent to accessible infrastructure."

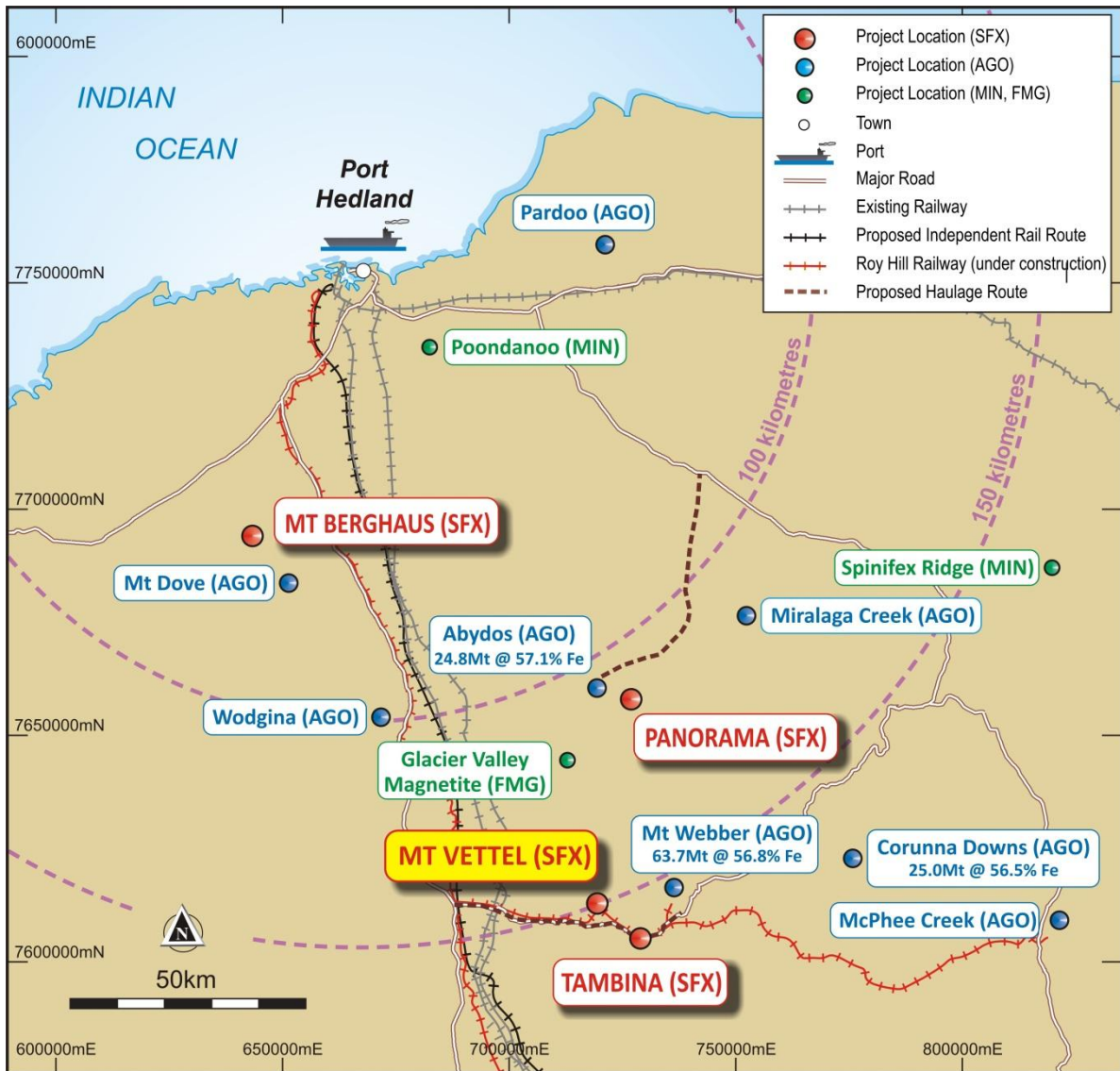


Figure 1: Location of Sheffield's North Pilbara Iron Projects

Details of Mt Vettel mineralisation

The iron mineralisation at Mt Vettel is hosted within the Paddy Market Iron Formation which is known to contain several significant iron deposits in the Pilbara, including Atlas Iron's Mt Webber and Corunna Downs deposits (Figure 1). The Paddy Market Formation also hosts FMG's very large Glacier Valley magnetite deposit, located just 30km north of Mt Vettel.

Mapping and sampling has outlined a coherent zone of iron mineralisation outcropping over a total (folded) strike length of 1km with an average thickness of approximately 50m (varying between 15m and 130m in width). The mineralisation is predominantly hematite-goethite BID (Figure 2 & 3) with minor occurrences of overlying thin DID. A total of 40 samples were collected from the outcropping mineralisation. Of these, 37 samples were taken of BID mineralisation which returned an average grade of 61.24% Fe, with 36 samples returning grades above 55% Fe and to a maximum of 65.65% Fe. The BID mineralisation contains very low levels of contaminants P, Al₂O₃ and SiO₂ (Table 1).

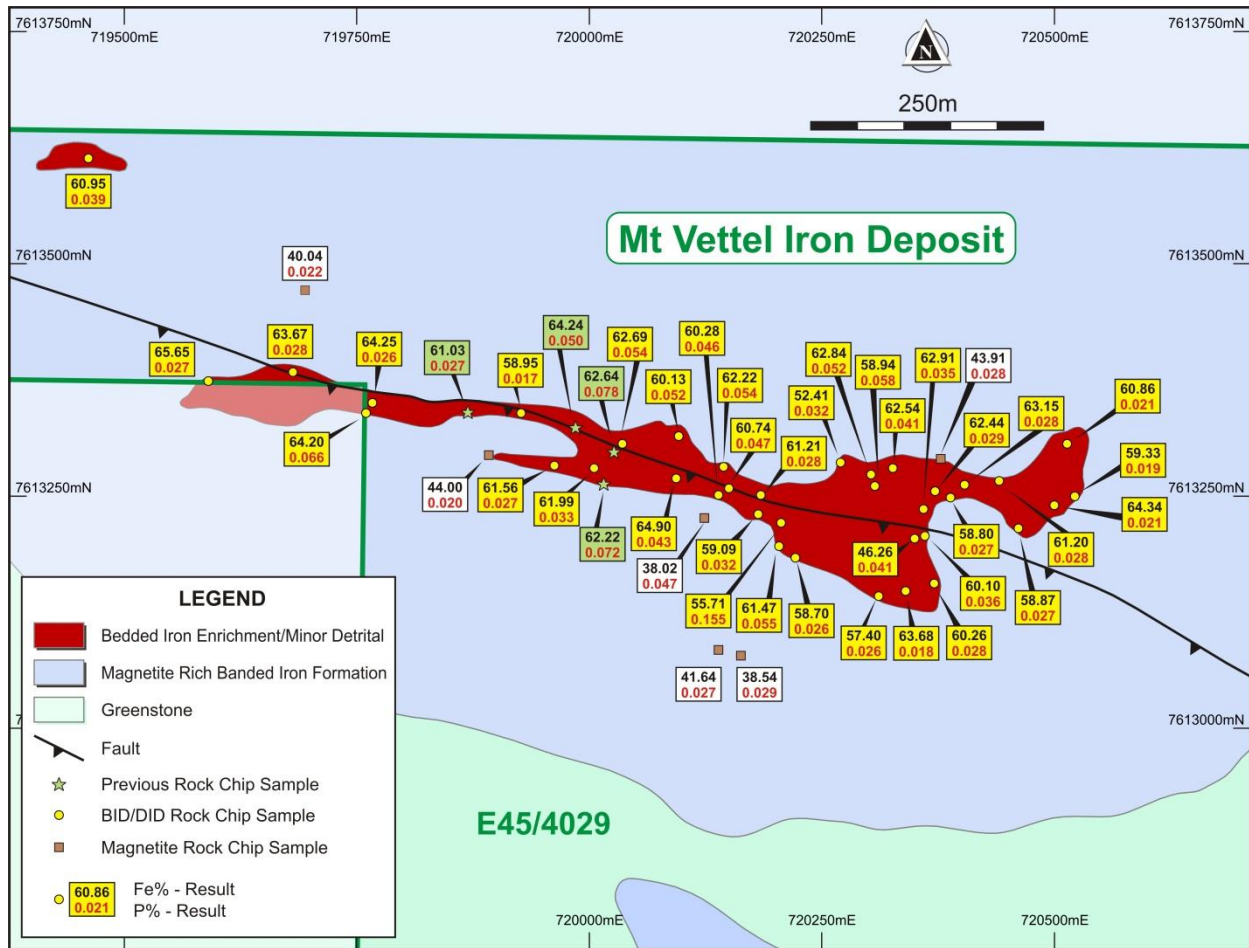


Figure 2: Mt Vettel – mapped iron enrichment and rock chip sample results

The Paddy Market Iron Formation surrounding the Mt Vettel DSO mineralisation is magnetite-bearing and the results of sampling and petrography indicate it has the potential to host a significant magnetite deposit (Figures 2 & 4).

A total of 7 samples were collected from magnetite-rich banded iron formation, returning an average iron grade of 41.02% Fe. The magnetite target comprises thick intercalated bands of relatively coarse grained magnetite-hematite-goethite and jaspilite (Figure 4).

Table 1: Mt Vettel Rock Chip Samples – averages for each mineralisation type

Type	No. of samples	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	LOI%
BID	37	61.24	4.77	0.98	0.038	6.52
DID	3	55.56	13.03	1.62	0.051	5.34
Magnetite	7	41.02	38.39	0.25	0.028	2.23

Preliminary petrographic studies on samples collected from surface indicate that the magnetite has a medium to coarse grain size of between 50µ and 100µ and has been largely replaced by hematite with minor remaining accessory magnetite (Figure 5). The relatively coarse grainsize is considered a favourable attribute for grinding and liberation.

Further Work

Detailed mapping and further sampling will be undertaken at Mt Vettel ahead of drilling scheduled for H1 2014. Further target generation work in the North Pilbara is planned for Q1 2014. Sheffield continues to seek new iron ore opportunities in the district.

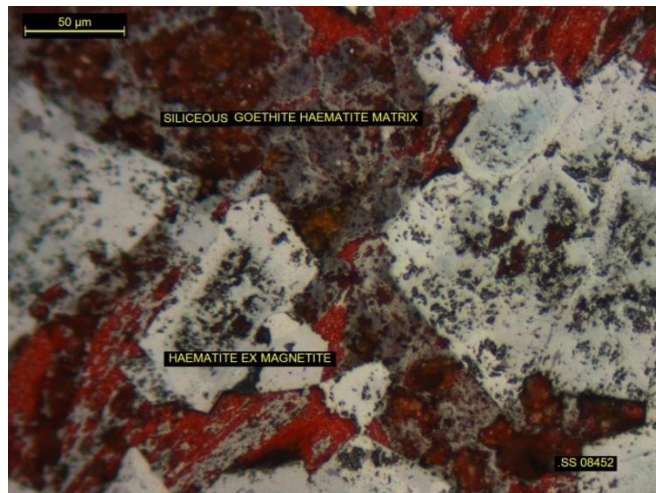


Figure 3: Hematite-goethite (BID) mineralisation



Figure 4: Banded Hematite/magnetite-jaspillite mineralisation

Figure 5: Hematite replacing magnetite - coarse euhedral octahedral crystals of hematite (ex-magnetite) with accessory magnetite (<10% of the total) - sample number SS08542



ENDS

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COMPETENT PERSONS' STATEMENT

The information in this announcement that relates to exploration results is based on information compiled by David Archer. Mr Archer is a full time employee of the Company. Mr Archer is a Member of the Australasian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity to which they are undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")'. Mr Archer consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

FORWARD LOOKING STATEMENTS

Some statements in this announcement regarding estimates or future events are forward-looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward-looking statements include, but are not limited to, statements concerning the Company's exploration programme, outlook, target sizes and mineralised material estimates. They include statements preceded by words such as "expected", "planned", "target", "scheduled", "intends", "potential", "prospective", "strategy" and similar expressions.

Table 2: Mt Vettel Rock Chip Sample Results

Sample	Easting	Northing	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	LOI%	Description
SS08501	720222	7613184	58.70	3.76	1.56	0.026	10.33	BID
SS08502	720270	7613286	52.41	11.57	5.42	0.032	7.13	BID
SS08503	720327	7613280	62.54	3.49	0.52	0.041	6.71	BID
SS08504	720312	7613142	57.40	7.57	3.43	0.026	6.16	BID
SS08505	720341	7613148	63.68	3.45	0.86	0.018	4.81	BID
SS08506	720362	7613208	60.10	8.09	1.00	0.036	4.76	BID
SS08507	720372	7613255	62.44	6.72	0.80	0.029	3.35	BID
SS08509	720097	7613315	60.13	6.03	0.63	0.052	7.23	BID
SS08510	720186	7613251	61.21	2.06	0.46	0.028	9.60	BID
SS08513	720006	7613280	61.99	2.71	0.49	0.033	8.13	BID
SS08514	720036	7613306	64.24	4.46	0.54	0.054	3.19	BID
SS08515	719928	7613339	58.95	7.31	0.40	0.017	7.82	BID
SS08516	719767	7613351	64.25	3.45	0.51	0.026	4.19	BID
SS08517	719761	7613340	64.20	2.20	0.68	0.066	5.31	BID
SS08518	719682	7613383	63.67	1.93	0.35	0.028	6.61	BID
SS08520	719591	7613374	65.65	2.74	0.21	0.027	3.45	BID
SS08522	719963	7613284	61.56	3.02	0.42	0.027	8.55	BID
SS08523	720441	7613266	61.20	4.99	1.03	0.028	6.38	BID
SS08524	720404	7613262	63.15	2.61	0.82	0.028	6.34	BID
SS08525	720389	7613248	58.80	10.47	0.87	0.027	4.32	BID
SS08526	720462	7613215	58.87	5.78	1.12	0.027	8.97	BID
SS08527	720515	7613307	60.86	4.90	0.94	0.021	6.71	BID
SS08528	720523	7613250	59.33	4.92	1.42	0.019	8.88	BID
SS08529	720501	7613241	64.34	1.77	0.68	0.021	5.70	BID
SS08530	720360	7613236	62.91	3.03	0.93	0.035	5.46	BID
SS08532	720304	7613273	62.84	3.30	1.78	0.052	4.84	BID
SS08534	720371	7613156	60.26	4.25	1.24	0.028	7.84	BID
SS08535	720206	7613221	55.71	9.38	0.93	0.155	9.58	BID
SS08536	720182	7613231	59.09	4.40	1.34	0.032	9.14	BID
SS08537	720150	7613258	60.74	6.62	0.23	0.047	5.99	BID
SS08538	720140	7613252	60.28	6.45	0.46	0.046	6.44	BID
SS08539	720145	7613281	62.22	5.61	0.34	0.054	5.26	BID
SS08540	720095	7613269	64.90	2.05	0.68	0.043	4.60	BID
SS08543	719462	7613614	60.95	4.93	0.77	0.039	7.04	BID
IB017*	720026	7613298	62.69	2.41	0.56	0.078	7.11	BID
IB018*	719985	7613324	62.64	5.03	0.98	0.050	4.12	BID
IB019*	719869	7613340	61.03	3.05	0.68	0.027	9.01	BID
SS08511	720204	7613196	61.47	4.05	1.30	0.055	6.77	DID
SS08531	720308	7613261	58.94	7.80	2.32	0.058	4.85	DID
SS08533	720350	7613204	46.26	27.25	1.24	0.041	4.41	Weak DID
SS08508	720378	7613290	43.91	35.53	0.24	0.028	0.88	Magnetite
SS08512	720163	7613078	38.54	41.05	0.24	0.029	2.78	Magnetite
SS08521	719892	7613294	44.00	34.54	0.13	0.020	2.30	Magnetite
SS08541	720124	7613226	38.02	41.69	0.21	0.047	3.20	Magnetite
SS08542	720140	7613085	41.64	37.82	0.20	0.027	1.72	Magnetite
SS08544	719694	7613472	40.04	42.17	0.10	0.022	0.69	Magnetite
IB020*	721079	7611773	41.02	35.91	0.62	0.024	4.03	Magnetite

Coordinates are GDA94 Zone 50. Samples are surface in situ rocks. BID = Bedded Iron Deposit, DID = Detrital Iron Deposit and Magnetite = Magnetite bearing banded iron formation. All samples were analysed by X-Ray Fluorescence Spectrometry (XRF). Loss on Ignition (LOI) values were determined using Thermo-Gravimetric Analyses between 110 and 1000°C. Rock chip sample locations approximate using handheld GPS, +/- 15m accuracy. * Samples previously reported (see ASX release 29 January 2013).

ABOUT SHEFFIELD RESOURCES

Sheffield Resources Limited (**Sheffield**) is a rapidly emerging heavy mineral sands (HMS) company.

ASX Code – SFX

Market Cap @ 59cps - \$69.7m

Issued shares – 118.3m

Cash - \$8.5m (at 30 June 2013)

Sheffield's projects are all situated within the state of Western Australia and are 100% owned by the Company.

HEAVY MINERAL SANDS

The Dampier project, located near Derby in WA's Canning Basin region, contains the large, high grade zircon-rich Thunderbird HMS deposit.

The Eneabba project comprises multiple HMS deposits and is located near Eneabba approximately 140km south of the port of Geraldton in WA's Mid-West region.

Sheffield is also evaluating the large McCalls chloride ilmenite project, located 110km to the north of Perth.

NICKEL-COPPER

Sheffield's Red Bull project is located in the highly prospective Fraser Complex within 20km of Sirius Resources NL's (ASX:SIR) Nova Ni-Cu discovery.

IRON

Sheffield holds four exploration licences prospective for iron in the North Pilbara region, all near existing iron ore mine sites or major development projects and within potential trucking distance of Port Hedland. Following its recent sale of the South Pilbara Iron tenements, Sheffield continues to seek to unlock value on its remaining Pilbara iron tenements through consolidation and/or further exploration.

POTASH

The Oxley potash project is located in the northern part of the Proterozoic Moora Basin, approximately 38km northeast of Three Springs. Sheffield is exploring the Oxley Potash project for unconventional hard rock potash mineralisation suitable for open pit mining.