Sheffield Resources LIMITED

ASX and Media Release

11 February, 2014

LARGE Ni-Cu-Co ANOMALIES IDENTIFIED IN THE FRASER RANGE

KEY POINTS

- **Phase 2 aircore drilling results outline more large Ni-Cu-Co anomalies at Red Bull Ni-Cu Project**
- **Stud anomaly strike length increased to 1.8km at 0.2% Ni cut-off**
- **Prospectivity of Stud anomaly further enhanced by elevated copper (to 0.11% Cu) and cobalt (to 0.05% Co) values**
- **New Ni-Cu-Co (PGE, Cr) anomaly identified at Hook prospect**
- **Next phase of aircore drilling and ground geophysical surveys scheduled for Q2 2014, prior to deeper drilling of targets**
- **Further 11 Fraser Range exploration licence applications lodged – potential to increase Sheffield's land holding to 2,420km^2 in the Fraser Range**

Sheffield Resources ("Sheffield", "the Company") (ASX:SFX) today announced results from its second phase of aircore drilling at its Red Bull Nickel-Copper Project. Red Bull is within 20km of Sirius Resources NL's (ASX:SIR) Nova Nickel-Copper deposit, in the Fraser Range Nickel Province in Western Australia (Figure 5).

The Phase 2 aircore drilling programme, completed in December 2013, followed a successful Phase 1 programme which identified the Earlobe, Stud and Sleeper prospects and returned a best intersection of **5m @ 0.73% Ni** (REAC240) from Stud (see ASX release dated 27 November, 2013 and Figure 1).

Significant results from Phase 2 aircore drilling include:

Stud

- **4m @ 0.31% Ni, 0.11% Cu**, **0.05% Co**, 7ppb Pd, 5ppb Pt, 0.11% Cr from 56m (REAC401)
- **8m @ 0.37% Ni**, 0.01% Cu, 0.01% Co, 4.6ppb Pd, 4.4ppb Pt, 0.18% Cr from 47m (REAC413)
- **8m @ 0.30% Ni**, 0.03% Cu, 0.04% Co, 5ppb Pd, 10.5ppb Pt, 0.19% Cr from 43m (REAC407)

Earlobe

- **8m @ 0.29% Ni**, 0.02% Cu, 0.02% Co, 4ppb Pd, 3.5ppb Pt, 0.19% Cr from 36m (REAC375)

Hook

- **2m @ 0.25% Ni, 0.07% Cu**, **0.03% Co**, **34ppb Pd**, **25ppb Pt**, **0.64% Cr** from 54m (REAC458)

(Refer to Table 1 and Appendix 1 for further details.)

Managing Director, Bruce McQuitty said the results were further encouragement for the discovery of a significant Ni-Cu deposit at the Red Bull Project, in the Fraser Range.

"The Stud nickel anomaly has emerged as a substantial target zone over 1.8km in length."

"We are encouraged by the higher copper values at Stud of up to 0.11%, which may indicate proximity to a nickel-copper sulphide system."

"The new target at Hook is also significant, featuring elevated platinum group elements and chromium in addition to anomalous Ni-Cu-Co. Hook has been tested by just one line of aircore drilling so far."

"With each successive phase of aircore drilling we are improving the resolution of our targets. Our next programme of work, scheduled for Q2 2014, will include a further phase of aircore drilling and ground geophysical surveys prior to deeper drilling of targets."

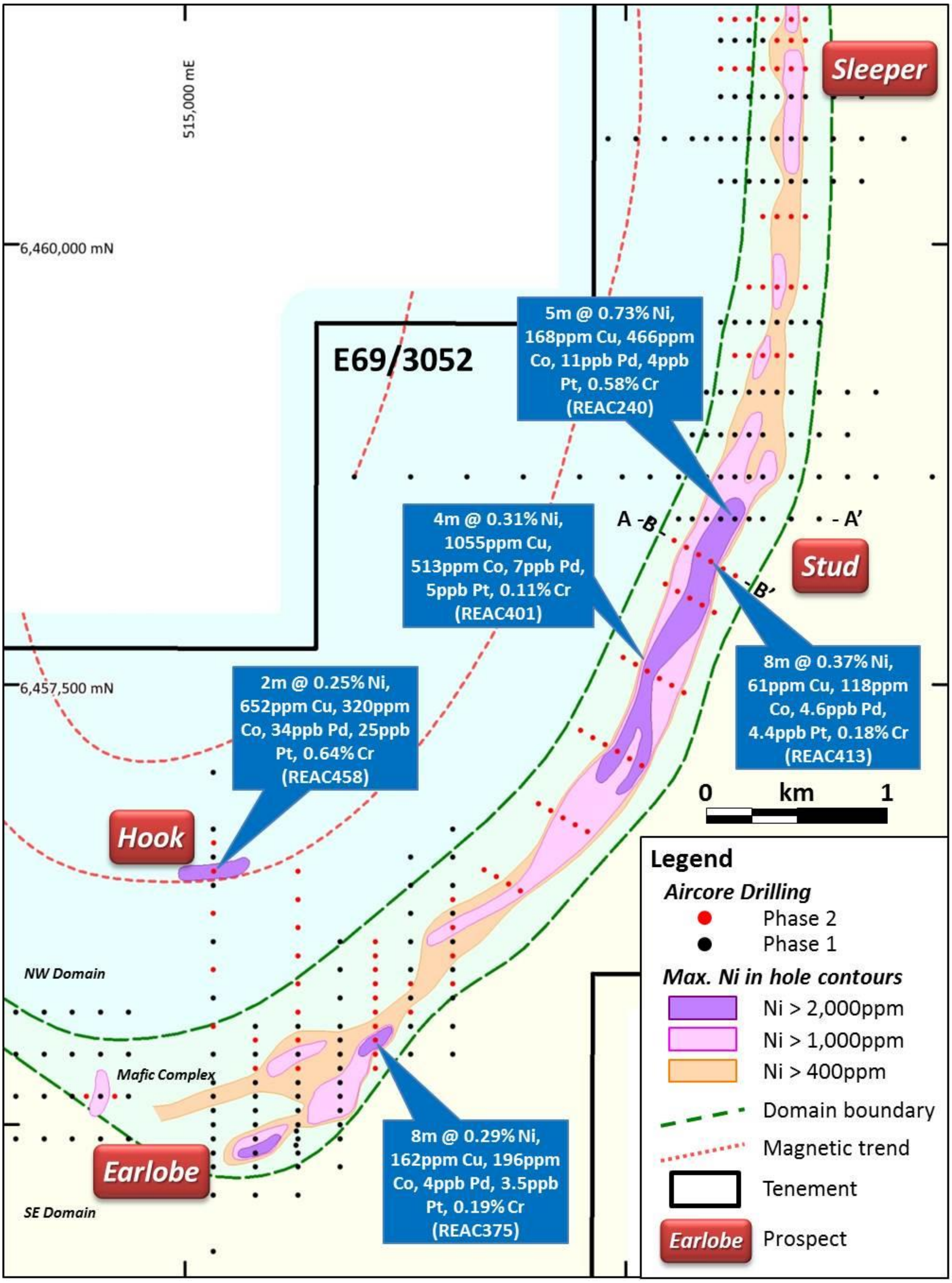

Figure 1: Aircore drill plan showing contours of maximum Ni in hole and selected intervals (>0.2% Ni) at the Earlobe, Stud Sleeper and Hook prospects

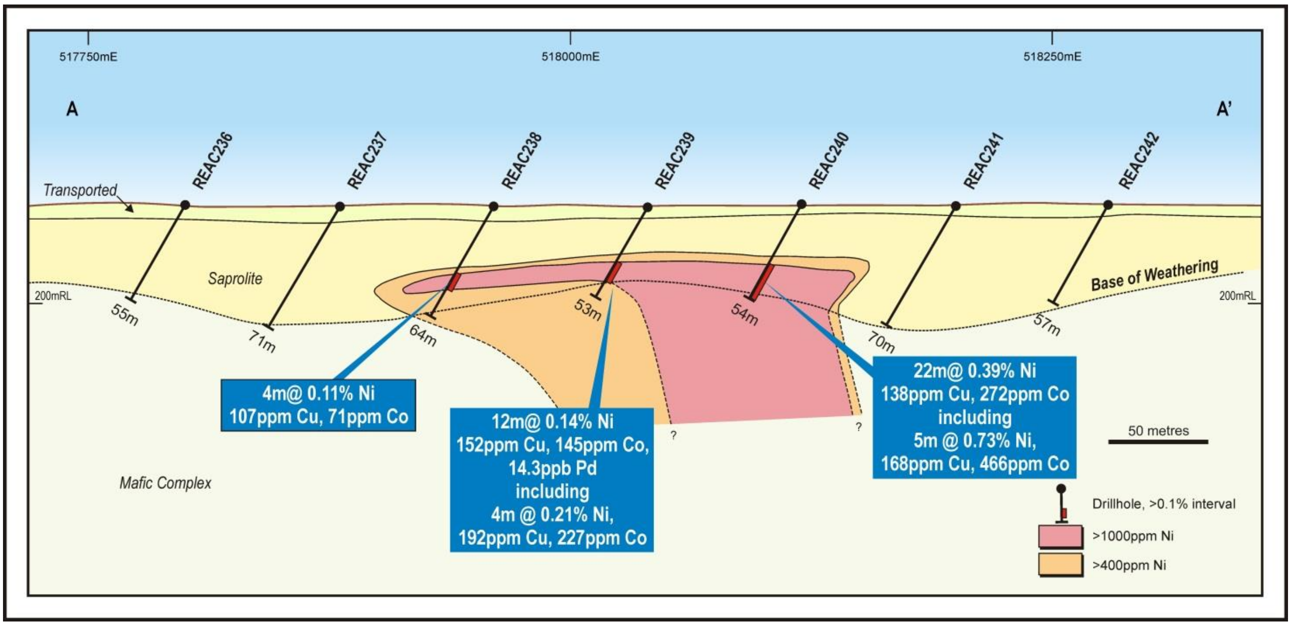

Figure 2: Section A-A', looking north

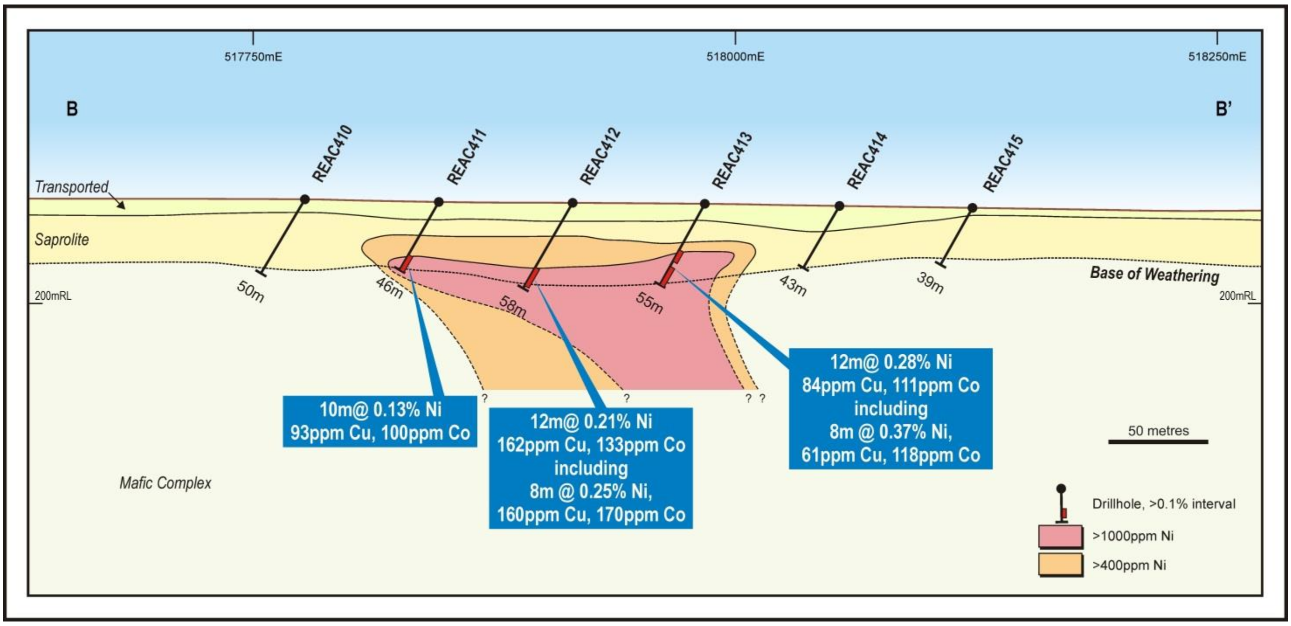

Figure 3: Section B-B', looking northeast

Stud Prospect

The anomaly at Stud, outlined by maximum Ni-in-hole >0.2%, covers a strike length of 1.8km and is up to 160m wide. The anomaly trends in a NNE direction, coinciding with the strike of the target unit within a layered mafic-ultramafic intrusion.

The strongest Ni interval to date at Stud is 5m @ 0.73% Ni, 168ppm Cu, 466ppm Co (REAC240, Phase 1 drilling – see ASX release dated 27 November, 2013). This is supported by results from Phase 2 drilling such as 4m @ 0.31% Ni, 1,055ppm Cu, 513ppm Co (REAC401).

The Stud anomaly is currently defined by broadly spaced aircore drilling (480m x 80m and 240m x 80m). Another phase of aircore drilling is planned to infill this pattern around the peak Ni and Cu values. This will be followed by ground EM surveys to identify bedrock conductors which can then be directly tested with deeper drilling.

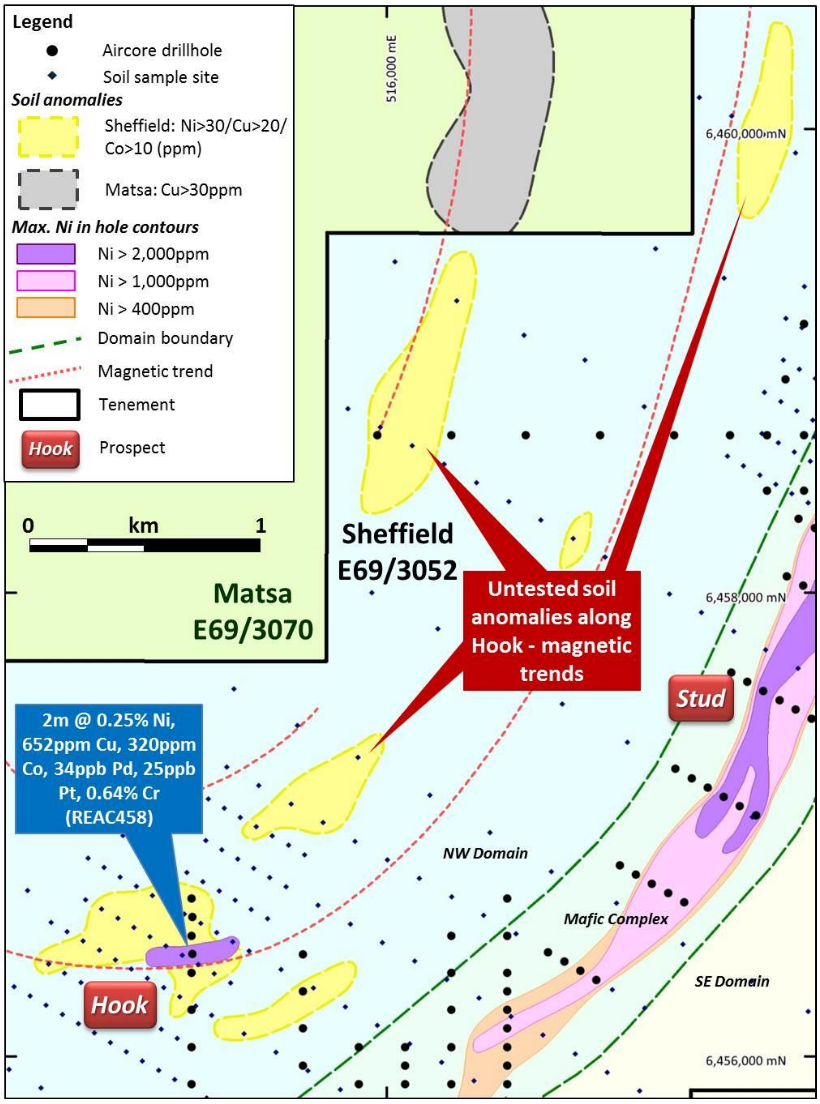

Figure 4: Hook prospect aircore Ni and soil anomalies

Earlobe Prospect

The Earlobe prospect comprises three discrete anomalies >0.1% Ni within a broader zone of >400ppm Ni over an area of 1.2km x 600m. The anomalies are within a fold closure of the target mafic-ultramafic sequence. The strongest Ni interval from Phase 2 drilling is 8m @ 0.29% Ni, 162ppm Cu, 196ppm Co (REAC375), supported by 6m @ 0.24% Ni, 52.7ppm Cu, 170ppm Co in hole REAC230 from Phase 1 drilling.

Hook Prospect

The Phase 2 drilling programme also targeted an area of Ni-Cu-Co soil anomalism north of Earlobe, identified from Sheffield's extensive soil sampling programme completed during H1 2013 (see ASX release dated 27 November, 2013).

Drill hole REAC458 intersected significant Ni-Cu-Co (PGE, Cr) anomalism, defining the new prospect "Hook", as follows:

- **2m @ 0.25% Ni**, **0.07% Cu, 0.03% Co**, **34ppb Pd**, **25ppb Pt**, **0.64% Cr** from 54m

The Hook anomaly is located on an untested linear magnetic low, which has coincident Ni-Cu-Co soil anomalies on Sheffield's tenement E69/3052, and 3km to the north on ground held by Matsa Resources Limited (ASX:MAT) (Figure 4). This target will be followed up during the next phase of aircore drilling.

Aircore Drilling Programme

The Phase 2 aircore drilling programme of 96 holes for 4,334m was completed during December 2013. The programme was designed primarily to determine the extent of the anomalies outlined by Phase 1 drilling, and to infill along 3km of untested prospective strike between the Stud and Earlobe prospects.

Holes were drilled to blade refusal, generally reaching the base of weathering. Samples were collected as (maximum) 4m composites from surface and 1m end-of-hole samples. Further details of the drilling methods are included as Appendix 1.

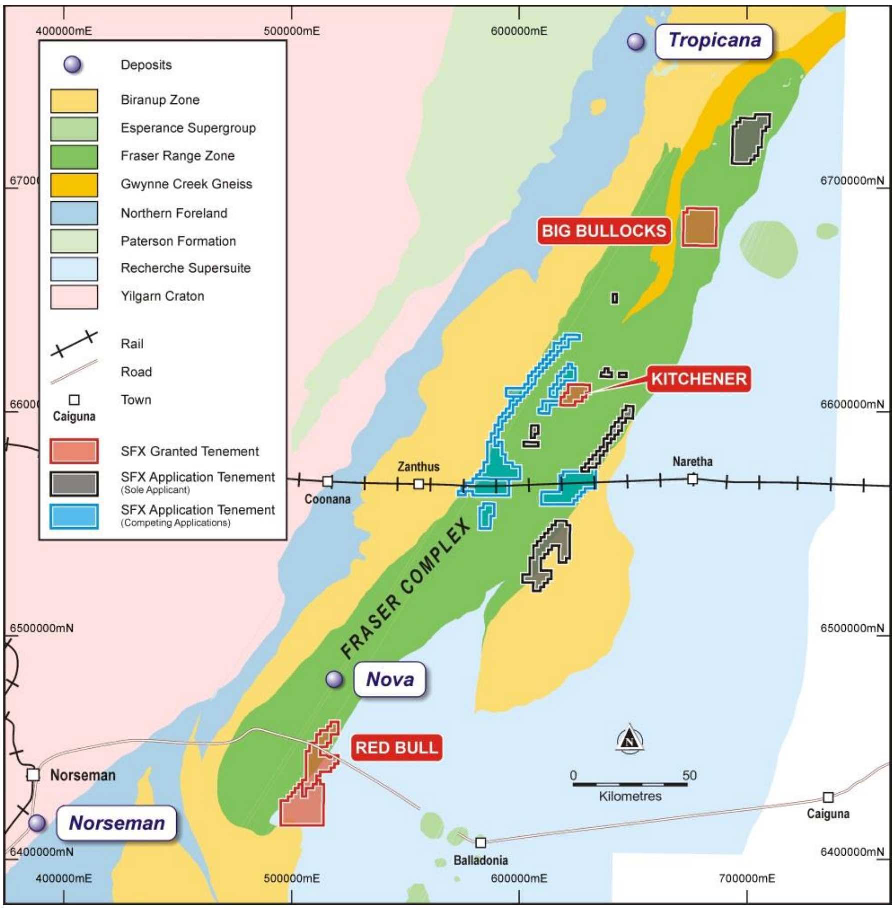

Figure 5: Location of Red Bull Project and Sheffield's Fraser Range tenements

Petrology – Phase 1 Drill Samples

Petrological studies were completed on Phase 1 end-of-hole aircore drill chips by Roger Townend and Associates (see ASX release dated 27 November, 2013), and, more recently, by Dr Tony Crawford of A & A Crawford Geological Research Consultants.

Roger Townend noted disseminated sulphides in 22 out of a total of 32 polished thin sections, with the most commonly observed species being pyrite (after pyrrhotite) and trace amounts of chalcopyrite. Significantly, violarite $FeNi_2S_4$, a supergene sulphide mineral associated with the weathering and oxidation of primary pentlandite $(Fe,Ni)_9S_8$, was observed in trace amounts in two drill holes from the Stud prospect (REAC273 and REAC238). Pentlandite and chalcopyrite are common ore minerals in magmatic nickel sulphide deposits. Roger Townend's work demonstrated that the main host rock to Ni-Cu-Co anomalism at the Earlobe, Stud and Sleeper prospects is a pyroxene granulite.

A selection of samples was sent to Dr Crawford for further analysis. One sample was observed to contain sparse pyrrhotite of likely magmatic origin with the remaining sulphides observed being predominantly fine disseminated anhedral pyrite with trace chalcopyrite.

The Red Bull intrusive complex comprises mafic and ultramafic cumulates that formed within a sheet-like layered sill at least 8km long. These rocks were derived from plagioclase-pyroxene-hornblende-minor biotite-minor FeTi oxide-bearing, probably cumulate protoliths. Apart from a single subophitic-textured rock of likely dyke origin, no olivine was observed.

It was concluded that the Red Bull layered intrusive may have crystallised from a magmatic system which potentially also evolved an olivine- and sulphide-rich magma, and that this magma should occur at or beneath the base of the layered intrusive body. Sheffield currently interprets the Red Bull intrusive complex as younging to the east, which implies the base of the intrusive body is likely to occur to the west. Future exploration will target potential olivine cumulates located at or below the base of the intrusive complex beneath the identified Ni-Cu-Co aircore geochemical anomalies. The discovery of the Hook prospect, with its elevated Cr and PGE values, constitutes a high priority target located in a favourable geological setting below the layered complex.

Recent Tenement Applications

Sheffield has expanded its footprint in the Fraser Range region in recent months by applying for a further 11 exploration licences. Seven of these have multiple competing applications, with the successful applicant likely to be determined by ballot.

In addition to Red Bull, and the 11 applications referred to above, Sheffield has a further 4 tenements in the Fraser Range, for a total of 17, with a combined area of 2,420km^2. The majority of these tenements lie over the prospective Fraser Complex (Figure 5).

The Company considers its Big Bullocks project, E39/1733, to be highly prospective for magmatic Ni-Cu sulphide deposits. Big Bullocks is situated along strike and to the south west of Orion Gold NL's (ASX: ORN) Peninsular Nickel-Cu-PGE project. Initial target generation work will include field reconnaissance, regional geophysical surveys and aeromagnetic interpretation.

ENDS

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COMPLIANCE STATEMENTS

EXPLORATION RESULTS

The information in this report that relates to Exploration Results is based on information compiled by Mr David Boyd, a Competent Person who is a Member of Australian Institute of Geoscientists (AIG). Mr Boyd is a full-time employee of Sheffield Resources Ltd and has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration and to the activity being undertaken 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'. Mr Boyd consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results which were prepared and first disclosed under the JORC Code 2004. The information has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The information was extracted from the Company's previous ASX announcements as follows:

- *"DRILLING COMMENCES AT RED BULL Ni-Cu PROJECT"*, 1 May 2013.
- *"THREE NEW NICKEL TARGETS FROM AIRCORE DRILLING AT RED BULL"*, 12 September, 2013.
- *"AIRCORE DRILLING UNDERWAY AT RED BULL NICKEL PROJECT"*, 27 November 2013.

These announcements are available to view on Sheffield Resources Ltd's web site www.sheffieldresources.com.au.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

FORWARD LOOKING AND EXPLORATION TARGET STATEMENTS

Some statements in this report 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 "anticipated", "expected", "target", "scheduled", "intends", "potential", "prospective" and similar expressions.

The terms "Target" and "Exploration Target", where used in this report, should not be misunderstood or misconstrued as an estimate of Mineral Resources and Reserves as defined by the JORC Code 2012, and therefore the terms have not been used in this context. Exploration Targets are conceptual in nature and it is uncertain if further exploration or feasibility study will result in the determination of a Mineral Resource or Reserve.

Table 1: Phase 2 Red Bull aircore drilling significant intervals >1,000ppm (0.1%) Ni*

Prospect	Hole ID	Depth From (m)	Depth To (m)	Interval Width (m)	Ni (ppm)	Cu (ppm)	Co (ppm)	Pd (ppb)	Pt (ppb)	Cr (ppm)	Drillhole Collar Information					
											Easting	Northing	RL	Depth (m)	Dip	Azimuth
Earlobe	REAC375	32	48	16	2,055	179	155	3.5	3.8	1,643	516080	6455480	255	50	-60	0
	including	*36*	*44*	*8*	*2,932*	*162*	*196*	*4.0*	*3.5*	*1,873*						
	REAC381	37	41	4	1,221	113	44	12.0	15.0	5,728	516520	6456120	261	59	-60	0
	and	53	59	6	1,752	210	120	3.7	4.7	1,552						
Stud	REAC387	54	58	4	1,264	125	71	6.0	5.0	1,268	516904	6456328	258	70	-60	300
	REAC390	63	67	4	1,709	99	159	1.0	1.0	339	517144	6456744	261	75	-60	300
	REAC391	65	68	3	1,102	59	157	4.3	2.0	637	517214	6456704	260	68	-60	300
	REAC392	70	71	1	1,063	60	225	0.5	0.5	117	517283	6456664	260	71	-60	300
	REAC396^	72	73	1	2,073	151	272	0.5	2.0	217	517454	6457120	260	73	-60	300
	REAC397	60	68	8	1,428	160	108	8.5	6.5	2,944	517523	6457080	259	73	-60	300
	REAC398^	64	68	4	3,055	199	214	14.0	7.0	1,743	517592	6457040	258	75	-60	300
	REAC401	52	60	8	2,069	592	375	6.5	5.0	1,106	517624	6457575	263	61	-60	300
	including	*56*	*60*	*4*	*3,093*	*1055*	*513*	*7.0*	*5.0*	*1,095*						
	REAC402	40	48	8	1,232	213	110	6.0	7.5	2,110	517694	6457535	263	50	-60	300
	REAC403	56	60	4	1,251	104	96	5.8	6.3	1,443	517763	6457495	263	60	-60	300
	REAC406	44	47	3	1,149	459	126	14.0	9.7	1,484	517795	6458031	260	47	-60	300
	REAC407	39	65	26	2,131	218	252	4.2	7.2	1,948	517864	6457991	260	65	-60	300
	including	*43*	*51*	*8*	*2,996*	*310*	*381*	*5.0*	*10.5*	*1,882*						
	including	*55*	*59*	*4*	*2,551*	*232*	*154*	*3.0*	*5.0*	*1,636*						
	REAC408	42	60	18	1,630	195	97	4.2	5.2	1,446	517934	6457951	259	60	-60	300
	including	*46*	*50*	*4*	*2,628*	*306*	*116*	*4.0*	*4.0*	*660*						
	REAC411	36	46	10	1,345	93	100	5.3	4.0	1,051	517846	6458279	259	46	-60	300
	REAC412	44	56	12	2,054	162	133	6.3	4.7	891	517915	6458239	258	58	-60	300
	including	*48*	*56*	*8*	*2,528*	*170*	*160*	*6.5*	*5.0*	*748*						
	REAC413	31	39	8	1,517	249	207	7.5	5.0	2,498	517984	6458199	258	55	-60	300
	and	43	55	12	2,845	84	111	5.1	4.3	1,695						
	including	*47*	*55*	*8*	*3,671*	*61*	*118*	*4.6*	*4.4*	*1,801*						
	REAC418	36	40	4	1,039	113	103	8.0	4.0	1,048	518280	6459370	262	51	-60	270
	REAC423	25	29	4	1,666	189	80	19.0	5.0	2,080	518360	6459760	271	39	-60	270
Sleeper	REAC435	56	60	4	1,072	118	126	5.0	4.0	452	518440	6461000	285	61	-60	270
	REAC445	56	64	8	1,049	125	130	6.0	5.5	1,130	518440	6461280	283	67	-60	270
Hook	REAC458	54	57	3	2,117	518	258	28.3	20.7	5,572	515162	6456441	264	57	-60	0
	including	*54*	*56*	*2*	*2,457*	*652*	*320*	*34.0*	*25.0*	*6,426*						

* Intervals calculated from 1m to 4m composite samples, 1m minimum width >1,000ppm Ni with 1m maximum internal waste, including 1m minimum width >2000ppm Ni, 0m maximum internal waste. ^ indicates interval same at 1,000ppm and 2,000ppm Ni. Ni, Cu, Co, Cr assayed by 4-acid digest with ICP-OES finish, Pd, Pt by 25g fire assay, with MS finish.

Table 2: Phase 2 Red Bull aircore drill hole details - all drilling

Hole ID	Easting	Northing	RL	Depth (m)	Dip	Azimuth	Interval Summary (best >1,000ppm Ni)*
REAC368	516,080	6,456,040	267	17	-60	0	
REAC369	516,080	6,455,960	267	24	-60	0	
REAC370	516,080	6,455,880	264	30	-60	0	
REAC371	516,080	6,455,800	261	28	-60	0	
REAC372	516,080	6,455,720	259	49	-60	0	
REAC373	516,080	6,455,640	258	62	-60	0	
REAC374	516,080	6,455,560	256	50	-60	0	
REAC375	516,080	6,455,480	255	50	-60	0	16m @ 2055ppm Ni, 179ppm Cu from 32m
REAC376	516,080	6,455,400	254	67	-60	0	
REAC377	516,080	6,455,320	252	54	-60	0	
REAC378	516,280	6,455,800	261	13	-60	0	
REAC379	516,280	6,455,640	258	46	-60	0	
REAC380	516,520	6,456,280	264	55	-60	0	
REAC381	516,520	6,456,120	261	59	-60	0	6m @ 1752ppm Ni, 210ppm Cu from 53m
REAC382	516,520	6,455,960	258	70	-60	0	
REAC383	516,520	6,455,800	256	58	-60	0	
REAC384	516,697	6,456,448	263	33	-60	300	
REAC385	516,766	6,456,408	262	44	-60	300	
REAC386	516,835	6,456,368	260	53	-60	300	
REAC387	516,904	6,456,328	258	70	-60	300	4m @ 1264ppm Ni, 125ppm Cu from 54m
REAC388	517,006	6,456,824	263	57	-57	300	
REAC389	517,075	6,456,784	263	64	-60	300	
REAC390	517,144	6,456,744	261	75	-60	300	4m @ 1709ppm Ni, 99ppm Cu from 63m
REAC391	517,214	6,456,704	260	68	-60	300	3m @ 1102ppm Ni, 59ppm Cu from 65m
REAC392	517,283	6,456,664	260	71	-60	300	1m @ 1063ppm Ni, 60ppm Cu from 70m
REAC393	517,246	6,457,240	263	50	-60	300	
REAC394	517,315	6,457,200	262	55	-60	300	
REAC395	517,384	6,457,160	261	65	-60	300	
REAC396	517,454	6,457,120	260	73	-60	300	1m @ 2073ppm Ni, 151ppm Cu from 72m
REAC397	517,523	6,457,080	259	73	-60	300	8m @ 1428ppm Ni, 160ppm Cu from 60m
REAC398	517,592	6,457,040	258	75	-60	300	4m @ 3055ppm Ni, 199ppm Cu from 64m
REAC399	517,486	6,457,655	266	44	-60	300	
REAC400	517,555	6,457,615	264	48	-60	300	
REAC401	517,624	6,457,575	263	61	-60	300	8m @ 2069ppm Ni, 592ppm Cu from 52m
REAC402	517,694	6,457,535	263	50	-60	300	8m @ 1232ppm Ni, 213ppm Cu from 40m
REAC403	517,763	6,457,495	263	60	-60	300	4m @ 1251ppm Ni, 104ppm Cu from 56m
REAC404	517,832	6,457,455	262	60	-60	300	

Hole ID	Easting	Northing	RL	Depth (m)	Dip	Azimuth	Interval Summary (best >1,000ppm Ni)*
REAC405	517,726	6,458,071	260	42	-60	300	
REAC406	517,795	6,458,031	260	47	-60	300	3m @ 1149ppm Ni, 459ppm Cu from 44m
REAC407	517,864	6,457,991	260	65	-60	300	26m @ 2131ppm Ni, 218ppm Cu from 39m
REAC408	517,934	6,457,951	259	60	-60	300	18m @ 1630ppm Ni, 195ppm Cu from 42m
REAC409	518,003	6,457,911	258	28	-60	300	
REAC410	517,777	6,458,319	260	50	-60	300	
REAC411	517,846	6,458,279	259	46	-60	300	10m @ 1345ppm Ni, 93ppm Cu from 36m
REAC412	517,915	6,458,239	258	58	-60	300	12m @ 2054ppm Ni, 162ppm Cu from 44m
REAC413	517,984	6,458,199	258	55	-60	300	12m @ 2845ppm Ni, 84ppm Cu from 43m
REAC414	518,054	6,458,159	256	43	-60	300	
REAC415	518,123	6,458,119	255	39	-60	300	
REAC416	518,120	6,459,370	260	10	-60	270	
REAC417	518,200	6,459,370	261	12	-60	270	
REAC418	518,280	6,459,370	262	51	-60	270	4m @ 1039ppm Ni, 113ppm Cu from 36m
REAC419	518,360	6,459,370	264	31	-60	270	
REAC420	518,440	6,459,370	266	34	-60	270	
REAC421	518,200	6,459,760	268	10	-60	270	
REAC422	518,280	6,459,760	270	18	-60	270	
REAC423	518,360	6,459,760	271	39	-60	270	4m @ 1666ppm Ni, 189ppm Cu from 25m
REAC424	518,440	6,459,759	272	52	-60	270	
REAC425	518,520	6,459,760	272	49	-60	270	
REAC426	518,280	6,460,160	274	25	-60	270	
REAC427	518,360	6,460,160	276	38	-60	270	
REAC428	518,440	6,460,160	277	48	-60	270	
REAC429	518,520	6,460,160	278	56	-60	270	
REAC430	518,040	6,461,000	283	20	-60	270	
REAC431	518,120	6,461,000	282	42	-60	270	
REAC432	518,200	6,461,000	283	31	-60	270	
REAC433	518,280	6,461,000	284	49	-60	270	
REAC434	518,360	6,461,000	284	62	-60	270	
REAC435	518,440	6,461,000	285	61	-60	270	4m @ 1072ppm Ni, 118ppm Cu from 56m
REAC436	518,520	6,461,000	286	46	-60	270	
REAC437	518,360	6,461,160	283	54	-60	270	
REAC438	518,440	6,461,160	284	57	-60	270	
REAC439	518,520	6,461,160	285	38	-60	270	
REAC440	518,040	6,461,280	284	28	-60	270	
REAC441	518,120	6,461,280	285	47	-60	270	
REAC442	518,200	6,461,280	285	28	-60	270	
REAC443	518,280	6,461,280	284	29	-60	270	

Hole ID	Easting	Northing	RL	Depth (m)	Dip	Azimuth	Interval Summary (best >1,000ppm Ni)*
REAC444	518,360	6,461,280	283	60	-60	270	
REAC445	518,440	6,461,280	283	67	-60	270	8m @ 1049ppm Ni, 125ppm Cu from 56m
REAC446	518,520	6,461,280	284	50	-60	270	
REAC447	515,640	6,456,440	264	3	-60	0	
REAC448	515,640	6,456,280	266	4	-60	0	
REAC449	515,640	6,456,120	267	40	-60	0	
REAC450	515,640	6,455,960	267	46	-60	0	
REAC451	515,640	6,455,800	265	28	-60	0	
REAC452	515,640	6,455,640	261	11	-60	0	
REAC453	515,640	6,455,480	257	51	-60	0	
REAC454	515,640	6,455,320	256	23	-60	0	
REAC455	515,400	6,455,480	256	63	-60	0	
REAC456	515,400	6,455,320	252	52	-60	0	
REAC457	515,162	6,456,601	266	48	-60	0	
REAC458	515,162	6,456,441	264	57	-60	0	3m @ 2117ppm Ni, 518ppm Cu from 54m
REAC459	515,160	6,456,200	262	25	-60	0	
REAC460	515,160	6,455,880	265	4	-60	0	
REAC461	515,160	6,455,560	258	13	-60	0	
REAC462	514,600	6,455,160	254	49	-60	90	
REAC463	514,440	6,455,160	254	61	-60	90	

ABOUT SHEFFIELD RESOURCES

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

ASX Code – SFX	Market Cap @ 55cps - $65.8m
Issued shares – 119.6m	Cash - $3.4m (at 31 December 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 northwest, 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. The recently discovered Mt Vettel DSO deposit is the Company's current exploration focus in this region.

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.

Appendix 1: JORC (2012) Table 1 Report, Red Bull Aircore Drill Results 11 February 2014.

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 (e.g. 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.*	• NQ diameter aircore drilling used to collect a ~25 kg sample per metre. • Drill cutting (chips) samples placed in 1m piles on the ground in order of downhole progress. • Industry-standard technique.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).*	• The area was drilled on broadly-spaced traverses, 240m or more apart, with holes spaced 80m apart along the sections. Aircore drilling was preferred as the initial means of target generation in this area because the presence of conductive overburden limits the effectiveness of EM geophysical prospecting technique • Blade drill bit used for majority of drilling, where hard rock layers intersected (non-fresh rock) and unable to drill with blade bit a reverse circulation hammer used to penetrate layer, then return to blade, until blade refusal at base of weathering.
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.*	• Sample quality (including wet vs. dry and qualitative recovery) is logged at the drill site. • Duplicate samples are collected at the drill site (see below) to enable analysis of data precision. • Aircore system maximises sample recovery as opposed to open hole/RAB technique.
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.*	• All samples are geologically logged to a minimum 1m downhole spacing using a coded system. • Geological logs are qualitative, end-of-hole samples are retained for additional

Criteria	JORC Code explanation	Commentary
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	(e.g. petrological) analysis. • Logging is suitable such that interpretations of grade and deposit geology can be used, for example, to establish context of exploration results.
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.* • *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.*	Sub-sampling • A ~500g spear sample was taken every 1m downhole and composited into a maximum 4m sample (total ~2kg) and placed into uniquely numbered bags. • A new composite interval was started for each change in the regolith sequence (transported/in-situ, redox zones etc.). • The last meter of each hole was sampled individually. • Duplicate samples (field duplicates) collected at drill site 1 in every 40 samples. • Reference standard and blank material samples inserted 1 each in every 40 samples. Laboratory • Entire sample dry crushed ~10mm, and pulverised to nominal 85% passing 75µm. • Sub-sample split for analysis, weight determined by laboratory appropriate for element and analysis method. • Laboratory check assays completed as determined by laboratory appropriate for element and analysis method. All • Spacing of standard, blank and repeat samples are designed to identify sample misplacement or misallocation during sample collection and laboratory analysis. • Sample data precision has been determined as acceptable through analysis of results from field duplicates and laboratory repeats. • Techniques are considered appropriate for use in public reporting of exploration results.
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.*	• Ni, Cu, Co, Cr assayed by 4-acid digest with ICP-OES finish, Pd, Pt by 25g fire assay, with MS finish. • QAQC sample frequency is described above. One reference standard is used from a certified provider. Quartz aggregate used as a blank material. • Reference standards and blanks are examined for performance over time and within laboratory batches. Batches or sub-batches are re-analysed if unacceptable QAQC data are returned. • Analysis of reference standards, blanks and laboratory repeats show the data to be of acceptable accuracy and precision for use in public reporting of exploration results.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.*	• Significant intervals are reviewed by senior Company personnel prior to release. • Data is logged electronically using “validation at point of entry” systems prior

Criteria	JORC Code explanation	Commentary
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	to storage in the Company's drill hole database, which is managed by Company personnel and an external consultancy. • Documentation related to data custody and validation are maintained on the Company's' server. • No assay data have been adjusted.
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 Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill holes were located using a GPS system with expected accuracy of +/- 4m horizontal and +/- 10m vertical. • Height (RL) determined from projection to a DTM derived from SRTM data. • Coordinates are referenced to the Map Grid of Australia (MGA) zone 51 on the Geographic Datum of Australia (GDA94). • Vertical datum geoid model is AUSGEOID98 (Australia). • Location techniques considered suitable for public reporting of exploration results from regional-scale aircore drilling.
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.*	• Significant intervals are reported as indicated in the relevant figure(s) and table(s) in the body of the announcement, note downhole intervals quoted. • Regional-scale aircore drilling program designed to inform geological interpretation and identify geochemical anomalies. • Drill hole and sample spacing is appropriate for the purpose and context in which the exploration results are reported. • Additional data from any future closer-spaced (infill) drilling may change the shape and tenor of stated anomalies and geological interpretation.
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.*	• The angle at which the prevailing geology/mineralised structures have been intersected by the drillholes for each quoted interval is unknown at this stage. • Therefore the downhole widths quoted in the body of the announcement can be considered an approximation only of true width at this stage. • Given the purpose and context in which the exploration results are reported any difference between true and downhole width is not considered material.
Sample security	• *The measures taken to ensure sample security.*	• Sample security is not considered a significant risk given the location of the prospect. • Nevertheless, the use of recognised transport providers, sample dispatch procedures directly from the field to the laboratory, and interval QAQC procedures are considered sufficient to ensure appropriate sample security and identify whether this security has been compromised, or not.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal external audits or review of sample techniques or data have been conducted.

Criteria	JORC Code explanation	Commentary
		• Audits are not considered necessary at this stage of the Project's development. Industry-standard methods are being employed.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Statement	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.	• Data reported is from Exploration Licence E69/3052 which was granted on 27/07/2012 and is due to expire on 26/07/2017. The tenement is held 100% by Sheffield Resources Ltd. • There are no known or experienced impediments to obtaining a licence to operate in the area. • Sheffield has been operating successfully in the region for more than 12 months to date.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• The Red Bull Project area was explored by Gold Partners between 1995 and 1999. An aeromagnetic interpretation was completed showing the extent of magnetic units followed up by 3,943m of air core drilling exploring for base metal mineralisation potential. Further details are included in Sheffield's ASX release entitled 'New Nickel-Copper Discovery Near Sheffield's Red Bull Project' 20 July 2012 (available from the company's website: www.sheffieldresources.com.au).
Geology	• Deposit type, geological setting and style of mineralisation.	• Included in the body of the announcement.
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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o 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.	• Included in the body of announcement.
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	• Significant intervals are reported as indicated in the relevant table(s) in the body of the announcement, note downhole intervals quoted.

Criteria	Statement	Commentary
	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.	
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').	• The angle at which the prevailing geology/mineralised structures have been intersected by the drillholes for each quoted interval is unknown at this stage. • Therefore the downhole widths quoted in the body of the announcement can be considered an approximation only of true width at this stage. • Given the purpose and context in which the exploration results are reported any difference between true and downhole width is not considered material.
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.	• Included in the body of announcement.
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 reporting of Exploration Results.	• All new exploration results relating to the announcement are reported. • In the case of previously-announced results, the initial announcement is referenced. • Terms like "best", "strongest" or "significant" are used to highlight those results considered most important in the context of the announcement.
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.	• No data, other than that reported here, is considered relevant to the reporting of these exploration results.
Further work	• The nature and scale of planned further work (e.g. 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.	• Included in the body of announcement.