



SHEFFIELD FARMS IN TO HIGH GRADE JAMIESON GOLD EXPLORATION PROJECT

HIGHLIGHTS

- Agreement to earn 100% of the Jamieson Gold Project, located in the central Victorian Goldfields
- Hill 800 advanced gold prospect has multiple high-grade gold drill intersections from surface
- Drilling at Rhyolite Creek Zn (Au-Ag) prospect has intersected 1.4m of massive sulphide
- Sheffield will consider options to unlock the value for shareholders from its portfolio of gold-copper assets as it focusses on development of the Thunderbird Mineral Sands Project

Sheffield Resources Limited (“Sheffield”, the “Company”) (ASX:SFX) is pleased to announce the signing of an agreement, through its wholly-owned subsidiary Carawine Resources Pty Ltd (“Carawine”), to earn 100% interest in the Jamieson Project (the “Project”) from Jamieson Minerals Pty Ltd (“Jamieson”).

The Earn-In Agreement provides Carawine the right to earn 100% of the Project by incurring \$190,000 of exploration expenditure within the next 2 years, followed by a further \$200,000 as a cash payment or issue of shares.

The Project is located near the township of Jamieson in the central Victorian Goldfields and comprises Exploration Licence 5523, containing the Hill 800 gold and Rhyolite Creek zinc-gold-silver prospects.

Sheffield’s Managing Director Bruce McFadzean said “this low cost farm-in represents an exciting opportunity to add value through exploration by targeting high-grade gold mineralisation.

“The Jamieson Project adds an advanced gold exploration project to Sheffield’s portfolio of gold-copper and nickel-copper exploration assets, and is consistent with our strategy of responsibly and sustainably maximising value to our shareholders.

“While Sheffield continues to focus on developing the world-class Thunderbird Mineral Sands Project, we are considering several options to best unlock value for our shareholders from these exciting new projects.”

Hill 800 was discovered by New Holland Mining NL (“New Holland”) in 1994 following sampling of outcropping gold-rich gossans. The prospect is a volcanic-hosted massive sulphide (VHMS) gold-copper (Au-Cu) system with similarities of host rock, age and mineralisation styles to those of the Henty gold and Hellyer lead-zinc-silver-gold deposits in western Tasmania.

New Holland drilled 51 RC and 6 Diamond holes at Hill 800 (6,309m total) between 1996 and 1999, returning high-grade gold results, including:

- **33m @ 4.31g/t Au**, from surface (HEC1)
- **13m @ 10.9g/t Au**, from surface (HEC13), *including 3m @ 38.8g/t Au* from surface
- **23.4m @ 4.56g/t Au**, from 0.5m (HED1)
- **25m @ 4.72g/t Au**, from 3m (HEC45), *including 1m @ 24.0g/t Au* from 16m
- **21m @ 4.04g/t Au**, from 76m (HEC49), *including 1m @ 20.9g/t Au* from 80m
- **23m @ 4.13g/t Au**, from 86m (HEC48)
- **4m @ 7.03g/t Au**, from 91m (HEC12), *including 1m @ 23.2g/t Au* from 92m
- **7m @ 22.1g/t Au**, from 184m (HED1), *including 1m @ 28.9g/t Au* from 184m *and 1m @ 122g/t Au* from 188m

(Down hole widths, may not represent true thickness. See Table 1 and Appendix 1 for further details)

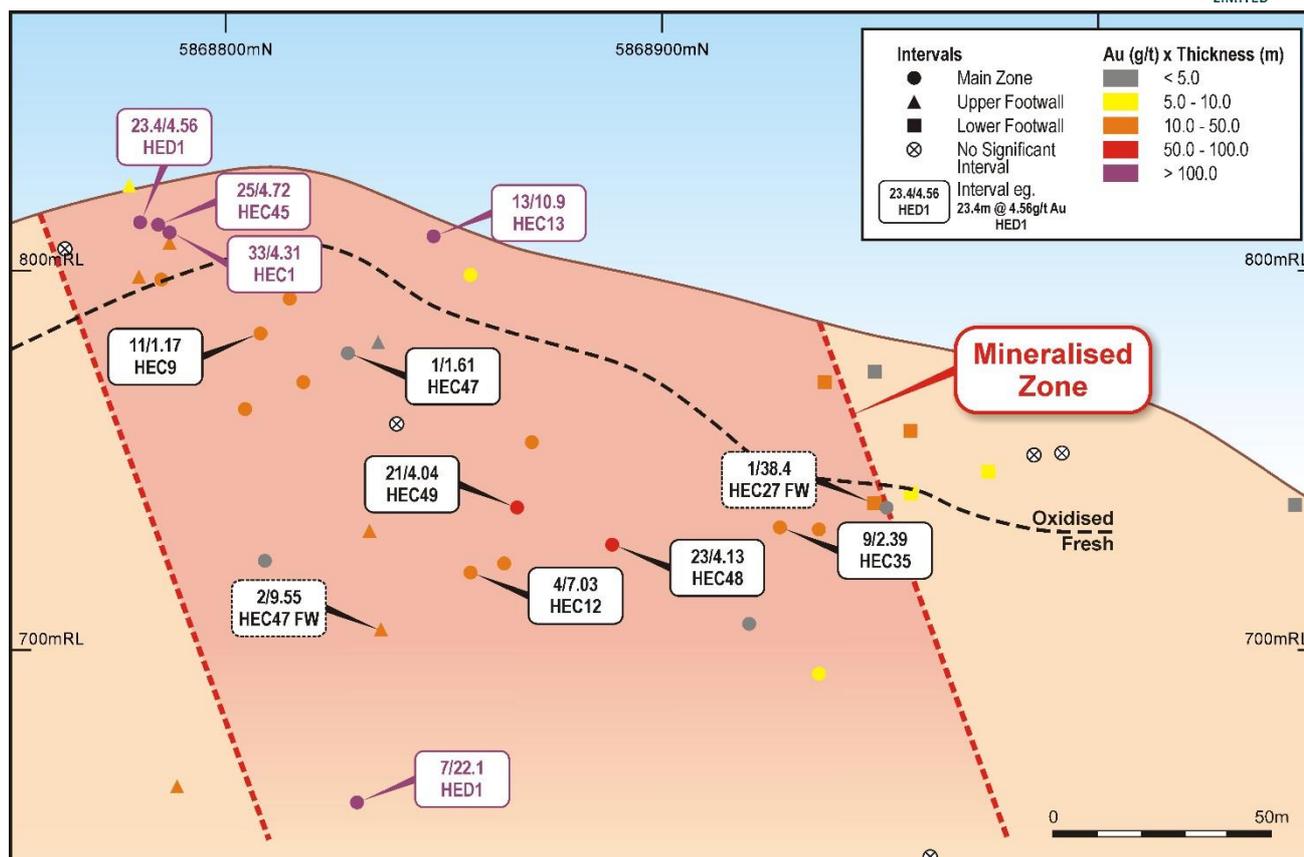


Figure 1: Hill 800 Long section with drill hole intersections projected onto a plane oriented 030 degrees with respect to True North (see Figure 4). Note three sub-parallel trends are depicted: Main, Upper Footwall and Lower Footwall, and an interpreted overall trend to the mineralised envelope. In most cases the holes have been drilled oblique to mineralisation, therefore the downhole widths stated may not represent true widths.

The Rhyolite Creek prospect, a Zn-Au-Ag rich VHMS system located about 5km south of Hill 800 was discovered by Goldsearch Ltd (“Goldsearch”) in 2008. The discovery diamond core hole RCD001 intersected a zone of strong alteration and sulphide mineralisation, returning an interval of:

- **8m @ 3.7% Zn, 0.3% Pb, 0.1% Cu, 1.6g/t Au and 29g/t Ag from 220m including 1.4m @ 15.6% Zn, 1.5% Pb, 0.5% Cu, 7.4g/t Au and 113g/t Ag from 223m**

Re-sampling of core within this interval, from 223.5 to 224.5m by Jamieson returned assay values of **20.3% Zn, 1.5% Pb, 0.7% Cu, 178g/t Ag and 10.3g/t Au** (see Table 2 and Appendix 1 for further details).

About the Jamieson Project

EL5523 is located on unrestricted crown land within a geological province known as the Mt Useful Slate Belt (Figure 2). The region was founded on gold mining in the 1850’s and a number of gold mines have operated in the region, including the A1 Mine near Gaffney’s Creek south of Kevington, currently operated by Centennial Mining Ltd.

The tenement covers a “window” of Cambrian-aged volcanic rocks of similar age to the Mt Read Volcanics in western Tasmania, a world-class VHMS district. The discovery to date of two VHMS-style systems on the tenement confirms the outstanding potential of the project. Typically, deposits of this style occur in clusters often defining significant mining camps. Gold-rich VHMS deposits are particularly attractive given their high-grade and polymetallic nature.

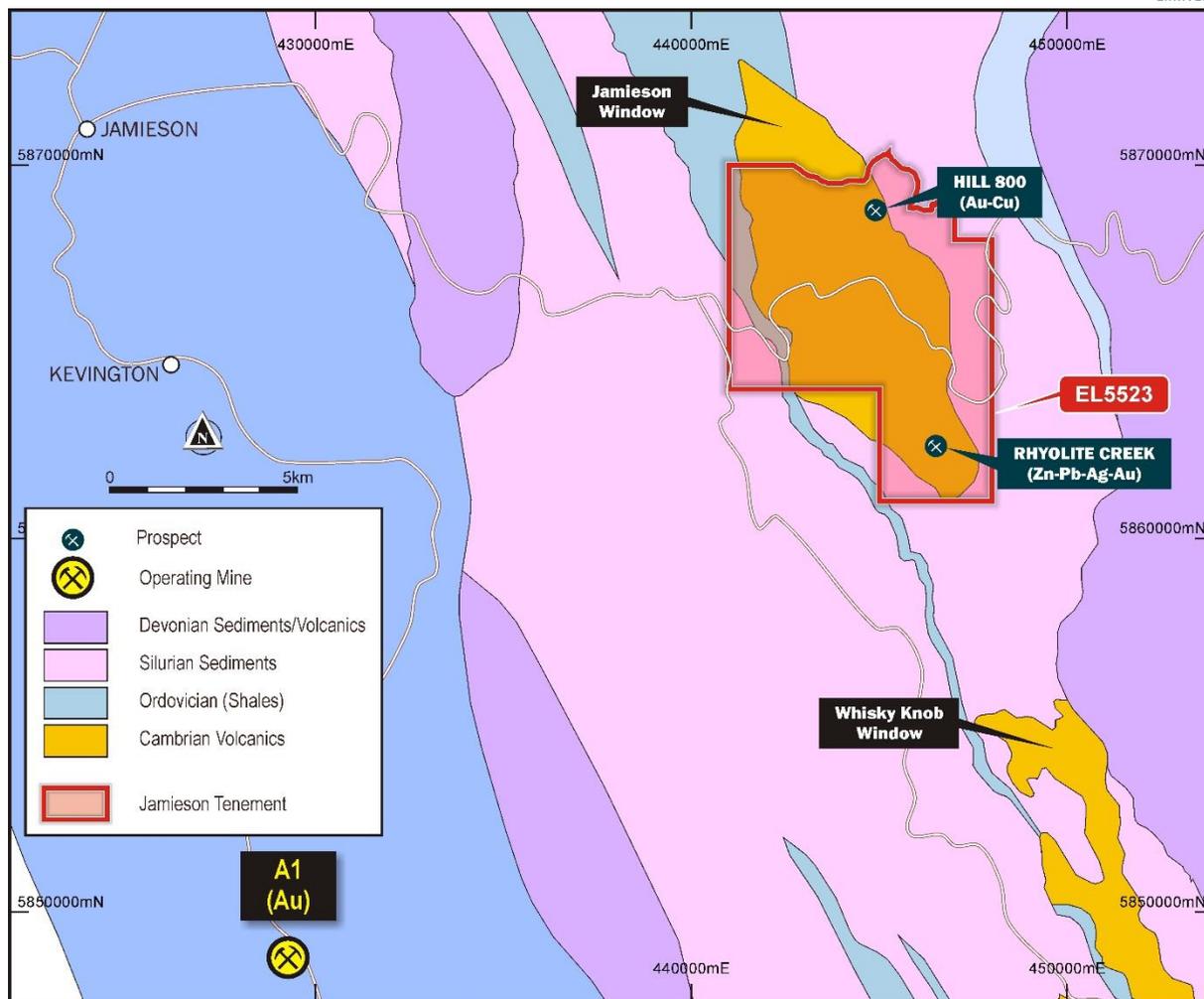


Figure 2: Jamieson Project regional geology (after Geol. Survey Victoria) showing windows of Cambrian Volcanics, EL5523 and prospects discussed in this announcement.

The Project area is considered to be under-explored, with limited systematic exploration for VHMS deposits completed to date. The potential of the region was recognised by Jamieson after compilation of data from open-file technical reports submitted by previous explorers to the Victorian Government Earth Resources division.

Hill 800

New Holland discovered the prominent outcropping gold-rich gossans at Hill 800 in 1994 after following up magnetic and radiometric anomalies in data acquired and released by the Victorian Government (Figure 3). Mapping and surface geochemical surveys followed, identifying a 1km-long NE-trending zone of alteration and gold anomalism along the northern edge of a ridge-line.

A subsequent induced-polarisation (IP) survey over the ridge defined a large, strong chargeability anomaly plunging steeply north, which was targeted by several phases of reverse circulation (RC) and diamond drilling, with numerous significant gold intervals reported (Figures 1 & 4; Table 1 & Appendix 1).



Figure 3: Gossan outcrop at Hill 800 (Photo: Sheffield)



Gold mineralisation identified from this drilling is associated with silica-sericite-pyrite alteration in intermediate volcanic rocks at the core of a well-defined alteration zonation plunging approximately 70 degrees to the north. Within this alteration zone higher gold grades occur in a main, sub-vertical lode, and two parallel mineralised trends in the footwall to the main lode (Figure 1).

The effectiveness of prior drilling was restricted by limited site preparation and the use of large truck-mounted drill rigs resulting in poorly located and oriented drill holes (Figure 4). This has led to a number of oblique intersections and holes missing mineralisation. The use of small diamond drill rigs and better drill site preparation presents an opportunity for Carawine to more effectively test the interpreted lode geometry and target down-plunge extensions and potential parallel lodes.

Copper mineralisation in the form of chalcopyrite was also intersected from historic drilling, often coincident with, and at times separate to gold mineralisation; for example:

- 1m @ 2.1% Cu, 122g/t Au from 188m (HED1), and;
- 7m @ 0.9% Cu, 0.69g/t Au from 254m, including 2m @ 2.0% Cu, 0.65g/t Au from 255m (HED1).

(Down hole widths, may not represent true thickness. See Table 1 and Appendix 1 for further details)

The presence of copper is consistent with gold-rich VHMS mineralised systems and further work is required to properly understand its distribution at Hill 800.

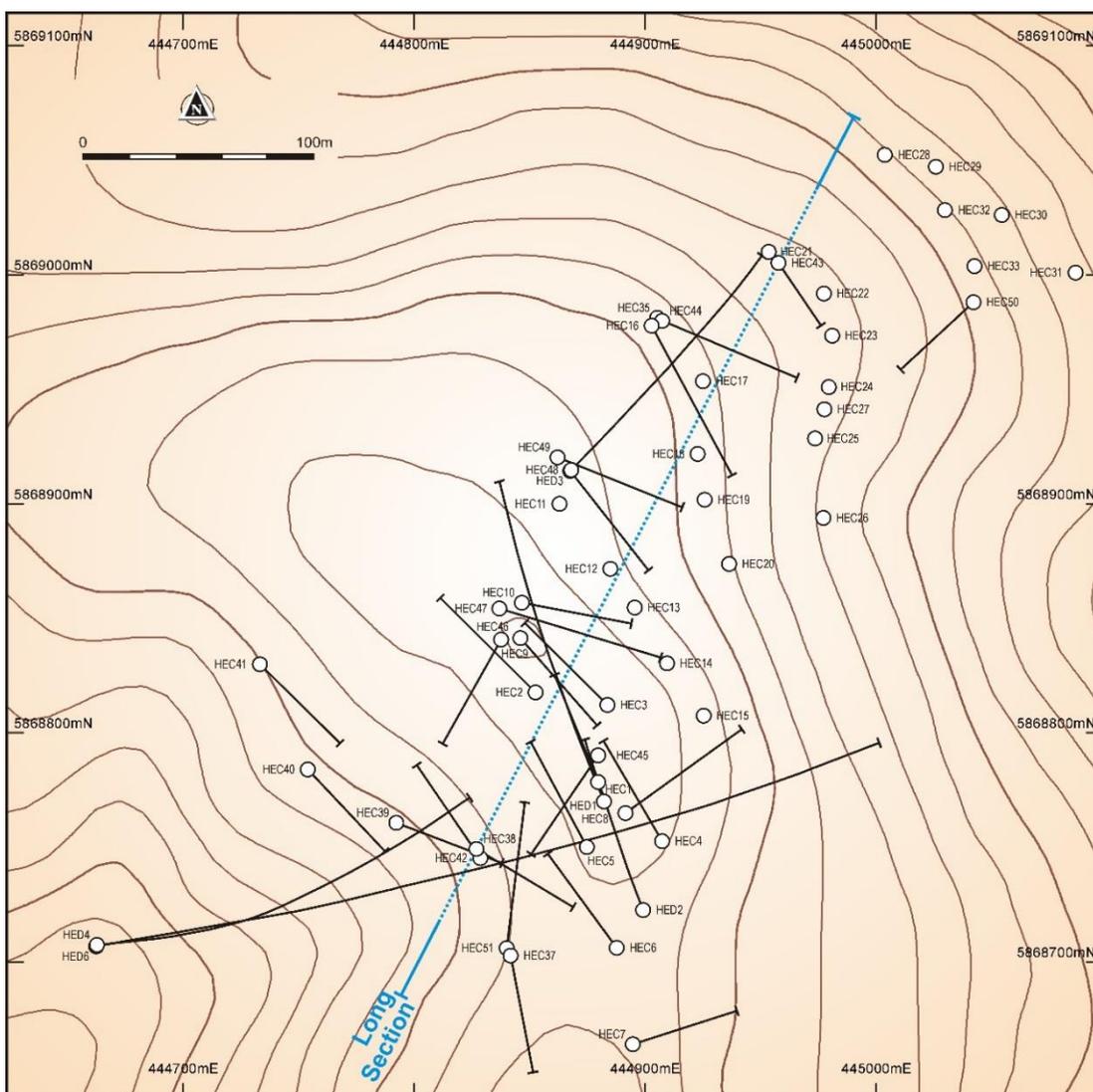


Figure 4: Plan view of historic drilling at Hill 800, with drill traces projected to surface (10m contours).



Rhyolite Creek

The Rhyolite Creek Zn (Au-Ag) prospect, located about 5km south of Hill 800 (Figure 2), was discovered by Goldsearch in 2008. Goldsearch drilled one diamond hole in 2008 (RCD001), targeting a linear magnetic anomaly in an area of gold-silver-base metal anomalism in surface geochemical samples. RCD001 intersected variably altered volcaniclastic sediment and rhyolite throughout, including, a 1.4m interval of massive sulphide assaying 15.6% Zn, 7.4g/t Au and 113g/t Ag from 223m within an 8m zone of strong albite-chlorite-silica alteration and sulphides from 220m (Figure 4, Table 2). Zinc mineralisation was identified as being related to low-iron sphalerite, returning exceptional grades as described above.

The footwall to this high-grade zone was reported by Goldsearch as being strongly altered intermediate volcanics, with significantly elevated zinc values over 52m downhole (Figure 5).

Goldsearch interpreted the mineralisation intersected in RCD001 to be the result of a structurally controlled hydrothermal system (rather than VHMS mineralisation) and drilled a further 4 broadly spaced holes, with holes RCD002 and RCD004 testing within 200m and 150m of the original intercept. RCD002 intersected a diorite dyke at the target position and RCD004 intersected a broad zone of elevated zinc mineralisation with a 70m zone averaging 0.37% Zn from 233.6m (Goldsearch ASX Quarterly Report 29 April 2010).

Goldsearch concluded that drilling had defined a large zinc-gold-silver-copper mineralised system which remained open in most directions, and suggested further work was warranted to identify and target high-grade mineralisation which remained untested. (Goldsearch Quarterly Report, 29 April 2010 and open file reports).

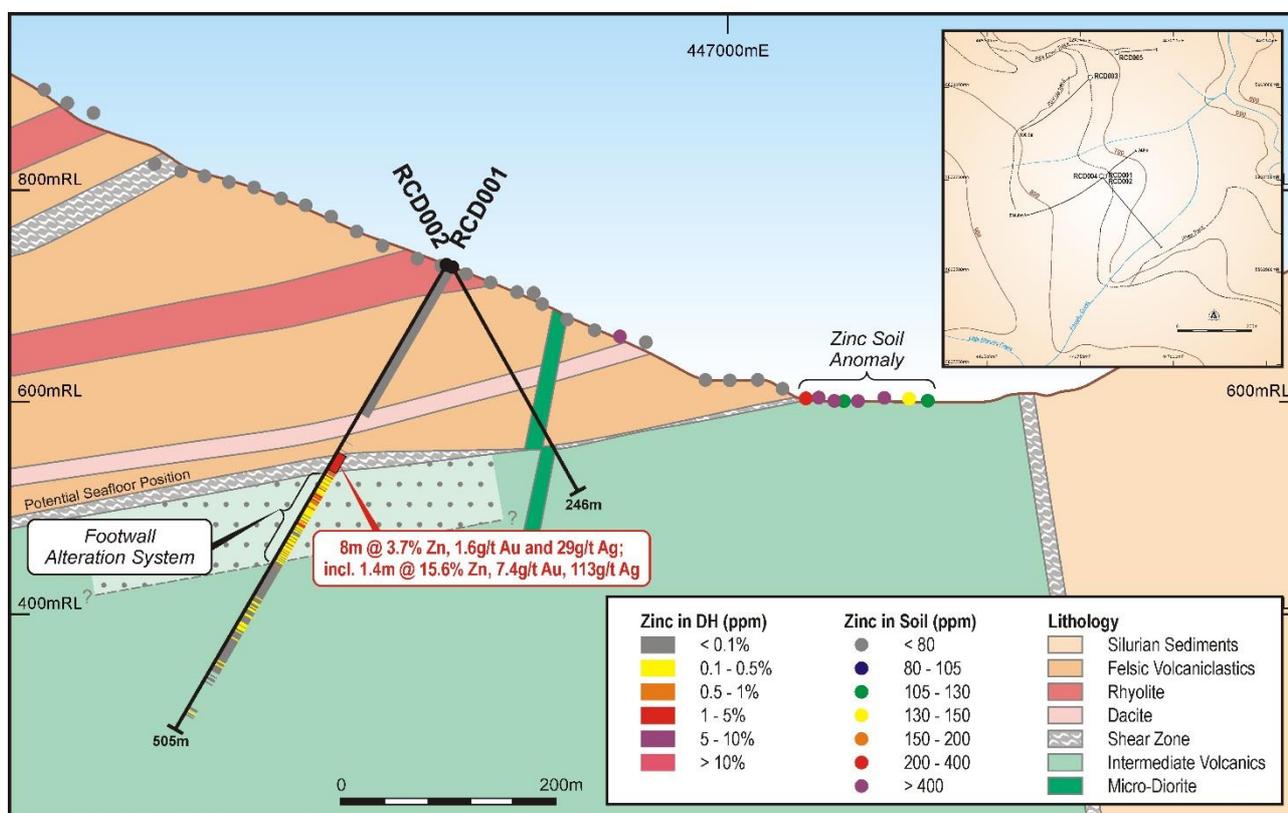


Figure 5: Rhyolite Creek cross-section through RCD001 and 002, adapted from Goldsearch 2008 -2010 open file Annual Reports to Earth Resources Victoria.



About Carawine Resources

Carawine Resources Pty Ltd, a wholly-owned subsidiary of Sheffield Resources Ltd, holds four substantial gold, copper and base metal projects (Figure 6) targeting high-grade deposits in well-established mineralised provinces including:

- Jamieson Au-Cu-Ag-Zn-Pb Project, VHMS targets
- Oakover Cu-Co Project, Zambian Style Cu-Co targets
- Paterson Au-Cu-Co-(Zn-Pb) Project, Nifty Cu-Co and Telfer Au-Cu targets
- Fraser Range Ni-Cu-Co Project (Independence Group NL (ASX:IGO) 51%, earning 70% by spending A\$5 million), Nova-Bollinger Ni-Cu-Co targets

Carawine is the registered holder of a number of non-mineral sands projects on behalf of Sheffield. Sheffield will consider options to unlock the value of its portfolio of gold-copper assets for shareholders in the near term.

Current work planned for Carawine's projects include low-cost exploration programs aimed at defining and prioritising targets. These will comprise geological mapping and preliminary ground-geophysical surveys at identified Cu-Co targets at the Oakover Project, and target generation through compilation of historic data and processing of regional geophysical data at the Paterson and Jamieson Projects.

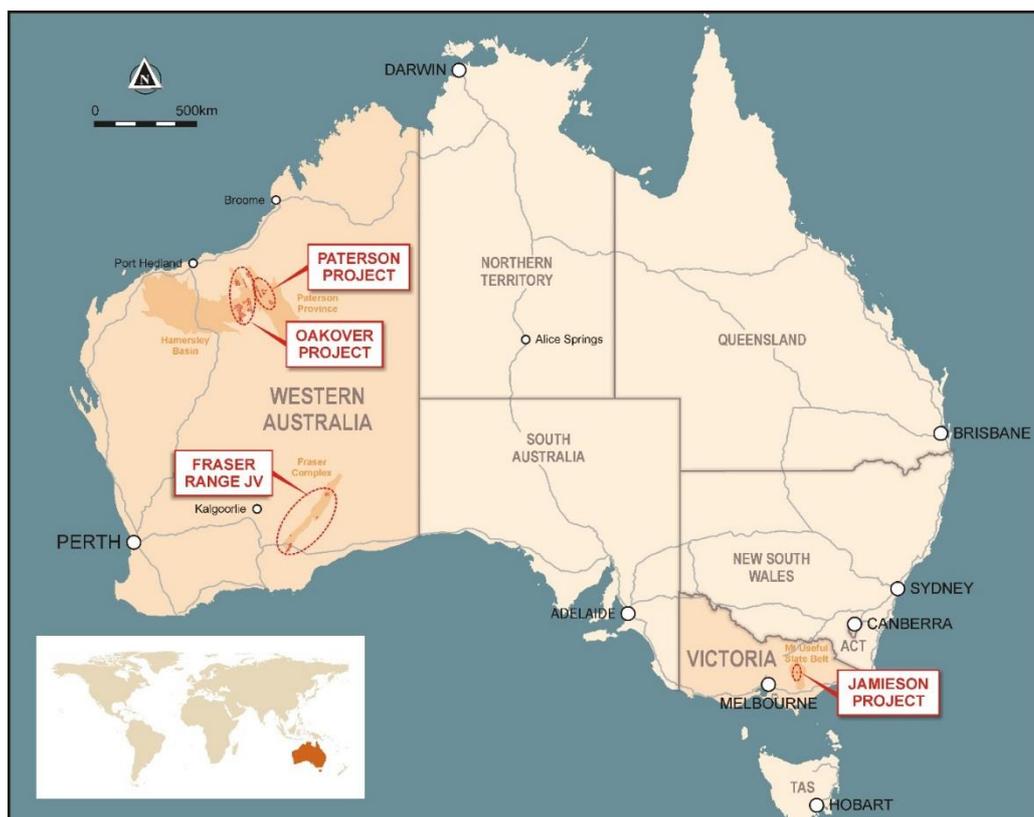


Figure 6: Carawine's Project locations.

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Table 1. Hill 800 historic RC (HEC) and core (HED) drilling results compiled from open-file technical reports. Significant gold intervals tabulated for the Main Zone, Upper and Lower Footwall Zones, and outside these zones (>1g/t Au, >1m downhole width, <2m internal waste; including >20g/t Au, >1m width, <1m internal waste.). Collar information coordinates are MGA Zone 55, AHD RL.

Main Zone

Hole ID	Depth From (m)	Depth To (m)	Interval*				Drill hole Collar Information					
			Width (m)	Au (g/t)	Cu (%)	Zn (%)	Easting	Northing	RL	Depth (m)	Dip	Azimuth
HEC1	0	33	33	4.31			444,880	5,868,778	824	101	-60	338
HEC12	14	15	1	9.62			444,885	5,868,872	813	99	-90	0
and	91	95	4	7.03								
<i>including</i>	92	93	1	23.2	0.1							
HEC13	0	13	13	10.9			444,895	5,868,855	815	39	-90	0
<i>including</i>	0	3	3	38.8								
HEC17	56	69	13	1.55	0.1		444,925	5,868,953	794	152	-90	0
and	100	101	1	7.42	0.2							
HEC18	38	39	1	1.93	0.5		444,923	5,868,922	796	60	-90	0
and	41	50	9	1.69								
and	54	60	6	1.74								
HEC3	36	42	6	3.22	0.1		444,884	5,868,812	826	101	-60	315
and	64	65	1	16.3	1.1							
HEC35	71	80	9	2.32	0.1		444,903	5,868,978	798	148	-60	152
and	104	106	2	1.79	0.1							
HEC44	61	62	1	1.19			444,907	5,868,980	791	127	-60	113
HEC45	3	28	25	4.72			444,880	5,868,790	825	101	-59	214
<i>including</i>	16	17	1	24.0								
HEC47	60	61	1	1.61	0.1		444,837	5,868,854	831	146	-60	107
HEC48	86	109	23	4.13			444,862	5,868,920	813	122	-62	112
HEC49	62	71	9	1.59	0.1		444,868	5,868,914	812	110	-60	142
and	76	97	21	4.04								
<i>including</i>	80	81	1	20.9	0.1							
and	100	107	7	5.88								
<i>including</i>	102	104	2	15.5	0.1							
HEC9	51	62	11	1.70	0.1		444,846	5,868,841	832	101	-60	139
and	79	80	1	14.8	0.2							
<i>including</i>	79	80	1	14.8	0.2							
HED1	0.5	23.9	23.4	4.56			444,882	5,868,770	823	300	-60	338
and	26.3	32.7	6.4	2.08	0.1							
and	114.0	115.0	1.0	2.21	1.3	0.1						
and	184.0	191.0	7.0	22.1	0.4	0.1						
<i>including</i>	184.0	185.0	1.0	28.9	0.1	0.1						
<i>including</i>	188.0	189.0	1.0	122	2.1	0.1						

**Upper Footwall Zone**

Hole ID	Depth From (m)	Depth To (m)	Interval*				Drill hole Collar Information					
			Width (m)	Au (g/t)	Cu (%)	Zn (%)	Easting	Northing	RL	Depth (m)	Dip	Azimuth
HEC14	34	35	1	2.77			444,909	5,868,830	815	51	-90	0
HEC4	23	27	4	3.12			444,907	5,868,753	820	101	-60	330
HEC47	114	116	2	7.97	0.2		444,837	5,868,854	831	146	-60	107
and	144	146	2	9.55	0.4	0.1						
HEC8	0	3	3	2.81			444,891	5,868,765	823	101	-52	54
and	14	27	13	2.78								
HED2	167.0	168.0	1.0	16.2			444,899	5,868,723	816	190	-65	338

Lower Footwall Zone

Hole ID	Depth From (m)	Depth To (m)	Interval*				Drill hole Collar Information					
			Width (m)	Au (g/t)	Cu (%)	Zn (%)	Easting	Northing	RL	Depth (m)	Dip	Azimuth
HEC23	26	27	1	6.94			444,981	5,868,973	773	45	-90	0
HEC24	10	21	11	2.09	0.1		444,979	5,868,951	773	54	-90	0
and	30	34	4	1.56								
HEC25	0	6	6	3.53			444,974	5,868,928	774	36	-90	0
HEC27	1	3	2	2.42			444,977	5,868,941	775	45	-90	0
and	36	37	1	38.4	0.1							
HEC28	1	2	1	2.45			445,004	5,869,052	740	39	-90	0

Significant Intervals meeting criteria, outside the Main and Footwall Zones

Hole ID	Depth From (m)	Depth To (m)	Interval*				Drill hole Collar Information					
			Width (m)	Au (g/t)	Cu (%)	Zn (%)	Easting	Northing	RL	Depth (m)	Dip	Azimuth
HEC1	76	77	1	1.04	0.2		444,880	5,868,778	824	101	-60	338
HEC10	35	36	1	1.00			444,847	5,868,857	830	101	-62	101
and	37	38	1	1.12								
and	43	44	1	1.14								
HEC12	19	20	1	2.93	0.7		444,885	5,868,872	813	99	-90	0
and	71	72	1	1.18								
HEC13	19	20	1	1.92	0.1		444,895	5,868,855	815	39	-90	0
HEC15	24	25	1	1.11	0.1		444,925	5,868,807	816	48	-90	0
HEC17	81	85	4	1.17	0.1		444,925	5,868,953	794	152	-90	0
and	112	116	4	1.21	0.1							
HEC19	1	5	4	1.59			444,926	5,868,902	796	99	-90	0
and	12	13	1	1.41								
and	33	37	4	1.03								
and	43	45	2	1.28								
and	66	67	1	2.13								
and	79	85	6	2.21	0.2							
HEC20	0	1	1	1.27			444,936	5,868,874	794	20	-90	0
HEC23	4	8	4	1.12			444,981	5,868,973	773	45	-90	0
and	11	12	1	1.73								
and	20	21	1	2.91								
HEC24	1	7	6	1.87			444,979	5,868,951	773	54	-90	0



Hole ID	Depth From (m)	Depth To (m)	Interval*				Drill hole Collar Information					
			Width (m)	Au (g/t)	Cu (%)	Zn (%)	Easting	Northing	RL	Depth (m)	Dip	Azimuth
and	40	41	1	2.57								
and	46	47	1	1.35								
HEC26	19	20	1	1.08	0.1		444,977	5,868,894	770	30	-90	0
HEC27	15	16	1	1.26			444,977	5,868,941	775	45	-90	0
HEC3	90	91	1	1.01	0.1	0.1	444,884	5,868,812	826	101	-60	315
HEC33	43	44	1	1.37	0.1		445,042	5,869,004	741	51	-90	0
HEC35	83	86	3	1.72	0.1		444,903	5,868,978	798	148	-60	152
and	89	93	4	1.26	0.4							
and	97	98	1	1.45	0.2							
HEC38	52	53	1	1.35	0.6		444,827	5,868,749	807	98	-60	121
HEC39	12	13	1	1.86	0.2		444,792	5,868,761	797	98	-60	111
HEC40	33	36	3	1.73	0.1		444,754	5,868,784	795	98	-60	137
HEC42	13	14	1	1.18	0.3		444,829	5,868,745	807	98	-60	326
HEC45	90	93	3	1.20			444,880	5,868,790	825	101	-59	214
HEC47	20	21	1	1.01			444,837	5,868,854	831	146	-60	107
and	49	50	1	1.19	0.4							
and	129	130	1	1.98	0.1							
HEC48	2	3	1	1.00			444,862	5,868,920	813	122	-62	112
and	78	80	2	1.35	0.5							
HEC49	56	57	1	1.37			444,868	5,868,914	812	110	-60	142
and	60	61	1	1.45	0.2							
HEC5	0	3	3	1.58			444,875	5,868,750	821	101	-59	332
and	9	10	1	3.65								
and	15	18	3	1.81								
and	21	22	1	1.41								
and	27	28	1	1.05	0.1							
and	45	46	1	1.61	0.1							
HEC51	29	30	1	2.34	0.7		444,840	5,868,706	810	128	-60	7
HEC8	6	7	1	1.13			444,891	5,868,765	823	101	-52	54
HEC9	38	39	1	1.08			444,846	5,868,841	832	101	-60	139
and	94	95	1	1.96	0.2							
HED1	121.0	122.0	1.0	1.65	0.6		444,882	5,868,770	823	300	-60	338
and	175.0	176.0	1.0	1.13	1.3	0.1						
and	198.0	199.0	1.0	2.89	0.2	0.1						
and	208.0	209.0	1.0	1.24	0.3	0.2						
and	254.0	255.0	1.0	2.20	0.7							
HED2	34.0	35.0	1.0	1.20			444,899	5,868,723	816	190	-65	338
HED3	116.0	117.0	1.0	1.10			444,868	5,868,915	812	257	-60	45



Drill hole collar details (holes with no significant gold intervals)

Hole ID	Easting	Northing	RL	Depth (m)	Dip	Azimuth
HEC11	444,884	5,868,812	826	101	-60	315
HEC16	444,891	5,868,765	823	101	-52	54
HEC2	444,885	5,868,872	813	99	-90	0
HEC21	444,909	5,868,830	815	51	-90	0
HEC22	444,925	5,868,807	816	48	-90	0
HEC29	444,977	5,868,992	773	48	-90	0
HEC30	444,979	5,868,951	773	54	-90	0
HEC31	444,974	5,868,928	774	36	-90	0
HEC32	444,977	5,868,894	770	30	-90	0
HEC34	445,004	5,869,052	740	39	-90	0
HEC36	445,054	5,869,026	732	39	-90	0
HEC37	445,086	5,869,001	723	60	-90	0
HEC41	444,811	5,868,561	798	98	-60	144
HEC43	444,827	5,868,749	807	98	-60	121
HEC46	444,733	5,868,830	798	98	-60	135
HEC50	444,838	5,868,841	832	104	-60	209
HEC6	444,862	5,868,920	813	122	-62	112
HEC7	444,868	5,868,914	812	110	-60	142
HED4	444,663	5,868,707	737	280	-50	85
HED5	444,662	5,868,707	736	600	-50	80
HED6	444,865	5,869,160	717	377	-68	150

Significant copper intervals (>0.5% Cu, >2m downhole width, <2m internal waste; including >1% Cu, >1m width, <1m internal waste.)

Hole ID	Depth From (m)	Depth To (m)	Interval*			
			Width (m)	Cu (%)	Zn (%)	Au (g/t)
HEC18	37	39	2	0.8	0.0	1.42
HEC38	52	54	2	0.7	0.0	0.74
HEC39	6	8	2	0.7	0.0	0.78
and	44	46	2	0.5	0.0	0.09
HED1	113	115	2	1.0	0.1	1.20
<i>including</i>	<i>114</i>	<i>115</i>	<i>1</i>	<i>1.3</i>	<i>0.1</i>	<i>2.21</i>
and	254	261	7	0.9	0.1	0.69
<i>including</i>	<i>255</i>	<i>257</i>	<i>2</i>	<i>2.0</i>	<i>0.1</i>	<i>0.65</i>



Table 2. Rhyolite Creek historic drilling.

Assay listing for geological interval in RCD001

Hole ID	Depth From (m)	Depth To (m)	Width (m)	Zn %	Pb %	Cu %	Au g/t	Ag g/t	Geology description
RCD001	220	221	1	2.2	0.06	0.15	0.28	9	5 cm pug shear
RCD001	221	222	1	0.8	0.04	0.04	0.45	7	porphyritic volcanoclastic
RCD001	222	223	1	0.5	0.03	0.03	0.24	8	40 cm shear
RCD001	223	224	1	14.7	1.52	0.43	8.95	127	strong pyrite
RCD001	224	224.4	0.4	17.9	1.35	0.81	3.63	80	abundant pyrite with galena
RCD001	224.4	225.6	1.2	0.9	0.07	0.03	0.41	6	qz vns
RCD001	225.6	226.5	0.9	0.3	0.04	0.02	0.29	5	shear zone 50 cm
RCD001	226.5	228	1.5	1.8	0.20	0.08	0.52	24	str silica breccia

Jamison Resources RCD001 re-sample assay results.

Hole ID	Depth From (m)	Depth To (m)	Width (m)	Zn %	Pb %	Cu %	Au g/t	Ag g/t
RCD001	223.5	224.5	1	20.3	1.54	0.66	10.3	178

RCD drill hole collar details

Hole ID	Easting	Northing	RL	Depth (m)	Dip	Azimuth
RCD001	446,814	5,862,758	729	504.6	-60	225
RCD002	446,816	5,862,760	729	246	-61	33
RCD003	446,777	5,863,028	723	500.3	-60	216
RCD004	446,807	5,862,762	730	422.8	-60	141
RCD005	446,846	5,863,093	696	223.1	-60	86

COMPLIANCE STATEMENTS

The information in this report that relates to Exploration Results is based on information compiled from historic exploration data by Mr David Boyd, a Competent Person who is a Member of the 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 style of mineralisation and type 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 open-file historic exploration results. Where relevant the original data source has been referenced in the text. Details of the historic data, including any legacy issues or potential limitations of the data, have been included in the body of the report and in Appendix 1.

This report also includes information that relates to historic Exploration Results disclosed by the relevant previous explorer under the JORC Code 2004. The information was extracted from the Company's previous ASX announcements as follows:

- Rhyolite Creek: (Goldsearch ASX:GSE) "Quarterly Activities Report for the quarter ended 31 March, 2010" 29 April, 2010.
- Rhyolite Creek: (Goldsearch ASX:GSE) "Exploration Manager's Presentation – AGM 2008", 20 November, 2008.

The information presented in the historic ASX announcements is supported by data in open-file technical reports produced by the relevant explorer examined and validated by Sheffield, with any relevant details and legacy issues or potential limitations of the data referred to in the body of the announcement and in Appendix 1.

FORWARD LOOKING AND CAUTIONARY 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", "targeting", "likely", "scheduled", "intends", "potential", "prospective" and similar expressions.

ABOUT SHEFFIELD RESOURCES

Sheffield Resources Limited is focused on developing its 100% owned, world class Thunderbird Mineral Sands Project, located in north-west Western Australia. Sheffield continues to also assess other regional exploration opportunities.

THUNDERBIRD MINERAL SANDS

Thunderbird is one of the largest and highest grade mineral sands discoveries in the last 30 years.

Sheffield's Bankable Feasibility Study shows Thunderbird is a technically low risk, modest capex project that generates strong cash margins from globally significant levels of production over an exceptionally long mine life of 42 years.

Thunderbird will generate a high quality suite of mineral sands products with specifications suited to market requirements. These products include Premium Zircon suitable for the ceramic sector and LTR Ilmenite which will be one of the highest grade sulfate feedstocks available globally.

Thunderbird is located in one of the world's most attractive mining investment jurisdictions and is well placed to deliver long term, secure supply of high quality products to a range of potential customers.

Subject to permitting activities, the Company is targeting project construction commencing in late 2017 with initial production in 2019. The initial planned production profile is aligned with expected emerging supply gaps in global mineral sands markets.

ASX Code:	SFX	Market Capitalisation:	A\$96m
Issued shares:	181.3m	Cash (unaudited, 31 Mar 2017):	A\$11m



Appendix 1: JORC (2012) Table 1 Report

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"> Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> HED and RCD holes half sawn HQ or NQ diamond core and sampled on geological intervals with a nominal maximum 1m downhole sample interval. HEC holes were drilled using a 5 inch RC system, for holes HEC1-10 samples are reported as having been collected by spear (scoop samples) on 1m intervals to collect a nominal 2kg sample. For holes HEC35-51 samples are reported as having been collected from a riffle splitter on 1m intervals to collect a nominal 2kg sample. For holes HEC11-34 sample collection methods are not reported, however it is assumed that subsequent to the initial program (HEC1-10) samples were collected by riffle splitter as per typical methods of the time for follow-up drilling programs.
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<ul style="list-style-type: none"> HED and RCD holes are HQ/NQ diameter diamond core. HEC holes were drilled using 5 inch Reverse Circulation (RC) and a face-sampling bit.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> Recovery measurements were made on HED and RCD core holes To note is the top ~6m of HED1 which shows poor recovery. The reported assay interval for HED1 is of similar tenor to the nearest HEC (RC) drill hole therefore it is assumed recovery has not had a material effect on reported assay results. Orientation processes are reported from the start of the RC drilling program to maximise recovery and representivity of the material drilled.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> All core and RC holes have been geologically logged to a relatively high detail. Alteration and petrographic examination has been done throughout the drilling programs. Geotechnical information for HED holes is sparsely recorded and is of sufficient quality for reporting of Exploration Results, but would require further work to support Mineral Resource estimation. Core is available for study. Geotechnical information for RCD holes is of sufficient quality to support Mineral Resource estimation.
Sub-sampling	<ul style="list-style-type: none"> If core, whether cut or sawn and whether 	<ul style="list-style-type: none"> HED and RCD samples were sampled as sawn



Criteria	JORC Code explanation	Commentary
techniques and sample preparation	<p>quarter, half or all core taken.</p> <ul style="list-style-type: none"> 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. 	<p>half-core.</p> <ul style="list-style-type: none"> For holes HEC1-10 samples are reported as having been collected by spear (scoop samples) on 1m intervals to collect a nominal 2kg sample. For holes HEC35-51 samples are reported as having been collected from a riffle splitter on 1m intervals to collect a nominal 2kg sample. For holes HEC11-34 sample collection methods are not reported, however it is assumed that subsequent to the initial program (HEC1-10) samples were collected by riffle splitter as per typical methods of the time for follow-up drilling programs. No methods of representivity eg field duplicates, have been reported, however industry standard techniques have been employed therefore it is assumed the data are of sufficient quality for reporting of Exploration Results.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	<ul style="list-style-type: none"> For HEC and HED holes, the assay method is described at AAS for Au, and ICP for Cu, Pb, Zn, As, Mo, Co, Mn and Ba. It is unclear what the digestion method is for these, however it is assumed aqua-regia (for gold) and 4-acid digest (for base metals) has been used. For gold, aqua-regia is a partial digestion method especially with refractory gold, compared with fire assay. Petrological studies report gold in fresh material is not bound within sulphide but rather on the edges of sulphide grains, and therefore would be available for digestion. It is considered that if there is a bias for gold, assays it will be conservative, and therefore are of sufficient quality to be reported as exploration results. For HEC1-10 2 reference standards were analysed per assay batch and returned values within expected ranges. For RCD holes Au was by Aqua-Regia digest ICP-MS then repeated by fire assay. Results show moderately higher gold values in fire assay data compares with aqua-regia digest. Ag, Cu, Pb, Zn, As, Co, Hg, Mo, S, Mn were by Aqua-Regia digest ICP-AES. Resample and assay of 1m of RCD001 by Jamieson was by 4-acid digest, ICP-AES for base metals and Ag, and for Au by fire assay. Standard industry practices have been employed in the collection and assaying of samples from the tenement, with modern exploration and assay techniques conducted by recognised explorers within a low-risk jurisdiction. Considering these factors along with reported information, the data are assumed to have sufficient quality for the reporting of Exploration Results.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Significant intersections reported are reviewed by senior geological personnel. No twinned holes are reported. All data has been reported in technical reports submitted by Companies to the Victorian Government which are now available as open file. Any relevant data quality issues are stated in this report/ No assay data have been adjusted.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and 	<ul style="list-style-type: none"> Holes have been located to a local grid, where still available in the field these have been confirmed to +/- 5m accuracy. RL is projected to a government



Criteria	JORC Code explanation	Commentary
	<p><i>other locations used in Mineral Resource estimation.</i></p> <ul style="list-style-type: none"> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<p>surface DEM. Coordinates reported are MGA Zone 55.</p> <ul style="list-style-type: none"> • Diamond holes have been surveyed down hole by single shot camera every 30m (nominal). • Location data is considered to be of sufficient quality for reporting of exploration results.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>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.</i> • <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> • See figures in body of announcement for drill hole distribution. • Samples have not been composited.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • At Hill 800 mineralisation is interpreted to trend 30deg. with a moderate to steep plunge to the north. However, it should be noted that a number of alternative interpretations can be supported by the current dataset. Further work will be aimed at confirming the interpretation of the orientation and extent of mineralisation. • For HEC and HED holes, due to limitations of the drilling rig used and topography holes drilled either vertically, or angled towards the northwest, have been drilled oblique and at a low angle to the main mineralised direction. This results in these intersections not reflecting true widths. • At Rhyolite Creek it is considered only preliminary exploration work has been done and therefore the mineralisation is open.
<i>Sample security</i>	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • No measures taken regarding sample security have been reported however this is not considered a high risk given the Project location.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • The Project has been reviewed in an Independent Geological Report commissioned by Jamieson. • Sheffield geologists have conducted reviews of exploration data reported by Jamieson and previous explorers, and have visited the Hill800 site and examined core from holes HED1-3 and HED6.

Section 2 Reporting of Exploration Results

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

Criteria	Statement	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> • <i>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.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Exploration Licence (EL) 5523 is 20km east of the township of Jamieson in Central Victoria, Australia. It was granted to Jamieson Minerals Pty Ltd on 1 October 2015 and is due to expire on 30 September 2010. Carawine Resources Pty Ltd (as wholly-owned subsidiary of Sheffield Resources Ltd) has entered an Earn-In Agreement with Jamieson Minerals Pty Ltd which gives it the right to earn 100% of the tenement by incurring \$190,000 of exploration expenditure within the next 2 years, followed by a further \$200,000 as a cash payment or issue of shares. • There are no known impediments to obtaining a licence to operate in the area, exploration work, including drilling, has taken place on the tenement as recently as 2010.



Criteria	Statement	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> This information in the announcement is based entirely of work conducted by previous explorers, as detailed in the announcement, and in this Appendix 1.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Project is hosted in strongly altered andesitic volcanic rocks of the Cambrian Barkly River Formation. Alteration at Hill 800 comprises a zone of silica-sericite-pyrite extending NE-SW for about 600m to maximum width of about 110m on the crest of Hill 800. An outer halo of sericite alteration grades into distal chlorite-sericite (propylitic) alteration. PIMA studies define a paragonite core associated with the silica-pyrite-gold mineralisation grading into an outer halo dominated by sericite. Gold mineralisation extends over 200m north-south by 50m east-west in the core of the silica-paragonite-pyrite alteration. At Rhyolite Creek Goldsearch summarise the local geology as a Cambrian volcanic sequence progressing from andesite lavas and volcanoclastics through dacitic and rhyolite lavas and associated felsic volcanoclastic sediments. Acid volcanism apparently terminated with a series of thick pyroclastic units, followed by alternating very fine to medium grained feldspathic sandstones. A zone of massive sulphide is reported to sit at the sheared boundary between felsic volcanoclastic sediments above, and andesitic volcanics below, with a large "footwall" silica-sulphide-pyrophyllite alteration zone extending into the rocks below the contact. Carawine geologists interpret the setting and alteration styles to indicate the potential of the prospects to sit within a larger VHMS deposit camp.
Drill hole Information	<ul style="list-style-type: none"> 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"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth 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. 	<ul style="list-style-type: none"> See body of the announcement for details.
Data aggregation methods	<ul style="list-style-type: none"> 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 procedure used for such aggregation should be stated and some typical 	<ul style="list-style-type: none"> Criteria for reporting weighted intervals for Hill 800 are included with the relevant tables. At Rhyolite Creek only the assays from the identified geologically significant interval are reported as significant. At this early stage of the Project's investigation threshold cut-off grades and intervals are not considered appropriate for reporting.



Criteria	Statement	Commentary
	<p><i>examples of such aggregations should be shown in detail.</i></p> <ul style="list-style-type: none"> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	
<p><i>Relationship between mineralisation widths and intercept lengths</i></p>	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <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> 	<ul style="list-style-type: none"> At Hill 800 most drill holes have been drilled oblique and at a low angle to the interpreted mineralisation, and therefore are unlikely to represent true widths. Plan and long-section diagrams, along with full collar and hole orientation information is included in the announcement. At Rhyolite Creek the geological interval reported is at a high angle to the interpreted orientation of the mineralisation and is considered to approximate true width.
<p><i>Diagrams</i></p>	<ul style="list-style-type: none"> <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> See body of announcement for plan and section views and tabulations of significant assay intervals.
<p><i>Balanced reporting</i></p>	<ul style="list-style-type: none"> <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> All information considered material to the reader's understanding of the Exploration Results has been reported.
<p><i>Other substantive exploration data</i></p>	<ul style="list-style-type: none"> <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i> 	<ul style="list-style-type: none"> Information relating to the most advanced data from the primary prospects on the tenement have been reported in this announcement. Additional exploration including ground and down-hole geophysics, and surface mapping and sampling programs have been conducted at these, and other prospects within the tenement. At this early stage of the Project's life, these have not been reported as they are considered to be not material to the reader's understanding of the announcement. All information considered material to the reader's understanding of the Exploration Results has been reported.
<p><i>Further work</i></p>	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> Further work at Hill 800 will initially focus on the design and permitting of a phased diamond core drilling program to confirm the validity of historic assay results, and test the interpreted model of mineralisation, including the orientation and extent of mineralisation. Further work at Rhyolite Creek will initially focus on compilation of historic exploration data from surrounding areas.