

ASX Release 31st January 2018

### Quarterly Activities Report for period ending 31st December 2017

### **Highlights**

### <u>Double Magic Project Ni & Cu – West Kimberley</u>

- Known extent of sulphide mineralisation greatly expanded;
  - 25 of the 26 drill holes completed at Merlin in 2017 have intersected Ni-Cu sulphides,
  - o System still open in all directions,
  - Merlin prospectivity enhanced
- Assay highlights include;
  - 6m @ 1.04% Ni, 0.19% Cu from 53m, DMRC0038
  - 4.75m @ 1.00 % Ni, 0.29% Cu from 310.85m, DMDD0014
  - 3.5m @ 1.37% Ni, 0.19% Cu from 318m, DMDD0014
  - 0.4m @ 2.73% Ni, 0.44% Cu from 305.4m, DMDD0012
- Second zone of massive sulphide mineralisation identified;
  - Possible feeder zone with brecciated and net-textured sulphides
- High amplitude down-hole EM anomaly in DMDD0014;
  - Open to south and southwest
  - o Immediate drill target next field season

### Corporate

- Cash balance (31 December 2017) of approximately \$2.85 million
- Annual General Meeting held 30 November 2017



### Double Magic Ni & Cu - West Kimberley

Buxton Resources is pleased to provide an update for its 100% owned Double Magic nickel-copper project located in the West Kimberley region of Western Australia (Figures 6 & 7 at the end of this section).

During the quarter, Buxton Resources Limited (ASX: BUX) was pleased to report that all assays for the 2017 drill program at Double Magic had been received. Several intersections returned grades above 1% Ni. Of the 26 holes drilled, 25 intersected magmatic Ni-Cu sulphides confirming a much-increased extent of Ni-Cu sulphide mineralisation at Merlin. A very large, complex mineralised magmatic system, still open in all directions, continues to be discovered within the Ruins Dolerite.

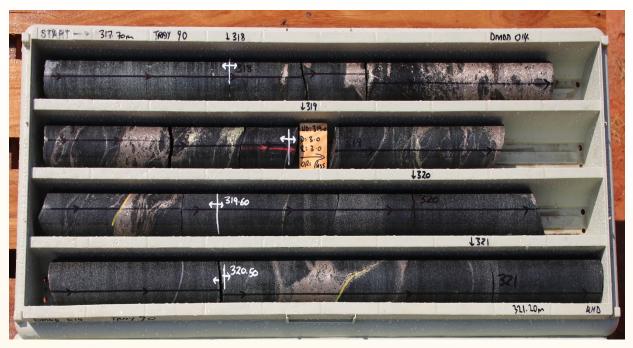
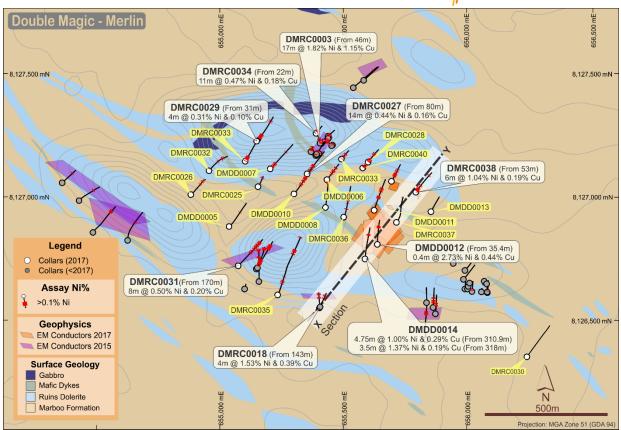


Figure 1 - Part of the brecciated massive sulphide zone in DMDD0014, 317.7m to 321.2m downhole

Fieldwork during 2017 has substantially expanded the known extent of continuous sulphide mineralisation along strike (~1,500m) and down-dip (>600m). A second possible conduit or feeder, with brecciated massive sulphide (DMDD0014 – Figure 1) indicating high-energy emplacement, has now been located 450 metres south-east of the 2015 discovery at Conductor D.

A possible high-grade trend has been identified within the broader magmatic Ni-Cu sulphide system (Figures 1-4), providing one obvious target for future drilling. Higher-grade mineralisation along this trend includes stringer or net-textured sulphides, massive sulphides, and/or brecciated massive sulphide. This trend appears open to the south and south-west as indicated by recent down-hole transient electromagnetic (DHTEM) results, which are supported by geological observations in up-dip holes.





**Figure 2** - Plan of Merlin Prospect, showing surface geology. drill hole collars, traces and downhole assayed intervals >0.1% Ni (highlighting Ni-Cu sulphide mineralisation), modelled DHTEM plates and the section line correlating to Figure 4

The presence of brecciated massive sulphides is particularly encouraging, indicating forceful injection or re-working of massive sulphides in a high-energy magmatic environment, something usually considered an essential part of the processes involved in forming large, high-grade magmatic sulphide deposits. This discovery of brecciated sulphides at Merlin is therefore a very strong confirmation of the genetic model, and consequent prospectivity, of the Merlin mineralised system as it demonstrates the system had the capability to segregate and deposit high-grade massive sulphides.

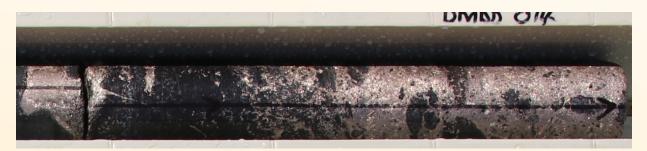
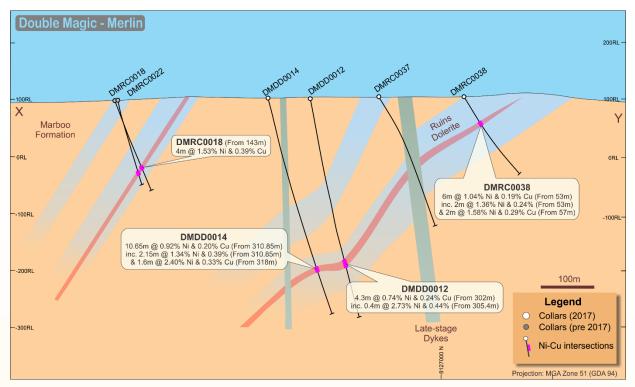


Figure 3 – Massive brecciated sulphides from DMDD0014. Field of view 318.2m to 318.5m downhole

A plan of drill hole locations is included as Figure 2 and drill hole details listed in Table 2. A cross-section through the east of the Merlin Prospect shows the location of



brecciated massive sulphides (Figure 4). Table 1 lists all 2017 intersections above 0.25% Ni, greater than 2m in length (with up to 2m of subgrade).



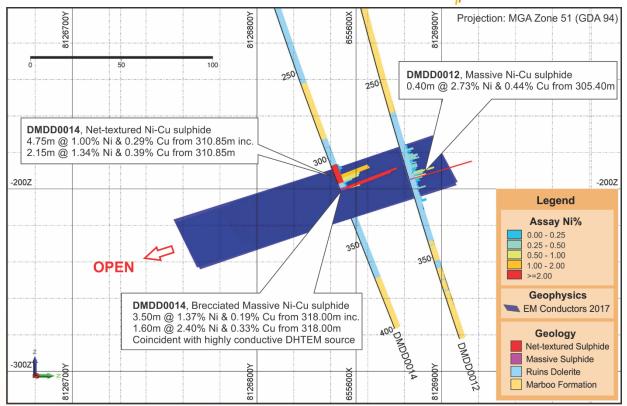
**Figure 4** – Cross-section of the eastern Merlin Prospect, including the recent brecciated massive sulphide intercept in DMDD0014. For section line orientation and clip see Figure 2

### **Geophysics**

DHTEM surveying of the last hole of the 2017 program, DMDD0014, indicated the hole successfully intercepted the modelled conductor, which was then refined as being approximately 150mx50m in size and probably extending to the south or south-west.

The very high in-hole response amplitude in DMDD0014 has masked any more distant responses, including from any other electrically disconnected conductors within the same broad geological horizon. This means that additional conductors in the area may not have been detected by any EM completed to date. Step-out holes drilled specifically to provide platforms for DHTEM, as well as more traditional holes testing geological targets, may be required to effectively explore this trend.





**Figure 5** – Cross-section close-up of DMDD0014 and DMDD0012 showing modelled high conductance DHTEM plate. Conductor is open to the south and southwest. Note primary net-textured Ni-Cu mineralisation in DMDD0014 above the DHTEM plate.

Geophysical assessment and reporting has now been completed. Apart from routine gyro surveying, holes were down-hole logged for TEM, conductivity, magnetic susceptibility, and natural gamma. Six selected holes were also logged for gammagamma (density), and down-hole Induced Polarisation (DHIP). Benchtop petrophysical testwork on core from DMDD0005 has been completed to assist interpretation of DHIP logging results, pursuant to better understanding the nature of the large IP anomaly identified in 2016.

As the excellent intercepts from DMDD0014, DMDD0012 and DMRC0038 came towards the end of the funded 2017 work program, Buxton elected to suspend drilling until all data had been received and thoroughly assessed.

Buxton Resources acknowledges the support of the Western Australian Department of Mines and Petroleum for their contribution via the WA Exploration Incentive Scheme and is pleased to announce further assistance for the up-coming 2018 drill programme.

Buxton looks forward to updating investors as work progresses on this challenging but exciting project.



Table 1. Intersections + 0.25 % Ni

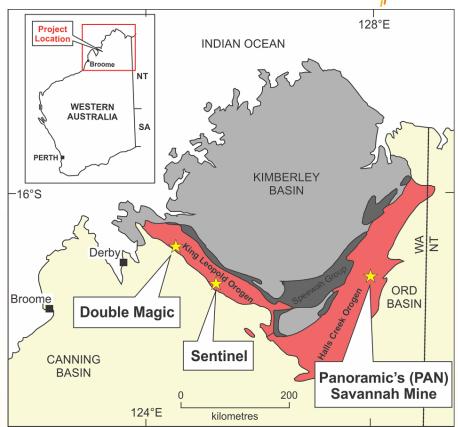
Hole ID	From (m)	To (m)	Thickness (m)	Ni %	Cu %	Co ppm
DMDD0006	106	113	7	0.33	0.13	155
DMDD0007	39	41	2	0.36	0.13	140
	58	61	3	0.35	0.12	151
	178	180	2	0.41	0.16	208
DMDD0008	191	204	13	0.43	0.17	160
DMDD0009	89	92.5	3.5	0.44	0.13	165
DMDD0010	133.5	137.2	3.7	0.30	0.09	146
	153.5	156.8	3.3	0.43	0.17	195
DMDD0011	126	128.4	2.4	0.48	0.04	164
DMDD0011	185	189	4	0.39	0.13	161
DMDD0011	197.6	202	4.4	0.55	0.20	209
DMDD0012	292.1	295.5	3.4	0.38	0.12	145
	298	300	2	0.29	0.09	129
	302	306.3	4.3	0.74	0.24	426
including	305.4	305.8	0.4	2.73	0.44	755
DMDD0014	310.85	315.60	4.75	1.00	0.29	291
including	310.85	313	2.15	1.34	0.39	<i>379</i>
	318	321.5	3.5	1.37	0.19	379
including	318	319.6	1.6	2.4	0.33	629
DMRC0025	250	252	2	0.26	0.16	169
DMRC0027	80	94	14	0.48	0.16	195
DMRC0028	23	27	4	0.34	0.12	138
	70	72	2	0.36	0.13	150
	80	83	3	0.36	0.13	160
DMRC0029	16	19	3	0.26	0.08	121
	31	35	4	0.31	0.10	127
	173	175	2	0.29	0.19	204
DMRC0031	133	136	3	0.41	0.14	162
	148	151	3	0.39	0.16	188
	153	155	2	0.36	0.13	178
	170	178	8	0.50	0.20	207
	195	199	4	0.35	0.13	145
	218	222	4	0.29	0.07	117
	255	260	5	0.34	0.11	137
DMRC0033	51	53	2	0.31	0.11	130
DMRC0034	22	33	11	0.47	0.18	181
DMRC0035	150	153	3	0.30	0.17	153
DMRC0036	188	190	2	0.30	0.10	124
	247	249	2	0.30	0.12	134
	261	264	3	0.29	0.11	127
DMRC0038	8	11	3	0.38	0.10	168
	53	59	6	1.04	0.19	328
including	53	55	2	1.36	0.24	396
including	57	59	2	1.58	0.29	496
DMRC0040	79	82	3	0.28	0.10	126
	106	109	3	0.36	0.13	156



## Table 2. 2017 Drilling Details

Hole Type	Hole ID	Easting	Northing	RL (m)	Azimuth	Inclination	EOH Depth
Diamond	DMDD0005	655035	8126878	95	35	-80	434.4
Diamond	DMDD0006	655431	8127068	106	35	-60	150.4
Diamond	DMDD0007	655202	8127111	104	35	-60	261.0
Diamond	DMDD0008	655425	8126955	111	0	-60	243.6
Diamond	DMDD0009	655692	8127061	101	35	-60	150.6
Diamond	DMDD0010	655298	8127010	103	35	-60	235.4
Diamond	DMDD0011	655625	8126955	105	15	-65	273.7
Diamond Tail	DMRD0035	655232	8126601	96	15	-60	486.5
Diamond	DMDD0012	655640	8126800	102	0	-75	397.0
Diamond	DMDD0013	655846	8126934	104	30	-60	147.5
Diamond	DMDD0014	655584	8126747	102	7	-75	400.0
RC	DMRC0025	655152	8127039	96	35	-80	316
RC	DMRC0026	654881	8127007	90	35	-90	385
RC	DMRC0027	655351	8127091	103	35	-60	258
RC	DMRC0028	655598	8127139	108	35	-60	132
RC	DMRC0029	655147	8127224	155	35	-60	234
RC	DMRC0030	656240	8126351	102	35	-60	240
RC	DMRC0031	655072	8126719	99	35	-60	306
RC	DMRC0032	654954	8127104	93	35	-60	265
RC	DMRC0033	655490	8127151	117	35	-60	90
RC	DMRC0034	655387	8127255	154	35	-60	78
RC	DMRC0035	655232	8126601	96	15	-60	378
RC	DMRC0036	655499	8126916	119	15	-60	336
RC	DMRC0037	655705	8126900	105	35	-60	252
RC	DMRC0038	655791	8127017	105	35	-60	168
RC	DMRC0039	655101	8127142	123	35	-60	230
RC	DMRC0040	655576	8127115	95	0	-75	163
RC	DMRC0041	660891	8125893	97	10	-60	109
RC	DMRC0042	661395	8125631	102	20	-60	120
RC	DMRC0043	663791	8125233	118	15	-70	198
RC	DMRC0044	668338	8119764	85	20	-60	70





**Figure 6** – Location of Buxton's Double Magic & Sentinel Ni-Cu Projects in Western Australia. Also shown is the location of Panoramic's Savannah Ni-Cu Mine.

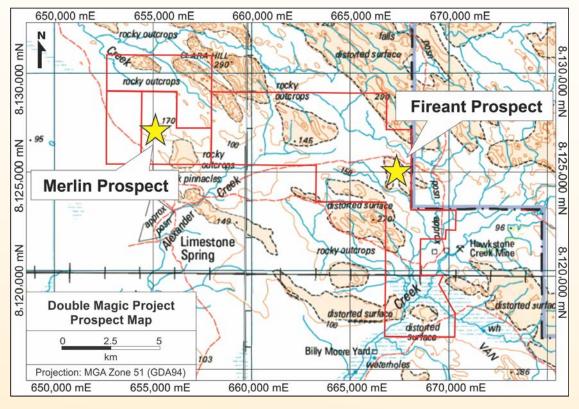


Figure 7 – Location of Double Magic prospect areas



### **Corporate**

Buxton continues to meet all necessary expenditure needs and is, per usual, operating with demonstrable financial constraint and responsibility. Cash balance as at 31 December 2017 was approximately \$2.85 million.

On 30 November 2017, Buxton held its Annual General Meeting of Shareholders at Steve's Wine Cellar, 30 The Avenue, Nedlands, Western Australia. All resolutions that were put were passed on a show of hands.

### For further information please contact:

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Sam Wright
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### **Competent Persons**

The information in this report that relates to Exploration Results is based on information compiled by Mr. Derek Marshall, Member of the Australasian Institute of Geoscientists, and Mr. Eamon Hannon Fellow of the Australian Institute of Geoscientists. Mr. Marshall and Mr. Hannon are full-time employees of Buxton. Mr. Marshall and Mr. Hannon have sufficient experience which is relevant to the activity being undertaken to qualify as a "Competent Person", as defined in the 2012 edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Marshall and Mr. Hannon consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.



# Appendix 1: Changes in interests in mining tenements - Buxton Resources Ltd 01/10/17 - 31/12/17

Interests in mining	Tenement	Location	% at beginning of quarter	% at end of quarter
tenements relinquished,				
reduced or lapsed				
Interest in mining	ELA77/2490	Bullfinch North	100	100
tenements acquired or				
increased				
	F 20/0004	Wisdomes I.o.	10	40
	E 28/2201	Widowmaker	10	10
The mining tenements held at	E 28/1959	Zanthus	10	10
he end of the quarter and their location	E 00/4700		400	463
	E 63/1720	Dempster	100	100
	ELA63/1675	Dempster	100	100
	ELA63/1676	Dempster	100	100
	ELA63/1677	Dempster	100	100
	ELA63/1685	Dempster	100	100
	ELA63/1686	Dempster	100	100
	ELA63/1687	Dempster	100	100
	ELA04/2466	Kimberley	100	100
	ELA04/2467	Kimberley	100	100
	ELA04/2468	Kimberley	100	100
	ELA04/2469	Kimberley	100	100
	ELA04/2480	Kimberley	100	100
	E09/1985	Yalbra	100	100
	ELA77/2237	Yilgarn	100	100
	ELA77/2238	Yilgarn	100	100
	ELA77/2490	Bullfinch North	100	100
	E04/1533	Derby/West Kimberley	100	100
	E04/2026	Derby/West Kimberley	100	100
	E04/2060	Derby/West Kimberley	100	100
	E04/2142	Derby/West Kimberley	100	100
	E04/2408	Derby/West Kimberley	100	100
	E04/2406	Derby/West Kimberley	100	100



E04/2407	Derby/West Kimberley	100	100
E04/2411	Derby/West Kimberley	100	100
P04/269	Derby/West Kimberley	100	100
E28/2620	Fraser Range	100	100

Abbreviations and Definitions used in Tenement Schedule:

E Exploration Licence ELA Exploration Licence Application P Prospecting Licence

