

## **Quarterly Activities Report for period ending 30<sup>th</sup> June 2018**

Buxton Resources Limited (ASX: BUX or "Buxton") is pleased to release the quarterly activities report and Appendix 5B for the period ended 30<sup>th</sup> June 2018 (the Quarter).

### **Double Magic Project-Merlin**

- Diamond Drill Rig arrived safely onsite and commenced drilling
- Several high priority open conductors to be followed up, including >600m long AB plate
- All drilling vectoring toward Gravity High
- Significant brecciated massive sulphide intersections within very broad mineralised sequence at Conductor J
- Coarse grained Pentlandite, Chalcopyrite and Pyrrhotite visible throughout sulphide sequences
- Drill hole stepped out 40m from DMDD0014 testing an open ~25,000 Siemen Conductor J. DMDD0014 intersected sulphides assaying up to 7.1% Ni
- Conductor remains open and plunging towards gravity high
- DMDD015 reported 3 separate zones of brecciated massive sulphides enveloped by stringer and disseminated mineralisation

### **Double Magic Project-Sentinel**

- Close spaced Airborne Magnetic & Radiometric Survey to commence next month at Sentinel Project
- Recent field mapping identified coarse grained ultramafic rocks within the Ruins Dolerite intrusive suite in outcrop at Sentinel
- No modern exploration has been undertaken at Sentinel for magmatic Nickel-Copper-Cobalt sulphide
- Outcropping Lamproite Pipe within the project area demonstrates deep mantle tapping structure

### **Corporate**

- Drilling Contractors elect shares as payment for drill program
- Exploration Incentive Scheme Co-funded Drilling grant for up to \$150,000
- The Company is well funded for the upcoming exploration program.
- Cash balance (30 June 2018) of approximately \$2.2 million

## Double Magic Project-Merlin

During the quarter, Buxton advised the market that DDH1 drill rig safely arrived at the 100% owned Merlin prospect and commenced drilling and that the first hole of the 2018 field season has intersected well-developed brecciated massive sulphide (Figures 1 - 4) within a very board, approximately 44m, interval of mineralised sequence.



**Figure 1.** Brecciated massive sulphide from DMDD0015 with visible Pentlandite, Chalcopyrite & Pyrrhotite, photograph is of NQ whole core, 310.25-310.72m downhole.



**Figure 2.** Brecciated massive sulphide interval from DMDD0015, core is NQ, from 306.5-315.3m downhole.



Hole DMDD0015 is a 40m step out hole from DMDD0014 that intersected high grade brecciated sulphide that returned nickel grades as high as 7.1% (ASX:BUX, 15/05/18). The brecciated massive sulphide intervals within DMDD0015 contains abundant visible coarse grained Pentlandite crystals associated with Pyrrhotite and Chalcopyrite. (Figure 3 & 4).

Three separate zones of brecciated massive sulphides of differing thickness have been recorded within DMDD0015 encompassed by a broader mineralised sequence Fig 1, 2, 3 and 4. Estimated sulphide percentage and species is listed in Appendix 2.

Zone 1 308.96 to 316.43m downhole

Zone 2 326.50 to 327.40m downhole

Zone 3 342.24 to 343.70m downhole.



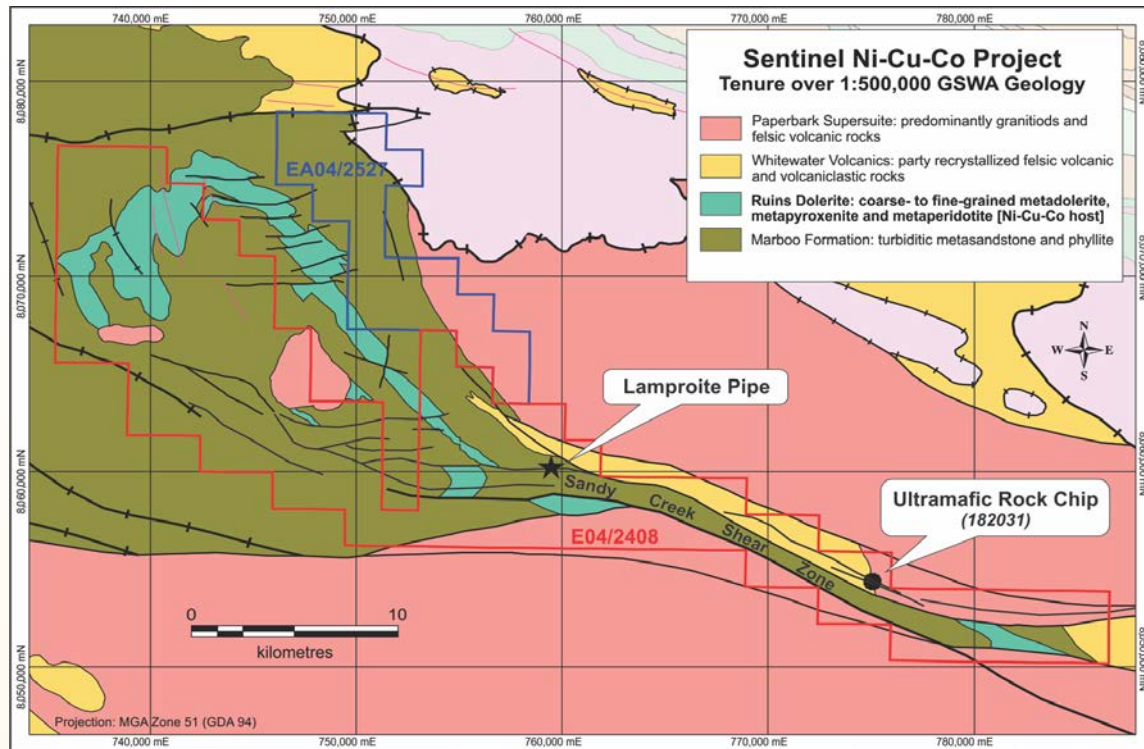
**Figure 3.** Brecciated massive sulphide interval from Zone 1 DMDD0015 312.28 – 312.52m downhole



**Figure 4.** Massive sulphide from Zone 3 DMDD0015 342.2 – 342.46m downhole

## Double Magic Project-Merlin

During the quarter, Buxton reported that a contract for close spaced Airborne magnetic and radiometric survey has been signed with the program anticipated to commence within the coming weeks. The survey, to be executed by Magspec Airborne Surveys, will traverse the entire Sentinel package (Figure 5 & 6) at low levels and 50m line spacing for some 8,148 line-kilometres of data collection which will include magnetic, radiometric and a Digital Elevation Model (DEM). It is expected that Buxton will be in receipt of final processed data in time for field mapping planned at Sentinel later this field season.

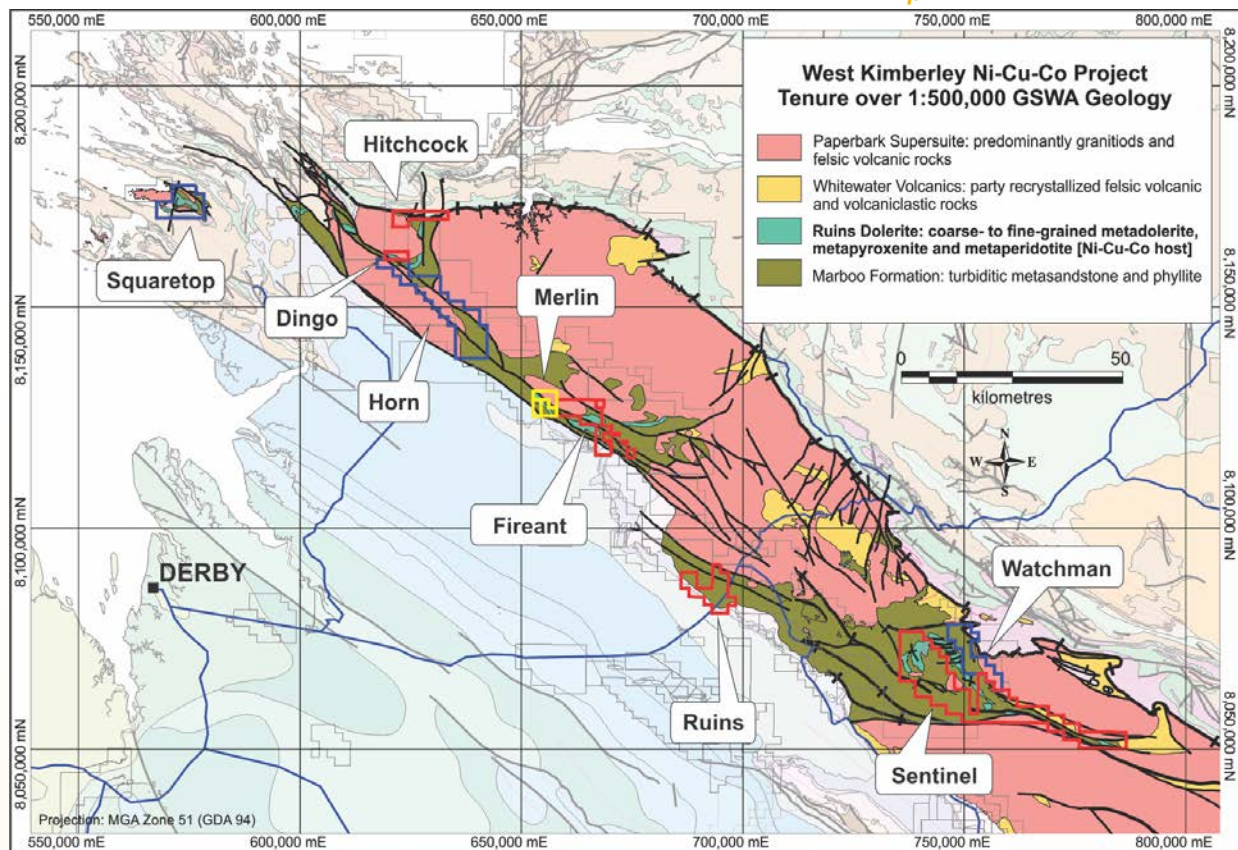


**Figure 5.** Interpreted bedrock geology of the Sentinel Ni-Cu-Co Project highlighting the location of the “Ruins Dolerite” ultramafic rock and Lamproite Pipe, both spatially associated with the Sandy Creek Shear Zone

A recent field trip to the Sentinel found numerous outcrops of fresh to slightly weathered coarse grained ultramafic rocks (Figure 5), indicating the most primitive part of the “Ruins Dolerite” magma sequence is present, which is typically the most prospective for orthomagmatic nickel copper cobalt sulphide mineralisation. Of great benefit to Buxton was the observation of the moderate magnetic nature of these coarse grained ultramafic rocks in outcrop contrasted to the low magnetic response to country rocks of sedimentary and granitic nature. It is therefore anticipated the airborne magnetic survey will effectively map out the host rocks of interest.

The occurrence of a lamproite pipe on along a major structure (Sandy Creek Shear – a major Early Proterozoic fault) within the Project area is indicative of deep, mantle-tapping, structure (Figure 5). The observed ultramafic rocks are also spatially related to this structure, which is of genetic importance, as to form a significant magmatic Nickel-Copper-Cobalt sulphide deposit the magma must be efficiently transported from the mantle to the upper crust by a mantle-tapping structure, such as the Sandy Creek Shear.





**Figure 6.** Buxton's West Kimberley granted and pending tenements over interpreted bedrock geology (GSWA 1:500,000). Granted tenure in red, pending in blue, Merlin group (granted) in yellow.

## CORPORATE

During the quarter, Buxton announced that its drilling contractors have agreed to accept shares for the current drilling campaign. Noting the importance of maintaining the Company's cash reserves, DDH1 Directors have agreed to accept Buxton shares at a deemed price of \$0.135 per share, being the 5 day VWAP at the time of the agreement.

Additionally, the company confirmed the support of the Western Australian Department of Mines, Industry Regulation and Safety with an Exploration Incentive Scheme Co-funded Drilling grant for up to \$150,000 for direct drilling costs for this next program. This allows Buxton to enjoy the enviable position of not drawing on current cash reserves for any part of the direct drilling costs of the 2018 drill program.

Buxton continues to meet all necessary expenditure needs and is, per usual, operating with demonstrable financial constraint and responsibility. Cash balance as at 30 June 2018 was approximately \$2.2 million.

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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

01/04/18 – 30/06/17

Interests in mining tenements relinquished, reduced or lapsed	Tenement	Location	% at beginning of quarter	% at end of quarter
	ELA77/2490	Bullfinch North	100	0
	E04/2406	Derby/West Kimberley	100	0

Interest in mining tenements acquired or increased				

The mining tenements held at the end of the quarter and their location	E 28/2201	Widowmaker	10	10
	E 28/1959	Zanthus	10	10
	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
	E04/2527	Kimberley	0	100
	E80/5183	Kimberley	0	100
	E80/5184	Kimberley	0	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
	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
	E04/2407	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

### Appendix 2: Estimated Sulphide Content Table

Hole ID	From (m)	To (m)	Interval (m)	Min 1			Min 2			Min 3			TOTAL Percent
				Code	Style	Percent	Code	Style	Percent	Code	Style	Percent	
DMDD0015	287.00	304.00	17.00	po	ds	0.3	cp	ds	0.1				0.4
DMDD0015	304.00	308.96	4.96	po	ds	3	cp	ds	2	po	vn	2	7
DMDD0015	308.96	309.43	0.47	po	vn	2							2
DMDD0015	309.43	310.10	0.67	po	vn	10	pn	vn	3	cp	vn	2	15
DMDD0015	310.10	311.20	1.10	po	bx	30	cp	bx	20	pn	bx	15	65
DMDD0015	311.20	311.78	0.58	po	bx	2	pn	bx	2	cp	bx	2	6
DMDD0015	311.78	313.03	1.25	po	bx	35	pn	bx	25	cp	bx	15	75
DMDD0015	313.03	314.13	1.10	po	vn	2	pn	vn	1	cp	vn	1	4
DMDD0015	314.13	314.45	0.32	cp	bx	8	as	bx	4	po	bx	4	16
DMDD0015	314.45	315.12	0.67	po	ds	3	cp	ds	2				5
DMDD0015	315.12	315.25	0.13	po	bx	20	pn	bx	10	cp	bx	10	40
DMDD0015	315.25	316.43	1.18	po	bx	3	pn	bx	3	cp	bx	3	9
DMDD0015	316.43	318.18	1.75	po	ds	2	pn	ds	1	cp	ds	1	4
DMDD0015	318.18	326.50	8.32	po	ds	0.1	cp	ds	0.1				0.2
DMDD0015	326.50	327.10	0.60	po	bx	3	pn	bx	3	cp	bx	2	8
DMDD0015	327.10	327.40	0.30	po	bx	40	pn	bx	15	cp	bx	5	60
DMDD0015	327.40	340.50	13.10	po	ds	3	pn	ds	2	cp	ds	1	6
DMDD0015	340.50	342.24	1.74	po	ds	1	pn	ds	1	cp	ds	0.5	2.5
DMDD0015	342.24	342.89	0.65	po	bx	35	pn	bx	25	cp	bx	10	70
DMDD0015	342.89	343.70	0.81	po	bx	7	cp	bx	5	pn	bx	3	15

Sulphide species (Code): po = pyrrhotite, cp = chalcopyrite, pn = pentlandite, as = arsenopyrite. Sulphide texture (Style): bx = brecciated massive sulphide, ds = disseminated, vn = vein/stringer. All percentages were visually estimated in HQ/NQ whole core, by a trained exploration geologist, however the reader is reminded that visual estimates have a high degree of error.