

## **Quarterly Activities Report for period ending 30<sup>th</sup> June 2019**

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 2019 (the Quarter).

### **Merlin Prospect**

- Fully funded 2019 field season has commenced post wet season
- Deep penetrating ground EM completed at Merlin
- Deep diamond drilling to commence August

### **Quick Shears Prospect**

- Deep penetrating ground EM ongoing at Quick Shears
- Assay results confirm Ni-Cu sulphides at Quick Shears in outcrop
- Quick Shears mapping campaign reveals extensive outcropping Ni-Cu sulphide system
- Review of historic helicopter electromagnetic data highlights numerous untested anomalies
- Two untested conductive targets are coincident with recently discovered Ni-Cu sulphide in the Ruins Dolerite

### **West Kimberley JV (IGO-BUX)**

- 6,102 line-km of Spectrem airborne EM completed
- BUX-IGO JV strike farm in agreement with Baracus for 560km<sup>2</sup> of highly prospective tenure
- IGO earning 80%, BUX free carried to Feasibility Study

### **Fraser Range JV (IGO-BUX)**

- Multiple high priority targets, including “Solar” large EM anomaly along strike from Creasy Silver Knight discovery
- Deep drilling and downhole EM completed at Solar
- BUX 10% free carried to Decision to Mine

### **Corporate**

- Exploration Incentive Scheme Co-funded Drilling funding for Merlin for up to \$150,000 granted for calendar year 2019
- Cash balance (30 June 2019) of approximately \$4.7 million

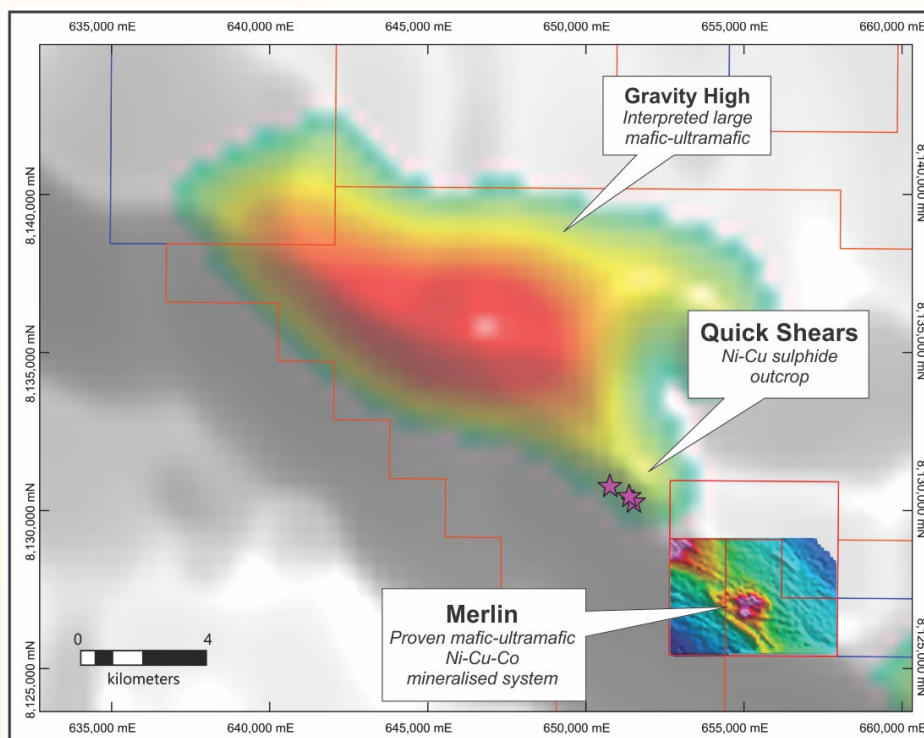
## Quick Shears (BUX to earn 80%)

With the exciting discovery of fresh outcropping Nickel (Ni), Copper (Cu) sulphides (Figure 1 & 2, ASX:BUX 28<sup>th</sup> May 2019) on the recently acquired tenure from New World Cobalt (ASX:BUX 6<sup>th</sup> November 2018), Buxton introduced this prospect area as Quick Shears.



*Figure 1. Quick Shears outcropping nickel-copper sulphide hand specimen*

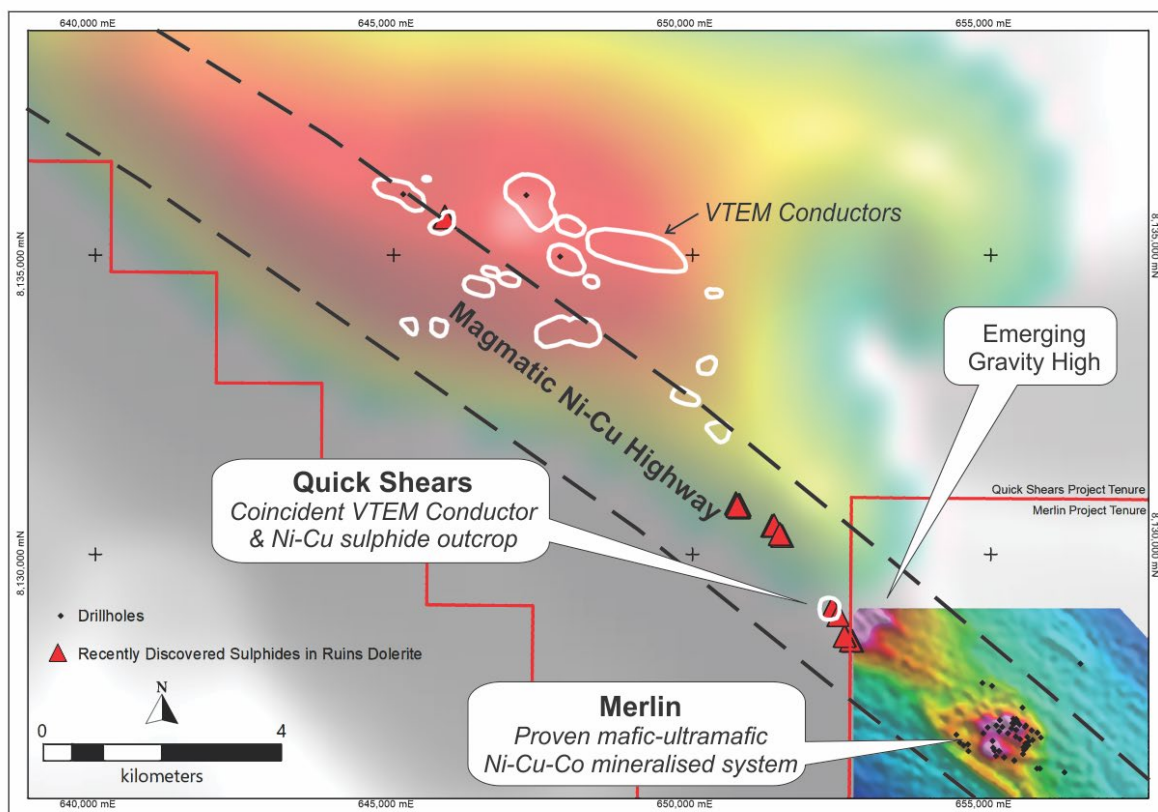
Quick Shears is located adjacent and along strike from Merlin (Figure 2). A large gravity high feature in the regional gravity is interpreted as a large package of intrusive mafic-ultramafic rocks (Figure 2), potentially being part of the Ruins Dolerite suite. Mapping and rock chip sampling are ongoing at Quick Shears, with aircore drilling planned for Q3.



*Figure 2. Recent Ni-Cu discovery at Quick Shears located between proven Ni-Cu-Co mineralised system at Merlin and a large regional gravity high (interpreted mafic-ultramafic intrusive complex)*

During the quarter, Buxton updated the market that a recent review of historic helicopter electromagnetics (VTEM) survey data has identified a number of untested electromagnetic (EM) anomalies within the recently acquired Quick Shears Project (refer ASX:BUX 6<sup>th</sup> November 2019 for details of Project acquisition).

Of great significance is the identification of an untested broad wavelength mid-channel EM anomaly that is coincident with recently discovered outcropping nickel copper sulphides and a developing prospect scale gravity high at the boundary of Merlin and Quick Shears (Figure 3).



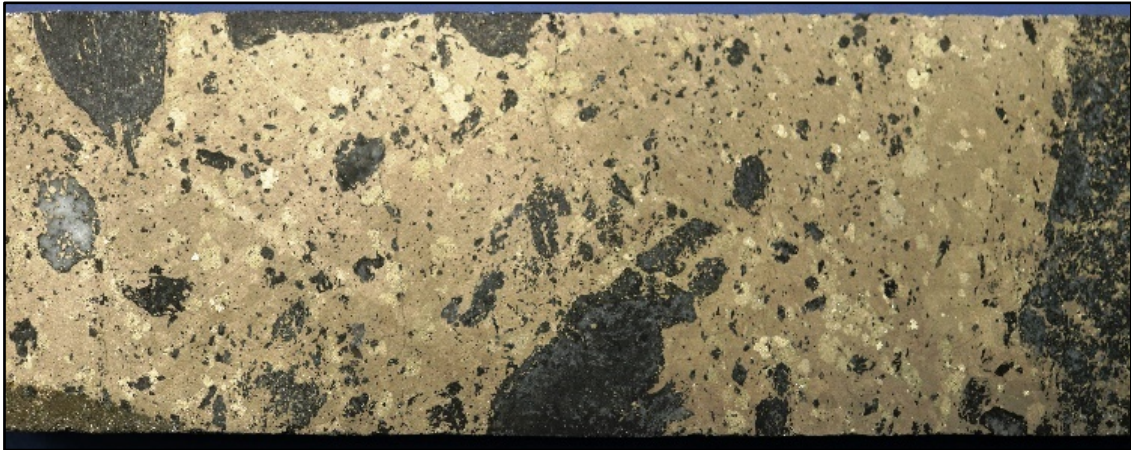
**Figure 3.** Quick Shears interpreted prospective corridor (dashed black lines), showing modelled VTEM conductors (white polygons), recently discovered Ni-Cu sulphide outcrops, over high-resolution ground gravity data at Merlin and a large regional gravity high (interpreted mafic-ultramafic intrusive complex) at Quick Shears

### **Merlin (100% BUX, IGO Option)**

Buxton's discovery of a high tenor magmatic nickel-copper sulphide mineralised system at Merlin has delivered numerous well-developed zones of Ni-Cu-Co mineralisation.

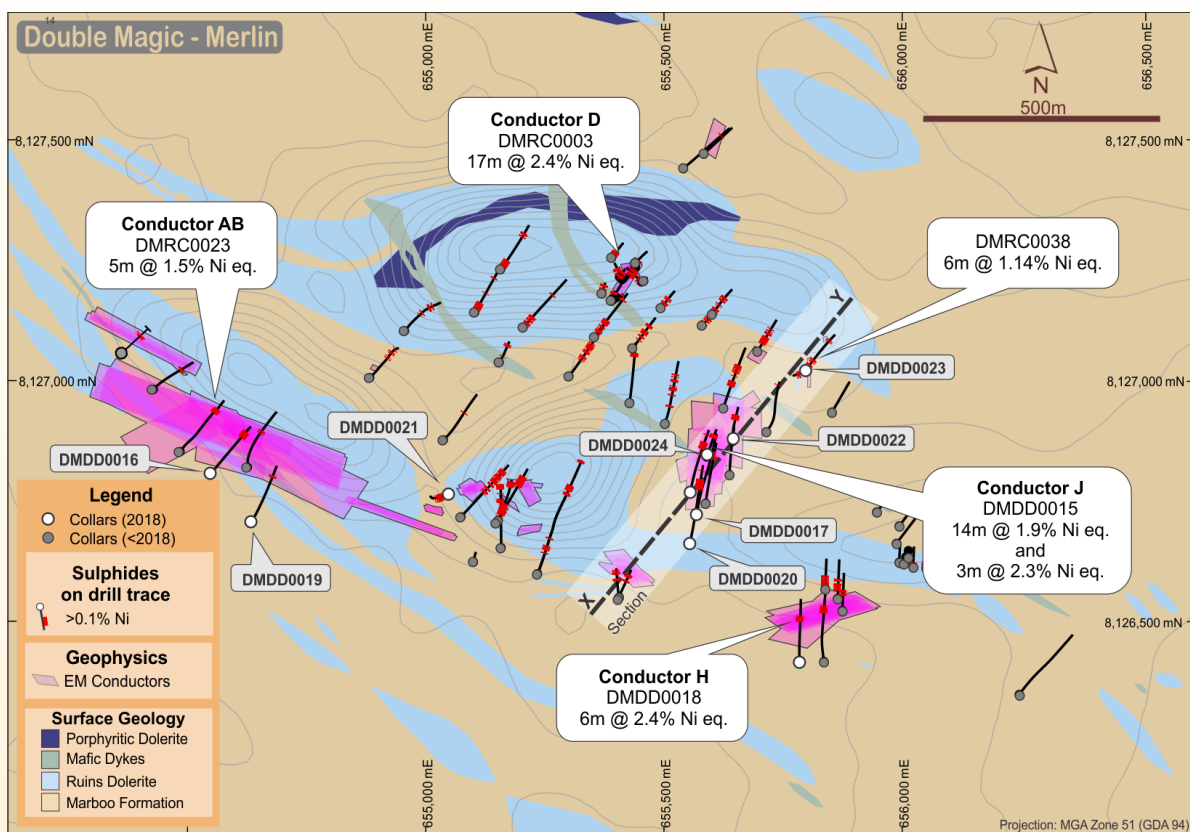
**Merlin a very high metal tenor system (average 8% Ni tenor) with individual assays up to 8.14% Nickel, 5.26% Copper and 0.69% Cobalt**

Observed geological characteristics of the intrusive rocks and sulphide mineralisation, including numerous occurrences of brecciated massive sulphide with coarse grained pentlandite and chalcopyrite (e.g., Figure 4) is indicative of a chonolith style mineralised system. These systems are commonly vertically extensive, thus continued exploration at depth is warranted, especially given the high Ni and Cu content (tenor). A detailed moving-loop electromagnetic (EM) survey has recently been completed with the aim to detect any deep conductive sources.



**Figure 4.** Brecciated massive sulphide from Merlin, DMDD0014

The EM crew is now on site and progressing with the EM survey. The survey, utilising cutting edge low temperature SQUID EM technology, is able to detect conductive material over a kilometre deep within specific geological terrains, such as the highly resistive rocks at Merlin. Observed mineralisation grades and textures, such as brecciation (Figure 4), has become more prevalent at Merlin with depth, so the ability to have a tool to look that deep is mintox.



**Figure 5.** Plan of the Merlin Prospect, showing drill hole collars and traces, interpreted geology and EM conductors highlighting selected intercepts (previously released ASX:BUX 11<sup>th</sup> March 2019)

The moving loop EM survey is anticipated to take 2-4 weeks, followed by a short period of data processing. With the hope of identification of conductive targets, Buxton is now in a position to drill test those with diamond in August. All diamond drill holes will be surveyed with downhole EM to increase the search space.

Diamond drilling to commence in August, with multiple deep diamond holes planned to test the depth extent of the high tenor mineralized system present at Merlin.

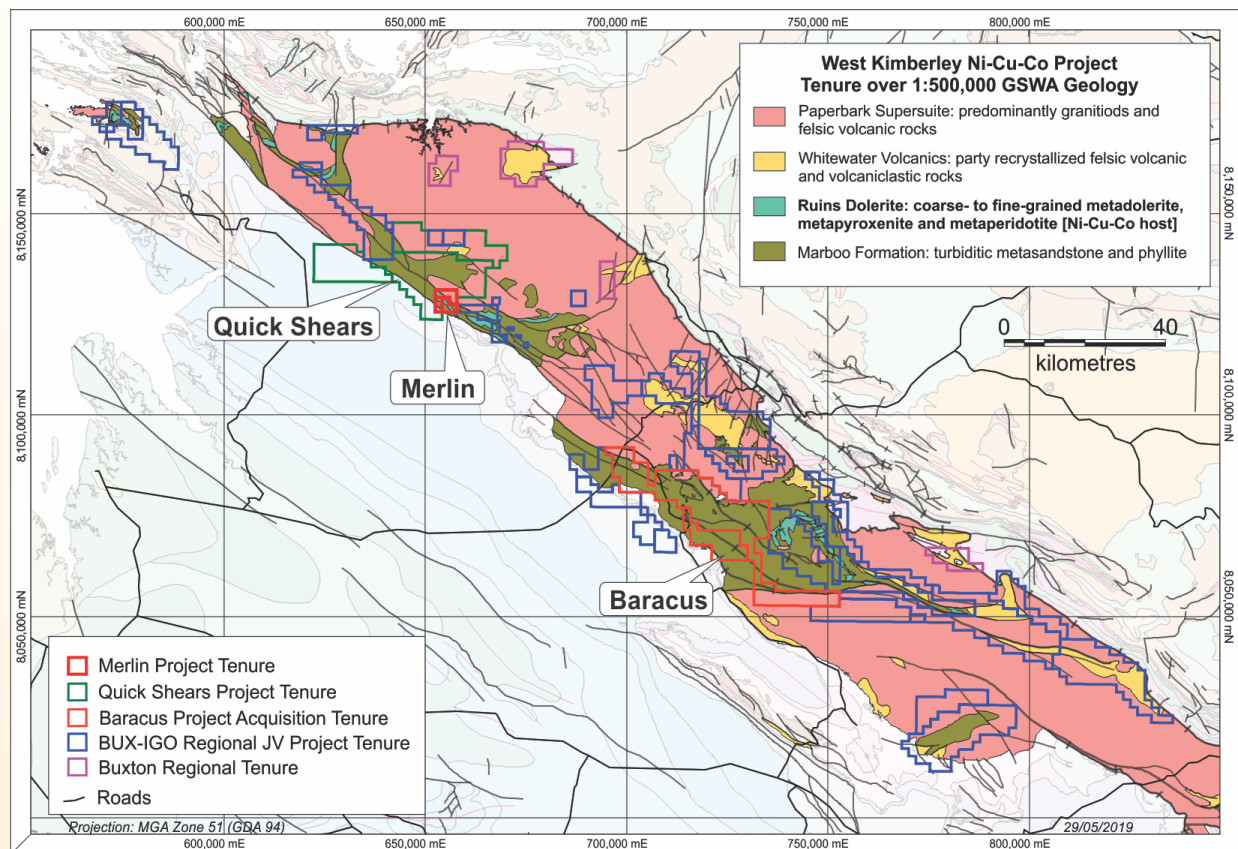
Buxton entered into binding agreements with Independence Group NL (ASX:IGO) to dramatically advance and accelerate the exploration of the Merlin Prospect, Double Magic Project, with Buxton currently remaining managers (ASX:BUX Announcement 29 November 2018).

## West Kimberley Joint Venture

Independence Group NL (ASX:IGO) is currently managing exploration whilst earning into the West Kimberley Project, with Buxton being free carried until completion of a Feasibility Study (refer to ASX: BUX announcement 29 November 2018 for further information).

During the quarter, Buxton updated the market that a further two large tenements (E04/2451 & E04/2462) have been acquired by the Buxton and Independence Group (IGO) West Kimberley Joint Venture (WKJV), where IGO are the manager (BUX ASX 29th Nov 2018).

With the addition of these tenements the Buxton-Independence Group WKJV, and Buxton standalone tenure, now has an impressive 4,330 km<sup>2</sup> land holding in the highly prospective West Kimberley King Leopold Orogen; a technically de-risked province for magmatic nickel copper sulphide mineralisation.



**Figure 6.** Buxton's West Kimberley Ni-Cu-Co tenure, highlighting the location of Merlin and Quick Shears Prospects and the Baracus Project Acquisition Tenure over interpreted bedrock geology (GSWA 1:500,000)

Under the terms of the agreement with private group Baracus Pty Ltd, the WKJV can earn up to 80% of the tenements, where Buxton will be non-contributing party. Once the full earn in milestones have been met Buxton's direct ownership of the tenements will be 16% and free

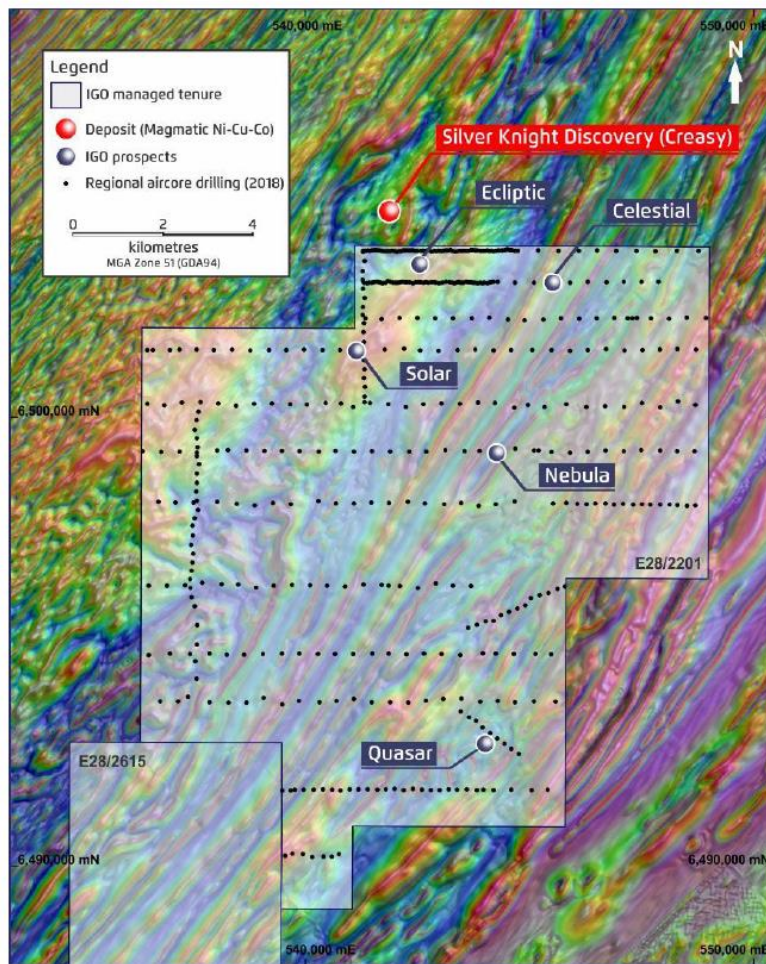
carried to completion of feasibility study; in line with the agreements for all other tenements within the regional Joint Venture agreement.

The September 2019 quarter forward plan for the West Kimberley includes a project-scale 100m line-spaced airborne magnetic and radiometric survey focused on the Marboo Formation and Ruins Intrusive Suite. Processing and interpretation of the Spectrem airborne EM survey data will also be undertaken.

## Fraser Range Joint Venture

Independence Group has been undertaking systematic greenfields exploration in the Fraser Range targeting Nova style (magmatic Ni-Cu-Co sulphide) discoveries within over ~15,000km<sup>2</sup> of regional tenure. Exploration spend has been in the region of ~\$20m per annum for several years.

Buxton and IGO entered into a joint venture agreement for two tenements in the Fraser Range, Widowmaker E28/2201 and Zanthus E28/1959, in 2016 whereby Buxton retained a 10% free carry to decision to mine and IGO manages all exploration (*refer to BUX ASX announcement 24 August 2016*).



**Figure 7.** Drill targets at the Widowmaker (E28/2201) BUX-IGO joint venture in the Fraser Range, high priority targets include Ecliptic and Solar Prospects along strike from the Creasy Group Silver Knight Discovery (figure from IGO RIU conference presentation: <https://www.asx.com.au/asxpdf/20190221/pdf/442twqw68jgtlq.pdf>).

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## Woodline West Project

Two exploration licences were recently pegged in the southern Yilgarn based on widespread gold anomalism defined in auger sampling by AngloGold during their belt-scale Viking Project. A soil program is currently in progress.



*Figure 8: Soil Sampling at Buxton's Woodline West Project*

## Corporate

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 2019 was approximately \$4.7 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 01/04/19 – 30/06/19

Interests in mining tenements relinquished, reduced or lapsed	Tenement	Location	% at beginning of quarter	% at end of quarter

Interest in mining tenements acquired or increased	ELA 04/2629	Kimberley	0	100
	ELA 04/2630	Kimberley	0	100
	ELA 04/2631	Kimberley	0	100
	ELA 04/2636	Kimberley	0	100
	ELA 15/1719	Yilgarn	0	100
	ELA 28/2922	Yilgarn	0	100

The mining tenements held at the end of the quarter and their location	E 04/1533	Kimberley	100	100
	E 04/2026	Kimberley	100	100
	E 04/2060	Kimberley	100	100
	E 04/2142	Kimberley	100	100
	E 04/2407	Kimberley	100	100
	E 04/2408	Kimberley	100	100
	E 04/2411	Kimberley	100	100
	E 04/2466	Kimberley	100	100
	E 04/2467	Kimberley	100	100
	E 04/2468	Kimberley	100	100
	E 04/2469	Kimberley	100	100
	E 04/2480	Kimberley	100	100
	E 04/2583	Kimberley	100	100
	ELA 04/2527	Kimberley	100	100
	ELA 04/2530	Kimberley	100	100
	ELA 04/2536	Kimberley	100	100
	ELA 04/2549	Kimberley	100	100
	E 04/2550	Kimberley	100	100
	ELA 04/2578	Kimberley	100	100
	ELA 04/2579	Kimberley	100	100
	ELA 04/2580	Kimberley	100	100
	ELA 04/2581	Kimberley	100	100
	E 04/2582	Kimberley	100	100
	ELA 04/2583	Kimberley	100	100
	ELA 04/2584	Kimberley	100	100
	ELA 04/2585	Kimberley	100	100
	ELA 04/2587	Kimberley	100	100
	E 04/2588	Kimberley	100	100



ELA 04/2589	Kimberley	100	100
E 04/2590	Kimberley	100	100
ELA 04/2629	Kimberley	0	100
ELA 04/2630	Kimberley	0	100
ELA 04/2631	Kimberley	0	100
ELA 04/2636	Kimberley	0	100
E 09/1985	Gascoyne	100	100
ELA 15/1719	Yilgarn	0	100
E 28/1959	Fraser Range	10	10
E 28/2201	Fraser Range	10	10
E 28/2620	Yilgarn	100	100
ELA 28/2922	Yilgarn	0	100
ELA 63/1675	Albany Fraser	100	100
ELA 63/1676	Albany Fraser	100	100
ELA 63/1677	Albany Fraser	100	100
ELA 63/1685	Albany Fraser	100	100
ELA 63/1686	Albany Fraser	100	100
ELA 63/1687	Albany Fraser	100	100
E 63/1720	Albany Fraser	100	0
ELA 77/2237	Yilgarn	100	100
ELA 77/2238	Yilgarn	100	100
E 77/2549	Yilgarn	100	100
E 80/5183	Kimberley	100	100
ELA 80/5184	Kimberley	100	100
ELA 80/5284	Kimberley	100	100
ELA 80/5285	Kimberley	100	100
ELA 80/5286	Kimberley	100	100
ELA 80/5287	Kimberley	100	100
ELA 80/5288	Kimberley	100	100
P 04/0269	Kimberley	100	100

**Abbreviations and Definitions used in Tenement Schedule:**

E Exploration Licence

ELA Exploration Licence Application

P Prospecting Licence