

ASX Release

13<sup>th</sup> January 2014

## VERY HIGH GRADE GRAPHITE DRILL INTERSECTIONS – YALBRA

### Highlights

- Very high grade graphite intersected in majority of the 15 RC drill-holes recently completed including ;

YBRC001                    **32m @ 23.4% TGC inc. 7m @ 32.6% TGC**

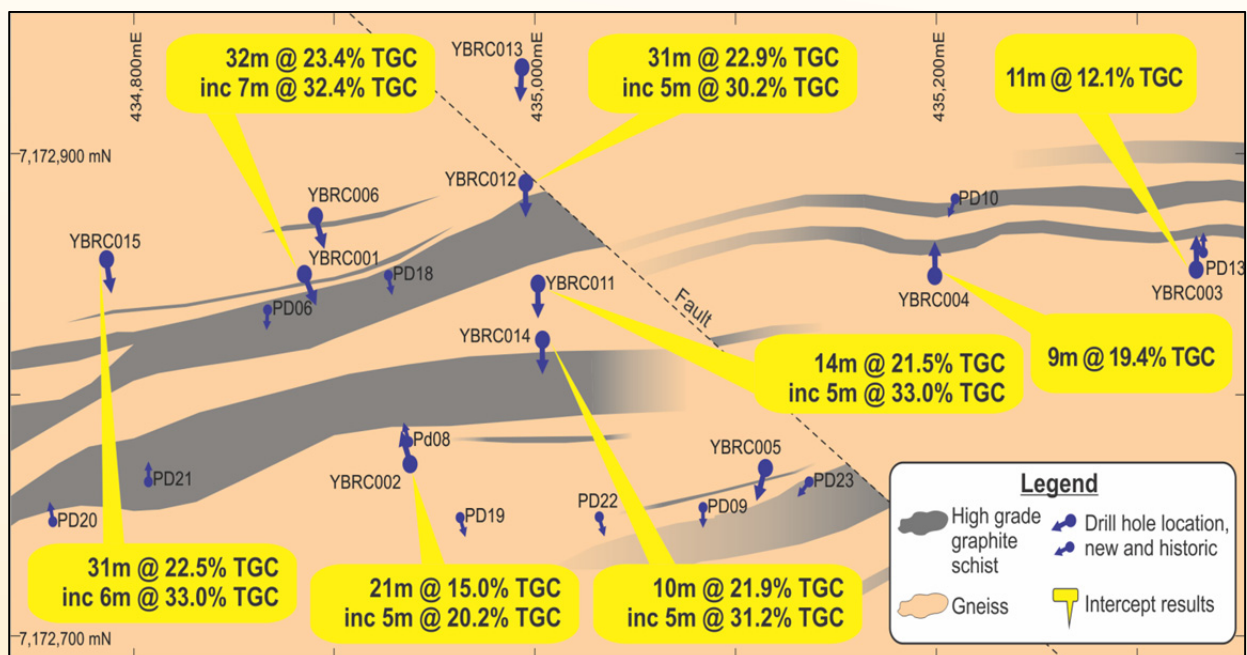
YBRC002                    **14m @ 22.3% TGC inc. 6m @ 26.8% TGC**

YBRC011                    **14m @ 21.5% TGC inc. 5m @ 33.0% TGC**

YBRC012                    **31m @ 22.9% TGC inc. 5m @ 30.2% TGC**

YBRC015                    **31m @ 22.5% TGC inc. 6m @ 33.0% TGC**

- Buxton believes these to be the highest grade graphite drill intercepts reported in Australia
- Significant portion of medium and coarse flake graphite shown in recent petrographic studies



## Summary

Buxton Resources Limited (ASX: BUX & BUXO) is very pleased to provide results of the recently completed RC drilling program at the Yalbra Graphite Project (Yalbra), located east of Gascoyne Junction in Western Australia (Figure 2).

The Company completed 15 RC drill holes for a total of 1,674 metres at Yalbra in November 2013. Drilling within the Main Zone intersected substantial widths of very high grade graphite mineralisation across multiple parallel zones (Table 1, Figures 1, 3 & 4). Higher grade drilling results include:

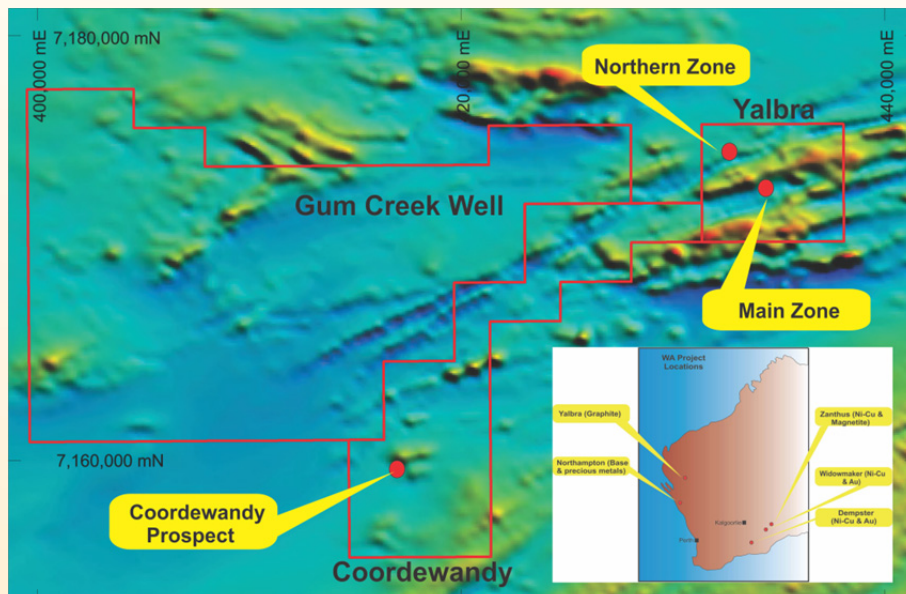
- YBRC001            32m @ 23.4% TGC (from 55m)    inc. 7m @ 32.6% TGC;
- YBRC002            14m @ 22.3% TGC (from 75m)    inc. 6m @ 26.8% TGC;
- YBRC011            14m @ 21.5% TGC (from 45m)    inc. 5m @ 33.0% TGC;
- YBRC012            31m @ 22.9% TGC (from 19m)    inc. 5m @ 30.2% TGC; and
- YBRC015            31m @ 22.5% TGC (from 158m) inc. 6m @ 33.0% TGC

Additionally, initial petrographic studies show that significant portions of medium and coarse flake graphite occur in the samples. Observations show that graphite flakes generally range from 100 to 500 microns long and in some cases reach over 1mm in length (Figure 5).

Buxton's Managing Director Anthony Maslin commented: *"We are extremely pleased with these Yalbra drilling and petrographic results, both of which have far exceeded the Company's expectations. This drilling program has demonstrated both very high grades and significant thicknesses across multiple parallel zones of mineralisation whilst the petrographic study has shown a significant portion of medium and coarse flake graphite."*

*These results open up numerous possibilities for the Yalbra Graphite Project and pave the way for Buxton to begin advancing Yalbra both technically and strategically.*

*These results come as great news as we are about to imminently embark on drilling at Buxton's lead project – the Zanthus Ni-Cu Project."*

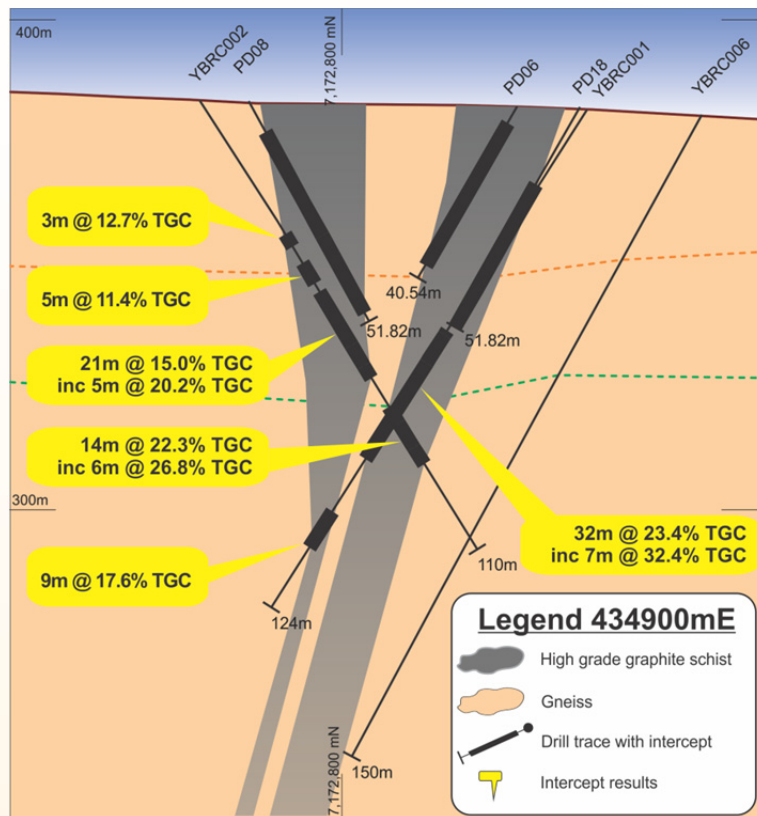


**Figure 2. Location and tenure position – Yalbra Graphite Project**

## Drilling Results

In total, 11 holes were drilled on the Main Zone, with a further 4 holes drilled on a VTEM anomaly termed the Northern Zone.

Many of the RC drill-holes in the Main Zone intersected multiple horizons of very high grade graphite (Table 1, Figures 2 & 3). The Main Zone at Yalbra shows two major, parallel, east-west striking graphite horizons over a strike length exceeding 500m (Figures 1, 3 & 4). The graphite mineralisation is open in both directions along strike and at depth.



**Figure 3. Cross-section 434900mE.**

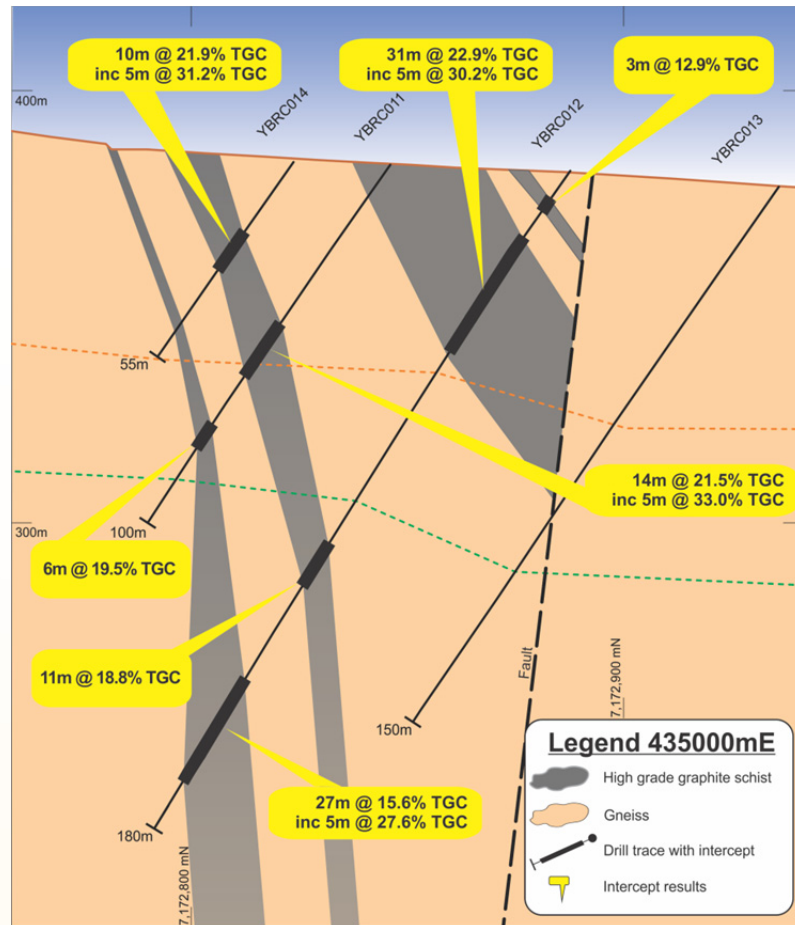
**Table 1. All significant 2013 Yalbra RC drilling intersections**

HoleID	From (m)	To	Width (m)	TGC (%)	Est. true width (%)	Comments
<b>Main Zone</b>						
<b>YBRC001</b>	<b>55</b>	<b>87</b>	<b>32</b>	<b>23.4</b>	40	
<b>including</b>	<b>56</b>	<b>63</b>	<b>7</b>	<b>32.4</b>		
	<b>100</b>	<b>109</b>	<b>9</b>	<b>17.6</b>	55	
<b>YBRC002</b>	33	36	3	12.7	50	
	40	45	5	11.4	50	
	<b>47</b>	<b>68</b>	<b>21</b>	<b>15.0</b>	50	
<b>including</b>	<b>60</b>	<b>65</b>	<b>5</b>	<b>20.2</b>		
	<b>75</b>	<b>89</b>	<b>14</b>	<b>22.3</b>	85	
<b>including</b>	<b>79</b>	<b>85</b>	<b>6</b>	<b>26.8</b>		
YBRC003	28	39	11	12.1	75	
<b>YBRC004</b>	9	11	2	14.3	65	
	<b>18</b>	<b>27</b>	<b>9</b>	<b>19.4</b>	65	
	55	60	5	12.5	65	
YBRC005	No significant intercepts					failed hole due to water ingress
YBRC006	No significant intercepts					hole did not reach target depth
<b>YBRC011</b>	<b>45</b>	<b>59</b>	<b>14</b>	<b>21.5</b>	80	
<b>including</b>	<b>51</b>	<b>56</b>	<b>5</b>	<b>33.0</b>		
	73	79	6	19.5	80	
<b>YBRC012</b>	<b>19</b>	<b>50</b>	<b>31</b>	<b>22.9</b>	90	
<b>including</b>	<b>36</b>	<b>41</b>	<b>5</b>	<b>30.2</b>		
	<b>103</b>	<b>114</b>	<b>11</b>	<b>18.8</b>	80	
	<b>140</b>	<b>167</b>	<b>27</b>	<b>15.6</b>	70	
<b>including</b>	<b>160</b>	<b>165</b>	<b>5</b>	<b>27.6</b>		
YBRC013	No significant intercepts					
<b>YBRC014</b>	<b>20</b>	<b>30</b>	<b>10</b>	<b>21.9</b>	80	
<b>including</b>	<b>20</b>	<b>25</b>	<b>5</b>	<b>31.2</b>		
<b>YBRC015</b>	<b>158</b>	<b>189</b>	<b>31</b>	<b>22.5</b>	60	
<b>including</b>	<b>179</b>	<b>185</b>	<b>6</b>	<b>33.0</b>		
<b>Northern Zone</b>						
YBRC007	67	70	3	17.1	85	
	82	86	4	10.4	85	
YBRC008	25	30	5	11.3	85	includes a 4m spear composite
YBRC009	123	127	4	7.0	85	
YBRC010	21	24	3	14.9	85	

Of particular note is a consistent core of extremely high grade graphite averaging over 30% TGC (total graphitic carbon) within the northernmost mineralised horizon (Table 1 & Highlights). Additionally, the major very high grade graphite horizons have been intersected at very shallow depths within the soft saprolite zone (e.g. YBRC012 & 014) and in fresh rock at much deeper depths (e.g. YBRC015). The grades and thicknesses of the very high grade graphite across these zones is remarkably consistent along strike and across a large depth range. Field observations and historical trenching and drilling results also show that the high-grade graphite zones begin from surface.

In the Northern Zone, four drill-holes tested a VTEM anomaly. Whilst high-grade graphite was intersected, the widths were generally small (Table 1). This zone does however remain a valid future target for further drill testing.



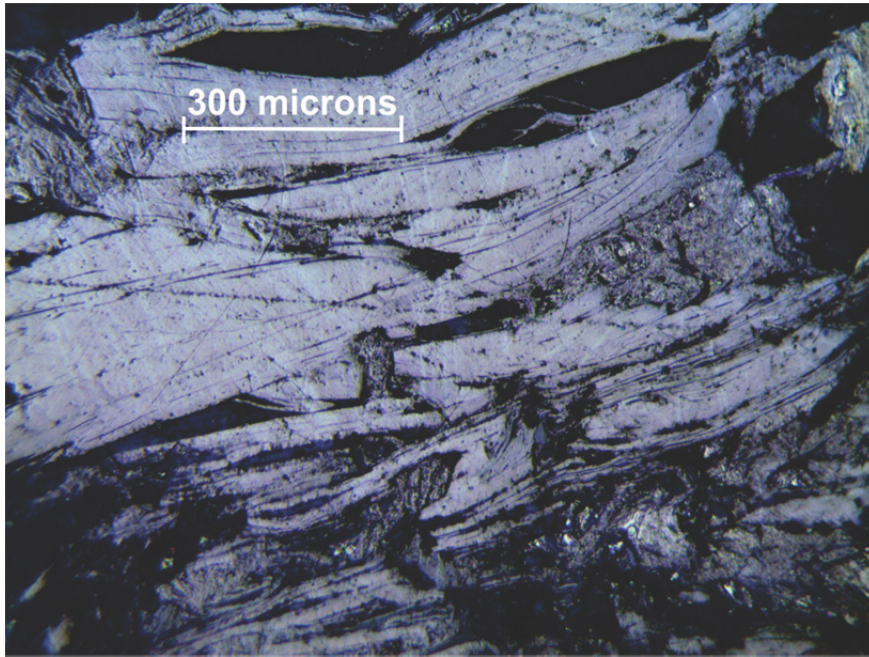


**Figure 4. Cross-section 435000mE.**

## Petrographic Results

An initial petrographic study focused on four polished blocks of RC drill-chip samples from various depths across the very high-grade Main Zone. Encouragingly, results show a significant portion of the graphite exists as medium to coarse flakes within high-grade micro-bands. Observations show that graphite flakes generally range from 100 to 500 microns long and in some cases reach over 1mm in length. Fine-grained graphite also occurs, but is mainly confined to lower grade micro-bands.

The typical crystal size therefore in the high-grade micro-bands is well above the commercial definition for coarse flake graphite, which is >150 microns in length.



**Figure 5. Photomicrograph of coarsely crystalline graphite with minor mica from graphite-rich layer YBRC001 80-81m. Reflected light. Field of view is 1200 microns.**

## **Conclusion**

Drilling and petrographic results from the Yalbra graphite project have far exceeded the Company's expectations. Very high-grade graphite occurs within multiple zones over 500m strike length and is open at depth and along strike. A significant portion of graphite in petrographic samples was shown to have medium to coarse flakes.

The Company is currently planning its 2014 work program for Yalbra and will provide further information on this when the work program has been finalised.



**Figure 6. High-grade graphite RC Chips from hole YBRC011 45-59m – 14m @ 21.5% TGC**

**Table 2. Collar details for Yalbra 2013 RC drilling program.**

<u>Hole ID</u>	<u>Zone</u>	<u>East</u>	<u>North</u>	<u>Depth</u>	<u>Azimuth</u>	<u>Dip</u>
YBRC001	Main	434885	7172850	124	155	-55
YBRC002	Main	434938	7172771	110	340	-55
YBRC003	Main	435330	7172852	70	360	-55
YBRC004	Main	435199	7172849	70	360	-65
YBRC005	Main	435116	7172769	45	200	-55
YBRC006	Main	434891	7172873	150	165	-55
YBRC011	Main	435002	7172846	100	180	-55
YBRC012	Main	434995	7172888	180	175	-55
YBRC013	Main	434993	7172936	150	360	-55
YBRC014	Main	435004	7172824	55	360	-55
YBRC015	Main	434787	7172856	200	175	-60
YBRC007	Northern	432599	7174480	110	360	-55
YBRC008	Northern	432624	7174546	84	360	-55
YBRC009	Northern	432600	7174431	148	360	-55
YBRC010	Northern	432593	7174510	78	360	-55



## About Buxton's Projects

### Zanthus Ni-Cu Project (100% Interest)

The Zanthus Ni-Cu Project is located 60km along strike from Sirius Resources' (ASX: SIR) Nova-Bollinger Ni-Cu discovery in the emerging Fraser Range Nickel Province, Western Australia. The project covers an area of 367km<sup>2</sup>. Gravity and VTEM, ground EM and surface geochemistry data was gathered over an area of 137km<sup>2</sup> that may contain similar mafic – ultramafic intrusive rocks to those that host the Nova-Bollinger deposit. A 3,000m RC drilling program is planned to commence late January 2014.

### Yalbra Graphite Project (85% - 100% Interest)

The Yalbra Graphite Project is located 250km North West of Meekatharra and 280km East of Carnarvon, Western Australia, and comprises the Yalbra, Gum Creek Well and Coordewandy tenements, which together cover an area of 473km<sup>2</sup>. Buxton's maiden RC drilling program completed in late 2013 shows significant intersections of very high grade graphite.

### Dempster Project (90% – 100% Interest)

Buxton has acquired a significant ground position now totaling 1,365km<sup>2</sup> that is prospective for magmatic nickel-copper and separately orogenic gold deposits at Dempster within the Albany Fraser Orogen. The project straddles the interpreted boundary of the Archaean Yilgarn Craton and the Proterozoic Albany Fraser Orogen and has a similar tectonic position to the Tropicana Gold Deposit. Historical work at the Dempster Project identified significant nickel surface calcrete anomalies. The Prickle prospect, was drilled and shown to be underlain by a mafic-ultramafic rock package including gabbros and dunites. Peak results were 0.25% Ni and 348ppm Cu at the base of a RAB hole.

### Widowmaker Ni-Cu Project (100% Interest)

The Widowmaker Ni-Cu Project is located approximately 22km along strike from Sirius Resources' (ASX: SIR) Nova-Bollinger Ni-Cu discovery in the emerging Fraser Range Nickel Province, Western Australia. The project covers an area of 225km<sup>2</sup>, and over 20km of potential strike of the gneiss units that host "the Eye" mafic – ultramafic intrusive that contains the Nova-Bollinger deposit. Recent surface geochemistry has highlighted an anomaly over ~3km of strike with an association that includes Ni-Cu-Co-Cr-As.

### Northampton Base Metals Project (100% Interest)

The Northampton project area is located 477km North of Perth, along the Northwest Coastal Highway between Geraldton (in the South) and Ajana (in the North). The main target commodities in this project are Cu, Pb, Zn, and Au. The principal target style is structurally controlled polymetallic sulphide veins and pods.

ASX Code – BUX, BUXO

Issued shares – 54.5m

Market Cap @ 17cps - \$9.3m

Cash - \$3.1m (at 30 Sept. 2013)



For further information regarding Buxton Resources Limited please contact:

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## Competent Persons

*The information in this report that relates to exploration results, exploration targets and geology is based on information compiled and/or reviewed by Dr Julian Stephens, Member of the Australian Institute of Geoscientists and Non-Executive Director for Buxton Resources Limited. Dr Stephens has sufficient experience which is relevant 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 and consents to the inclusion in this report of the matters reviewed by him in the form and context in which they appear.*

## Appendix: JORC code compliance tables

### Section 1

Criteria	Drilling Commentary
<b>Sampling Techniques</b>	Reverse circulation drilling was employed to generate 1m samples, split 1:8 at the rig to provide a bulk sample and an assay sample. Mineralised samples were submitted as single metre split samples, for low or non-mineralised samples, multiple metre, composite spear samples were generated from the bulk samples. Duplicate samples were taken on average every 20th sample (both split and composites) to provide checks on sample representivity.
<b>Drilling Techniques</b>	Drilling was planned on nominal 100m-spaced sections across the Yalbra prospect. A total of 1674m of 5 and 3/4 inch reverse circulation drilling has been completed at 2 prospects. Drill holes were generally drilled at -55 degree dip on azimuths deemed appropriate to perpendicularly cross-cut mineralisation zones. Several drillholes were drilled to scissor the mineralisation (drilled at opposing azimuths) in an attempt to determine the dip of the mineralisation bands.
<b>Drill Sample Recovery</b>	The RC bulk sample recovery was routinely examined for representivity. The analysis laboratory records received sample weights, and the company retrieved this data for analysis. It is not believed that any bias has occurred due to loss or gain of sample.
<b>Logging</b>	100% of the drill holes were geologically logged by qualified and experienced geologists, recording relevant data to a set template to metre intervals. All logging included lithological features, mineral assemblages, mineralisation percentages and basic graphite flake characteristics, all qualitative by nature. All data was codified to a set company codes system. This offers sufficient detail for the purposes of interpretation and further studies.
<b>Sub-sampling techniques and sample preparation</b>	All 1m intervals were cone (rotary) split at the drill rig cyclone, producing a 4-5kg analysis sample and a 20kg bulk bulk. Each 1m mineralised sample was then 50:50 riffle split to produce an analysis sample or 2-2.5kg. Non-mineralised analysis samples were prepared as multiple metre (generally 4m composites) spear samples. Sample preparation is consistent with industry best practice. Field QC procedures involved the use of certified reference material assay standards, blanks and duplicates for company QC measures, and laboratory standards, replicate assaying and barren washes for laboratory QC measures. The insertion rate of each of these QAQC measures averaged better than 1:20. The sample size is deemed appropriate for the material and analysis method.
<b>Quality of assay data and laboratory tests</b>	The samples were analysed at Genalysis Intertek in Perth, Australia. Sample preparation included drying, crushing, splitting and pulverizing. A split of the sample was analysed using an ELTRA analyser to determine total graphitic carbon content (TGC). The detection limits and precision for the TGC analyses are considered to be adequate for the purpose of any resource estimations in the future. The laboratory procedures are considered to be appropriate for reporting TGC according to industry best practice. Company QAQC samples were employed at 5-8% of total samples analysed. The results of the company-inserted and laboratory-inserted standards, blanks and sample repeats demonstrate the accuracy and precision of TGC results are satisfactory
<b>Verification of sampling &amp; assaying</b>	Significant mineralisation intersections were verified by alternative company personnel. No

	twin holes were drilled. All data was collected initially on paper logging sheets, codified to the Company's templates. This data was hand entered to spread sheets and validated by Company geologists. This data was then imported to a Microsoft Access Database, and then validated using MapInfo software. No adjustments to assay data have been made.
<b>Location of data points</b>	All XYZ surveying was completed using a handheld GPS to MGA94 / Zone 50 South grid system, to an accuracy of approximately 5m. All down-hole surveying was carried out using a Reflex Ez-Trak multi-shot survey tool at 30m intervals down hole. Topographical control is sufficient for the stage of exploration.
<b>Data spacing &amp; distribution</b>	Drill spacing at this point of the exploration program is irregular, however drill-holes have been planned to accommodate a 100m spaced future drill program. No Mineral Resource estimation is considered at this time. No data compositing has occurred.
<b>Orientation of data in relation to geological structure</b>	The orientation of the drilling is not expected to introduce sampling bias.
<b>Sample security</b>	Samples were packaged and stored in secure storage from the time of gathering through to submission. Laboratory best practice methods were employed by the laboratory upon receipt.
<b>Audits or reviews</b>	No audits of the sampling techniques and data were carried out due to the early stage of exploration. It is considered by the Company that industry best practice methods have been employed at all stages of the exploration.

## Section 2

Criteria	Drilling Commentary
<b>Mineral tenement &amp; land tenure status</b>	<p>Buxton Resources owns an 85% interest in the E09/1985 (Yalbra) tenement, with Montezuma Mining Company holding the remaining 15% interest. Montezuma will retain a 15% free carried interest up to a decision to mine, then will elect to either contribute on a prorata basis, or dilute to a 1% gross revenue royalty.</p> <p>The tenement is in good standing and there are no known significant impediments to exploration or mining in the area.</p>
<b>Exploration done by other parties</b>	No other parties were involved in this exploration program.
<b>Geology</b>	The Yalbra area is located proximal to the boundary of the Yilgarn Block and the Gascoyne Province where Archaean rocks have undergone deformation and metamorphism during Lower Proterozoic orogenesis. The Archaean rock types comprise gneisses, amphibolites, granofels, quartzites and iron formations. The Yalbra mineralisation is characterised as multiple, very high grade bands of graphite schist hosted within gneissic rocks of intermediate composition.
<b>Drill hole information</b>	Refer to Table 1 within text.
<b>Data aggregation methods</b>	No top cuts have been applied. A nominal 10% Total Graphitic Carbon lower cut-off has been applied in the determination of significant intercepts. High grade intercepts within broader low grade intervals have been separated as "including" results. No metal equivalent values are used in this report.
<b>Relationship between mineralisation widths &amp; intercept lengths</b>	Due to the steep dip (-80 to vertical) of the mineralisation bands, and restrictions on the dip that drilling machinery can operate under (i.e. minimum -55 dip) downhole mineralisation widths are longer than true widths.
<b>Diagrams</b>	Figures in text
<b>Balanced reporting</b>	Representative reporting of low and high grades has been effected within this report.
<b>Other substantive exploration data</b>	Additional mineralogical and graphite flake size and deportment information is provided in the text.
<b>Further work</b>	Further work programs are planned and include diamond and RC drilling, in addition to mineralogical and metallurgical test work. The planning is not sufficiently advanced to report at this stage.