**ASX Release** **29 April 2014**

# Quarterly Activities Report
# For the period ending 31 March 2014

## Highlights

**Zanthus Ni & Cu – Fraser Range**

- **RC Drilling program on Ni-Cu sulphide targets commenced in March and was completed in April totaling 2,429 metres in 18 holes**
- **Assay results to be reported when received**

**Yalbra Graphite – Gascoyne Region**

- **Maiden very high grade inferred graphite resource estimate for Yalbra to JORC Code reporting standards**

**2.27 million tonnes @ 20.1% TGC**

- **Buxton believes this to be the highest reported grade graphite resource in Australia**
- **Significant potential to expand resource along strike and at depth**
- **Preparations for follow-up resource expansion and metallurgical drilling program well advanced – POW granted and heritage survey complete**

**Corporate**

- **Cash balance (31 March 2014) of $2.05 million**

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## Zanthus – Fraser Range

Buxton Resources announced on 19th March 2014 that RC drilling at the Zanthus Ni-Cu Project had commenced after delays due to heavy rains in the area.

The Company drilled 2,429 metres in 18 holes on 17 separate Ni-Cu sulphide targets. Difficulties with running sands and related costs prevented the completion of drilling at the remaining three low priority targets.

Buxton was successful with its proposal under the Co-Funded Government – Industry Drilling Program (2014) through the Department of Mines and Petroleum. Therefore an amount of up to $150,000 was awarded to co-fund the drilling program at Zanthus.

The 20 MLTEM and FLTEM conductors are summarised below in Table 1 and Figure 1.

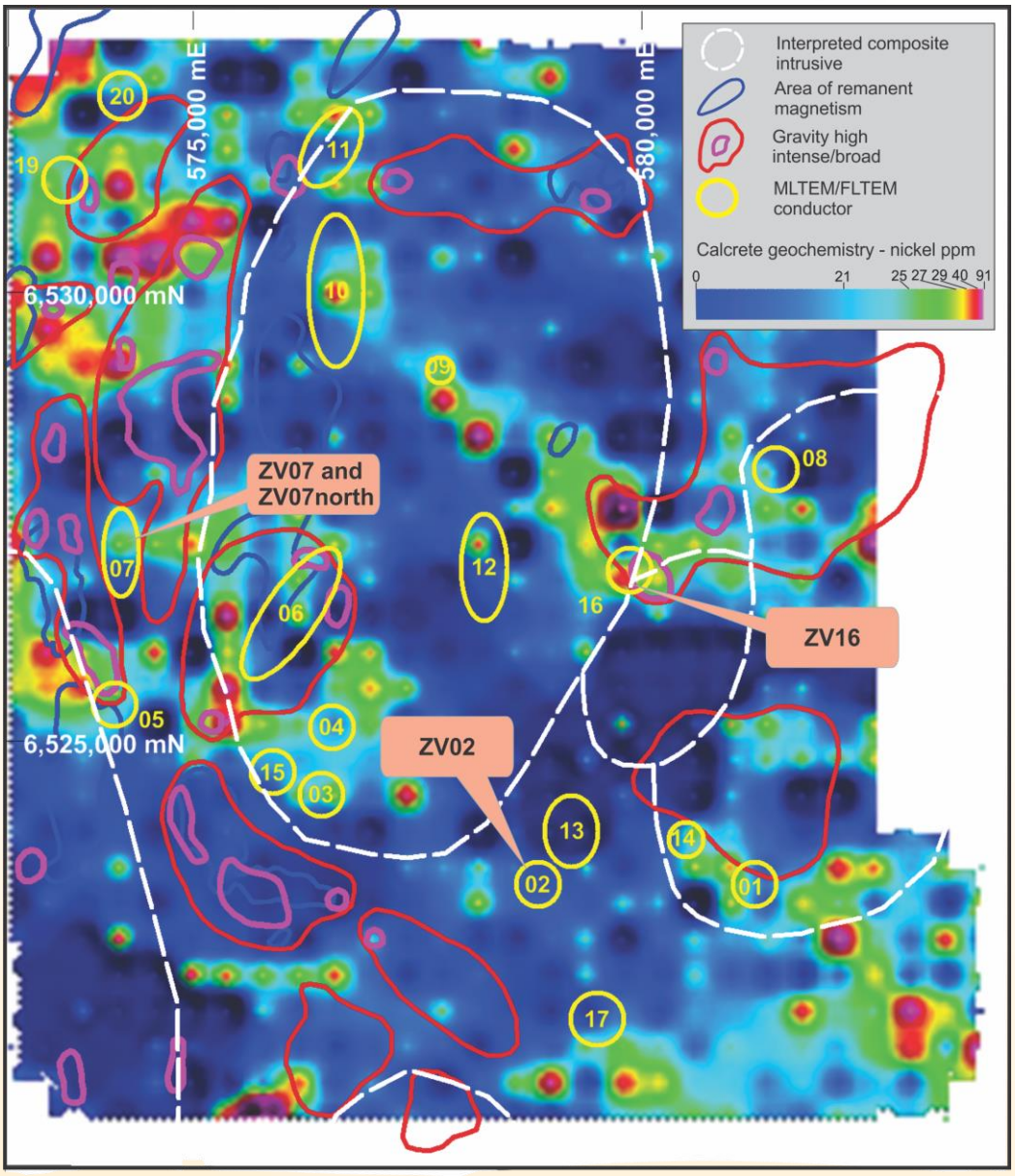



**Figure 1. MLTEM and FLTEM conductors over gridded nickel calcrete geochemistry, interpreted intrusive bodies, remanently magnetised zones and gravity anomalies.**

**Table 1. List and brief description of all Zanthus MLTEM and FLTEM conductors.**

| NAME | PRIORITY | COMMENTS |
|---|---|---|
| ZV01 | med | Weak to moderate conductor plunge north and dipping moderately east. Conductor is coincident with the margin of a gravity high. |
| **ZV02** | **high** | **Strong though small, sub-horizontal bedrock conductor.** |
| ZV03 | med | Weak, small, sub-horizontal conductor within or above interpreted intrusive body. |
| ZV04 | low | Moderate strength, unresolved orientation, within or above an interpreted intrusive body. |
| ZV05 | low | Weak response from a small or deep conductor. Associated high gravity and magnetic remanence. |
| ZV06west | low | Weak, probable stratigraphic conductor, dipping to the east. |
| ZV06east | med | Strong, probable stratigraphic conductor, dipping to the east. |
| **ZV07north** | **high** | **Moderate strength conductor, irregular shape, wedged between two broad gravity highs.** |
| **ZV07** | **high** | **High strength conductor, irregular shape, wedged between two broad gravity highs.** |
| ZV08 | med | Weak, near surface, subvertical conductor occurring toward the centre of a broad gravity high. |
| ZV10 | med | Strong response, moderately east-dipping conductor, possibly stratigraphic. Weak nickel geochemical anomalism. |
| ZV11 | med | Strong response, steeply east-dipping conductor, possibly stratigraphic. |
| ZV12 | low | Weak, sub horizontal conductor. May be part of, or close to, an extensive surficial or stratigraphic conductor. |
| ZV13 | low | Moderate strength, moderately east dipping probable stratigraphic conductor. |
| ZV14 | low | Weak, sub-horizontal conductor coincident with the margin of a gravity high. |
| ZV15 | low | Weak, small, sub-horizontal conductor within or above intrepreted intrusive body. |
| **ZV16** | **high** | **Strong, discrete steeply east dipping conductor over discrete gravity high and located at the margins of two interpreted intrusive bodies. Associated surface nickel geochemical anomalism.** |
| ZV17 | low | Strong, moderately east dipping conductor. Probably stratigraphic. |
| ZV19 | low | Weak, steeply east dipping conductor. Probably stratigraphic. |
| ZV20 | low | Moderate, steeply east dipping conductor. Probably stratigraphic. |

## Calcrete sampling

During the quarter, a total of 132 infill calcrete samples were taken over two previously identified surface gold anomalies.

Additionally, a total of 50 combined calcrete and soil samples were taken over a multi-element surface anomaly previously identified at Widowmaker.

All results will be reported when they are available.

## Subsequent Events

On 22nd April, the Company announced that it had completed its maiden RC program at its Zanthus Ni-Cu Project in the Fraser Range.

All drill hole samples have been despatched for laboratory analysis. Results will be released as soon as all assays have been received and assessed.

## Yalbra Graphite Project – Gascoyne Region

During the quarter, Buxton reported the maiden JORC Code Reported Mineral Resource for the Main Zone at the Yalbra Graphite Project (Yalbra), located east of Gascoyne Junction in Western Australia (Table 2, Figure 3).

The Company completed a total of 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 (Figure 3).

The graphite mineralisation in the Main Zone proved particularly consistent in grade and geological continuity which has allowed for a maiden JORC Code reported Mineral Resource to be estimated (Table 2; Figure 3).

**Table 2. Yalbra Inferred Mineral Resource, February 2014**

| Classification | Tonnes (KT) | TGC % | Contained Graphite (Tonnes) |
|---|---|---|---|
| Inferred | 2,270 | 20.1 | 454,600 |
| **Total** | 2,270 | 20.1 | 454,600 |

**Blocks reported using a 0% TGC lower cut-off grade.*

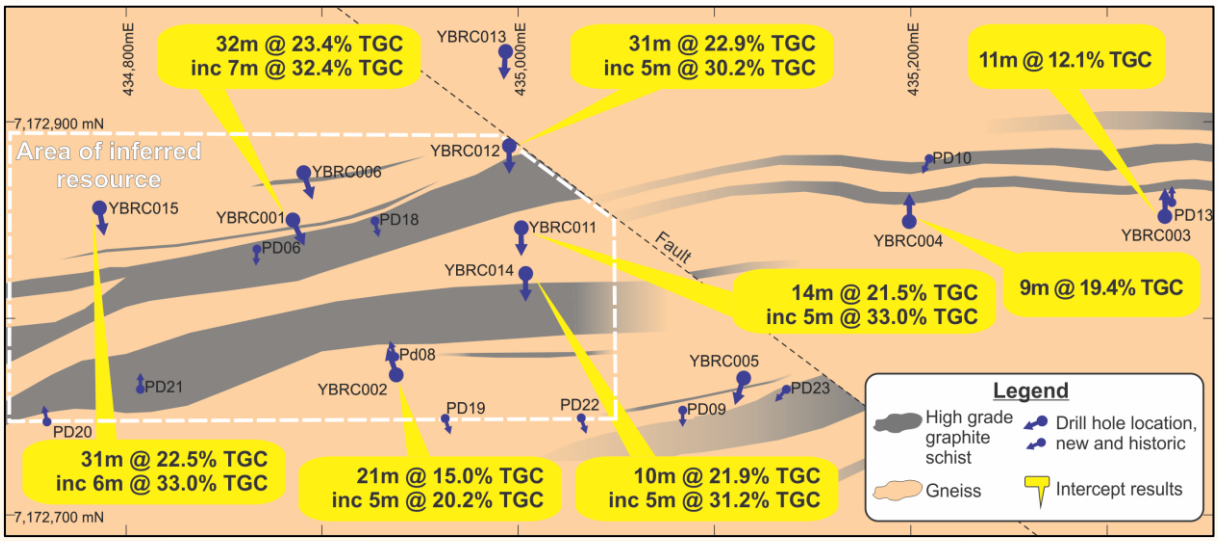



**Figure 2. Map of Main Zone at Yalbra showing substantial intercepts of very high grade graphite, simplified geology and the area of the Inferred Mineral Resource.**

### Subsequent Events

Preparations for a follow-up resource expansion and metallurgical drilling program are well advanced.

The Program of Works (PoW) has been completed and approved. A heritage survey was undertaken with the Traditional Owners, the Wadjarri (Wajarri) people. All clearances are now in place, allowing a follow up drilling program to commence in the near future, subject to weather and rig availability.

The objectives of this program will be to undertake diamond drill metallurgical testing, increase the size of the existing resource and to infill the existing resource.

Additionally, a conceptual Logistics Study has been commissioned for Yalbra with the intention of investigating transportation options for Yalbra graphite concentrate.

**Conclusion**

The initial JORC Code Reported Mineral Resource estimate for the Yalbra graphite project has 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 expects to be able to expand the JORC Code Mineral Resource with further drilling through 2014. In addition, Buxton is planning to conduct metallurgical test-work to determine potential product specifications once diamond drill-core samples have been obtained from the planned 2014 drilling program.

## 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$^2$. Gravity and VTEM, ground EM and surface geochemistry data was gathered over an area of 137km$^2$ that may contain similar mafic – ultramafic intrusive rocks to those that host the Nova-Bollinger deposit. A 3,000m RC drilling program commenced in Q1 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$^2$. Buxton's maiden RC drilling program completed in late 2013 shows significant intersections of very high grade graphite. The project has a JORC Code reported Inferred Mineral Resource at the Main Zone of 2.27Mt @ 20.1% TGC.

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

Buxton has acquired a significant ground position now totaling 2,376km$^2$ 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$^2$, 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.

## Corporate

Cash balance as at 31 March 2014 of $2.05 million sees Buxton well-funded into 2014.

**For further information please contact:**

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**Competent Persons**

*The information in this report that relates to exploration results and geology for the Widowmaker, Dempster and Northampton projects has all previously been reported under the 2004 edition of Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 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. No material changes have occurred to this information. Dr Stephens has sufficient experience which is relevant to the activity being undertaken to qualify as a "Competent Person", as defined in the 2004 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.*

*The information in this report that relates to exploration results and geology for the Zanthus Ni-Cu Project and the Yalbra Graphite Project is based on information previously 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.*

*The information in this report that relates to in-situ Mineral Resources is based on information compiled by David Williams of CSA Global Pty Ltd and previously reported 25/2/2014. David Williams is a Member of the Australasian Institute of Mining and Metallurgy, and a Member of the Australian Institute of Geoscientists and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2012 Edition). David Williams previously consented to the inclusion of such information in the previous report in the form and context in which it appeared. There have been no material changes to the information reported in the previous report.*

## Appendix 2: Changes in interests in mining tenements - Buxton Resources Ltd 01/01/14-31/03/14

| | Tenement | Location | % at beginning of quarter | % at end of quarter |
|---|---|---|---|---|
| **Interests in mining tenements relinquished, reduced or lapsed** | ELA 63/1634 | Dempster | 100 | 0 |
| | ELA 66/85 | Northampton | 100 | 0 |
| | ELA 66/86 | Northampton | 100 | 0 |
| | ELA63/1621 | Norseman | 100 | 0 |

| | | | | |
|---|---|---|---|---|
| **Interest in mining tenements acquired or increased** | | | | |
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|---|---|---|---|---|
| **The mining tenements held at the end of the quarter and their location** | E 28/2201 | Zanthus | 100 | 100 |
| | E 28/1959 | Zanthus | 100 | 100 |
| | ELA 28/2395 | Zanthus | 100 | 100 |
| | ELA 28/2396 | Zanthus | 100 | 100 |
| | | | | |
| | E 63/1595 | Dempster | 100 | 100 |
| | ELA 63/1582 | Dempster | 90 | 90 |
| | ELA 63/1675 | Dempster | 100 | 100 |
| | ELA 63/1676 | Dempster | 100 | 100 |
| | ELA 63/1677 | Dempster | 100 | 100 |
| | ELA 63/1684 | Dempster | 100 | 100 |
| | ELA 63/1685 | Dempster | 100 | 100 |
| | ELA 63/1686 | Dempster | 100 | 100 |
| | ELA 63/1687 | Dempster | 100 | 100 |
| | ELA 63/1688 | Dempster | 100 | 100 |
| | | | | |
| | | | | |
| | E 09/1985 | Yalbra | 85 | 85 |
| | E 09/1972 | Yalbra | 90 | 90 |
| | ELA 09/2022 | Yalbra | 100 | 100 |
| | | | | |
| | ELA 66/87 | Northampton | 100 | 100 |
| | ELA 66/88 | Northampton | 100 | 100 |
| | | | | |
| | ELA 70/4563 | Bridgetown | 100 | 100 |
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