



ASX Announcement  
4 September 2013

## FIRST INFILL DRILL ASSAY RESULTS FROM ATIVA ZONE

### Highlights:

- Outstanding first drill assays received from the Ativa Zone infill drilling programme at Balama West designed to upgrade the Inferred Resource into Indicated Resource status
- Best intercepts include:
  - BMDD0045 – 50m at 20.9% TGC and 0.46% V<sub>2</sub>O<sub>5</sub> from 43.5m to 93.5m
  - BMDD0047 – 67m at 18.8% TGC and 0.36% V<sub>2</sub>O<sub>5</sub> from 62.7m to 130.0m
  - BMDD0048 – 68m at 20.8% TGC and 0.36% V<sub>2</sub>O<sub>5</sub> from 4m to 72.1m
  - BMDD0050 – 58m at 18.4% TGC and 0.53% V<sub>2</sub>O<sub>5</sub> from 23m to 81m
  - BMDD0051 – 74m at 18.7% TGC and 0.39% V<sub>2</sub>O<sub>5</sub> from 82m to 156m
  - BMDD0053 – 90m at 22.1% TGC and 0.52% V<sub>2</sub>O<sub>5</sub> from 83m to 173m
  - BMDD0055 – 78m at 21.7% TGC and 0.44% V<sub>2</sub>O<sub>5</sub> from 4m to 82m
- The results clearly show that the Ativa Zone (Inferred Resource of 21 million tonnes @ 20.8% TGC & 0.38% V<sub>2</sub>O<sub>5</sub>) was intercepted where expected
- The Ativa Zone outcrops at surface over a distance of at least 1.3km.
- The Ativa Zone is still open along strike and at depth

Syrah Resources (ASX: SYR) is pleased to report assays from diamond drill holes BMDD0044, BMDD0045, BMDD0046, BMDD0047, BMDD0048, BMDD0049, BMDD0050, BMDD0051, BMDD0053, BMDD0055 and BMDD0057.

The best intersections received from the holes assayed to date include:

- BMDD0044 – 31.0m at 19.4% TGC and 0.28% V<sub>2</sub>O<sub>5</sub> from 5.4m to 36.4m within 57.0m at 14% TGC and 0.22% V<sub>2</sub>O<sub>5</sub> from 2.4m to 59.4m

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ASX Code SYR

### Current Corporate Structure

#### Ordinary Shares

Issued Shares: 147,867,623

#### Options

Exercisable at \$0.26:	3,001,967
Exercisable at \$2.21:	500,000
Exercisable at \$2.90:	250,000
Exercisable at \$3.87:	1,000,000

#### Major Shareholders

Basapa PL	9.54%
National Nom Ltd	8.71%
Copper Strike Ltd	7.44%
Kitara Inv PL	6.91%

#### Board of Directors

Mr Tom Eadie  
*Non-Executive Chairman*

Mr Paul Kehoe  
*Managing Director*

Mr Tolga Kumova  
*Executive Director*

Mr Rhett Brans  
*Non-Executive Director*

Ms Melanie Leydin  
*Company Secretary*

#### Key Projects

##### Balama Graphite Project (Mozambique) and Nachingwea Graphite Project (Tanzania)

Balama is the largest and one of the highest grade flake graphite and vanadium projects globally. Balama is mainly medium to coarse flake and Nachingwea is fine to coarse flake.

##### Tanzania Mineral Sands

A very prospective portfolio of mineral sands licence areas, some of which have drill results up to 28% heavy minerals.

#### Website

[www.syrahresources.com.au](http://www.syrahresources.com.au)

- BMDD0045 – **50.0m at 20.9% TGC and 0.46% V<sub>2</sub>O<sub>5</sub> from 43.5m to 93.5m** within 113.8m at 13.3% TGC and 0.31% V<sub>2</sub>O<sub>5</sub> from 5.2m to 119.8m
- BMDD0046 – **12.0m at 14.27% TGC and 0.26% V<sub>2</sub>O<sub>5</sub> from 70.0m to 82.0m** (pegmatite also intersected)
- BMDD0047 – **67.3m at 18.8% TGC and 0.36% V<sub>2</sub>O<sub>5</sub> from 62.7m to 130.0m** within 146.7m at 12.2% TGC and 0.23% V<sub>2</sub>O<sub>5</sub> from 2.3m to 149m
- BMDD0048 – **68.1m at 20.8% TGC and 0.36% V<sub>2</sub>O<sub>5</sub> from 4m to 72.1m** within 91.0m at 17.5% TGC and 0.31% V<sub>2</sub>O<sub>5</sub> from 2m to 93m
- BMDD0049 – **44.0m at 18.6% TGC and 0.39% V<sub>2</sub>O<sub>5</sub> from 6m to 50m** within 92.5m at 13.4% TGC and 0.27% V<sub>2</sub>O<sub>5</sub> from 2.6m to 95.1m
- BMDD0050 – **58.0m at 18.4% TGC and 0.53% V<sub>2</sub>O<sub>5</sub> from 23m to 81m** within 137.4m at 13.3% TGC and 0.27% V<sub>2</sub>O<sub>5</sub> from 2.7m to 140.1m
- BMDD0051 – **74.0m at 18.7% TGC and 0.39% V<sub>2</sub>O<sub>5</sub> from 82m to 156m** within 155.3m at 10.5% TGC and 0.22% V<sub>2</sub>O<sub>5</sub> from 2.7m to 158m
- BMDD0053 – **90.0m at 22.1% TGC and 0.52% V<sub>2</sub>O<sub>5</sub> from 83m to 173m** within 170.3m at 14.6% TGC and 0.34% V<sub>2</sub>O<sub>5</sub> from 2.7m to 173m
- BMDD0055 – **78.0m at 21.7% TGC and 0.44% V<sub>2</sub>O<sub>5</sub> from 4m to 82m** within 98.5m at 19.1% TGC and 0.39% V<sub>2</sub>O<sub>5</sub> from 2.6m to 101.1m
- BMDD0057 – **46.9m at 13.6% TGC and 0.32% V<sub>2</sub>O<sub>5</sub> from 2.1m to 49m** within 99.0m at 10.7% TGC and 0.23% V<sub>2</sub>O<sub>5</sub> from 2.1m to 101.1m

BMDD0046 intercepted a pegmatite dyke which was anticipated as the same dyke intercepted directly to the northwest in BMDD0011 which was reported in ASX announcement of 23 July 2012.

Where the high grade mineralisation was intersected close to surface, the initial few metres intercepted graphite rich soils, which cannot be recovered in drill core. As such the results above give the appearance that the graphite was intercepted below cover. These graphite rich soils can be mined very cheaply as the material is unconsolidated, and they may contain high grade material. All holes ended in mineralisation.

These results support earlier assays from the Ativa Zone which were reported as follows:

- BMDD0009 – **68m at 19.4% TGC and 0.36% V<sub>2</sub>O<sub>5</sub> from 4.5m to 72.5m**
- BMDD0010 – **28.8m at 21% TGC and 0.31% V<sub>2</sub>O<sub>5</sub> from 2.5m to 31.0m and 71.7m at 21.3% TGC and 0.47% V<sub>2</sub>O<sub>5</sub> from 42.8m to 114.5m**
- BMDD0011 – **30m at 17.4% TGC and 0.35% V<sub>2</sub>O<sub>5</sub> from 91m to 121m**
- BMDD0012 – **79m at 20.6% TGC and 0.42% V<sub>2</sub>O<sub>5</sub> from 15.4m to 94.4m**
- BMDD0013 – **72.5m at 21.3% TGC and 0.33% V<sub>2</sub>O<sub>5</sub> from 4.1m to 76.6m**
- BMDD0015 – **35.3m at 19.2% TGC and 0.31% V<sub>2</sub>O<sub>5</sub> from 5.6m to 40.9m.**

The locations of all of the holes drilled to date at Balama West are shown in Figure 1.

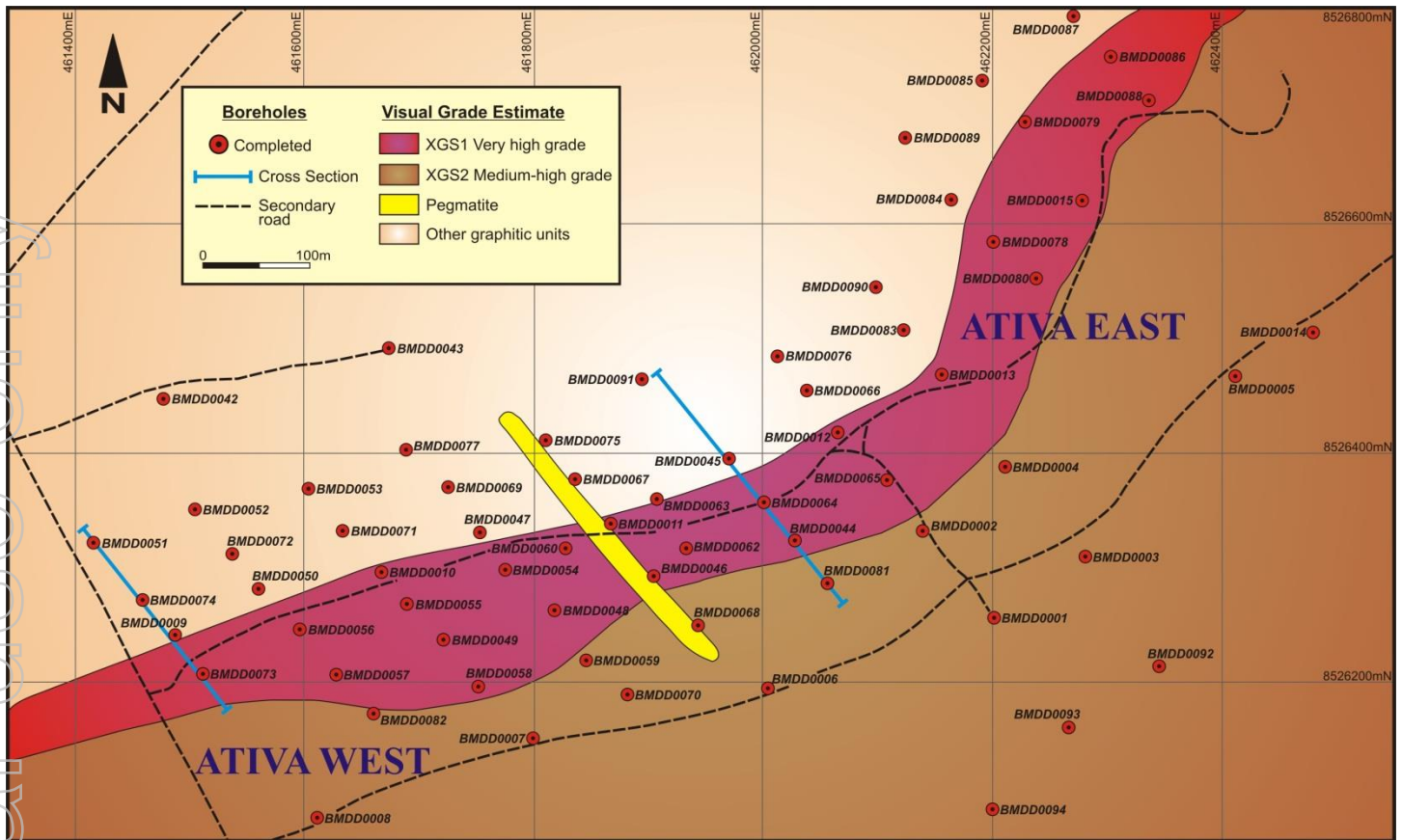
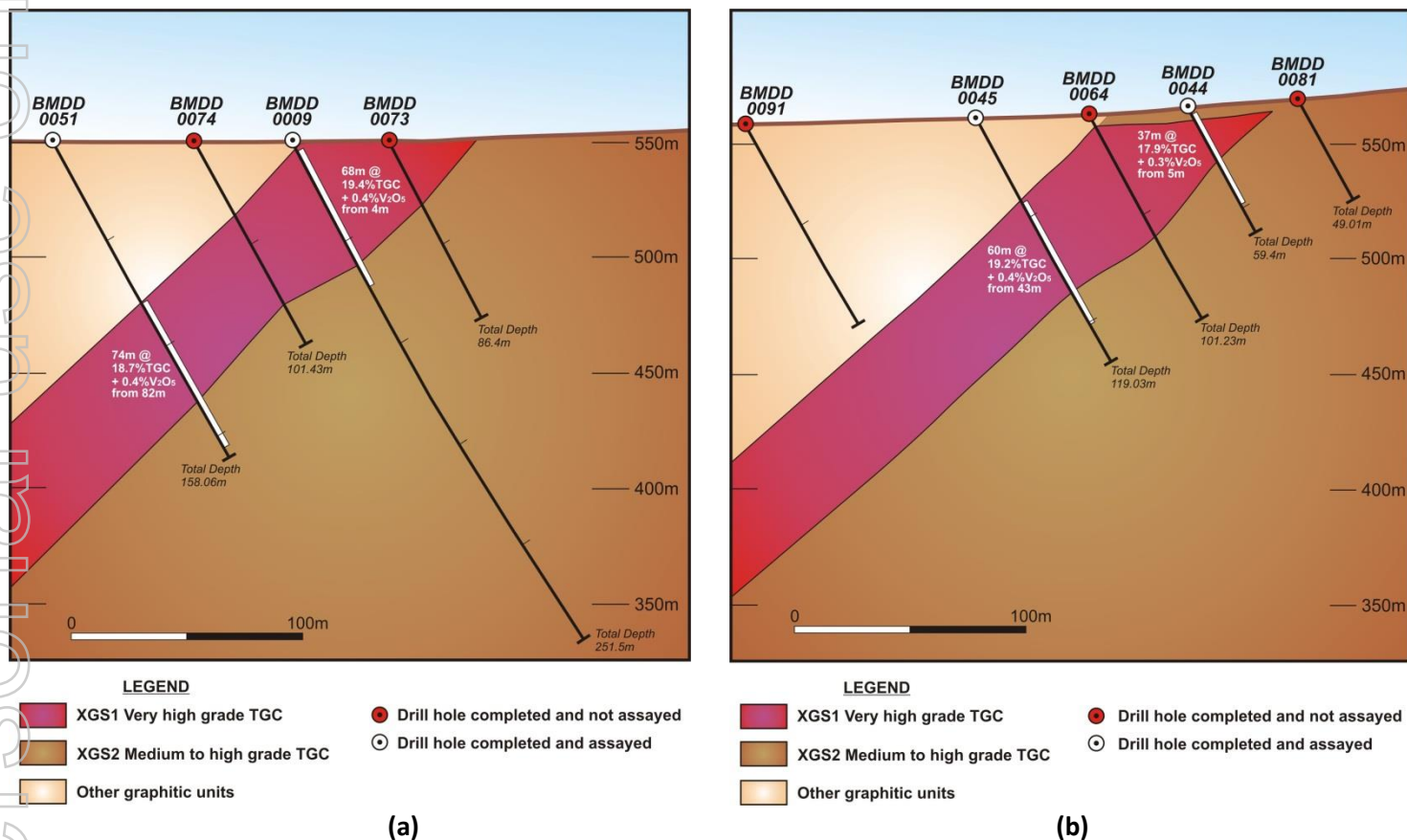


Figure 1 – Location plan of all of the drilling at Balama West including the very high grade Ativa Zone. The very high grade mineralisation is contained within a geological unit called XGS1 while XGS2 contains more moderate grades.



Figure 2 – Drill core from BMDD0050

The holes reported in this announcement represent infill drill holes at Balama West, designed to further delineate the Ativa Zone which currently comprises an Inferred Resource of 21 million tonnes @ 20.8% TGC & 0.38% V<sub>2</sub>O<sub>5</sub>. Plotting of these results clearly show that the Ativa Zone was intercepted where expected (Figure 3). The Infill drilling is designed to upgrade the resource from Inferred status to Indicated status. Syrah is very confident that this aim will be achieved based on these current assay results and visual inspection of the remaining core to be assayed.



**Figure 3 – Cross sections (a) in the western part of Ativa and (b) in the eastern part of Ativa. The very high grade mineralisation is mostly within geological unit XGS1 and the high grade material continues into XGS2. The infill drilling is confirming the earlier drill results and appears to be providing the information necessary to meet Syrah’s objective of upgrading the resource from Inferred to Indicated.**

Syrah’s field team has observed that the Ativa Zone becomes coarser flake to the east (Figure 4). Also it appears that the graphite grade in this area may be the highest yet encountered. Further step out drilling was conducted to better define this very coarse flake zone. Assay results from this drilling are expected over the coming weeks.



Figure 4 – Very coarse graphite from BMDD0079

#### ANALYSIS

The Ativa Zone (Inferred Resource of 21 million tonnes @ 20.8% TGC & 0.38%  $V_2O_5$ ) comprises a small area of the Balama Graphite and Vanadium Deposit (Inferred Resource of 1.15 billion tonnes at 10.2% TGC and 0.23%  $V_2O_5$ ). Although Balama West and Balama East have their own resource calculation, they represent only small zones of a continuous outcropping mountain of graphitic schists rich in vanadium (Figure 5). The outcropping extent of these graphitic schists has been mapped over 7km in strike distance. The zone between Balama West and Balama East is yet to be drilled, but based on field observations and surface mapping, the zones between Balama West and Balama East connect. Also, as all holes drilled to date end in mineralisation (even those drilled down below 300 metres), the full extent of the Balama deposit is enormous. The 1.15 billion tonne estimate only “scratches the surface” of the total amount of graphite and vanadium mineralisation at Balama.

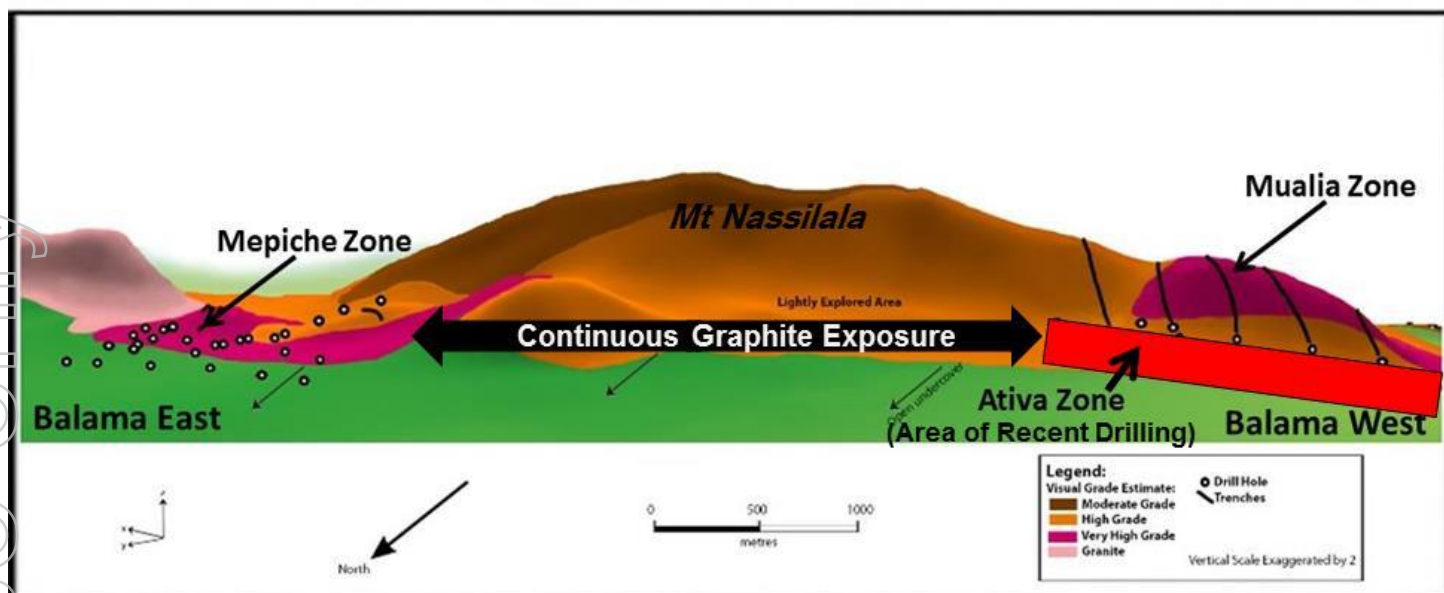


Figure 5 – Mount Nassilala and surrounds is the host of the Balama Graphite and Vanadium deposit. The deposit outcrops over 7km. The areas currently drilled are Balama West and Balama East which have a combined resource of 1.15 billion tonnes at 10.2% TGC and 0.23% V<sub>2</sub>O<sub>5</sub>. The two zones are known to connect based on field observations and mapping.

In Syrah's announcement of 4 June 2013, Syrah described the worldwide demand for graphite. As noted in that announcement, Industrial Minerals project a base case demand for natural graphite of 1.235 million tonnes in 2016 and a bullish case demand of 1.528 million tonnes in 2016. Syrah has enough graphite to meet the entire world demand for graphite for well over 100 years. Graphite currently sells for an average of around US\$1300 – US\$1,500 per tonne. In Syrah's announcement of 4 June 2013, Syrah identified a number of other markets where graphite (as a carbon) can substitute other carbon forms. These markets included:

1. Graphite electrodes (made from synthetic graphite) – current market size over 1.5 million tonnes and US\$3.5 billion per year
2. Calcined petroleum coke – Market size of 7 million tonnes and US\$4 billion per year
3. Anode grade petroleum coke for the aluminium industry – market size over 15 million tonnes and estimated over \$8 billion tonnes per year.

The main reason that graphite is not currently used in these markets is that graphite prices are currently prohibitively expensive. The carbon in these markets generally trades in the range of \$600 - \$800 per tonne. No current graphite producers have sufficient graphite whereby they can sacrifice selling price to target those markets over an extended period of time – particularly when their mine gate costs are likely to be in the vicinity of around US\$800 - \$900 per tonne.

Balama is unique in that it has an extremely large amount of graphite, outcropping at surface with zones that are amongst the highest in the world. The quality of Balama graphite is also extremely good based on testwork by Mintek (previously reported) and from feedback received from buyers. Syrah will pursue market share so that it can dominate both the traditional graphite markets and also replace carbon forms in higher volume markets. Syrah believes that it will be able to do so by supplying a superior product at more competitive cheaper prices than any other producer in the market.

As noted in announcement of 20 August 2013, Syrah is receiving very exciting vanadium metallurgical results from ongoing testwork. Initial testwork on Balama mineralisation (grading at 0.46% V<sub>2</sub>O<sub>5</sub>) shows that it can be upgraded to a 5.02% vanadium concentrate. Based on Syrah's research this is the highest grade vanadium concentrate in the world. Syrah wishes to also capture a significant share of the vanadium metal market which is reported to be about 70,000 tonnes per year (TPP Squared Inc.). The only way to do this is to process a large tonnage (given that the average grade of vanadium will likely be about 0.4% V<sub>2</sub>O<sub>5</sub>). This would result in a very substantial amount of graphite also being produced as it represents about 15-20% of that mineralisation at negligible incremental cost. This is another reason why Syrah would be prepared to deliver more competitive graphite prices than other producers in order to sell substantial volumes of graphite.

***The information in this report as it relates to geology, geochemical, geophysical and exploration results was compiled by Mr. Tom Eadie, FAusIMM, who is a Competent Person and Chairman of Syrah Resources Limited. Mr. Eadie has more than 20 years experience in the activities being reported on and has sufficient expertise which is relevant to the style of mineralisation and type of deposit under consideration. He consents to the inclusion of this information in the form and context in which it appears in this report.***

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