



# **VOLT**

RESOURCES

## **ASX ANNOUNCEMENT**

By e-lodgement

2 August 2016

### **+99% TGC FLAKE GRAPHITE CONFIRMED ACROSS ALL THREE KEY NAMANGALE DEPOSITS**

#### **HIGHLIGHTS**

- Latest test-work confirms all three key deposits can achieve exceptional purity above 99% total graphitic carbon (“TGC”)
- New results achieved Namangale 1 TGC 99.2%, Namangale 2 TGC 99.6% and Namangale 3 TGC 99.5%
- Industry leading flake distribution confirmed up to 81.3% in the +500 microns Super Jumbo, +300 microns Jumbo and +180 microns Large flake categories
- All results achieved from at surface test pits via a simple flotation process without the use of industrial chemicals
- Volt is confident Namangale can deliver exceptional product to the stringent demands imposed by top-tier lithium-ion battery manufacturers
- Confirms Volt is in an excellent position to command highest basket price from tier one customers in the battery sector
- Bulk samples from test pits are now being processed to provide concentrates to current and prospective off-take partners

#### **INTRODUCTION**

Volt Resources Limited (**ASX: VRC**) (“**Volt**” or the “**Company**”) is pleased to announce the latest round of optimised test results from its metallurgical test-work program, which confirmed the ability to produce +99% TGC concentrates across all three of its key graphite deposits from the Namangale project. This further demonstrates the quality of graphite that has been discovered across Volt’s vast Namangale tenement package.

The concentrates were produced from bulk samples obtained from at surface test pits at the Namangale project and produced using a conventional circuit of milling and flotation that was carried out at ALS in Perth. No industrial chemicals were used to achieve these results.

## RESULTS SUMMARY – NAMANGALE 1 (“Nam 1”)

	Test 50 Nam 1 Oxide		Test 47 Nam 1 Oxide		Test 52 Nam 1 Oxide	
Size (µm)	Weight (%)	TGC %	Weight (%)	TGC %	Weight (%)	TGC %
500	1.8	98.3	3.6	96.8	0.3	97.9
300	14.7	97.3	16.7	94.6	7.3	99.2
180	26.9	95.8	26.4	92.6	22.3	98.8
150	11.5	94.8	10.8	92.0	12.0	98.4
106	15.2	94.7	14.4	91.8	17.3	98.2
75	12.8	94.2	11.3	91.3	15.1	98.0
25	12.1	91.4	11.5	86.2	18.1	96.9
-25	5.0	79.4	5.2	69.7	7.7	91.2

Figure 1: Latest results from metallurgical test-work conducted on Namangale 1 test pit.

As per Figure 1 above, the latest results from Namangale 1 demonstrate this is a very high quality deposit that can produce concentrates of purity up to 99.2% in the +300 micron category and, moreover, that Super Jumbo material is recoverable. Volt continues to refine its test-work program at Namangale 1 and is confident that both grade and flake size can be improved upon.

## RESULTS SUMMARY – NAMANGALE 2 (“Nam 2”)

	Test 49 Nam 2 Oxide		Test 48 Nam 2 Oxide		Test 53 Nam 2 Oxide	
Size (µm)	Weight (%)	TGC %	Weight (%)	TGC %	Weight (%)	TGC %
500	21.4	96.5	18.2	98.6	5.5	97.4
300	35.8	97.8	36.8	98.4	26.7	99.6
180	24.1	97.6	25.7	97.9	29.0	99.5
150	5.6	96.9	6.0	97.0	9.0	99.6
106	5.2	96.3	5.7	96.2	9.2	99.4
75	2.9	94.4	3.2	94.9	7.2	99.1
25	2.8	87.2	2.8	88.7	8.7	98.5
-25	2.1	81.7	1.6	81.5	4.7	94.1

Figure 2: Latest results from metallurgical test-work conducted on Namangale 2 test pit.

Figure 2 highlights the latest results from Namangale 2 which demonstrate this deposit can produce excellent concentrates. The quality of this deposit can be demonstrated across both flake size and purity: firstly, Test 53 shows exceptional purity of up to 99.6% in the +300 and +150 micron categories; secondly, as previously reported<sup>1</sup>, Test 49 confirms the highest Super Jumbo and Jumbo graphite flake distribution among our East African peer group.

<sup>1</sup> ASX Announcement dated 29 July 2016, entitled “Unprecedented graphite flake size confirmed in super Jumbo and Jumbo categories”

## RESULTS SUMMARY – NAMANGALE 3 (“Nam 3”)

Test 54 Nam 3 Oxide		
Size (µm)	Weight (%)	TGC %
500	3.6	99.3
300	25.3	99.5
180	30.0	99.2
150	9.7	98.7
106	10.3	98.4
75	8.1	97.8
25	9.4	97.3
-25	3.7	91.8

Figure 3: Latest results from metallurgical test-work conducted on Namangale 3 test pit.

In addition, management is extremely pleased to see outstanding results from Namangale 3. Indications show this is another high quality deposit for Volt, as test-work is further refined. With TGC of up to 99.5% in the +300 micron category and the presence of Super Jumbo, these results can only be improved on with additional test-work.

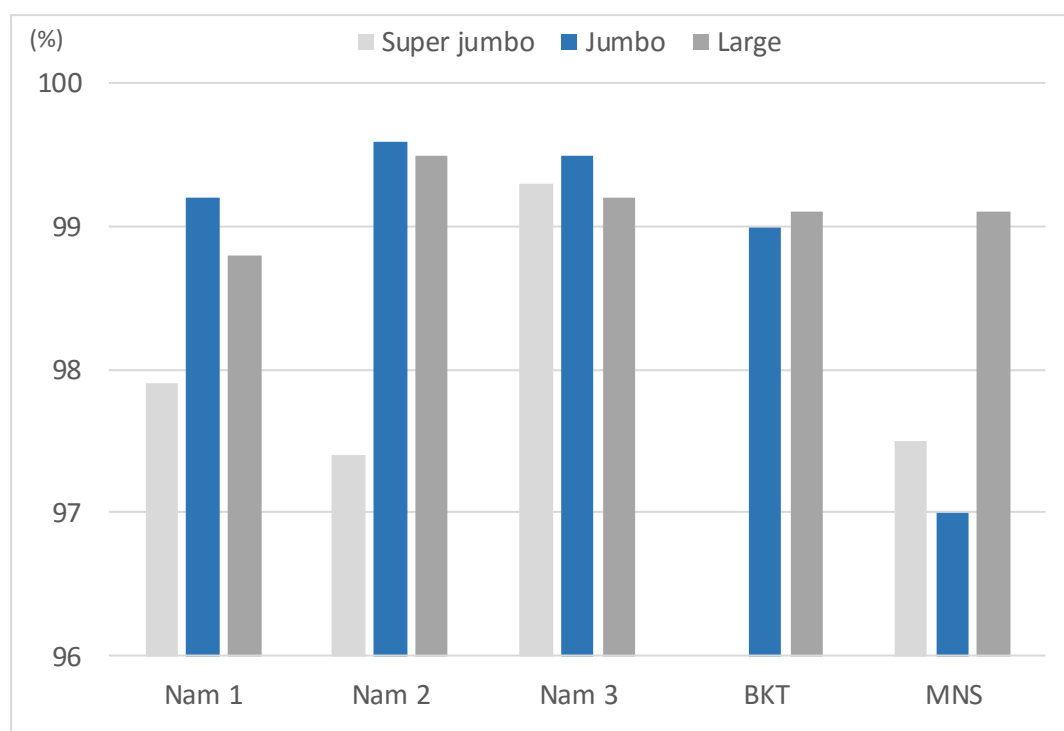


Figure 4: Namangale purity comparisons with Magnis Resources and Black Rock Mining.

Source: Company websites

(1) Black Rock Mining (“BKT”): 5 July 2016

(2) Magnis Resources (“MNS”): 19 Jul 2016

Volt's ongoing discussions with current and prospective off-take partners continues to demonstrate the "in demand" nature of Super Jumbo, Jumbo and Large flake size, with the Company's flake distribution also anticipated to lead to a higher blended basket price.

Furthermore, it is important to reiterate that concentrate graphite from Namangale has not been chemically treated to remove impurities. In fact, only a simple crushing then flotation process has been used to separate out the graphite. This potentially delivers a comparative cost advantage over peers that may have to deploy costly methods to extract impurities that compromise product quality.

Collectively, at this juncture, Volt is on track to achieve management's core objective of generating the highest revenue and margins relative to peers.

Overall, the test-work results continue to demonstrate to the market that the Namangale project is first rate and can deliver product – suitable for commercial applications – that meets the lithium-ion battery sectors' strict quality requirements.

Executive Chairman, Stephen Hunt commented: "The quality of the product generated by this latest test-work is exceptional. Of particular significance is the fact that the high grade TGC is being generated across all three deposits. In essence we have a combination of extremely favourable flake size distribution and high grade TGC that can be optimised in order to achieve the highest basket price possible for our product. This is a tremendous fillip for our project."

## **CONCLUSION**

The Board of Volt Resources believes these results to date will aid gaining further traction with end-users in the lithium-ion battery sector, whilst they demonstrate the Namangale project is shaping up faster than expected to be a world-class graphite deposit.

For and on behalf of Volt Resources Limited.



**Stephen Hunt**  
**Volt Resources Limited**  
Executive Chairman

### **Competent Person**

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Matt Bull, a Competent Person who is a member of Australian Institute of Geoscientists. Mr Bull is a Director of Volt Resources. Mr Bull has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and 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'. Matt Bull consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# JORC Code, 2012 Edition

## Table 1



### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Samples for oxide samples were collected as 300kg bulk samples collected from 2-3m depth.</li> <li>All samples were geologically logged by a suitably qualified geologist before being composited according to ore type and sent to ALS in Perth for floatation test work and assay.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was used for these samples</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was used for these samples</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean,</li> </ul>	<ul style="list-style-type: none"> <li>Logging was carried out on each of the bulk samples which included lithology, amount of weathering by a suitably qualified geologist.</li> <li>Data is initially conducted on paper logging sheets and is then transferred to excel logging sheets</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>Logging is semi-quantitative based on visual estimation.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>Bulk samples were collected in 20kg bags which were then composited before crushing and floatation was carried out.</li> <li>All sampling was carefully supervised with ticket books containing pre-numbered tickets placed in the sample bag and double checked against the ticket stubs and field sample sheets to guard against mix ups</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>The samples were sent to ALS in Perth Australia</li> <li>Analysis for Total Graphitic Carbon (TGC) using the Loss on Ignition by thermogravimetric Analysis at 425 degrees C and 1000 degrees C.</li> <li>The TGC analysis has been carried out by an industry accepted and recognized laboratory – ALS</li> <li>This is considered the most appropriate method to analysis high grade concentrates</li> <li>ALS inserted its own standards and blanks.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Data was recorded by the sampling geologist and stored in the company's master spreadsheet.</li> <li>The samples are transported to Dar es Salaam, before being transported to Perth by a commercial courier company</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>hand-held GPS was used to identify the position of all samples (X and Y horizontal error of 5 metres) and reported using ARC 1960 grid and UTM datum Zone 37 south.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate</i></li> </ul>	<ul style="list-style-type: none"> <li>All material for each test pit was review for variability and then composited before being processed</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</p> <ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Pit locations were selected to obtain material for the main mineralised units identified by drilling.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Transportation is carried out by company staff driving the samples to the courier directly from site</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have yet been under taken</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The prospecting license PL10644 containing the Namangale 2 deposit was granted on the 9th of July 2015 for a period of four years for the exploration of Graphite. The area covered by the prospecting licenses is 198.02km<sup>2</sup>. PL10644 License is situated in the Ruangwa and Masasi districts. The PL's straddle the boundary of the Lindi and Mtwara regions of south-east Tanzania. The prospecting license PL10718 containing the Namangale 1 Prospect was granted on the 18th of July 2015 for a period of four years for the exploration of Graphite. The area covered by the prospecting license is 239.17km<sup>2</sup>. The License is situated in the Ruangwa District. The License is located within the Lindi region of south-east Tanzania. While the prospecting license PL10717 containing the Namangale 3 Prospect was granted on the 18th of September 2015 for a period of four years for the exploration of graphite. The area covered by the prospecting license is located within the Mtwara region of south east Tanzania. The area covered by this prospecting license is 142.84km<sup>2</sup>.</li> <li>The PL's are held by Nachi Resources Ltd, which in turn is 100% owned by Volt</li> </ul>

		Resources. The surface area is administered by the Government as native title. The area is rural, with wilderness areas and subsistence farming occurring on the PL's. The Tenements are subject to a 3% royalty on production to the previous owners of Nachi Resources, which can be reduced to 1.5% under an agreement with the previous owner. There are no other known issues that may affect the tenure.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>There is no written record of previous exploration available for this area that is known to Volt Resources. The location of some graphite outcrops on the PL's was known by the previous owners.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The exploration targets occur in Proterozoic basement rocks of the Mozambique Mobile Belt system which principally comprise metamorphic rocks ranging from schist to gneisses including marbles, amphibolite, graphitic schist, mica and kyanite schist, acid gneisses, hornblende, biotite and garnet gneisses, quartzite, granulite, and pegmatite veins. Initial exploration has focused on areas where there no or minimal overlying younger sedimentary sequences remaining (mostly Cretaceous sandstones and conglomerates).</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length.</i></li> </ul> </li> <li><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>Results are from test pits rather than drill holes.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>Where aggregate intercepts</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples were taken in 20kg bags from the test pits checked for consistency visually and then composited to get a representative sample from the pits.</li> </ul>



	<p><i>incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></p> <ul style="list-style-type: none"> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Results are from test pits extracted from surface outcrops</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No Intercepts are being reported, results are from test pits from existing deposit areas of Namangale 1, 2 and 3 deposits were maps and drilling results and resource statements have previously been reported.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All results are reported</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Previous results from Namangale 1, 2 and 3 include Ground EM surveys, mapping, trenching, rock chip sampling all of the results of this work were previously reported. Recent ASX announcements also includes a simplified geological map of the area showing all significant intercepts.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Further work is planned to include further drilling, mapping, trenching and EM surveys. Floatation test work at ALS in Perth is currently underway to determine the recovery, purity and flake size distribution on graphite from the composites of the various material types from all three deposits. These results are from oxide samples from surface and are part of the floatation test work program.</li> </ul>