

RNS Number : 6664U  
BMR Group PLC  
20 January 2017

## **BMR Group PLC ("BMR" or the "Company")**

### **Vanadium Update**

BMR is pleased to report encouraging news concerning the potential recovery of Vanadium and production of Vanadium Pentoxide from its tailings at Kabwe which further bolsters its asset base.

Following the Company's announcement on 6 December 2016, the Board is pleased to report on the progress of its metallurgical test work currently being undertaken in collaboration with its partners, Kupfermelt and Alfred H Knight Laboratories, Kitwe for the recovery of Vanadium ("V") and the production of Vanadium Pentoxide ( $V_2O_5$ ) from BMR's Kabwe tailings dumps.

The Board also announces the potential financial implications for the Company in respect of the current trading price of  $V_2O_5$ , and the historic V grades declared by Zambian Consolidated Copper Mines in their Mine Closure report

#### **a) Vanadium Recovery Factors and Upgrading to Vanadium Pentoxide**

The Board is pleased to report that the metallurgical test work to date has shown that no modifications should be required to the acid brine leach section at the Kabwe plant to recover the V from tailings and take it into solution as a by-product. Selective recovery of the V in solution has been successfully achieved during the Zinc re-leach phase, requiring only minimal changes to the current flowsheet design.

Preliminary test work results suggest an overall  $V_2O_5$  recovery factor of approximately 65% (discounted 5% from actual test work results). Test work continues to optimise the  $V_2O_5$  recovery factor, to establish final product quality and the design of the process circuit to produce  $V_2O_5$ . This will enable CAPEX and OPEX costs to be established, of which the former will be at an additional construction cost to the Company. An announcement will be made as soon as practicable concerning this additional cost, although at this stage the Company does not believe that it will be substantial. New technology will not be required for the production of  $V_2O_5$ .

#### **b) Vanadium Pentoxide, Zinc and Lead Tailings Grades**

Prior to the closure of the Kabwe mine in June 1994, each of the mine's tailings dumps were assayed by Zambian Consolidated Copper Mines (ZCCM), the results of which were disclosed in the Kabwe Mine Closure Report.

Although Mineral Consultancy Corporation (MCC) did not report V grades in their March 2012 JORC report, with one exception, the Zn and Pb grades for the WPT, LPR and ISFS

tailings dumps mostly correlate closely with those published in the Mine Closure Report, as follows:-

**Comparison of grades, MCC Report to Closure Report**

	MCC (Resource) Report		Mine Closure Report		% Deviation	
	Zn	Pb	Zn	Pb	Zn	Pb
WPT (JORC)	10.66%	7.21%	10.22%	6.72%	4.13%	6.80%
LPR (JORC)	3.88%	8.71%	4.33%	7.50%	11.60%	13.89%
ISFS (Non JORC)	8.07%	1.22%	8.55%	2.03%	5.95%	66.39%

MCC's QA/QC assaying protocols have classified as acceptable, a  $\pm 10\%$  grade deviation for Certified Reference Materials (CRMs). The close correlation in the two reports of the Zn/Pb grades (JORC only, WPT and LPR), suggests in the Board's opinion that the Mine Closure Report's stated V grades can be considered as a fair guide to those V grades carried in the WPT, LPR and ISFS dumps as illustrated below:

**Kabwe Mine Closure Report**

**Indicative V<sub>2</sub>O<sub>5</sub> Grades**

	MCC Tonnage	V <sub>2</sub> O <sub>5</sub> Av. Grade	Mine Closure Samples
Leach Plant Residue (LPR)	2,725,318	1.11%	46 samples
Wash Plant Tailings (WPT)	585,160	1.61%	10 samples
Imperial Smelting Furnace Slag (ISFS)	1,481,563	1.87%	8 samples

V Grades have been converted to V<sub>2</sub>O<sub>5</sub> using a stoichiometric factor. Based on a recovery factor of 65% and this estimated tonnage, in theory the Plant could extract approximately 45,000 tonnes of V<sub>2</sub>O<sub>5</sub>.

The V tonnages and grades presented herein are non JORC and should not be construed as recoverable reserves or resources.

**c) Upgrading Vanadium to a JORC Compliant Resource**

Current metallurgical test work by the accredited laboratory, Alfred H Knight in Kitwe, is intended to confirm the process for the economic recovery of V based on work already carried out by the Company for all three tailings dumps and to produce V<sub>2</sub>O<sub>5</sub>. It is expected that this will be completed during February 2017, whereupon the Company will commission MCC to prepare an upgrade of V in the three tailings dumps to a JORC Compliant Resource.

**d) Vanadium Price Rise and Financial Implications for the Company**

Metal Bulletin's website is reporting December 2016 trades (Rotterdam, Europe) for V<sub>2</sub>O<sub>5</sub> at circa US\$23/kg (earlier estimated at US\$15/Kg) and as a consequence the Company has revised upwards the potential long term contribution of V<sub>2</sub>O<sub>5</sub> production to the Company's income stream.

After discounting the current V<sub>2</sub>O<sub>5</sub> price by 10%, illustrated below by gross sales value is its potential contribution to the Company when compared to the theoretical production of Zinc cathodes, Lead Sponge and Zinc Sulphate Heptahydrate over the projected mine life currently estimated at 19 years.

**LIFE OF MINE INDICATIVE PRODUCTION TONNAGES AND GROSS SALES VALUES**

<b>PRODUCT</b>	<b>TONNES</b>	<b>PRICE, US/t</b>	<b>VALUE \$M</b>
Lead Sponge	276,364	\$2,267	\$626.5
Zinc Cathodes	144,853	\$2,693	\$390.1
Zinc Sulphate Heptahydrate	570,000	\$750	\$427.5
Vanadium pentoxide, V <sub>2</sub> O <sub>5</sub>	45,000	\$21,000	\$952.2
<b>TOTAL</b>			<b>\$2,396.3</b>

Note. 18<sup>th</sup> Jan 2017 LME Zn and Pb cash sale prices.

The calculated production values of metals are indicative and should not be construed as likely revenues to the Company.

**e) ZEMA Approval**

The Company has been advised by its consultant J A Consultancy that based on ZEMA's existing approval to build the Plant, approval to operate a V<sub>2</sub>O<sub>5</sub> processing circuit should only require an Environmental Project Brief (EPB) which the Company intends to lodge in February 2017 with approval generally expected within 4 to 6 months.

Note: This announcement has been reviewed by Geoff Casson, B.Sc. (Hons), PhD, R Eng (Zambia), Member Engineering Institute of Zambia (Metallurgy), General Manager of the Company's Zambian subsidiary, Enviro Processing Ltd, who is a Qualified Person in accordance with the guidance note for Mining, Oil & Gas Companies issued by the London Stock Exchange in respect of AIM Companies.

This announcement contains inside information for the purposes of Article 7 of Regulation 596/2014.

Alex Borrelli, Chairman, commented: "This is encouraging news concerning the potential recovery of Vanadium and production of Vanadium Pentoxide from our tailings at Kabwe which further bolsters our asset base."

**Ends**

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