

21 July 2011

### **VANADIUM PROJECT UPDATE**

- **151Mt Maiden Mineral Resource**
- **0.44% V<sub>2</sub>O<sub>5</sub>**
- **21 RC drill holes totalling 3,130 m and 2 Diamond holes for 479m**
- **Mineral Resource covers only 3.3km of a 9.2km strike length**
- **These results compare favourably with other vanadium bearing magnetite iron deposits including the Windimurra Vanadium Project (Atlantic Limited)**
- **Additionally, iron (25% Fe) and titanium (6.73% TiO<sub>2</sub>)**

WA based resources company Quest Minerals Limited (**ASX : QNL**) ("Quest" or "the Company") is pleased to provide an update on activities at its 100% owned Victory Bore tenement, south of Sandstone in Western Australia, where the company has previously announced a Maiden Mineral Resource of 151Mt at 0.44% V<sub>2</sub>O<sub>5</sub>, 25% Fe and 6.73% TiO<sub>2</sub>, estimated in accordance with JORC guidelines (Table 1).

Quest is encouraged by recent price increases for vanadium as well as industry analysis which points towards a significant rise in future demand for the metal.

Quest believes that the current environment of rising vanadium demand, together with robust industry forecasts for continued strength in the vanadium price, will allow the Company to add significant value to the Victory Bore project.

The Company will shortly commence a scoping study to assess the potential for the economic development of a standalone vanadium operation which, if proven, will allow the Company to move quickly towards the commencement of a pre-feasibility study.

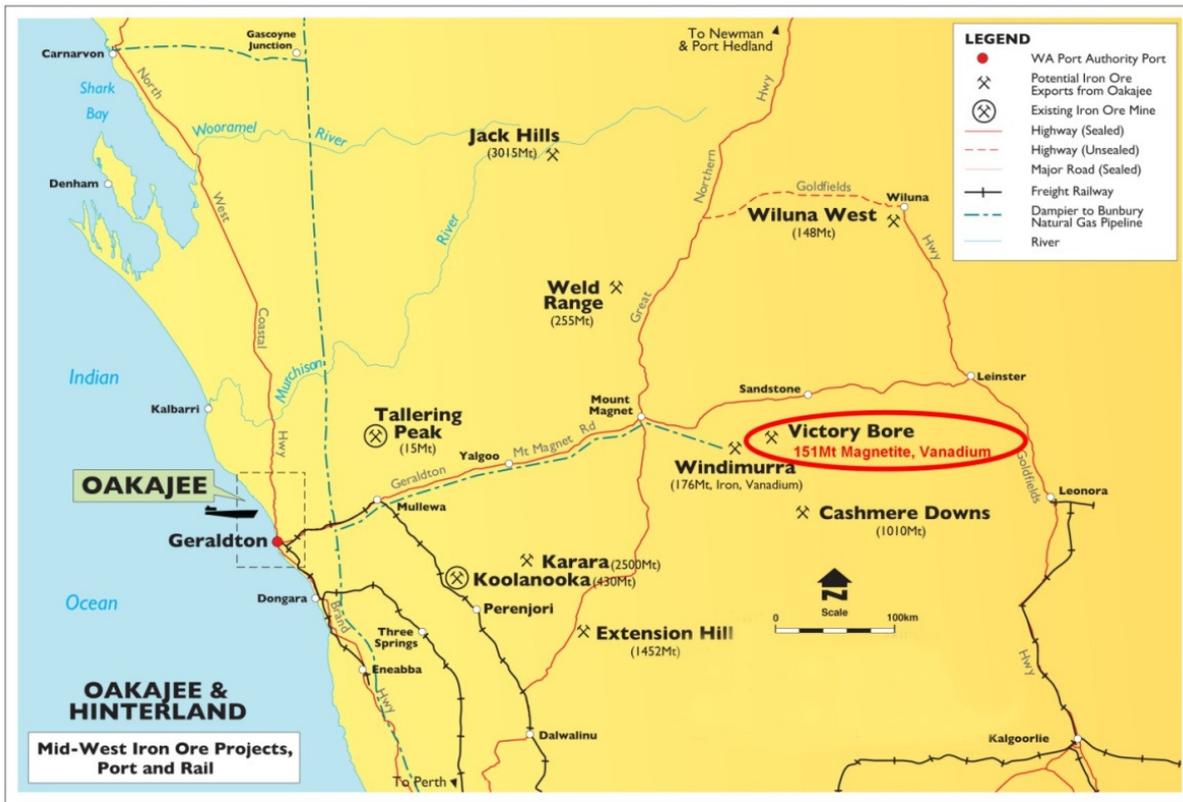
Quest believes that the project fundamentals including vanadium grades, exploration upside and positive metallurgical testing to date indicate that the project has the potential to be economically robust when compared with publicly available information on the Windimurra vanadium project currently operated by Atlantic Ltd (ASX : ATI), 35km to the west of Victory Bore (Figure 1), and where production is scheduled to commence in the 3<sup>rd</sup> calendar quarter of 2011 at a forecast rate of 6,300 tonnes per annum of

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ferrovanadium product. Long term production costs at the Windimurra vanadium project are estimated to be in the lowest quartile cash costs of vanadium producers globally.

## VICTORY BORE RESOURCES

Exploration works to date on the Victory Bore project have included a detailed aeromagnetic survey as well as Diamond and Reverse Circulation (RC) drilling. These drilling programs have been successful in delineating a series of magnetite lenses within a layered metagabbro intrusive. This style of layered intrusive is an important host for vanadium and titanium bearing magnetite iron deposits.



Quest Minerals Limited - Victory Bore

Figure 1 Victory Bore Project location

In March 2011, a Maiden Initial Mineral Resource of 151Mt at 0.44%  $V_2O_5$ , 25% Fe and 6.73%  $TiO_2$  was established by independent geological consultants CSA Global Pty Ltd, Perth (CSA) in accordance with JORC guidelines (Table 1).

Category	Tonnes	$V_2O_5$	Fe	$TiO_2$	$SiO_2$	$Al_2O_3$	LOI	P
Inferred	151,000,000	0.44	25.0	6.73	28.6	14.8	0.56	0.013

Table 1 Inferred Mineral Resource for Victory Bore Project

The Mineral Resource was established from an RC drilling program completed in 2010 which confirmed excellent along strike continuity of high grade mineralisation previously intersected in Diamond and RC drilling (Figure 2). In total, twenty-one RC drill holes totalling 3,130 m and two Diamond holes for 479m

have been completed at the project and were incorporated into the Mineral Resource estimate. Importantly, the Mineral Resource covers only 3.3km of a 9.2km strike length of magnetite vanadium mineralisation as interpreted from detailed aeromagnetics (Figure 3).

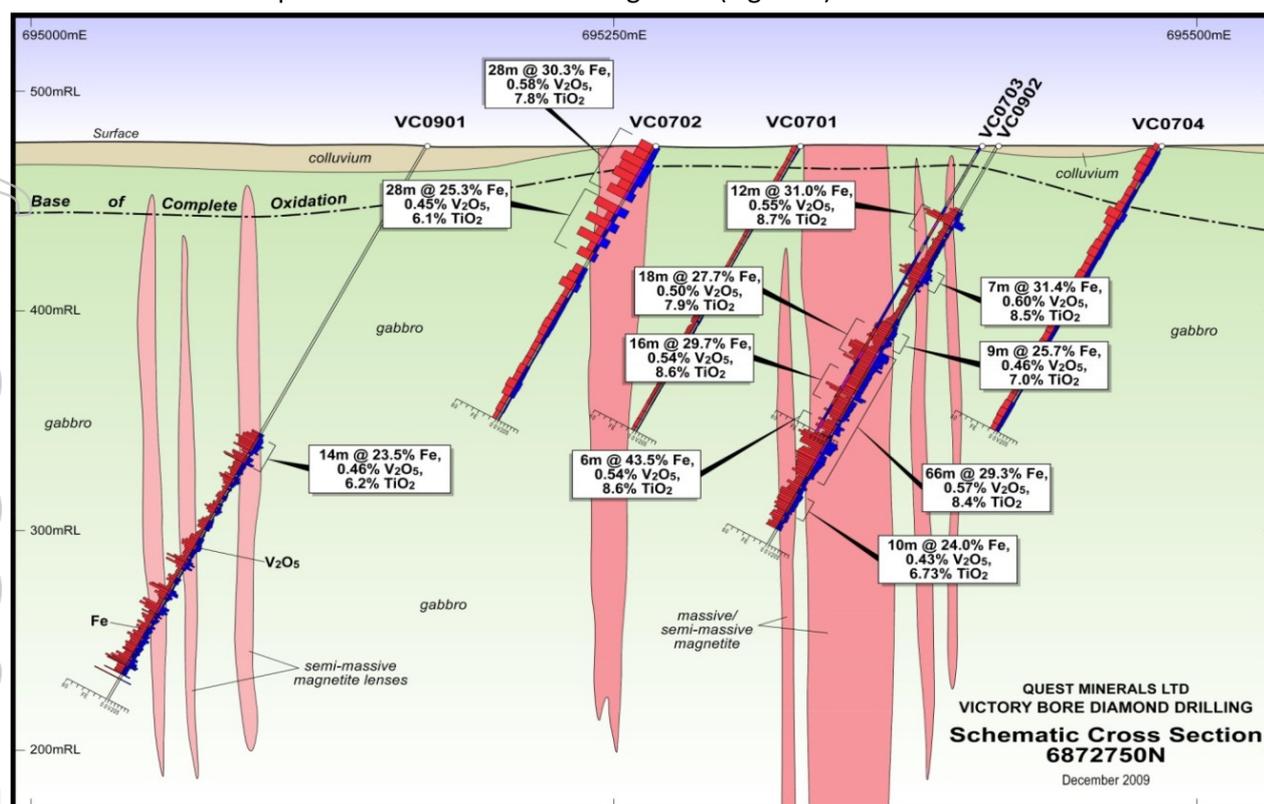


Figure 2 Cross section of Victory Bore mineralisation

Significant vanadium intersections from RC drilling at the project include –

- 76m at 0.49% V<sub>2</sub>O<sub>5</sub>, 26.9% Fe, 7.31% TiO<sub>2</sub>
- 56m at 0.53% V<sub>2</sub>O<sub>5</sub>, 28.62% Fe, 7.89% TiO<sub>2</sub>
- 22m at 0.51% V<sub>2</sub>O<sub>5</sub>, 29.28% Fe, 8.01% TiO<sub>2</sub>

Other significant intersections from RC drilling at the project are tabulated below (Table 2).

HOLE ID	FROM	TO	LENGTH	V <sub>2</sub> O <sub>5</sub>	Fe	TiO <sub>2</sub>
VRC001	77	95	18	0.53	27.98	7.88
VRC002	44	120	76	0.49	26.90	7.31
VRC004	137	171	34	0.50	27.44	7.36
VRC005	118	140	22	0.55	27.93	7.89
VRC006	70	126	56	0.53	28.62	7.89
VRC007	117	138	21	0.51	25.91	7.05
VRC008	117	143	26	0.50	24.92	6.95
VRC009	92	136	44	0.47	25.25	6.56
VRC010	58	80	22	0.57	29.28	8.01
VRC011	44	84	40	0.52	28.77	7.45
VRC013	66	108	42	0.53	27.43	7.74
VRC015	78	108	30	0.49	26.86	7.27
VRC017	12	43	31	0.48	26.33	7.18

Table 2 Victory Bore significant drilling intersections

Note: 1. V assayed by XRF and converted to V<sub>2</sub>O<sub>5</sub> % by multiplying by 1.785  
Note: 2. Downhole assays conducted on geology and all 1m sample intervals

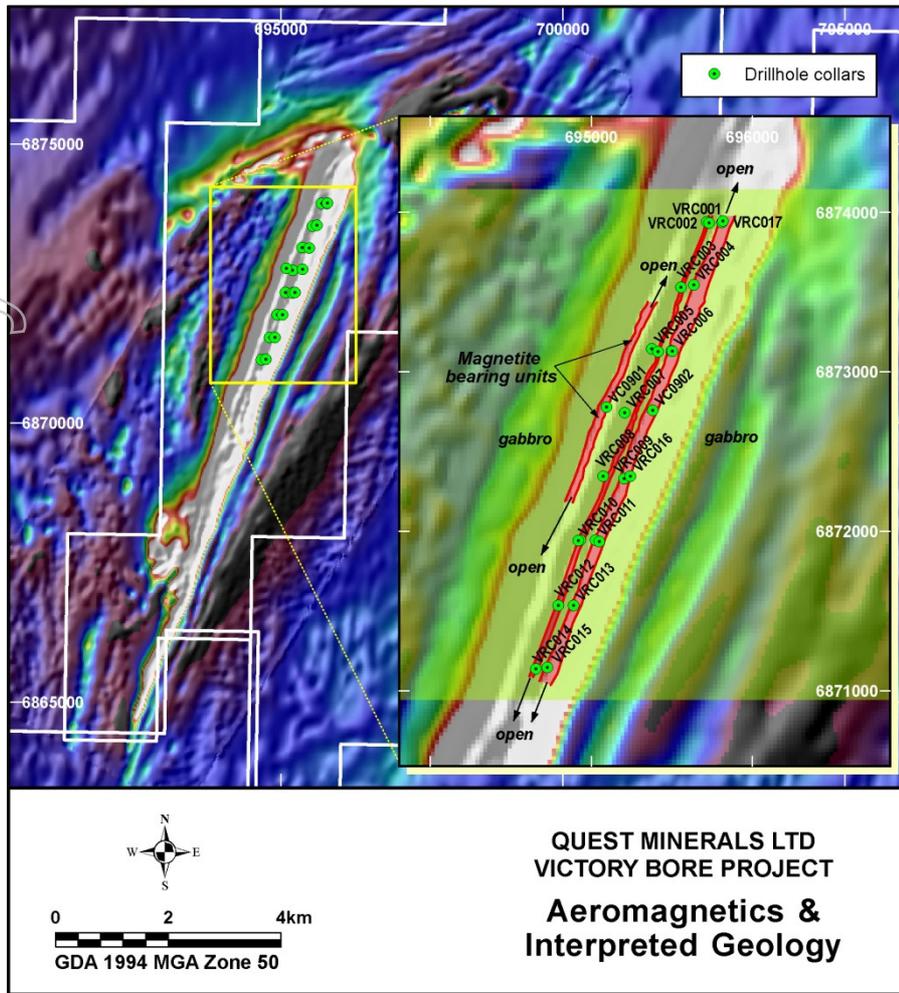


Figure 3 Drill hole location with Reduced to Pole (RTP) Magnetics

### VICTORY BORE METALLURGY

Initial metallurgical testwork has consisted of Davis Tube Recovery (DTR) test work which has confirmed that the mineralisation has excellent beneficiation characteristics and is amenable to producing a high grade ferrovanadium concentrate (Table 3). These results compare favourably with other vanadium bearing magnetite iron deposits.

Size (micron)	Weight Recovery	V <sub>2</sub> O <sub>5</sub>	V	Fe	TiO <sub>2</sub>	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>
500	61.5	1.05	0.59	53.33	13.29	4.06	4.46
235	55.7	1.12	0.63	55.23	13.00	2.89	3.86
<b>150</b>	<b>54.2</b>	<b>1.17</b>	<b>0.66</b>	<b>57.17</b>	<b>12.79</b>	<b>2.03</b>	<b>3.49</b>
75	51.1	1.22	0.69	59.17	12.01	1.19	2.92
45	50.1	1.25	0.70	60.15	11.49	0.96	2.69
38	49.5	1.25	0.70	60.08	11.22	1.07	2.61
32	49.1	1.26	0.71	60.52	11.05	0.94	2.59
25	48.6	1.27	0.71	61.07	10.64	0.90	2.47

Table 3 Davis Tube Recovery concentrate results

The vanadium grades in concentrate are considered to be particularly encouraging. The criteria for magnetite for a feedstock to a vanadium processing plant – similar to that at Windimurra - is that silica be less than 2% and that the vanadium pentoxide ( $V_2O_5$ ) grade be as high as possible. This indicates that a grind of 80% passing 150 micron would be suitable when compared with publically available data on the Windimurra plant (Table 4). These initial results indicate that the orebody has the potential to produce a vanadium concentrate by standard metallurgical processes which is suitable as feedstock for a conventional vanadium processing facility.

	Victory Bore sample (150 micron grind)	Windimurra (0.275% $V_2O_5$ cutoff and 75 micron grind)
% $V_2O_5$ in sample	<b>0.68</b>	<b>0.46</b>
% $V_2O_5$ yield to Cons	<b>93%</b>	<b>68%</b>
Grade in Concentrate at 80% passing respective grind	<b>1.17%</b>	<b>1.26%</b>

**Table 4 Victory Bore / Windimurra vanadium in concentrate comparison**

## INFORMATION ON VANADIUM

Vanadium is used to strengthen steel and titanium. About 85% of vanadium is used in the high performance steel industry. The other main vanadium use is in titanium alloys, which generally contain about 5% vanadium to make them strong as well as light. About 10% of vanadium, in the form of high purity pentoxide, is converted into master alloys that are consumed in titanium alloy production. Vanadium is soft in its pure form, but when it is alloyed (mixed) with other metals like iron, it hardens and strengthens them dramatically. Vanadium is used in metal alloys with iron to produce high strength steel which has a wide range of uses. Emerging markets are expected to support growth in demand as governments accelerate their strategic stockpiling of metals, particularly steel, to support planned industrial developments.

### Steel applications

Vanadium is alloyed with iron to make carbon steel, high-strength low-alloy (HSLA) steel, full alloy steel, and tool steel. These hard, strong ferrovanadium alloys are used to make armor plating for military vehicles and other protective vehicles

The steel “skeleton” or frames of high-rise buildings and oil drilling platforms must be very strong to support the weight of the building and its contents; vanadium steel has the strength to support such massive weight – the “Birds Nest”, Beijing Olympic Stadium used over 43,000 tonnes of steel and Wembley Stadium used 23,000 tonnes.

The recent earthquakes in Japan have destroyed infrastructure that will soon need to be rebuilt, possibly with increased safety specifications than before. The role of vanadium as a steel strengthener in infrastructure developments makes it a particularly valuable commodity, and has seen China keen to

maintain a steady supply and why the United States has added vanadium as part of its Critical Minerals Strategy.

### **Non-steel applications**

Non-steel uses include welding and in alloys used in nuclear engineering and superconductors. Vanadium chemicals and catalysts are used in the manufacture of sulphuric acid, the desulphurisation of sour gas and oil and in the development of fuel cells and low charge time, light weight batteries.

### **Battery technologies**

As demand for renewable energy sources grows, so will the need to store that energy. The automotive industry has been looking favourably at lithium-vanadium batteries in electric cars, as they are very efficient at producing power and producing it safely. The addition of vanadium to a battery can result in six times more power than a lithium-ion battery.

Vanadium-redox batteries (VRBs) are capable of storing industrial levels of energy (megawatt levels of power output) and can offer almost unlimited capacity simply by using larger and larger storage tanks. VRBs can be scaled up to the desired size without having to increase the power output. Controlled scaling is ideal for large-scale applications, like powering grids, as the VRB is limited only by space in its storage capacity. VRBs can be stored for long periods of time with little maintenance while maintaining a ready state; can be completely discharged for long periods with no adverse effects and can be recharged simply by replacing the electrolyte if no power source is available to charge it.

**PADDY REIDY**

**CHIEF EXECUTIVE OFFICER**

*Information in this report that relates to exploration results reflects information compiled by Mr Paddy Reidy, Chief Executive Officer and a full-time employee of the company and a member of the AusIMM. Mr Reidy has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity upon which he is reporting on as a Competent Person as defined in the 2004 Edition of "The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Reidy consents to the inclusion in this report of the matters based on the information compiled by him, in the form and context in which it appears.*

*The information in this report that relates to in-situ Mineral Resources is compiled by David Williams of CSA Global Pty Ltd. David Williams is a Member of the Australian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy 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 2004 Edition). Mr Williams consents to the inclusion in this report of the matters based on the information compiled by him, in the form and context in which it appears.*