



ASX Release

26th April 2012

MAIDEN HEAVY MINERAL SANDS (HMS) RESOURCE

GIPPSLAND ZIRCON-RUTILE HMS PROJECT UPDATE

- AN INFERRED MINERAL RESOURCE OF 1.7 BILLION TONNES @ 2.2% TOTAL HEAVY MINERAL (THM) AT A CUT-OFF OF 1% THM, CONTAINING 38 MILLION TONNES (MT) OF HEAVY MINERAL (HM) REPORTED IN ACCORDANCE WITH THE JORC CODE FOR THE GLENALADALE-STOCKDALE DEPOSIT
- WITHIN THIS INFERRED MINERAL RESOURCE AN AREA WITH CLOSER SPACED DRILLING HAS HAD THE PERCENTAGE OF ASSEMBLAGE MINERALS (CONTAINED WITHIN THE THM) ESTIMATED. THIS INFERRED RESOURCE IS 360 MT @ 2.7% THM CONTAINING 15% ZIRCON, 4% RUTILE AND 50% COMBINED TITANIUM MINERALS AT A CUT-OFF GRADE OF 1% THM REPORTED IN ACCORDANCE WITH THE JORC CODE
- THE MINERAL RESOURCE CONFIRMS GIPPSLAND IS A SUBSTANTIAL ZIRCON-RUTILE RESOURCE PROJECT WITH ADDITIONAL EXPLORATION POTENTIAL
- COMMISSIONED HMS SPECIALIST COMPANY R.J. ROBBINS TO COMMENCE SCOPING STUDY ON GLENALADALE-STOCKDALE

Australian resource development company, Metallica Minerals Limited (**ASX: MLM**), is delighted to announce a maiden Mineral Resource reported in accordance to the JORC CODE of 1.7 billion tonnes (Bt) @ 2.2%THM for 38 Mt of contained HM (using a 1.0% THM cut-off grade), within the Gippsland Zircon-Rutile HMS project, located in south-east Victoria. (see **Table 1** below).

An Inferred HMS assemblage Mineral Resource for an area of closer spaced drilling has also been completed and reported in accordance with the JORC Code with results showing a significant zircon component, the most valuable of the HMS assemblage (see **Table 2** below). At this stage, there is insufficient data to determine the HMS assemblage minerals for the remaining component of the Mineral Resource.

Table 1. Glenaladale-Stockdale Deposit Mineral Resource at 1.0% HMS cut-off

| Resource Category | Tonnes (Mt) | THM (%) | Slimes <38 µm size (%) | Contained HM (Mt) |
|-------------------|-------------|---------|------------------------|-------------------|
| Inferred | 1,700 | 2.2% | 24.4% | 38 |

Reported in accordance with the JORC Code



Table 2. Glenaladale-Stockdale Deposit Inferred HMS Assemblage Mineral Resource (contained within the THM) at a cut-off of 1% THM

| Tonnes (Mt) | THM (%) | HMS Mineral Assemblage (Inferred) | | | |
|-------------|---------|-----------------------------------|------------|---------------------------------|--------------|
| | | Zircon (%) | Rutile (%) | Combined Titanium Materials (%) | Monazite (%) |
| 360 | 2.7% | 15% | 4% | 50% | 0.6% |

| Tonnes (Mt) | Contained HM (Mt) | Contained HMS Mineral Assemblage (Inferred) | | | |
|-------------|-------------------|---|-------------|----------------------------------|---------------|
| | | Zircon (kt) | Rutile (kt) | Combined Titanium Materials (kt) | Monazite (kt) |
| 360 | 9.7 | 1,420 | 400 | 4,760 | 60 |

Reported as Inferred in accordance with the JORC Code

Notes to Table 1 and 2:

1. The Mineral Resource was estimated by AMC Consultants and reported according to the JORC Code and guidelines (JORC, 2004)
2. Tables may contain arithmetic errors due to rounding.
3. The Mineral Assemblage data is reported as the percentage of the Total Heavy Mineral (THM) component and is classified as Inferred due to limited data available
4. Combined Titanium Materials consists of leucoxene, altered ilmenite and ilmenite.
5. THM and Contained HM also include other non-valuable minerals. As such, the Contained Mineral Assemblage does not sum to the Contained HM.

Andrew Gillies, Managing Director of Metallica Minerals, said the Mineral Resource was broadly in line with the company's previously stated Exploration Target (see ASX Release 26 March 2012) and has enhanced the Gippsland area as an emerging mineral sands province.

"We are very encouraged by the large size of the resource, its grade and the amount of zircon in the mineral assemblage. These factors will assist greatly in driving attractive project economics," Mr Gillies said.

"The delineation of the Mineral Resource, is a major milestone in our due diligence work for the potential acquisition of the project from Rio Tinto Exploration Pty Ltd (**Rio Tinto**). The next step of our due diligence phase will be to complete a Scoping Study (+/-35% accuracy) so we can better understand the potential of the Gippsland project.

"Gippsland is shaping up to be a medium grade, large tonnage HMS resource in a favourable location and we are looking forward to the projects' indicative economics from the Scoping Study," he said.

About the Gippsland Project

The maiden resource estimate reported in accordance with the JORC Code is the culmination of a drilling program undertaken by Metallica and historical drilling on the project area. The entire resource is contained within an area of approximately 50 square kilometres.

The drilling undertaken by Metallica was focussed on the Glenaladale Main section of the deposit (see **Figure 1** below). Historical drilling on the project area indicated that this was the higher grade section of the resource, thus the focus of Metallica's drilling program.

The Inferred HMS assemblage Mineral Resource will also be the focus of a Scoping Study that Metallica has commissioned HMS specialist consulting group R.J. Robbins to complete. The Scoping Study will form an important part of Metallica's ongoing due diligence to potentially acquire the project from Rio Tinto. The Scoping Study is expected to be completed in June 2012.

Option Agreement with Rio Tinto

The exploration licenses which make up the Gippsland HMS project are currently 100% owned by Rio Tinto.

Delineation of the Mineral Resource has been undertaken by, or on behalf of, Metallica and its related bodies corporate following a formal agreement in August last year where Metallica, and its wholly owned subsidiary Oresome Australia Pty Ltd (**Oresome**), signed a Right to Explore and Option to Purchase Agreement (the **Agreement**) with Rio Tinto. The Agreement gives Oresome the exclusive right to explore certain exploration



licences which comprise the Gippsland HMS project and the option to purchase a 100% interest in those exploration licences at any time during the 12 month period following the execution of the Agreement (for further information, refer ASX Release, 26 August 2011). Oresome has not yet exercised its option to acquire the licenses.

Key terms of the Agreement include:

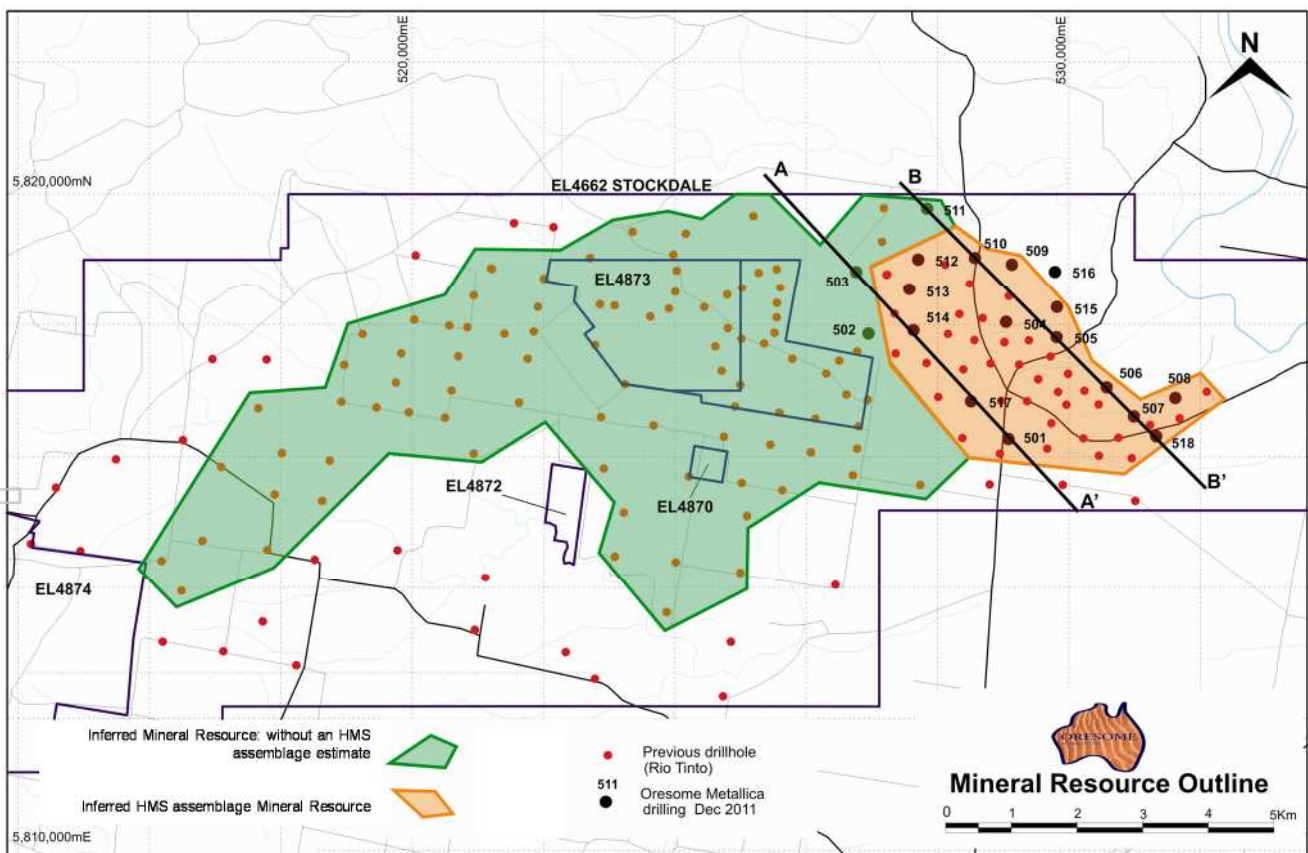
- An exclusivity payment to Rio Tinto of A\$40,000 (paid).
- Oresome has the exclusive right to explore the exploration licences comprising the Gippsland HMS Project for a period of 12 months, commencing 25 August 2011 (the **Option Period**).
- Oresome is committed to a A\$250,000 minimum expenditure on the tenements during the Option Period (already expended)
- Oresome has the option to purchase a 100% interest in the exploration licences at any time during the Option Period for an acquisition price of A\$8.0 million.
- Rio Tinto retains a net smelter royalty of 2.5%.

All of the exploration work undertaken in relation to the Gippsland HMS Project during the Option Period and the results thereof, including but not limited to the delineation of the Mineral Resource, has been carried out solely by, or on behalf of, Metallica and its related bodies corporate. Notwithstanding that Rio Tinto is currently the registered holder of the exploration licences, neither it nor any of its related bodies corporate have had any involvement in, nor do they endorse or approve the results of, the work undertaken during the Option Period (including but not limited to delineation of the Mineral Resource reported in accordance with the JORC Code).

The Resource estimate in this announcement has been independently developed by Oresome, its consultants and the Competent Person based on a combination of pre-existing data obtained from Rio Tinto and additional sampling and studies executed by Oresome during the Option Period.

Glenaladale-Stockdale Resource

Figure 1: Glenaladale-Stockdale Mineral Resource Outline



Notes to Figure 1

1. For Cross Sections A to A' and B to B', please refer to Figure 2 and 3 below.

For personal use only

Mineralisation within the Inferred HMS assemblage Mineral Resource extends from surface to a depth of 75m (see **Figures 2 and 3** below).

Figure 2: Glenaladale-Stockdale Resource Block Model – Cross Section A to A'

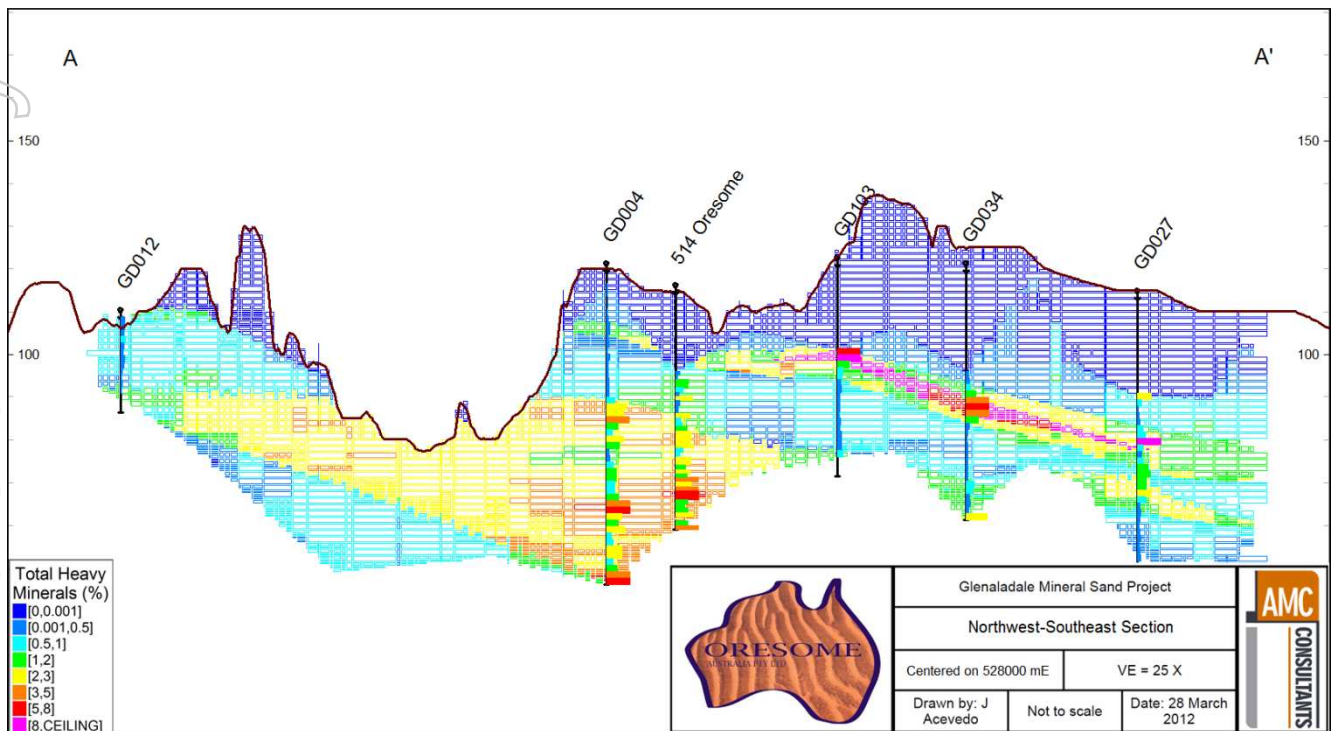
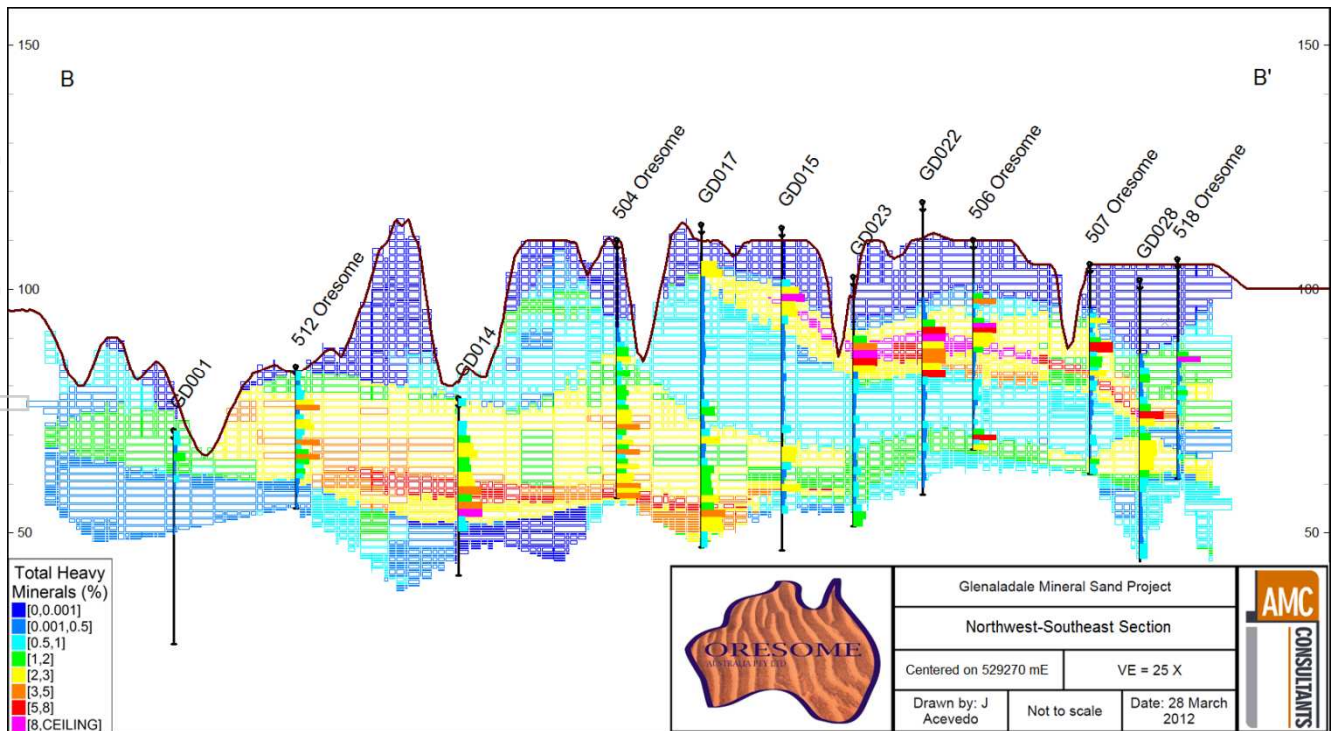
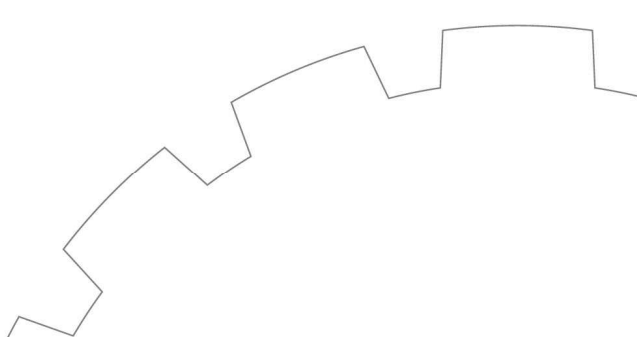


Figure 3: Glenaladale-Stockdale Resource Block Model – Cross Section B to B'



For personal use only





The Mineral Resource is reported at a cut-off grade of 1.0% THM. **Table 3** below displays the Mineral Resource at various cut-off grades.

Table 3: Glenaladale-Stockdale Mineral Resource at Various Cut-Off Grades

| THM Cut-Off Grade (%) | Inferred HMS assemblage Mineral Resource | | | Inferred Mineral Resource: no HMS assemblage estimate | | | Total | | |
|-----------------------|--|------------|-------------------|---|------------|-------------------|--------------|------------|-------------------|
| | Tonnes (Mt) | THM (%) | Contained HM (Mt) | Tonnes (Mt) | THM (%) | Contained HM (Mt) | Tonnes (Mt) | THM (%) | Contained HM (Mt) |
| 0.8% | 390 | 2.5 | 10 | 1,500 | 2.0 | 30 | 1,900 | 2.1 | 40 |
| 1.0% | 360 | 2.7 | 9.7 | 1,400 | 2.1 | 29 | 1,700 | 2.2 | 38 |
| 1.2% | 340 | 2.8 | 9.5 | 1,300 | 2.1 | 28 | 1,700 | 2.3 | 38 |
| 1.4% | 330 | 2.8 | 9.4 | 1,200 | 2.2 | 27 | 1,600 | 2.3 | 37 |
| 1.6% | 310 | 2.9 | 9.1 | 1,100 | 2.3 | 25 | 1,400 | 2.4 | 34 |
| 1.8% | 280 | 3.0 | 8.5 | 880 | 2.4 | 21 | 1,200 | 2.6 | 30 |
| 2.0% | 250 | 3.2 | 7.9 | 670 | 2.6 | 18 | 920 | 2.8 | 25 |

Notes to Table 3:

1. The Mineral Resource was estimated by AMC Consultants and reported according to the JORC code and guidelines (JORC, 2004)
2. Rounding may cause apparent arithmetic errors.

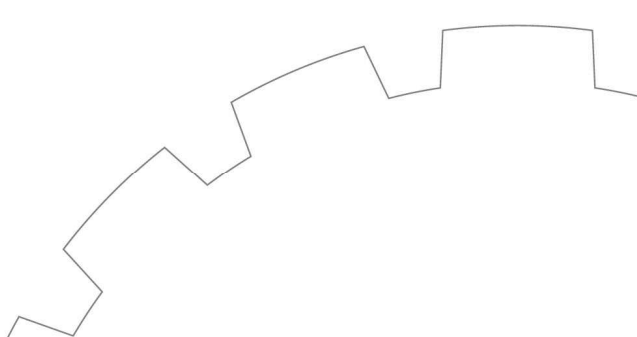
Slimes

The Glenaladale-Stockdale Resource is within thick sequences of fine sand with an average of approximately 24% slimes.

Preliminary metallurgical test work on slimes (<38 µm size, comprising silt and clay) has been completed, confirming that typical flocculent addition and settling rates can be achieved using conventional technology and methods. Further metallurgical test work is currently being completed on bulk samples from the Glenaladale-Stockdale resource area to establish a process flow sheet and cost estimates.

Regional Exploration Potential

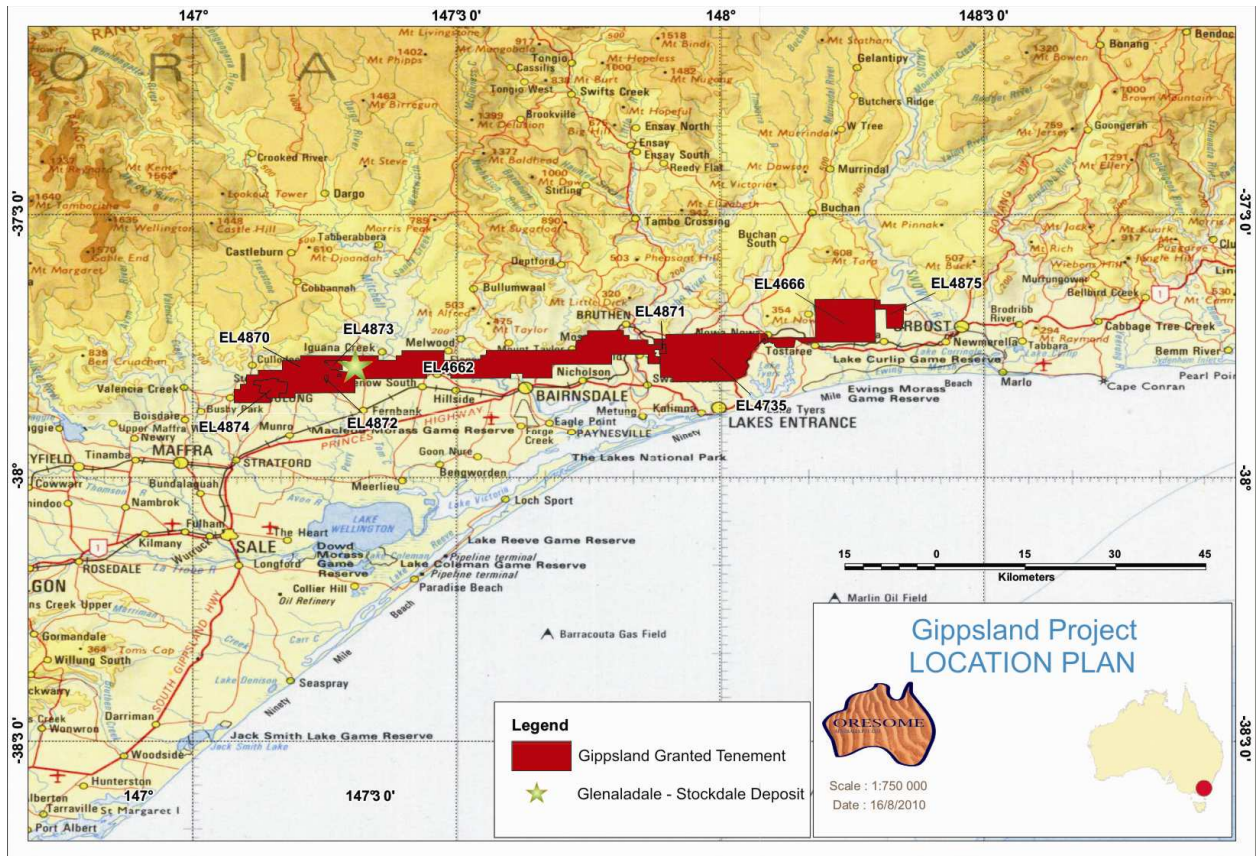
The Exploration Licenses that make up the Gippsland project span an area of approximately 620 square kilometres with the Glenaladale-Stockdale deposit contained within an area of approximately 50 square kilometres (see **Figure 4** below). Limited exploration work has been carried out on the area outside the Mineral Resource. Metallica believes that there is significant potential for additional HM mineralisation on the rest of the Exploration Licenses. As part of Metallica's ongoing due diligence, additional drilling is planned at areas of known mineralisation between 50 and 70km east of the Glenaladale-Stockdale deposit



For personal use only



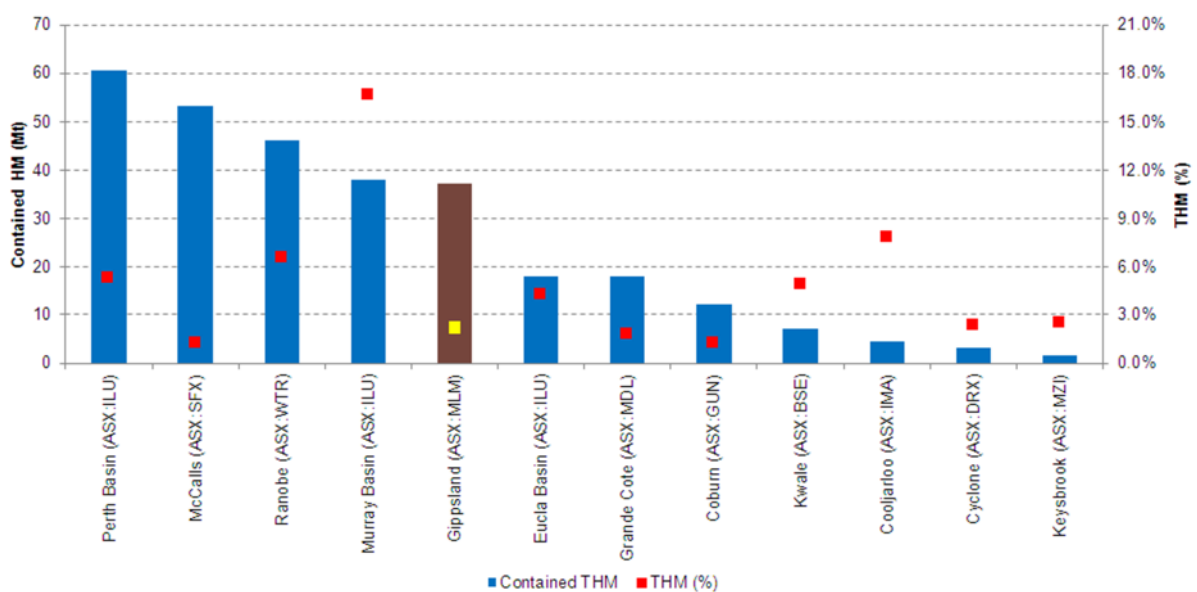
Figure 4: Gippsland Project Exploration Licenses



Project Benchmarking

Gippsland contains one of the larger HMS resources based on contained HM when compared with the projects of other peer companies (see **Figure 5** below). In addition, zircon is prominent in the mineral assemblage in the JORC Indicated Resource, which is important as it is the most valuable of the heavy minerals. Zircon is currently selling at prices in excess of US\$2,000 / tonne.

Figure 5: Comparison of Glendalade-Stockdale resource against those of peer company resources



Notes to Figure 5:

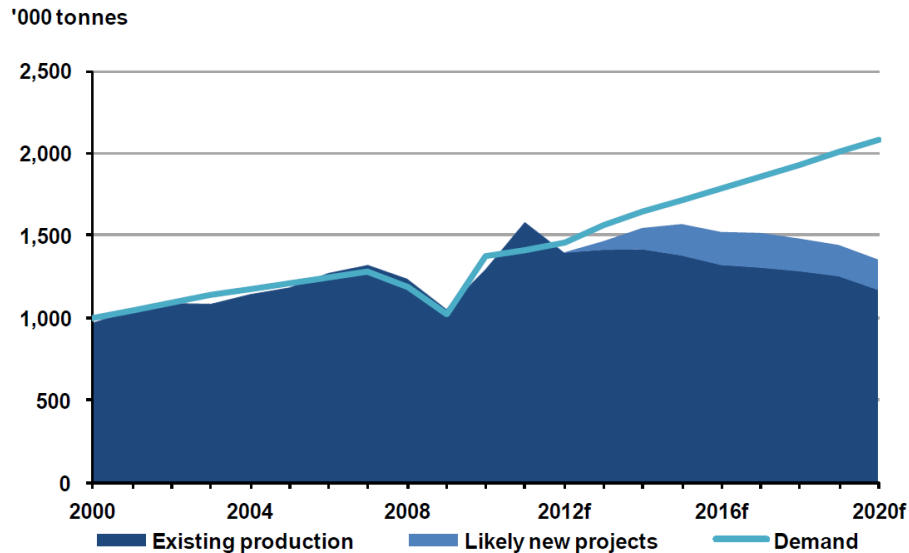
- The information contained in Figure 5 has been compiled from publicly available information. For detailed sources, please refer to Appendix I.



Zircon Market Outlook

Heavy mineral market research leader TZMI is forecasting a significant zircon supply deficit from now until 2020 with forecast demand being substantially higher than forecast supply. Based on TZMI's projections of current HM mining project forecasts and planned expansions including likely new greenfield developments, the zircon supply deficit is expected to grow to 1.01 million tonnes by 2020 (see **Figure 6** below).

Figure 6: TZMI Forecast demand/supply outlook for zircon through to 2020



© TZMI 2012

Background Information

The Gippsland HMS Project consists of nine granted exploration licences covering a total area of approximately 620 km², all held 100% by RioTinto.

The tenements cover fossil strandlines of the Miocene-Pliocene shallow marine sand units of the Boisdale Formation which on-lap the Palaeozoic basement at the southern margin of the eastern Australian Highlands.

Historical HMS exploration has included surface sampling, significant drilling (12,697.5m of Reverse Circulation (RC) air core drilling for 232 holes) undertaken in 2004, 2005 and 2008, and eight drill bulk samples at various locations in the project area.

These samples were subjected to gravity separation and metallurgical test work at the Downer-EDI facility at Carrara on Queensland's Gold Coast. An understanding of the characteristics of the zircon, rutile and ilmenite components of the Gippsland HMS deposits was developed from this work.

Competent Persons Statements

Technical, mineral and exploration information contained in this report has been compiled by Oresome Australia Pty Ltd and its parent company Metallica Minerals Ltd Managing Director Mr Andrew Gillies B.Sc. M. AUSIMM, who is a competent person and a member of the Australasian Institute of Mining and Metallurgy and has relevant experience to the mineralisation being reported on to qualify as Competent Person as defined by the Australasian Code for Reporting of Minerals Resources and Reserves. Mr Gillies consents to the inclusion in this presentation of the matters based on the information in the form and context in which it appears.

The **Mineral Resource estimates** have been prepared by Mr Rodney Webster of AMC Consultants. Mr Webster BappSc, who is a competent person and a member of the Australasian Institute of Mining and Metallurgy and has relevant experience in the style of mineralisation being reported on to qualify as Competent Person as defined by the Australasian Code for Reporting of Minerals Resources and Reserves. Mr Webster consents to the inclusion in this presentation of the matters based on the information in the form and context in which it appears.

For further information, please contact:

Mr Andrew Gillies

Managing Director

Metallica Minerals Limited

Phone: +61 (7) 3249 3000

Email: admin@metallicaminerals.com.au

Mr Stewart Hagan

General Manager

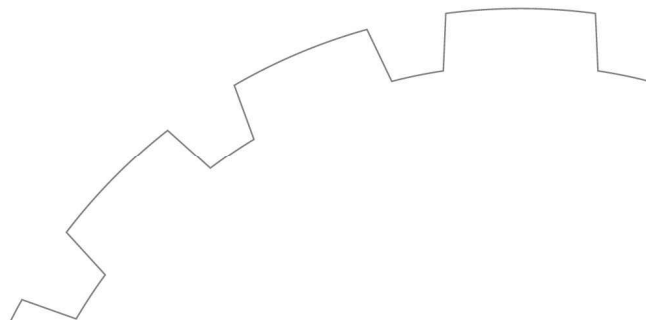
Oresome Australia Pty Ltd

Fax: +61 (7) 3249 3001

Figure 7: Low impact aircore drilling in the central portion of the Glenaladale area (December 2011)



For personal use only





Appendix I – Benchmarking Sources

| Company | Information Source |
|---------------------------------------|--|
| Base Resources (ASX:BSE) | Corporate website - http://www.baseresources.com.au/projects/kwale-mineral-sands-project/ |
| Diatreme Resources (ASX:DRX) | ASX Announcement 16 April 2012 – “Investor Roadshow Presentation” |
| Gunson Resources (ASX:GUN) | Annual Report 30 June 2011 |
| Iluka Resources (ASX:ILU) | ASX Announcement 23 February 2012 – “Ore Reserves and Mineral Resources Increases” |
| Image Resources (ASX:IMA) | Corporate website http://www.imageres.com.au/projects.htm |
| Matilda Zircon (ASX:MZI) | Corporate website http://www.matildazircon.com.au/projects/keysbrook-leucoxene.html |
| Mineral Deposits (ASX:MDL) | N43-101 Technical Report 16 June 2010 |
| Sheffield Resources (ASX:SFX) | ASX Announcement 20 February 2012 – “4.4 Billion Tonne Maiden Resource at McCalls HMS Project” |
| World Titanium Resources (ASX:WTR) | Annual Report 30 June 2011 |

Notes to Appendix I:

1. As far as Metallica Minerals Ltd is aware, the information referenced from the sources above represents the most recent information available for each company.

For personal use only

