

**MINERAL RESOURCES LIMITED**  
**QUARTERLY EXPLORATION AND MINING ACTIVITIES REPORT**  
**Quarter 3, FY2015 - MARCH 2015**

**HIGHLIGHTS**

**Iron Ore Production and Exports**

- Mine production 2.8 Mt for the quarter from two operating mines.
- Ongoing focus on cost saving initiatives and productivity enhancements have partially offset the impact of lower prices.
- Both the Iron Valley and Carina operations were cash positive for the quarter.

'000 WMTs	YTD FY15		Q2 FY15		Q3 FY15	
	Produced	Shipped	Produced	Shipped	Produced	Shipped
<b><u>Utah Point</u></b>						
Iron Valley	2,505	1,714	944	823	1,448	891
Phil's Creek	1,678	2,015	167	538	0	153
Spinifex Ridge	445	384	23	80	0	21
Poondano	0	2	0	0	0	0
<b>Total Utah Point</b>	<b>4,628</b>	<b>4,115</b>	<b>1,134</b>	<b>1,441</b>	<b>1,448</b>	<b>1,065</b>
<b><u>KBT2 / Carina</u></b>	<b>3,773</b>	<b>3,585</b>	<b>1,204</b>	<b>1,353</b>	<b>1,360</b>	<b>1,150</b>
<b>Total Iron Ore</b>	<b>8,401</b>	<b>7,700</b>	<b>2,338</b>	<b>2,794</b>	<b>2,808</b>	<b>2,215</b>
Manganese	-	315	-		-	-
<b>Grand Total</b>	<b>8,401</b>	<b>8,015</b>	<b>2,338</b>	<b>2,794</b>	<b>2,808</b>	<b>2,215</b>

**Pilbara Region**

- Iron Valley mining and crushing operations achieved budgeted performance.
- Mining, crushing and shipping schedules were optimised to maximise higher value lump production and sales. Fines product is being stockpiled for subsequent beneficiation.
- Iron Valley consistently achieved our targeted mining cost performance.
- Super Quad road train trial approved by the WA Government to target cost improvements.
- Initial beneficiation test work completed with favourable results.

**Yilgarn Region**

- Carina mining and crushing operations achieved budgeted performance.
- MRL's rolling stock strategy continued to prove its value with above rail costs now consistently 50% lower compared with the costs prior to MRL acquiring rolling stock and locomotives.
- Cost saving initiatives were implemented in the quarter to optimise drill and blast and load and haul activities.
- Approvals under the **Mining Act 1978** were granted for J4 during the quarter.

### **IRON VALLEY IRON ORE MINE**

The performance of the mining and crushing operations during the quarter achieved budgeted performance. Mining and crushing schedules were reconfigured to maximise higher value lump production and export sales. Haulage and shipping of product were marginally below plan due to seasonal wet weather and implementation of the strategy of only exporting lump. Lower grade fines have been stockpiled on site for opportunistic sales as they arise and as a feed source for a beneficiation plant in the future.



**Photo: Loading of an Iron Valley road train**

The initial beneficiation test work for Iron Valley product has been largely completed and the results show upgrades and recoveries for both lump and particularly for fines products. These results continue to support a business case for beneficiation. Additional test work is underway to ensure that all flow sheet options have been evaluated.

Programs continue to be developed and implemented to maximise efficiencies in mining and crushing processes leading to the optimum cost structure across the operations at Iron Valley. During the quarter drill and blast activities were optimised and modifications were made to optimise the mine schedule, enabling the mining fleet to be upgraded to larger equipment thereby reducing the amount of equipment, manning levels and associated costs. The cost of mining, crushing and loading ore onto road trains at Iron Valley is now consistently below AUD \$10.00/WMT, which is a credit to the operations team at the mine site.

MRL has developed a two stage strategy to progressively reduce haulage costs in both the short-term and medium-term.

Stage one is being implemented following the State Government's approval in March, of a 2.5 year trial for Super Quad road trains on the Iron Valley to Port Hedland haulage route. The Super Quads are 60 metres in length and carry an additional 28 tonnes of ore compared with conventional road trains, thereby reducing the overall number of truck movements on the haulage route and reducing haulage costs. The first Super Quad road train will commence hauling Iron Valley product to Port Hedland in early May and a further 5 Super Quads will be progressively introduced on the haulage route over the next two months.

Stage two involves MRL's Bulk Ore Transportation System (BOTS) technology. The BOTS project is progressing as planned and MRL is aiming to be in a position to commence the implementation phase of the Iron Valley to Port Hedland BOTS project around the end of this year. This date remains subject to completion of test work in China as well as securing the necessary tenement holder and other approvals to construct the elevated track. BOTS will require a significant capital investment but once operational, it is expected to reduce Iron Valley's haulage costs to a level that is comparable with Pilbara heavy haul rail costs.

As part of the drive to continually lower costs, MRL is also actively engaged with the State Government, stevedoring provider and the Pilbara Ports Authority to secure a reduction in their respective charges for stevedoring services and shipping iron ore through the Utah Point facility. These charges are unsustainable in the current economic cycle and a substantial reduction in these charges is being sought to help offset the impact of very low iron ore prices and to ensure that the mid-tier miners have access to cost effective and competitively priced port facilities in the Pilbara.



**Photo: Iron Valley lump product**

### **CARINA IRON ORE MINE**

The performance of the Carina mining and crushing operations during the quarter was to budget. Rail haulage and shipping volumes during the quarter were also as planned.

The cost reductions and productivity enhancements put in place at the Carina mine over the past 12 months have enabled the Carina operations to partially offset the fall in iron ore prices. However, MRL is continuing to pursue every opportunity to further reduce costs at Carina to ensure that the operation remains viable for as long as possible during the current period of sustained low iron ore prices.

As part of the ongoing cost reduction and productivity enhancement process, key mining and haulage activities were reviewed and modified during the quarter, enabling further cost reductions to be achieved. This included a review of key service providers and the subsequent engagement of suppliers prepared to partner appropriately with MRL in the current economic cycle. Drill and blast activities were optimised along with the pit shell, mining fleet and manning levels. In addition modifications were made to increase the pay loads on haul trucks and rolling stock consists (the number of rail wagons increased from 116 to 118 per consist). Air travel arrangements, including aircraft provider and departure and arrival times were modified to significantly reduce the amount of down time associated with shift changes and handovers.

As part of the process to continually reduce costs, MRL is also actively engaged with the State Government, Fremantle Port Authority and the below rail provider to secure a reduction in port and below rail charges for the Carina operations. At this stage, port and below rail charges are the only remaining cost activity areas which have not been subject to cost reductions and are critical to the maintenance of long-term operations. An alternative port arrangement for Carina exports is also being investigated as a means of potentially achieving further cost reductions via lower port charges and the use of more cost effective Cape size vessels.



**Photo: Carina locomotives and rolling stock**

### **YILGARN MINE EXPANSION PROJECT**

The focus in the Yilgarn has been on the expansion of mining operations to supplement and extend the life of the Carina hub. As anticipated, approvals under the Mining Act 1978 were granted for the J4 mine during the quarter. The proposed satellite mine at J4 and Carina will continue to operate until the environmental and mining approvals are granted for the larger J5 and Bungalbin East deposits.

Subsequent to the quarter end, the Minister for Environment advised that he had considered the appeal and had instructed the EPA to conduct a Public Environmental Review (PER) of the mining proposals for the J5 and Bungalbin East deposits.

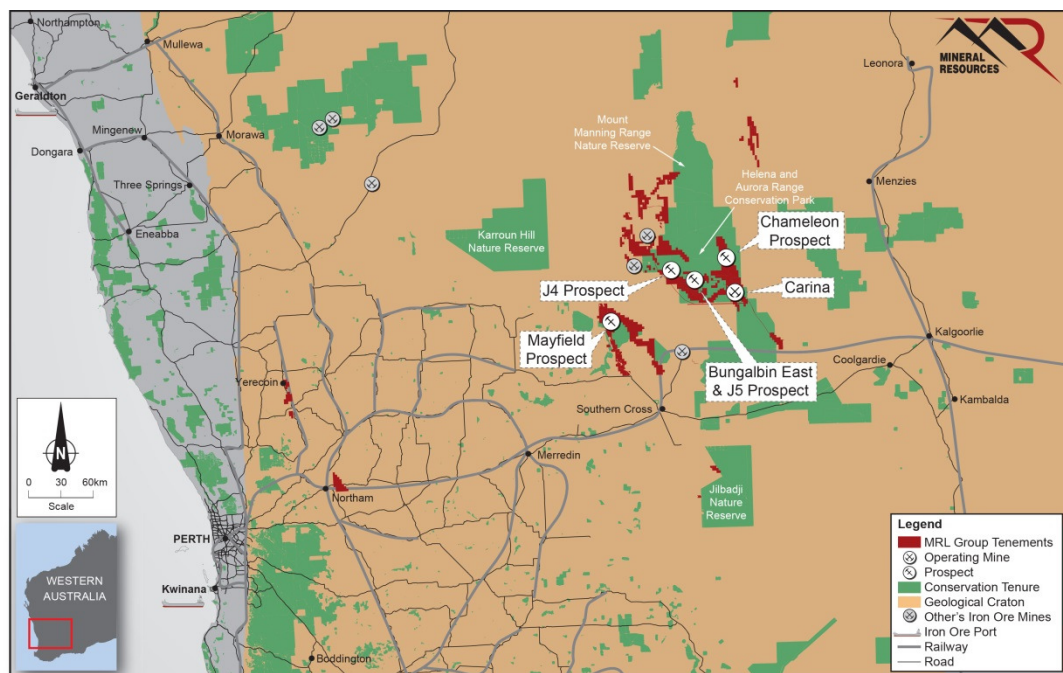
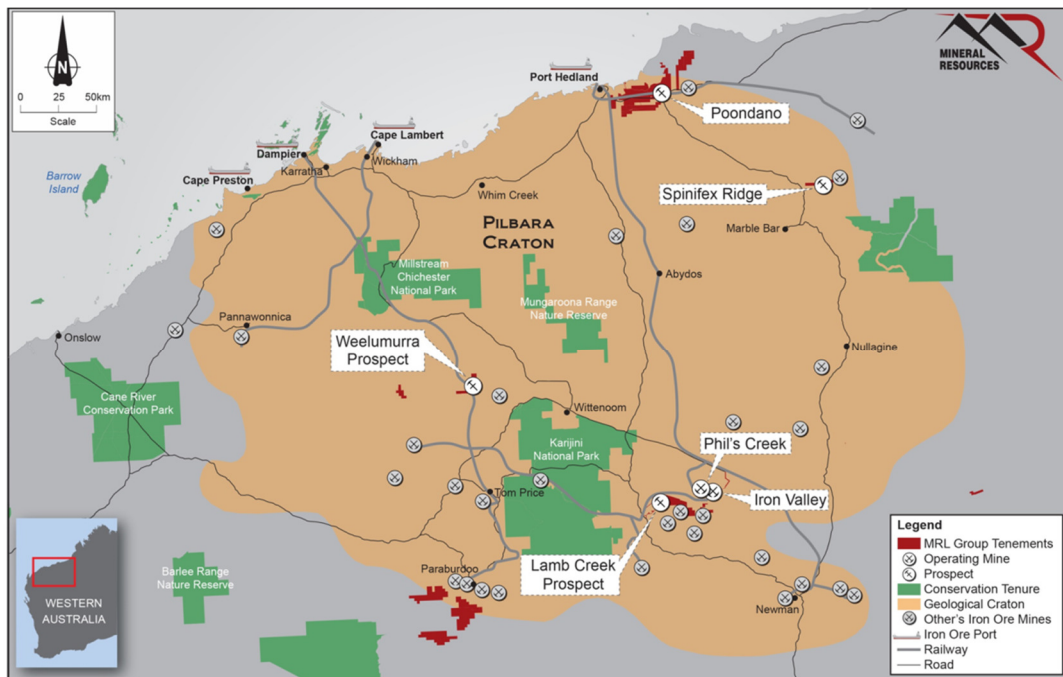
MRL considers that the Minister's action is consistent with the Western Australian Government's 2010 decision to classify the area containing the J5 (a granted mining lease) and Bungalbin East (a pending mining lease) deposits as a lower level conservation area that did not preclude mining, rather than declaring the area an A-class reserve.

The key issue facing MRL now is to have a suitable time frame established for the PER process which can enable both MRL and the EPA to meet their respective objectives on this matter.

MRL is confident that its industry-leading environmental practices including minimising site disturbance, locating infrastructure away from sensitive areas and its proven rehabilitation expertise can successfully balance environmental requirements with development requirements.

### **EXPLORATION**

Whilst MRL continues to work through the Environmental and Mining approvals processes, minimal exploration activity has been undertaken. Field mapping activities aimed at reassessing all the Yilgarn and Pilbara tenure continues. Negotiations with tenement holders and Traditional Land Owner Groups for the 331 kilometre BOTS corridor from Iron Valley to Port Hedland are continuing.



Two hubs - MRL's operations and major prospects in the Pilbara and Yilgarn regions