

## CASE STUDY



## Magellan Metals Pty Ltd

### The Issue

Magellan Metals Pty Ltd (Magellan) produces around two per cent of the world's mined lead supply when operating at full capacity. Its open cut mine, 30km west of Wiluna in Western Australia, is one of the top 10 lead mines in the world.

Until March 2007, the lead carbonate concentrate produced at the mine was exported in bulk through the Port of Esperance, transported in tarpaulin-covered kibbles by trucks and trains. At the port it was stockpiled inside a large storage shed and loaded onto ships by a series of conveyors. In early 2007, reports by community members of unusually high numbers of bird fatalities in Esperance were brought to the attention of the Government and Magellan.

Subsequently it was found that inadequate infrastructure and the mishandling of the lead carbonate concentrate during bulk loading onto ships in hot, dry and windy conditions had allowed lead dust to escape, which had an impact on the town of Esperance and its surrounds. Investigations revealed high levels of lead and nickel (nickel was also transported in bulk via the Port of Esperance) in rainwater tanks and elsewhere in areas near the port. The Western Australian Department of Environment and Conservation (DEC) responded by banning the export of bulk lead carbonate from the port, removing the only means and approval Magellan had of exporting its product. The mine was put on "care and maintenance" – effectively mothballed – until a Government-approved method of exporting lead concentrate was developed.

A Parliamentary Inquiry was held to establish the facts around the events and the Esperance Port Authority was subsequently charged with six counts of breaching the Environmental Protection Act. Magellan was not charged. In October 2009 the EsPA plead guilty to all charges and was fined A\$525,000, the highest environmental fine in Western Australian history.

At the time the ban was imposed some 8,000dmt of Magellan's lead carbonate was still inside the storage shed at Esperance with another 22,000dmt at the mine awaiting shipment. Magellan was therefore faced with developing, and obtaining approval for, a new method of exporting its product and removing the lead carbonate stockpiled in Esperance.

### Interested Parties

Resolving the Esperance issue was to take more than two years of negotiation and collaboration with the government of Western Australia, including the DEC, the Department of Health, the Department of Mines and Petroleum and the Fire & Emergency Services Authority as well as the Esperance Port Authority.

Discussion and negotiations also took place with the Port of Fremantle – the only major international container port in Western Australia capable of exporting Magellan's product – and with contractors at the port, various maritime and transport authorities and unions, the Western Australian Chamber of Minerals and Energy, the Fremantle Chamber of Commerce, local community groups in the city and 22 local authorities along the proposed transport route between the mine and the port.



The Port of Esperance

## CASE STUDY continued...

### Challenges

Magellan faced two challenges. One was to devise and develop a method of safely transporting its lead carbonate that would satisfy the demands of the State Government and other stakeholders. The other was to safely remove the lead carbonate still stockpiled in a shed at the Port of Esperance, along with the stockpile at the mine site. Both needed to be successfully achieved to ultimately allow the mine to resume production.

Placing the Magellan mine into care and maintenance had a significant impact on the company and its operations. In addition to the significant financial cost to Ivernia Inc., Magellan's publicly traded Canadian parent company, and Magellan there were direct, but equally important, social and corporate consequences. Employees were laid off, the company suffered considerable damage to its reputation and management time and expertise which would have been directed to expanding its operating activities and pursuing corporate initiatives were focused exclusively on the issues at Esperance.

The principal objective of the company since the events at Esperance has been to regain the trust of the community, the industry and Government in order to earn back its "social license" to operate.

### Actions

Safe removal of the 8,000dmt of lead carbonate sealed inside the shed at Esperance was the first stage towards the resolution of issues. Magellan, the Government of Western Australia and the Esperance Port Authority reached an agreement on a process acceptable to all parties under which:

- (a) the stored lead carbonate would be packed in Government and United Nations-approved two tonne bags, which were double laminated, water-resistant and sieve proof; and
- (b) once filled, the exterior of the bags would be thoroughly vacuumed to remove any traces of lead dust and then placed in sealed containers for shipment.

These requirements, and the stringent management conditions placed on the project, resulted in all of the lead carbonate being removed without incident from the Port of Esperance, with no lead emissions to the environment identified. The final shipment left Esperance in May 2009.



Sealed Shipment Process

Following the success of the Esperance operation, Magellan secured final approval from the Minister for Environment in August 2009 for a similar process to bag, containerise and transport lead carbonate from its mine and export it abroad for processing through the port of Fremantle. The approval process involved development of extremely stringent management and monitoring provisions along the entire transport route and at the port and extensive consultation with a broad range of stakeholders, many of whom initially had major concerns over the 2007 events at Esperance. Magellan made a commitment to total transparency on all monitoring data (including independent audit results), strictly implemented all management plans and programs including a comprehensive Emergency Response Plan, and lodged a \$5M environmental bond with the State Government.

Under the Fremantle export process two-tonne bags of lead carbonate are filled at the minesite, vacuumed on their exteriors and placed inside steel shipping containers, which are locked and washed. They are then taken 400km by road to a storage area in the rail-yard in the town of Leonora, where they are loaded onto freight cars for the 850km journey directly to Fremantle Port for loading onto export vessels.



Sealed Shipment Process

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### Results

The sealed transport process avoids the need for the product to be handled, minimising the potential for any of it to escape. Then the process is subject to rigorous Occupational Health, Safety and Environment (OHS&E) standards for the handling and transport of lead carbonate which are independently monitored and results reported to the Government and a Community Reference Group.

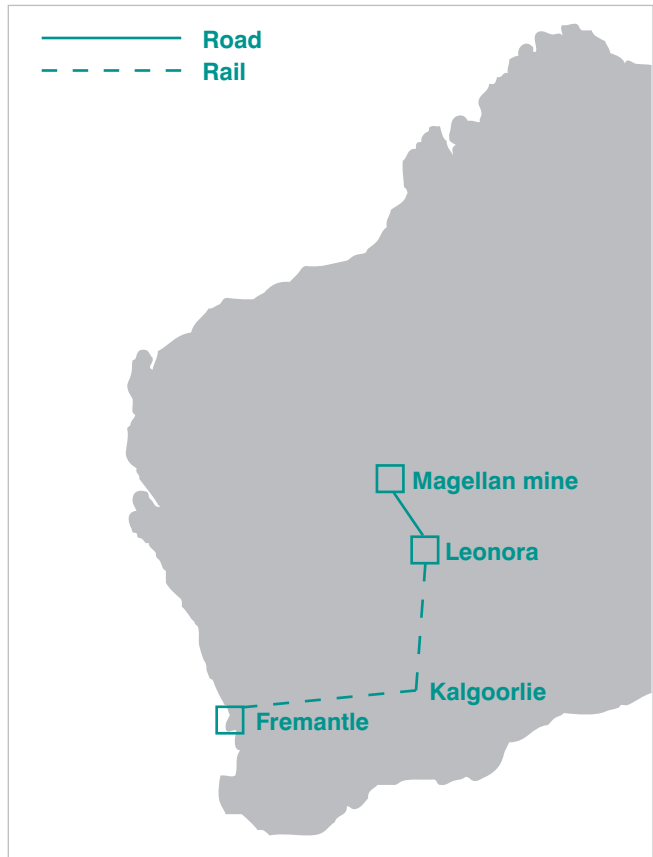
In addition to the \$5M Fremantle environmental bond Magellan is contributing A\$9 million from future earnings over a three year period as a contribution to the clean-up of Esperance. A\$3 millions of this was paid in February 2010. The company has also voluntarily established the Magellan Community Fund, worth A\$1 million over three years, for community projects in Esperance.

Magellan has gained valuable experience from this incident, especially in the area of corporate responsibility, ensuring strong product stewardship will be at the forefront of all its future actions. The innovative handling processes developed are potentially useful in similar industries around the world and Magellan is keen to share the knowledge with any organisation that may be interested.

### Status

Shipment of the 22,000dmt of lead carbonate stockpiled at the mine has now been substantially completed through Fremantle Port and mining operations will commence in the first quarter of 2010. It is anticipated that some 125 containers, each carrying up to 26wmt of lead carbonate, will be shipped from the mine each week.

For more information: [www.megellanmetals.com.au](http://www.megellanmetals.com.au)



Containers delivered by road and rail to the Port of Fremantle