Iverna
Magellan Metals

Magellan's Transport Route Lead Monitoring Program

Magellan's lead monitoring requirements

Magellan's approval to export sealed shipments of lead carbonate through Fremantle is subject to the Interim Implementation Conditions set by the Minister for Environment on 23 February 2011. Condition 8 requires implementation of an approved Health, Hygiene and Environmental Monitoring Program (Program), to monitor lead levels at sample sites along the transport route from Wiluna to, and through, the Port of Fremantle. Monitoring conducted under this condition includes soil, water, air, and static dust deposition along the 1250 kilometre long road and rail transport corridor from the company's mine site near Wiluna to the Fremantle Port and drainage sediment and benthic sediment monitoring at Fremantle Port.

Tables 9 and 11 of the Program document identify contingency actions to be undertaken by Magellan if monitoring results obtained during transport operations confirm lead levels exceed lead baseline trigger levels (see below).

Derivation of Lead Baseline Trigger Levels

Pre-transport Lead Baseline Trigger Levels

Prior to being used by Magellan, the transport corridor was used for the transport of a range of materials over many years, including leaded petrol, lead based paints and other lead products. Therefore, prior to commencing transport, systematic sampling was undertaken by Magellan along the corridor to establish pre-transport lead baseline levels at each monitoring site for each type of monitoring (see Appendix 1 of the Program). From this sampling, the highest lead level recorded at each site for each type of monitoring was adopted by Magellan as the pre-transport lead baseline trigger level.

See column headed Pre Transport Lead Baseline Trigger Level on the attached table.

Transport Route Lead Baseline Trigger Levels

Under the Program, if monitoring identifies an exceedance of the lead baseline trigger level at any site after transport operations commenced, Magellan is required to undertake isotopic testing to determine if the lead is from the Magellan mine. Isotope testing is able to differentiate Magellan lead from other sources of lead and is a process used throughout the world to identify the source of various materials.

If it is found that the lead does not come from the Magellan mine, the lead level identified then becomes the new lead baseline trigger level for that site. This process is described in Appendix 1 of the Program.

See columns headed Transport Route Lead Baseline Trigger Levels on the attached table, which include the lead baseline trigger levels as they have been amended post commencement of transport operations.

Lead Baseline Trigger Levels under the Interim Implementation Conditions

The Interim Implementation Conditions set by the Minister for Environment on 23 February 2011 set the lead baseline trigger level as the transport route lead baseline trigger levels updated at February 2011. The conditions note that these levels may continue to change as further monitoring results are received (see Condition 21).

The Interim Implementation Conditions also set a ceiling on the lead baseline trigger levels, meaning that the lead baseline trigger level is the lower of the transport route lead baseline trigger level as it is derived from time to time under the Program, or the specific value set out in the Condition 21 of the Interim Implementation Conditions.

See column headed Lead Baseline Trigger Level at February 2011 under Interim Implementation Conditions, on the attached table.

Lead Baseline Trigger Levels beyond February 2011

Changes to the lead baseline trigger levels beyond February 2011 are added to the attached table, in column headed Lead Baseline Trigger Level (date).

Sample sites

Sampling locations for operational monitoring are:

- 21 dust sampling sites along the rail corridor
- 2 air quality sampling sites at Fremantle Port
- 19 rainwater tank sites along the rail corridor
- 251 soil sites along the road and rail corridor
- 15 drainage sumps at Fremantle Port
- 20 marine sediment sites at Fremantle Port.

Air quality monitoring is also undertaken inside one per cent of containers leaving the mine site. These containers are randomly selected by the independent inspector.

For further detail on sampling sites and frequency, see the Program and the tables in this section of the website and the Interim Implementation Conditions.

Shipping Container Air Sampling

Frequency of sampling: Sea-containers are selected at random by the Independent Inspector. On average, a minimum of one per cent of containers, in every three month period have dust monitors installed.

Lead Baseline Trigger Level is 20 µg/m³ of lead.	
Date monitor placed in container	**Result (µg/m³) lead**
14-Oct-09	NT
27-Oct-09	1.7
16-Nov-09	6.8*
24-Nov-09	NS
2-Dec-09	NS
14-Dec-09	NT
1-Jan-10	<1
1-Jan-10	<1
19-Jan-10	<1
25-Feb-10	NS
25-Feb-10	NS
21-Apr-10	<1
23-Apr-10	<1
11-May-10	1.1
17-May-10	NT
29-May-10	NT
9-Jun-10	9.3
21-Jun-10	NS
25-Jun-10	<1
1-Jul-10	<1
7-Jul-10	<1
24-Jul-10	4.0
7-Aug-10	NS
16-Aug-10	<1
1-Sep-10	NS
7-Sep-10	<1
7-Sep-10	<1
17-Sep-10	<1
20-Sep-10	<1
15-Oct-10	<1
20-Oct-10	<1
24-Oct-10	NS
9-Nov-10	<1
19-Nov-10	<1
9-Dec-10	NS
22-Dec-10	<1
30-Dec-10	<1

NS = No Sample (filter not collected or equipment failure)

NT = Not Tested (absence of run time readings on air monitor)

< = Limit of reporting by laboratory is 1 µg/m³

* Estimated value due to an estimated pump flow rate.

As per Interim Implementation Condition #21, see Shipping Container Air Sampling - Lead Baseline Trigger Levels. The Lead Baseline Trigger Level for Shipping Container Air Sampling is 20 µg/m³ of lead.