

Explaining Baseline Lead Levels

Overview

Magellan Metals' baseline sampling program was designed to establish existing lead levels along the transport route from the company's mine site near Wiluna to Fremantle Port, prior to the first sealed shipment of lead carbonate concentrate.

One of the key Ministerial conditions of Magellan's approval to transport sealed shipments is that lead monitoring results during transport operations must not exceed the baseline levels.

By identifying the existing lead levels along the 1250 kilometre long road and rail corridor from the mine site to Fremantle Port, the State Government's regulatory authorities and Magellan have been able to set defined, local lead baseline levels that must not be exceeded during the transport process.

Sampling program

Baseline samples were taken along the road corridor from the Magellan mine site to the rail terminal at Leonora, and along the rail corridor from Leonora to Fremantle Port, including within the port area on land and in water.

From the baseline sampling, a 'trigger' level has been determined for each sampling site by adopting the highest level recorded at each site before transport commences. Any 'exceedance' of the trigger level during transport operations requires Magellan to undertake a range of actions that are set out in its approval conditions from the State Government.

If the results of regular monitoring identify that a lead level has exceeded the trigger level at a specific site, then isotopic testing of the sample from that site will be used to determine whether the lead is from the Magellan mine. Isotope testing will 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 Magellan's operations, the local lead level identified will become the new trigger level for that site.

Sample sites

Hundreds of samples were taken along the road and rail corridor and at Fremantle Port. The locations included:

- 21 dust sampling sites along the rail corridor
- 5 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.

A baseline lead level has now been established and a trigger level assigned to every one of the above sites for air, water, soil and sediment monitoring. In addition, a trigger level has also been established for air quality monitoring to be undertaken inside containers during the sealed shipments. These containers will be selected at random by the Independent Inspector.

Understanding the baseline tables

The baseline tables highlight the general locality of the sampling, and the specific location using GPS points. They also show the full range of baseline sampling results at each site, as well as the trigger levels adopted for each site.

If the trigger levels change it will be a consequence of further sampling that identifies non-Magellan lead. A change to a trigger level should not be interpreted as lead contamination, given there is a range of natural lead levels in the environment.

The wide range of baseline lead levels discovered during the sampling program is evidence of the different levels of lead along the transport route prior to Magellan's project commencing. If the trigger level at any site changes, the tables below will be updated accordingly on the Magellan website at www.magellanmetals.com.au.

Static Dust Sampling

Site Number	AGD84 Easting	AGD84 Northing	Site Location	Lead (mg/kg) Trigger Level	Sep-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09
SDMTRS01	381591	6454322	Fremantle Port	110	<100	OSP	<100	OSP	110	OSP	100	<100	<100	<100	<100
SDMTRS02	380982	6453828	Fremantle Port	140	<100	OSP	<100	OSP	140	OSP	140	100	<100	<100	<100
SDMTRS03	380654	6453299	Fremantle Port	650	155	OSP	180	OSP	650	OSP	500	110	<100	<100	100
SDMTRS04	381543	6453336	Fremantle Port	1100	<100	OSP	<100	OSP	1100	OSP	170	<100	<100	<100	<100
SDMTRS05	382178	6454397	Fremantle Port	840	138	OSP	230	OSP	840	OSP	160	470	MB	<100	100
SDMTRS06	405452	6470914	Midland	170	<100	OSP	<100	OSP	<100	OSP	<100	<100	<100	170	100
SDMTRS07	406993	6470568	Midland	440	109	OSP	<100	OSP	190	OSP	150	<100	440	250	120
SDMTRS08	470535	6498088	Northam	1800	OSP	110	OSP	<100	OSP	<100	OSP	<100	220	OSP	1800
SDMTRS09	470035	6498119	Northam	150	OSP	110	OSP	<100	OSP	<100	OSP	<100	<100	OSP	150
SDMTRS10	567496	6499779	Kellerberrin	300	OSP	110	OSP	<100	OSP	<100	OSP	<100	120	OSP	300
SDMTRS11	568471	6499812	Kellerberrin	<100	OSP	<100	OSP	<100	OSP	<100	OSP	<100	<100	OSP	<100
SDMTRS12	616399	6515069	Merredin	190	OSP	<100	OSP	<100	OSP	<100	OSP	<100	190	OSP	<100
SDMTRS13	616365	6515108	Merredin	120	OSP	120	OSP	<100	OSP	<100	OSP	<100	100	OSP	<100
SDMTRS14	720172	6544365	Southern Cross	310	OSP	240	OSP	<100	OSP	<100	OSP	<100	<100	OSP	310
SDMTRS15	720130	6544381	Southern Cross	340	OSP	120	OSP	<100	OSP	340	OSP	140	<100	OSP	210
SDMTRS16	352008	6596301	Kalgoorlie	150	OSP	110	OSP	NA	OSP	<100	OSP	<100	150	OSP	<100
SDMTRS17	348972	6593826	Kalgoorlie	620	OSP	390	OSP	620	OSP	450	OSP	<100	<100	OSP	180
SDMTRS18	336266	6805106	Leonora	770	OSP	650	OSP	<100	OSP	260	OSP	360	400	OSP	770
SDMTRS19	336227	6805096	Leonora	410	OSP	280	OSP	290	OSP	<100	OSP	410	380	OSP	<100
SDMTRS20	381777	6454719	Fremantle	240	<100	OSP	<100	OSP	240	OSP	<100	<100	<100	<100	140
SDMTRS21	382184	6453541	Fremantle	257	257	OSP	<100	OSP	110	OSP	120	<100	<100	160	120

OSP = Sampling period

BB = Broken bottle

MB = Missing bottle

RP = Results pending