

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.

Drainage Sump Sampling

Site Number	AGD84 Easting	AGD84 Northing	Lead Results (mg/kg) Trigger Level	Oct-08	Mar-09	Aug-09	Aug-09
SUMPTRS01	381369	6454362	30	15	30	23	28
SUMPTRS02	381356	6454306	42	23	32	30	42
SUMPTRS03 (A)	381345	6454291	37	29	26	37	23
SUMPTRS03 (B)	381345	6454291	100	96	81	100	70
SUMPTRS04 (A)	381334	6454278	46	46	36	23	39
SUMPTRS04 (B)	381334	6454278	77	54	77	NMS	NMS
SUMPTRS05	381329	6454255	35	25	28	28	35
SUMPTRS06	381346	6454300	331	83	331	264	156
SUMPTRS07	381356	6454322	128	96	83	128	123
SUMPTRS08	381326	6454251	164	136	81	145	164
SUMPTRS09	380965	6453790	128	128	60	84	109
SUMPTRS10	380967	6453805	234	210	234	219	223
SUMPTRS11	380973	6453823	96	82	96	94	75
SUMPTRS12	380682	6453285	262	180	262	218	217
SUMPTRS13	380671	6453286	165	165	101	92	118

NMS - No material to sample