Magellan METALS

Explaining Operational Sampling Lead Levels

What are Magellan's lead monitoring requirements?

Magellan's approval to export sealed shipments of lead carbonate through Fremantle is subject to the implementation conditions set out in Statement 783 published on 2 February 2009 by the Minister for Environment. Condition 9-1 of Statement 783 requires implementation of a Health, Hygiene and Environmental Monitoring Program (Program). One of the key requirements is that lead monitoring results during transport operations must not exceed the baseline levels along the 1250 kilometre long road and rail corridor from the company's mine site near Wiluna to the Fremantle Port.

The approved Program to verify compliance with this condition has been designed to determine whether Magellan lead has entered the environment. The transport corridor has been used to transport a range of materials over many years. Those materials would have included many materials which would have contained lead including lead in petrol and lead based paints. Therefore, prior to commencing transport of Magellan lead, Magellan Metals carried out systematic sampling along the transport route from Wiluna to Fremantle to determine the existing levels of lead in the environment.

The pre-commencement sampling program established baseline lead trigger levels, which, if they are exceeded (once transport commences), trigger contingency measures as required under Statement 783. The monitoring undertaken includes soil, water, air, static dust deposition and benthic sediment monitoring at Fremantle Port.

Sampling program

Baseline sampling and derivation of 'trigger' levels is described under the Baseline Sampling section of this website. The trigger levels with which operational sampling (that is, samples taken after commencement of lead carbonate transport) results are compared in the tables in the Operational Sampling section are those established during baseline sampling.

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.

For sampling frequency, see the Health, Hygiene and Environmental Monitoring Program.

Trigger levels have been established at each site for each parameter monitored. In addition, air quality monitoring is being undertaken inside independently and randomly selected containers during the sealed shipments.

Rainwater Tank Sampling

Water Site	WGS84 East	WGS84 North	Location	Lead (Total) Trigger levels (mg/L)	Dec-09	Mar-10	Jun-10
WATTRS01	336655	6802942	Leonora	**0.008**	<0.005	<0.005	<0.005
WATTRS02	336843	6804068	Leonora	**0.048**	0.041	0.042	0.037
WATTRS03	352034	6596278	Kalgoorlie	**<0.005**	NA	<0.005	<0.005
WATTRS04	352157	6596128	Kalgoorlie	**0.018**	<0.005	0.018#	<0.005
WATTRS05	352754	6597236	Kalgoorlie	**<0.005**	<0.005	<0.005	<0.005
WATTRS06	351950	6595879	Kalgoorlie	**<0.005**	<0.005	<0.005	<0.005
WATTRS07	720719	6543688	Southern Cross	**<0.005**	<0.005	<0.005	<0.005
WATTRS08	720938	6543075	Southern Cross	**<0.005**	<0.005	<0.005	<0.005
WATTRS09	719963	6544548	Southern Cross	**<0.005**	<0.005	<0.005	<0.005
WATTRS10	621748	6516043	Merredin	**0.036**	0.023	0.036	0.017
WATTRS11	621619	6516566	Merredin	**0.019**	<0.005	0.019#	<0.005
WATTRS12	567121	6499734	Kellerberrin	**<0.005**	<0.005	<0.005	<0.005
WATTRS13	567853	6500062	Kellerberrin	**0.031**	<0.005	<0.005	<0.005
WATTRS14	468592	6498816	Northam	**0.029**	<0.005	0.009	<0.005
WATTRS15	469392	6498694	Northam	**<0.005**	<0.005	<0.005	<0.005
WATTRS16	406243	6471016	Midland	**0.009**	<0.005	DRY	0.009#
WATTRS17	404494	6470844	Midland	**0.044**	<0.005	0.005	0.044#
WATTRS18	382375	6450549	South Fremantle	**0.014**	0.009	<0.005	<0.005
WATTRS19	382203	6454981	North Fremantle	**0.020**	0.012	DRY	<0.005

NA = No access to rainwater tank, DRY= No water in rainwater tank

This sample was isotopically analysed and has been determined not to be Magellan Metals' lead. The lead reading then becomes Magellan Metals' revised trigger level for the monitoring location.