

Magellan Lead Carbonate Project, Wiluna Environmental Conditions

This document sets out the full and final approval conditions relating to Magellan Metals' transportation of lead carbonate concentrate via the Port of Fremantle using sealed bags and steel containers. It combines the conditions retained from the company's original approvals for transport via Esperance contained in the Minister for Environment's Statement No. 559, and the amended conditions for approval to transport to and through Fremantle Port contained in Statement No. 783 and approved by the Minister for Environment in February 2009, to provide a full and easily accessible list.

The conditions in blue are from Statement 559. Conditions in red are new or slightly amended conditions contained in Statement No.783.

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STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL (PURSUANT TO SECTION 46 OF THE ENVIRONMENTAL PROTECTION ACT 1986)

PROPOSAL BY MAGELLAN METALS

The proposal includes an open-cut lead carbonate mine and processing facilities 30 kilometres west of the Wiluna townsite. The lead carbonate concentrate produced at the mine is transported in sealed bags within locked shipping containers by road from the mine site to Leonora and then by rail to the Port of Fremantle where it is exported.

Proponent: Magellan Metals Pty Ltd

Proponent Address: 96 Welshpool Road
WELSHPOOL WA 6106

Assessment Number: 1773

Previous Assessment Number: 1262 and 1690

Previous Statement Number: Statement No. 559
(published on 28 November 2000)

EPA Report: Bulletin 1314

Previous EPA Report: Bulletin 996 and 1276

The implementation of the proposal to which the above reports of the Environmental Protection Authority relate is subject to the conditions and procedures contained in Ministerial Statement No. 559 (28 November 2000), as amended by the following:

CONDITION 1

Implementation

- 1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.
- 1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

CONDITION 2

Proponent Commitments

- 2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.
- 2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

CONDITION 3

Proponent

- 3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.
- 3-2 Any request for the exercise of that power of the Minister referred to in condition 3-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.
- 3-3 The proponent shall notify the Chief Executive of Environment and Conservation (CEO) of any change of proponent contact name and address within 30 days of such change.

CONDITION 4

Commencement

- 4-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.
- 4-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.
- 4-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 4-1 and 4-2.
- 4-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

CONDITION 5

Compliance Reporting

- 5-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.
- 5-2 The proponent shall submit to the CEO, the compliance assessment plan required by condition 5-1 at least 6 months prior to the first compliance report required by condition 5-6. The compliance assessment plan shall indicate:

- 1. the frequency of compliance reporting;
 - 2. the approach and timing of compliance assessments;
 - 3. the retention of compliance assessments;
 - 4. reporting of potential non-compliances and corrective actions taken;
 - 5. the table of contents of compliance reports; and
 - 6. the public availability of compliance reports.
- 5-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 5-1.
 - 5-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 5-1 and shall make those reports available when requested by the CEO.
 - 5-5 The proponent shall advise the CEO of any potential non-compliance as soon as practicable.
 - 5-6 The proponent shall submit a compliance assessment report annually from the date of amendment of this condition by Ministerial Statement 783 addressing the previous twelve month period or other period as agreed by the CEO. The compliance assessment report shall:
 - 1. be endorsed by the proponent's Managing Director or a person, approved in writing by the Department of Environment and Conservation, delegated to sign on the Managing Director's behalf;
 - 2. include a statement as to whether the proponent has complied with the conditions;
 - 3. identify all potential non-compliances and describe corrective and preventative actions taken;
 - 4. be made publicly available in accordance with approved compliance assessment plan; and
 - 5. indicate any proposed changes to the compliance assessment plan required by condition 5-1.

CONDITION 6

Dust control - Health, Hygiene and Environmental Management Program

- 6-1 The proponent shall ensure that lead carbonate concentrate (other than minor quantities removed for product testing purposes) which is to be removed from the mine-site is dealt with only in accordance with the following procedures:
 - 1. Prior to being removed from the mine-site, lead carbonate concentrate shall be:
 - a. placed into double laminated water-proof and sieve proof bags which are sealed so as to prevent the release of lead carbonate concentrate from the bag;
 - b. all visible dust shall be removed from the exterior of the bags before they are placed in a clean shipping container which when loaded is locked, so that the only material containing lead carbonate is in sealed bags within the container when the container leaves the mine-site.
 - 2. The locked shipping containers shall be transported by road to a designated storage area in Leonora and then by rail from Leonora to Fremantle Port where they will be stored prior to being loaded onto vessels for export.
 - 3. Unless required by a public official or public authority acting with lawful authority or an auditor engaged under

condition 10-1(3), the shipping containers shall be kept locked and the seals on the bags shall not be broken between the time when the shipping container leaves the mine-site and the time it is removed from the State.

4. The moisture content of the lead carbonate concentrate in the sealed bags shall be at least 7.5% at all times between the time when the shipping container leaves the mine-site and the time it is removed from the State.
 5. At all times after they are loaded with sealed bags of lead carbonate concentrate, the shipping containers shall only be lifted by top-lifting machines.
 6. All bags shall be inspected by an auditor engaged under condition 10 after they are sealed and before they are loaded into a shipping container, and all shipping containers shall be inspected by an auditor engaged under condition 10 before being removed from the mine-site.
- 6-2 Prior to removing any shipping containers of lead carbonate concentrate from the mine-site at any time after 1 January 2009, the proponent shall prepare a Health, Hygiene and Environmental Management Program to the requirements of the Minister for Environment on advice of the CEO, the Department of Health and the Department of Mines and Petroleum.

This Health, Hygiene and Environmental Management Program shall make provision for the following matters in a manner which is consistent with the requirements of condition 6-1:

1. document standards, guidelines and codes of practice relating to the management of lead carbonate concentrate;
 2. detail the education and training of the workforce so as to minimise exposure of personnel and to identify areas of risk for lead carbonate exposure;
 3. detail rules and procedures to be applied in mining, processing and storage areas at the Wiluna mine-site to minimise disturbance of lead carbonate concentrate and to ensure that release to the environment is minimised;
 4. detail the process which will be applied to ensure ongoing assessment of the risk of lead carbonate contamination, including environmental biological monitoring to evaluate the environmental and health risks and determine appropriate control measures;
 5. review the existing storage and ship loading facilities at the Port, which is to be conducted by the proponent, prior to the existing facilities being used for lead carbonate concentrate, including
 - a. equipment to be used;
 - b. procedures and monitoring programs to identify potential pathways for lead carbonate to enter the environment, and
 - c. where equipment, management or revised procedures are found to pose a risk to the safe storage and ship loading of the lead carbonate concentrate, additional equipment, management or revised procedures are to be identified and acquired or implemented.
 6. detail rules and procedures to be applied for the packaging and transport of the lead carbonate concentrate from the mine-site through to export from the Port, including the use of top-loading machines for the transport of the shipping containers.
- 6-3 The proponent shall implement the Health, Hygiene and Environmental Management Program required by condition 6-2.

6-4 Revisions to the Health, Hygiene and Environmental Management Program may be approved by the Minister for Environment on advice of the CEO, the Department of Health and the Department of Mines and Petroleum.

6-5 The proponent shall implement revisions of the Health, Hygiene and Environmental Management Program required by condition 6-4.

CONDITION 7

Decommissioning and Rehabilitation Plan

7-1 Prior to the commencement of productive mining, the proponent shall prepare a Decommissioning and Rehabilitation Plan to the requirements of the Environmental Protection Authority on advice of the Department of the Environmental Protection, the Department of Minerals and Energy and the Water and Rivers Commission.

The objectives of this plan are:

- to render the mine-site areas safe and stable; and
- to encourage the re-establishment of self-sustaining ecosystems.

This plan shall address:

1. removal or, if appropriate, retention of plant and infrastructure;
 2. intended final land use;
 3. landform design criteria for the mining pit, tailings storage facilities and waste rock dumps;
 4. proposed scheduling arrangements to ensure sufficient barren material remains at the end of mining to rehabilitate tailings storage facilities and the waste rock dump;
 5. recovery of rehabilitation resource materials, such as topsoils;
 6. a planning and recording mechanism to identify potential contaminated sites requiring future remedial action, such as fuel storage areas, tailings dams, former ore storage areas, hardstands and landfills;
 7. rehabilitation procedures;
 8. development of site-specific criteria for lead contaminated soils;
 9. rehabilitation performance criteria, including demonstrating compliance with appropriate standards for lead contamination, soil stability and ecosystem establishment; and
 10. proposed monitoring program to demonstrate compliance with rehabilitation performance criteria.
- 7-2 The proponent shall implement the Decommissioning and Rehabilitation Plan required by condition 7-1 until such time as the Minister for Environment, on advice of the CEO, determines that decommissioning and rehabilitation are complete.
- 7-3 At least two years prior to the completion of mining, the proponent shall conduct a comprehensive review of the matters referred to in items 1-10 of condition 7-1, to determine if any additional planning, management measures or monitoring are required and to determine if the objectives of the approved plan have been met.
- 7-4 The proponent shall make the Decommissioning and Rehabilitation Plan required by condition 7-1 publicly available, to the requirements of the Environmental Protection Authority.

CONDITION 8

Subterranean Fauna (Stygofauna) Sampling Plan

8-1 Prior to the commencement of productive abstraction of groundwater, the proponent shall prepare a Subterranean Fauna (Stygofauna) Sampling Plan to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Western Australian Museum, the Department of Conservation and Land Management and the Water and Rivers Commission.

The objective of this plan is to increase scientific knowledge about subterranean fauna to assist in conservation of subterranean fauna species.

This plan shall address:

1. subterranean fauna surveys of the areas to be affected by dewatering operations and adjacent areas to assist in establishing the conservation significance of any species within the areas;
 2. an appropriate groundwater monitoring program to ensure that groundwater drawdown is monitored and related to rainfall and climatic data so as to determine if groundwater drawdown is being managed within the expected seasonal fluctuations of the aquifer;
 3. repeat subterranean fauna sampling of the aquifer to monitor the effects of groundwater abstraction; and
 4. specific measures to record and preserve biological information on any species collected in the project area.
- 8-2 The proponent shall implement the Subterranean Fauna (Stygofauna) Sampling Plan required by condition 8-1.
- 8-3 The proponent shall make the Subterranean Fauna (Stygofauna) Sampling Plan required by condition 8-1 publicly available, to the requirements of the Environmental Protection Authority.
- 8-4 The results from the Subterranean Fauna (Stygofauna) Sampling Plan required by condition 8-1 shall be submitted to the Environmental Protection Authority, the Western Australian Museum and the Department of Conservation and Land Management.
- 8-5 Should the Environmental Protection Authority consider, based on the review of the results required by condition 8-4, that its objective to maintain the abundance, species diversity and geographical distribution of subterranean fauna (Stygofauna) would be compromised, then the proponent shall develop an action plan to the requirements and timing of the Environmental Protection Authority.

CONDITION 9

Health, Hygiene and Environmental Monitoring Program

9-1 Prior to removing shipping containers of lead carbonate concentrate from the mine-site at any time after 1 January 2009, the proponent shall prepare a Health, Hygiene and Environmental Monitoring Program to the requirements of the Minister for Environment on advice of the CEO, the Department of Health, and the Department of Mines and Petroleum.

This Health, Hygiene and Environmental Monitoring Program shall:

1. detail the baseline and periodic (maximum interval of 12 months) soil sampling program along the transport route, at the Leonora storage area and at the Port;
2. detail and address the monitoring of air-borne lead dust around the bagging machine and in the concentrate storage shed;

3. detail the monitoring of fixed soil sampling, dust deposition and air quality sampling sites and shall include, but not be limited to, having monitoring sites located within the port and adjacent to the transport route so as to provide an early warning of any fugitive dust; and
4. detail the monitoring of lead in the port marine environment.

- 9.2 The proponent shall implement the Health, Hygiene and Environmental Monitoring Program required by condition 9-1.
- 9.3 Revisions to the Health, Hygiene and Environmental Monitoring Program may be approved by the Minister on advice of the CEO, the Department of Health, and the Department of Mines and Petroleum.
- 9.4 The proponent shall implement revisions of the Health, Hygiene and Environmental Monitoring Program required by condition 9-3.

CONDITION 10

Accredited auditor

- 10-1 Prior to removing shipping containers of lead carbonate concentrate from the mine-site at any time after 1 January 2009, the proponent is to engage the services of, and provided necessary funding for, an independent auditor accredited by an appropriate national body, to be approved by the Minister for Environment on the advice of the CEO. The auditor is to be engaged and funded to undertake the following:
1. auditing the processes for the packaging and transport of the lead carbonate concentrate from the mine-site through to export from the Port, including the use of top-loading machines for the transport of the shipping containers;
 2. inspecting all bags of lead carbonate concentrate after they are sealed, prior to and after they are loaded into shipping containers, and inspecting all shipping containers after they are loaded and locked and prior to their removal from the mine-site for the presence of material containing lead carbonate outside the sealed bags;
 3. carry out random dust monitoring inside containers, by selecting containers at random, without the knowledge of the proponent, and place dust monitors inside those containers prior to their removal from the mine-site, removing the monitors at the port to test for the presence of lead carbonate dust;
 4. immediately reporting any findings to the CEO and the proponent of material containing lead carbonate outside the sealed bags after a shipping container is removed from the mine-site; and
 5. reporting the findings of the inspections, auditing and monitoring to the reference group referred to in Condition 11-1.
- 10-2 Prior to removing shipping containers of lead carbonate concentrate from the mine-site at any time after 1 January 2009, the proponent shall, in consultation with the Department of Environment and Conservation, the Department of Health, and the Department of Mines and Petroleum, establish and document the detailed roles and responsibilities of the auditor engaged under condition 10.

CONDITION 11

Public reporting of outcomes of auditing and monitoring

- 11-1 The proponent is to ensure that an auditor engaged under Condition 10 reports the findings of the inspections, auditing and monitoring, in the first instance, to an appropriate reference group with relevant community representation, as determined by the Minister for Environment, and make publicly available immediately thereafter. Until otherwise determined by the Minister, the reference group shall be the Fremantle Ports Inner Harbour Community Liaison Group established by the Fremantle Port Authority.
- 11-2 The proponent shall report all findings of the Health, Hygiene and Environmental Monitoring Program to the reference group referred to in Conditions 11-1 at least once every calendar year.

CONDITION 12

Emergency Response Plan

- 12-1 In the event that material containing lead carbonate is released from a shipping container into the environment at any point between the time the shipping container leaves the mine-site and the time it is removed from the State, the proponent shall ensure that all lead carbonate is removed from the affected environment.
- 12-2 Prior to removing shipping containers of lead carbonate concentrate from the mine-site at any time after 1 January 2009, the proponent shall develop a detailed Emergency Response Plan, to the requirements of the Minister for Environment on advice of the CEO, Fire and Emergency Service Authority, the Port Authority and relevant Local Governments. The Emergency Response Plan shall include:
1. emergency response procedures to respond to the release of material containing lead carbonate from the shipping containers at any point between the time the shipping container leaves the mine-site and the time it is removed from the State.
 2. emergency response procedures to respond to the release of material containing lead carbonate from the sealed bags into the shipping container at any point between the time the shipping container leaves the mine-site and the time it is removed from the State.
 3. post-incident clean-up sampling to determine the effectiveness of the clean-up; and
 4. procedures for reporting to the Department of Environment and Conservation and the relevant Local Government Authority
- 12-3 The proponent shall implement the Emergency Response Plan required by condition 12-2.
- 12-4 Revisions to the Emergency Response Plan may be approved by the Minister for Environment on advice of the CEO, Fire and Emergency Service Authority, the Port Authority and relevant Local Governments.
- 12-5 The proponent shall implement revisions of the Emergency Response Plan required by condition 12-4.

CONDITION 13

Performance review

- 13-1 Within 21 months of the first removal of shipping containers of lead carbonate concentrate from the mine-site after 1 January 2009 the proponent shall report to the Minister for Environment

and the reference group referred to in Condition 11 on the following matters as they relate to the period ending 18 months after that first removal of shipping containers:

1. Report any non-compliance with conditions 6, 9, 10, and 12;
2. Describe the causes of any non-compliance with those conditions;
3. Describe the additional measures that have been put in place to ensure compliance;
4. Report the number of incidents of the presence of dust containing lead carbonate and those that can be attributed to the proponent's activities; and
5. Review the Health, Hygiene and Environmental Monitoring Program and suggestions for changes.

CONDITION 14

Finance Assurance

- 14-1 As security for the due and punctual observance and performance by the proponent of the requirements of conditions 6-1 and 12-1, the proponent shall, prior to removing shipping containers of lead carbonate concentrate from the mine-site at any time after 1 January 2009, provide to the CEO, to be replaced every five years in accordance with the 14-2, a financial assurance for the benefit of both the Minister and the CEO and which is in the form of an unconditional and irrevocable bank guarantee, from a guarantor acceptable to the CEO and in a form acceptable to the CEO, in the amount specified in condition 14-2.
- 14-2 The financial assurance shall be for an initial amount of AU\$5 million and shall be substituted every five years after the provision of the first guarantee with the fixed initial amount of each successive guarantee being indexed to inflation (being the Consumer Price Index, Perth).
- 14-3 In the event that the guarantor referred to in condition 14-1 terminates its liability under the bank guarantee by paying to the Minister or the CEO the balance of the financial assurance remaining unpaid, the CEO will hold the financial assurance (being the amount paid by the guarantor upon termination), as the security for the due and punctual observance and performance by the proponent of the requirements of conditions 6-1 and 12-1, in an interest bearing account nominated by the CEO, with the interest accruing for the benefit of the Minister or the CEO.
- 14-4 The financial assurance may be called on or used in accordance with section 86E of the *Environmental Protection Act 1986* if the proponent fails to implement the proposal in accordance with the conditions 6-1 or 12-1.
- 14-5 The financial assurance shall be discharged by the CEO and the Minister when the CEO has given the proponent written notice pursuant to the section 86F(1) of the *Environmental Protection Act 1986*.

CONDITION 15

Definitions

In these conditions:

"mine-site" means the boundaries of mining tenement number(s) M53/502, M53/503, M53/504"

“Schedule 1 (Revised)”

The Proposal (Assessment No. 1262, 1690 and 1773)

The development of an open-cut mine, waste rock dump, tailings storage facilities, associated infrastructure, and processing facilities approximately 30 kilometres west of Wiluna.

Lead concentrates produced at the mine will be contained in sealed bulk bags with a double-laminated wall within locked steel shipping containers and transported by road to Leonora and then by rail to the Port of Fremantle, where it will be exported.

A gas-fired power station and accommodation camp are constructed to service the mine-site.

The mining operations are being supplied with water from a borefield south-east of the mine.

The general arrangement of the mine and process facilities and a number of monitoring sites are documented in Figures 1, 2 and 3 (as attached to Statement No. 559)

The key proposal characteristics are presented in Table 1.

Table 1: Key Proposal Characteristics Table

Project characteristic	Quantities/Description
Life of the project (mine production)	Up to 10 years
Size of ore body	Not more than 8.2 million tonnes
Depth of mine pit	Not more than 50 metres
Area of disturbance (including access)	Not more than 320 hectares
Major components:	
▪ Open pit	55 hectares
▪ Waste dumps	138 hectares
▪ Infrastructure (plant site water supply, roads, accommodation camp, etc)	57 hectares
▪ Tailings storage facilities	70 hectares
Total area	320 hectares
Tailings storage facility (2 cells)	Combined total capacity of 4 million tonnes
Ore mining rate	1 million tonnes per year (maximum)
Solid waste materials	2.4 million tonnes per year (maximum)
Water supply:	
▪ Source	Calcrete and chert aquifers southeast of the mine-site
▪ Maximum hourly requirement	170 kilolitres per hour
▪ Maximum annual requirement	1.5 million kilolitres per annum
Lead concentrate transport	Road to Leonora and then rail to the Port of Fremantle in sealed bulk bags within locked steel shipping containers
Power generation	Natural gas – up to 139 terra joules per annum
Fuel storage:	
▪ Capacity	50 kilolitres of storage
▪ Quantity used	1.8 million litres per year (approximately)