



## MINISTER FOR ENVIRONMENT; WATER

### NOTICE OF INTERIM IMPLEMENTATION CONDITIONS

Section 46A  
*Environmental Protection Act 1986*

**Proponent:** Magellan Metals Pty Ltd (ACN 075 523 661)

**Proposal:** Magellan Lead Carbonate Project. 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-site 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 Address:** 96 Welshpool Road, WELSHPOOL WA 6106

**Statements to which this Notice relates:** Statement 559 dated 28 November 2000 and Statement 783 dated 2 February 2009

1. Pursuant to section 46A(1) of the *Environmental Protection Act 1986* the Interim Implementation Conditions set out in Schedule A attached to this Notice are to have effect instead of the implementation conditions set out in Statement 559 dated 28 November 2000 as amended by Statement 783 dated 2 February 2009.
2. The Interim Implementation Conditions in Schedule A will have effect until a further statement is published under section 45(5) as applied by section 46(8) of the *Environmental Protection Act 1986*.

Hon Bill Marmion MLA  
**MINISTER FOR ENVIRONMENT; WATER**

**23 FEB 2011**

Attachment: Schedule A - Interim Implementation Conditions

## **Schedule A**

### **Interim Implementation Conditions**

#### **1 Implementation**

- 1-1 Subject to these Interim Implementation Conditions, the proponent shall implement the proposal as documented in Attachment 1 of these Interim Implementation Conditions.

#### **2 Proponent Commitments**

- 2-1 The proponent shall implement the consolidated environmental management commitments documented in Attachment 2 of these Interim Implementation Conditions.

#### **3 Proponent**

- 3-1 The proponent for the time being nominated by the Minister for Environment under section 38(b) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for 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 Office of the Environmental Protection Authority of any change of proponent contact name and address within 30 days of such change.

#### **4 Compliance Reporting**

- 4-1 The proponent shall maintain to the satisfaction of the Chief Executive Officer of the Office of the Environmental Protection Authority (CEO) the Compliance Assessment Plan (Ivernia Magellan Metals Pty Ltd, July 2009) approved by the Chief Executive Officer of the Department of Environment and Conservation on 31 July 2009.
- 4-2 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by Condition 4-1.

- 4-3 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by Condition 4-1 and shall make those reports available when requested by the CEO.
- 4-4 The proponent shall advise the CEO of any potential non-compliance as soon as practicable.
- 4-5 The proponent shall submit a compliance assessment report annually from 31 March 2011 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 the approved compliance assessment plan; and
  - 5 indicate any proposed changes to the compliance assessment plan required by Condition 4-1.

## **5 Dust control - Health, Hygiene and Environmental Management Program**

- 5-1 Subject to Condition 5-2, the proponent shall implement the Health, Hygiene and Environmental Management Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or revisions approved by the Minister for Environment.
- 5-2 If there is an inconsistency or difference between the Health, Hygiene and Environmental Management Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 and these Interim Implementation Conditions, these Interim Implementation Conditions shall prevail and are to be complied with to the extent of any inconsistency or difference.
- 5-3 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 area in Leonora and stored in a secure manner and then by rail from Leonora to Fremantle Port where they will be stored in a secure manner prior to being loaded onto vessels for export;
3. Unless required by a public official or public authority acting with lawful authority or the Independent Accredited Auditor engaged under condition 9-1(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 the time the shipping container leaves the mine-site;
5. At all times after being 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 the Independent Accredited Auditor engaged under condition 9-1 after they are sealed and before they are loaded into a shipping container, and all shipping containers shall be inspected by the Independent Accredited Auditor engaged under condition 9-1 before being removed from the mine-site.

## **6 Decommissioning and Rehabilitation Plan**

- 6-1 Within twelve months of the date of issue of this Notice of Interim Implementation Conditions, the proponent shall prepare a Decommissioning and Rehabilitation Plan to the requirements of the Office of the Environmental Protection Authority on advice of the Department of Mines and Petroleum.

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.

The 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, tailing 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, tailing dams, former ore storage areas, hardstands and landfills;
  7. rehabilitation procedures;
  8. develop 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.
- 6-2 The proponent shall implement the Decommissioning and Rehabilitation Plan required by Condition 6-1 until such time as the Minister for the Environment, on advice of the CEO and the Department of Mines and Petroleum, determines that decommissioning and rehabilitation are complete.
- 6-3 At least two years prior to the completion of mining, the proponent shall conduct a comprehensive review of the matters referred to in clauses 1-10 of Condition 6-1, 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.
- 6-4 The proponent shall make the Decommissioning and Rehabilitation Plan required by Condition 6-1 publicly available on the proponent's website within three business days of approval.
- 7 Subterranean Fauna (Stygofauna) Sampling Plan**
- 7-1 The proponent shall implement the Subterranean Fauna (Stygofauna) Sampling Plan (Biota, January 2005) approved on 18 July 2005, as amended by letter (Ivernia Magellan Metals Pty Ltd, 4 April 2009) approved on 25 May 2009.
- 7-2 The proponent shall make the Subterranean Fauna (Stygofauna) Sampling Plan required by condition 7-1 publicly available on the proponent's website by 1 March 2011.
- 7-3 The results from the Subterranean Fauna (Stygofauna) Sampling Plan required by Condition 7-1 shall be submitted to the Office of the Environmental Protection Authority in the compliance assessment reports required pursuant to Condition 4-5.

## **8 Health, Hygiene and Environmental Monitoring Program**

- 8-1 Subject to Condition 8-2, the proponent shall implement the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or revisions approved by the Minister for Environment.
- 8-2 If there is an inconsistency or difference between the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 and these Interim Implementation Conditions, these Interim Implementation Conditions shall prevail and are to be complied with to the extent of any inconsistency or difference.

## **9 Accredited auditor**

- 9-1 The Independent Accredited Auditor engaged by the proponent and approved by the Minister for Environment on 13 August 2009, or such other Independent Accredited Auditor as approved by the Minister for Environment, must continue to be engaged and funded by the proponent to undertake the following tasks in an independent manner at all times when shipping containers of lead carbonate is removed from the mine-site:
  - 1. Auditing the processes for the packaging and transport of the lead carbonate concentrate from the mine-site through to export from the Port of Fremantle, 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 shipping containers, by randomly selecting at least 1% of containers averaged over a quarter of a calendar year, 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 of Fremantle to test for the presence of lead carbonate dust;
  - 4. Carry out quality assurance procedures relevant to the random dust monitoring inside the shipping containers to the satisfaction of the CEO; and
  - 5. Recording observations of any visible dust inside those containers opened at the Port of Fremantle pursuant to Condition 9-1(3).

## **10 Reporting of outcomes of auditing and monitoring**

- 10-1 The proponent shall ensure that all reports received from the Independent Accredited Auditor engaged under Condition 9-1 are provided no later than the next business day to the CEO and to an appropriate reference group with relevant

community representation, as determined by the Minister for Environment, and made publicly available on the proponent's website within three business days. 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.

10-2 The proponent shall report all findings of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, to the reference group referred to in Condition 10-1 at least once every calendar year.

10-3 All obligations of the Independent Accredited Auditor to report to the CEO, other government agencies, reference groups or the public required by or referred to in any plans, programs or other documents which the proponent is required to implement, shall, by virtue of this condition, be the proponent's responsibility.

## **11 Emergency Response Plan**

11-1 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.

11-2 The proponent shall implement the Emergency Response Plan (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009.

11-3 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.

11-4 The proponent shall implement revisions of the Emergency Response Plan approved pursuant to Condition 11-3.

## **12 Performance review**

12-1 The proponent shall report by 19 June 2011 to the Minister for Environment and the reference group referred to in Condition 10 on the following matters as they relate to the period commencing from first removal of shipping containers from the mine-site in 2009 and ending on 19 March 2011:

1. Report any non-compliance with conditions 5, 8, 9 and 11;
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 (Strategen, June 2009) or any revisions approved by the Minister for Environment and make suggestions for changes.

### **13 Financial assurance**

- 13-1 The unconditional and irrevocable bank guarantee from Australia and New Zealand Banking Group Limited dated 9 September 2009, in the amount of AU\$5 million provided to the Chief Executive Officer of the Department of Environment and Conservation on 10 September 2009 as security for the due and punctual observance and performance by the proponent of the requirements of Conditions 5-3 and 11-1, or such other security on the same terms as may be approved by the CEO, shall be maintained by the proponent and is to be replaced every five years in accordance with Condition 13-2.
- 13-2 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).
- 13-3 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 security for the due and punctual observance and performance by the proponent of the requirements of conditions 5-3 and 11-1, in an interest bearing account nominated by the CEO, with the interest accruing for the benefit of the Minister or the CEO.
- 13-4 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 conditions 5-3 or 11-1.
- 13-5 The financial assurance shall be discharged by the CEO and the Minister when the CEO has given the proponent written notice pursuant to section 86F(1) of the *Environmental Protection Act 1986*.

### **14 Sampling Programs**

- 14-1 The proponent shall conduct the sampling programs required pursuant to sections 4.3.2 (“Transport route monitoring program”) and 5.3.2 (“Monitoring program within Fremantle Ports”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, in accordance with the following table:



<b>Description</b>	<b>Locations of sampling (as shown in Figures 2 to 16)</b>	<b>Frequency of sampling</b>	<b>Units of reporting</b>
Water sampling in rainwater tanks	WATTRS01 – WATTRS19	Six-monthly, during January/February and July/August	mg/L
Dust deposition sampling	SDMTRS01 - SDMTRS07, SDMTRS20 and SDMTRS21	Monthly	mg/m <sup>2</sup> /month
Dust deposition sampling	SDMTRS08 - SDMTRS19	Six-monthly, during March/April and September/October	mg/m <sup>2</sup> /month
High volume air sampling	Passenger Terminal and Berth 12	One continuous 24 hour period every six days, plus one extra continuous 24 hours period within the six days during unloading or loading of Magellan shipping containers	µg/m <sup>3</sup>
Soil sampling	DMTRS01 – DMTRS251	Annually, during July/August	mg/kg
Sediment sampling within drainage sumps	SUMPTRS01, SUMPTRS02, SUMPTRS03(A), SUMPTRS03(B), SUMPTRS04(A), SUMPTRS04(B), SUMPTRS05 - SUMPTRS13	Six-monthly, during March/April and September/October	mg/kg
Marine sediment sampling	P1-P12, DP1 – DP7 and CO2	Six-monthly, during January/February and July/August	mg/kg

## **15 Sampling analysis and reporting timing obligations**

15-1 The proponent shall ensure that all monitoring samples which are required to be collected pursuant to sections 4.3.2 (“Transport route monitoring program”) and 5.3.2 (“Monitoring program within Fremantle Ports”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, are despatched for laboratory analysis:

1. no later than the next business day following collection for samples collected within the Perth Metropolitan Region; and
2. no later than five business days of being collected for samples collected outside of the Perth Metropolitan Region.

15-2 The proponent shall ensure that each monitoring sample which is required to be isotopically tested pursuant to sections 4.4 (“Performance of controls and

contingencies”) and 5.4 (“Performance of controls and contingencies”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, is despatched for laboratory analysis no later than the next business day after the proponent receives the certificate of analysis confirming a monitoring result exceeds the baseline trigger level for a sample site.

- 15-3 The Managing Director of the proponent, or his delegate approved by the CEO, shall ensure that a copy of the certificates of analysis of all monitoring results above the baseline trigger level for a site monitored pursuant to sections 4.3.2 (“Transport route monitoring program) and 5.3.2 (“Monitoring program within Fremantle Ports) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009), are reported to the Office of the Environmental Protection Authority, Department of Environment and Conservation, Department of Health, Department of Mines and Petroleum, Department of Transport, Fremantle Port Authority and the relevant local authority, no later than the next business day following receipt by the proponent.
- 15-4 The Managing Director of the proponent, or his delegate approved by the CEO, shall ensure that a copy of the certificates of analysis for isotopic testing pursuant to sections 4.4 (“Performance of controls and contingencies”) and 5.4 (“Performance of controls and contingencies”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment is provided to the Office of the Environmental Protection Authority, Department of Environment and Conservation, Department of Health, Department of Mines and Petroleum, Department of Transport, Fremantle Port Authority and the relevant local authority, no later than the next business day following receipt by the proponent.
- 15-5 The proponent shall provide the Office of the Environmental Protection Authority with a report, in a format approved by the CEO, on the first business day of every month, with the first report to be submitted 1 March 2011, which includes:
1. details of all monitoring samples collected in the preceding month;
  2. copies of certificates of analysis and chains of custody for all monitoring results received in the preceding month; and
  3. a comparison of all results received in the preceding month to baseline trigger levels.

## **16 Monitoring triggers, contingency measures and ceasing transport**

- 16-1 The proponent shall ensure that it complies with the monitoring triggers and contingency measures outlined in sections 4.4 (“Performance of controls and contingencies”) and 5.4 (“Performance of controls and contingencies”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009)

approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment.

16-2 The proponent shall immediately cease transport of any further lead carbonate from the mine-site if the results of the isotopic testing undertaken in accordance with the contingency measures outlined in sections 4.4 (“Performance of controls and contingencies”) and 5.4 (“Performance of controls and contingencies”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, demonstrate exceedance of the baseline trigger level at a sample site.

16-3 If after the date of issue of these Interim Implementation Conditions the proponent ceases transport of lead carbonate as a result of complying with any contingency measure outlined in sections 4.4 (“Performance of controls and contingencies”) or 5.4 (“Performance of controls and contingencies”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, it may only recommence transport in accordance with a Re-commencement Plan approved by the CEO which:

1. Outlines the reasons for the ceasing of transport;
2. Provides the results of the investigation designed in accordance with section 4.4 (“Performance of controls and contingencies”) or section 5.4 (“Performance of controls and contingencies”) of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, into the source and extent of the lead;
3. Provides the results of a review of packaging and transport procedures;
4. Provides the plans of any clean-up required pursuant to Condition 11-1 or results thereof if completed; and
5. Proposes management and monitoring measures for the re-commencement of transport.

## **17 Ongoing audits of Health, Hygiene and Environmental Management Program**

17-1 The proponent shall appoint an independent third party approved by the CEO to undertake a compliance/assurance audit in accordance with an audit scope approved by the CEO, and provide a report on, the implementation of, or parts thereof, the Health, Hygiene and Environmental Management Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment, regardless of the responsible parties described in the Health, Hygiene and Environmental Management Program.

- 17-2 The proponent shall ensure that the first audit required pursuant to Condition 17-1 is completed for the period 1 January 2011 to 31 March 2011 and the report provided by 30 April 2011. Subsequent audits will be undertaken at three monthly intervals beginning from 1 April 2011 and the reports provided within 30 days of the end of the three monthly period.

## **18 Ongoing audits of Health, Hygiene and Environmental Monitoring Program**

- 18-1 The proponent shall appoint an independent third party approved by the CEO to undertake a compliance/assurance audit in accordance with an audit scope approved by the CEO, and provide a report on, the implementation of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009, or any revisions approved by the Minister for Environment.
- 18-2 The proponent shall ensure that the first audit required pursuant to Condition 18-1 is completed for the period 1 January 2011 to 31 March 2011 and the report provided by 30 April 2011. Subsequent audits will be undertaken at three monthly intervals beginning from 1 April 2011 and the reports provided within 30 days of the end of the three monthly period.

## **19 Audit reports to be made publicly available**

- 19-1 The proponent shall ensure that all reports received from the independent third parties engaged under Conditions 17 and 18 are provided no later than the next business day to the Office of the Environmental Protection Authority, Department of Environment and Conservation, Department of Health, Department of Mines and Petroleum, Department of Transport, Fremantle Port Authority, relevant local government authority and Fremantle Ports Inner Harbour Community Liaison Group, and made publicly available on the proponent's website within 3 business days.

## **20 Interpretation**

- 20-1 If there is an inconsistency or difference between any plans, programs or documents which the proponent is required to implement and these Interim Implementation Conditions, these Interim Implementation Conditions shall prevail and are to be complied with to the extent of any inconsistency or difference.
- 20-2 References to "auditor engaged under condition 10" in any plans, programs or documents which the proponent is required to implement, is to be read as a reference to the Independent Accredited Auditor required to be engaged by the proponent in accordance with Condition 9-1 of these Interim Implementation Conditions.

## 21 Definitions

In these conditions:

“baseline trigger levels” means as described in the following table:

Type of sampling	Baseline Trigger Level (Total Lead)
Benthic Sediment Sampling	a. As described in ‘Benthic Sediment Sampling – Lead Baseline Trigger Levels’ (Ivernia Magellan Metals, 17 February 2011) or as updated in accordance with Appendix 1 of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 or any revisions approved by the Minister for Environment; or b. 50 mg/kg (dry weight), whichever is lower.
Drainage Sump Sampling	a. As described in the document ‘Drainage Sump Sampling – Lead Baseline Trigger Levels’ (Ivernia Magellan Metals, 17 February 2011) or as updated in accordance with Appendix 1 of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 or any revisions approved by the Minister for Environment; or b. 1500 mg/kg (dry weight), whichever is lower
Soil Sampling	a. As described in the document ‘Soil Sampling – Lead Baseline Trigger Levels’ (Ivernia Magellan Metals, 17 February 2011) or as updated in accordance with Appendix 1 of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 or any revisions approved by the Minister for Environment; or b. 1500 mg/kg (dry weight), whichever is lower.
Rainwater Tank Sampling	a. As described in the document ‘Rainwater Tank Sampling – Lead Baseline Trigger Levels’ (Ivernia Magellan Metals, 17 February 2011) or as updated in accordance with Appendix 1 of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 or any revisions approved by the Minister for Environment; or b. 0.01 mg/L, whichever is lower.

Ambient High Volume Sampling	<p>a. As described in the document ‘High Volume Air Sampling’ (Ivernia Magellan Metals, 17 February 2011) or as updated in accordance with Appendix 1 of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 or any revisions approved by the Minister for Environment; or</p> <p>b. <math>0.5 \mu\text{g}/\text{m}^3</math>, whichever is lower.</p>
Static Dust Sampling	As described in ‘Static Dust Sampling – Lead Baseline Trigger Levels’ (Ivernia Magellan Metals, 18 February 2011) or as updated in accordance with Appendix 1 of the Health, Hygiene and Environmental Monitoring Program (Strategen, June 2009) approved by the Minister for Environment on 13 August 2009 or any revisions approved by the Minister for Environment.
Shipping Container air sampling	$20 \mu\text{g}/\text{m}^3$

“business day” means a day that is not a Saturday, a Sunday or a public holiday in Western Australia.

“ $\mu\text{g}/\text{m}^3$ ” means micrograms per cubic metre.

“mg/kg” means milligrams per kilogram.

“mg/L” means milligrams per litre.

“ $\text{mg}/\text{m}^2/\text{month}$ ” means milligrams per square metre per month.

“mine-site” means the boundaries of mining tenement numbers M53/502, M53/503 and M53/504.

“Perth Metropolitan Region” means the area defined by the Perth Metropolitan Region Scheme map (Western Australian Planning Commission), as amended from time to time.

### **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 concentrate 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 proposal location is shown in Figure 1, the sampling sites are shown in Figures 2 to 16 and the general arrangement of the mine and process facilities are shown in Figures 17 and 18.

The key proposal characteristics are presented in Table 1.

**Table 1: Key Proposal Characteristics Table.**

<b>Project characteristic</b>	<b>Quantities/Description</b>
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: <ul style="list-style-type: none"> <li>• Open pit</li> <li>• Waste dumps</li> <li>• Infrastructure (plant site water supply, roads, accommodation camp, etc)</li> <li>• Tailings storage facilities</li> </ul> <b>TOTAL AREA</b>	55 hectares 138 hectares 57 hectares 70 hectares 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: <ul style="list-style-type: none"> <li>• Source</li> <li>• Maximum hourly requirement</li> <li>• Maximum annual requirement</li> </ul>	Calcrete and chert aquifers southeast of the mine site 170 kilolitres per hour 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: <ul style="list-style-type: none"> <li>• Capacity</li> <li>• Quantity used</li> </ul>	50 kilolitres of storage 1.8 million litres per year (approximately)”



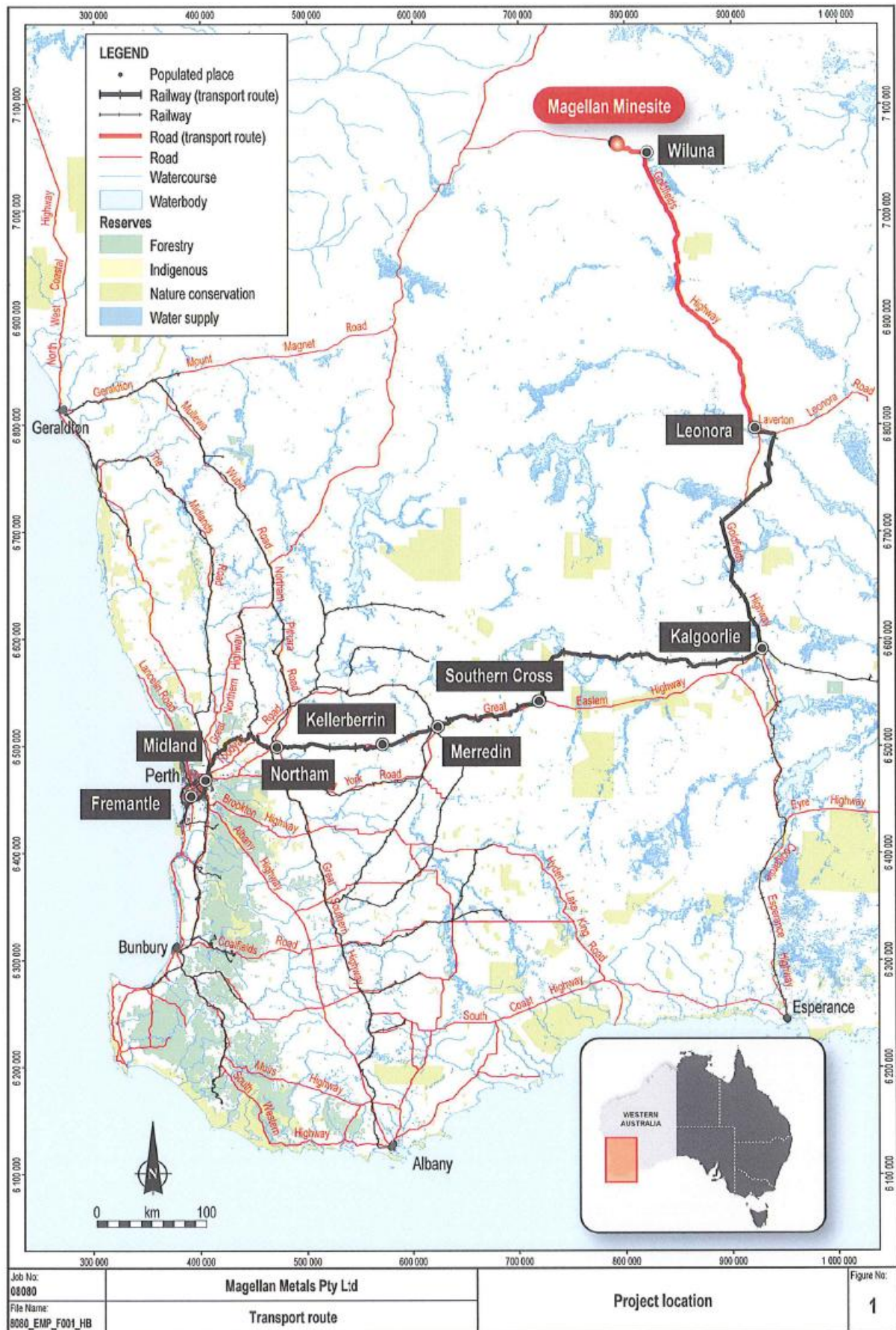


Figure 1. Location of the Magellan Lead Carbonate Project, including the transport route.



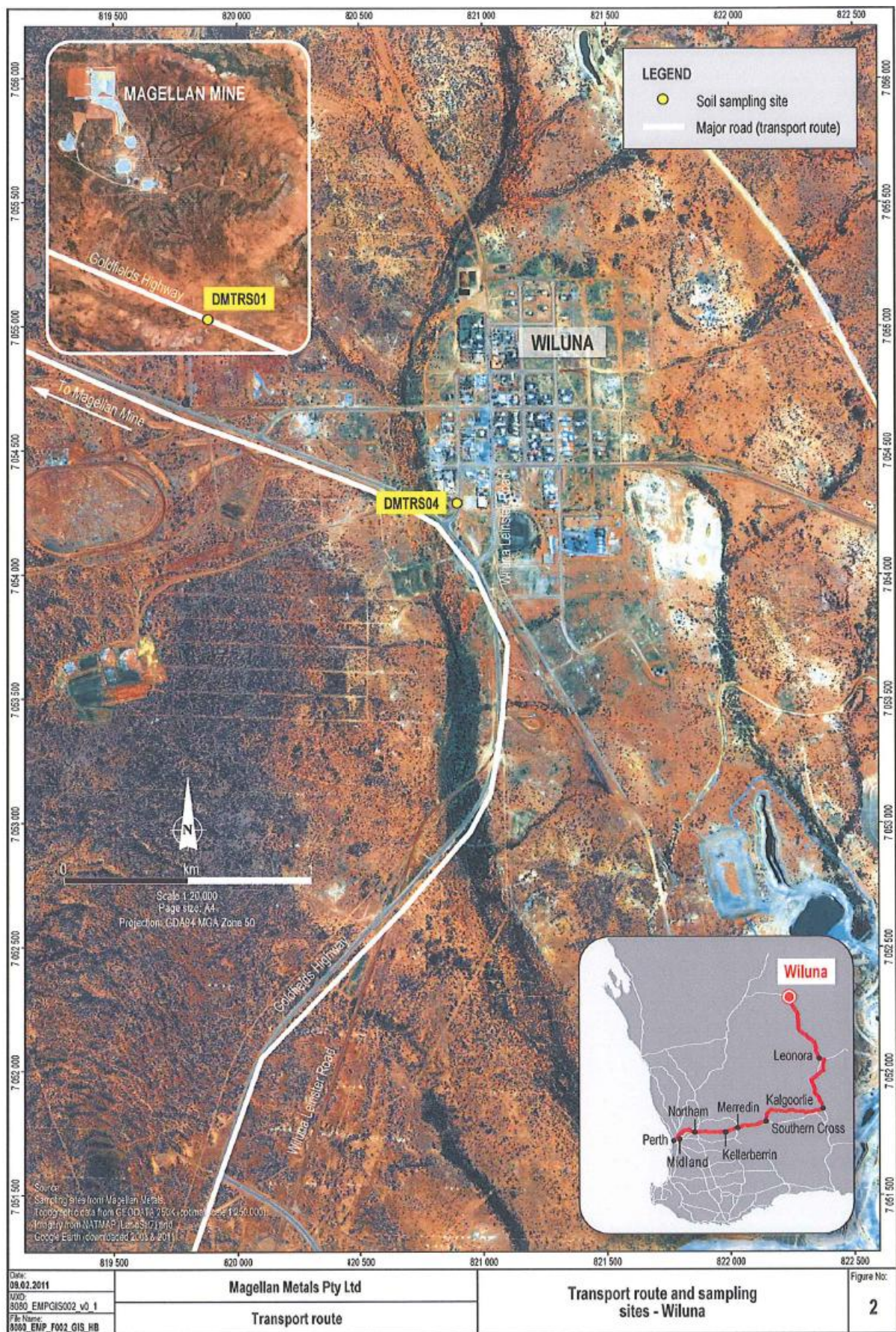


Figure 2. Sampling sites – Wiluna.



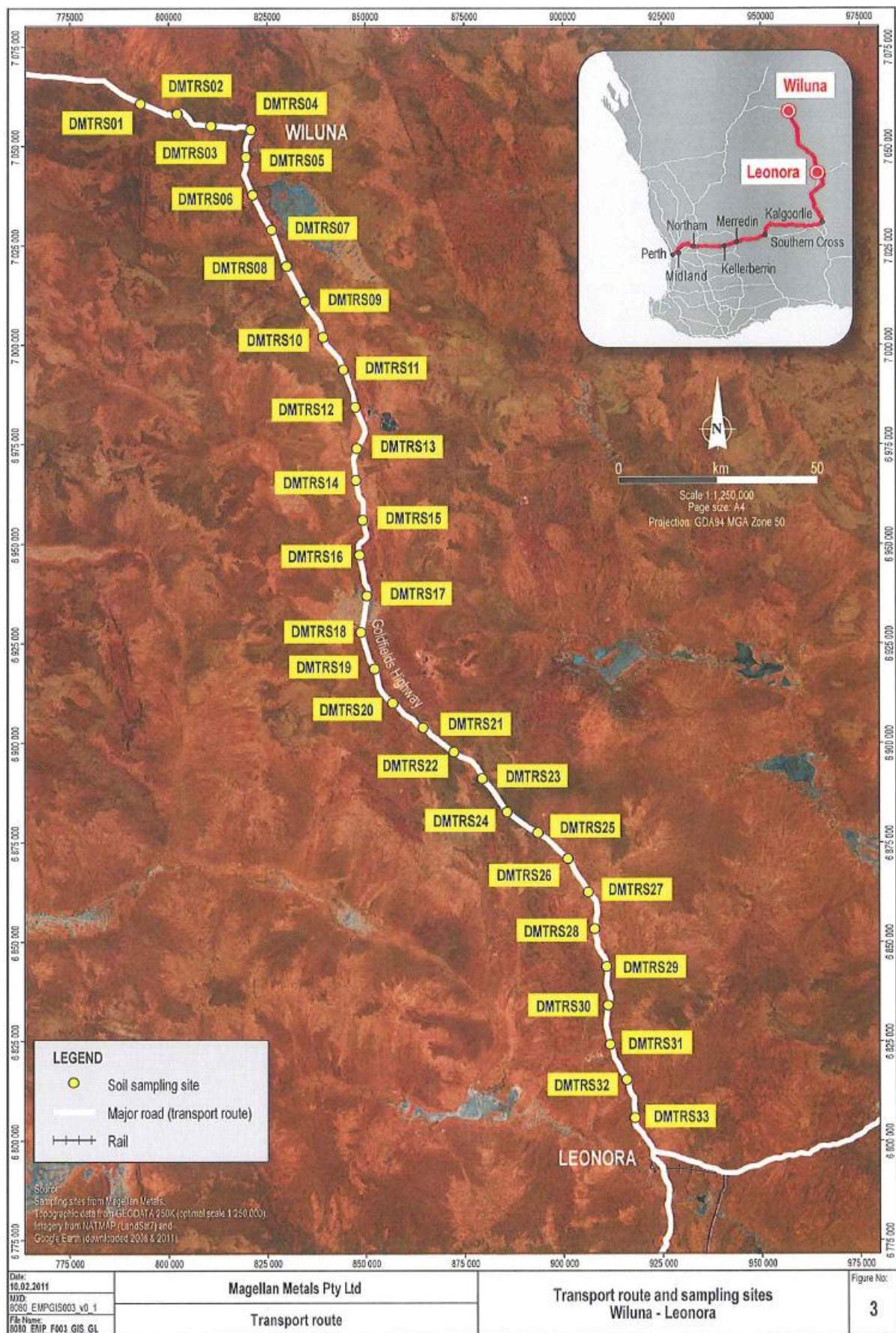


Figure 3. Sampling sites – Wiluna to Leonora.



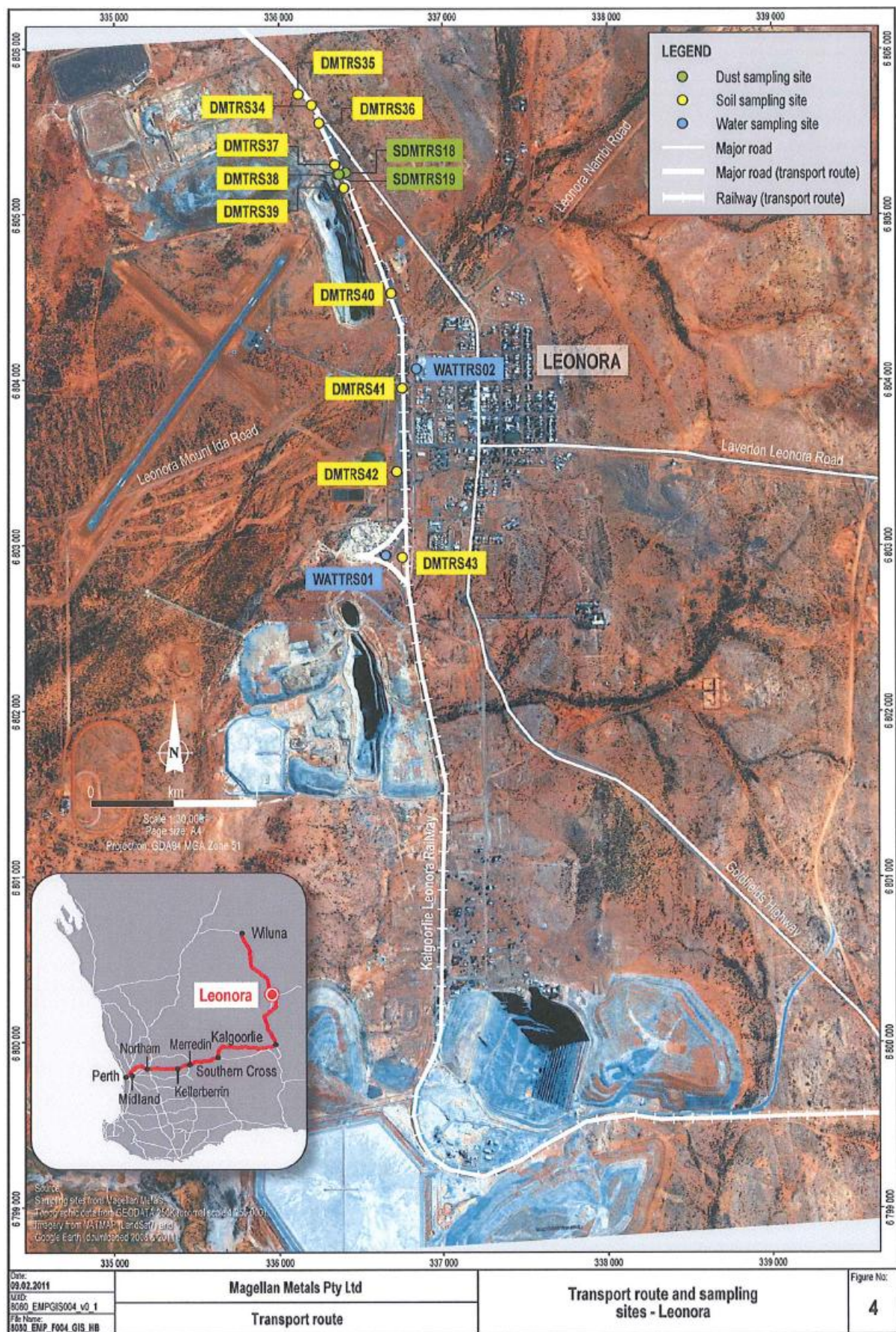


Figure 4. Sampling sites – Leonora.



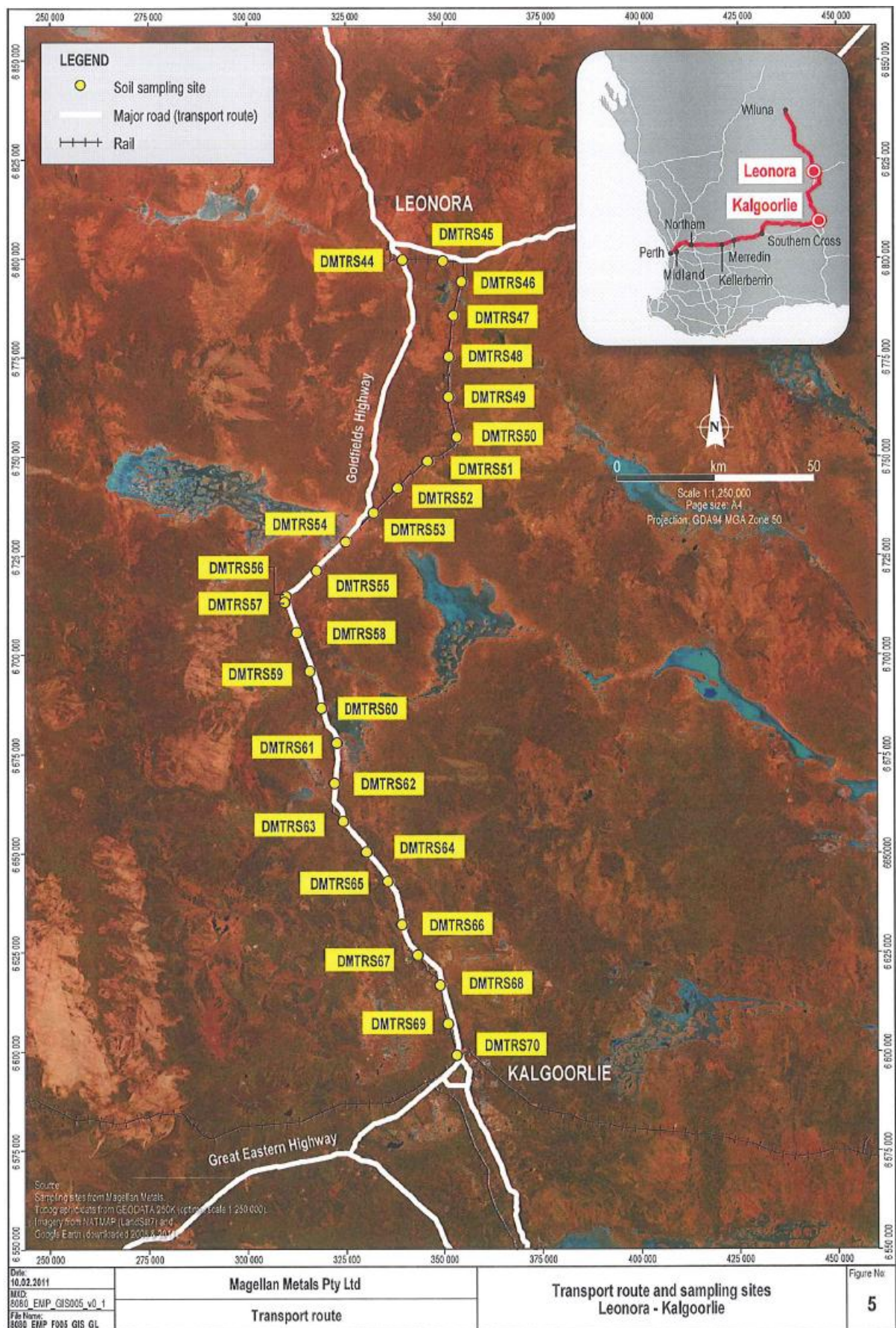


Figure 5. Sampling sites – Leonora to Kalgoorlie.





Figure 6. Sampling sites – Kalgoorlie.



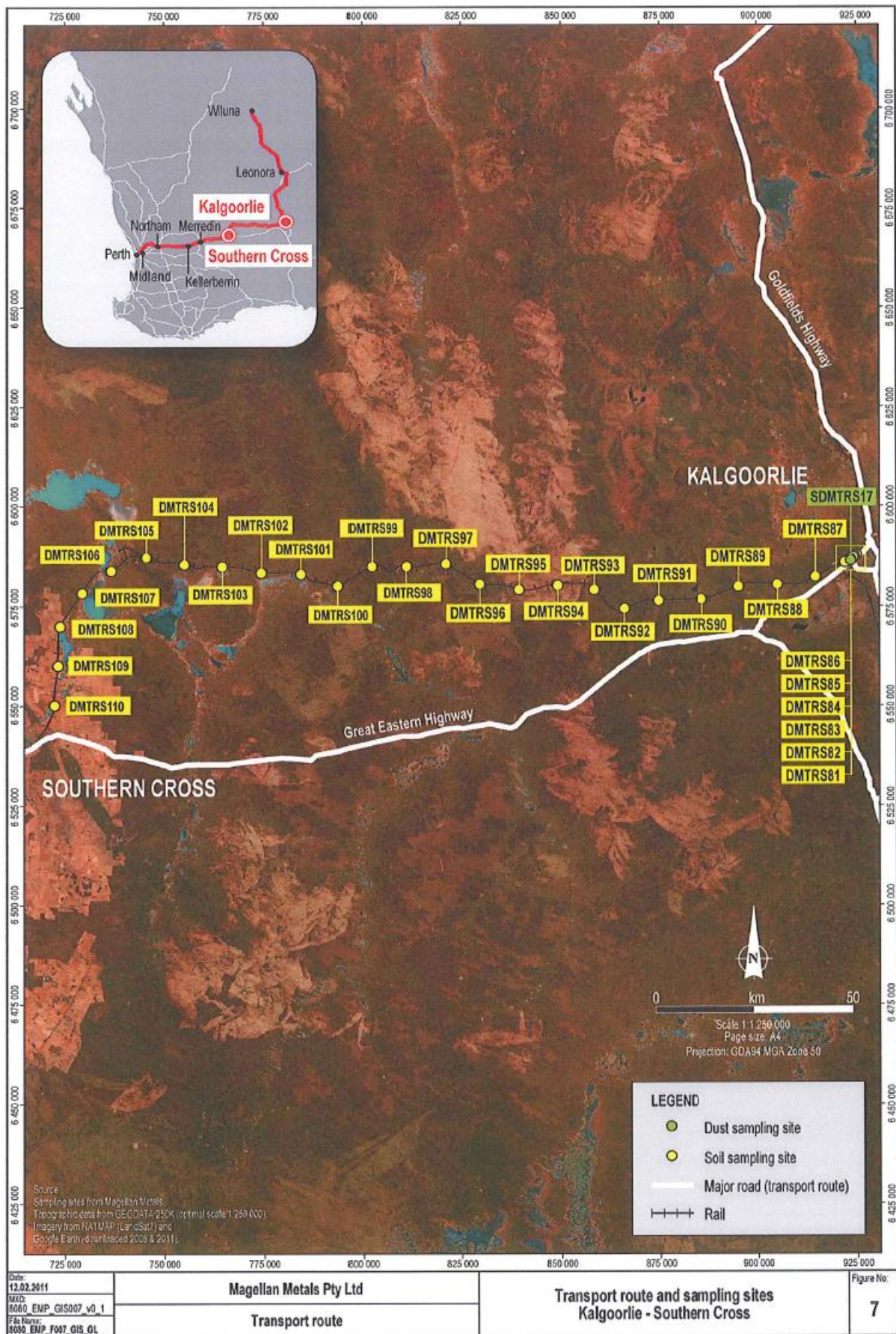


Figure 7. Sampling sites – Kalgoorlie to Southern Cross.





Figure 8. Sampling sites – Southern Cross.



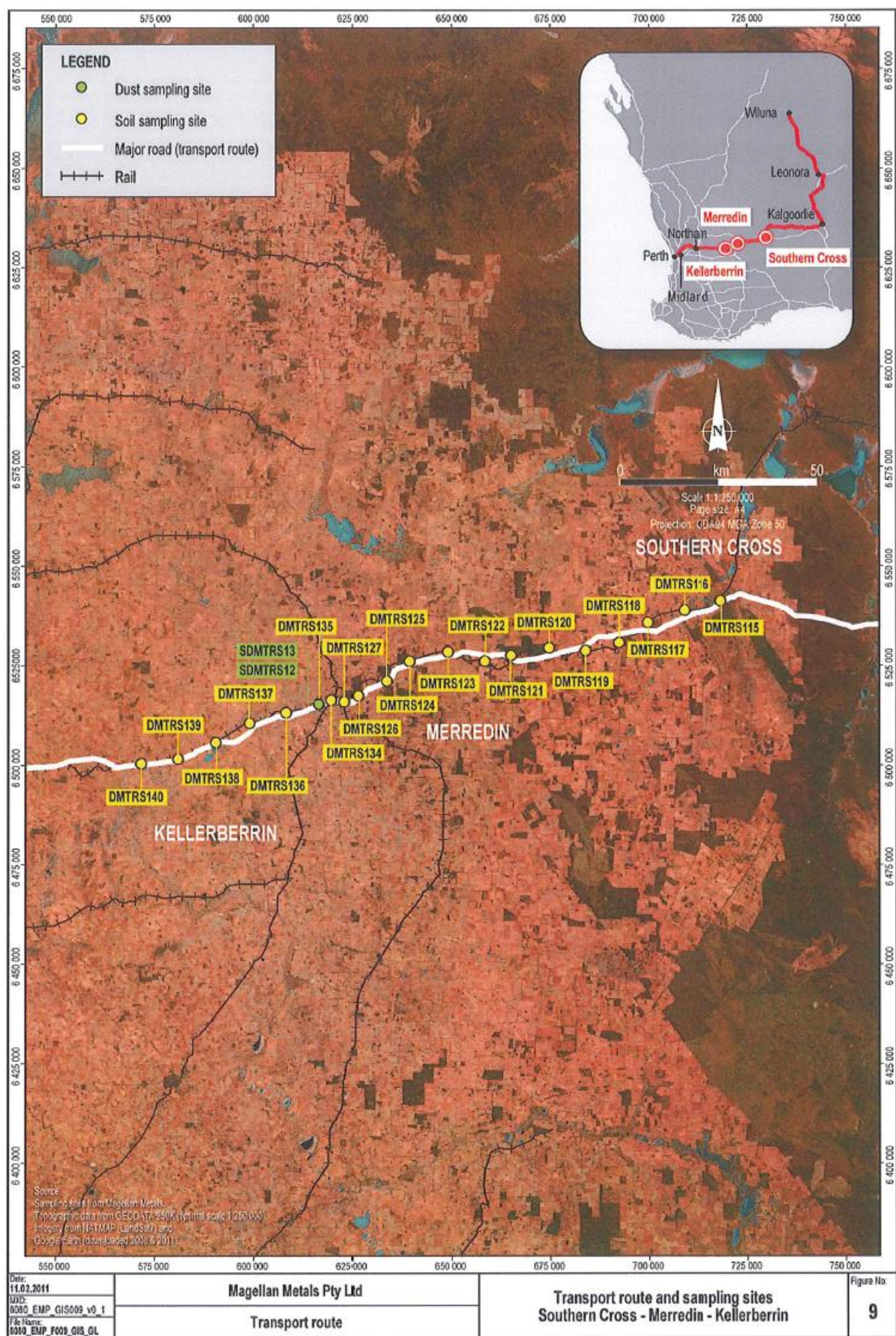


Figure 9. Sampling sites – Merredin to Kellerberrin.





Figure 10. Sampling sites – Merredin.



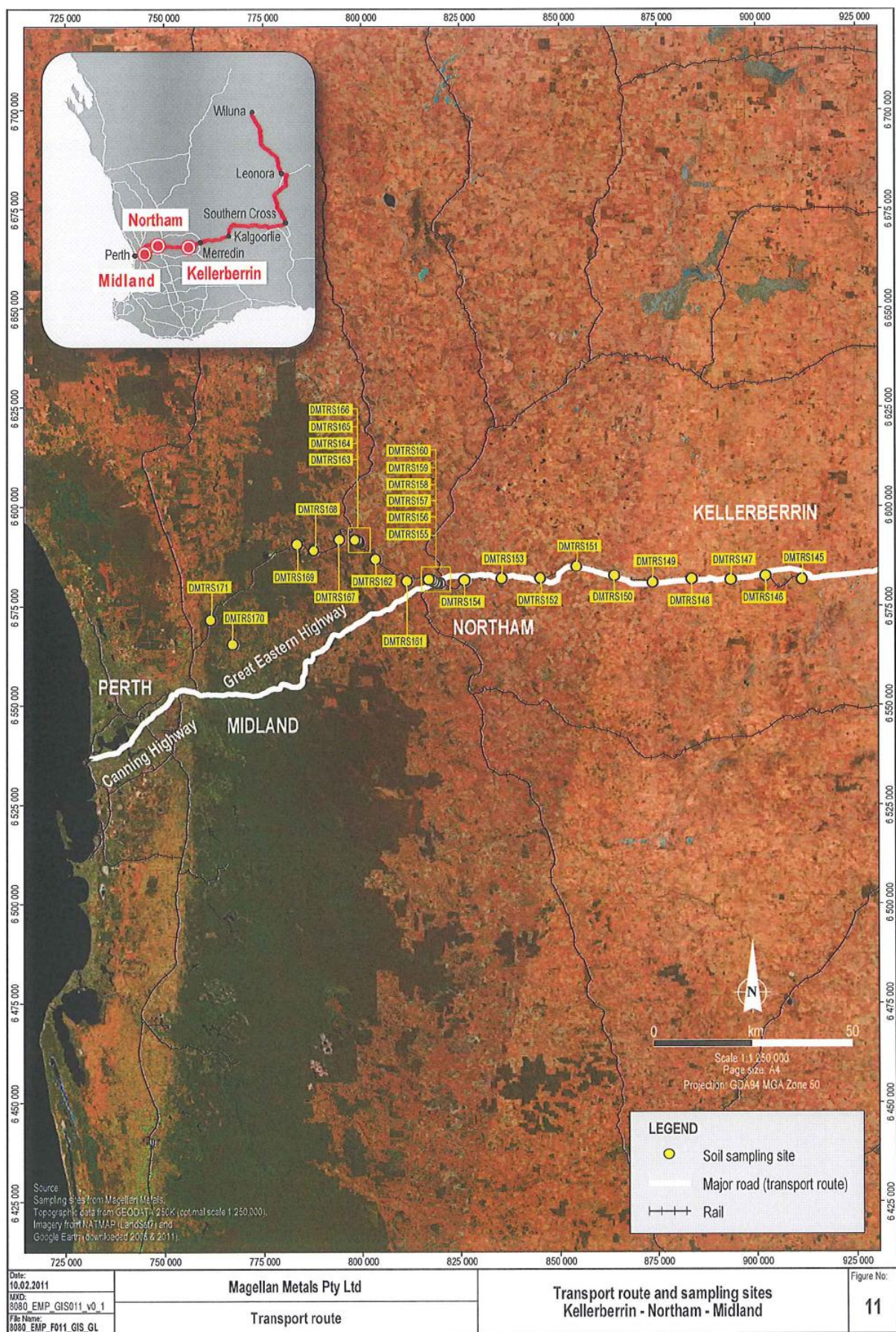


Figure 11. Sampling sites – Kellerberrin to Midland.





Figure 12. Sampling sites – Kellerberrin.



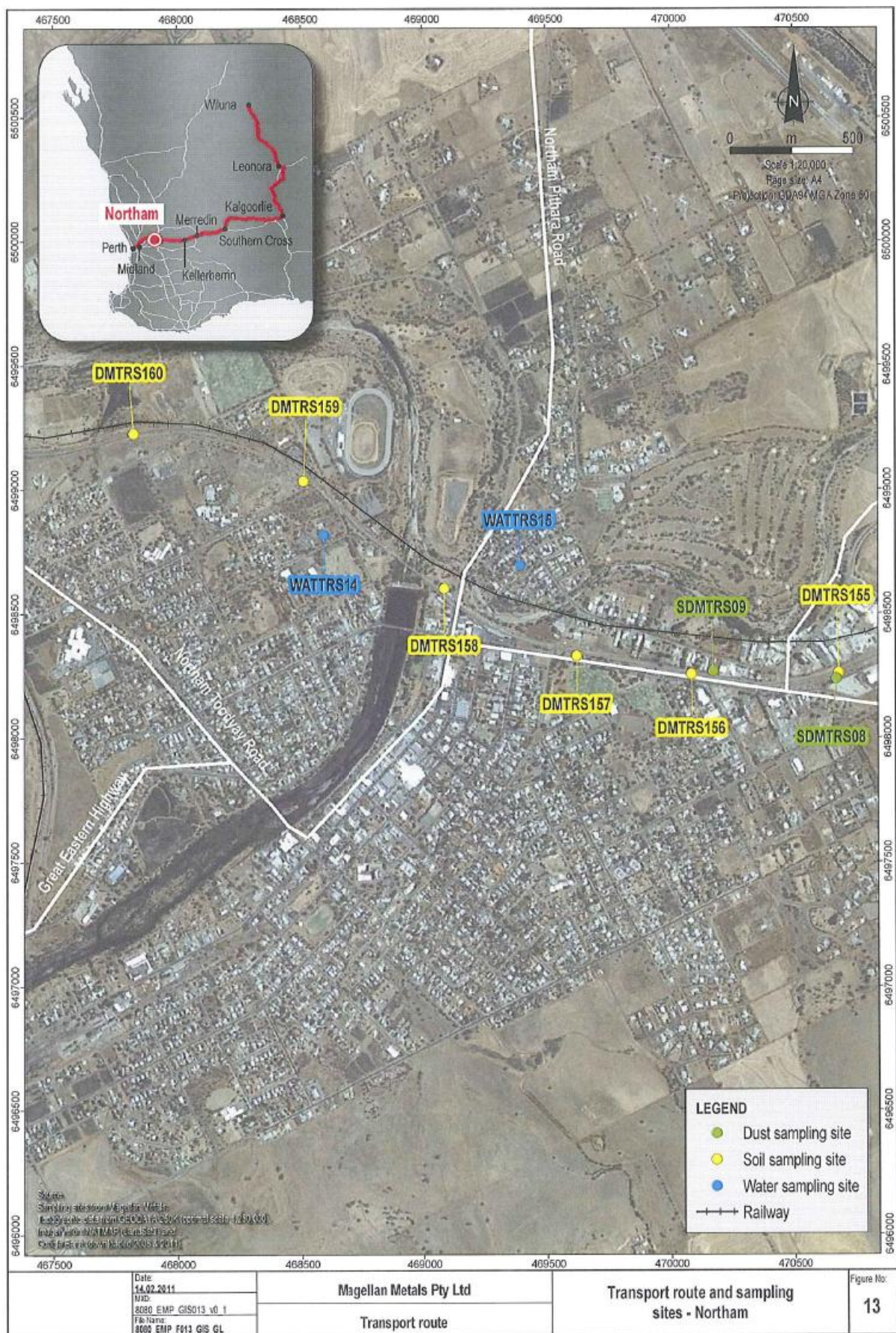


Figure 13. Sampling sites – Northam.



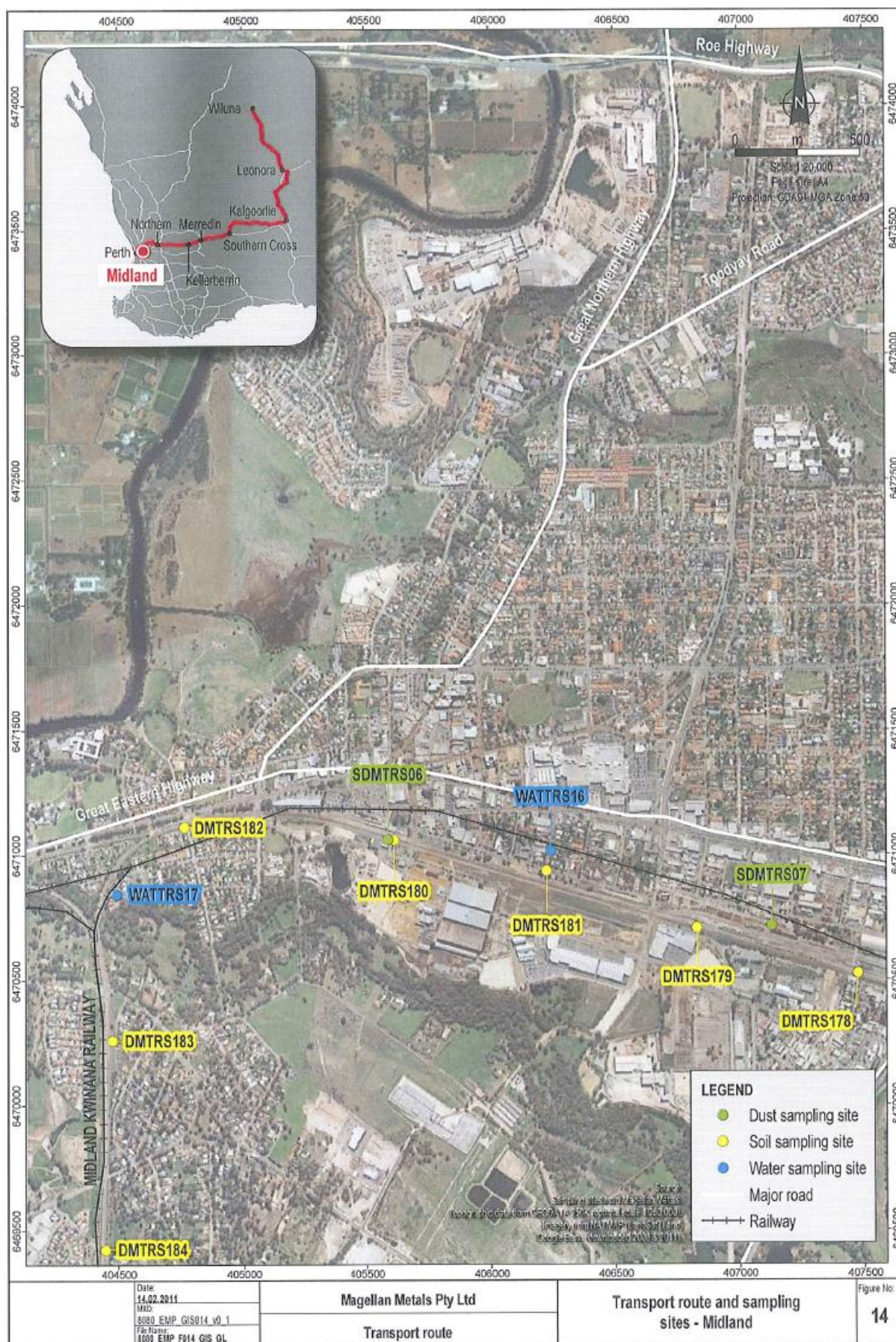


Figure 14. Sampling sites – Midland.



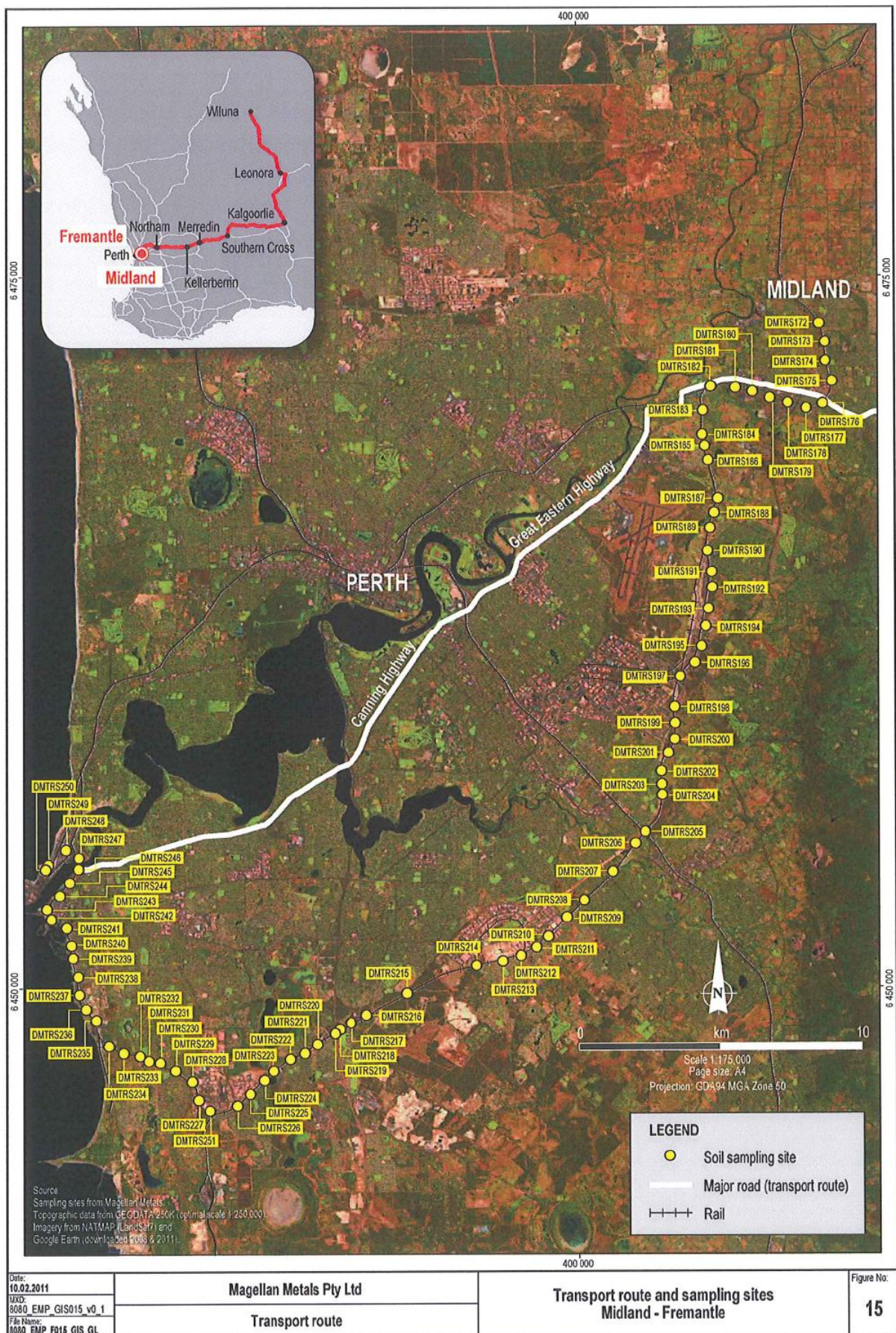


Figure 15. Sampling sites – Midland to Fremantle.





Figure 16. Sampling sites – Fremantle.



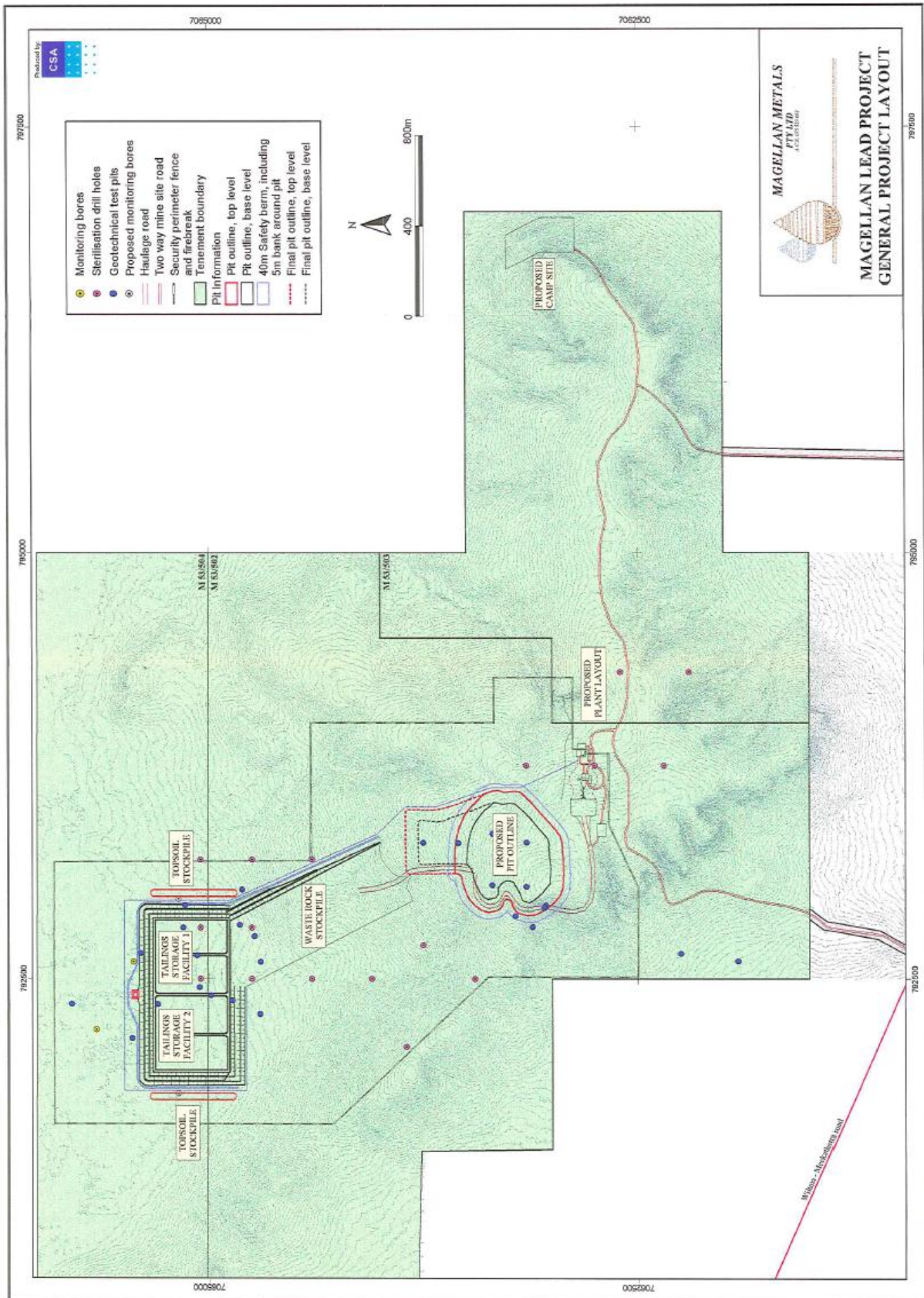


Figure 17. General arrangement of the Magellan Lead Carbonate Project.



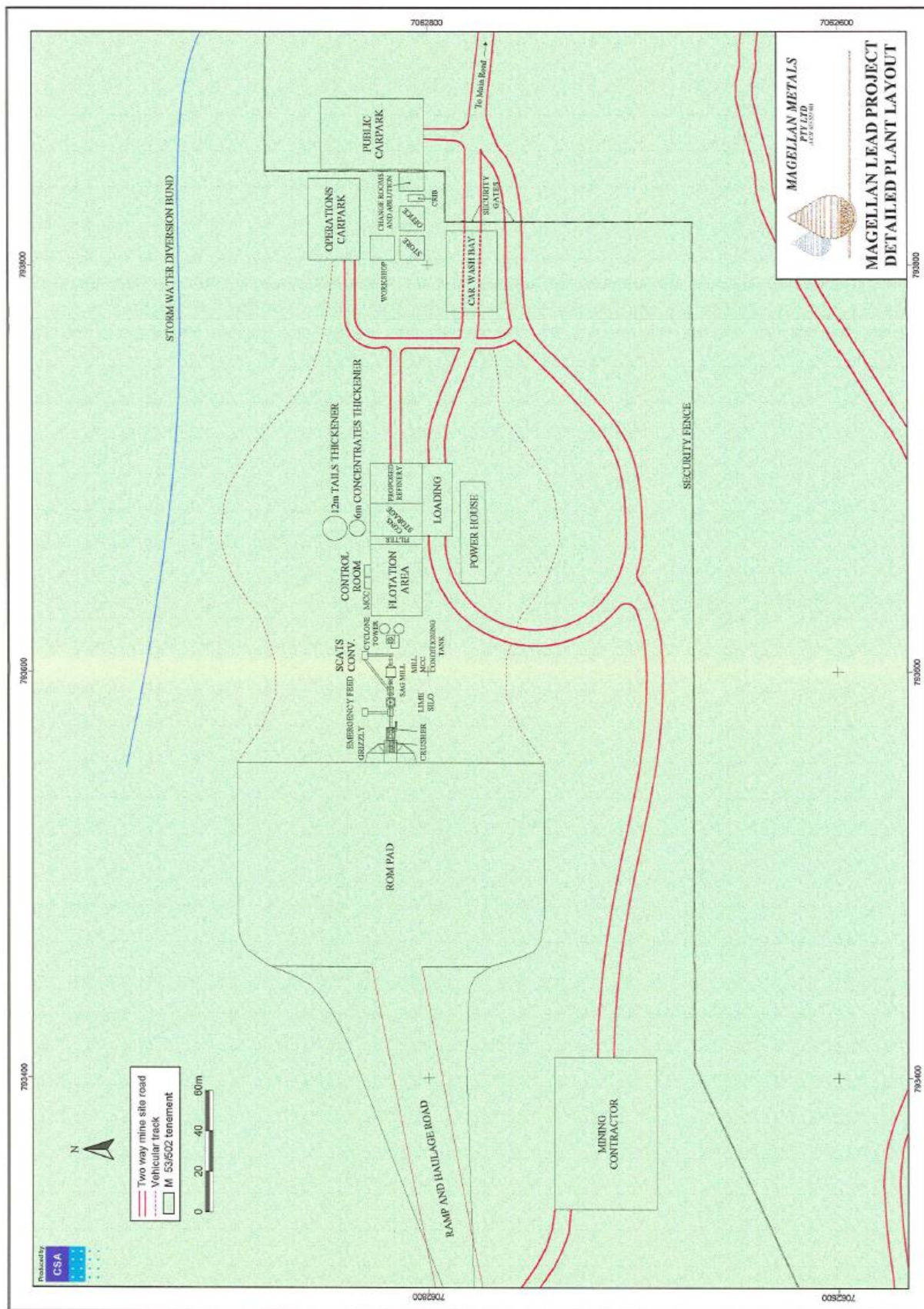


Figure 18. Magellan Lead Carbonate Project plant layout.

Proponent's Consolidated Environmental Management Commitments – Magellan Lead Carbonate Project

<b>No.</b>	<b>Topic</b>	<b>Action</b>	<b>Objective</b>	<b>Timing</b>	<b>Advice</b>
1.	Environmental Management System	Prepare an Environmental Management System that includes the following elements: 1. An environmental policy and corporate commitment to it; 2. Mechanisms and processes to ensure; (1) planning to meet environmental requirements (2) implementation and operation of action to meet environmental requirements (3) measurement and evaluation of environmental performance; and 3. Review and improvement of environmental outcomes.	To manage the environmental impacts of the project and fulfil the requirements of statutory and other identified obligations.	Prior to the commencement of construction activities.	Department of Mines and Petroleum and Department of Health
2.	Environmental Management System	Implement the Environmental Management System described in 1 above.	As for 1 above.	Ongoing through the life of the operations until the site is deemed rehabilitated.	Department of Mines and Petroleum and Department of Health
3.	Surface water drainage	Prepare a surface water and drainage management plan for the minesite that: 1. Identifies surface contours and drainage. 2. Identifies diversion drains and sumps to contain runoff and divert drainage into the pit. 3. Describes measures to monitor the effectiveness of the plan and take corrective action if required.	To maintain or improve the quality of surface water run-off to ensure that existing and potential uses including ecosystem maintenance, are protected.	Before the commencement of ground disturbing activities.	Department of Mines and Petroleum and Department of Water

4.	Surface water drainage	Implement the surface water and drainage management plan described in 3 Above.	As for 3 above.	Ongoing throughout the life of the mining operations.	
5.	The waste rock dump and tailings storage facility will be reshaped to enable rehabilitation.	Prepare a contour plan consistent with the guidelines issued by the Department of Mines and Petroleum.	To ensure that the structures are stable, safe and erosion-free on closure of the site.	Before the commencement of construction of the waste rock dump and tailings storage facility.	Department of Mines and Petroleum
6.	Revegetation trials on the waste rock dump and tailings storage facility.	Prepare a scope of works for revegetation trials that; 1. Describes the objectives of the proposed trial. 2. Outlines monitoring. 3. Outlines the timeframe for reporting of results. 4. Identifies mechanisms to consider and implement the recommendations at the conclusion of the trials.	To identify suitable techniques and plant species for site rehabilitation and revegetation.	Within two years of commencement of mining operations.	Department of Mines and Petroleum
7.	Revegetation trials on the waste rock dump and tailing storage facility.	Implement revegetation trials described in 6 above.	As for 6 above.	Ongoing until the trials are concluded and the recommendations implemented.	Department of Mines and Petroleum
8.	Waste and recycling program	Prepare a waste and recycling program that: 1. Includes a procedure for identifying wastes that are suitable for recycling or reuse. 2. Identifies designated areas for the storage of recyclables. 3. designates materials that should be disposed to landfill. 4. Includes the proponent's commitment to participate in the "Ruggies" recycling programme if accepted by the programme or an	To develop waste reduction practices and encourage re-use resources.	Before commencement of construction.	Department of Mines and Petroleum

		alternative programm.			
9.	Waste and recycling program	Implement the waste and recycling program described in 8 above.	As for 8 above.	Throughout the life of the mining operations until it is deemed rehabilitated.	Department of Mines and Petroleum
10.	Control of access	The active operations area will be fenced including a firebreak. It will be constructed around the minesite, plant, waste rock dump and Tailings storage facility.	To restrict third party and large animal access to the working parts of the operation.	Prior to commencement of operations.	Department of Mines and Petroleum, and Pastoral lease holders.
11.	Vegetation monitoring for lead uptake	Prepare a scope of works for the sampling program that describes; 1. Vegetation sampling and analysis; 2. Timing of sampling program; 3. Reporting and assessment of results.	To identify inadvertent uptake by plants during operations and to monitor rehabilitation success	After commencement of operations.	Department of Mines and Petroleum, Department of Health
12.	Vegetation monitoring for lead uptake	Implement the sampling program described in 11 above.	As for 11 above.	Ongoing until the minesite is deemed satisfactorily rehabilitated.	Department of Mines and Petroleum
13.	Deleted				
14.	Deleted				

15.	Tailings storage facility	Prepare a tailings storage facility operating manual. The manual shall detail operating procedures, emergency response plans and monitoring.	To ensure the safe management of the tailings storage facility.	Prior to the commencement of tailings disposal to the facility.	Department of Mines and Petroleum
16.	Tailings storage facility	Implement the tailings storage facility operating manual described in 15 above.	As for 15 above.	Over the life of the tailings facility.	Department of Mines and Petroleum