

Mining and Rehabilitation Compliance Report 2011

Mindarie Mineral Sand Mine

July 2012



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EXECUTIVE SUMMARY

Background

The Mindarie Mineral Sands Mine is located approximately 150 km east of Adelaide in the Murray Mallee Region of South Australia and comprises eight mineral sands strandlines located in nine separate Mineral Leases and two Exploration Licences.

Australian Zircon NL (AZ) commenced operations at Mindarie in 2006, which were known as the Mindarie Zircon Project and or the Mindarie Zircon Mine. In October 2009 AZ entered into voluntary administration and all operations ceased, and the Mindarie operations were put onto a care and maintenance regime.

The project is currently owned and operated by Murray Zircon Pty Ltd (MZ), having acquired the leases and associated infrastructure from AZ in June 2011.

Purpose of this MARCR

Conditions of the pre-existing Mineral Leases 6220 and 6226 granted by Department of Primary Industries and Resources South Australia (PIRSA) (now the Department for Manufacturing, Innovation, Trade, Resources and Energy [DMITRE]) required AZ to prepare and submit an *Annual Environment Report* (AER), now known as a *Mining and Rehabilitation Compliance Report* (MARCR).

The MARCR is required to demonstrate achievement of social and environmental outcomes against the approved *Mining and Rehabilitation Program* (MARP) or *Program for Environment Protection and Rehabilitation* (PEPR), the lease conditions (for the active Mining Leases ML6220 and ML6226), and other leases and licences issued by DMITRE relating to the operations.

This document comprises the MARCR for the 2011 calendar year of operations at the site, which is referred to as 'the reporting period' and details:

- i) the outcomes of an annual compliance audit of the performance of the project against conditions of the Leases;
- ii) the outcomes of a review of the effectiveness of the environmental management of the mine and infrastructure as described in the MARP requirements;
- iii) results of all environmental monitoring required under the Leases including interpretations and discussion;
- iv) identification of trends in monitoring results over the life of the project;
- v) a listing of any variations obtained to approvals applicable to the subject area during the previous year;
- vi) rehabilitation activities; and
- vii) environmental management targets and strategies for 2012, taking into account identified trends in monitoring results.

This report has been prepared in accordance with the requirements of PIRSA Regulatory Guideline No 3: *Preparation of a Mining and Rehabilitation Compliance Report (MARCR) for Mining Operations* (Version 1.4 March 2009).

Summary of outcomes

In the period in which MZ acquired the project, the most significant project activity was the commencement of bulk earthworks to rehabilitate ML6220 and ML6226.

As the project was in care and maintenance (excluding the rehabilitation works) during this reporting period, not all of the Licence conditions and or monitoring commitments were achieved. In addition to rehabilitation activities, the most relevant activities were continued, including:

- weed inspections of equipment entering site for rehabilitation earthworks activities;
- site weed inspections and eradication measures;
- site pest animal control measures; and
- groundwater monitoring.

Rehabilitation activities

At the commencement of MZ's ownership in June 2011 there were five locations still to be rehabilitated within the project, namely Area 1 and 2 (46 ha), Area 3 (20 ha), Area 4 (44 ha), and Area 5 (142 ha). The total area required to be rehabilitated during the reporting period was 252 ha. At the end of the reporting period 80% of all overburden in the Mindarie A(2) and C strandlines had been rehabilitated (and as of April 2012, 100% of all overburden, subsoils and topsoils had been replaced on both strandlines).

Pest animal and weed species monitoring and management

All vehicles were required to undergo a weed inspection prior to entering the site, including a check for soil, seeds and burrs. Those vehicles or equipment that presented with soil and seeds etc. were required to undertake weed management activities including sweeping, high pressure wash down and weedicide spray as required. Site weeds were also regularly sprayed to control their spread across the project sites.

Also, pest animal species were controlled with assistance of the Murray-Darling Basin NRM Board through a regular baiting and burrow destruction programme.

Groundwater monitoring

Groundwater monitoring mainly occurred as per the schedule specified for on-site Production Wells and off-site Regional Wells.

Production Wells were assessed for water quantity (extraction rates and standing water levels) and water quality parameters of pH, temperature, electrical conductivity, uranium and thorium.

Regional Wells were assessed for drawdown effects (standing water levels) and water quality parameters of pH, temperature and electrical conductivity,

No significant change has been observed in either the water quality or drawdown of either the Production Wells or the Regional Wells during the reporting period.

New Mineral Lease conditions

In anticipation of approval of the *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)*, environmental personnel have commenced the design of a robust Environmental Management System based on the principles of ISO14000. MZ will be working to ensure that all lease conditions are compliant for 2012.

1. INTRODUCTION

1.1 Background

The Mindarie Mineral Sands Project is located approximately 150 km north east of Adelaide in the Murray Mallee Region of South Australia as shown in Figure 1 (Appendix A).

Australian Zircon NL (AZ) commenced operations at Mindarie in 2006 by establishing the Primary Concentrator Plant (PCP), the Concentrate Upgrade Plant (CUP), the Mineral Separation Plant (MSP) and ancillary site infrastructure such as workshops and laboratories.

Following construction and commissioning of plant and equipment, mining of mineral sands in the Mindarie A(2) strandline commenced in April 2007 at an initial design rate of 3.5 million tonnes per annum (Mtpa) of ore, for an estimated production of some 140,000 tpa of Heavy Mineral Concentrate (HMC).

Following completion of mining of the Mindarie A(2) strandline in July 2009 AZ began mining operations in the Mindarie C strandline, which commenced in a section of the strandline immediately west of the Karoonda Highway at the point closest to the PCP.

In October 2009 AZ entered into voluntary administration and all operations ceased and the Mindarie project was put onto a care and maintenance regime.

The project is currently owned and operated by Murray Zircon Pty Ltd (MZ), having acquired the project from AZ in June 2011.

1.2 Purpose of this report

Conditions of the pre-existing Mineral Leases 6220 and 6226 granted by Department of Primary Industries and Resources South Australia (PIRSA) (now the Department for Manufacturing, Innovation, Trade, Resources and Energy [DMITRE]) required AZ to prepare and submit an *Annual Environment Report* (AER), now known as a *Mining and Rehabilitation Compliance Report* (MARCR).

The MARCR is required to demonstrate achievement of social and environmental outcomes against the approved *Mining and Rehabilitation Programs* (MARPs), the lease conditions (for the active Mining Leases ML6220 and ML6226), and other leases and licences issued by DMITRE relating to the operations.

This document comprises the MARCR for the 2011 calendar year of operations at the site, which is referred to as 'the reporting period' and details:

- i) the outcomes of an annual compliance audit of the performance of the project against conditions of the Leases;
- ii) the outcomes of a review of the effectiveness of the environmental management of the mine and infrastructure as described in the MARP requirements;
- iii) results of all environmental monitoring required under the Leases including interpretations and discussion;
- iv) identification of trends in monitoring results over the life of the project;
- v) a listing of any variations obtained to approvals applicable to the subject area during the previous year;
- vi) rehabilitation activities; and
- vii) environmental management targets and strategies for 2012, taking into account identified trends in monitoring results.

This report has been prepared in accordance with the requirements of PIRSA Regulatory Guideline No 3: *Preparation of a Mining and Rehabilitation Compliance Report (MARCR) for Mining Operations* (Version 1.4 March 2009).

1.3 Scope of the report

A number of approvals were sought and obtained under the *Mining Act, 1971* prior to mining operations undertaken by AZ. This report addresses the requirements as outlined in the following approval documents:

Mineral Leases (ML)

In relation to this MARCR, the following Mineral Leases were granted:

- ML 6220 (Mindarie A(2)) granted 9/05/2006 for a period of ten years and transferred to MZ on 20/03/2012; and
- ML 6226 (Mindarie C) granted 9/05/2006 for a period of ten years and transferred to MZ on 20/03/2012.

Miscellaneous Purpose Licences (MPL)

In relation to this MARCR, the following Miscellaneous Purpose Licence was granted:

- MPL 80 (Powerline) granted 9/05/2006 for a period of ten years and transferred to MZ on 20/03/12.

Extractive Minerals Lease (EML)

In relation to this MARCR, the following Extractive Minerals Lease was granted:

- EML 6232 (Rubble Pit 1) over Mineral Claim MC 3649 granted 17/10/2006 for a period of seven years and transferred to MZ on 20/03/12.

Mining and Rehabilitation Program (MARP)

In relation to this MARCR, the following MARPs were approved:

- *Mining and Rehabilitation Program, Mindarie Zircon Project: Mindarie A(2) Deposit* (Parsons Brinckerhoff, 2006) approved 24/08/2006;
- *Mining and Rehabilitation Program, Mindarie Zircon Project: Mindarie C Deposit* (Parsons Brinckerhoff 2009), approved 22/07/2009;
- *Mining and Rehabilitation Program: Pyap-Mindarie Transmission Line* (Parsons Brinckerhoff 2006), approved 21/09/2006; and
- *Mining and Rehabilitation Program, Rubble Pit, Mindarie* (Parsons Brinckerhoff 2006), approved 29/09/2006.

Water Allocations and Licences

In relation to this MARCR, the following Water Allocation was granted under the *Natural Resources Management Act, 1994*:

- South Australian Government Gazette 16/03/2007 *Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area* (Green Management Zone).

1.4 Structure of the report

Section 1 – Introduction

The report provides discussion outlining the background of the project as well as providing details on project approvals, purpose and scope contained in the report.

Section 2 – Mindarie Operations

Provides an overview of the operations of the Mindarie Mineral Sand Mine including tenement details, rehabilitation and exploration activities.

Section 3 – Environmental monitoring and management activities

Discusses the environmental monitoring and management activities undertaken during the compliance period.

Section 4 – Consultation, third party complaints and incidents

Provides an overview of the consultation undertaken, third party complaints received and incidents during the reporting period.

Section 5 – Compliance assessment

Details the outcomes of the compliance self-assessment undertaken by MZ and is supported by various Appendices.

Section 6 – MARP amendments

Details the MARP amendments that occurred during the compliance period.

Section 7 – Proposed activities for following reporting period

Provides an overview of the operational activities proposed for the following reporting period.

1.5 Mindarie operations MARCR checklist

Table 1 provides a checklist of contents of this MARCR against the requirements of the *Preparation of a Mining and Rehabilitation Compliance Report (MARCR) for Mining Operations*.

Table 1: MARCR checklist

Content as per guidelines	MARCR
A summary of the major mining activities undertaken in the reporting year and proposed activities for the following year	Section 2 and 7
A summary of environmental management and rehabilitation activities for the reporting year and proposed activities for the following year	Section 3 and 7
A summary of consultation undertaken in the reporting year, and of complaints received from third parties and actions taken by the lessee to resolve these.	Section 4
A statement of compliance with the obligations under the lease conditions and the approved MARP for the year	Section 5 and Appendices C,D,E,F

Content as per guidelines	MARCR
A statement of action taken to rectify any noncompliance, detected either by PIRSA inspections or your own monitoring, and to prevent recurrence	Section 8
A statement on the effectiveness of any previously undertaken action to rectify noncompliance	Section 8
Any new environmental hazards detected during the year that were not previously documented to PIRSA (e.g. at the time the MARP was approved)	Section 3.10
Environmental incidents that have occurred and how these incidents were managed and resolved.	Section 4.3
<p>Description of mining activities:</p> <ol style="list-style-type: none"> 1. Tenement number(s) and name of the mine; 2. Name(s) of the mine owner and operator(s); 3. Person accepting responsibility for the report; 4. Dates of the reporting period for the report; 5. Date of preparation of the report; 6. Mining activities that took place during the year on sites that form part of the project, including the amount of material mined; 7. Any changes to the operations described in the previous MARCR or MARP; 8. Proposed operations for the coming year, and the reasons for any variation from the previous year; 9. Plan of the current extent of the mine workings. 	<p>Section 2.1</p> <p>Section 2.1</p> <p>Section 2.1</p> <p>Table 2</p> <p>Table 2</p> <p>Section 2.4</p> <p>Section 7</p> <p>Section 7</p> <p>Figure 1</p>
Ore reserves and mine life - any new delineation or exploration drilling activities on or off the lease, review of reserves, or other potential sources of ore (e.g. from nearby mines) that have a significant effect on the future production levels or mine life.	Section 2.2 and 7.1
<p>Rehabilitation and environmental activities - that took place during the year on sites that form part of the project.</p> <p>Details to be provided should include the amount of land disturbed, vegetation cleared, new measures implemented to avoid or control environmental impact, and revegetation or rehabilitation earthworks conducted.</p> <p>Also describe the proposed rehabilitation and environmental management activities for the coming year, and the reasons for any variation from the previous year.</p>	<p>Section 2.5</p> <p>Table 2</p> <p>Sections 7.2 and 7.3</p>
Operations summary table - showing disturbed areas for each tenement associated with the project	Table 2
Compliance with outcomes - a clear statement that operations were, or were not, compliant with the environmental, social and economic outcomes stated in the lease conditions and the approved MARP. The statement should be supported by a summary of measurement data that clearly demonstrates the conclusion that the outcome was (or was not) fully achieved. Raw data such as flora and fauna surveys, photograph monitoring and groundwater monitoring data can be provided in the appendices.	Section 5 Appendices C, D, E and F

Content as per guidelines	MARCR
<p>Rectification of noncompliances - where instances of noncompliance have been noted by either PIRSA inspections or independently by the operator, include a summary with:</p> <ul style="list-style-type: none"> • date of the incident • who detected the noncompliance • what environmental outcome was breached • if and how the noncompliance was, or is planned to be, rectified • what measures, if any, will be taken to prevent recurrence. <p>Where noncompliances have previously been reported, and not fully rectified at the time of reporting, a progress report must be included to assess the effectiveness of rectification.</p>	Section 4.3 Table 9
<p>Management system reviews - summary of any management system audits conducted during the year, e.g. formal ISO14001-type audit, or management review. Information on management performance may also be obtained from leading indicators and investigation of non-compliances and near misses.</p> <p>Summary to include:</p> <ul style="list-style-type: none"> • when the audit was undertaken • who undertook the audit • what aspect of the management system was audited • what issues, or recommendations for improvement, were noted • an assessment of the potential for the issue to lead to a noncompliance with approved environmental outcomes • what corrective action that has or will be taken to address the issue. <p>Also discuss any management system changes resulting from PIRSA compliance audits or formal enforcement actions.</p>	Section 3.11 and 8
<p>Fitness for purpose reviews of any plant, equipment, infrastructure or other facilities carried out in the past year which assess the ability of those facilities to continue to meet the objectives in the MARP into the future.</p>	Section 3.9
<p>New environmental hazards - discuss any new environmental hazards or risks during the year. New hazards may include new pest or diseases, new information on groundwater levels, unexpected erosion, loss of soil stockpiles etc. If new risks are identified, the risk must be analysed and include a commitment to review the MARP if the risk may materially alter the existing approved outcomes or criteria (including the introduction of new outcomes to be achieved).</p>	Section 3.10
<p>EPBC Act - if mining lease was the subject of an EPBC approval, a section should be included demonstrating compliance with all EPBC Act approval conditions. The MARCR can then be used to satisfy both state and Commonwealth reporting requirements.</p>	n/a
<p>Other information:</p> <p>Additional monitoring or environmental research information relevant to the operation.</p> <p>Appendixes can be used to satisfy the different reporting and monitoring requirements of the various government agencies involved.</p> <p>Colour photographs and/or aerial photography if relevant.</p> <p>Appendices may include consultant studies and reports, and tabular information such as detailed assay results.</p> <p>Community consultation details (including performance of community consultative committees) can also be provided.</p> <p>If operation provided a significant environmental benefit for native vegetation clearance by way of an offset area, provide data on progress and management of the site during the reporting period.</p>	Noted or n/a

2. MINDARIE OPERATIONS

2.1 Tenement details

The operations are referred to as the Mindarie Mineral Sand Mine, and are currently defined as:

- the Mindarie A(2) strandline and associated infrastructure, which are located on 639 ha and which is covered by ML6220; and
- the Mindarie C the strandline and associated infrastructure, which are located on 1,939 ha and which is covered by ML6226.

Project ownership and tenement details are outlined in Table 2 below and shown in Figure 1 (Appendix A). The Mindarie Mineral Sand Mine is currently owned and operated by Murray Zircon Pty Ltd (MZ), having acquired the project from AZ in June 2011.

Table 2: Proponent and mining tenure details

Project Name: Mindarie Mineral Sand Mine	
Active Mineral Leases	ML6220 (Mindarie A(2)) ML6226 (Mindarie C)
Non-active Mineral Leases	ML6137 (Mercunda North) ML6219 (Lone Pine North) ML6221 (Long Tan) ML6222 (Halidon) ML6223 (Amiens) ML6224 (Mindarie A1) ML6225 (Mercunda East)
Miscellaneous Purposes Licences	MPL76 (Transfer Route 1) MPL77 (Transfer Route 2) MPL78 (Services Route 1) MPL79 (Services Route 2) MPL80 (Powerline)
Extractive Mineral Licences	EML6232 (Rubble Pit 1)
Exploration tenements	EL4016 (Karoonda) EL4017 (Halidon) EL4018 (Mantung) EL4180 (Morgan) EL4181 (Loxton) EL4182 (Meribah) EL4363 (Renmark East) EL4819 (Tailem Bend) EL4820 (Pine Valley) EL4855 (Sturt Vale) EL4867 (Mannum)
Mine owner and operator	Murray Zircon Pty Ltd
Person accepting responsibility for the report	Michelle Waters Environment, Health and Safety Manager
Dates of reporting period	1 January 2011 to 31 December 2011
Date of preparation of the report	July 2012

Land ownership in the district is by either private freehold or perpetual leasehold, details of which can be found in the *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)*.

The dominant land use within the project area is dryland agriculture, including the cultivation of wheat and barley as well as lesser areas of rye, oats, triticale and lupin.

The closest towns to the project are Mindarie, located approximately 2.5 km south, and Wanbi approximately 10 km north-east. The town of Karoonda is the largest populated centre (district population of 1,400) in the project area and is situated 45 km to the south-west of Mindarie.

2.2 Ore reserves and mine life

The current mineable reserves for the Mindarie Project comprise eight individual and parallel northwest-southeast oriented strandlines up to 30 km long, several kilometres from each other as shown in Figure 1 (Appendix A). The eight separate mineral sand strandlines include the following nine Mineral Leases:

- ML6137 Mercunda North;
- ML6219 Lone Pine;
- ML6220 Mindarie A(2);
- ML6221 Long Tan;
- ML6222 Halidon;
- ML6223 Amiens;
- ML6224 Mindarie A(1);
- ML6225 Mercunda East; and
- ML6226 Mindarie C.

Mining of the ore reserves from the seven un-mined strandlines (excluding Mindarie A(2) and a small portion of Mindarie C, which have already been mined) are expected to produce 58.1 million tonnes of ore containing 4.3% heavy mineral. The total heavy mineral contained from this ore reserve is estimated to be 2.5 million tonnes. These figures are the most up-to-date ore reserve estimates at the time of writing and take into account the previous mining undertaken along the Mindarie A(2) and Mindarie C strandlines.

The current identified ore reserves are estimated to provide a project life of approximately 13 years at a nominal processing rate of 3.6 million tonnes of ore per year.

2.3 Exploration activities

In 2011 a programme of exploration drilling was conceived to follow up previous drilling, which had intersected anomalous mineralisation between ML6220 (Mindarie A(2)) and ML6226 (Mindarie C). The drilling took place in November and December of 2011 along four lines spaced approximately 3 km apart. Forty seven holes were drilled for a total of 752 m and 338 samples were generated for assay. The assay results and mineralogical determinations from composite samples of the heavy mineral from those assays are expected to be completed in 2012.

The results from this drilling thus far have added support to the potential existence of an economic orebody lying on the exploration tenement, EL4017, in close proximity to the Mindarie A(2) and Mindarie C ML's. A further programme of work to define any potential resource will be designed and completed in 2012.

2.4 Mining activities

During the reporting period the Mindarie Mineral Sand Mine was in care and maintenance and no mining operations were undertaken on either ML6220 or ML6226.

2.5 Rehabilitation activities

The only activities undertaken during the reporting period were rehabilitation bulk earthworks on ML6220 or ML6226 as well as associated environmental monitoring activities. The rehabilitation areas are shown in Appendix A Figure 2.

Table 3 details the disturbed areas for each tenement associated with the project and the rehabilitation undertaken.

Table 3: Summary of Mindarie operations

Tenement	2011 reporting period			Anticipated 2012 reporting period		
	New disturbed (ha)	Total disturbed (ha)	Rehabilitated (ha)	New disturbed (ha)	Total disturbed (ha)	Rehabilitated (ha)
<u>ML6220</u> Mindarie A(2)	0	232	0	0	0	232
<u>ML6226</u> Mindarie C (AZ operations)	0	20	0	0	0	20
<u>ML6226</u> Mindarie C (MZ Operations)	0	0	0	100	100	0
<u>ML6137</u> ¹ Mercunda North	0	1	0	0	1	1
<u>EML6232</u> Rubble Pit 1	0	0	0	0	0	0

¹ Field trial undertaken in 2006 by Southern Titanium Pty Ltd

At the completion of AZ's mining operations in 2009, large areas of land required drying (tailings slurry disposal), closure and rehabilitation such that overburden, subsoil and topsoil still required replacement.

As part of the acquisition of the project, MZ accepted responsibility for completion of the outstanding rehabilitation, including bulk earthworks and re-establishment of vegetation.

Revegetation activities

During the reporting period there were no revegetation activities undertaken for either native vegetation or cultivated crops. Seeding of cover crops commenced late April 2012 and occurred through to June 2012. Regular monitoring will occur on an ongoing basis to assess the effectiveness of these rehabilitation activities.

Mining bulk earthworks

During the 2011 reporting period there were four locations still to be rehabilitated within the Mindarie A (2) strandline, namely Areas 1 and 2 (46 ha), Area 4 (44 ha), and Area 5 (142 ha), as shown in Figure 3 (Appendix A).

During the reporting period there was only one location still to be rehabilitated within the Mindarie C strandline, namely Area 3 (20 ha).

The total area required to be rehabilitated during the reporting period was 252 ha and is shown on Figure 2 (Appendix A).

Rehabilitation activities associated with the previous mining of Mindarie A(2) and C strandlines are currently being finalised. At the end of the reporting period (December 2011) 80% of all overburden in the Mindarie A(2) and C strandlines had been rehabilitated.

Rehabilitation work on the disturbed areas of the Mindarie A(2) lease commenced in August 2011 and involved the drying of wet areas, the replacement of overburden and subsoils. As of April 2012, 100% of all overburden, subsoils and topsoils had been replaced on the A(2) strandline.

Rehabilitation work on the disturbed areas of the Mindarie C strandline commenced in February 2010 and involved replacement of overburden and subsoil. Further rehabilitation work was undertaken in August 2011 and involved surface contouring for improved drainage. The replacement of subsoil on Mindarie C was completed in October 2011 and topsoil replacement completed in April 2012.

Seeding of cover crops commenced late April and has been occurring through until June 2012. Regular monitoring will occur on an ongoing basis to assess the effectiveness of the rehabilitation activities.

Table 4 outlines the rehabilitation measures undertaken during the reporting period.

Table 4: Rehabilitation activities undertaken 2011

Area	Task	Activity undertaken	Timing
Area 1	1	Construction of solar drying cells	September 2011
Area 2	2	Construction of solar drying cells	September 2011
	2a	Overburden replacement complete	December 2011
Area 3	3	Construction of solar drying cells	September 2011
	3a	Overburden replacement complete	November 2011
	3b	Subsoil replacement complete	November 2011
Area 4	4	Construction of solar drying cells	September 2011
Area 5	5	Overburden replacement complete	December 2011
	5a	Subsoil replacement complete	December 2011
Area 6	6	Overburden replacement complete	November 2011
Wet voids	7	Complete	December 2011

Table 5 below outlines the rehabilitation measures proposed to be undertaken and the timing for remaining work.

Table 5: Rehabilitation activities for 2012

Area	Task	Activity to be undertaken	Timing
Area 1	1	Overburden replacement completion	January 2012
	1a	Subsoil replacement completion	January 2012
	1b	Topsoil replacement completion	February 2012
	1c	Seeding	April 2012
	1d	Monitoring	Ongoing
Area 2	2	Subsoil replacement completion	February 2012
	2a	Topsoil replacement completion	February 2012
	2b	Seeding	April 2012

Area	Task	Activity to be undertaken	Timing
	2c	Monitoring	Ongoing
Area 3	3	Topsoil replacement to completion	March 2012
	3a	Seeding	April 2012
	3b	Monitoring	Ongoing
Area 4	4	Overburden replacement completion	January 2012
	4a	Subsoil replacement completion	January 2012
	4b	Topsoil replacement completion	March 2012
	4c	Seeding	April 2012
	4d	Monitoring	Ongoing
Area 5	5	Topsoil replacement completion	February 2012
	5a	Seeding	April 2012
	5b	Monitoring	Ongoing
Area 6	6	Removal of remaining heavy mineral component within tailings and reprocess through PCP	May 2013

3. ENVIRONMENTAL MANAGEMENT AND MONITORING ACTIVITIES

The operations at the Mindarie Mineral Sand Mine for the reporting primarily comprised care and maintenance of the existing infrastructure, and rehabilitation bulk earthworks of the Mindarie A(2) and C strandlines.

No mining or processing activities were undertaken on any of the MZ Mineral Leases during the reporting period.

During the reporting period the following limited environmental monitoring and management activities continued during the care and maintenance phase:

- bulk earthworks rehabilitation;
- visual observation and supervision of earthworks rehabilitation;
- pest animal and weed species management; and
- groundwater monitoring.

Further details regarding these monitoring and or management activities are outlined below.

3.1 Vegetation clearance

As the mine was in care and maintenance during the reporting period there was no native vegetation clearance required, and therefore no additional significant environmental benefit has been calculated.

3.2 Rehabilitation activities

Rehabilitation work on the disturbed areas of the Mindarie C strandline commenced in February 2010 and involved replacement of overburden and subsoil. The replacement of subsoil on Mindarie C was completed in October 2011 and topsoil replacement completed in April 2012. The total area rehabilitated Mindarie A(2) strandline was 232 ha.

Rehabilitation work on the disturbed areas of the Mindarie A(2) lease commenced in August 2011 and involved the drying of wet areas, the replacement of overburden and subsoils. As of April 2012, 100% of all overburden, subsoils and topsoils had been replaced on the A(2) strandline. The total area rehabilitated Mindarie C strandline was 20 ha.

Monitoring activities specific to the rehabilitation bulk earthworks included daily observations and photomonitoring, with weekly rehabilitation reports being submitted to PIRSA/DMITRE.

3.3 Pest animal and weed species monitoring

Fox baiting with 1080 baits as supplied by the Murray-Darling Basin NRM Board was conducted quarterly on site during January, April, July, September and December 2011.

Rodent baiting using commercially available baits (Talon/Bromokill) was conducted monthly on site during the reporting period.

Rabbit baiting with 1080 baits as supplied by the Murray-Darling Basin NRM Board was conducted in November 2011.

All vehicles are required to undergo a weed inspection prior to entering the site, including a check for soil, seeds and burrs. Seventeen inspections were recorded during the July to December 2011 period with six heavy plant requiring further management activities (including sweeping, high pressure wash down and weedicide spray).

Spot spraying of weeds was undertaken as required during the reporting period.

3.4 Groundwater monitoring

Groundwater extraction is governed by the *Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area* (16/3/2007). Table 6 below details the Mineral Lease conditions specified for ground water monitoring.

It should be noted that the monitoring wells selected to cover the area from the mine site to <10km are privately-owned extraction wells. MZ has continued with the monitoring regime during the care and maintenance period in compliance with the specified in lease conditions, except in cases when access to the well and/or mechanical faults prevented recording of required data.

The locations of monitoring wells are shown in Figure 3 (Appendix A).

Table 6: Groundwater monitoring requirements

Distance from mine pit	Water level (m)	Salinity (mg/L) pH (units)	Total U (Bq/L) Total Th (Bq/L)
Selected existing wells <5 km from active pit	Monthly	Six-monthly	n/a
Selected existing wells <10 km from active pit	Monthly	Six-monthly	n/a
Selected existing wells <10 km from inactive areas	Quarterly	Six-monthly	n/a
Current mining production and observation wells	Weekly	Monthly	Monthly
Former mining production wells (one per wellfield)	Monthly	Six-monthly	Monthly

Production wells

All production wells are sampled monthly for pH, electrical conductivity, temperature, uranium and thorium. During the reporting period data collection did not always occur as per the specified conditions. As such there are data gaps prior to July 2011 when MZ took ownership of the project. The new environmental management systems being developed will ensure continuity of data across subsequent reporting periods.

No significant change has been observed in either the water quality or drawdown of the Production Wells during the reporting period.

Regional wells

During the reporting period Regional Wells were sampled monthly by a third party contractor for pH, electrical conductivity and temperature.

No significant change has been observed in either the water quality or drawdown of the Regional Wells during the reporting period.

Extraction volumes

During the reporting period approximately 26.5 ML was extracted from production wells, in comparison to 15 ML in 2010 and 1,785 ML in 2009. The extraction rates are shown in Table 7.

Table 7: Production well extraction

Well MSP-1	Well MA2-1	Well MA2-2	Well MA2-3
23.4 ML	2.6 ML	0.4 ML	0.1 ML

Production well MA2-4 was not in use during the reporting period as power had been disconnected to the well, so that heavy plant could safely undertake rehabilitation activities in that area.

Groundwater monitoring results for the reporting period are detailed in Appendix B.

3.5 Noise monitoring

As the mine was in care and maintenance no noise monitoring was undertaken during the reporting period.

3.6 Dust monitoring

As the mine was in care and maintenance, no dust monitoring was undertaken during the reporting period. However a water truck was used on site as required to manage bulk earthworks rehabilitation as required.

3.7 Radiation monitoring

As the mine was in care and maintenance no radiation monitoring was undertaken during the reporting period. An audit of the radiation sources was undertaken and the results submitted to the EPA as required.

3.8 Recycling

As the mine was in care and maintenance very little recyclable materials were generated during the reporting period.

Table 8 below shows the volumes of recyclable waste sent off site during the reporting period.

Table 8: Recycling 2011

Recycling Items and Quantity	2009	2010	2011
Batteries	18	0	10
Black plastic (kg)	200	n/a	n/a
Aluminium cans (each)	6,600	600	600
LDPE (kg)	50	n/a	n/a
Waste oil (L)	4,000	10,500	n/a
Oily rags containers (500 L)	3	<1	n/a
Oily water (L)	700	0	n/a
Paper and cardboard (kg)	2,300	n/a	n/a

3.9 Fitness for purpose review

Fitness for purpose reviews are required for the following mine infrastructure at least every five years:

- the Primary Concentrator Plant (PCP);
- the Concentrator Upgrade Plant (CUP);
- the Mineral Separation Plant (MSP);
- the Mining Slurry Unit (MSU);
- mobile plant and equipment.

As the mine was in care and maintenance no fitness for purpose reviews were undertaken during the reporting period.

As the site infrastructure was commissioned during 2006/07 a fitness for purpose review is due to occur. This will be undertaken as part of recommissioning the site infrastructure for operations later in 2012.

3.10 Environmental hazard review

As the mine was in care and maintenance no new environmental hazards were identified during the reporting period.

3.11 Environment Management System

In anticipation of approval of the *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)*, environmental personnel have commenced the design of a robust Environmental Management System based on the principles of ISO14000.

4. CONSULTATION, THIRD PARTY COMPLAINTS AND INCIDENTS

4.1 Community consultation

The Mindarie Mineral Sand Mine is located in the Murray Mallee region of South Australia, approximately 150 km east of Adelaide. The regional towns of Mindarie, Halidon and Wanbi are located within 10 km of the mine, as is the East Murray Area School.

Upon the launch of the MZ joint venture in June 2011, the company commenced consultation with the local community. Engagement by MZ to date has been focused around:

- introducing MZ to the community;
- detailing the process for commencing mining operations, including the Feasibility Study and Program for Environment Protection and Rehabilitation (PEPR); and
- outlining the key elements of the PEPR for discussion and feedback.

MZ has been undertaking a variety of activities to engage with different areas of the community including:

- One-on-one meetings with directly affected landowners: facilitated discussion directly with interested/ directly affected stakeholders, to address questions and queries. Meetings held regularly and on an ongoing basis;
- MMCCC Meetings: 30 meetings of the Murray Mallee Community Consultative Committee (MMCCC) have been held since the inception of the project. MZ have facilitated three of these meetings, which were held in May, September and November 2011. The most recent meeting, held 15 November 2011, focused on presenting the key elements of the mining proposal, and gathering feedback as part of the PEPR process;
- MMCCC Sub-Committee Meetings: Meetings held with affected landowners of the A(2) mining strand. The purpose of this group is to discuss mine closure criteria for A(2) and rehabilitation of the previous mining area. The Sub-Committee was established March 2010, firstly chaired by AZ, and MZ has chaired three of these meetings to date;
- Local Council briefings and presentations: Presentation to the District Council of Karoonda East Murray outlining the mining proposal. The briefing facilitated discussion on key elements included road condition and workers accommodation.
- Advertisements: To promote and generate awareness of the project, and upcoming community meeting. Identified two country newspapers that circulated directly to the project area: Loxton News and Riverland Weekly.
- Information advertorial: Provided information to the wider community and interested stakeholders a summary of the project. Served as additional advertising for the community meeting held in November 2011.
- Fact sheets: Provided the community and stakeholders information about the proposed Mindarie mining activities, planned rehabilitation activities, and the *Program for Environment Protection and Rehabilitation* (PEPR) document.
- Meeting minutes: Used to record key discussions and issues raised during formal meetings. Kept as electronic documents for future reference.
- Contact Point: MZ has established a point of contact including phone number and email address for the community to make enquiries about the project.
- One on one stakeholder meetings: MZ has met with key stakeholders such as East Murray Area School and the Wanbi Hotel to discuss potential issues and concerns with the mining proposal and additional infrastructure, including the workers accommodation.
- Council Newsletter: Project status update included in the District Council of Karoonda East Murray Quarterly newsletter; and
- Website: Developed MZ website to provide project information, company announcements and key documents.

4.2 Third party complaints

During the reporting period no third party complaints were registered directly with the company in relation to operations at Mindarie.

4.3 Incidents

During the reporting period there were no environmental or health and safety incidents recorded in relation to operations at Mindarie.

4.4 Actions taken

During the reporting period there were no remedial actions required for environmental or health and safety incidents. Ongoing preventative actions put in place to prevent incidents include:

- equipment repaired, replaced or serviced;
- communication with staff and affected neighbours either via toolbox sessions or memo;
- preparation of new environmental procedures; and
- improved rehabilitation signage.

5. COMPLIANCE ASSESSMENT

As outlined previously, there are a number of approvals for the Mindarie Mineral Sand Mine. An assessment of the project against these approvals/licence requirements has been undertaken as part of this MARCR.

There has been minimal activity in compliance during the care and maintenance phase and these are addressed in the sections below.

5.1 Mining and Rehabilitation Plans (MARPs)

In relation to this MARCR, the following MARPs have been assessed for compliance in conjunction with their relevant Lease/Licence condition:

- *Mining and Rehabilitation Program, Mindarie Zircon Project: Mindarie A(2) Deposit* (Parsons Brinckerhoff, 2006) approved 24/08/2006;
- *Mining and Rehabilitation Program, Mindarie Zircon Project: Mindarie C Deposit* (Parsons Brinckerhoff 2009), approved 22/07/2009;
- *Mining and Rehabilitation Program: Pyap-Mindarie Transmission Line* (Parsons Brinckerhoff 2006), approved 21/09/2006; and
- *Mining and Rehabilitation Program, Rubble Pit, Mindarie* (Parsons Brinckerhoff 2006), approved 29/09/2006.

Given the limited nature of activities during the reporting period, a limited environmental management and monitoring plan was in place and as such not all elements of the MARP commitments were undertaken.

Details of the compliance assessment against these plans are provided in Appendix C, D, E and F.

5.2 Water Allocations and Licences

The following documents have been assessed for compliance:

- South Australian Government Gazette 16/03/2007 *Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area* (Green Management Zone).

The authorisation permits a maximum of 6,000 ML to be taken from the Murray Group Limestone Aquifer per water use year, and limits the total volume permitted to be extracted in the 10 year period at 42,920 ML.

Details of the compliance assessment are contained in Appendix G.

6. MARP AMENDMENTS

There were no amendments made to the existing MARPs during this reporting period.

A significant change, however is that in acquiring the AZ leases, MZ was required to submit a new application for operational approval in the form of the *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)* to comply with the requirements of new Mineral Leases issued by DMITRE.

MZ will instigate a new environmental monitoring regime for Mindarie A(2) closure and Mindarie C as detailed in the PEPR.

7. PROPOSED ACTIVITIES FOR FOLLOWING REPORTING PERIOD

7.1 Mining area activities

There have been no mining activities at the Mindarie site during the reporting period; however MZ proposes to commence mining operations on the remainder of the Mindarie C strandline in September 2012, with mining activities starting northwest of the Loxton to Murray Bridge Road (Mindarie C West) moving towards the east. Once the western side of the strandline has been completed, the operations will move to the eastern side of the Loxton to Murray Bridge Road (Mindarie C East and Far East).

The proposed mining method comprises a 'dry mobile hole' concept allowing for the removal of approximately 3 million tonnes of ore per annum (tpa) over an initial mine life of two years and eight months. The key characteristics of the project are listed in Table 9.

The extracted mineral sands will be mixed with water to form a slurry, using a designed for purposed Mine Slurry Unit located in the mine pit or adjacent to the mine pit. The slurry will then be pumped to the Primary Concentrator Plant (PCP) where it will be processed to recover the heavy minerals into a concentrate (HMC) and transported initially via road transport (or rail in the future) to Port Adelaide for export.

Table 9: Key characteristics of the Mindarie C project

Item	Description
Project location	Approximately 150 km east of Adelaide, South Australia
Mineral lease	ML6226
Project area	63 ha Mindarie C West 100 ha Mindarie C East 53 ha Mindarie C Far East
Mining method	Conventional open pit dry mobile hole
Available minerals in HMC	90% heavy mineral grade containing zircon at 23%, rutile at 10%, ilmenite at 65% (approximate)
Waste to ore ratio	3:1 (average)
Mining operation	120,000 tpa HMC
Treatment rate	500 tonne per hour pumped to PCP
Open pit dimensions (at any given time)	1-2 km long, 120 m wide, 26 m deep
Mine life	Two years and eight months
Hours of operations	Continuous – 24 hours per day, 7 days per week
Power source	66 kV overhead powerline from Pyap/Loxton substation
Total power requirement	1,500 MW/month
Raw water source	6 GL/yr with a maximum of 42.6GL over 10 years
Transport route	Trucked to Port Adelaide (possibility to transport via rail to Port Adelaide in the future)
Accommodation	Potential for a camp in the vicinity of the mine (50-80 people)
Employees	Approximately 30–40 employees plus contractors
Project capital expenditure	\$15 million

In general, operations on the Mindarie C strandline will include the following:

- an open pit mine with mobile mining equipment;

- a slurry unit located in the open pit or on the edge of the pit; and
- a Primary Concentration Plant (PCP).

The mining method will involve the use of landplanes (tractor-scoops) or similar to strip topsoil and subsoil. Overburden will be moved by the mining fleet (scrapers) to the back of the pit in a staged process, such that a section of the base of the pit is available for mining of ore and the remainder is used for overburden stripping, tailings disposal and mine rehabilitation.

Ore will be separately excavated by the mining fleet and pushed/stockpiled at the slurry unit where it is fed into the slurry unit by a front end loader. The section of mined ore is then backfilled with tailings and/or overburden material by bulldozer, scraper or loader and/or dump trucks. The average length of the pit operations to be worked at any one point in time will be approximately 2 km.

The slurry unit, which is located in the mine pit, screens the ore at 45 mm and mixes the extracted sand with water to form a slurry, which is pumped to the PCP. The slurry pumped from the pit is again screened at 3 mm at the PCP and processed through a two stage de-sliming cyclone circuit and a six stage spiral circuit to produce HMC, which is then stockpiled on site for transport.

Sand 'tails' and clay 'slimes' produced from the PCP will be returned to the rear of the mine pit via the slurry pipeline. The sand tails and slimes will be combined prior to being returned to the pit void with a settling agent (rheology modifier) to aid rapid dewatering and consolidation prior to covering with overburden.

More detailed information is provided in the *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)*.

7.2 Environmental monitoring

With the approval of *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)*, MZ will instigate a new environmental monitoring regime for Mindarie A(2) and Mindarie C. The PEPR was granted conditional approval by DMITRE on 19th April 2012.

All other existing environmental management and monitoring will continue as required.

7.3 Rehabilitation works

As part of the acquisition of the project, MZ accepted responsibility for completion of the outstanding rehabilitation works.

At the time of preparation of this report, 100% of all overburden, subsoil and topsoils in the Mindarie A(2) and C strandlines were rehabilitated.

8. EXTERNAL AUDIT OF MARCR

An independent environmental audit was conducted by Environmental Projects in 2011 on the 2010 MARCR.

From this audit it was concluded that whilst operations at Mindarie A(2) were undertaken so as to not cause serious environmental harm, limited personnel were available to maintain the environmental monitoring regimes in place during the care and maintenance regime.

The major findings of the 2010 MARCR audit are detailed in Table 10 below.

Table 10: 2010 MARCR audit findings

Audit finding	MZ Response
Some items raised during previous internal audits appear to be unresolved and remain current	Given the care and maintenance phase and reduction in staff numbers, a limited environmental management and monitoring regime was in place.
Environmental management systems particularly in relation to documenting and recording could be improved substantially	New PEPR approval conditions state that an approved Environmental Management System must be in place prior commencement of mining operations.
Observed that environmental work procedures are not documented in most cases.	See above.
A number of databases exist for the same data, as a result of the relatively high turnover of Environmental Officers for the operation.	See above.
If a robust environmental management system was in place, gaps and inefficiencies in the current system would be identified and appropriate actions could be implemented	See above.
Observations indicate that systems in place are in their infancy, not consistent and at times cause confusion.	See above.
Implementation of a robust environmental management system would assist the operation in meeting their regulatory obligations.	See above.

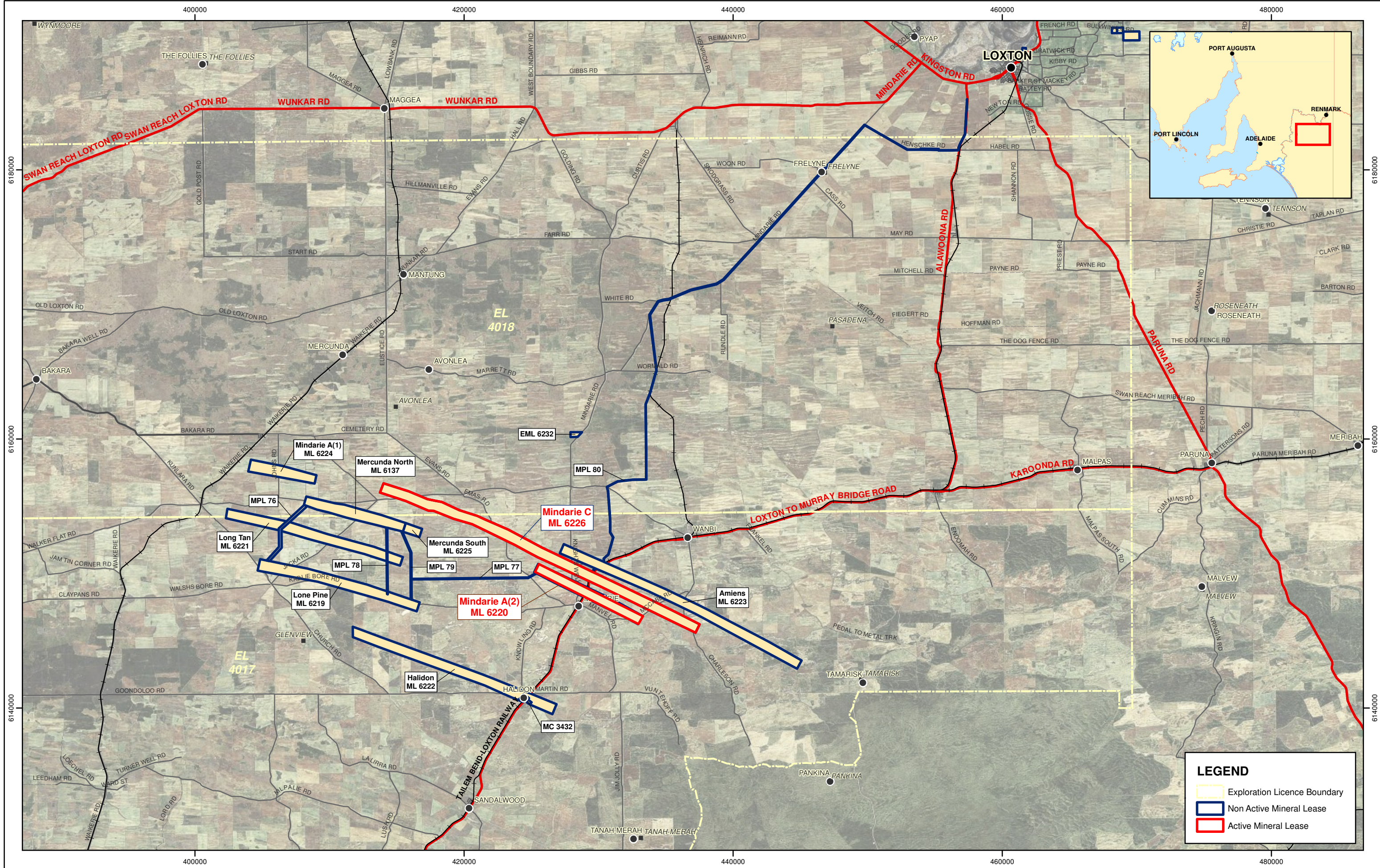
In general, during the care and maintenance phase it was difficult for AZ to undertake compliance activities, as no personnel or expenditure were available to do so.

Since acquiring the Mindarie operations, MZ have employed an Environmental Manager, an Environmental Officer and an Environmental Technician. As noted in Section 3.11, following the approval of the *Mindarie Mineral Sands Project, Mindarie C and A(2): Program for Environment Protection and Rehabilitation (PEPR)*, MZ environmental personnel have commenced the design of a robust Environmental Management System based on the principles of ISO14000.

MZ will be working to ensure that all lease conditions are compliant for 2012.

Appendix A

Figures





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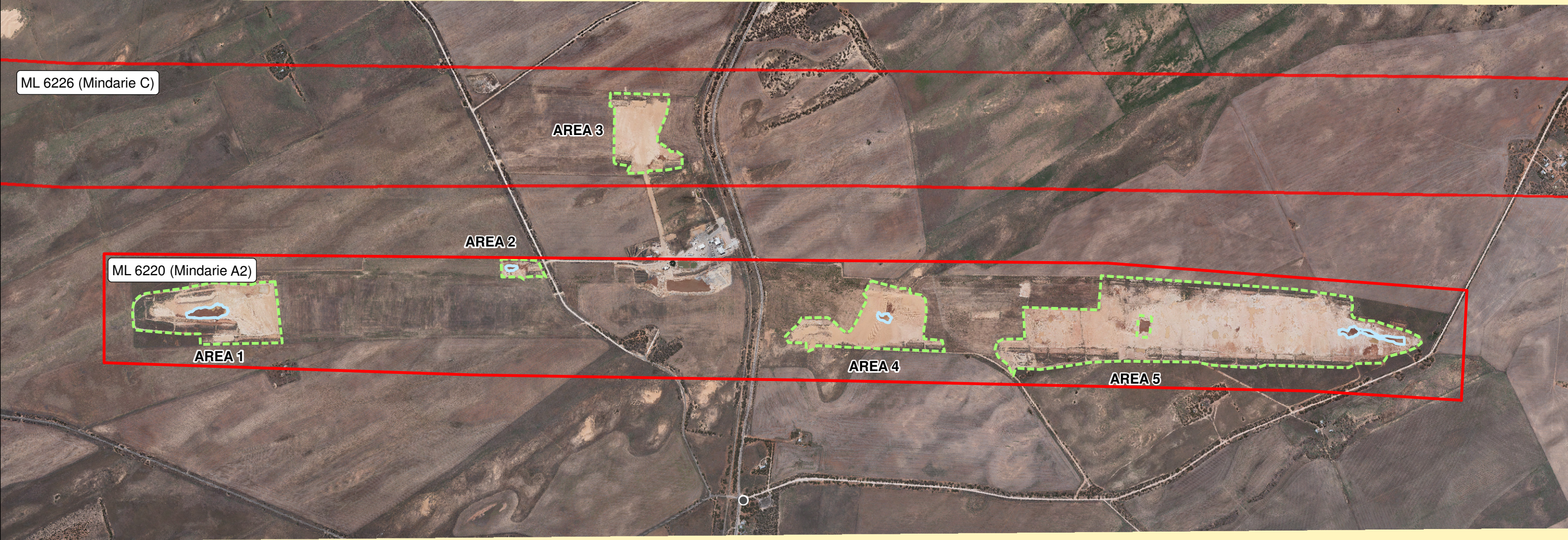
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Client Ref: Murray Zircon	

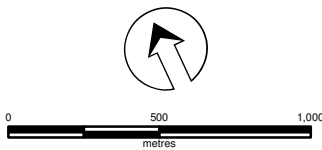
Mindarie Mineral Sands Project
Site Location

Figure 1



LEGEND

- Rehabilitation areas
- Wet void areas
- Mineral Lease Boundary



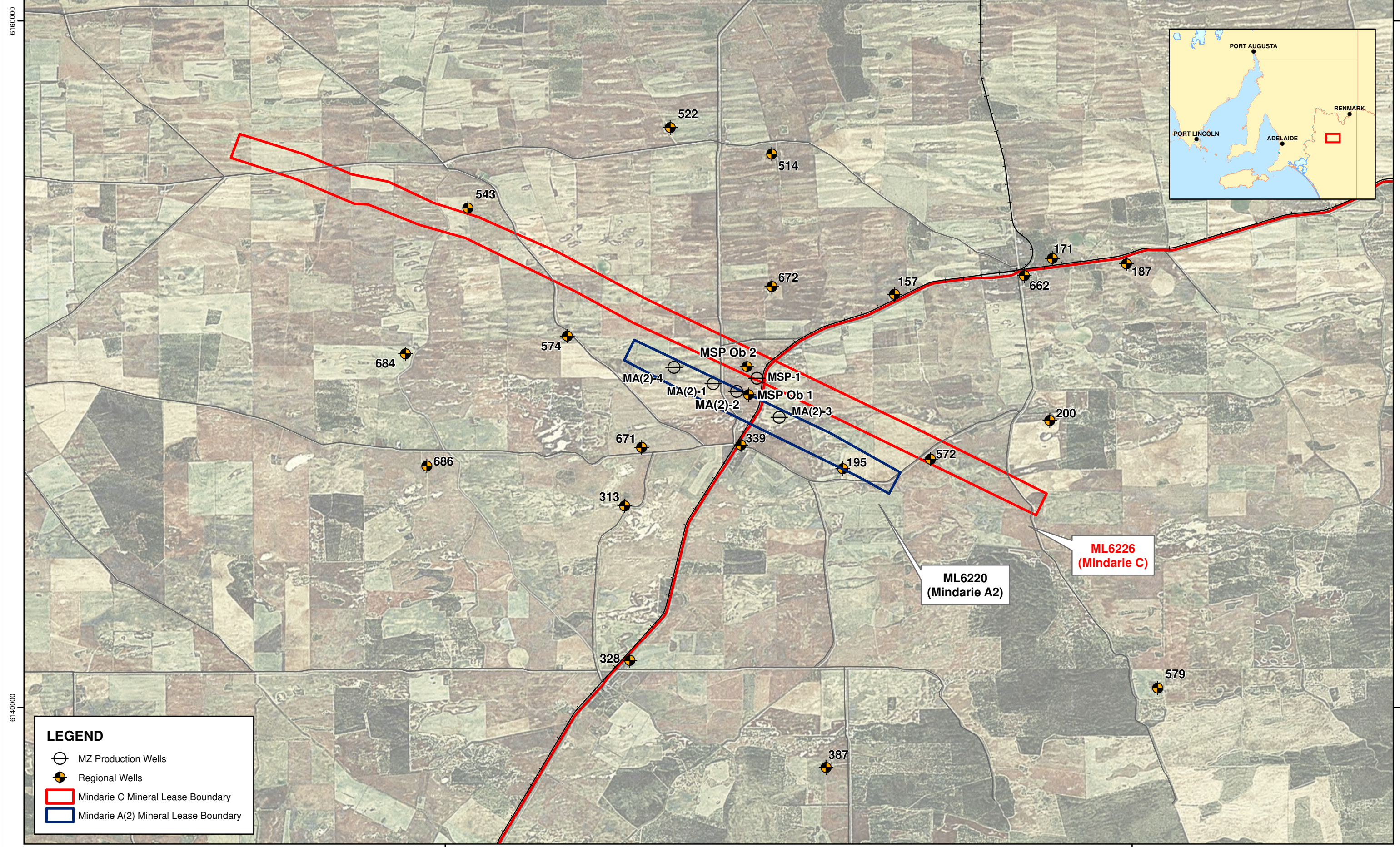
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



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Revision:	A	Date: JULY 2012
Drawn By:	DF	Checked by: MAS
Client Ref:	Murray Zircon	

Mindarie Mineral Sands Project
Rehabilitation Areas

Figure 2



LEGEND

-  MZ Production Wells
-  Regional Wells
-  Mindarie C Mineral Lease Boundary
-  Mindarie A(2) Mineral Lease Boundary



0 2,000 4,000
metres

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Revision:	A	Date:	JULY 2012
Drawn By:	DF/JF	Checked by:	MAS
Client Ref:	Murray Zircon		

Mindarie Mineral Sands Project
Monitoring Well Locations

Figure 3

Appendix B

Environmental Monitoring Reports
Groundwater

1. MONITORING PROGRAMME

Groundwater extraction at the Mindarie Mineral Sand Mine is governed by the *Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area* as issued by the Department of Water, Land and Biodiversity Conservation (16/03/2007).

The Authorisation is for a period of 10 years and permits a maximum of 6,000 ML to be extracted per water use year, with a total limit 42,920 ML in the 10 year period.

As part of this Authorisation and in conjunction with the Mineral Lease conditions for ML 6220 and ML 6226, the following groundwater monitoring was required:

Distance from mine pit	Water Level (m)	Salinity (mg/L) pH (units)	Total U (Bq/L) Total Th (Bq/L)
Selected existing wells <5 km from active pit	Monthly	Six-monthly	n/a
Selected existing wells <10 km from active pit	Monthly	Six-monthly	n/a
Selected existing wells <10 km from inactive areas	Quarterly	Six-monthly	n/a
Current mining production and observation wells	Weekly	Monthly	Monthly
Former mining production wells (one per wellfield)	Monthly	Six-monthly	Monthly

It should be noted that the monitoring wells selected to cover the area from the mine site to <10km are privately owned extraction wells (as shown in Figure 1). MZ has continued with the monitoring regime during care and maintenance and where possible has been in compliance with the specified lease conditions, except in cases when access to the well and/or mechanical faults prevented recording of required data.

1.1 Production Wells

All production wells are fitted with a water meter to measure and record cumulative water extraction volumes. Meters are read at weekly intervals from active wells and records are kept to demonstrate that the authorised quantity of water has not been exceeded. These wells are also inspected quarterly by the Department for Water.

No new wells were commissioned during the reporting period.

Extraction volumes

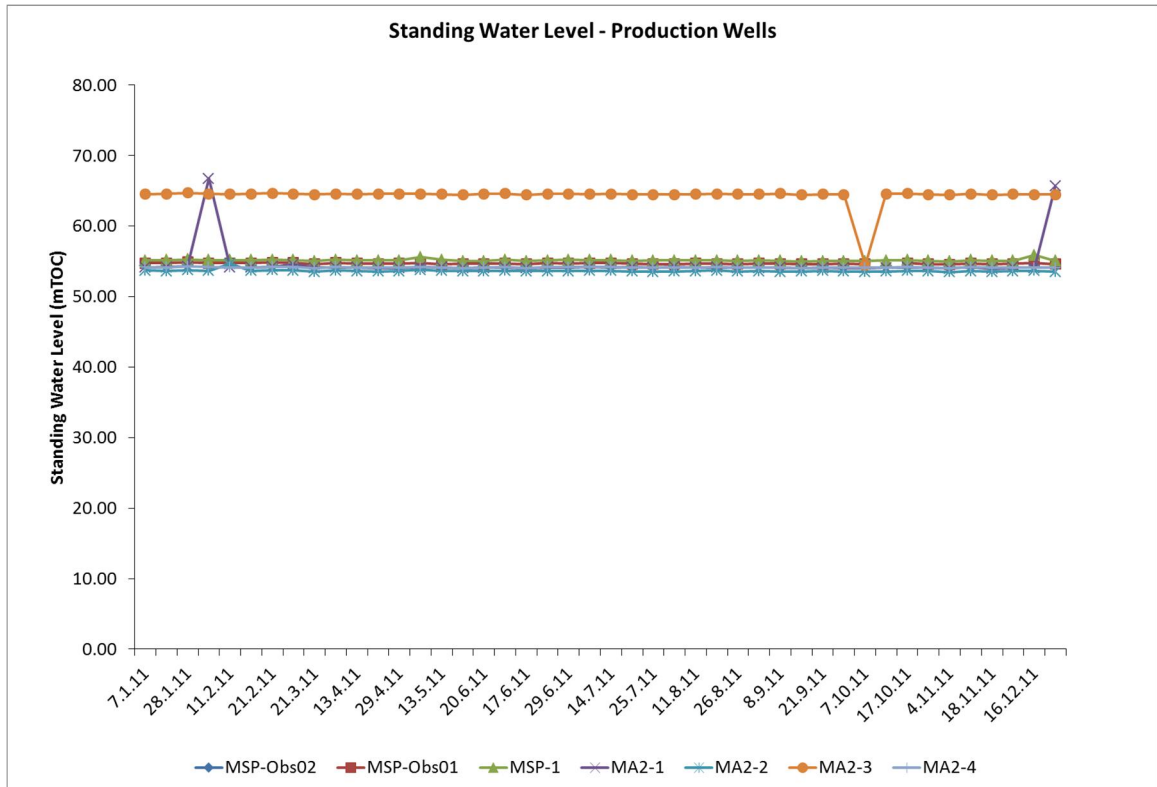
During the reporting period approximately 26.5 ML was extracted from production wells in comparison to 15 ML in 2010 and 1,785 ML in 2009.

MSP-1	MA2-1	MA2-2	MA2-3
23.4 ML	2.6 ML	0.4 ML	0.1 ML

Standing water levels

Standing water levels have been measured on seven MZ owned production and or monitoring wells during the reporting period. As these wells have not been surveyed to a reduced level (m AHD) all results are measured to 'top of casing' (m TOC). Overall this does not pose a problem as the long term trends relate to relative drawdown from baseline conditions.

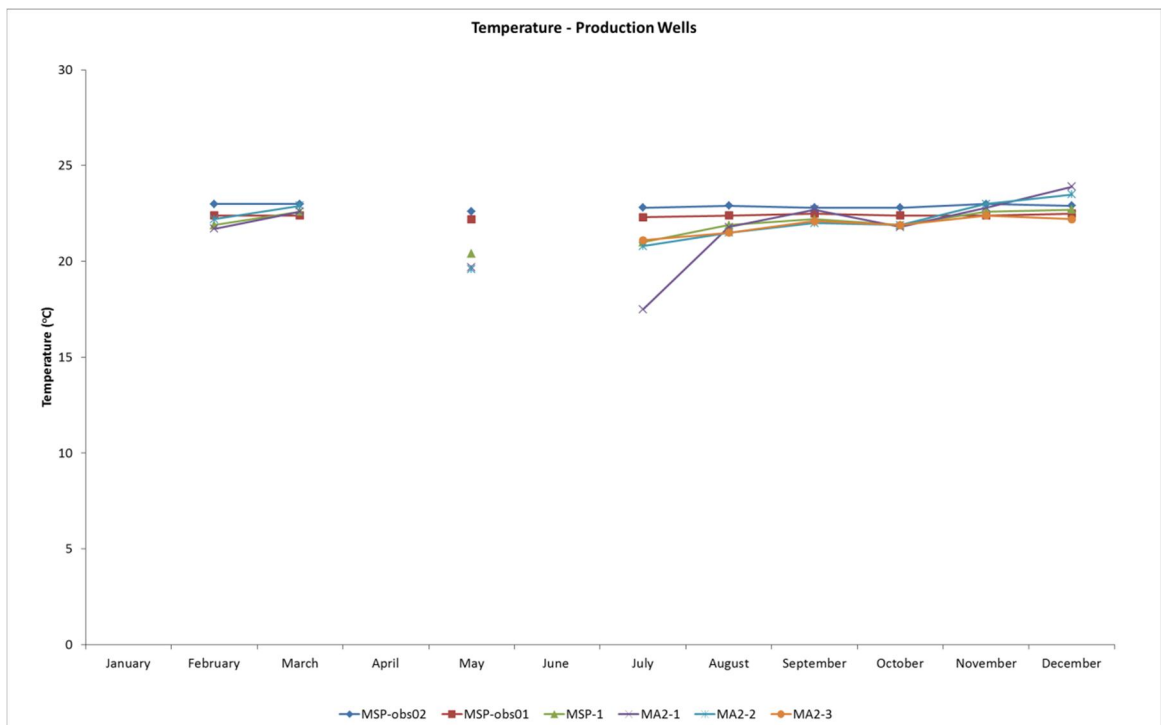
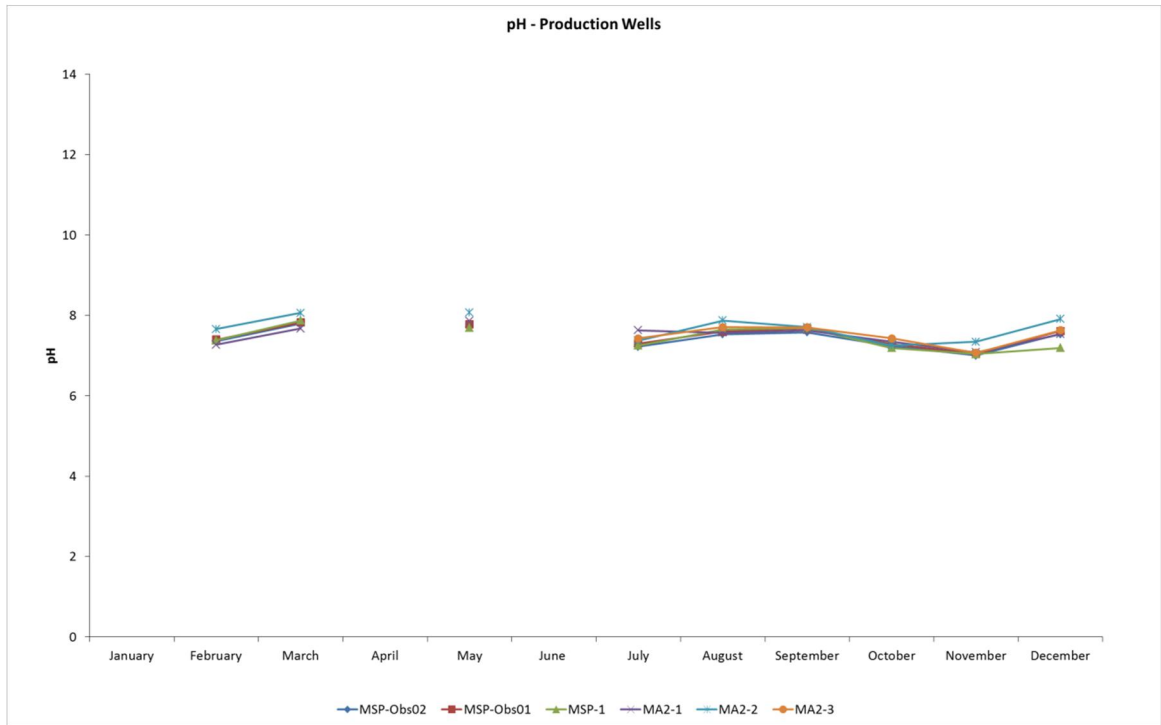
During the care and maintenance period the productions wells operated with minimal extraction volumes as can be seen in the graph below.

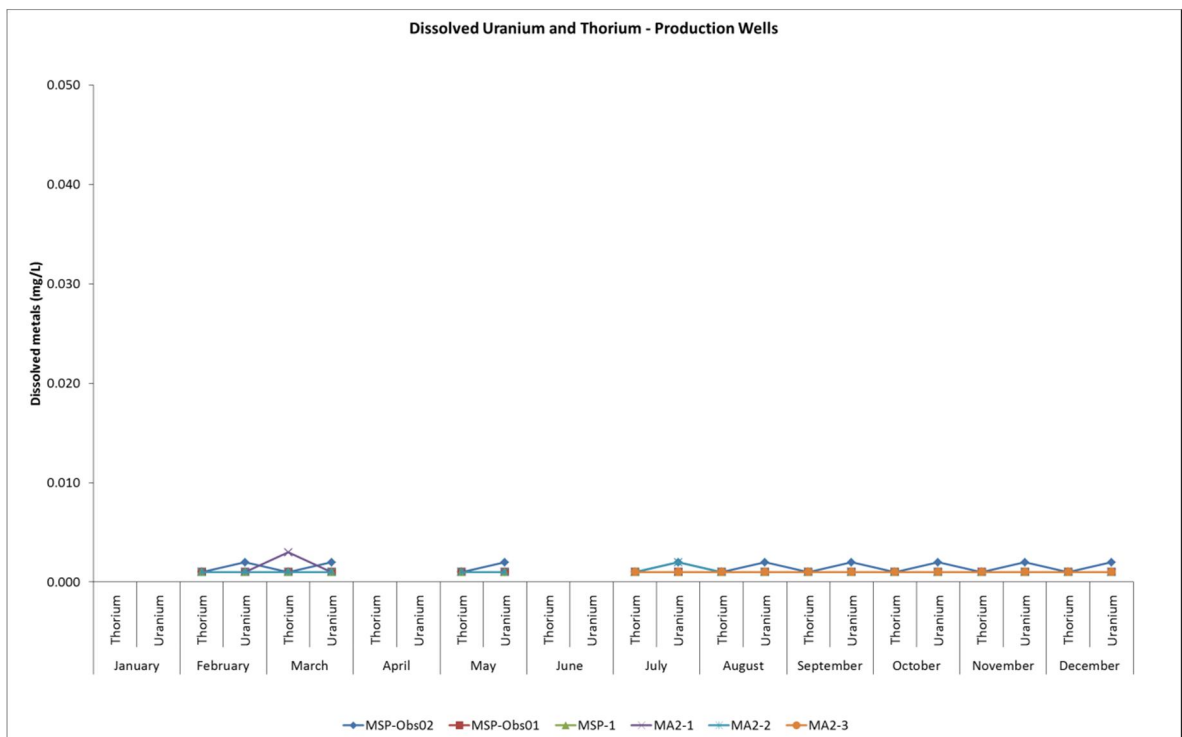
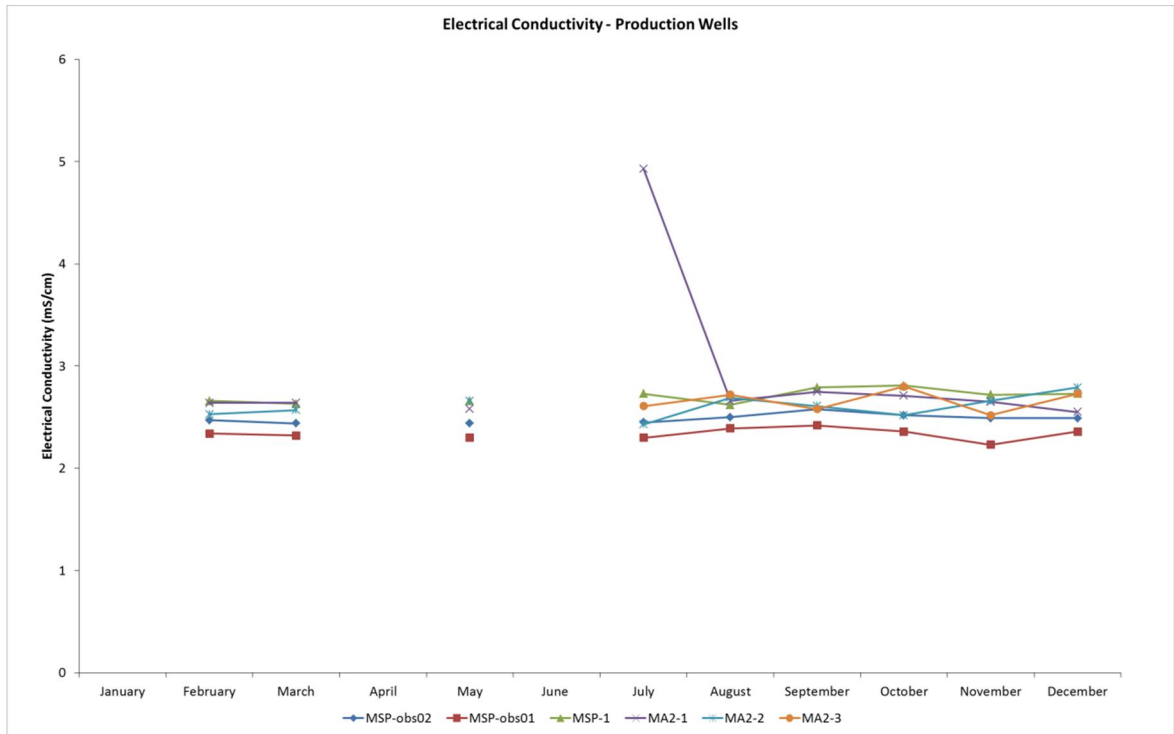


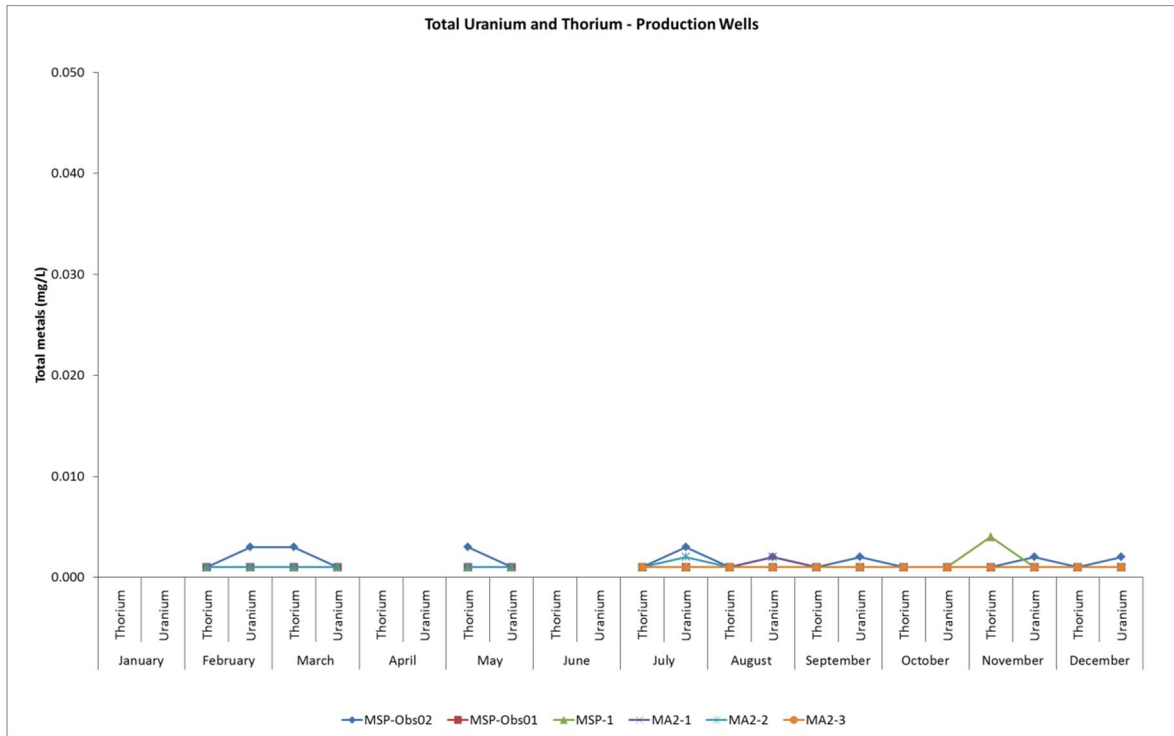
Water quality of production wells

All production wells are sampled monthly for pH, electrical conductivity, temperature, uranium and thorium. During the reporting period data collection did not always occur as per the specified conditions. As such there are data gaps prior to July 2011 when MZ took ownership of the project. The new Environmental Management System being developed will ensure continuity of data across the reporting period.

No significant change has been observed in either the water quality or drawdown of the Production Wells during the reporting period.







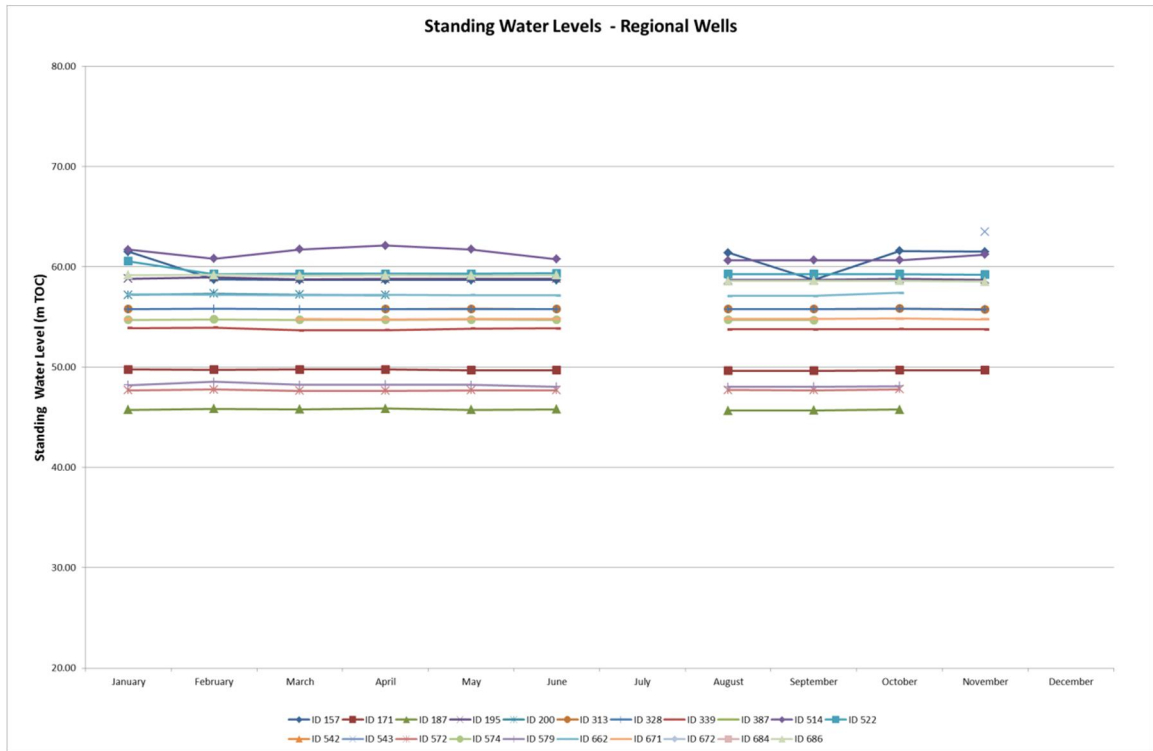
1.2 Regional Wells

Regional monitoring data is collected from private landowners wells (i.e., farm wells) so groundwater monitoring data is directly related to the infrastructure available with which to sample. For example some samples can be easily collected from a tap connected to the wellhead works installed by the previous operator of the mine. However, if there is no direct access to the wellhead then a water sample is collected from the water sitting in any adjacent storage tank. MZ endeavours to collect a fresh sample where possible, however this is subject to the control of the well owner.

Given the nature, location and ownership of the Regional Wells, an assessment of their safe accessibility will be undertaken during 2012 to determine whether or not additional wells would be more suitable for monitoring purposes.

Standing water levels

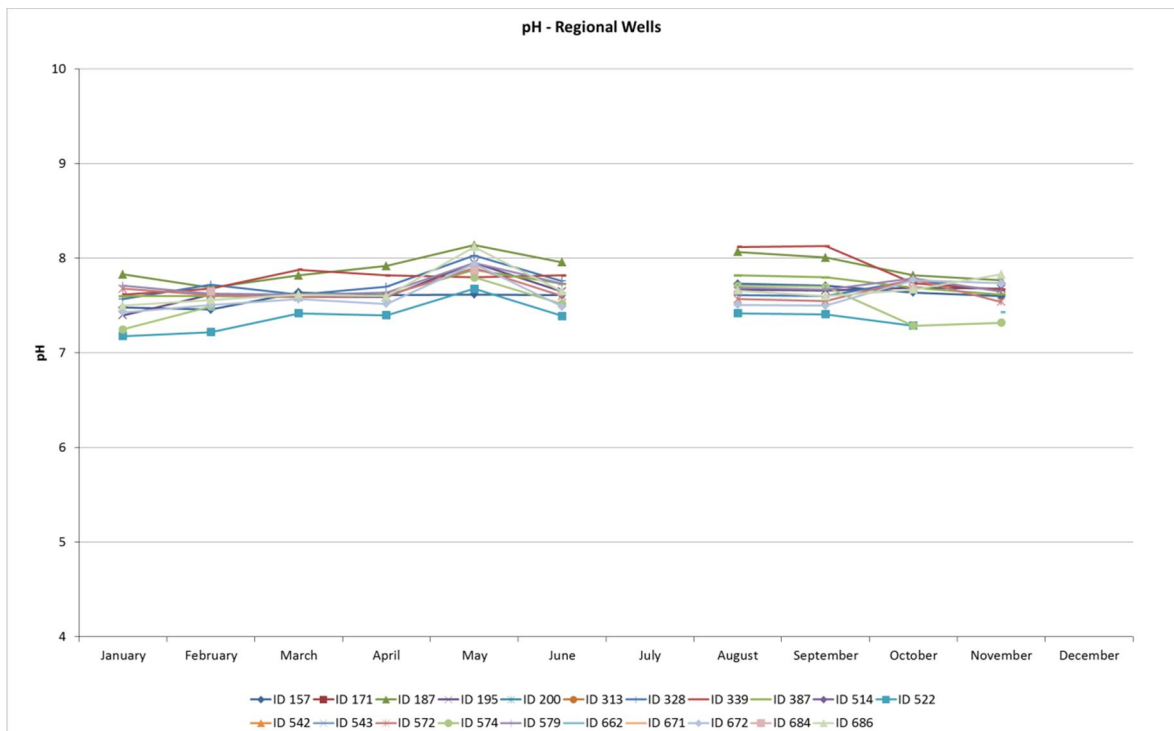
Standing water levels have been measured on approximately sixteen Regional Wells during the reporting period. As these wells have not been surveyed to a reduced level (m AHD) all results are measured to 'top of casing' (m TOC). Overall this does not pose a problem as the long term trends relate to relative drawdown from baseline conditions.

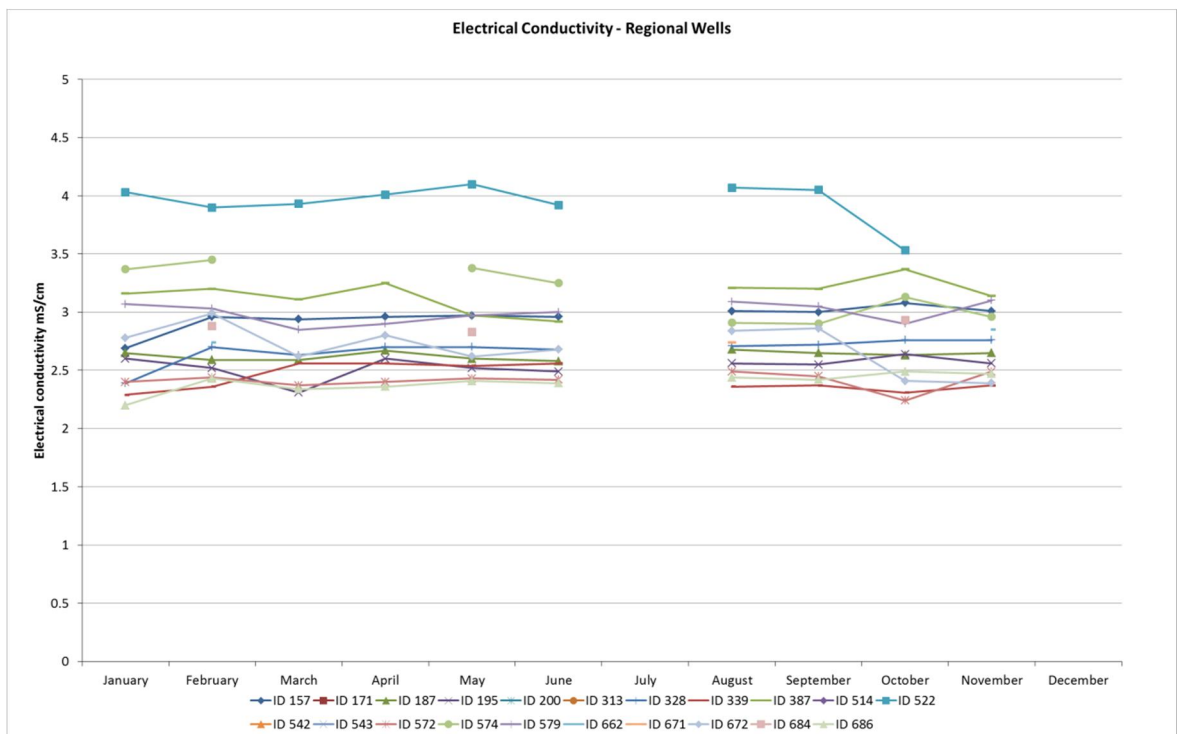
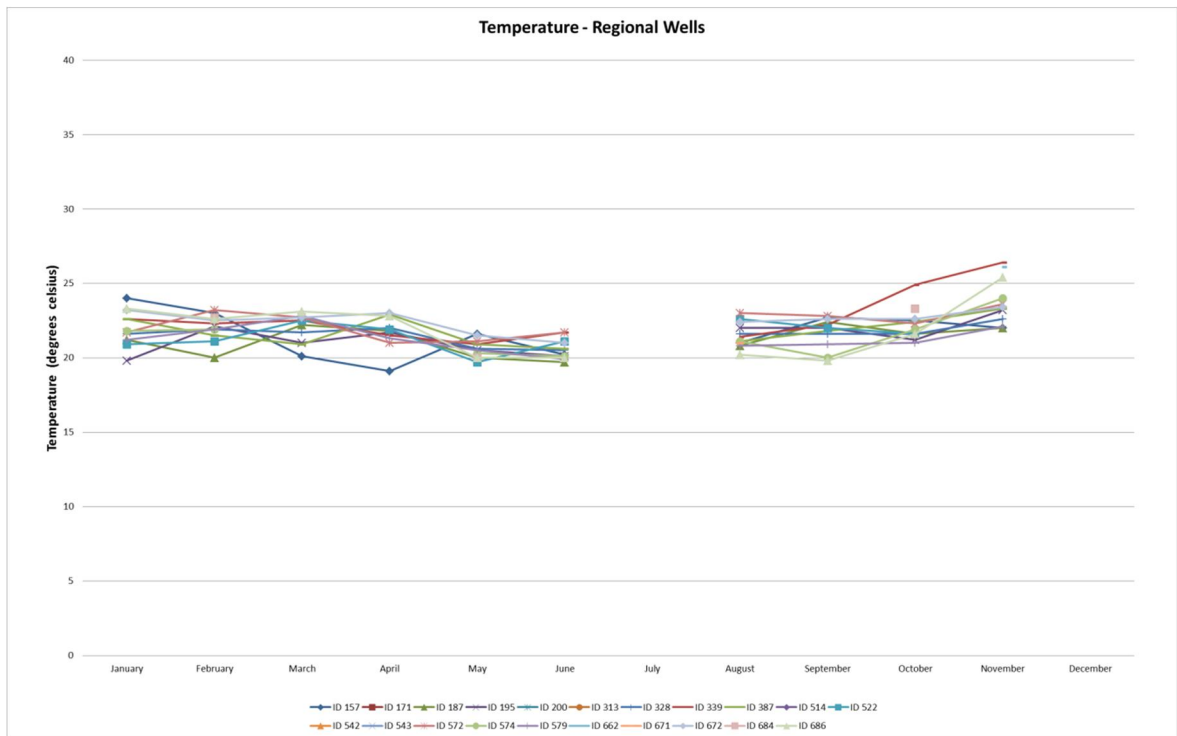


Water quality of regional wells

During the reporting period Regional Wells were sampled monthly for pH, electrical conductivity and temperature by a third party contractor.

No significant change has been observed in either the water quality or drawdown of the Regional Wells during the reporting period.





1.3 Conclusions

Groundwater monitoring undertaken during the reporting period was compliant with the conditions specified in the Authorisation. No significant change to either regional water quality or standing water levels were identified.

Appendix C

Compliance Assessment
ML6220 (Mindarie A(2))

Aboriginal Heritage Management Plan	Comments	Status
Develop a formal agreement or arrangement between the Leasee and the relevant Aboriginal group/heritage committee in order to facilitate communication, consultation, work requirements and reporting.	The previous mining activity operated under agreements with the Ngarkat and Ngintait peoples as represented by the Mannum Aboriginal Community Association Incorporated. The operations were in care and maintenance during the reporting period.	N/A
Provide details of all statutory requirements to be met regarding the disturbance, destruction or removal of Aboriginal heritage under the <i>Aboriginal Heritage Act 1988</i> .	The operations were in care and maintenance during the reporting period.	N/A
Provide details of proposed consultation to be undertaken with the Department for Aboriginal Affairs and Reconciliation, and the relevant Aboriginal Association in the preparation of this plan and before, during and after any exploration and mining.	The operations were in care and maintenance during the reporting period.	N/A
Provide details of training and awareness programs to ensure that all employees and contractors on site are fully aware of the significance of Aboriginal Sites and Objects as defined by the <i>Aboriginal heritage Act 1988</i> .	The operations were in care and maintenance during the reporting period. During rehabilitation activities contractor personnel underwent a Site Induction including Aboriginal heritage awareness.	Compliant
Provide details of measures to avoid impacting on heritage objects including any impacts from earthworks, transport and associated infrastructure.	The operations were in care and maintenance during the reporting period. Rehabilitation activities occurred on already disturbed areas which had been cleared for operations.	Compliant
Detail any actions to be undertaken should any Aboriginal archaeological site or object found, other than those identified in the project areas.	The operations were in care and maintenance during the reporting period. No measures were in place regarding the identification of new sites of Aboriginal heritage significance.	Not compliant
Detail any monitoring proposals to assess the effectiveness of the mitigation measures to ensure that objects are not being inadvertently impacted.	The operations were in care and maintenance during the reporting period. No mitigation measures were in place.	Not compliant

European Heritage Management Plan	Comments	Status
Provide details of all statutory requirements to be met regarding the disturbance, destruction or removal of non-Indigenous heritage under the <i>Environmental Protection and Biodiversity Conservation Act 1999, Development Act 1993</i> and the <i>Heritage Act 1993</i> .	The operations were in care and maintenance during the reporting period.	N/A
Provide details of training and awareness programs to ensure that all employees and contractors on site are fully aware of the significance of non-Indigenous heritage and culture and are to take due care to preserve all heritage places as defined by the <i>Environmental Protection and Biodiversity Conservation Act 1999, Development Act 1993</i> and the <i>Heritage Act 1993</i> .	The operations were in care and maintenance during the reporting period. During rehabilitation activities contractor personnel underwent a Site Induction including European heritage awareness.	Compliant
Provide details of measures to avoid impacting on heritage places, including any impacts from earthworks, transport and associated infrastructure.	The operations were in care and maintenance during the reporting period. Rehabilitation activities occurred on already disturbed areas which had been cleared for operations.	Compliant
Detail any actions to be taken should any suspected heritage site be found, other than those already identified in the project area	The operations were in care and maintenance during the reporting period. No measures were in place regarding the identification of new sites of European heritage significance.	Not compliant

<i>Native Vegetation Management Plan</i>	Comments	Status
<u>Vegetation Clearance</u>		
Minimising clearance of native vegetation, where possible.	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A
No clearance of native vegetation unless in accordance with the approved <i>Native Vegetation Management Plan</i> (Section 7).	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A
Minimising spread of proclaimed and environmental weed species.	All vehicles underwent weed inspection prior to entering the site, including a check for soil, seeds and burrs.	Compliant
Avoiding storage of equipment in areas with native vegetation.	The operations were in care and maintenance during the reporting period.	N/A
Minimise locating access tracks in native vegetation, in particular threatened mallee associations.	The operations were in care and maintenance during the reporting period.	N/A
During the planning stage, the project site will be surveyed to identify areas that should be avoided and prioritised areas of significance. Information about the vegetation required for SEB calculations will be collected at this time where appropriate.	This was undertaken by previous operators.	N/A
<u>Conservation of significant flora and fauna</u>		
Identify potential threatened species within patches of vegetation within the project site.	This was undertaken by previous operators.	N/A
Where possible avoid or minimise clearance of native vegetation within the project site, in particular vegetation with potentially significant faunal habitat.	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A
Where clearance is unavoidable seek appropriate approval for clearance (PIRSA as delegate of NVC) through an approved <i>Native Vegetation Management Plan</i> (Section 7).	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A

<i>Native Vegetation Management Plan</i>	Comments	Status
<u>Weeds, pathogen and vermin control</u>		
No increase in weeds in lease area.	The operations were in care and maintenance during the reporting period. However ML6220 was sprayed regularly for weed species.	Compliant
Minimize transfer and spread of existing weeds at the site, particularly proclaimed and serious environmental weeds.	The operations were in care and maintenance during the reporting period. However ML6220 was sprayed regularly for weed species.	Compliant
Prevent introduction of broomrape species to the project site.	All vehicles underwent weed inspection prior to entering the site, including a check for soil, seeds and burrs.	Compliant
Prevent introduction of pathogens (.e.g. <i>Phytophthora</i> and Mundulla Yellows).	All vehicles underwent weed inspection prior to entering the site, including a check for soil, seeds and burrs.	Compliant
Prevent and minimise impacts to vegetation associated with feral introduced animals or excessive numbers of native animals (e.g. kangaroos).	Pest animals baiting was undertaken in conjunction with Murray-Darling Basin NRM Board	Compliant
<u>Native fauna management</u>		
Minimise disturbance to native fauna species.	The operations were in care and maintenance during the reporting period.	N/A
Progressively rehabilitate and revegetate the land once mining activities are complete to ensure that the area can continue to be utilised as habitat by native fauna.	The operations were in care and maintenance during the reporting period.	N/A
Ensure site personnel have received sufficient training in native fauna identification	The operations were in care and maintenance during the reporting period.	N/A
<u>Conservation significant fauna</u>		
Minimise disturbance to fauna species of conservation significance.	The operations were in care and maintenance during the reporting period.	N/A
Minimise disturbance to vegetation which may serve as habitat for species of conservation significance.	The operations were in care and maintenance during the reporting period.	N/A

<i>Native Vegetation Management Plan</i>	Comments	Status
Progressively rehabilitate and revegetate the land once mining activities are complete to ensure that the area can potentially comprise habitat for conservation-significant fauna species.	The operations were in care and maintenance during the reporting period. Rehabilitation activities were limited to cultivated land only.	N/A
Ensure site personnel have received sufficient training in the identification of conservation significant fauna.	The operations were in care and maintenance during the reporting period.	N/A
<u>Feral animal control</u>		
Ensure feral animals are not introduced to the site.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board. All adjacent landowners were contacted during rabbit and fox baiting to notify them of the use of 1080 baits.	Compliant
Ensure that site activities do not exacerbate current populations of feral animals in the area.	All domestic waste was removed off site for disposal	Compliant

Soil Erosion and Sediment Control Plan	Comments	Status
Protect the land surface and minimise soil erosion.	The operations were in care and maintenance during the reporting period. Rehabilitation activities involved replacing excavated soils as per landowner consultation.	Compliant
Interrupt wind flow or protect exposed soil surfaces against wind erosion.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas. Days of high wind activity in the region caused significant erosion of soils in Mallee district.	Compliant
Intercept, divert and safely dispose of “clean” water from undisturbed areas, clear of mining operational areas (e.g. mining pit, stockpile areas etc) or to pass clean water through the mining operations without mixing with “dirty” sediment contaminated run-off from the mining operational areas.	The operations were in care and maintenance during the reporting period.	N/A
Control and collect sediment generated from surface water flows.	The operations were in care and maintenance during the reporting period.	N/A
Prevent water with heavy sediment loads leaving the site or impacting on other areas of the mine.	The operations were in care and maintenance during the reporting period.	N/A
Regularly inspect and maintain erosion and sediment control devices in proper working order.	The operations were in care and maintenance during the reporting period.	N/A
Progressively stabilise and rehabilitate the disturbed areas of the site.	Rehabilitation activities during the reporting period were undertaken as and where possible.	Compliant
Ensure any current land degradation issues are not exacerbated by mining and rehabilitation activities and practices.	Rehabilitation activities during the reporting period were undertaken as and where possible.	Compliant
Restore native vegetation (including the natural biocrust) to any cleared or impacted areas previously containing native vegetation	The operations were in care and maintenance during the reporting period. Rehabilitation activities were limited to cultivated land only.	N/A
Protect against the erosion of topsoil from stockpiles.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant

Protect against soil and water erosion in general.	The operations were in care and maintenance during the reporting period.	N/A
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Topsoil and Subsoil Management Plan	Comments	Status
Prior to clearing and soil removal, characterise soil profiles, identify areas of soil limitations (e.g. salinity, sodicity, boron) and undertake segregated stockpiling.	The operations were in care and maintenance during the reporting period.	N/A
Retain site topsoil and subsoil for use in site rehabilitation.	Rehabilitation activities involved replacing excavated soils as per landowner consultation.	Compliant
Preserve topsoil and subsoil quality during excavation, transport and stockpiling.	Rehabilitation activities involved replacing excavated soils as per landowner consultation.	Compliant
Protect against the loss of soil from stockpiles (erosion).	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant
Ensure growth-hostile clays, where they occur, are not brought to the surface or mixed with topsoil of growth-compatible subsoils.	Topsoil, subsoils and overburden stockpiles were individually identified so as to manage any boron bearing soil issues	Compliant
Undertake measures to improve agricultural productivity of the soil (to be reused) where sampling identifies it as being required and where the landholder is in agreement.	Agreements with landowners regarding soil improvement included using green manures in the autumn of 2013	Compliant

Water Management Plan	Comments	Status
All bores to be properly designed, permitted, installed, tested, equipped and decommissioned.	All wells were installed as per Department for Water Well Construction Permits and operated as per <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Maintain drawdown to not adversely affect water users more than 2 km from the well fields without appropriate mitigation.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Obtain and maintain all required licensing.	No Water Licence exists.	N/A
Supplement water supplies of adversely affected existing users (if any).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Monitor drawdown and supplement adversely affected existing users (if any).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Fulfil approved groundwater monitoring program.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant

Implement remedial actions to adversely affected existing users (if any).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	N/A
Report annually on time to DWLBC and PIRSA.	This MARCR represents the required annual reporting.	Compliant
Existing groundwater users' access to groundwater shall be maintained or compensated.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	N/A

Appendix C
Compliance Assessment
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Waste Management Plan	Comments	Status
Maximise recycling of general wastes generated during construction and operational activities.	Where a receiver is available, recyclable waste has been taken off site, including cardboard, plastic, waste oil and batteries.	Compliant
Storage of all general waste materials generated on site in accordance with relevant standards, guidelines, codes of practice and legislation.	General (putrescible) waste is stored on site in Council provided rubbish receptacles (i.e. wheelie bins)	Compliant
Ensure that any wastes generated on site are collected by licensed waste transporters in accordance with relevant codes of practice and disposed of at EPA licensed locations.	General (putrescible) waste is collected by Council on a weekly basis. No other waste was disposed during the reporting period.	Compliant
Meet all Mining Lease conditions regarding the disposal of overburden, tailings and MSP rejects.	The operations were in care and maintenance during the reporting period.	N/A

Appendix C
Compliance Assessment
(ML6220 Mindarie A(2))

Noise Management Plan	Comments	Status
Industrial noise to be within appropriate occupational health and safety limits taking into account areas requiring hearing protection.	The operations were in care and maintenance during the reporting period and no noise monitoring was undertaken of rehabilitation earthwork activities.	Not compliant
Noise at uncompensated residences to be maintained below WHO recommended night equivalent noise levels in bedrooms (30–35 dB(A)) and the EPA Industrial Noise Policy night time limit for predominantly rural areas (35 dB(A)).	The operations were in care and maintenance during the reporting period and no noise monitoring was undertaken of rehabilitation earthwork activities.	Not compliant
Appropriately compensate those residences that experience noise nuisance as per access agreements.	All compensation agreements were fulfilled.	Compliant

<i>Dust Management Plan</i>	Comments	Status
Manage mining operations to minimise dust generation and associated disturbance to surrounding areas and receivers.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant
Manage windblown dust from exposed areas and material handling locations e.g. stockpiles, rehabilitated areas etc to minimise dust generation and associated disturbance to surrounding areas and receivers.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant
Manage access roads and transport activities to minimise dust generation and associated disturbance to surrounding areas and receivers.	A water tank was in use during rehabilitation works to mitigate wind erosion of roads.	Compliant

<i>Traffic Management Plan</i>	Comments	Status
Traffic volumes within road capabilities.	The operations were in care and maintenance during the reporting period.	N/A
Safety of roads used improved or maintained appropriate to traffic volumes.	The operations were in care and maintenance during the reporting period.	N/A
New road sections constructed to appropriate standards (to at least the standard of roads being connected).	The operations were in care and maintenance during the reporting period.	N/A
Increased road maintenance within negotiated limits.	The operations were in care and maintenance during the reporting period.	N/A

Emergency Management Plan	Comments	Status
<u>Emergency management</u>		
The following objectives have been adopted as part of the Emergency Management Plan for the Mindarie mining operations:	An Emergency Management Plan was in effect for the reporting period.	Compliant
1. provide an overall framework for managing and responding to emergency situations	An Emergency Management Plan was in effect for the reporting period.	Compliant
2. outline the roles and responsibilities of employees, participating agencies and groups	An Emergency Management Plan was in effect for the reporting period.	Compliant
3. develop emergency procedures for envisaged emergencies including wildfires	An Emergency Management Plan was in effect for the reporting period.	Compliant
4. outline requirements for distribution of the Plan	An Emergency Management Plan was in effect for the reporting period.	Compliant
5. outline requirements for testing and review of procedures	An Emergency Management Plan was in effect for the reporting period.	Compliant
6. outline requirements for training and awareness	An Emergency Management Plan was in effect for the reporting period.	Compliant
<u>Bushfire management</u>		
Avoid starting wildfires.	Only diesel powered engines were allowed to be used on site. All site vehicles were fitted with fire extinguishers and shovels for fighting fires if required. Hot Works Permits were required for activities with a fire risk. No hot works were allowed to be undertaken on Total Fire Ban days.	Compliant
Assist Country Fire Service and landholders with the control of wildfires in the near vicinity of the mine.	Several MZ employees are local CFS volunteers and assisted with local and interstate fires as required during the reporting period	Compliant

<i>Dangerous Substances Plan</i>	Comments	Status
Storage and handling of dangerous substances is undertaken in accordance with relevant Standards, Regulations and Codes of Practice etc.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
A Dangerous Substances Manifest is prepared for the site, updated as required and provided to Emergency Services on a regular bases.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
Storage areas for Dangerous Substances are appropriately signposted e.g. Dangerous Goods Placards at vehicle entrances, storage access points and HAZCCHEM signs if the prescribed storage limits of some substances are exceeded.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
All documentation e.g. transport/shipping documents associated with dangerous substances delivery etc are available on site for review as may be required.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
Spills are to be avoided.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
A Dangerous Substances Audit is undertaken six monthly to ensure compliance with regulations, e.g. bunding, storage of compatible materials, signposting etc. The scope of the audit shall also include a review of the Dangerous Goods Manifest and whether information is provided to SES and CFS as required.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A

Community Consultation Plan	Comments	Status
Identify key stakeholders in the Mindarie (and surrounds) community	Continuation of MMCCC and MMCCC sub committees.	Compliant
Consult with Mindarie community and external stakeholders to ensure that all issues and concerns are managed throughout the life of the project.	Continuation of MMCCC and MMCCC sub committees.	Compliant
Develop and continually improve a targeted communications strategy to encourage support for the Leasee's ongoing access to the Mindarie A(2) deposit and subsequent deposits.	Continuation of MMCCC and MMCCC sub committees. Implementation of Community Consultation Plan.	Compliant
Facilitate and manage communication between the Leasee and all project stakeholders (including the community) by distributing project-wide information.	Continuation of MMCCC and MMCCC sub committees, development of MZ website, articles in local Council and school newsletters, advertisements in local newspapers.	Compliant
Facilitate sharing and discussion of critical project information (i.e., environmental issues, objectives and targets etc) by undertaking communications meeting.	Continuation of MMCCC and MMCCC sub committees.	Compliant
Provide the right information, at the appropriate level of detail.	Continuation of MMCCC and MMCCC sub committees.	Compliant

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<i>Environmental Communications Plan</i>	Comments	Status
Report of complaints provided to the Minister every six months or as otherwise agreed.	No complaints were received during the reporting period.	N/A
Provide an overall framework for managing and coordinating environmental communications that will directly or indirectly take place as part of the Mindarie Zircon project.	Continuation of MMCCC and MMCCC sub committees.	Compliant

<i>Visual Impact Management Plan</i>	Comments	Status
<u>Visual impact</u>		
Reduce visual impact of active mining.	Rehabilitation earthworks were undertaken during the reporting period to reduce the visual impact of the previous mining activities	Compliant

Land Management Plan	Comments	Status
Rehabilitate the land once mining activities are complete as per lease conditions.	MZ commenced rehabilitation earthworks as soon as practicable after acquiring the project.	N/A
Sculpt or otherwise modify the post-mining landforms to batters no steeper than 1:4 and to conform with the local topography.	Rehabilitation earthworks were shaped to conform with the local topography and in consultation with landowners.	Compliant
Commence rehabilitation as soon as practicable, following mining.	MZ commenced rehabilitation earthworks as soon as practicable after acquiring the project.	Compliant
Re-establish all agricultural lands to long-term uses of cropping and/or grazing.	Rehabilitation earthworks undertaken during the reporting period returned 80% of the overburden to the mining void. All land was rehabilitated during 2012.	Compliant
Rehabilitate all areas of native vegetation back to native vegetation.	All native vegetation replacement has occurred prior to the reporting period.	N/A
Return soil to as productive a condition as it was prior to mining.	Rehabilitation earthworks undertaken during the reporting period returned 80% of the overburden to the mining void. All land was rehabilitated during 2012.	Compliant
Utilise plants of local provenance wherever possible and establish locally rare and endangered species, if practicable.	All native vegetation replacement has occurred prior to the reporting period.	N/A
Undertake sufficient monitoring of rehabilitated areas.	Photomonitoring of native vegetation and cultivated land were undertaken during the reporting period	Compliant
<u>Prevention and rehabilitation of land degradation</u>		
Ensure any current land degradation issues are not exacerbated by mining and rehabilitation activities and practices.	Rehabilitation earthworks were undertaken to ensure previous land degradation issues were rehabilitated in consultation with landowners.	Compliant
Protect against the stripping of topsoil from stockpiles.	Stockpile management systems were in place during the reporting period to ensure against loss of top soils and sub soils	Compliant

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Protect against soil and water erosion in general.	Erosion control systems were in place during the reporting period to ensure against soil erosion.	Compliant
Restore native vegetation to any cleared or impacted areas previously containing native vegetation.	All native vegetation replacement has occurred prior to the reporting period.	N/A

Land Management Plan	Comments	Status
<u>Farmland and remnant vegetation management</u>		
In farmland ensure that all topsoil and subsoil stripping and replacement shall be carried out in a manner to ensure that the post-mining crop productivity on the disturbed land is at least equivalent to crop productivity in the adjoining land.	The operations were in care and maintenance during the reporting period and no topsoil or subsoil stripping were undertaken	N/A
Undertake vegetation surveys to establish existing species diversity in areas of remnant native vegetation.	The operations were in care and maintenance during the reporting period and no vegetation surveys were undertaken.	N/A
<u>Control of weeds on topsoil stockpiles</u>		
Ensure weeds are not introduced to the project site.	The operations were in care and maintenance during the reporting period, however ML6220 was sprayed regularly for significant weed species.	Compliant
Protect stockpiles against weed infestation.	The operations were in care and maintenance during the reporting period, however ML6220 was sprayed regularly for significant weed species.	Compliant
Control any weed outbreaks on topsoil stockpiles (or rehabilitated lands).	The operations were in care and maintenance during the reporting period, however ML6220 was sprayed regularly for significant weed species.	Compliant
<u>Livestock access management</u>		
Manage the access of livestock to rehabilitated areas.	All required fences were installed to management livestock	Compliant
<u>Management of vermin and weeds</u>		
Reduce vermin at the project area to reduce grazing and predator pressure on native species and communities of plants and animals.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant
Ensure that site activities do not exacerbate current populations of rabbits in the area.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant

Ensure weeds are not introduced to the project site.	The operations were in care and maintenance during the reporting period, however ML6220 was sprayed regularly for significant weed species	Compliant
Control any major outbreaks of weeds in the vicinity.	The operations were in care and maintenance during the reporting period, however ML6220 was sprayed regularly for significant weed species	Compliant
<u>Feral animal control</u>		
Ensure feral animals are not introduced to the site.	Feral animals were not introduced to the site. Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant
Ensure that site activities do not exacerbate current populations of rabbits in the area.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant

Mine Rehabilitation Plan	Comments	Status
<u>Rehabilitation of cropping land</u>		
Return the land disturbed by mining operations to stable, uncontaminated, agricultural land with a landscape and crop/pasture productivity commensurate with the surrounding unmined land	Rehabilitation earthworks undertaken during the reporting period returned 80% of the overburden to the mining void. All land was rehabilitated during 2012.	Compliant
Meet all rehabilitation commitments in access agreements with landholders including restoration of farm infrastructure	All rehabilitation commitments with landowners were met during the reporting period.	Compliant
<u>Rehabilitation of mallee ecosystem</u>		
Establish physical stability (resistance to erosion)	No planting of native vegetation occurred during the reporting period.	N/A
Re-establish a significant proportion of previously present native species	All native vegetation replacement has occurred prior to the reporting period.	Compliant
<u>Restoration of transportation and other infrastructure</u>		
Transport and other infrastructure restored to previous standard and maintenance requirements	No third party infrastructure was required to be restored during the reporting period.	Compliant

Appendix D

Compliance Assessment
Mindarie C (ML6226)

Aboriginal Heritage Management Plan	Comments	Status
Develop a formal agreement or arrangement between the Leasee and the relevant Aboriginal group/heritage committee in order to facilitate communication, consultation, work requirements and reporting.	The previous mining activity operated under agreements with the Ngarkat and Ngintait peoples as represented by the Mannum Aboriginal Community Association Incorporated. The operations were in care and maintenance during the reporting period.	N/A
Provide details of all statutory requirements to be met regarding the disturbance, destruction or removal of Aboriginal heritage under the <i>Aboriginal Heritage Act 1988</i> .	The operations were in care and maintenance during the reporting period.	N/A
Provide details of proposed consultation to be undertaken with the Department for Aboriginal Affairs and Reconciliation, and the relevant Aboriginal Association in the preparation of this plan and before, during and after any exploration and mining.	The operations were in care and maintenance during the reporting period.	N/A
Provide details of training and awareness programs to ensure that all employees and contractors on site are fully aware of the significance of Aboriginal Sites and Objects as defined by the <i>Aboriginal heritage Act 1988</i> .	The operations were in care and maintenance during the reporting period. During rehabilitation activities contractor personnel underwent a Site Induction including Aboriginal heritage awareness.	Compliant
Provide details of measures to avoid impacting on heritage objects including any impacts from earthworks, transport and associated infrastructure.	The operations were in care and maintenance during the reporting period. Rehabilitation activities occurred on already disturbed areas which had been cleared for operations.	Compliant
Detail any actions to be undertaken should any Aboriginal archaeological site or object found, other than those identified in the project areas.	The operations were in care and maintenance during the reporting period. No measures were in place regarding the identification of new sites of Aboriginal heritage significance.	Not compliant
Detail any monitoring proposals to assess the effectiveness of the mitigation measures to ensure that objects are not being inadvertently impacted.	The operations were in care and maintenance during the reporting period. No mitigation measures were in place.	Not compliant

European Heritage Management Plan	Comments	Status
Provide details of all statutory requirements to be met regarding the disturbance, destruction or removal of non-Indigenous heritage under the <i>Environmental Protection and Biodiversity Conservation Act 1999, Development Act 1993</i> and the <i>Heritage Act 1993</i> .	The operations were in care and maintenance during the reporting period.	N/A
Provide details of training and awareness programs to ensure that all employees and contractors on site are fully aware of the significance of non-Indigenous heritage and culture and are to take due care to preserve all heritage places as defined by the <i>Environmental Protection and Biodiversity Conservation Act 1999, Development Act 1993</i> and the <i>Heritage Act 1993</i> .	The operations were in care and maintenance during the reporting period. During rehabilitation activities contractor personnel underwent a Site Induction including European heritage awareness.	Compliant
Provide details of measures to avoid impacting on heritage places, including any impacts from earthworks, transport and associated infrastructure.	The operations were in care and maintenance during the reporting period. Rehabilitation activities occurred on already disturbed areas which had been cleared for operations.	Compliant
Detail any actions to be taken should any suspected heritage site be found, other than those already identified in the project area	The operations were in care and maintenance during the reporting period. No measures were in place regarding the identification of new sites of European heritage significance.	Not compliant

<i>Native Vegetation Management Plan</i>	Comments	Status
<u>Vegetation Clearance</u>		
Minimising clearance of native vegetation, where possible.	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A
No clearance of native vegetation unless in accordance with the approved <i>Native Vegetation Management Plan</i> (Section 7).	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A
Minimising spread of proclaimed and environmental weed species.	All vehicles underwent weed inspection prior to entering the site, including a check for soil, seeds and burrs.	Compliant
Avoiding storage of equipment in areas with native vegetation.	The operations were in care and maintenance during the reporting period.	N/A
Minimise locating access tracks in native vegetation, in particular threatened mallee associations.	The operations were in care and maintenance during the reporting period.	N/A
During the planning stage, the project site will be surveyed to identify areas that should be avoided and prioritised areas of significance. Information about the vegetation required for SEB calculations will be collected at this time where appropriate.	This was undertaken by previous operators.	N/A
<u>Conservation of significant flora and fauna</u>		
Identify potential threatened species within patches of vegetation within the project site.	This was undertaken by previous operators.	N/A
Where possible avoid or minimise clearance of native vegetation within the project site, in particular vegetation with potentially significant faunal habitat.	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A
Where clearance is unavoidable seek appropriate approval for clearance (PIRSA as delegate of NVC) through an approved <i>Native Vegetation Management Plan</i> (Section 7).	The operations were in care and maintenance during the reporting period. No native vegetation clearance was undertaken.	N/A

<i>Native Vegetation Management Plan</i>	Comments	Status
<u>Weeds, pathogen and vermin control</u>		
No increase in weeds in lease area.	The operations were in care and maintenance during the reporting period. However ML6226 was sprayed regularly for weed species.	Compliant
Minimize transfer and spread of existing weeds at the site, particularly proclaimed and serious environmental weeds.	The operations were in care and maintenance during the reporting period. However ML6226 was sprayed regularly for weed species.	Compliant
Prevent introduction of broomrape species to the project site.	All vehicles underwent weed inspection prior to entering the site, including a check for soil, seeds and burrs.	Compliant
Prevent introduction of pathogens (.e.g. <i>Phytophthora</i> and Mundulla Yellows).	All vehicles underwent weed inspection prior to entering the site, including a check for soil, seeds and burrs.	Compliant
Prevent and minimise impacts to vegetation associated with feral introduced animals or excessive numbers of native animals (e.g. kangaroos).	Pest animals baiting was undertaken in conjunction with Murray-Darling Basin NRM Board	Compliant
<u>Native fauna management</u>		
Minimise disturbance to native fauna species.	The operations were in care and maintenance during the reporting period.	N/A
Progressively rehabilitate and revegetate the land once mining activities are complete to ensure that the area can continue to be utilised as habitat by native fauna.	The operations were in care and maintenance during the reporting period.	N/A
Ensure site personnel have received sufficient training in native fauna identification	The operations were in care and maintenance during the reporting period.	N/A
<u>Conservation significant fauna</u>		
Minimise disturbance to fauna species of conservation significance.	The operations were in care and maintenance during the reporting period.	N/A
Minimise disturbance to vegetation which may serve as habitat for species of conservation significance.	The operations were in care and maintenance during the reporting period.	N/A

<i>Native Vegetation Management Plan</i>	Comments	Status
Progressively rehabilitate and revegetate the land once mining activities are complete to ensure that the area can potentially comprise habitat for conservation-significant fauna species.	The operations were in care and maintenance during the reporting period. Rehabilitation activities were limited to cultivated land only.	N/A
Ensure site personnel have received sufficient training in the identification of conservation significant fauna.	The operations were in care and maintenance during the reporting period.	N/A
<u>Feral animal control</u>		
Ensure feral animals are not introduced to the site.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board. All adjacent landowners were contacted during rabbit and fox baiting to notify them of the use of 1080 baits.	Compliant
Ensure that site activities do not exacerbate current populations of feral animals in the area.	All domestic waste was removed off site for disposal	Compliant

Soil Erosion and Sediment Control Plan	Comments	Status
Protect the land surface and minimise soil erosion.	The operations were in care and maintenance during the reporting period. Rehabilitation activities involved replacing excavated soils as per landowner consultation.	Compliant
Interrupt wind flow or protect exposed soil surfaces against wind erosion.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas. Days of high wind activity in the region caused significant erosion of soils in Mallee district.	Compliant
Intercept, divert and safely dispose of “clean” water from undisturbed areas, clear of mining operational areas (e.g. mining pit, stockpile areas etc) or to pass clean water through the mining operations without mixing with “dirty” sediment contaminated run-off from the mining operational areas.	The operations were in care and maintenance during the reporting period.	N/A
Control and collect sediment generated from surface water flows.	The operations were in care and maintenance during the reporting period.	N/A
Prevent water with heavy sediment loads leaving the site or impacting on other areas of the mine.	The operations were in care and maintenance during the reporting period.	N/A
Regularly inspect and maintain erosion and sediment control devices in proper working order.	The operations were in care and maintenance during the reporting period.	N/A
Progressively stabilise and rehabilitate the disturbed areas of the site.	Rehabilitation activities during the reporting period were undertaken as and where possible.	Compliant
Ensure any current land degradation issues are not exacerbated by mining and rehabilitation activities and practices.	Rehabilitation activities during the reporting period were undertaken as and where possible.	Compliant
Restore native vegetation (including the natural biocrust) to any cleared or impacted areas previously containing native vegetation	The operations were in care and maintenance during the reporting period. Rehabilitation activities were limited to cultivated land only.	N/A
Protect against the erosion of topsoil from stockpiles.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant

Protect against soil and water erosion in general.	The operations were in care and maintenance during the reporting period.	N/A
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Topsoil and Subsoil Management Plan	Comments	Status
Prior to clearing and soil removal, characterise soil profiles, identify areas of soil limitations (e.g. salinity, sodicity, boron) and undertake segregated stockpiling.	The operations were in care and maintenance during the reporting period.	N/A
Retain site topsoil and subsoil for use in site rehabilitation.	Rehabilitation activities involved replacing excavated soils as per landowner consultation.	Compliant
Preserve topsoil and subsoil quality during excavation, transport and stockpiling.	Rehabilitation activities involved replacing excavated soils as per landowner consultation.	Compliant
Protect against the loss of soil from stockpiles (erosion).	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant
Ensure growth-hostile clays, where they occur, are not brought to the surface or mixed with topsoil of growth-compatible subsoils.	Topsoil, subsoils and overburden stockpiles were individually identified so as to manage any boron bearing soil issues	Compliant
Undertake measures to improve agricultural productivity of the soil (to be reused) where sampling identifies it as being required and where the landholder is in agreement.	Agreements with landowners regarding soil improvement included using green manures in the autumn of 2013	Compliant

Water Management Plan	Comments	Status
All bores to be properly designed, permitted, installed, tested, equipped and decommissioned.	All wells were installed as per Department for Water Well Construction Permits and operated as per <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Maintain drawdown to not adversely affect water users more than 2 km from the well fields without appropriate mitigation.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Obtain and maintain all required licensing.	No Water Licence exists.	N/A
Supplement water supplies of adversely affected existing users (if any).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Monitor drawdown and supplement adversely affected existing users (if any).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
Fulfil approved groundwater monitoring program.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant

Implement remedial actions to adversely affected existing users (if any).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	N/A
Report annually on time to DWLBC and PIRSA.	This MARCR represents the required annual reporting.	Compliant
Existing groundwater users' access to groundwater shall be maintained or compensated.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	N/A

Waste Management Plan	Comments	Status
Maximise recycling of general wastes generated during construction and operational activities.	Where a receiver is available, recyclable waste has been taken off site, including cardboard, plastic, waste oil and batteries.	Compliant
Storage of all general waste materials generated on site in accordance with relevant standards, guidelines, codes of practice and legislation.	General (putrescible) waste is stored on site in Council provided rubbish receptacles (i.e. wheelie bins)	Compliant
Ensure that any wastes generated on site are collected by licensed waste transporters in accordance with relevant codes of practice and disposed of at EPA licensed locations.	General (putrescible) waste is collected by Council on a weekly basis. No other waste was disposed during the reporting period.	Compliant
Meet all Mining Lease conditions regarding the disposal of overburden, tailings and MSP rejects.	The operations were in care and maintenance during the reporting period.	N/A

Noise Management Plan	Comments	Status
Industrial noise to be within appropriate occupational health and safety limits taking into account areas requiring hearing protection.	The operations were in care and maintenance during the reporting period and no noise monitoring was undertaken of rehabilitation earthwork activities.	Not compliant
Noise at uncompensated residences to be maintained below WHO recommended night equivalent noise levels in bedrooms (30–35 dB(A)) and the EPA Industrial Noise Policy night time limit for predominantly rural areas (35 dB(A)).	The operations were in care and maintenance during the reporting period and no noise monitoring was undertaken of rehabilitation earthwork activities.	Not compliant
Appropriately compensate those residences that experience noise nuisance as per access agreements.	All compensation agreements were fulfilled.	Compliant

<i>Dust Management Plan</i>	Comments	Status
Manage mining operations to minimise dust generation and associated disturbance to surrounding areas and receivers.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant
Manage windblown dust from exposed areas and material handling locations e.g. stockpiles, rehabilitated areas etc to minimise dust generation and associated disturbance to surrounding areas and receivers.	A water tank was in use during rehabilitation works to mitigate wind erosion of stockpiles and rehabilitated areas.	Compliant
Manage access roads and transport activities to minimise dust generation and associated disturbance to surrounding areas and receivers.	A water tank was in use during rehabilitation works to mitigate wind erosion of roads.	Compliant

<i>Traffic Management Plan</i>	Comments	Status
Traffic volumes within road capabilities.	The operations were in care and maintenance during the reporting period.	N/A
Safety of roads used improved or maintained appropriate to traffic volumes.	The operations were in care and maintenance during the reporting period.	N/A
New road sections constructed to appropriate standards (to at least the standard of roads being connected).	The operations were in care and maintenance during the reporting period.	N/A
Increased road maintenance within negotiated limits.	The operations were in care and maintenance during the reporting period.	N/A

Emergency Management Plan	Comments	Status
<u>Emergency management</u>		
The following objectives have been adopted as part of the Emergency Management Plan for the Mindarie mining operations:	An Emergency Management Plan was in effect for the reporting period.	Compliant
1. provide an overall framework for managing and responding to emergency situations	An Emergency Management Plan was in effect for the reporting period.	Compliant
2. outline the roles and responsibilities of employees, participating agencies and groups	An Emergency Management Plan was in effect for the reporting period.	Compliant
3. develop emergency procedures for envisaged emergencies including wildfires	An Emergency Management Plan was in effect for the reporting period.	Compliant
4. outline requirements for distribution of the Plan	An Emergency Management Plan was in effect for the reporting period.	Compliant
5. outline requirements for testing and review of procedures	An Emergency Management Plan was in effect for the reporting period.	Compliant
6. outline requirements for training and awareness	An Emergency Management Plan was in effect for the reporting period.	Compliant
<u>Bushfire management</u>		
Avoid starting wildfires.	Only diesel powered engines were allowed to be used on site. All site vehicles were fitted with fire extinguishers and shovels for fighting fires if required. Hot Works Permits were required for activities with a fire risk. No hot works were allowed to be undertaken on Total Fire Ban days.	Compliant
Assist Country Fire Service and landholders with the control of wildfires in the near vicinity of the mine.	Several MZ employees are local CFS volunteers and assisted with local and interstate fires as required during the reporting period	Compliant

<i>Dangerous Substances Plan</i>	Comments	Status
Storage and handling of dangerous substances is undertaken in accordance with relevant Standards, Regulations and Codes of Practice etc.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
A Dangerous Substances Manifest is prepared for the site, updated as required and provided to Emergency Services on a regular bases.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
Storage areas for Dangerous Substances are appropriately signposted e.g. Dangerous Goods Placards at vehicle entrances, storage access points and HAZCCHEM signs if the prescribed storage limits of some substances are exceeded.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
All documentation e.g. transport/shipping documents associated with dangerous substances delivery etc are available on site for review as may be required.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
Spills are to be avoided.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A
A Dangerous Substances Audit is undertaken six monthly to ensure compliance with regulations, e.g. bunding, storage of compatible materials, signposting etc. The scope of the audit shall also include a review of the Dangerous Goods Manifest and whether information is provided to SES and CFS as required.	The operations were in care and maintenance during the reporting period. All hazardous chemicals and or dangerous substances had been removed during project closure.	N/A

Community Consultation Plan	Comments	Status
Identify key stakeholders in the Mindarie (and surrounds) community	Continuation of MMCCC and MMCCC sub committees.	Compliant
Consult with Mindarie community and external stakeholders to ensure that all issues and concerns are managed throughout the life of the project.	Continuation of MMCCC and MMCCC sub committees.	Compliant
Develop and continually improve a targeted communications strategy to encourage support for the Leasee's ongoing access to the Mindarie A(2) deposit and subsequent deposits.	Continuation of MMCCC and MMCCC sub committees. Implementation of Community Consultation Plan.	Compliant
Facilitate and manage communication between the Leasee and all project stakeholders (including the community) by distributing project-wide information.	Continuation of MMCCC and MMCCC sub committees, development of MZ website, articles in local Council and school newsletters, advertisements in local newspapers.	Compliant
Facilitate sharing and discussion of critical project information (i.e., environmental issues, objectives and targets etc) by undertaking communications meeting.	Continuation of MMCCC and MMCCC sub committees.	Compliant
Provide the right information, at the appropriate level of detail.	Continuation of MMCCC and MMCCC sub committees.	Compliant

<i>Environmental Communications Plan</i>	Comments	Status
Report of complaints provided to the Minister every six months or as otherwise agreed.	No complaints were received during the reporting period.	N/A
Provide an overall framework for managing and coordinating environmental communications that will directly or indirectly take place as part of the Mindarie Zircon project.	Continuation of MMCCC and MMCCC sub committees.	Compliant

<i>Visual Impact Management Plan</i>	Comments	Status
<u>Visual impact</u>		
Reduce visual impact of active mining.	Rehabilitation earthworks were undertaken during the reporting period to reduce the visual impact of the previous mining activities	Compliant

Land Management Plan	Comments	Status
Rehabilitate the land once mining activities are complete as per lease conditions.	MZ commenced rehabilitation earthworks as soon as practicable after acquiring the project.	N/A
Sculpt or otherwise modify the post-mining landforms to batters no steeper than 1:4 and to conform with the local topography.	Rehabilitation earthworks were shaped to conform with the local topography and in consultation with landowners.	Compliant
Commence rehabilitation as soon as practicable, following mining.	MZ commenced rehabilitation earthworks as soon as practicable after acquiring the project.	Compliant
Re-establish all agricultural lands to long-term uses of cropping and/or grazing.	Rehabilitation earthworks undertaken during the reporting period returned 80% of the overburden to the mining void. All land was rehabilitated during 2012.	Compliant
Rehabilitate all areas of native vegetation back to native vegetation.	All native vegetation replacement has occurred prior to the reporting period.	N/A
Return soil to as productive a condition as it was prior to mining.	Rehabilitation earthworks undertaken during the reporting period returned 80% of the overburden to the mining void. All land was rehabilitated during 2012.	Compliant
Utilise plants of local provenance wherever possible and establish locally rare and endangered species, if practicable.	All native vegetation replacement has occurred prior to the reporting period.	N/A
Undertake sufficient monitoring of rehabilitated areas.	Photo-monitoring of native vegetation and cultivated land were undertaken during the reporting period	Compliant
<u>Prevention and rehabilitation of land degradation</u>		
Ensure any current land degradation issues are not exacerbated by mining and rehabilitation activities and practices.	Rehabilitation earthworks were undertaken to ensure previous land degradation issues were rehabilitated in consultation with landowners.	Compliant
Protect against the stripping of topsoil from stockpiles.	Stockpile management systems were in place during the reporting period to ensure against loss of top soils and sub soils	Compliant

Appendix D
Compliance Assessment
ML 6226 Mindarie C

Protect against soil and water erosion in general.	Erosion control systems were in place during the reporting period to ensure against soil erosion.	Compliant
Restore native vegetation to any cleared or impacted areas previously containing native vegetation.	All native vegetation replacement has occurred prior to the reporting period.	N/A

Land Management Plan	Comments	Status
<u>Farmland and remnant vegetation management</u>		
In farmland ensure that all topsoil and subsoil stripping and replacement shall be carried out in a manner to ensure that the post-mining crop productivity on the disturbed land is at least equivalent to crop productivity in the adjoining land.	The operations were in care and maintenance during the reporting period and no topsoil or subsoil stripping were undertaken	N/A
Undertake vegetation surveys to establish existing species diversity in areas of remnant native vegetation.	The operations were in care and maintenance during the reporting period and no vegetation surveys were undertaken.	N/A
<u>Control of weeds on topsoil stockpiles</u>		
Ensure weeds are not introduced to the project site.	The operations were in care and maintenance during the reporting period, however ML6226 was sprayed regularly for significant weed species.	Compliant
Protect stockpiles against weed infestation.	The operations were in care and maintenance during the reporting period, however ML6226 was sprayed regularly for significant weed species.	Compliant
Control any weed outbreaks on topsoil stockpiles (or rehabilitated lands).	The operations were in care and maintenance during the reporting period, however ML6226 was sprayed regularly for significant weed species.	Compliant
<u>Livestock access management</u>		
Manage the access of livestock to rehabilitated areas.	All required fences were installed to management livestock	Compliant
<u>Management of vermin and weeds</u>		
Reduce vermin at the project area to reduce grazing and predator pressure on native species and communities of plants and animals.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant
Ensure that site activities do not exacerbate current populations of rabbits in the area.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant

Ensure weeds are not introduced to the project site.	The operations were in care and maintenance during the reporting period, however ML6226 was sprayed regularly for significant weed species	Compliant
Control any major outbreaks of weeds in the vicinity.	The operations were in care and maintenance during the reporting period, however ML6226 was sprayed regularly for significant weed species	Compliant
<u>Feral animal control</u>		
Ensure feral animals are not introduced to the site.	Feral animals were not introduced to the site. Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant
Ensure that site activities do not exacerbate current populations of rabbits in the area.	Feral animal control undertaken in conjunction with Murray-Darling Basin NRM Board.	Compliant

Mine Rehabilitation Plan	Comments	Status
<u>Rehabilitation of cropping land</u>		
Return the land disturbed by mining operations to stable, uncontaminated, agricultural land with a landscape and crop/pasture productivity commensurate with the surrounding unmined land	Rehabilitation earthworks undertaken during the reporting period returned 80% of the overburden to the mining void. All land was rehabilitated during 2012.	Compliant
Meet all rehabilitation commitments in access agreements with landholders including restoration of farm infrastructure	All rehabilitation commitments with landowners were met during the reporting period.	Compliant
<u>Rehabilitation of mallee ecosystem</u>		
Establish physical stability (resistance to erosion)	No planting of native vegetation occurred during the reporting period.	N/A
Re-establish a significant proportion of previously present native species	All native vegetation replacement has occurred prior to the reporting period.	Compliant
<u>Restoration of transportation and other infrastructure</u>		
Transport and other infrastructure restored to previous standard and maintenance requirements	No third party infrastructure was required to be restored during the reporting period.	Compliant

Appendix E

Compliance Assessment
MPL80 (Pyap Transmission Line)

MPL80 Licence Conditions	Comments	Status
<p>(5) The Licensee shall do such things in pursuance of this licence in such a manner so as:-</p> <p>(a) To prevent pollution to or contamination of surface or underground waters</p> <p>(b) To minimise surface damage of land.</p>	No operations occur on MPL80.	N/A
<p>(6) The licensee shall ensure that, in drilling or other underground investigations, no interconnection between the ground water aquifers occur.</p>	No drilling has occurred on MPL80.	Compliant
<p><u>First Schedule</u></p> <p>(2) The licensee must comply with the approved program for mining and rehabilitation for the tenements known as the Mindarie Heavy Mineral Sands Project to ensure that the operations on the land are carried out in an orderly and skilful manner, and as part of mine closure, the land disturbed by operations conducted under this MPL is rehabilitated to an agreed post mining land use and as approved by the Chief Inspector of Mines.</p>	The project was in care and maintenance during the reporting period. No rehabilitation of MPL80 was undertaken in this time.	N/A
<p>3) The Licensee must ensure that all employees and contractors on-site are properly advised of the significance of Aboriginal heritage and culture and are to take due care to preserve all Aboriginal Sites and Objects as defined by the <i>Aboriginal Heritage Act, 1988</i>.</p>	The operations were in care and maintenance and no contractors were used on MPL80 during the reporting period.	N/A
<p><u>Second Schedule</u></p> <p>(3) The Licensee must ensure the construction and operation of the power line and service track, is undertaken in a manner to minimise environmental impact.</p>	Power line constructed where possible to minimise environmental harm. Assessments of power line are undertaken from main roads where possible.	Compliant
<p>(4) The Licensee must establish appropriate weed control procedures to ensure that weed seeds are not transported off site or on to adjoining properties.</p>	The operations were in care and maintenance and no vehicles were used on MPL80 during the reporting period.	Compliant

MPL80 MARP Conditions	Comments	Status
3.1.5 Statutory electrical clearance to vegetation must be maintained to minimise the risk of fire.	Assessment of power line during the reporting period showed that no clearance of vegetation was required.	Compliant
3.1.6 Once stringing operations are completed, the construction area would be cleaned of remaining waste material. Restoration works would then be carried out so that the land is returned to as close to its original state as possible.	Complete	N/A
During routine operations environmental inspections will be undertaken at six-monthly intervals. Ad-hoc inspections will be made during maintenance activities or in response to non-frivolous complaints by stakeholders.	Six monthly inspections have been undertaken to ensure that adequate vegetation clearance is maintained.	Compliant
6.3.4 Flora <ul style="list-style-type: none"> Where possible, existing tracks adjacent to fence lines will be utilised. Avoid storage of equipment in areas with native vegetation Avoid locating access tracks in native vegetation Rehabilitation of any impacted areas, using indigenous plant species for revegetation 	Complete	N/A
6.3.6 Fauna <ul style="list-style-type: none"> Ensure site personnel have received sufficient training in native fauna identification and are aware that significant fauna may be in the area, particularly during spring. 	The operations were in care and maintenance and no training in native fauna awareness was undertaken during the reporting period.	N/A
6.3.7 Heritage <ul style="list-style-type: none"> If at any time during operations, any significant Aboriginal items or anything they suspect to be a significant Aboriginal item then work will stop at the location and the project manager will be informed, who will in turn inform the Minister (Department for Aboriginal Affairs and Reconciliation). The contractor will be responsible to report the identification of potentially significant items with follow-up by the Leasee. 	The operations were in care and maintenance and no items of Aboriginal Heritage were identified during the reporting period.	N/A

MPL80 MARP Conditions	Comments	Status
<p>6.3.9 Wildfire</p> <ul style="list-style-type: none"> ■ Adequate provision and maintenance of clearance between transmission lines and vegetation (trimming expected every three years) ■ Liaise with local Country Fire Service ■ Include an emphasis on bushfire risk in employee and contractor inductions ■ Fit all mobile equipment with fire extinguishers ■ Make mine water truck available to assist with fire control ■ Make mine earthmoving equipment available for firebreak preparation. 	<p>Six monthly inspections have been undertaken to ensure that adequate vegetation clearance is maintained.</p> <p>Tree trimming is scheduled for August 2012 and CFS member involved with the project management of activities.</p>	Compliant
<p>6.3.10 Contaminant and concrete spills</p> <ul style="list-style-type: none"> ■ All refuelling done with personnel in attendance ■ All spills to be reported to the Environment Officer or delegate within 24 hours ■ Spill kit available for minor spills, with contaminated soil removed from site and appropriately disposed of, then rehabilitation. ■ Contractor to capture and recycle all wash down water, dilute with sufficient fresh water to avoid staining, or disposal to appropriate treatment facility <p>All spills requiring cleanup to be reported to PIRSA within 3 working days.</p>	The operations were in care and maintenance and no vehicles or equipment were used on MPL80 during the reporting period.	N/A
<p>6.3.11 Solid waste</p> <ul style="list-style-type: none"> ■ Contractor to provide containers as necessary to hold solid waste ■ Solid waste recycled or disposed to licensed landfill 	The operations were in care and maintenance and no waste was generated on MPL80 during the reporting period.	N/A
<p>6.6</p> <ul style="list-style-type: none"> ■ Minor complaints will be recorded and provided to the Minister on an annual basis and available for inspection at any time during working hours. 	The operations were in care and maintenance and no complaints regarding MPL80 were received during the reporting period.	N/A

MPL80 MARP Conditions	Comments	Status
<p>8.1.1</p> <ul style="list-style-type: none"> Land disturbed during construction will be stabilised. Where native vegetation must be cleared or trimmed, it will be put to the side. Following construction of the transmission line, cut vegetation will be spread on cleared areas to act as mulch and a seed source, and to assist in erosion control. 	<p>Six monthly inspections have been undertaken to ensure that adequate vegetation clearance is maintained.</p> <p>Tree trimming is scheduled for August 2012 and will be mulched and spread as required.</p>	<p>N/A</p>
<p>8.2</p> <ul style="list-style-type: none"> Final land use and landform of disturbed areas, at the completion of their effective use, shall be stable and either revegetated or stabilised (depending on previous land use) to minimise erosion potential from water and wind. Wires will be removed then the stobie poles removed from their sockets. Concrete bases will be left in situ as the area involved is very small and their removal would cause disruption to established plants. 	<p>Power line still in operational use.</p>	<p>N/A</p>
<p>8.2.1</p> <ul style="list-style-type: none"> Returning any remnant native vegetation to as near to its original state or a more diverse equivalent will ensure that there is no net conservation loss as a result of the project. A follow-up ecological survey will be undertaken once the decision to decommission and remove the transmission line has been made. 	<p>Power line still in operational use.</p>	<p>N/A</p>
<p>8.2.2</p> <ul style="list-style-type: none"> Rehabilitation of the farmland that may be disturbed during the decommissioning and removal of the transmission line will be carried out in close collaboration with the landowner or leaseholder. 	<p>Power line still in operational use.</p>	<p>N/A</p>

Appendix F

Compliance Assessment: EML6232
Rubble Pit 1

EML6232 Licence Conditions	Comments	Status
<p><u>First Schedule</u></p> <p>(2) The Lessee must ensure that as part of the mine closure, the land disturbed by mining is rehabilitated to a post mining land use as specified in the program for mining and rehabilitation.</p>	<p>The operations were in care and maintenance and EML6232 was not in use during the reporting period.</p>	<p>N/A</p>
<p>3) The Lessee must ensure that all employees and contractors on-site are properly advised of the significance of Aboriginal heritage and culture and are to take due care to preserve all Aboriginal Sites and Objects as defined by the <i>Aboriginal Heritage Act, 1988</i>.</p>	<p>The operations were in care and maintenance and EML6232 was not in use during the reporting period.</p>	<p>N/A</p>
<p><u>Second Schedule</u></p> <p>(2) The program for mining and rehabilitation must comply with the requirements of guidelines approved by the Chief Inspector of Mines and include environmental objectives and criteria that are developed in consultation with relevant stakeholders.</p>	<p>The operations were in care and maintenance and EML6232 was not in use during the reporting period.</p>	<p>N/A</p>
<p>(5) The leaseholder must provide to PIRSA a Mining and Rehabilitation Compliance Report on operations carried out on the lease and compliance with the Mining and Rehabilitation Program. This must be submitted every year, or another period as agreed with the Chief Inspector of Mines, within 2 months after the anniversary of the date the lease was granted, in accordance with guidelines approved by the Chief Inspector of Mines. The report will be a public document.</p>	<p>This 2011 MARCR constitutes the <i>Mining and Rehabilitation Compliance Report</i>.</p>	<p>Compliant</p>
<p>(6) The Lessee must ensure that all terminal faces are formed (as part of mining) to a gradient not steeper than 1:4 (14°) to blend with the local topography and drainage system.</p>	<p>The operations were in care and maintenance and EML6232 was not in use during the reporting period.</p>	<p>N/A</p>
<p>(7) The Lessee must ensure that topsoil is removed and stockpiled prior to carrying out any mining activity, and minimise the mixing and erosion of topsoil and overburden stockpiles.</p>	<p>The operations were in care and maintenance and EML6232 was not in use during the reporting period.</p>	<p>N/A</p>

EML6232 Licence Conditions	Comments	Status
(8) The Lessee must ensure that all land disturbed by mining is progressively rehabilitated when practicable to do so and, in accordance with appropriate seasonal conditions, progressively re-spread with topsoil and re-vegetated to prevent soil erosion to the satisfaction of the Chief Inspector of Mines.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
(9) The Lessee must ensure that dust from the operations is effectively controlled and managed.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
(10) The Lessee must ensure all fuel and liquid chemical storage areas are bunded and lined in accordance with current EPA (South Australia) guidelines.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
(11) The Lessee must operate in a manner that will minimise the spread of weeds and plant pathogens and ensure that all employees and contractors on-site are fully aware of this requirement.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A

EML6232 MARP Native Vegetation Management Plan	Comments	Status
<u>1.6.1.3 General Strategy (vegetation clearance)</u> Pre clearance inspections prior to clearing vegetation will be used to highlight (flag) significant vegetation, including areas with mature trees, trees with hollows and habitat suited to conservation-significant fauna.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Cleared vegetation will be stockpiled for later respreading on adjacent areas of current native vegetation that will be cleared for mining and revegetated the same year.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Topsoil will be removed by scraper or grader and stored locally ready for future use in revegetation of mined out areas	The operations were in care and maintenance and no topsoil was removed during the reporting period.	N/A
Vegetation clearing will be undertaken just prior to site works in order to reduce erosion and topsoil loss resulting from soil exposure.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Cleared native vegetation will be stored on-site and stored for use as mulch and habitat during revegetation works. Cleared weeds will be removed from site and disposed of appropriately according to local practice.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Stockpiling of cleared native vegetation will occur in cleared areas on site, not in areas of native vegetation (treed areas).	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
<u>1.6.2.3 Strategy (significant flora and fauna)</u> Where clearance is required, utilise existing cleared areas (e.g. farm tracks, fire breaks, easements) within the vegetation patch.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Where possible avoid clearance during conservation significant fauna sensitive periods (e.g. breeding season, young dispersal).	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Obtain approval from PIRSA as delegated decision makers of the Native Vegetation Council under the Native Vegetation Act 1991 and Regulations 2003.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A
Relocate fauna habitat (e.g. hollow logs) as per the site Fauna Management Plan.	The operations were in care and maintenance and no native vegetation was cleared during the reporting period.	N/A

EML6232 MARP Native Vegetation Management Plan	Comments	Status
Rehabilitate areas cleared of native vegetation as a result of project activities with indigenous native species (see Section 1.6).	The operations were in care and maintenance and no native vegetation was cleared or rehabilitated during the reporting period.	N/A
<u>1.6.3.3 Strategy (weeds, pathogens and vermin control)</u> All earth moving machinery and equipment is clean prior to entering the site and excavation.	The operations were in care and maintenance and no equipment entered EML622 during the reporting period.	N/A
Ensure that weeds are not introduced to the site through other activities.	The operations were in care and maintenance and no equipment entered EML622 during the reporting period.	N/A
Ensure topsoil stockpiles are located in an area away from obvious weed outbreaks.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
Ensure that any weeds existing at the site prior to excavation are controlled by appropriate methods, or not further exacerbated by mining activities.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
Minimise as much as practicable, the movement of topsoil, (particularly if there are dormant seeds existing in the topsoil – many of these can be activated through disturbance).	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
Contribute to or implement coordinated local feral animal control programmes (and native animal control programmes) as required.	Feral animal control undertaken in conjunction with NRM Board.	Compliant
Ensure all quarry machinery is washed down and decontaminated if they have travelled to the project site via the Branched Broomrape Containment Area, or through areas known to contain Phytophthora and Mundulla Yellows.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. However EML6232 was sprayed regularly for significant weed species.	N/A
If broomrape is noted within the project area a control programme will be implemented immediately in consultation with the Branched Broomrape Control Centre within the Department of Water, Land and Biodiversity Conservation (1800 245 704). In the unlikely event that Phytophthora is identified within the project area. strategies to minimize the spread (Guidelines, DEH/TSA/PIRSA, 2003). In the unlikely event that Mundulla Yellows is identified on site, general hygiene practices will be used.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. However EML6232 was sprayed regularly for significant weed species. Broomrape, Phytophthora and Mundulla Yellows were observed on EML6232 during the reporting period.	Compliant

EML6232 MARP Native Vegetation Management Plan	Comments	Status
Liaise with the landowner and Pest Plant and Animal Board (or its successor) to discuss the most effective feral/problem native animal control measures, as necessary.	Feral animal control undertaken in conjunction with NRM Board. All adjacent landowners were contacted during rabbit and fox baiting to notify them of the use of 1080 baits.	Compliant
Flora		
Yearly photo monitoring of existing vegetation will be undertaken to show no loss or damage to native vegetation.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. Photomonitoring of EML6232 was undertaken, however no assessment was made of the results.	Not compliant
Records of annual weed and vegetation assessment (conducted in spring) will be kept to show no new or increased presence of pests and plant diseases in area.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. Annual surveys of pest animal and weed were not undertaken during the reporting period.	Not compliant
Native vegetation areas identified will be flagged and all operators will be made aware that these areas of vegetation are not to be disturbed.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
The origin of trucks will be checked to ensure they are cleaned if from declared areas (e.g. Broomrape).	The operations were in care and maintenance and no equipment entered EML622 during the reporting period.	N/A
Fauna		
Integrity of fences and waste storage areas will be checked yearly, records to indicate either there has been no breaches of barriers, or if breached, no deaths of native fauna.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. No inspections of fences or waste storage areas were undertaken.	Not compliant
Records of all feral animals encountered on lease will be kept, and will demonstrate that no new or increased presence of feral animals in the area.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. No records of pest animals were kept, however pest animal control undertaken in conjunction with NRM Board.	Not compliant
All pits, potential fauna traps or chemical storage areas will be secured to ensure no deaths or injuries to native fauna.	The pit was shaped by previous operators to ensure native fauna were able safe ingress and egress.	Compliant
Waste will be appropriately covered and stored.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A

EML6232 MARP Native Vegetation Management Plan	Comments	Status
Heritage		
No reasonable complaints from Aboriginal groups concerning damage to sites.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. During this time there were no complaints received by Aboriginal groups.	Compliant
Heritage awareness training will be conducted for all personnel. Ensure operators read the guidelines as soon as employment commences.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. No personnel were trained or inducted into Aboriginal heritage awareness.	N/A
Public safety		
A complaints register will be maintained and all complaints will be investigated to demonstrate no impacts on public health, amenity and safety due to mining operations.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. During this time there were no complaints received from the public regarding EML6232.	Compliant
All operators will be made aware of the dangers of large trucks entering public roads and drivers will obey speed limits.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
Road turnout to be upgraded to avoid damage to public road.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
Integrity of fences and signage will be checked yearly and records either show no breaches of barriers, or if breached, no evidence of unauthorised entry. Unsafe areas will be securely fenced and warning signs in place.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. No inspections of fences or signage were undertaken.	Not compliant
Operations will not cause fires. Fire extinguishers will be kept on site or low cut grasses will be maintained to reduce fire risk.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. No inspections of fences or signage were undertaken.	N/A
Noise levels will be monitored for any complaints received, results will demonstrate that noise levels in areas off the lease comply with the EPA requirements. The plant will only operate between the hours of 8:00 am and 6:00 pm.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. No inspections of fences or signage were undertaken.	N/A
Photographic evidence on high risk days (high wind/dry conditions) will be obtained to demonstrate low visible dust from the lease area.	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A

Appendix F
Compliance Assessment
EML6232 (Rubble Pit 1)

EML6232 MARP Native Vegetation Management Plan	Comments	Status
A water truck will be available at all times and used on windy days when necessary	The operations were in care and maintenance and EML6232 was not in use during the reporting period.	N/A
Annual photo monitoring of mining operations from public areas showing that the pit and infrastructure is not visible.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. Photo-monitoring of EML6232 was undertaken, however no assessment was made of the results.	Not compliant
Native trees will be planted along road side.	The operations were in care and maintenance and EML6232 was not in use during the reporting period. It is not known if additional native vegetation was required during the reporting period.	Not compliant

Appendix G

Compliance Assessment
Water Allocation

Appendix G
Compliance Assessment
Water Allocation

Water Allocation Condition	Comments	Status
<u>Condition 1</u> A maximum of 6 000 megalitres can be taken from the Murray Group Limestone Aquifer per water use year.	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
<u>Condition 2</u> No more than 42,920 megalitres shall be taken from the Murray Group Limestone Aquifer over the 10 years of this authorisation (based on an average of 4, 292 ML per water use year).	Water levels and meter readings were recorded weekly during the reporting period. Monitoring indicates that care and maintenance activities during the reporting period were within the conditions of the <i>Notice of Authorisation to Take Water in the Mallee Prescribed Wells Area</i> .	Compliant
<u>Condition 3</u> The water user must not take water except through a meter, fitted to the satisfaction of the Minister.	All production wells were fitted with water meters during the reporting period.	Compliant
<u>Condition 4</u> The water user must immediately report any fault or suspected fault with the meter or meters.	One faulty water meter was detected during the reporting period and Department for Water was notified. The meter was repaired and Department for Water recorded new readings.	Compliant
<u>Condition 5</u> The water user must not cause, suffer or permit any interference with a meter used for the purposes of measuring the quantity of water used under this Notice or any interference with pipe or fittings that may affect the accuracy of a meter, without the Minister's authority.	No water meters have been interfered with during the reporting period.	Compliant
<u>Condition 6</u> The water user must not adjust or alter the meter without the Minister's authority.	No water meters were adjusted or altered during the reporting period. One faulty meter was repaired and reported to the Department for Water.	Compliant
<u>Condition 7 and 8</u> The water user must not permit deposits of sand, soil or any other	All production well meters were free from deposition of sand, soil or any other material.	Compliant

Appendix G
Compliance Assessment
Water Allocation

Water Allocation Condition	Comments	Status
material to build up around a meter.		
<u>Condition 9</u> The water user must keep vegetation cleared away from the meter.	All production well meters were free from vegetation during the reporting period and were sprayed for weeds as part of site weed management.	Compliant
<u>Condition 10</u> The water user must not damage or destroy the meter.	All production well meters were inspected by the Department for Water during the reporting period and found to be operational.	Compliant
<u>Condition 11</u> The water user must comply with the terms and conditions, as authorised under the Mining Act, 1971, of Mineral Leases 6137, 6219, 6220, 6221, 6222, 6223, 6225 and 6226.	As the operation was in care and maintenance during the reporting period, not all terms and conditions of all the existing Mineral Leases were achieved.	Not compliant