

# ARRIUM MINING

## SOUTH MIDDLEBACK RANGE

### 2015 COMPLIANCE REPORT



South Middleback Range

24 May 2016

Doc.Ref: WPC-167 Rev A

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## EXECUTIVE SUMMARY

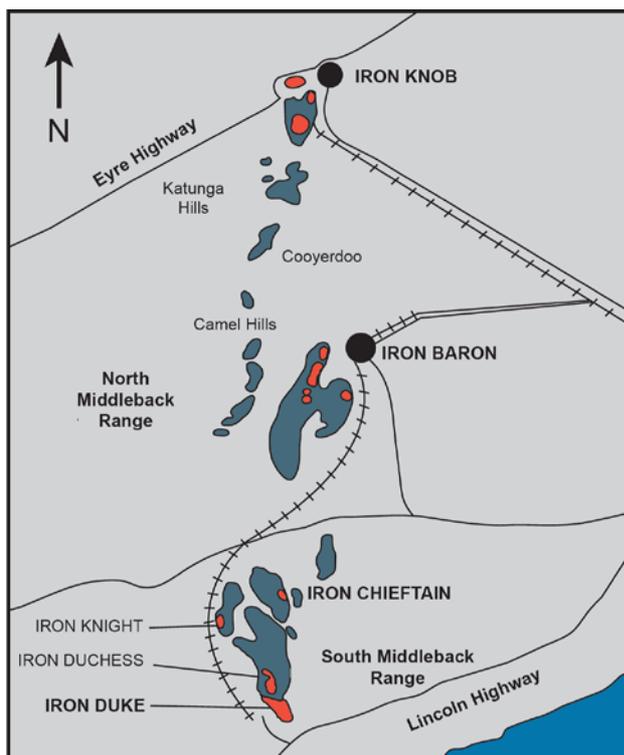
This annual compliance report covers the reporting period 1 January 2015 to 31 December 2015 for operations approved under PEPR 2014/109 for the South Middleback Ranges (SMR).

PEPR 2014/109 was approved on 19<sup>th</sup> December 2014 and integrated the North - Southern Middleback Ranges (N-SMR) *PEPR2010/00014* and the South – Southern Middleback Ranges (S-SMR) *PEPR2011/019* into a single approval area known as the SMR. The approval enabled continuation of mining in established pits and the expansion of hematite mining at Iron Chieftain into the new mining lease area (ML 6441). Due to the timing of the approval of PEPR 2014/109, all reporting in the previous annual compliance report was done against PEPR2010/014 outcomes and measurement criteria.

Operations within the SMR in 2015 included hematite and magnetite mining and the associated activities of crushing, screening, production of magnetite concentrate and low grade ore beneficiation.

Water seepage from the tailings storage facility (TSF) that contributed to groundwater mounding and downgradient waterlogging of vegetation were first noticed and reported in 2009, which resulted in a management strategy by Arrium Mining and the issuing of an Environment Direction (ED) to Arrium Mining in March 2013 by the then Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE), as part of a joint approach with the Department of Environment, Water and Natural Resources (DEWNR). Progress against the management plan continues to be tracked and reported to the Department of State Development (DSD) on a monthly basis, with formal briefings provided to

DSD and DEWNR annually.



Work to convert the TSF to a full perimeter discharge central decant (PDCD) configuration to enable more efficient recovery of supernatant water and to reduce water seepage into the ground continued throughout 2015. The PDCD conversion is a five year programme that is scheduled to conclude in 2018.

Extraction of groundwater from within the mounding area is an ongoing process.

Dust management remains a high priority and subject to continuous improvement. Improvements were implemented to the operation of the crushing circuit dust suppression systems during 2015.

## Ministerial Declaration Checklist

Section	Included or N/A
Executive summary	See Executive Summary
Introduction	Section 1
Tenement number(s)	Section 1.1, 1.3
Name of the mine operation	Section 1.1
General location details	Section 1.1
Name(s) of the mine owner and mine operator(s)	Section 1.1
Site Contact	Section 1.1
Registered Mine Manager, <i>Mines Works Inspection Act, 1920</i>	Section 1.1
Reference and approved date of relevant PEPR being reported against	Section 1.1
Person accepting responsibility for the report	Section 1.1
Dates of the reporting period for the report	Section 1.1
Date of preparation of the report.	Section 1.1
<b>1. Executive Declaration</b>	Section 1.2
<b>2. Tenements</b>	
Summary table of all tenements including mineral leases (ML), miscellaneous purpose licenses (MPL), extractive mineral leases (EML) etc.	Section 1.3
<b>3. Other Licences, Permits, Waivers, Native Title and Agreements</b>	
Summary table of all licences, permits, waivers, native title and other agreements relevant to the PEPR.	Section 1.4
Where applicable, provide a statement that all waivers for exempt land required for the current operation are in place in accordance with the Mining Act	N/A
<b>4. Mining operations</b>	
<b><i>Ore reserves and mine life</i></b>	Section 2.1
New delineation or exploration drilling activities on or off the lease (if required)	Section 2.2
Review of reserves (if required)	Section 2.3
Other potential sources of ore (e.g. from nearby mines) (if required)	N/A
<b><i>Overburden, Ore and Concentrate</i></b>	
Overburden	Section 2.4
Ore	Section 2.5
Concentrate	Section 2.6
<b>5. Voluntary information (not mandatory, but strongly recommended)</b>	Section 3
<b>6. Project Variation Summary</b>	
Summary table of any changes/project variations submitted to Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE)	Section 4

Section	Included or N/A
<b>7. Complaints</b>	
Summary table of complaints made by members of the public during the reporting period	Section 5
Indicate how concerns or complaints by third parties were addressed.	Section 5
<b>8. Compliance Summary</b>	
Summary table of non-compliances (if relevant)	Section 6.1
<b>9. Compliance Tables</b>	
For <b>each</b> outcome in PEPR state if “complied”, “not complied”, or “unable to demonstrate compliance”	Section 6.2
For <b>each</b> outcome in the PEPR provide summary criteria data that supports the conclusion above	Not included
For <b>each</b> lease or licence condition (other than environmental outcomes) state if “complied”, “not complied”, or “unable to demonstrate compliance”	Section 8
For each leading indicator criterion state if any were triggered in the reporting period If triggered, <b>(if required)</b>	Section 6.2
<ul style="list-style-type: none"> <li>• What actions were taken</li> <li>• An assessment of the effectiveness of the current control strategies or criteria</li> </ul>	
<b>10. Closure</b>	Section 7
Where native vegetation has been cleared in the reporting period, the following must be included: <b>(if required)</b>	
<ul style="list-style-type: none"> <li>• a reconciliation between the approved maximum clearance in hectares,</li> <li>• the amount cleared in the reporting period,</li> <li>• the total amount cleared to date,</li> <li>• an estimated amount to be cleared in the next reporting period.</li> </ul>	
<b>11. Non-Outcome Based Lease Conditions</b>	Section 8
If you have any lease conditions which do not have an outcome measurement criteria relating to it please list the compliance status and evidence against <b>each</b> condition in a summary table	
<b>12. Rectification of Non-Compliances</b>	Section 9
If a “not complied” is recorded, the following must be included: <b>(if required)</b>	
<ul style="list-style-type: none"> <li>• date of the incident</li> <li>• state if the incident was a Reportable Incident under Regulation 87. If so the report must also state the date the incident was initially reported to the Minister and the date the written report was provided to the Minister</li> <li>• what environmental outcome or lease condition was breached</li> <li>• if and how the noncompliance was, or is planned to be, rectified</li> <li>• what measures, if any, will be taken to prevent recurrence.</li> </ul>	
Progress update on previous non-compliances not fully rectified at time of last report	N/A
<b>13. Disturbance and Rehabilitation Activities</b>	Section 10

Section	Included or N/A
Information on areas disturbed and current rehabilitation status	
The amount of land disturbed	
Vegetation cleared	
New measures implemented to avoid or control environmental impact	
Revegetation or rehabilitation earthworks conducted.	
Evidence (by using closure and rehabilitation criteria in the current approved PEPR) of the effectiveness of rehabilitation being progressively undertaken.	
Any problems or potential improvements learned from previous rehabilitation	
An assessment of risks that rehabilitation may or may not be achieved as planned	
New strategies to be undertaken to achieve rehabilitation outcomes (if required)	
<b>14. Environment Protection and Biodiversity Conservation (EPBC) Act reporting</b>	Section 11
Demonstration of compliance with EPBC conditions (if required)	
<b>15. Audits and Reviews</b>	Section 12
If an audit or review of any part of the operation management system was conducted during the reporting period, the following information on the audit or review must be included: (if required)	
<ul style="list-style-type: none"> <li>when the audit or review was undertaken</li> <li>who undertook the audit or review</li> <li>what aspect(s) of the management system was/were audited/reviewed</li> <li>what issues, or recommendations for improvement, were noted</li> <li>an assessment of the potential for any issues identified in the audit/ review to lead to a noncompliance with approved environmental outcomes</li> <li>what corrective action that has or will be taken to address any issues.</li> </ul>	
<b>16. Verification of Uncertainties</b>	Section 13
Changes or failures of mining operations	
Increases to areas disturbed	
New baseline environmental data	
Reported to Department of State Development (DSD)	
Uncertainties	
<b>17. Technical Reports</b>	Section 14
Summary of technical data studies and reports generated in reporting period	
<b>18. Forward Work Plan</b>	Section 15
Action description	
Responsibility	
Proposed Completion Date	

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Section	Included or N/A
<b>19. Ministerial Determination Checklist</b>	
This checklist	Included here

## Document Status

Rev No	Author	Responsible Manager
0	Geoffrey Mills Environment Assurance Manager Whyalla Mines	Greg McMillan – General Manager, Mining Operations Craig Wilson - Manager Mining Chris Smyth – Group Manager Environment, Regulatory and Stakeholder,

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### Appendix A

Title

## Abbreviations and Definitions

Abbreviation	Definition
ANE	Ammonium Nitrate Explosive
AMD	acid mine drainage
AOC	area of concern
BIF	banded iron formation
BOS	basic oxygen steelmaking
DEWNR	Department of Environment, Water and Natural Resources
DMITRE	Department for Manufacturing, Innovation, Trade, Resources and Energy
DPTI	Department of Planning, Transport and Infrastructure
DSD	Department of State Development
DSO	direct shipping ore
ED	Environmental Direction
EML	Extractive Mineral Lease
EMS	Environmental Management System
EPBC	Environment Protection and Biodiversity Conservation
FDR	Fugitive Dust Ranking
GIS	Geographic Information System
GVM	gross vehicle mass
ILUA	Indigenous Land Use Agreement
JORC	Joint Ore Reserves Committee
LFA	Landscape Function Analysis
LGO	low grade ore
LOM	Life of Mine
MAG TSF	Magnetite Tailings Storage Facility
MARP	Mining and Rehabilitation Program
MBA	Middleback Alliance
ML	Mineral Lease
MPL	Miscellaneous Purpose License
N-SMR	Northern South Middleback Range
NE WRD	north-east waste rock dump
OBP	ore beneficiation plant
OMC	Outcome measurement criteria
PEPR	Program for Environmental Protection and Rehabilitation
PIRSA	Primary Industries and Regions SA
ROM	run of mine
SE WRD	south-east waste rock dump
SEB	significant environmental benefit
SMR	Southern Middleback Range

Abbreviation	Definition
TSF	tailings storage facility
WBO	Whyalla blend ore
WRD	waste rock dump
WTC	waste transport certificate
WTF	waste tracking form

## Measurements and Symbols

Unit	Definition
BCM	bank cubic metre
CY	calendar year
ha	hectare
/hr	per hour
kL	kilolitre
kWh	kilowatt hour
m <sup>2</sup>	square metre
m <sup>3</sup>	cubic metre
MBCM	Million bank cubic metre
mm	millimetre
Mt	million tonne
L	litre
t	tonne
um	micrometre
/yr	per year

## Glossary

bank cubic metre	A measure of volume representing a cubic metre of in-situ rock or material before it is drilled and blasted
orthorectified	Spatially corrected to remove error as a result of the earth's curvature

# 1 INTRODUCTION

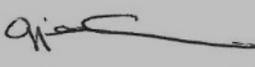
## 1.1 Identification

Mine name	<b>Southern Middleback Range (SMR)</b>	<b>PEPR#</b>	<b>2014/019</b>
	Iron Chieftain, Iron Knight, Iron Duchess, Iron Magnet and Iron Duke	<b>Date Approved</b>	18 December 2014
Lease holder	OneSteel Manufacturing Pty Ltd (Arrium Mining)		
Operator	Arrium Mining		
Mining Lease approval date	Refer Section 1.3 for details		
Associated tenements	ML2662, ML2706, ML4745, ML4746, ML4747, ML2704, ML2663, ML2717, ML2718, ML2719, ML2657, ML4740, ML4741, ML4742, ML4743, ML4744, ML4770, ML4771, ML4772, ML4773, ML4774, ML4775, ML4735, ML4736, ML4737, ML4738, ML4739, ML6361, ML6362, ML 6441, MPL51, MPL52, MPL54, MPL55, MPL70, MPL123, MPL124, ML2648-54, ML2656-60, ML2662, ML2663, ML2668, ML2669, ML2677, ML2682, ML2683, ML2701, ML2704-12, ML2714-20, ML2729, ML2730, ML4714, ML4761, ML4770-75, ML6055, ML6167, MPL32-34, MPL51-55, MPL67, MPL74 and MPL135		
Approval documents	<b>PEPR 2014/109</b> <ul style="list-style-type: none"> <li>WPC-108 rev 3</li> </ul> <b>Chieftain Supplementary Tenements Proposal</b> <ul style="list-style-type: none"> <li>WPC-123</li> </ul>		
Ministerial Determination	Ministerial Determination (MD 009) under Regulation 86(1), (3), (4) and (7) of the <i>Mining Regulations 2011</i> (effective from 6 September 2012) determining the reporting periods and minimum information required to be provided in a Compliance Report for a Mineral Lease (ML) and any associated Miscellaneous Purposes Licence (MPL) for metallic and industrial minerals		
Site contact	Geoffrey Mills - Environment Assurance Manager Whyalla Mines		
	Email:	geoffrey.mills@arrium.com	
	Phone number	(08) 8640 4480	
Registered Mine Manager	Tariro Ruwiza – Mine Manager		
Site location details	Middleback Ranges		
Reporting period	From	1 January 2015	To 31 December 2015
Report preparation date	24 May 2016		

## 1.2 Executive Declaration

### Executive Declaration:

This document has been prepared to fulfil the requirement under Regulation 86 for the tenements listed herein. The information contained in this report is to the best of my knowledge a true and accurate record of the mining activities and compliance status for the reporting period.

Name	Position or Agent	Signature	Date
Greg McMillan	General Manager Mining Operations		1 July 2016
<b>Agency Agreement</b>			
Not applicable			

## 1.3 Tenements

Details of existing tenements in the SMR are provided in table 1. Figure 1 shows the general location of the SMR pits and mining tenements. Figure 2 and Figure 3 show the Mineral Leases (MLs) and Miscellaneous Purpose Licences (MPLs) for Iron Chieftain and Iron Knight. Figure 4 shows the Mineral Leases (MLs) and Miscellaneous Purpose Licences (MPLs) for Iron Duchess, Iron Magnet and Iron Duke.

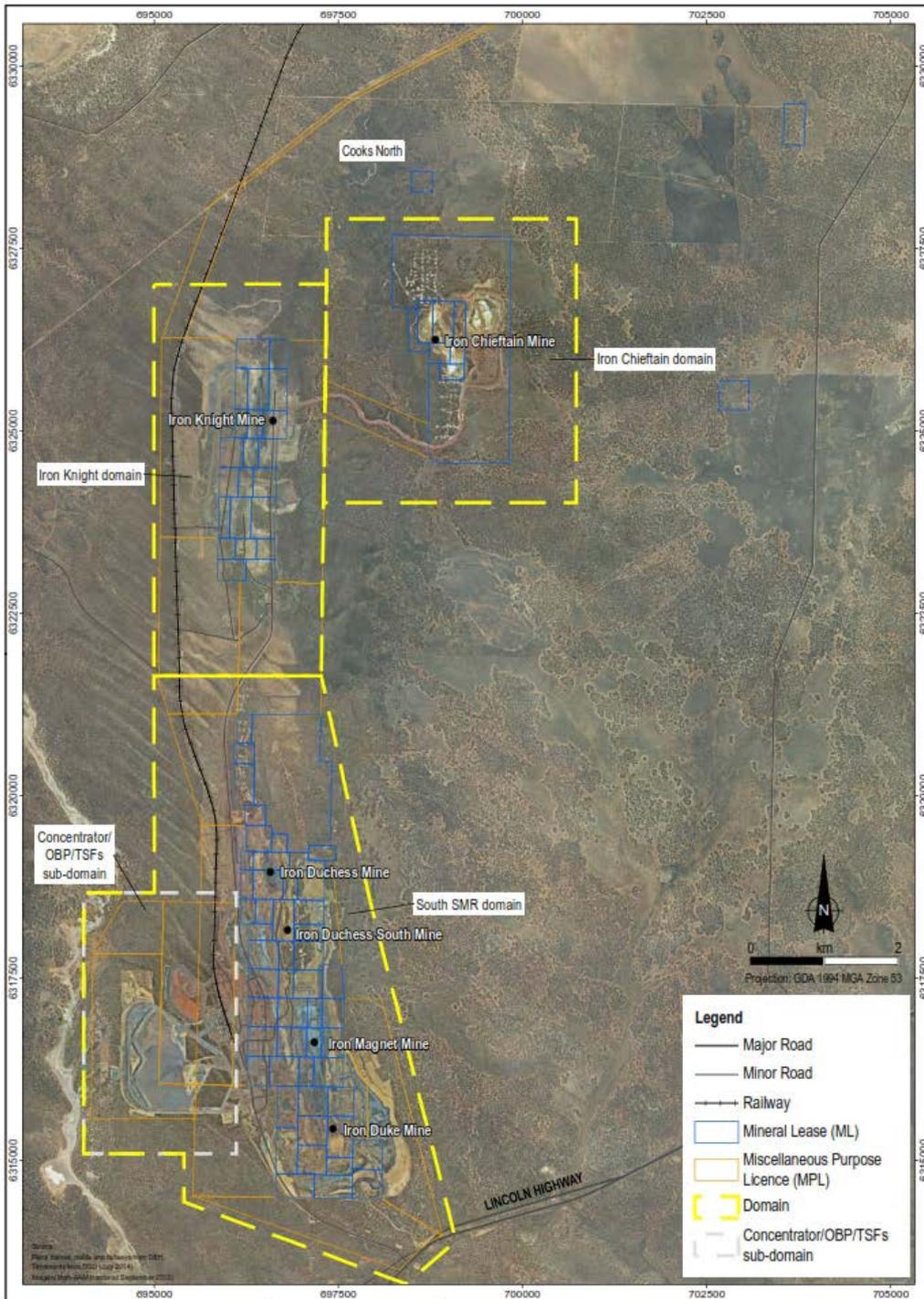
**Table 1 SMR mining tenements**

Tenement	Tenement number	Approval date	Expiry date	Forward work plan	
<b>Miscellaneous Purposes Licences (MPL)</b>					
MPL	51	15 October 2012	14 October 2033	MPL 123 partially relinquished and MPL 124 totally relinquished in favour of new ML, ML 6441 (Iron Chieftain) granted 4 December 2014.  Mining and progressive rehabilitation will continue throughout 2015 in accordance with PEPR 2014/109	
MPL	52	15 October 2012	14 October 2033		
MPL	55	15 October 2012	14 October 2033		
MPL	123	12 October 2010	11 October 2025		
MPL	124	12 October 2010	11 October 2025		
<b>Mineral Leases (ML) – Iron Knight</b>					
ML	2657	1 January 1935	30 November 2029		
ML	2663	1 January 1935	30 November 2029		
ML	2704	1 October 1937	30 November 2029		
ML	2717	1 October 1937	30 November 2029		
ML	2718	1 October 1937	30 November 2029		
ML	2719	1 October 1937	30 November 2029		
ML	4735	12 July 1979	11 July 2029		
ML	4736	12 July 1979	11 July 2029		
ML	4737	12 July 1979	11 July 2029		
ML	4738	12 July 1979	11 July 2029		
ML	4739	12 July 1979	11 July 2029		

Tenement	Tenement number	Approval date	Expiry date	Forward work plan	
ML	4740	12 July 1979	11 July 2029		
ML	4741	12 July 1979	11 July 2029		
ML	4742	12 July 1979	11 July 2029		
ML	4743	12 July 1979	11 July 2029		
ML	4770	12 July 1979	11 July 2029		
ML	4771	12 July 1979	11 July 2029		
ML	4772	12 July 1979	11 July 2029		
ML	4773	12 July 1979	11 July 2029		
ML	4774	12 July 1979	11 July 2029		
ML	4775	12 July 1979	11 July 2029		
<b>Mineral Leases (ML) – Iron Chieftain</b>					
ML	2662	1 January 1935	30 November 2029		
ML	2706	1 October 1937	30 November 2029		
ML	4745	12 July 1979	11 July 2029		
ML	4746	12 July 1979	11 July 2029		
ML	4747	12 July 1979	11 July 2029		
ML	6361	12 October 2010	11 October 2025		
ML	6362	12 October 2010	11 October 2025		
ML	6441	8 December 2014	11 October 2025		
<b>Miscellaneous Purposes Licences (MPL) – S-SMR</b>					
MPL	32	15 July 2009	14 July 2030	<p>Arrium Mining will retain all tenements for the SMR Life of Mine (LOM)</p> <p>Mining and ancillary operations including crushing, screening, rail loading, ore stockpiling and tailings deposition will continue until ore deposits are fully utilised (see figure 3 for estimated SMR LOM)</p> <p>Progressive rehabilitation and closure activities will be undertaken as described in approved PEPR2011/019</p> <p>A Mine Completion Report will be submitted at least three months prior to Licence relinquishment or expiry</p>	
MPL	33	15 July 2009	14 July 2030		
MPL	34	15 July 2009	14 July 2030		
MPL	53	15 October 2012	14 October 2033		
MPL	54	15 October 2012	14 October 2033		
MPL	67	22 December 2010	21 December 2031		
MPL	69	23 November 2011	22 November 2032		
MPL	70	23 November 2011	22 November 2032		
MPL	71	23 November 2011	22 November 2032		
MPL	72	23 November 2011	22 November 2032		
MPL	73	23 November 2011	22 November 2032		
MPL	74	23 November 2011	22 November 2032		
MPL	135	1 September 2011	11 July 2029		
<b>Mineral Leases (ML) – S-SMR</b>					

Tenement	Tenement number	Approval date	Expiry date	Forward work plan
ML	2648	1 October 1934	30 November 2029	
ML	2649	1 October 1934	30 November 2029	
ML	2650	1 October 1934	30 November 2029	
ML	2651	1 October 1934	30 November 2029	
ML	2652	1 October 1934	30 November 2029	
ML	2653	1 October 1934	30 November 2029	
ML	2654	1 October 1934	30 November 2029	
ML	2656	1 January 1935	30 November 2029	
ML	2658	1 January 1935	30 November 2029	
ML	2659	1 January 1935	30 November 2029	
ML	2668	1 January 1936	30 November 2029	
ML	2669	1 January 1936	30 November 2029	
ML	2677	1 October 1937	30 November 2029	
ML	2682	1 October 1937	30 November 2029	
ML	2683	1 October 1937	30 November 2029	
ML	2701	1 October 1937	30 November 2029	
ML	2705	1 October 1937	30 November 2029	
ML	2707	1 October 1937	30 November 2029	
ML	2708	1 October 1937	30 November 2029	
ML	2709	1 October 1937	30 November 2029	
ML	2710	1 October 1937	30 November 2029	
ML	2711	1 October 1937	30 November 2029	
ML	2712	1 October 1937	30 November 2029	
ML	2714	1 October 1937	30 November 2029	
ML	2715	1 October 1937	30 November 2029	
ML	2716	1 October 1937	30 November 2029	
ML	2720	1 October 1937	30 November 2029	
ML	4714	12 July 1979	11 July 2029	
ML	4715	12 July 1979	11 July 2029	
ML	4716	12 July 1979	11 July 2029	
ML	4717	12 July 1979	11 July 2029	
ML	4718	12 July 1979	11 July 2029	
ML	4719	12 July 1979	11 July 2029	
ML	4720	12 July 1979	11 July 2029	
ML	4721	12 July 1979	11 July 2029	
ML	4722	12 July 1979	11 July 2029	
ML	4723	12 July 1979	11 July 2029	
ML	4724	12 July 1979	11 July 2029	
ML	4725	12 July 1979	11 July 2029	
ML	4726	12 July 1979	11 July 2029	

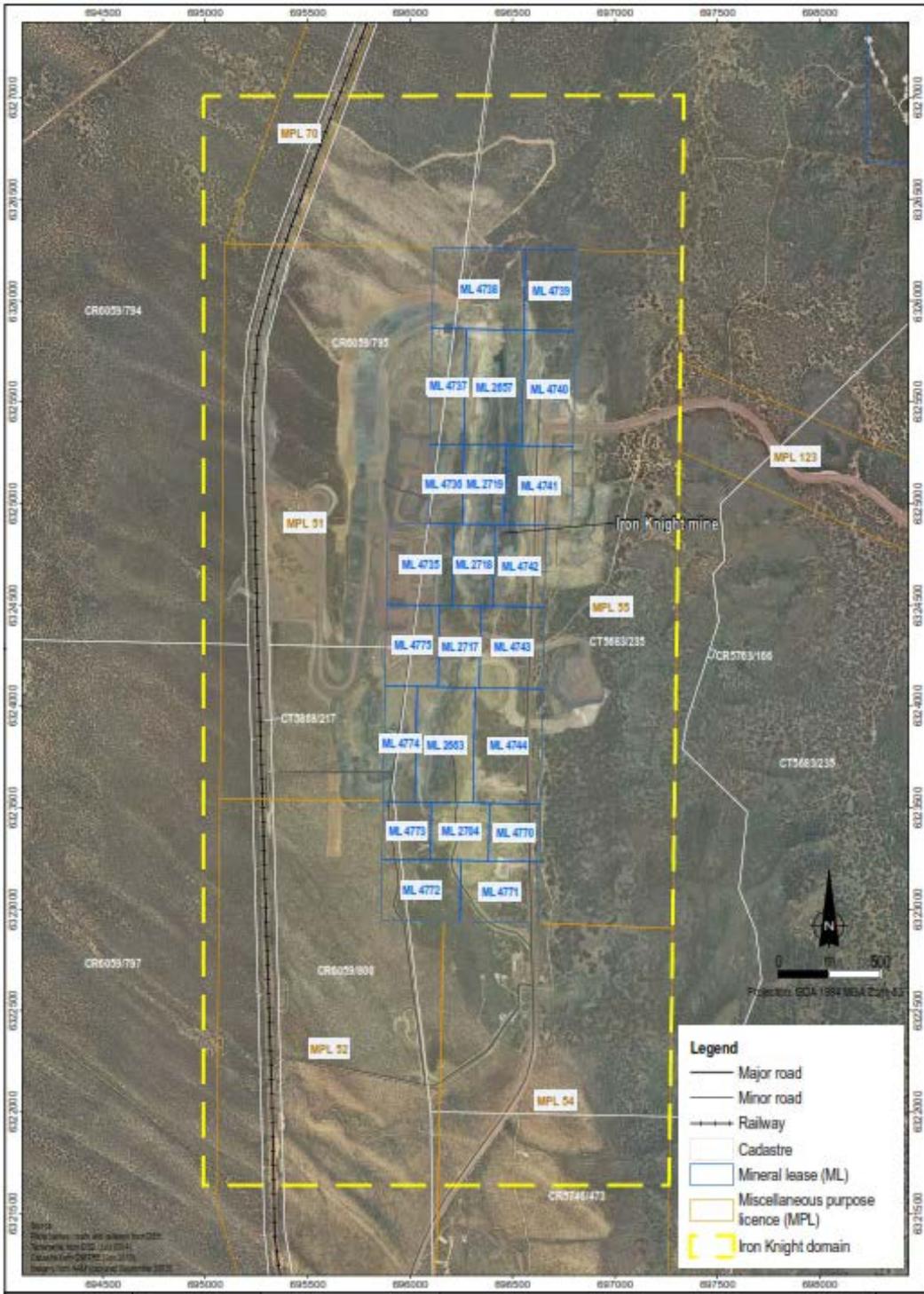
Tenement	Tenement number	Approval date	Expiry date	Forward work plan
ML	4727	12 July 1979	11 July 2029	
ML	4728	12 July 1979	11 July 2029	
ML	4729	12 July 1979	11 July 2029	
ML	4730	12 July 1979	11 July 2029	
ML	4731	12 July 1979	11 July 2029	
ML	4732	12 July 1979	11 July 2029	
ML	4733	12 July 1979	11 July 2029	
ML	4734	12 July 1979	11 July 2029	
ML	4744	12 July 1979	11 July 2029	
ML	4761	12 July 1979	11 July 2029	
ML	6055	8 September 2013	7 September 2034	
ML	6167	23 November 2011	22 November 2032	



**Figure 1 SMR mining area**



**Figure 2 SMR mining area: Iron Chieftain tenements and cadastre boundaries**



**Figure 3 SMR mining area: Iron Knight tenements and cadastral boundaries**



## 1.4 Other Licences, Permits, Waivers and Native Title Agreements

Table 2 provides details of agreements and licences held for the SMR.

**Table 2 Agreement and licences – SMR**

Licence, permit or agreement	Regulatory authority or other	Supporting documents	Associated ML, MPL, ML lease condition or outcome measurement criteria
Middleback Ranges SA ILUA: SI2013/002	National Native Title Tribunal	Extract from Register of Indigenous Land Use Agreements	Aboriginal heritage
EPA Licence 17122 (Mineral works)	Environment Protection Authority	Licence held at Environment Assurance and copies at work sites	Unauthorised damage under the <i>Environment Protection Act 1993</i> (EP Act)
EPA Licence 13109 (Railway Operations)	Environment Protection Authority	Licence held at Environment Assurance and copies at work sites	Air quality
DEWNR Water Affecting Activity Permit SAAL00005	South Australian Arid Lands Natural Resources Management Board	Permit held at Environment Assurance	Stormwater

## 2 MINING OPERATIONS

### 2.1 Ore Reserves and Mine Life

Details of ore reserves and estimated mine life as at the end of June 2015 are provided below.

#### 2.1.1 Iron Chieftain Resource

Table 3 shows the current known reserve (updated in 2015 to the JORC 2004 code) and resource in the Iron Chieftain area.

**Table 3 Iron Chieftain total resource and reserve, ending June 2015 (Fe>47%)**

Ore reserves	Mass (Mt)	Mineral resources	Mass (Mt)	Estimated mine life Years
Proved		Measured		
Probable	3.9	Indicated	30	2.5
		Inferred	12	(Jan 2018)
<b>Total</b>	<b>3.9</b>		<b>42</b>	

#### 2.1.2 Iron Knight

Table 4 shows the current known reserve (updated in 2015 to the JORC 2004 code) and resource in the Iron Knight area.

**Table 4 Iron Knight North total resource and reserve, ending June 2015 (Fe >47%)**

Ore reserves	Mass (Mt)	Mineral resources	Mass (Mt)	Estimated mine life Years
Proved	0	Measured	3	
Probable	0	Indicated	1	0
		Inferred	1	
<b>Total</b>	<b>0</b>		<b>5</b>	

#### 2.1.3 Iron Duchess

Table 5 shows the current known reserve (updated in 2015 to the JORC 2004 code) and resource in the Iron Duchess area.

**Table 5 Iron Duchess - South total resource and reserve, ending June 2015**

Ore reserves	Mass (Mt)	Mineral resources		Estimated mine life (Years)
Proved		Measured	0	0
Probable	0	Indicated	0	

### 2.1.4 Iron Duke / Magnet

Table 6 shows the current known reserve (updated in 2015 to the JORC 2004 code) and resource in the Iron Duke/Magnet area

**Table 6 Iron Duke / Magnet total resource and reserve, ending June 2015**

Ore reserves	Mass (Mt)	Mineral resources		Estimated mine life (Years)
Proved	38	Measured	42	11
Probable	24	Indicated	72	(until 2027)
		Inferred	65	
<b>Total</b>	<b>62</b>		<b>179</b>	

### 2.1.5 Production rate and products

The SMR (SMR NORTH – Area 1, SMR SOUTH – Area 2 and Magnet) contribution to the Middleback Ranges operations is described in the life of mine (LOM) graphical representation of the material movements, as shown in Figure 5.

**Figure 5 Current LOM material movements by region over time**

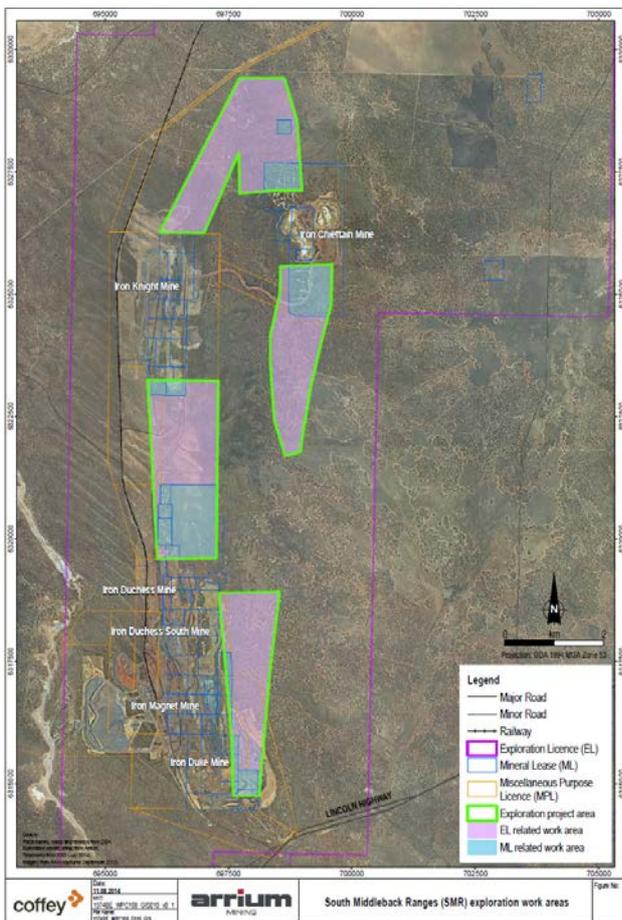
## 2.2 Exploration

A general overview of exploration and delineation drilling within tenements during 2015 is provided in Table 7 and Figure 6.

**Table 7 Summary of exploration drilling at SMR**

Summary of current northern drilling program		Tenement ID	Holes drilled	Metres drilled
<b>Iron Chieftain</b>	Drilling targeted three areas within the Iron Chieftain project area, with 17 RC drill holes for 300m at Iron Chieftain East, 5 RC drill holes for 494m at Iron Chieftain North and 4 RC drill holes for 88m at Iron Chieftain West.	EL4732	4	88
		ML6441	22	794
<b>Cooks North</b>	Arrium completed 37 RC drill holes for a total of 3290m in the Cooks North project area, divided into the Cooks North, Crocks Rocks and Cooks North-West prospects: 25 drill holes for 2408m at Cooks North, 10 drill holes for 646m at Crocks Rocks and 2 drill holes for 236m at Cooks North-West. The drilling were designed to test several near surface goethite /hematite outcrops	EL4732	37	3290

<b>Homestead</b>	Three conceptual RC drill holes for 62m were completed at Homestead. Drilling targeted scree deposits based on proximal intersections and historical radiometric data.	ML6441	3	62
<b>Iron Knight</b>	13 drill holes totalling 928m were completed at the Iron Knight project. The program aimed to further define the occurrence of a easterly dipping hematite lens southwards from the current Iron Knight South	EL4733	2	184
		ML4772	2	64
		ML4773	2	1450
		ML 4774	7	530
		<b>Total</b>	<b>99</b>	<b>6462</b>



**Figure 6 Key Exploration work areas in SMR**

## 2.3 Ore Mining

The volumes of ore mined, and ore to be mined, in the SMR is provided in Table 8. Ore stockpile volumes as at December 2015 is provided in Table 8

**Table 8 Ore mined in the SMR – 2015**

Ore mined Mine life (BCM)	Reporting period Ore mined (BCM)	Next reporting period Ore to be mined (BCM)	End of reporting period Current ore stockpile (Mt)
N-SMR 2011-2014 (2,430,358) S-SMR 2011-2014 (2,446,211)	2,141,157.3	2,214,936.5	See table 8 (A)
Combined 2011-2015 (7,017,725)			
Reason(s) for variations from previous reports	N-SMR and S-SMR combined in the new integrated PEPR. N-SMR previously reported in tonnes		

**Table 8(A) Iron Duke / Magnet stockpiles as at December 2015**

Whyalla blend ore (t)	Low grade ore (t)	Magnetite (t)	Magnetite Low Grade (t)
92,684	187,487	190,325	394,783

## 2.4 Overburden / Waste

Volumes of overburden for the SMR are provided in Table 9.

**Table 9 Overburden mined in the SMR – 2015**

Overburden mined Mine life (BCM)	Reporting period Overburden mined (BCM)	Next reporting period Overburden to be mined (BCM)
N-SMR 2011-2014 (14,087,862) S-SMR 2011-2014 (24,882,830)	4,900,222	4,916,871
Combined 2011-2015 (43,870,914)		
Reason(s) for variations from previous reports	N-SMR and S-SMR combined in the new integrated PEPR.	

## 2.5 Ore Processing

Volumes associated with ore processing is provided in Table 10.

**Table 10 Ore processing for the SMR**

Ore processed Mine life (t)	Domain	Reporting period Ore to be processed (t)
Not available due to constraints related to obtaining accurate data from commencement of mining	Fixed Plant C&S	6,837,551
Not available due to constraints related to obtaining accurate data from commencement of mining	OBP	776,805
Reason(s) for variations from previous report		

## 2.6 Concentrate

Volumes of concentrate associated with the SMR are provided in Table 11.

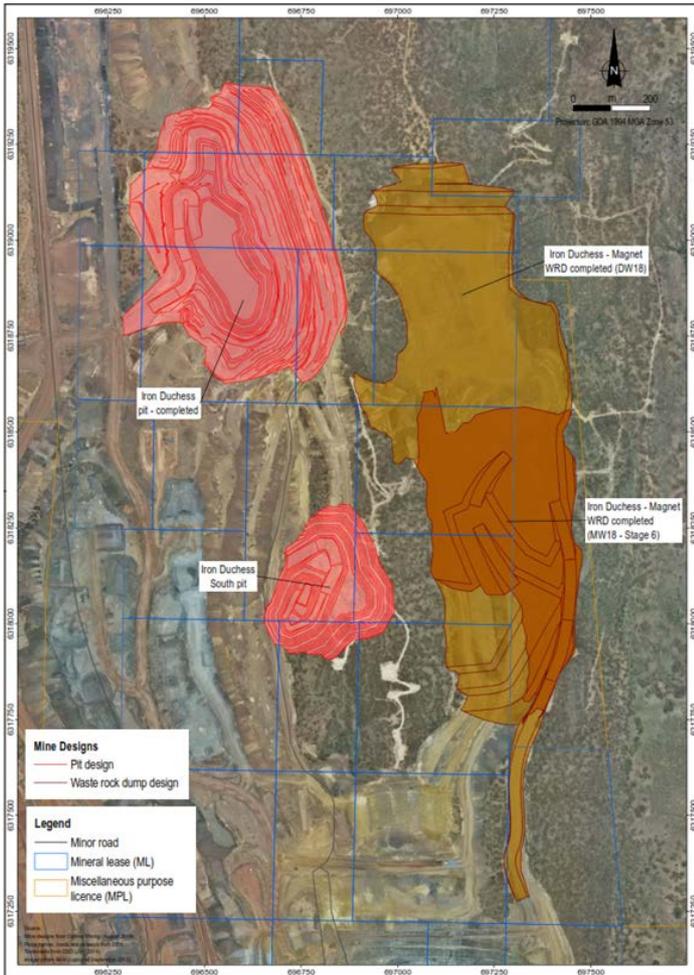
**Table 11 Concentrate exports from the SMR**

Concentrate exported Mine life (t)	Reporting period Concentrate exported (t)	Next reporting period Concentrate to be exported (t)	End of reporting period Concentrate stockpile (t)
2011-2015 (6,495,802)	1,687,948	2,200,000	45,475
Reason(s) for variations from previous reports			

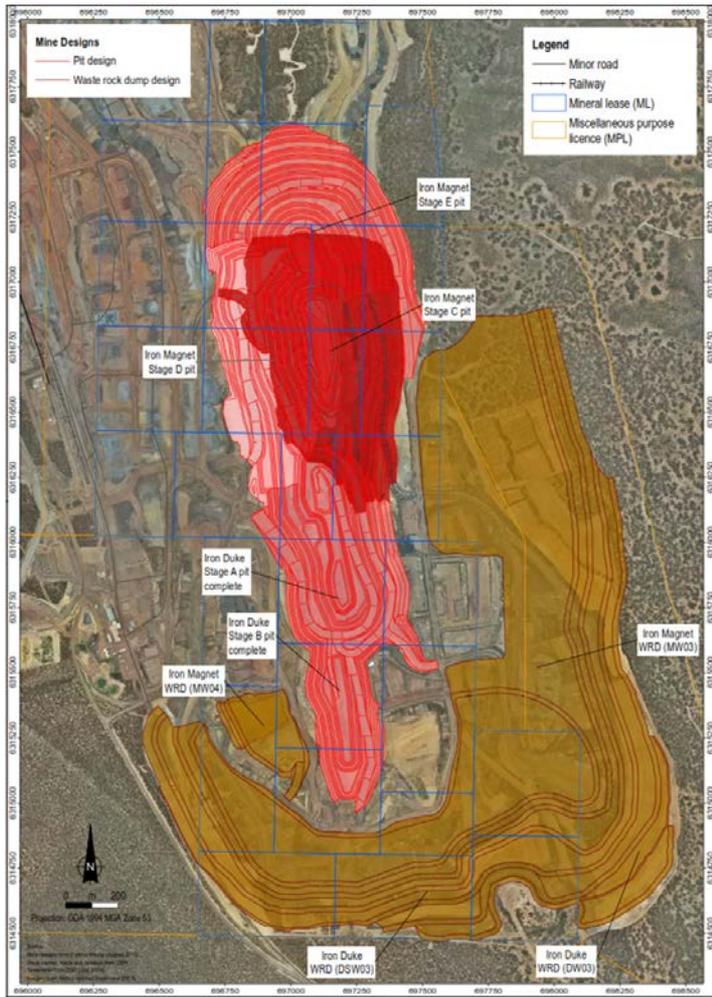
## 3 VOLUNTARY INFORMATION

### 3.1 Project Footprint on ML

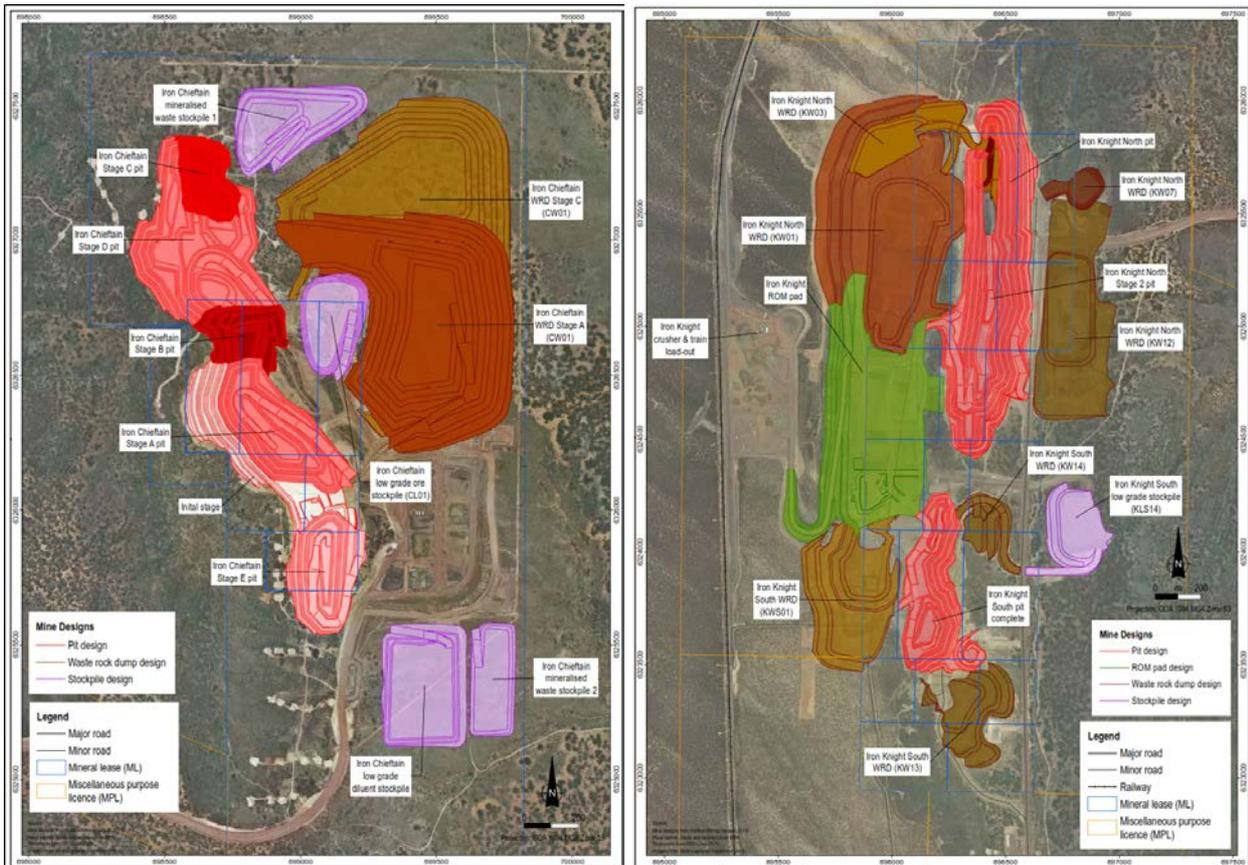
The current Iron Duchess, Iron Duke/Magnet, Iron Chieftain and Iron Knight configurations (active pits and WRDs) are shown in Figure 7, Figure 8 and Figure 9 respectively.



**Figure 7** Iron Duchess site layout



**Figure 8 Iron Duke / Magnet current site layout**



**Figure 9 Iron Chieftain site layout**

**Iron Knight site layout**

### 3.2 Mining Inventory

Equipment types currently in use across Arrium Mining’s SMR operations are provided in Table 12, Table 13 and Table 14.

**Table 12 SMR equipment – Haul truck types**

Number	Make	Model	Capacity (t)	Gross vehicle mass (GVM) (t)
11	Caterpillar	785	136	250
2	Caterpillar	769	36	71
3	Komatsu	HD785	91	166

Source: Arrium Mining 2015

**Table 13 SMR equipment – Excavators**

Number	Make	Model	Weight (t)
2	Hitachi	EX2600	254
1	Hitachi	EX1900	192

Source: Arrium Mining 2015

**Table 14 SMR equipment – Ancillary equipment**

Type	Number	Make	Model
Water Cart	2	Komatsu	465
Water Cart	1	Komatsu	375
Dozer	2	Caterpillar	D9
Grader	3	Caterpillar	16m
Wheel Loader	5	Komatsu	WA900
Drill	2	Cubex/Sandvik	QXR1120/DR580
Drill	1	Atlas Copco	DML45

Source: Arrium Mining 2015

### 3.3 Open Pit Dimensions (final pit shell)

Refer to figures 7, 8 and 9 sec 3.1 for the final concept for site layout for each pit in the SMR.

### 3.4 Processing Method

#### 3.4.1 Processing plant

Crushing and screening of ore from the Iron Chieftain pits is conducted at the Iron Knight crushing and screening and train loading pad.

Crushing and screening of ore from the Magnet pit is conducted at the Iron Duke crushing and screening and train loading pad.

#### 3.4.2 ROM pad/s

ROM pads exist at Iron Knight and Iron Duke and are constructed of waste or low grade material. Drainage from the ROM pad is directed to the outer edges where silt ponds filter the runoff water. The ROM pads are used as a location for storage and blending of ore products, and cater for any auxiliary crushing and screening requirements, and other operations ancillary to mining.

#### 3.4.3 Crushing and screening

Fixed and mobile crushing and screening facilities are in place to produce lump and fines product, as outlined in Section 3.4.1. Lump and fines for DSO are loaded onto rail wagons by front-end loaders for transport to the Whyalla Port. Ore mined from Iron Duchess and Iron Magnet is processed at Iron Duke.

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#### **3.4.4 Product transport**

The crushed DSO material is loaded into trains and transported by rail from the Iron Duke and Iron Knight sidings to Whyalla Port for blending and exporting. Transport of LGO from N-SMR to the ore beneficiation plant (OBP) in the S-SMR is via internal haul road.

#### **3.4.5 Ore beneficiation plant – hematite stream**

Low grade hematite ore stocks are upgraded through the ore beneficiation plant (OBP). The low grade ore is generally crushed and conveyed to the OBP. Crushed material is fed to the OBP using front end loaders and conveyor systems.

Beneficiation increases iron grade of the ore using density and gravity separation. The ore is separated and stockpiled into lump (+8-32 mm), fines (+1-8 mm) and ultra-fines (+75 um-1 mm) fractions. The hematite lump and fines are transported to Whyalla and sold as direct shipping ore (DSO) via the Whyalla Port.

Coarse tailings from the OBP are used for civil works such as road sheeting within the S-SMR (and N-SMR). Fine tailings generated from the OBP is pumped to the Mag Dam tailings storage facility (TSF), see Section 3.6.

#### **3.4.6 Magnetite concentrator – Magnetite stream**

Magnetite ore stocks from the run of mine (ROM) pad, supply the magnetite concentrator, which is a wet process. The ore is crushed and then concentrated through the plant using separation methods, increasing iron grade and reducing waste attached to the ore product.

Coarse tailings from the magnetite concentrator are used in the construction of the Magnetite (Mag) TSF embankments. Fine tailings generated from the magnetite concentrator are distributed to the Mag TSF (see Section 3.6).

Magnetite slurry is piped from the magnetite concentrator to Whyalla for dewatering before concentrate is used in the pellet plant to produce pellets for consumption in the blast furnace at OneSteel Whyalla Steelworks.

Reclaimed water (from the dewatering process) is returned to the magnetite concentrator for reuse via return pipeline.

#### **3.4.7 ROM pad/s**

ROM pads exist at Iron Knight and Iron Duke and are constructed of waste or low grade material. Drainage from the ROM pad is directed to the outer edges where silt ponds filter the runoff water. The ROM pads are used as a location for storage and blending of ore products, and cater for any auxiliary crushing and screening requirements, and other operations ancillary to mining.

#### **3.4.8 Crushing and screening**

Fixed and mobile crushing and screening facilities are in place to produce lump and fines product, as outlined in Section 3.4.1. Lump and fines for DSO are loaded onto rail wagons by front-end loaders for transport to the Whyalla Port. Ore mined from Iron Duchess and Iron Magnet is processed at Iron Duke.

### 3.4.9 Product transport

Ore material is transported to the ROM and processing areas by haul trucks and road trains. Generally loaders are used within the processing area to move material around. The product is transported from the SMR operations to Whyalla via rail (and at times by road truck). Trucking campaigns can be raised and approved when and if required after consultation with the community of Whyalla, DSD and Department of Planning, Transport and Infrastructure (DPTI) and the EPA.

Crushed DSO material is loaded into trains and transported from the Iron Knight siding to the Whyalla Port for blending and exporting.

## 3.5 Operating Hours

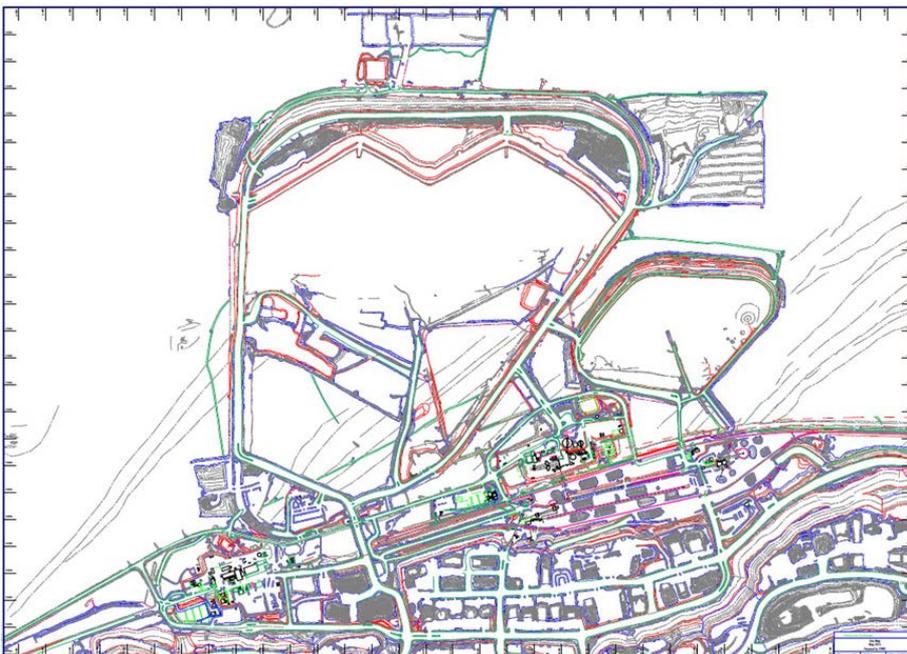
### 3.5.1 Modes and hours of operation

The SMR operates on a continuous 24 hours a day, seven days a week basis, with two 12-hour shifts every 24 hours.

## 3.6 Tailings and Waste Rock

### 3.6.1 Tailings storage facility

Fine tailings from the OBP have been deposited into the OBP TSF since 2004. In 2014 OBP tailings deposition was transferred to the Mag TSF. Fine tailings from the magnetite concentrator have been deposited into the larger Mag TSF since 2007 (see Figure ).



**Figure 10 SMR OBP TSF and MAG TSF**

### **3.6.2 Waste rock storage**

Waste rock has been deposited at the DW03, DW18 and CW01 WRDs during 2015.

WRDs are designed and managed in accordance with the strategy set out in PEPR2014/019.

## **3.7 Water Usage**

### **3.7.1 Water supply infrastructure and use**

SA Water supplied 3.2 GL of water potable water in CY15 for mining and processing at all MBR mines. Significant effort is exerted and infrastructure put in place to recover recycle as much process water as possible for use in ore processing and dust suppression. 300 ML less water was consumed in CY15 compared to the CY14 consumption of 3.5 GL. (Note: The 2014 annual compliance report quoted the FY14 consumption to the end of June 2014, not the CY14 figures)

The majority of dust suppression water is supplied from recycled process water or from groundwater extracted from the pits and from extraction wells adjacent to the Mag TSF.

The use of dust suppression chemicals in addition to water on the haul roads and within the crushing circuits saves a considerable amount of water and increases dust suppression efficiency.

## **3.8 Accommodation**

There are no camp facilities in the SMR. Accommodation is sought in nearby townships, predominantly in Whyalla and Cowell.

## **3.9 Environmental Research Information**

Arrium Mining sponsored a PhD study into the range, status and preferred habitat of the Sandhill Dunnart within the Ironstone Hill Conservation Park adjacent to the SMR. The PhD research document was made available to Arrium in mid-2015.

## **3.10 Community or Wider Environment Support Activities**

### **3.10.1 Community sponsorship and support**

Arrium Mining's Community Support Program continues to assist its nearby communities by supporting ongoing and sustainable initiatives that provide:

- welfare help for the less advantaged
- local youth with a range of opportunities to assist in their development for the future
- significant benefit to local communities usually in the way of major events or new or improved community facilities.

Some of the ongoing programs of which Arrium Mining is a major supporter include:

- The Smith Family's Learning For Life and Let's Read programs

- 
- Errappa Blue Light camp
  - Foodbank Whyalla branch (including the new Schools in Breakfast program)
  - Whyalla Road Safety Centre
  - Whyalla Hockey Association's Hockey in Schools program
  - Whyalla Christmas Appeal
  - Fishy Fringe festival
  - D'faces of Youth Arts
  - Whyalla Science & Engineering Challenge
  - SciWorld
  - Junk to Funk Youth Scholarship.

### **3.10.2 Helping break the cycle of disadvantage**

Arrium Mining is the major supporter of Foodbank's new School Breakfast Program.

The program assists local students who are attending school without having accessed a healthy breakfast – ensuring they have sufficient nourishment to start their school day.

These students are going to school without breakfast for a variety of reasons, and are at a disadvantage from the outset as studies have shown that students concentrate better after eating a healthy breakfast. This lack of concentration can often result in them falling behind in their studies, ultimately increasing the chances of the cycle of disadvantage continuing. By ensuring they have a decent meal to start each day, it helps set them up for success and provides them with a better chance of success at school.

Nine schools have already come on board – including Whyalla High School which serves around 30 breakfasts each morning – and are looking forward to seeing their students benefit from such a worthwhile program.

### **3.10.3 Local employment opportunities**

Arrium Mining is supportive of employing local people and is supporting the employment of Barngarla Community members through the Walga Mining Crushing and Screening contract at Iron Knob.

## **3.11 Community Engagement Activities**

### **3.11.1 Community consultation**

Arrium Mining continues to have regular contact with key community representatives who provide feedback on mining operations and how these are seen from a community perspective. Regular contact is through:

- phone calls, face-to-face meetings and email exchanges
- regular Environment Consultation Group (ECG) meetings, which are attended by a cross-section of the Whyalla community
- six-monthly meetings with landholders who are located near Arrium Mining's operations
- other forums, as required, on specific topics of interest with interested residents in Whyalla.

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### **3.11.2 Indigenous consultation**

Arrium Mining meets regularly with the Barngarla community representatives regarding developments in the Indigenous Land Use Agreement (ILUA) area.

The ILUA between OneSteel (Arrium Mining) and the Barngarla Native Title Claimants sets out clear heritage clearance protocols for both parties and includes protocols for notifications concerning proposed changes and developments within the ILUA area.

### **3.11.3 The Middleback Alliance**

The Middleback Alliance is a cooperative framework for sustainable land management across the Middleback Ranges and surrounding areas.

The Middleback Alliance has participation from three major landholders in the region (Arrium Mining, Natural Resources Eyre Peninsula (DEWNR) and Ecological Horizons).

By sharing resources and cooperatively delivering a works program across land boundaries, the Middleback Alliance delivers improved and sustainable land management outcomes.

## 4 PROJECT VARIATIONS

There were no project variations to the SMR operations in 2015. Refer Table 15.

**Table 15 Description of changes to the SMR mining operations**

Description of change to mining operation	Date project variation submitted to DSD or other regulatory agency	Document reference number	Date regulatory authority endorsement received	Forward work plan
Nil	NA	NA	NA	NA

## 5 COMPLAINTS

There was X complaints received in relation to SMR operations in the reporting period (see Table 16).

**Table 16 Complaints register – SMR (1 January to 31 December 2015)**

Complaint reference	Complaint type	Was the complaint a result of a PEPR non-compliance?	Resolution date	Forward work plan
15/52	Dust	No	11/2/15	Continuous observation, assessment and improvement
15/69	Access	No	20/4/15	Resolved
15/73	Dust	No	4/5/15	Continuous observation, assessment and improvement
16/9	Dust	No	25/8/15	Continuous observation, assessment and improvement
16/10	Dust	No	25/8/15	Continuous observation, assessment and improvement
16/13	Access	No	24/9/15	Resolved
16/21	Dust	No	25/11/15	Continuous observation, assessment and improvement
16/24	Dust	No	8/12/15	Continuous observation, assessment and improvement
16/27	Dust	No	13/1/16	Continuous observation, assessment and improvement

## 6 COMPLIANCE

### 6.1 Compliance Summary

A summary of compliance items is provided in Table 17.

**Table 17 Compliance summary – SMR (1 January to 31 December 2015)**

Licence/Permit/Tenement	Type of non-compliance	Brief description	Status	Section of report for further detail
There were no non-compliances recorded during the reporting period				

## 6.2 Compliance with Outcomes

An overview of compliance against outcomes and associated measurement criteria for the SMR is provided in Table 18.

**Table 18 Compliance with Environmental Outcomes**

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
<b>Flora</b>							
No permanent loss of abundance or diversity to native vegetation through clearance, dust/contaminant deposition, fire or other damage caused by mining operations on or off the tenements, unless prior approval under legislation is obtained	Annual aerial and/or ground surveys of operational areas demonstrate that the total area cleared does not exceed the approved area as per table 24 (see Section 4.3) when compared to the September 2013 aerial image (see Figure 72). (PEPR 2014/109)  Mine records demonstrate that Arrium Mining dust management strategies were in place	Compliant	Vegetation clearance is not to exceed the approved area as per Table 24 (PEPR2014/109)  Iron Chieftain domain – 128ha  Iron Knight domain – 61.8ha  South SMR domain – 28ha  Concentrator and OBP domain – 58.4ha	Compliant	NA	GIS area calculations against the September 2015 orthorectified aerial image (see figures 11 & 12) plus vegetation clearance permit data to the 31 December 2015 demonstrate that clearance within the approved areas during CY2015 are as follows:  Iron Chieftain domain – 48.59ha  Iron Knight domain – 0.0ha  South SMR domain – 0.77ha  Concentrator and OBP domain – 0.0ha  QP50.85  Audit reports  BSS incident actions	NA

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
No vegetation health impacts to neighbouring properties from dust generated by mining activities	<p><b><u>Iron Chieftain</u></b></p> <p>Quarterly internal assessment and annual vegetation dust impact assessment by external consultant at the vegetation monitoring quadrats on neighbouring properties (see Appendix A-9), demonstrate that impact assessment scores do not exceed an impact score of 2 (see Table 38), from mine derived dust*, factoring in regional rangelands floristic health as measured at the control sites (see Appendix A-9)</p> <p>Mine records demonstrate that Arrium Mining dust management strategies are applied in accordance with the Mines FDR Procedure QP50-68</p>	Compliant	Vegetation impact assessment scores do not exceed an impact score of 2 (see Table 38), from mine derived dust*, factoring in regional rangelands floristic health as measured at the control sites (see Appendix A-9) (PEPR2014/109)	Compliant	NA	<p>Quarterly impact assessments demonstrate that Chieftain impact sites ranked vegetation impact assessment score of 2, control site score 0.</p> <p>ICPP6-I showing reduced levels of deposition since 2014, There has been a marked improvement in the dust deposition on the monitoring quadrat since 2014. <i>Maireana sedifolia</i> displaying new upper canopy growth but side of canopy facing stockpiles still contain moderate deposits of dust fines in trichomes <i>Atriplex vesicaria</i> was generally in the Moderate range. (Bebbington 2016)</p>	Continuous observation assessment and improvement opportunities identified and implemented
No vegetation health impacts to neighbouring properties from dust generated by mining activities	<p><b><u>Iron Knight</u></b></p> <p>Quarterly internal assessment and annual vegetation dust impact assessment by external consultant at the vegetation monitoring quadrats on neighbouring properties (see Appendix A-9), demonstrate that impact assessment scores do not exceed an impact score of 2 (see Table 38), from mine derived dust*, factoring in regional rangelands floristic health as measured at the control sites (see Appendix A-9)</p> <p>Mine records demonstrate that Arrium Mining dust management strategies are applied in accordance</p>	Compliant	Vegetation impact assessment scores do not exceed an impact score of 2 (see Table 38), from mine derived dust*, factoring in regional rangelands floristic health as measured at the control sites (see Appendix A-9) (PEPR2014/109)	Compliant	NA	<p>Quarterly impact assessments demonstrate that Iron Knight impact sites M1 and M2 ranked vegetation impact assessment score of 2, control site C6 score 0. C6 burnt in April 2012 is showing strong regrowth.</p> <p>M1-<i>Triodia Irritans</i> displaying Moderate dust loadings within quadrat but new shoots on &gt;15% of hummocks. Leaf cuticle abrasion not recorded in 2016 with budding and flowering recorded in past 12 months. (Bebbington 2016)</p>	Continuous observation assessment and improvement opportunities identified and implemented

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
	with the Mines FDR Procedure QP50-68					M2-Seedling mallee producing new shoots and seed set. Triodia producing new growth. Juvenile Callitris have regenerated well within the quadrat in recent years. Dust loadings in the Heavy-Moderate range indicated by dust deposition on bare soil areas and Triodia hummocks. Dermal abrasion derived from fugitive dust emissions on mallee and Hakea not recorded at M2 in 2016. Species such as <i>Phebalium bullatum</i> and <i>Lasiopetalum behrii</i> (which are dust and moisture sensitive) are heavily stained and have shed leaves but were producing new growth during survey. (Bebbington 2016)	
No vegetation health impacts to neighbouring properties from dust generated by mining activities	<b>South SMR</b> Quarterly internal assessment and annual vegetation dust impact assessment by external consultant at the vegetation monitoring quadrats on neighbouring properties (see Appendix A-9), demonstrate that impact assessment scores do not exceed an impact score of 1 (see Table 38), from mine derived dust*, factoring in regional rangelands floristic health as measured at the control sites (see Appendix A-9)	Compliant	Vegetation impact assessment scores do not exceed an impact score of 1 (see Table 38), from mine derived dust*, factoring in regional rangelands floristic health as measured at the control sites (see Appendix A-9) (PEPR2014/109)	Compliant	NA	Quarterly impact assessments demonstrate that South SMR impact sites ranked vegetation impact assessment score of 0, control site score 0.  PP4I-Photo point generally showing historical dust staining of fallen timber and shrub bark and twigs. <i>Atriplex vesicaria</i> in good condition. A horizon within quadrat showing natural	NA

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
	Mine records demonstrate that Arrium Mining dust management strategies are applied in accordance with the Mines FDR Procedure QP50-68					<p>crusted surface and zero haematite dust deposition. <i>Senna ft petiolaris</i> in good health with zero dust residue. <i>Rhagodia parabolica</i> in Fair condition following grazing by goats. Note lack of haematite dust staining on stems. (Bebbington 2016)</p> <p>PP1C-Juvenile <i>Senna ft gawlerensis</i> in good condition. <i>Cratystylis conocephala</i> in Good condition following seed set. <i>Atriplex vesicaria</i> in good condition. Note lack of Haematite staining on leaf litter and stems of plant. Dust loadings restricted to faint staining on the canopy of some species which is derived from clay based background dust e.g. adjacent track and bare areas. (Bebbington 2016)</p>	
<b>Fauna</b>							
That there is no permanent loss of native fauna abundance caused by mining operations	Records demonstrate that incidents of drill collars not being capped immediately following exploration activities are logged and investigated and all corrective actions are closed out within 24 hours of receiving notification of the incident	Compliant	Incidents of drill collars not being capped immediately following exploration activities are logged and investigated and all corrective actions are closed out within 24 hours of receiving notification of the incident	Compliant	NA	No incidents of uncapped drill collars were recorded within the reporting period.	

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
That there is no permanent loss of native fauna abundance caused by mining operations	Annual aerial and/or ground surveys at operational areas demonstrates that the total area cleared does not exceed the approved area as listed in Table 24 (see Section 4.3) when compared to the September 2013 aerial image (see Figure 72).	Compliant	Vegetation clearance is not to exceed the approved area as per Table 24 (PEPR2014/109)	Compliant	NA	Vegetation clearances to-date has not exceeded the approved area as per Table 24 (PEPR2014/109), Refer to the Flora section for full details.	NA
<b>Weeds, pests and pathogens</b>							
No introduction of new species of weeds, nor a sustained increase in abundance of existing weed species in the Licence area, compared to adjoining land	Biannual weed inspections reports and continuous weed mapping demonstrate that new weeds and existing weeds are managed by control measures as per the Arrium Mining Pest Plant and Animal Control Strategy QP50_62 within six months of documenting the presence of new weed incursions or increase in abundance of existing weeds in the licence area compared to baseline flora and fauna surveys (Bebbington 2009 and 2014)	Compliant	New weeds and existing weeds are managed by control measures as per the Arrium Mining Pest Plant and Animal Control Strategy QP50_62 within six months of documenting the presence of new weed incursions or increase in abundance of existing weeds in the licence area compared to baseline flora and fauna surveys (Bebbington 2009 and 2014)	Compliant	NA	Weed inspections conducted on the 26/3/15 and 1/10/15, saffron thistle, scotch thistle, horehound, prickly pear and onion weed were noted mapped and controlled.	NA
<b>Soils</b>							
Topsoil quality and quantity is maintained	Six-monthly inspection audits demonstrate that topsoil has been stripped, stockpiled (see Figure 56) and maintained in accordance with Arrium Mining's Soil Management Plan (QP50_66) and that all corrective actions from audits logged and closed out within 60 days or as otherwise agreed with the Regulator	Compliant	Topsoil has been stripped, stockpiled (see Figure 56) and maintained in accordance with Arrium Mining's Soil Management Plan (QP50_66) and that all corrective actions from audits logged and closed out within 60	Compliant	NA	Audits conducted on the 27/3/15 and 1/10/15 confirmed that top soil had been maintained in accordance with QP50.66. Corrective actions recorded included applying water to develop a crust and installation of additional signage.	NA

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
			days or as otherwise agreed with the Regulator				
<b>Stormwater</b>							
No water contaminated as a result of mining operations leaves the tenement areas or results in loss of, or contamination of, soil on, or off, the tenement/s	Records demonstrate that inspection audits of drainage silt traps (see location plan Appendix A-10) are carried out within five days of rainfall events that result in flows of stormwater, or every three months, whichever is the lesser, to determine that culverts are not blocked and that >500 mm of freeboard remains in silt traps and that spillways are not eroded or otherwise damaged, and that all corrective actions from inspections are logged and closed out within 30 days or as otherwise agreed with the Regulator	Compliant	Inspection audits of drainage silt traps (see location plan Appendix A-10) are carried out within five days of rainfall events that result in flows of stormwater, or every three months, whichever is the lesser, to determine that culverts are not blocked and that >500 mm of freeboard remains in silt traps and that spillways are not eroded or otherwise damaged, and that all corrective actions from inspections are logged and closed out within 30 days or as otherwise agreed with the Regulator	Compliant	NA	Storm water inspection audit corrective actions as recorded in the BSS have resulted in silt traps being repaired when required to remain compliant with the outcome measurement criteria.	NA
<b>Groundwater</b>							
No changes to groundwater levels that adversely impact vegetation due to Magnetite TSF operations	Records and reports demonstrate that Arrium Mining is compliant with the Magnetite TSF Management Plan, and that the ground water extraction wells are functioning (refer to Section 3.9.6) and that monthly groundwater level monitoring at location plan (see Figure 23), demonstrates a falling trend in groundwater levels to below the vegetation root zone, averaged over a twelve month period and taking	Uncertain	Arrium Mining is compliant with the Magnetite TSF Management Plan, and that the ground water extraction wells are functioning (refer to Section 3.9.6) and that monthly groundwater level monitoring at location plan (see Figure 23), demonstrates a	Uncertain	Continue to implement and monitor the Magnetite TSF Management Plan	MB1 and MB2 remain stable at below 1.5m below ground level even though significant rainfall events result in immediate and direct response of approximately 0.7 m rise.  MB3 and MB4 rise to within 0.5 and 0.1mBGL respectively following significant rainfall events	

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
	<p>into account rainfall events that may naturally raise groundwater levels temporarily.</p> <p>Biannual aerial and ground surveys demonstrate that the TSF vegetation impact area has not increased.</p>		<p>falling trend in groundwater levels to below the vegetation root zone, averaged over a twelve month period and taking into account rainfall events that may naturally raise groundwater levels temporarily.</p>			<p>then trend down by approximately 0.7m due to the ground water extraction system</p>	
<p>No changes to groundwater levels that adversely impact vegetation due to Iron Duchess water storage operations</p>	<p>Monthly groundwater monitoring records demonstrate that:</p> <p>Monthly groundwater monitoring records demonstrate that the groundwater level does not exceed 160m AHD at DMW03 (see figure 24) (PEPR2014/109)</p> <p>Annual aerial and/or ground surveys demonstrate that the total area of vegetation cleared does not exceed the approved area as per Table 24 (see Section 4.3) when compared to the September 2013 aerial image (see Figure 72).( PEPR2014/109)</p>	Compliant	<p>Groundwater level does not exceed 160m AHD at DMW03 (see figure 24) (PEPR2014/109)</p> <p>Annual aerial and/or ground surveys demonstrate that the total area of vegetation cleared does not exceed the approved area as per Table 24 (see Section 4.3) when compared to the September 2013 aerial image (see Figure 72). (PEPR2014/109)</p>	Compliant	NA	<p>Monthly ground water levels at DMW3 demonstrate that the ground water level has remained stable at approximately 140mAHD since the well was installed in May 2015</p> <p>Annual aerial and ground survey mapping has demonstrated that there has been insignificant change to the impact area footprint.</p>	NA
<b>Air quality</b>							
<p>No nuisance impacts to local residents and the general public from air</p>	<p>Records demonstrate that complaints of emissions, dust or odour are responded to within 24 hours, are logged and investigated and all corrective actions are closed out within 30 days of receiving a complaint, or as otherwise agreed with the affected party or the</p>	Compliant	<p>Records demonstrate that complaints of emissions, dust or odour are responded to within 24 hours, are logged and investigated and all corrective actions are closed out within 30</p>	Compliant	NA	<p>Seven complaints of dust emissions were received, all were resolved within the required time frame, Refer to section 5 (complaints)</p>	NA

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
emissions, dust and odour generated from mining operations	Regulator		days of receiving a complaint, or as otherwise agreed with the affected party or the Regulator				
<b>Visual amenity</b>							
The contrasting and reflective aspects of WRDs and infrastructure are visually softened to blend in with the surrounding landscape	Annual audits against the staged rehabilitation strategy, with the use of annual aerial and ground surveys of the landform development and biennial flora monitoring surveys demonstrate progressive rehabilitation undertaken in accordance with staged rehabilitation strategy for the SMR Mining Area (see Section 8) (PEPR2014/109)	Compliant	Progressive rehabilitation undertaken in accordance with staged rehabilitation strategy for the SMR Mining Area (see Section 8) (PEPR2014/109)	Compliant	Continue to progressively rehabilitate in accordance with PEPR2014/109	17.5 Ha of WRDs were rehabilitated in 2015; refer to section 10.	Continue to progressively rehabilitate in accordance with PEPR2014/109
<b>Blasting and vibration</b>							
No public health, safety and nuisance impacts from air blast overpressure, vibrations, fumes, dust or fly rock caused by blasting undertaken on site	Records show that an independent investigation of recorded incidents related to blasting activities on site, demonstrates that an incident could not have been prevented through implementation and use of reasonable preventative measures and that all incidents as a result of blasting, including fly rock occurrences outside of the blast management zone, or complaints related to blasting are investigated and corrective actions closed out within 30 days or as otherwise agreed with the Regulator	Compliant	Independent investigation of recorded incidents related to blasting activities on site, demonstrates that an incident could not have been prevented through implementation and use of reasonable preventative measures and that all incidents as a result of blasting, including fly rock occurrences outside of the blast management zone, or complaints related to blasting are investigated and	Compliant	NA	No incidents were recorded. No complaints of damage were received	NA

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
			corrective actions closed out within 30 days or as otherwise agreed with the Regulator				
<b>Public safety</b>							
No accidents involving the public as a result of exploration and mining activities that could have been reasonably prevented by Arrium Mining	Records show that an independent investigation of recorded injuries from unauthorised access to the site, demonstrates that an incident could not have been prevented through implementation of reasonable preventative measures and that 100% of incidences of unauthorised access are investigated and corrective actions closed out within 30 days or as otherwise agreed with the Regulator	Compliant	Independent investigation of recorded injuries from unauthorised access to the site, demonstrates that an incident could not have been prevented through implementation of reasonable preventative measures and that 100% of incidences of unauthorised access are investigated and corrective actions closed out within 30 days or as otherwise agreed with the Regulator	Compliant	NA	No incidents of unauthorised access or injury from unauthorised access were recorded during the reporting period	NA
<b>Adjacent land use and third party property</b>							
No unauthorised damage to adjacent property or infrastructure from mining operations	Records demonstrate that complaints of unauthorised damage are responded to within 24 hours, are logged and investigated and all corrective actions are closed out within 30 days of receiving a complaint, or as otherwise agreed with the affected party or the Regulator	Compliant	Complaints of unauthorised damage are responded to within 24 hours, are logged and investigated and all corrective actions are closed out within 30 days of receiving a complaint, or as otherwise agreed with the affected party or the Regulator	Compliant	NA	No complaints of unauthorised damage have been received nor incidents of damage recorded during the reporting period.	NA
<b>Heritage</b>							

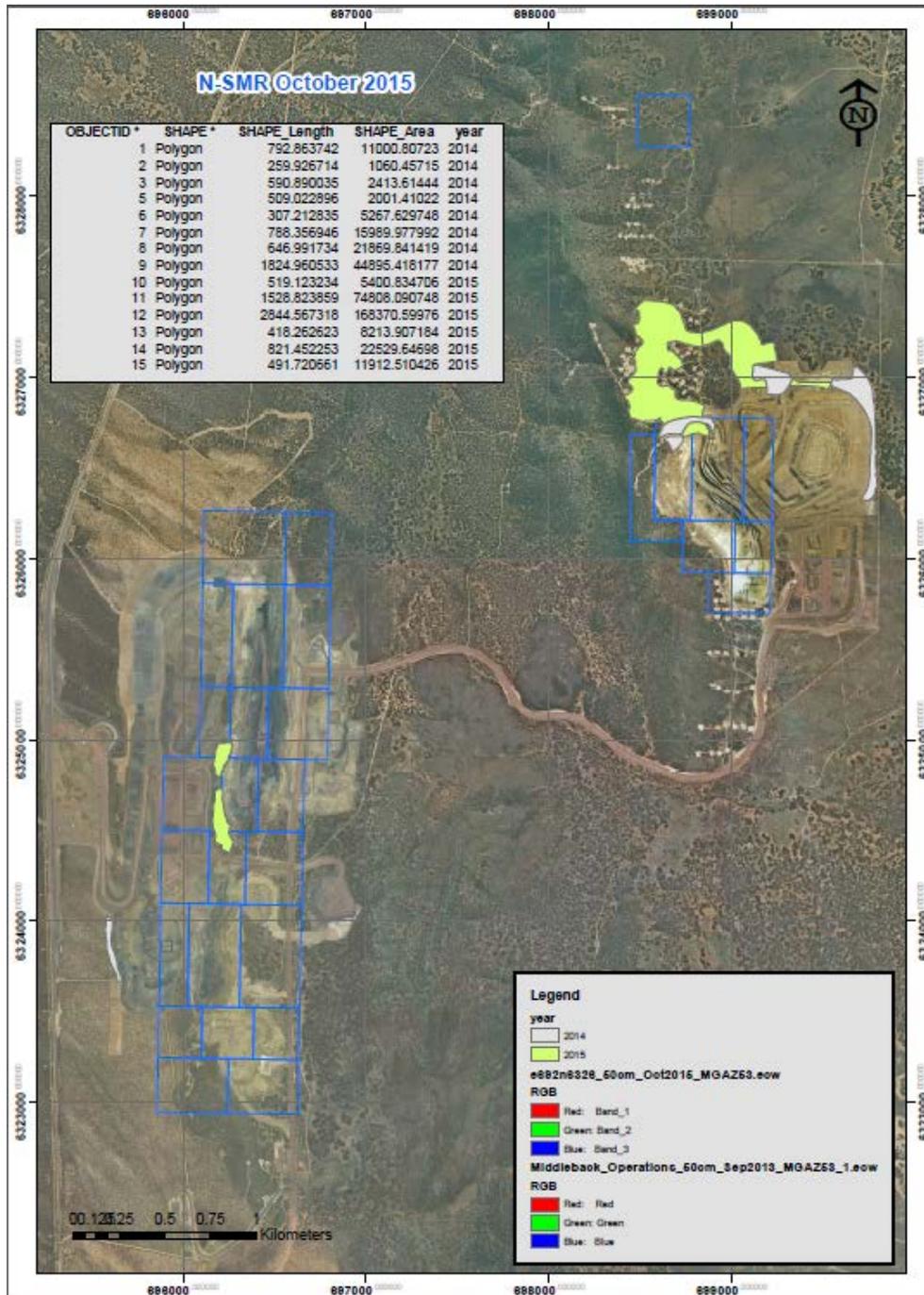
Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
No disturbance to Aboriginal artefacts, sites of significance or European heritage unless prior approval under the relevant legislation is obtained	Records demonstrate that discoveries of suspected Aboriginal or European artefacts or remains were left without further disturbance, reported to the authorities and investigated and that work recommenced only after being authorised by the appropriate authority	Compliant	Discoveries of suspected Aboriginal or European artefacts or remains were left without further disturbance, reported to the authorities and investigated and that work recommenced only after being authorised by the appropriate authority	Compliant	NA	No incidents of discoveries of suspected Aboriginal or European artefacts or remains were recorded during the reporting period	NA
<b>Traffic</b>							
No incidents or accidents resulting from road accidents associated with the SMR operational or access traffic that could have been reasonably prevented	Records of independent investigation of all recorded incidents and accidents involving SMR operational traffic, or SMR access road/public road interface traffic demonstrates that the incident could not have been prevented through implementation of reasonable preventative measures and that 100% of incidences of unauthorised access are investigated and corrective actions closed out within 30 days or as otherwise agreed with the Regulator	Compliant	Independent investigation of all recorded incidents and accidents involving SMR operational traffic, or SMR access road/public road interface traffic demonstrates that the incident could not have been prevented through implementation of reasonable preventative measures and that 100% of incidences of unauthorised access are investigated and corrective actions closed out within 30 days or as otherwise agreed with the Regulator	Compliant	NA	No incidents were recorded in the reporting period.	NA

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
<b>Closure</b>							
Integrate and harmonise final landforms and vegetation with surrounding landscape	Annual Progressive Rehabilitation Compliance Audit and final landform profile and revegetation audit demonstrates WRDs are constructed and remediated to integrate and harmonise the final landform and vegetation with the surrounding landscape as each lift is completed in accordance with the design, closure and rehabilitation strategy described in Section 8 (PEPR2014/109)	Compliant	WRDs are constructed and remediated to integrate and harmonise the final landform and vegetation with the surrounding landscape as each lift is completed in accordance with the design, closure and rehabilitation strategy described in Section 8 (PEPR2014/109)	Compliant	Continue to progressively rehabilitate in accordance with PEPR2014/109	17.5 Ha of WRDs were rehabilitated in 2015; refer to section 10.	Continue to progressively rehabilitate in accordance with PEPR2014/109
Integrate and harmonise final landforms and vegetation with surrounding landscape	Final landform profile and revegetation audit via ground and flora survey demonstrates that all constructed haul roads and open areas are remediated in accordance the design, closure and rehabilitation strategy described in Section 8 (PEPR2014/109)	Not applicable until mine closure	all constructed haul roads and open areas are remediated in accordance the design, closure and rehabilitation strategy described in Section 8 (PEPR2014/109)	Not applicable until mine closure			
Re-establishment of mine site ecosystem and landscape function	Annual assessment by internal specialist or external consultant and a final report from a suitably qualified person confirms that Landscape Function Analysis (LFA) indicates that LFA curve has moved above, or is likely to move above the critical threshold of sustainability, which, depending on specific site variables are within the following ranges (stability index; 45-55%, Infiltration index; 30-33%, Nutrient cycling index, 23-28%), on remediated WRDs, haul roads and operational and fixed plant areas. This criteria to remain open until the target is met	Compliant	Landscape Function Analysis (LFA) indicates that LFA curve has moved above, or is likely to move above the critical threshold of sustainability, which, depending on specific site variables are within the following ranges (stability index; 45-55%, Infiltration index; 30-33%, Nutrient cycling index, 23-28%), on remediated WRDs, haul roads and operational	Compliant		Baseline LFA data was collected in December 2013 and the second round of LFA data collected in December 2014 third round data collected in January 2016	Continue to collect LFA data annually

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
Risk to health and safety of the public and fauna are as low as reasonably practical	<p>The completion safety audit demonstrates that WRDs, quarry pit and operational areas are constructed and remediated and that the safety bunds are 10 m outside of the potentially unstable pit edge zone (see Figures 85, 88, 93 and 94), and that, fencing and signage are in place in accordance with the design, closure and rehabilitation strategy described in Section 8 (PEPR2014/109).</p> <p>Fencing and signage will be maintained by Arrium Mining until such time that it is agreed between Arrium Mining and DSD that Arrium Mining is no longer responsible for the maintenance</p>	Not applicable until mine closure	and fixed plant areas.	Not applicable until mine closure			
The site is physically stable	Annual and final landform profile compliance audits demonstrates WRDs, pits, and infrastructure areas are constructed and remediated in accordance with design, closure and rehabilitation strategy set out in Section 8 (PEPR2014/109)	Compliant	WRDs, pits, and infrastructure areas are constructed and remediated in accordance with design, closure and rehabilitation strategy set out in Section 8 (PEPR2014/109)	Compliant	Continue to construct and remediate in accordance with design, closure and rehabilitation strategy	Internal compliance and EMS audits. External SA Global EMS Audit September 2015	Continue to construct and remediate in accordance with design, closure and rehabilitation strategy
The site will be rehabilitated to a stable condition that supports a resilient, self-sustaining natural	Site audit at mine closure by an independent professional to demonstrate that the site is rehabilitated as per the closure domain objectives (see Section 8 (PEPR2014/109)	Not applicable until mine closure		Not applicable until mine closure			

Outcome	Outcome measurement criteria (OMC)	OMC compliance status	Outcome Achievement	Outcome Achievement status	Outcome Achievement actions summary	Evidence	Forward work plan
ecosystem suitable for the post-mining land use that will be determined in consultation with relevant stakeholders							
All infrastructure is removed from the site prior to mine completion	Final closure and divestment audit report demonstrates that all fixed mine infrastructure is demolished disposed of or removed from site within two years of mine closure	Not applicable until mine closure		Not applicable until mine closure			
All equipment is removed from site prior to mine closure	Final closure and divestment audit report demonstrates that all mobile machinery and equipment is removed from site within 12 months (or as otherwise agreed with DSD) of completion of rehabilitation of all WRDs, haul roads and impacted areas	Not applicable until mine closure		Not applicable until mine closure			
All mine waste materials left on site are chemically and physically stable	At mine closure records demonstrate all industrial and domestic wastes are disposed of in accordance with the Environment Protection Act 1993, and that all waste mine materials left on site are chemically and physically stable as determined by a site contamination audit conducted by an independent and qualified auditor	Not applicable until mine closure		Not applicable until mine closure			





**Figure 12 Vegetation Clearances in the N-SMR to October 2015**

## 7 CLOSURE

Activities associated with rehabilitation in the SMR during 2015 is summarised in Table 19. See Section 10 for information on planned rehabilitation in other closure domains.

**Table 19 Rehabilitation and environmental activities in the SMR – 2015**

Closure domain	Previous reporting period		Current reporting period		Forecast over next reporting period		Outcome	Outcome measurement criteria	Description of progressive rehabilitation works and evidence	Associated lease status	Forward work plan
	Disturbed (ha)	Rehabilitated ha	Disturbed (ha)	Rehabilitated (ha)	Disturbed (ha)	Rehabilitated (ha)					
DW03	0.2	2.97	0.77	12.54			Integrate and harmonise final landforms and vegetation with surrounding landscape	Annual Progressive Rehabilitation Compliance Audit and final landform profile and revegetation audit demonstrates WRDs are constructed and remediated to integrate and harmonise the final landform and vegetation with the surrounding landscape as each lift is completed in accordance with the design, closure and rehabilitation strategy described in Section 8 (PEPR2014/109)	To-date 40.11 ha of DW03 (SE WRD) and 18.96 ha of CW01 (Chieftain) have been pushed to the final profile, sheeted with topsoil and 'seed-boxed' or contour ripped to achieve erosion control. Third round Land Function Analysis (LFA) data has been collected	Rehabilitation works have been completed for sections/not ready for relinquishment	Continue to construct and remediate in accordance with design, closure and rehabilitation strategy
MW18	2.2	0	0	0							
CW01	14.06	2.44	7.7	4.9							

## 8 NON-OUTCOME BASED LEASE CONDITIONS

A review of compliance against non-outcome based lease conditions for SMR is provided in Table 20.

**Table 20 Compliance against non-outcome based lease conditions for SMR – 2015**

Condition	Compliance status	Evidence	Forward work plan
<b>ML2662, ML2706, ML4745, ML4746, ML4747, ML2704, ML2663, ML2717, ML2718, ML2719, ML2657, ML4740, ML4741, ML4742, ML4743, ML4744, ML4770, ML4771, ML4772, ML4773, ML4774, ML4775, ML4735, ML4736, ML4737, ML4738, ML4739, ML6361, ML6362, ML 6441, MPL51, MPL52, MPL54, MPL55, MPL70, MPL123, MPL124</b>			
Mining operations authorised by this Lease must only be for the recovery of Iron Ore	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
The Lessee must not commence or undertake any mining operations on the land until a Mining and Rehabilitation Program (MARF) has been approved by the Minister and a bond has been paid in accordance with Section 62 of the Mining Act 1971	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
The Lessee must prepare a MARF that complied with the requirements of guidelines approved by the Director of Mines and include environmental outcomes and criteria that are developed in consultation with relevant stakeholders	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
The criteria included in the MARF must demonstrate clear and unambiguous achievement of the environmental and mine closure outcomes specified in the Second Schedule by: <ul style="list-style-type: none"> <li>Including the specific parameters to be measure and monitored by the Lessee</li> <li>Specifying the locations that the parameters will be measured or how these locations will be determined</li> </ul>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<ul style="list-style-type: none"> <li>Clearly stating the acceptable values for demonstrating achievement of the outcome, with consideration of any inherent errors of measurement</li> <li>Specifying the frequency of monitoring by the Lessee</li> <li>Identifying what background or control data are to be used of specify how it will be acquired (if necessary)</li> </ul>			
<p>The Lessee must review the Mining and Rehabilitation Program (MARP) on request of the Director of Mines within a time specified in the request and submit the revised MARP for approval to the Director of Mines</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>The Lessee agrees to the approved MARP being made available for public inspection</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>The Lessee must provide information as requested by and to the satisfaction of the Director of Mines, on the Lessee's capability and competence to comply with the requirements of the Mining Act 1971, the conditions of this Lease, and the MARP in accordance with approved guidelines or as otherwise specified by the Director of Mines</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>The Lessee must provide to the Director of Mines a Mining and Rehabilitation Compliance Report (MARCR) on operations carried out on the Lease and compliance with the approved MARP. The MARCR must be submitted every year, within 2 months after the anniversary of the date the Lease was granted, or at some other time agreed with the Director of Mines in accordance with guidelines approved by the Director of Mines. The Lessee agrees to the MARCR being made available for public inspection</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>The Lessee must if requested by the Director of</p>			

Mines, undertake an independent audit of achievement of the environmental outcomes in the MARP, by an independent expert approved by the Director of Mines and submit the audit to the Director of Mines. The lessee agrees to the audit being made available for public inspection			
At least 3 months prior to Lease relinquishment or expiry, the Lessee must provide to the Minister a Mine Completion Report prepared in consultation with the landowner and in accordance with guidelines approved by the Director of Mines, which demonstrates achievement of the closure criteria as specified in the current MARP	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
The Lessee must prior to commencing operations under this Lease and for the duration of the lease maintain public liability insurance to cover all operations under the Lease (including sudden and accidental pollution) in the name of the Lessee for a sum not less than \$20 million or such greater sum as specified by the Director of Mines, and make such amendments to the terms and conditions of the insurance as the Director of Mines may require	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
A copy of the cover note of certificate of currency for the insurance must be provided to the Director of Mines upon request	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
If requested by the Director of Mines, the Lessee must engage an independent and reputable risk assessor to prepare a risk assessment report detailing the public liability risks arising out of the conduct of operations on the Lease, and recommending the level of amount of public liability cover (in respect of any one occurrence) that should be effected and maintained by the Lessee. In preparing the risk assessment report, the assessor must consult with the landowner and the Director of Mines	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
In specifying the level of insurance required, the Director of Mines accepts no liability for the	Compliant		Implement and comply with PEPR2014/109, applicable Legislation,

completeness, adequacy of the sum insured, the limit of liability, the scoped coverage, the conditions or exclusions of the insurance in respect of how the Lessee may or may not respond to any loss, damage or liability			Regulations and Licence Conditions
The Lessee must report any non-compliance with these conditions and approved MARP to the Director of Mines. A verbal notification must be provided within 24 hours, after the Lessee becomes aware of the non-compliance. A written report must be provided within 3 calendar days or such time period as approved by the Director of Mines	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
In requesting a review of the bond required under the <i>Mining Act 1971</i> the Minister may request that written quotes from an independent third party approved by the Minister are obtained by the Lessee for the cost of rehabilitating the site to the requirements specified in the approved MARP	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
The Lessee must meet all the charges and costs in obtaining and maintaining the Bond	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>MPL 2652, ML2648 – ML2651, ML 2668 – ML2669, ML2677, ML2682 – ML2683, ML2701, ML2712, ML2714 – ML2716, ML2720</b>			
1. The Lessee will during the said term pay or cause to be paid to the Minister of Mines (hereinafter referred to as ‘the Minister’) at the office of the Department of Mines in the City of Adelaide on behalf of the Governor the rent and other sum hereby reserved at the times and in the manner hereinbefore appointed for payment thereof free and clear of all rates taxes impositions outgoings and deductions whatsoever	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. That the Lessee will pay and discharge all rates taxes assessments impositions and outgoings which during the said term shall become payable in respect of the said land and premises	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. That the lessee will maintain in position during the said term the posts and trenches or piles of stone	Compliant		Implement and comply with PEPR2014/109, applicable Legislation,

required by the said regulations to be erected or put on the said land when the same was pegged out as a claim and in addition thereto will paint legibly on such posts the number of this lease			Regulations and Licence Conditions
4. That the lessee will during the said term make construct and work all mines and so and perform all things authorised by this lease in a fair orderly, skillful and workmanlike manner	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
5. That the lessee will during the said term employ and keep constantly employed not less than one man for every ten acres of portion of ten acres except as provided by Regulation No. 125 in mining or prospecting for all metals and mineral except gold in or upon the said land and will whenever thereunto requires by the Minister furnish him with satisfactory evidence that such number of men have been and are so employed due allowance being made by the Minister for machinery or horses employed at the rate of two men for each horse or horsepower of machinery	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
6. The Lessee will make such provision for the disposal of silt sludge dirt waste or refuse which may be brought out by the said mines and premises so that the same will not flow or find its way into any stream brook river or water channel or so as to injure or interfere with any land set apart for water supply purposes	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
7. That the lessee will build and keep in proper repair a sufficient and substantial stone wall or other fence around all the pits and shafts which may at any time during the said term be open in any part of the said land and premises for the purpose of this lease so as effectually to prevent all access thereto by all kinds of cattle	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
8. That the lessee will whenever lawfully required do to for at the lessee's own cost and in manner required by any regulations for the time being in force in that behalf cause to be made a survey of the said land and cause to be forwarded to the said Department of Mines a map or plan of such survey	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<p>9. That the lessee will at all times during the said term keep and preserve the said mines and premises in good order repair and condition and in such good order repair and condition at the end or other sooner determination of the said term deliver peaceable possession thereof and of all and singular the premises hereby leased unto the Governor or the Minister or to some officer authorised by him or them to receive possession thereof</p>	<p>Compliant</p>		<p>Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions</p>
<p>10. (a) That the lessee will half-yearly in the months of January and July furnish to the Warden of the mining district in which the said land is situated a full and true return showing in respect of the preceding half-year the quantity of stone or ore treated the quantity of metals and mineral taken from the said land and the working expenses incurred in and the gross proceeds and net profits received from the occupation and working of the said land and the sale of all metals and minerals</p>	<p>Compliant</p>		<p>Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions</p>
<p>11. That the lessee will permit the pastoral lessee (if any) of the said land at all times to have free access and user for domestic purposes and for the purposes of watering stock to and of any surface water on the said land which shall not have been provided or stored by artificial means by the lessee</p>	<p>Compliant</p>		<p>Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions</p>
<p>12. That the lessee will report to a Warden when payable gold is struck or metals precious stones minerals coal shale oil salt or gypsum are found in payable quantities in or upon the said land</p>	<p>Compliant</p>		<p>Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions</p>
<p>13. The lessee will not during the continuance of the said term without the written consent of the Minister first had and obtained use or occupy or permit to be used or occupied the said land and premises other than for the purpose of exercising the rights and liberties hereinbefore granted</p>	<p>Compliant</p>		<p>Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions</p>
<p>14. The lessee will not prevent any person who holds a right privilege or authority under the said Acts and regulations or any amendment thereof</p>	<p>Compliant</p>		<p>Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions</p>

<p>from exercising the same</p> <p>15. The lessee will not during the said term transfer assign sublet or otherwise dispose of or part with the possession of or mortgage charge or encumber the said land and premises or any part thereof or do not permit to suffer to be done any act matter or thing whereby the said land and premises or any part thereof shall or may be transferred assigned sublet or otherwise disposed of or the possession thereof parted with or mortgaged charged or encumbered to any person or persons for the whole or any part of the said term without the consent in writing of the Minister first hand and obtained for every such purpose</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>16. It shall be lawful for the Governor or the Minister or any person authorised by him or them at all proper and reasonable times during the said term without any interruption from the lessee or the lessee's agents servants or workmen to enter into and upon the said land and premises and into and upon any mines or works that may be found therein to view and examine the condition thereof and whether the same be worked in a proper skillful and workmanlike manner and for such purpose to make use of any of the railroad or other roads or ways machinery and work belonging to the said mines and premises and to examine and take extracts from all books accounts vouchers and documents relating thereto</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>17. That so far as applicable the provisions of the said Acts and all regulations made thereunder or any amendment of the said Acts are embodied and incorporated herein and the lessee hereby covenants to observe fulfil and perform the same</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>18. The lessee shall on due performance and observance of the covenants conditions and provisos herein contained be entitled to a renewal from time to time of this lease for any period at each renewal not exceeding twenty one years from the expiration of this lease or any renewal thereof at the rent for the time being chargeable by law in respect</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

of leases of the same class as this lease and shall be subject to the covenants conditions and provisions prescribed by any Act or regulations for the time being in force relating to leases of the same class as this lease			
19. If the said rent be not paid on or before the day hereinbefore appointed for payment thereof a penalty of five pounds per centum shall be added to the said rent and if the said rent and penalty not be paid within one calendar month after the said day a further penalty of ten pounds per centum shall be added and if the said rent and penalties be not paid within one calendar month after the said first month the same shall be recoverable by the Minister by action in any court or competent jurisdiction	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
20. If the lessee shall during the said term commit any breach of or shall fail to comply with any covenant condition or proviso herein contained this lease shall be liable to forfeiture in manner hereinafter provided	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
21. If the said rent shall be in arrear and unpaid for more than three calendar months after the day at which the same is payable under this lease it shall be lawful for the Governor to cancel this lease and the Minister may thereupon insert a notice in the <i>Government Gazette</i> declaring this lease to be forfeited	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
22. If the Minister has reason to believe that there has been a breach of or non-compliance with any of the covenants conditions or provisos herein contained other than a breach of the covenant for payment of the said rent or non-compliance with the labour conditions of this lease, the Minister shall give written notice to the lessee specifying the covenants conditions or provisos which he has reason to believe are not being complied with and notifying the lessee that this lease will be liable to forfeiture at the expiration of one month from the date of such notice unless in the meantime such covenants condition or provisos are duly complied with and if at the expiration of such notice such	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<p>covenants conditions or provisos are still not being complied with by the lessee the Governor may cancel this lease notwithstanding that the rent payable under this lease for the period during which such breach is committed may have been paid and notwithstanding any implied waiver of such breach by the Governor and the Minister shall thereupon insert a notice in the <i>Government Gazette</i> declaring this lease to be forfeited. In case of a breach of the covenant for payment of the said rent or the non-compliance with the said labour conditions the Governor may exercise the power of cancellation without giving the written notice hereinbefore mentioned</p>			
<p>23. A notice of forfeiture as hereinbefore mentioned in the last two preceding provisos so published in the <i>Government Gazette</i> shall be taken to be conclusive evidence that this lease has been legally cancelled and forfeited</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>24. In case this lease shall become liable to forfeiture the Minister may (except as to any case coming under the operation of section 70 of the said Acts) extend the period during which the lessee may perform the covenants conditions and provisos of this lease for such time and subject to such terms and conditions as the Minister may think fit and the terms and conditions so imposed by the Minister shall bind the lessee and all transferees mortgagees assignees and other persons claiming through or under him and this lease shall thereafter be constructed as if the said terms and conditions were inserted therein</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>25. The lessee shall be at liberty to surrender this lease by giving to the Minister three calendar months' notice in writing of the lessee's desire or intention so to do and upon payment of all arrears or rent up to the date of surrender</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>26. The lessee shall be at liberty to remove from the said land at any time within: (a) three months of the date of forfeiture or</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<p>surrender of this lease any plant machinery engines or tools  (b) six months from the date of forfeiture or surrender of this lease any ore or other substance mined by virtue of this lease and stacked upon the said land</p> <p>But shall not remove or interfere with any timber in any mine upon said land</p>			
<b>ML4714 – ML4720, ML4722 – ML4734, ML4761</b>			
<p>1. The Lessee will during the said term pay or cause to be paid to the Minister of Mines (hereinafter referred to as ‘the Minister’) at the office of the Department of Mines in the City of Adelaide on behalf of the Governor the rent and further sums hereby reserved at the times and in the manner hereinbefore appointed for payment thereof free and clear of all rates taxes impositions outgoings and deductions whatsoever</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>2. That the Lessee will pay and discharge all rates taxes assessments impositions and outgoings which during the said term shall become payable in respect of the said land</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>3. That the lessee will maintain in position during the said term the posts and trenches or piles of stone required by the said regulations to be erected or cut on the said land when the same was pegged out as a claim and in addition thereto will paint legibly on such posts the number of this lease</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>4. That the lessee will during the said term make construct and work all mines and do and perform all things authorised by this lease in a fair orderly, skillful and workmanlike manner</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>5. The lessee will during the said term employ and keep constantly employed not less than one man for every ten acres in mining or prospecting for all metals and minerals except gold in or upon the said land and will whenever thereunto required by the Minister furnish him with satisfactory evidence that such number of men have been and are so</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

employed, due allowance being made by the Minister for machinery or horses employed at the rate of two men for each horse or horsepower of machinery and provided that if the number of men horsepower and horses employed by the lessee on any one or more of the mineral leases held by the lessee is not less than the total number of men horsepower and horses required to be employed by the lessee on all the mineral leases held by the lessee the lessee shall be deemed to have complied with this covenant			
6. The Lessee will make such provision for the disposal of silt sludge dirt waste or refuse which may be brought out by the said mines and premises so that the same will not flow or find its way into any stream brook river or water channel or so as to injure or interfere with any land set apart for water supply purposes	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
7. That the lessee will build and keep in proper repair a sufficient and substantial stone wall or other fence around all the pits and shafts which may at any time during the said term be open in any part of the said land and premises for the purpose of this lease so as effectually to prevent all access thereto by all kinds of cattle.	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
8. That the lessee will whenever lawfully required do so at the lessee's own cost and in manner required by any regulations for the time being in force in that behalf cause to be made a survey of the said land and cause to be forwarded to the said Department of Mines a map or plan of such survey.	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
9. That the lessee will at all times during the said term keep and preserve the said mines in good order repair and condition and in such good order repair and condition at the end or other sooner determination of the said term deliver peaceable possession thereof and of the land hereby leased unto the Governor or the Minister or to some officer authorised by him or them to receive possession thereof.	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<p>10. That the lessee will permit the pastoral lessee (if any) of the said land at all times to have free access and user for domestic purposes and for the purposes of watering stock to and of any surface water on the said land which shall not have been provided or stored by artificial means by the lessee.</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>11. That the lessee will report to a Warden when gold precious stones coals shale oil gypsum or other minerals other than iron ore or iron bearing substances are found in payable quantities in or upon the said land.</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>12. The lessee will not during the continuance of the said term without the written consent of the Minister first had and obtained use or occupy or permit to be used or occupied the said land and premises other than for the purpose of exercising the rights and liberties hereinbefore granted.</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>13. The lessee will not prevent any person who holds a right privilege or authority under the said Acts and regulations or any amendment thereof from exercising the same.</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>14. It shall be lawful for the Governor or the Minister or any person authorised by him or them at all proper and reasonable times during the said term without any interruption from the lessee or the lessee's agents servants or workmen to enter into and upon the said land and into and upon any mines or works that may be found therein to view and examine the condition thereof and whether the same be worked in a proper skillful and workmanlike manner and for such purpose to make use of any of the railroad or other roads or ways machinery and work belonging to the said mines and premises and to examine and take extracts from all books accounts vouchers and documents relating thereto</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>15. If the said rent be not paid on or before the day hereinbefore appointed for payment thereof a penalty of five pounds per centum shall be added to the said rent and if the said rent and penalty not be paid within one calendar month after the said day a</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<p>further penalty of ten pounds per centum shall be added and if the said rent and penalties be not paid within one calendar month after the said first month the same shall be recoverable by the Minister by action in any court or competent jurisdiction.</p>			
<p>16. If the lessee shall during the said term commit any breach of or shall fail to comply with any covenant condition or proviso herein contained this lease shall be liable to forfeiture in manner hereinafter provided</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>17. If the Minister has reason to believe that there has been a breach of or non-compliance with any of the covenants conditions or provisos herein contained the Minister shall give written notice to the lessee specifying the covenants conditions or provisos which he has reason to believe are not being complied with and notifying the lessee that this lease will be liable to forfeiture at the expiration of one month from the date of such notice unless in the meantime such covenants condition or provisos are duly complied with and if at the expiration of such notice such covenants conditions or provisos are still not being complied with by the lessee the Governor may cancel this lease notwithstanding that the rent payable under this lease for the period during which such breach is committed may have been paid and notwithstanding any implied waiver of such breach by the Governor and the Minister shall thereupon insert a notice in the <i>Government Gazette</i> declaring this lease to be forfeited</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>18. A notice of forfeiture so published in the <i>Government Gazette</i> shall be taken to be conclusive evidence that this lease has been legally cancelled and forfeited</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<p>19. In case this lease shall become liable to forfeiture the Minister may extend the period during which the lessee may perform the covenants conditions and provisos of this lease for such time and subject during such period of extension to such terms and conditions as the Minister may think fit</p>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<b>ML6055</b>			
<b>First Schedule</b>			
1. Quarrying operations may be conducted for the recovery of iron ore from the area of the lease	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. The lessee must ensure that quarrying operations on the land are carried out in an orderly and skillful manner in accordance with a program for mining and rehabilitation of the land approved, from time to time, by the minister	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The lessee must submit to the Director, from time to time, at the Director's request, a current plan or survey of the land in the form requested by the director	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
4. The lessee shall ensure that land disturbed by quarrying operations is rehabilitated to achieve a regular landform, to minimise erosion, to establish native vegetation indigenous to the area, and return the land to a grazing after use	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>Second Schedule</b>			
1. The lessee shall ensure that as operations progress to appropriate stages, land disturbed by mining is progressively rehabilitated to facilitate regeneration of native vegetation	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. The lessee shall ensure that rare or endangered species of native flora and fauna are identified and a program implemented to ensure their survival and return to the area after operations are complete	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The lessee shall ensure that an Environmental Management Plan is prepared, generally, in accordance with the recommendations of the University of South Australia's Centre for Environmental and Recreational Management report "A Biological Study of BHP Mining Leases in the South Middleback Ranges, SA" June 1997, Clark I. The Environmental Management Plan is to be implemented to the satisfaction of the Chief	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

inspector of Mines			
4. The lessee shall ensure that all employees and contractors are made aware of the requirements to operate in a manner that will minimise environmental impact	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
5. The lessee shall consult with the landowner and shall ensure the provision of grazing rights and the protection of stock by appropriate fencing or provide other compensation as may be agreed or determined in accordance with section 61 of the Mining Act, 1971	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
6. The lessee shall ensure that waste dumps are contoured in harmony with the local topography and are constructed in a manner to prevent erosion and retain soil moisture in order to facilitate revegetation	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
7. The lessee shall ensure that upon completion of quarrying operations, all plan, equipment, materials and structures are removed from the site and the land is rehabilitated to the satisfaction of the Chief Inspector of Mines	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>MPL70</b>			
1. The development and operation of a service corridor to contain a power line and buried pipelines to transport concentrate and return water are operations ancillary to mining and may be carried out on the area of the licence	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. The licensee must ensure that activities ancillary to mining operations are carried out in an orderly and skillful manner in accordance with a program for mining and rehabilitation of the land approved, from time to time, by the minister	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that land disturbed by activity ancillary to mining is rehabilitated to achieve a safe and stable landform consistent with the surrounding environment, to minimise erosion and to re-establish native vegetation, indigenous to the area	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>Second Schedule</b>			

1. The licensee must ensure that as operations progress to appropriate stages, land disturbed by operations ancillary to mining is progressively rehabilitated to facilitate regeneration of native vegetation	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. At least two weeks prior to the commencement of operations ancillary to mining, the licensee must submit to the Minister a report detailing compliance with all the relevant regulatory approvals that apply to the proposed operations	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that all available topsoil is progressively stripped ahead of land disturbance and appropriately managed for use in the rehabilitation of land disturbed by operations ancillary to mining	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
4. The licensee must ensure that all employees and contractors on-site are fully aware of the requirement to operate in a manner that will minimise environmental impact	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
5. The licensee must abide by the provisions of the <i>Aboriginal Heritage Act, 1988</i>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>MPL72</b>			
1. The construction and operation of a waste rock dump are operations ancillary to mining and may be carried out on the area of the licence	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. The licensee must ensure that activities ancillary to mining operations are carried out in an orderly and skillful manner in accordance with a program for mining and rehabilitation of the land approved, from time to time, by the Minister	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that land disturbed by activity ancillary to mining is rehabilitated to achieve a safe and stable landform consistent with the surrounding environment, to minimise erosion and to establish native vegetation, indigenous to the area	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

<b>Second Schedule</b>			
1. The lessee must ensure that as operations progress to appropriate stages, land disturbed by mining is progressively rehabilitated to facilitate regeneration of native vegetation	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. At least two weeks prior to the commencement of construction or mining the lessee must submit to the Minister a report detailing compliance with all the relevant regulatory approvals that apply to the proposed operations	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that all available topsoil is progressively stripped ahead of land disturbance and must be temporarily stockpiled, for use in the rehabilitation of land disturbed by operations ancillary to mining	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
4. The licensee must ensure that rare or endangered species of native flora and fauna are identified and a program implemented to ensure their survival and return to the area after operations are complete	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
5. The lessee must ensure that all employees and contractors on-site are fully aware of the requirement to operate in a manner that will minimise environmental impact	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
6. The licensee must abide by the provisions of the <i>Aboriginal Heritage Act, 1988</i>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>MPL73</b>			
<b>First Schedule</b>			
1. The construction and operation of a tailings storage facility are operations ancillary to mining and may be carried out on the area of the licence	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. The licensee must ensure that activities ancillary to mining operations are carried out in an orderly and skillful manner in accordance with a program for mining and rehabilitation of the land approved, from	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

time to time, by the Minister			
3. The licensee must ensure that land disturbed by activity ancillary to mining is rehabilitated to achieve a safe and stable landform consistent with the surrounding environment, to minimise erosion and to establish native vegetation, indigenous to the area	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>Second Schedule</b>			
1. The licensee must ensure that as operations progress to appropriate stages, land disturbed by operations ancillary to mining is progressively rehabilitated to facilitate regeneration of native vegetation	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. At least two weeks prior to the commencement of operations ancillary to mining, the licensee must submit to the Minister a report detailing compliance with all the relevant regulatory approvals that apply to the proposed operations	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that all available topsoil is progressively stripped ahead of land disturbance and must be temporarily stockpiled, for use in the rehabilitation of land disturbed by operations ancillary to mining	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
4. The licensee must ensure that rare or endangered species of native flora and fauna are identified and a program implemented to ensure their survival and return to the area after operations are complete	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
5. The licensee must ensure that all employees and contractors on-site are fully aware of the requirement to operate in a manner that will minimise environmental impact	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>MPL 74</b>			
<b>First Schedule</b>			
1. The construction and operation of a tailings storage facility are operations ancillary to mining and may be carried out on the area of the licence	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions

2. The licensee must ensure that activities ancillary to mining operations are carried out in an orderly and skillful manner in accordance with a program for mining and rehabilitation of the land approved, from time to time, by the Minister	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that land disturbed by activity ancillary to mining is rehabilitated to achieve a safe and stable landform consistent with the surrounding environment, to minimise erosion and to establish native vegetation, indigenous to the area	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
<b>Second Schedule</b>			
1. The licensee must ensure that as operations progress to appropriate stages, land disturbed by operations ancillary to mining is progressively rehabilitated to facilitate regeneration of native vegetation	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
2. At least two weeks prior to the commencement of operations ancillary to mining, the licensee must submit to the Minister a report detailing compliance with all the relevant regulatory approvals that apply to the proposed operations	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
3. The licensee must ensure that all available topsoil is progressively stripped ahead of land disturbance and must be temporarily stockpiled, for use in the rehabilitation of land disturbed by operations ancillary to mining	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
4. The licensee must ensure that rare or endangered species of native flora and fauna are identified and a program implemented to ensure their survival and return to the area after operations are complete	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
5. The licensee must ensure that all employees and contractors on-site are fully aware of the requirement to operate in a manner that will minimise environmental impact	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
6. The licensee must abide by the provisions of the <i>Aboriginal Heritage Act, 1988</i>	Compliant		Implement and comply with PEPR2014/109, applicable Legislation,



## 9 RECTIFICATION OF NON-COMPLIANCES

Details of actions associated with non-compliances in 2015 for SMR is provided in Table 21.

**Table 21 Rectification of non-compliances SMR**

Tenement	Date of incident	Detected by operator	Reportable under Regulation 87?	Date initially reported to Minister	Date written report to Minister	Non-compliance	Status	Further work plan
	None							

## 10 DISTURBANCE AND REHABILITATION

Areas of disturbance, areas that have been rehabilitated in the SMR (as at 31 December 2015) and areas anticipated to be disturbed in calendar year (CY) 2016 are outlined in Table 22. Refer to figures 15 and 16 for areas disturbed during (CY) 2015.

**Table 22 Disturbance and rehabilitation SMR (2015)**

Domain	Pit name	Clearance during 2015		Proposed next twelve months	
		Disturbed (ha)	Rehabilitated (ha)	Disturbed (ha)	Rehabilitated (ha)
Pit	Chieftain C	6.6		32.81	
Pit	Chieftain D	15.96			
Pit	Chieftain E	18.28		2.9	
WRD	Chieftain	7.7	4.99	22.6	2
WRD	Duke/Magnet	0.77	12.54		12
Misc.	Duchess	0.05			
WRD	Knight				3.5
<b>Total</b>		<b>49.36</b>	<b>17.44</b>	<b>58.81</b>	<b>17.5</b>

Arrium Mining's Significant Environmental Benefit (SEB) credit ledger is provided in Table 23.

**Table 23 Arrium Mining Significant Environmental Benefit (SEB) credit ledger including PEPR 2014/109 (WPC-108)**

Arrium Mining SEB credit ledger						
Description	Reference:	Area disturbed (ha)	Date	Offset Ratio	SEB area (ha)	Credit (ha)
Whyalla Conservation Park			2003			972
Ironstone Hill Conservation Park (Shirrocoe)			2007			19900
<b>Total SEB Credit</b>						<b>20872</b>
SMR Project Magnet	SMR MARP 2007	356.65	2007	various	3188.64	17683.36
Transhipment Pad & Spurline	NVC2007/3063/010 07WLB06139	0.9	2007	10:1	9	17674.36
BOS slag dumps	NVC 07WLB07865	10	2007	4:1	40	17634.36
Rail passing loops	NVC2008/3164/850	1.275	2008	various	5.95	17628.41
N-SMR (Chieftain-Knight)	N-SMR MARP 2010	335.7	2010	various	2641.08	14987.33
Iron Baron OBP	Iron Baron Construction MARP (Jan) 2011	17	2011	8:1	136	14851.33
NE WRD Ext	SMR MARP 2007 Addendum 2011	56	2011	10:1	560	14291.33
SE WRD Ext	SMR MARP 2007 Addendum 2011	132	2011	10:1	1320	12971.33
Iron Baron OBP (Update)	Iron Baron Construction MARP 2011 (update)	8.48	2011	various	32.12	12939.21
Iron Baron OBP surplus (credit)	WPC-056 approved 30ha for construction, (17+ 8.48 = 25.48 used = 4.52 remaining)	4.52	2011	8:1	36.16	12903.05
SMR Access Road realignment	PIRSA Notification 2011	6	2011	10:1	60	12843.05
SMR Workshop Extension	Letter to PIRSA re MPL 34 activity 16/7/10	5	2011	10:1	50	12793.05
N-SMR (Chieftain-Knight) update	WPC-081 SMR minor mine adjustments_PIRSA_7-10-11	35.29	2011	various	286.52	12506.53
IBMA WRD's	IBMA PEPR WPC-059 (Eucalyptus Oleosa)	36	2011	8:1	288	12218.53

Description	Reference:	Area disturbed (ha)	Date	Offset Ratio	SEB area (ha)	Credit (ha)
IBMA WRD's	IBMA PEPR WPC-059 (Casuarina pauper)	1.4	2011	6:1	8.4	12210.13
IBMA Ext to Little Baron pit	IBMA PEPR WPC-059	0.2	2011	4:1	0.08	12210.05
IBMA LGO temp out of spec	IBMA PEPR WPC-059	2.3	2011	2:1	4.6	12205.45
IBMA surplus (credit)	IBMA PEPR WPC-059	10.9	2011	8:1	87.2	12118.25
Iron Chieftain Go-Line adjustment	MI134_Iron Chieftain Go-Line_VCCA	0.28	2011	2:1	0.56	12117.69
IBMA surplus (credit)	IBMA PEPR WPC-083 (credit reduced from 059)	-0.9	2012	8:1	-7.2	12124.89
IBMA Out of spec LGO stockpile	IBMA PEPR WPC-083	6.4	2012	2:1	12.8	12112.09
Reclamation of LGO dumps PC and IBDU07	IBMA PEPR WPC-083	6	2012	2:1	12	12100.09
IBMA boundary fence	IBMA PEPR WPC-083	2.4	2012	8:1	19.2	12080.89
IBMA WRD's	IBMA PEPR WPC-083 (Eucalyptus Oleosa) Increase to WPC-059 line 19; $36+13.9=49.9$	13.9	2012	8:1	111.2	11969.69
Whyalla Steelworks Ports project rail construction	NVC 12NRM0198	2.2	2012	4:1	8.8	11960.89
Whyalla Steelworks Ports project rail construction	NVC 12NRM0298	8.8	2012	4:1	35.2	11925.69
Iron Baron OBP surplus (credit)	Ref; line 15, (4.52ha credit minus 1.74, Lucas workshops ref MI165 = 2.78 ha remaining)	0	2012	8:1	0	11925.69
Iron Princess ground water monitoring wells	IKMA PEPR WPC-084	1	2012	8:1	8	11917.69
Whyalla Steelworks Ports project rail construction	NVC 12NRM0875	7.2	2012	4:1	28.8	11888.89
Iron Knob Phase 1	IKMA PEPR WPC-088	75.1	2013	various	515.5	11373.39
Iron Knob Phase 2 tenements proposal	IKMA Proposal WPC-102	258.67	2013	various	1969.66	9403.73

Description	Reference:	Area disturbed (ha)	Date	Offset Ratio	SEB area (ha)	Credit (ha)
NE WRD reconciled credit	SMR MARP 2007 Addendum 2011	-2.2	2014	10:1	-22	9425.73
SE WRD reconciled credit	SMR MARP 2007 Addendum 2011	-18.4	2014	10:1	-184	9609.73
SMR Project Magnet	SMR MARP 2007	-5.29	2014	Various	-47.3	9657.03
N-SMR (Chieftain-Knight)	N-SMR MARP 2010	-32.36	2014	Various	-254.6	9911.63
SMR PEPR 2014	WPC-108; Iron Chieftain Domain	128	2014	various	1039.4	8872.23
SMR PEPR 2014	WPC-108; Iron Knight Domain	61.8	2014	10:1	618	8254.23
SMR PEPR 2014	WPC-108; SMR Domain	28	2014	10:1	280	7974.23
SMR PEPR 2014	WPC-108; TSF's Sub Domain	58.4	2014	10:1	584	7390.23
IBMA Ph2 PEPR 2015	WPC-106; IBMA PEPR Ph2	77.5	2015	Various	467	6923.23
<b>Totals</b>		<b>1696.115</b>			<b>13948.77</b>	<b>6923.23</b>

## **11 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT REPORTING**

No tenements in the SMR mining area are subject to a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, therefore no report has been provided to demonstrate compliance with this legislation.

## 12 AUDITS AND REVIEWS

Arrium Mining was subject to a surveillance audit in 2015 as part of its ISO AS/NZS 14001 certification program (certificate number C10317) with SAI Global (2015). The purpose of the audit was to determine continuing compliance of our organisation's management system with the audit criteria; and its effectiveness in achieving continual improvement and system objectives.

The audit found that the systems remain effective across the Mine sites and long standing issues related to community concerns have improved notably over the past few years. The management of the EMS is performing well with successful efforts in reviewing documentation, completing audits and closing outstanding actions within a timely manner.

The surveillance audit undertaken in September 2015 included site visits to SMR. No non-conformances to the ISO14001 Standard were raised during the audit by SAI Global. Lower level Areas of Concern (AOC) and Opportunities are assigned corrective actions and placed in the Arrium Mining issues management system for tracking and close-out. No findings were made that identified a threat to Arrium Mining's ability to meet the approved environmental outcomes.

## 13 VERIFICATION OF UNCERTAINTIES

Assumptions of uncertainties related to SMR operations in 2015 are provided in Table 24.

**Table 24** Uncertainties in relation to compliance for SMR in 2015

Description of assumption of uncertainty	Estimated date to resolve	Progress in reporting period	Confirmed	Forward work plan
Complaints of dust impacts to a neighbouring property	Ongoing	Improvements made to the fixed plant dust suppression systems and improvement to system control, monitoring, reporting and maintenance.	No evidence of impact to neighbouring properties found to date. Number of complainants reduced from two to one in 2015	Continuous observation, assessment and improvement of dust control systems and procedures.
Seepage from TSF	2019	Extensive investigation and implementation of changes to TSF design and management		Continue to implement five year TSF management plan
A SMR PEPR 2014-109 approval condition is the requirement to provide a detailed rehabilitation plan for SMR for DSD approval by the end of the 2016 calendar year.  Final design specifications for waste rock dump landforms and the strategies for progressively achieving final landform outcomes	December 2016	Draft report prepared to describe detailed rehabilitation profiles and methodologies to be considered for the final design specifications.  Methodologies are being trialled during rehabilitation works to establish the achievement of sound post completion landform stability.	Outcome to be confirmed	Update closure risk assessment.  Provide environmental information on post closure liabilities to support management and planning for rehabilitation and closure including but not limited to: <ul style="list-style-type: none"> <li>post completion landform stability (erosion and geotechnical)</li> <li>analysis of geochemical risk (if any) associated with tailings, waste rock and exposed rock faces</li> <li>hydrogeological processes.</li> </ul> Review closure

				and completion outcomes, measurement criteria and strategies.
Storage of water in Iron Duchess Pit	June 2015	<p>Ground water monitoring wells drilled March 2015.</p> <p>Review of Iron Duchess hydrogeology and relationship with in-pit water storage assessment report finalised.</p> <p>Outcome and measurement criteria updated and submitted.</p>	<p>Complete.</p> <p>PEPR2014/109 (doc WPC 108 Rev 3 submitted June 2015</p>	<p>Monitor ground water levels in the Iron Duchess ground water monitoring wells.</p>

## 14 TECHNICAL REPORTS

A summary of technical data, studies and reports relevant to the SMR that were generated during the reporting period 1 January – 31 December 2015 are listed in Table 25.

**Table 25 SMR technical data, studies and reports – 2015**

Report	Author
MI228_Iron Duke Groundwater Chemistry Review	Cardno
MI230_Iron Duke Annual Review of Groundwater Interception System	Golder Associates
MI237(a)_Mines Vegetation Dust Impact Inspection Report (May 2015)	Arrium Mining
MI237(b)_Mines Vegetation Dust Impact Inspection Report (August 2015)	Arrium Mining
MI 237(c)_Mines Vegetation Dust Impact Inspection Report (November 2015)	Arrium Mining
MI249_Flora Monitoring_Arrium Whyalla Mines (February 2016)	Larry Bebbington Habitat & Land Management Consultant
MI256_Mag TSF Report from September 2015 Site Visit	Coffey September
MI259_Mag TSF Geotechnical Investigation Report	Golder Associates

## 15 FORWARD WORK PLAN

The forward work plan associated with the 2015 reporting year is provided in Table 26.

**Table 26 Forward Work Plan for SMR – 2015**

Action number	Action description	Responsible department	Proposed completion date	Compliance report reference
S-SMR 2015-01	<p>Actions implemented in response to dust complaints:</p> <p>Improvements to dust suppression system maintenance and reliability</p>	Minerals processing	Ongoing	Section 5
S-SMR 2015-02	Continue to implement five year TSF management plan	<p>Arrium Mining Operations.</p> <p>Arrium Mining Technology Development</p> <p>Arrium Environment</p> <p>Arrium Mining Environmental Assurance</p>	2018	Section 13
S-SMR 2015-03	<p>Update closure risk assessment.</p> <p>Provide environmental information on post closure liabilities to support management and planning for rehabilitation and closure including but not limited to:</p> <p>post completion landform stability (erosion and geotechnical)</p> <p>analysis of geochemical risk (if any) associated with tailings, waste rock and exposed rock</p>	<p>Arrium Mining Resource Development</p> <p>Arrium Mining Operations</p> <p>Arrium Mining Environmental Assurance</p>	December 2016	Sec 13

	faces hydrogeological processes.  Review closure and completion outcomes, measurement criteria and strategies			
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## 16 REFERENCES

OneSteel Manufacturing Pty Ltd, 2011, PEPR2011/019, *South Middleback Ranges, Consolidated Mining and Rehabilitation Program 2007* (Doc.Ref: 06-0066-03-2102691A), OneSteel Manufacturing Pty Ltd, Whyalla, South Australia.

Arrium Mining 2011, *Program for Environmental Protection and Rehabilitation North – Southern Middleback Ranges (PEPR2010/00014)*.

Arrium Mining 2012a, *Arrium Mining Whyalla Pest Plant and Animal Control Strategy, QP50.62*, unpublished company procedure

Arrium Mining 2012b, *Arrium Mining Soil Management Plan, QP50.66*, unpublished company plan

Arrium Mining 2012c, *Arrium Mining Exploration Access Guidelines, QP50.58*, unpublished company procedure

Arrium Mining, 2015a, *S-SMR2014 Compliance Report, April 2015* (Doc. Ref: WPC-153), Arrium Mining, Whyalla, South Australia.

Arrium Mining, 2015b, *N-SMR2014 Compliance Report, April 2015* (Doc. Ref: WPC-152), Arrium Mining, Whyalla, South Australia.

Arrium Mining, 2015c, *SMR, Consolidated, Program for Environment Protection and Rehabilitation (PEPR2014/019), June 2015* (Doc. Ref: WPC-108, Revision 3), South Australia

Arrium Mining, 2015d, *Vegetation Dust Impact Inspection Report MI237a: Middleback Ranges Mines (May 2015)*, unpublished company report, Whyalla, South Australia

Arrium Mining, 2015e, *Vegetation Dust Impact Inspection Report MI237b: Middleback Ranges Mines (August 2015)*, unpublished company report, Whyalla, South Australia

Arrium Mining, 2015f, *Vegetation Dust Impact Inspection Report MI237c: Middleback Ranges Mines (November 2015)*, unpublished company report, Whyalla, South Australia

Department of State Development 2014, Ministerial Determination (MD 009) under Regulation 86(1), (3), (4) and (7) of the Mining Regulations 2011 (effective from 6<sup>th</sup> September 2012) determining the reporting periods and minimum information required to be provided in a Compliance Report for a Mineral Lease (ML)

Cardno, 2015, *Iron Duke Groundwater Chemistry Review (MI228)* unpublished company report, Whyalla, South Australia

Golder Associates, 2015, *Iron Duke Annual Review of Groundwater Interception System (MI230)* unpublished company report, Whyalla, South Australia

Coffey, 2015, *Mag TSF Report from September 2015 Site Visit (MI256)* unpublished company report, Whyalla, South Australia

Golder Associates, 2015, *Mag TSF Geotechnical Investigation Report (MI259)* unpublished company report, Whyalla, South Australia

Bebbington L, 2016, *Flora Monitoring: Arrium Whyalla Middleback Range Mines – February 2016 (M1249)*, unpublished report prepared for Arrium Mining, Whyalla, South Australia