

# ARRIUM MINING

NORTH - SOUTHERN MIDDLEBACK RANGE

2014 COMPLIANCE REPORT



N-SMR Mining Area

2014 Compliance Report

24 April 2015

Doc.Ref: WPC-152 (Rev 0)

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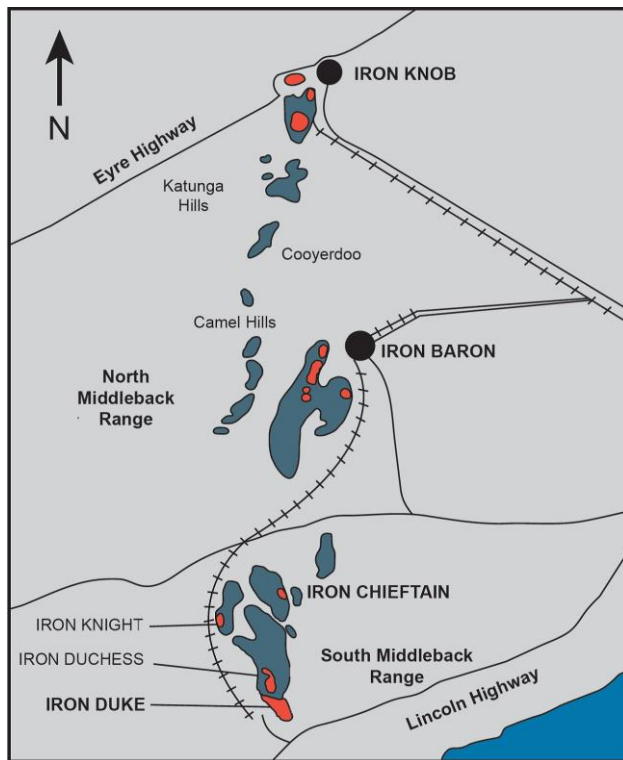


## EXECUTIVE SUMMARY

This annual compliance report covers the reporting period 1 January 2014 to 31 December 2014 for activity approved under PEPR ADP2010/014 within the mining area known as the North - Southern Middleback Ranges (N-SMR).

Operations within the N-SMR in 2014 included hematite mining in the Iron Chieftain and Iron Knight pits along with crushing, screening and train loading on the Iron Knight rail loading pad.

A continued focus on reducing dust emissions from the Iron Knight crushing, screening and train loading pad occurred throughout 2014.



After upgrading the Knight 1 crusher circuit in 2013, improved spray systems were installed on the Knight 2 crusher circuit. The upgraded spray systems deliver atomised droplets combined with dust suppressant chemicals that result in reduced dust emissions from the circuits and a residual dust mitigation effect during subsequent product stockpiling and train loading.

Following an episodic flood event in February 2014, the Iron Chieftain haul road silt traps have been upgraded to withhold greater stormwater and silt capacity.

ML 6441 at Iron Chieftain was granted to Arrium Mining by DSD on 4 December 2014.

PEPR 2014/109 was approved on 19 December 2014. PEPR 2014/109 combines the N-SMR and the S-SMR, into an area now known as the SMR. The approval enabled the continuation of mining in all 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 being within 11 days of the end of the reporting period, all reporting in this report are against PEPR2010/014 outcomes and measurement criteria.

The intense exploration/resource definition drilling program for areas on the eastern side of the SMR, north and south of the current Iron Chieftain pits, continued throughout 2014. Some exploration/resource definition drilling also occurred at Iron Knight.

## 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 lease (ML), miscellaneous purpose license (MPL), extractive mineral lease (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>Ore reserves and mine life</b>	Section 2.1
New delineation or exploration drilling activities on or off the lease (if required)	Section 2.2, <b>Error! Reference source not found.</b>
Review of reserves (if required)	Section 2.1
Other potential sources of ore (e.g. from nearby mines) (if required)	N/A
<b>Overburden, Ore and Concentrate</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 of manufacturing, innovation, trade, resources and energy (DMITRE)	Section 4
<b>7. Complaints</b>	
Summary table of complaints made by members of the public during the reporting period	Section 5

Section	Included or N/A
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> <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>	Section 6.2
<b>10. Closure</b>	Section 0
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><i>date of the incident</i></li> <li><i>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</i></li> <li><i>what environmental outcome or lease condition was breached</i></li> <li><i>if and how the noncompliance was, or is planned, to be rectified</i></li> <li><i>what measures, if any, will be taken to prevent recurrence.</i></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
Information on areas disturbed and current rehabilitation status	
The amount of land disturbed	
Vegetation cleared	

Section	Included or N/A
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> </ul>	
<ul style="list-style-type: none"> <li>who undertook the audit or review</li> </ul>	
<ul style="list-style-type: none"> <li>what aspect(s) of the management system was/were audited/reviewed</li> </ul>	
<ul style="list-style-type: none"> <li>what issues, or recommendations for improvement, were noted</li> </ul>	
<ul style="list-style-type: none"> <li>an assessment of the potential for any issues identified in the audit/review to lead to a noncompliance with approved environmental outcomes</li> </ul>	
<ul style="list-style-type: none"> <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 table	
<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	
<b>19. Ministerial Determination Checklist</b>	Included here
This checklist	

## Document Status

Rev No	Author	Responsible Manager
		Name
0	Geoffrey Mills Environment Assurance Manager Whyalla Mines	Craig Wilson – Mine Manager
		Matthew Reed – General Manager Operations
		Don Gartsky – Acting Manager Development
		Chris Smyth – National Manager Environment



This document has been prepared with the assistance of LBW Environmental Projects Pty Ltd, commissioned by Arrium Mining.

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## Abbreviations and Definitions

Abbreviation	Definition
ANE	Ammonium Nitrate Emulsion
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
EML	Extractive Mineral Lease
EMS	Environmental Management System
FDR	fugitive dust ranking
GIS	Geographic Information System
GVM	gross vehicle mass
IBMA	Iron Baron Mining Area
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
MARCR	Mining and Rehabilitation Compliance Report
MARP	Mining and Rehabilitation Program
MBA	Middleback Alliance
ML	Mineral Lease
MPL	Miscellaneous Purpose Licence
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
ROM	run of mine
SEB	significant environmental benefit
SE WRD	south-east waste rock dump
SMR	South Middleback Range
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 metres
CY	calendar year
ha	hectares
/hr	per hour
kL	kilolitre
kWh	kilowatt hour
m <sup>2</sup>	square metres
m <sup>3</sup>	cubic metre
MBCM	bank cubic meters (millions)
mm	millimeter
Mt	million tonne
L	litre
t	tonne
um	micrometer
/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	North Southern Middleback Range (N-SMR)		PEPR#	PEPR2010/0014
	Iron Chieftain and Iron Knight		Date Approved	15 October 2010
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			
Approval documents	ADP2010/00014			
	<ul style="list-style-type: none"><li>WPC-051 (Rev 2)</li></ul>			
	Chieftain pit optimization and WRD design MCN			
	<ul style="list-style-type: none"><li>WPC-129</li></ul>			
	Chieftain Supplementary Tenements Proposal			
Ministerial Determination	<ul style="list-style-type: none"><li>WPC-123</li></ul>			
	PEPR 2014/109			
	<ul style="list-style-type: none"><li>WPC-108</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 <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) 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 2014	To	31 December 2014
Report preparation date	24 April 2015			

## 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
Matthew Reed	General Manager Operations		24 April 2015
<b>Agency Agreement</b>			
Not applicable			

## 1.3 Tenements

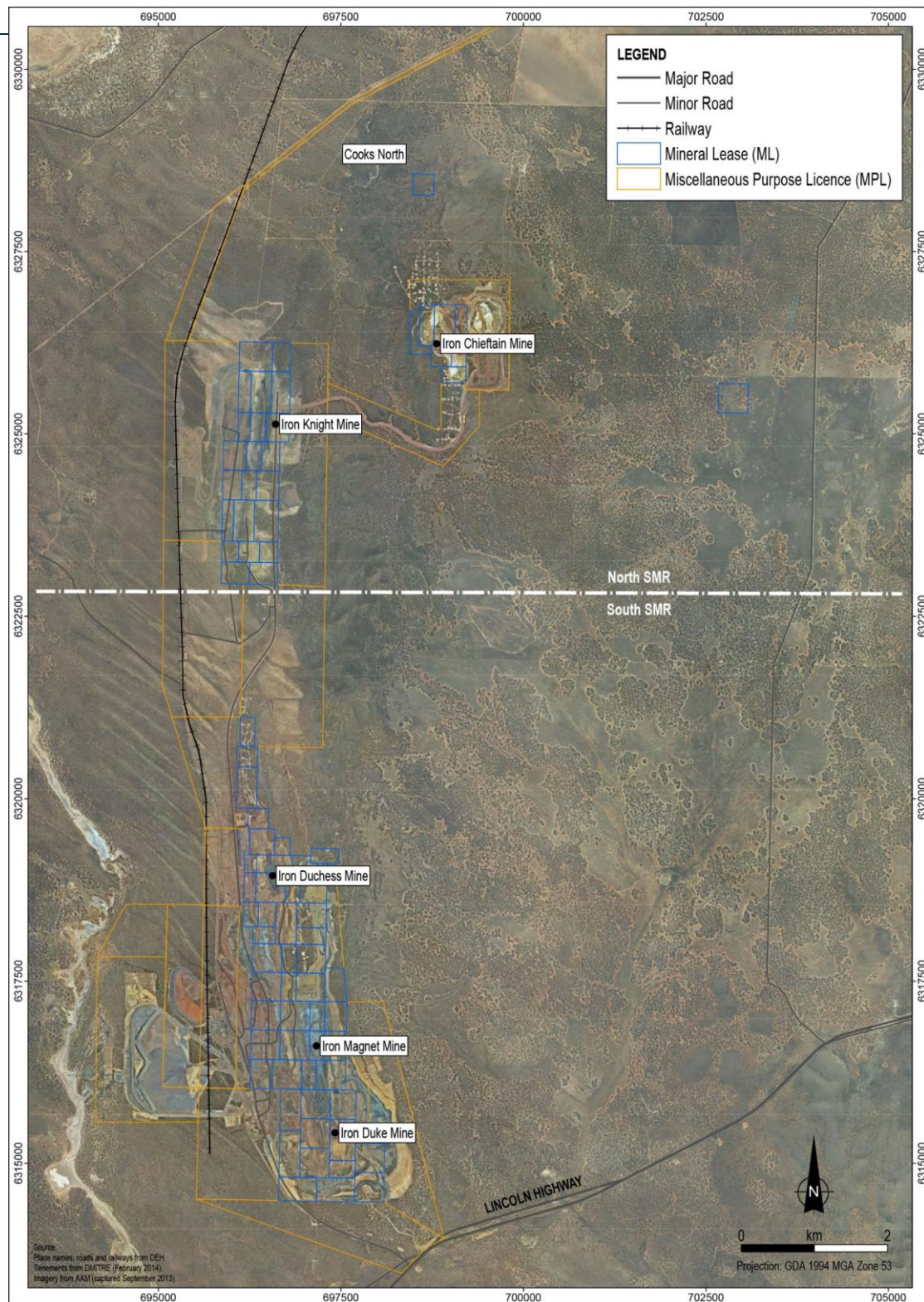
Details of existing tenements in the N-SMR are provided in Table 1. Figure 1 shows the general location of the N-SMR pits and mining tenements in the context of the Southern Middleback Range (SMR). Figure 2 and Figure 3 show the Mineral Leases (MLs) and Miscellaneous Purpose Licences (MPLs) for Iron Chieftain and Iron Knight.

**Table 1 N-SMR mining tenements**

Tenement	Tenement number	Approval date	Expiry date	Forward work plan
Miscellaneous Purposes Licences (MPL)				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	51	15 October 2012	14 October 2033	
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	
Mineral Leases (ML) – Iron Knight				
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	
ML	4740	12 July 1979	11 July 2029	

Tenement	Tenement number	Approval date	Expiry date	Forward work plan
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	
Mineral Leases (ML) – Iron Chieftain				
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	



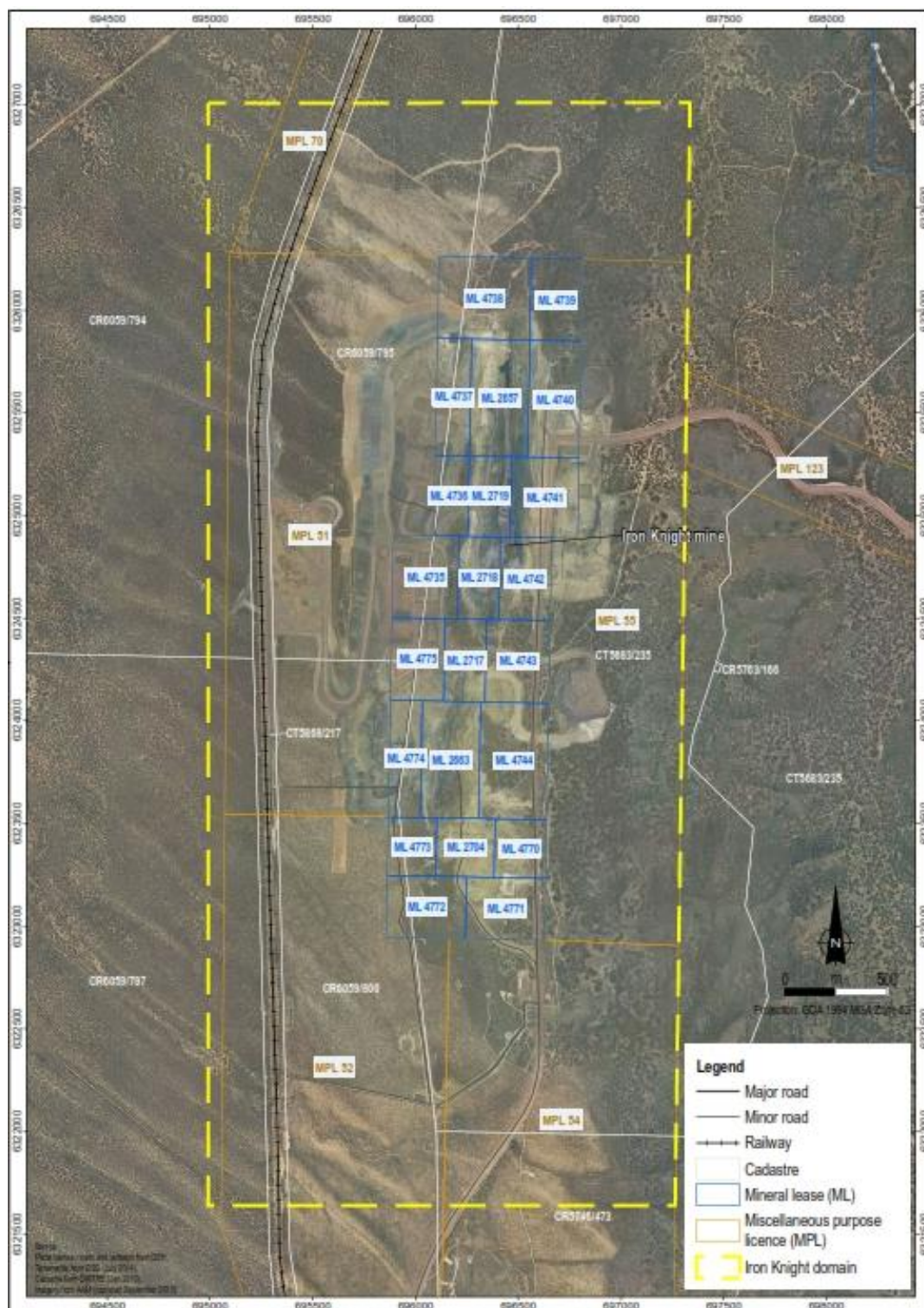


**Figure 1 SMR Mining area**





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



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

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

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



**Table 2 Agreement and licences – N-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 2014 are provided in Table 3 and Table 4.

#### 2.1.1 Iron Chieftain Resource

Table 3 shows the current known reserve (updated in 2014 to the JORC 2004 code) and resource in the Iron Chieftain area.

**Table 3 Iron Chieftain total resource and reserve, ending June 2014 (Fe>47%)**

Ore reserves	Mass (Mt)	Mineral resources	Mass (Mt)	Estimated mine life Years
Proved	-	Measured	-	
Probable	9.5	Indicated	23.5	3
		Inferred	10.9	(until early 2018)
<b>Total</b>	<b>9.5</b>		<b>34.4</b>	

#### 2.1.2 Iron Knight

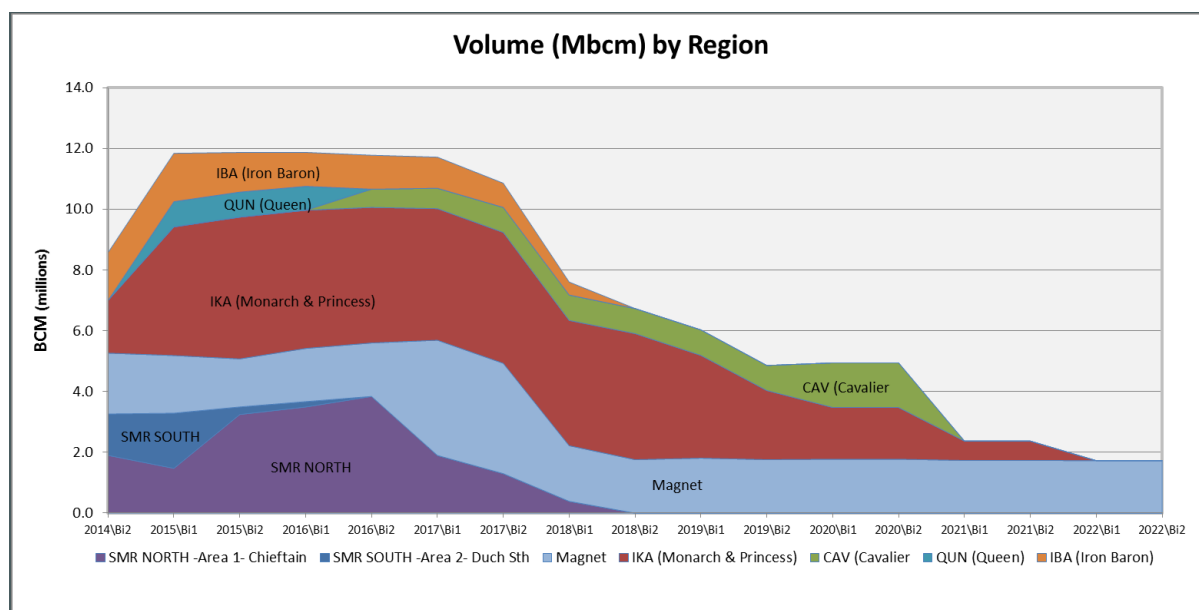
Table 4 shows the current known reserve (updated in 2014 to the JORC 2004 code) and resource in the Iron Knight area.

**Table 4 Iron Knight North total resource and reserve, ending June 2014 (Fe >47%)**

Ore reserves	Mass (Mt)	Mineral resources	Mass (Mt)	Estimated mine life Years
Proved	1.3	Measured	4.1	
Probable	0.1	Indicated	1.6	<1
		Inferred	0.5	(until early 2015)
<b>Total</b>	<b>1.4</b>		<b>6.2</b>	

#### 2.1.3 Production rate and products

The N-SMR (SMR NORTH – Area 1) contribution to the Middleback Ranges operations is described in the life of mine (LOM) graphical representation of the material movements, as shown in Figure 4.



**Figure 4** Current LOM material movements by region

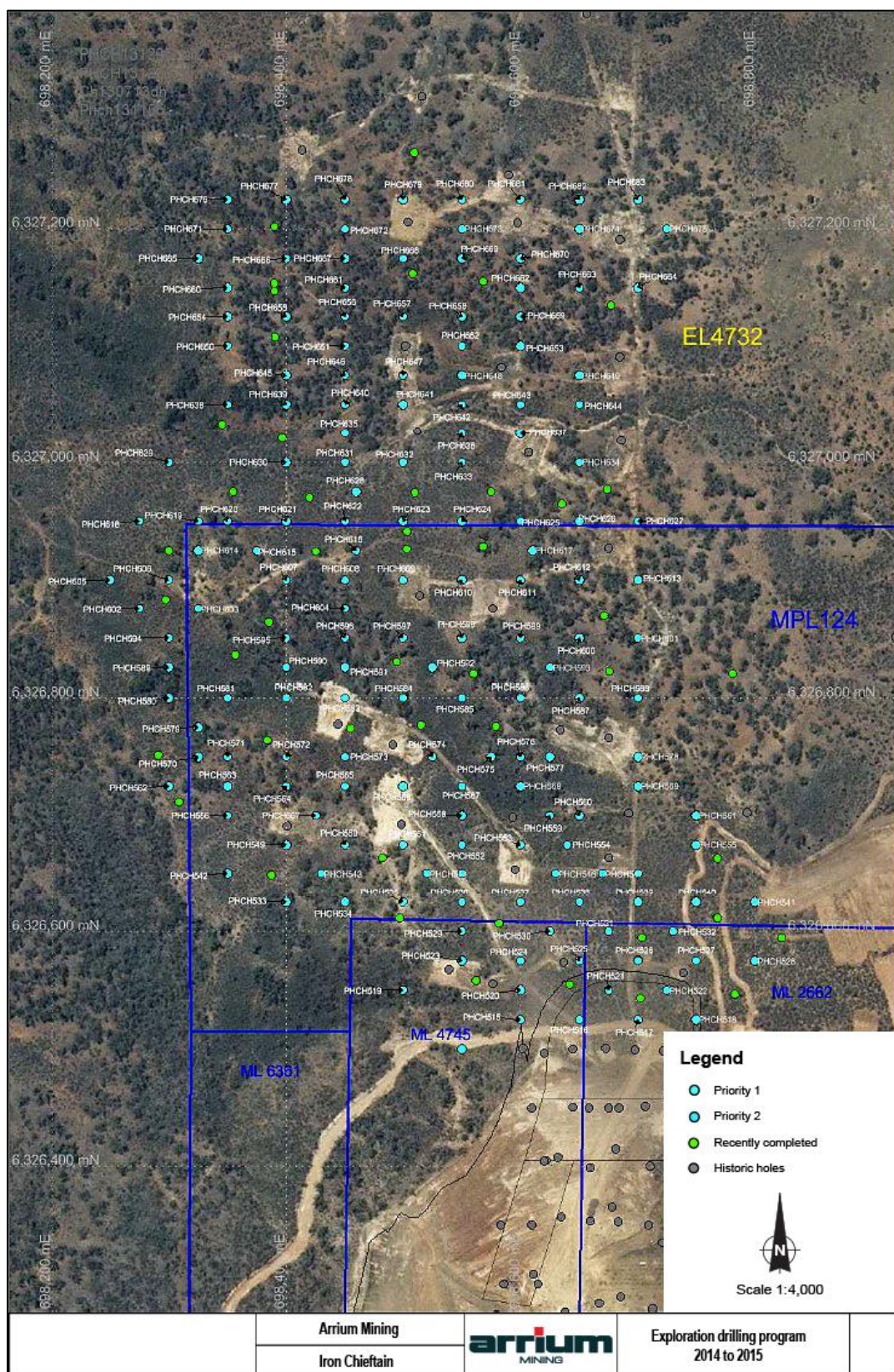
## 2.2 Exploration

A general overview of exploration and delineation drilling within tenements during 2014 and extending through to 2015 is provided in Table 5 and Figure 5.

**Table 5** Summary of exploration drilling at N-SMR

Summary of current northern drilling program		Tenement ID	Holes drilled	Metres drilled
Iron Chieftain	Infill reverse circulation (RC) drilling undertaken to further define mineralisation beyond the current mining pit	EL4732	87	11175
		ML2662	3	224
		ML4745	3	418
Cooks North	Wide spaced RC drilling program was completed to define the geometry of outcropping ore identified by previous mapping field work. Further drilling is required to confirm the geometry and volume of the ore body	EL4732	10	934
Homestead	Follow up RC drilling along the eastern slopes of Cooks Range to test a geophysical anomaly	EL4732	26	2530
Iron Knight	A predominately infill drill program to test the continuity of ore between the Knight and Duchess pits	EL4732	7	866
		ML4772	2	314
		ML4773	3	330
		Total	168	16,791





**Figure 5 Chieftain North exploration drilling program (2014 to 2015)**

## 2.3 Ore Mining

Production quantities in bank cubic metres (BCM) are presented in Table 6 and Table 7 for the CY14 reporting period.

**Table 6 Production summary in BCMs for the Iron Chieftain (Fe<sub>≥</sub>55%)**

	Ore volume (BCM)	Waste volume (BCM)	Total volume (BCM)
Stage a	762,787	1,782,034	2,811,259
Stage b	29,977	728,002	804,590
Stage c	7,215	52,070	73,055
Stage d	0	0	0
Stage e	0	0	0
<b>Total</b>	<b>799,979</b>	<b>2,562,106</b>	<b>28,987,904</b>

**Table 7 Production summary in BCM for the Iron Knight (Fe<sub>≥</sub>55%)**

	Ore (BCM)	Waste (BCM)	Total (BCM)
	73,353	1,482,994	1,556,347

The volumes of ore mined, and ore to be mined, in the N-SMR is provided in Table 8. Ore stockpile volumes as at December 2014 is provided in Table 9.

**Table 8 Ore mining in the N-SMR**

Ore mined Mine life (t)	Reporting period Ore mined (t)	Next reporting period Ore to be mined (t)	End of reporting period Current ore stockpile
2011 486,892	3,118,690	996,743	See Table 9
2012 870,473			
2013 1,356,805			
2014 3,118,690			
<b>Total 5,832,860</b>			
Reason(s) for variations from previous report			

**Table 9 Iron Knight ROM stockpiles as at December 2014**

Whyalla blended ore	Low grade ore
65,597	93,721

## 2.4 Overburden / Waste

Volumes of overburden for the N-SMR are provided in Table 10.

**Table 10 Overburden mined in the N-SMR**

Overburden mined Mine life (BCM)		Reporting period Overburden mined (BCM)	Next reporting period Overburden to be mined (BCM)
2011	1,589,626	4,078,994	3,306,784
2012	3,839,564		
2013	4,579,678		
2014	4,078,994		
<b>Total</b>	<b>14,087,862</b>		
Reasons for variation from previous report			

## 2.5 Ore Processing

Volumes of ore processing undertaken in the N-SMR are provided in Table 11.

**Table 11 Ore processing in the N-SMR**

Ore processed Mine life (t)	Reporting period Ore processed (t)	Next reporting period Ore to be processed (t)
5,832,860	4,325,625	996,743

## 2.6 Concentrate

No concentrate is generated in the N-SMR (see Table 12).

**Table 12 Concentrate exports from the N-SMR**

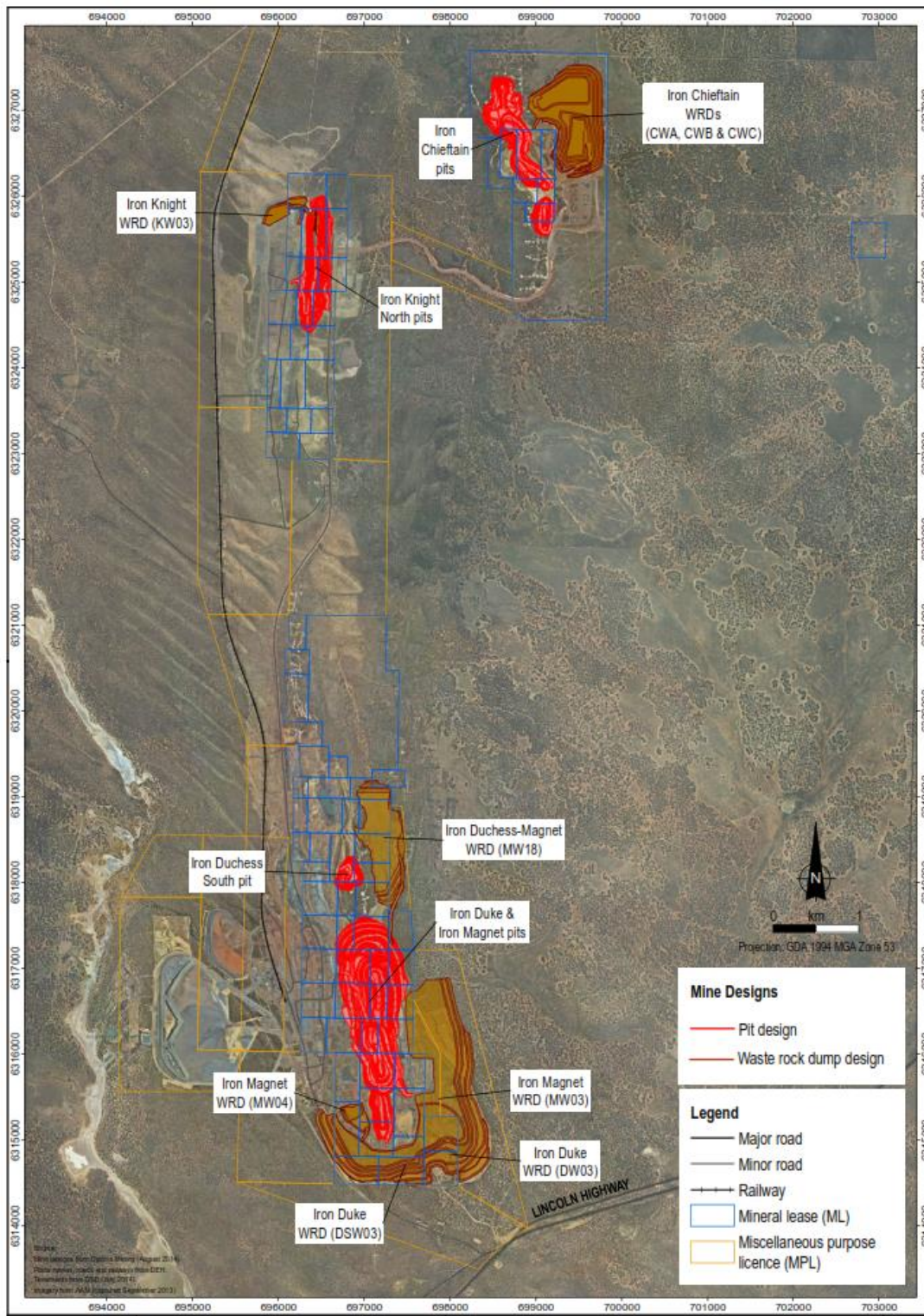
Concentrate exported Mine life	Reporting period Concentrate exported	Next reporting period Concentrate to be exported	End of reporting period Concentrate stockpiles
Not applicable Direct shipping ore (DSO)	Not applicable Direct shipping ore (DSO)	Not applicable Direct shipping ore (DSO)	Not applicable Direct shipping ore (DSO)



## 3 VOLUNTARY INFORMATION

### 3.1 Project Footprint on ML

Figure 6 shows the N-SMR current configuration (active pits and WRDs).



**Figure 6 N-SMR current configuration**

## 3.2 Mining Inventory

Equipment types currently in use across Arrium Mining's N-SMR operations are provided in Table 13, Table 14 and Table 15.

**Table 13 SMR equipment - Haul truck types**

Type	No.	Make	Model	Capacity (t)	Gross vehicle mass (GVM) (t)
Haul truck	21	Caterpillar	785	136	250
	7	Komatsu	HD785	91	166
	1	Cat	769	36	71

Source: Arrium Mining 2014

**Table 14 SMR equipment - Excavators**

Type	No.	Make	Model	Weight (t)
Excavator	2	Hitachi	EX2600	254
	1	Hitachi	EX2500	248
	1	Hitachi	EX1900	192

Source: Arrium Mining 2014

**Table 15 SMR equipment - Ancillary equipment**

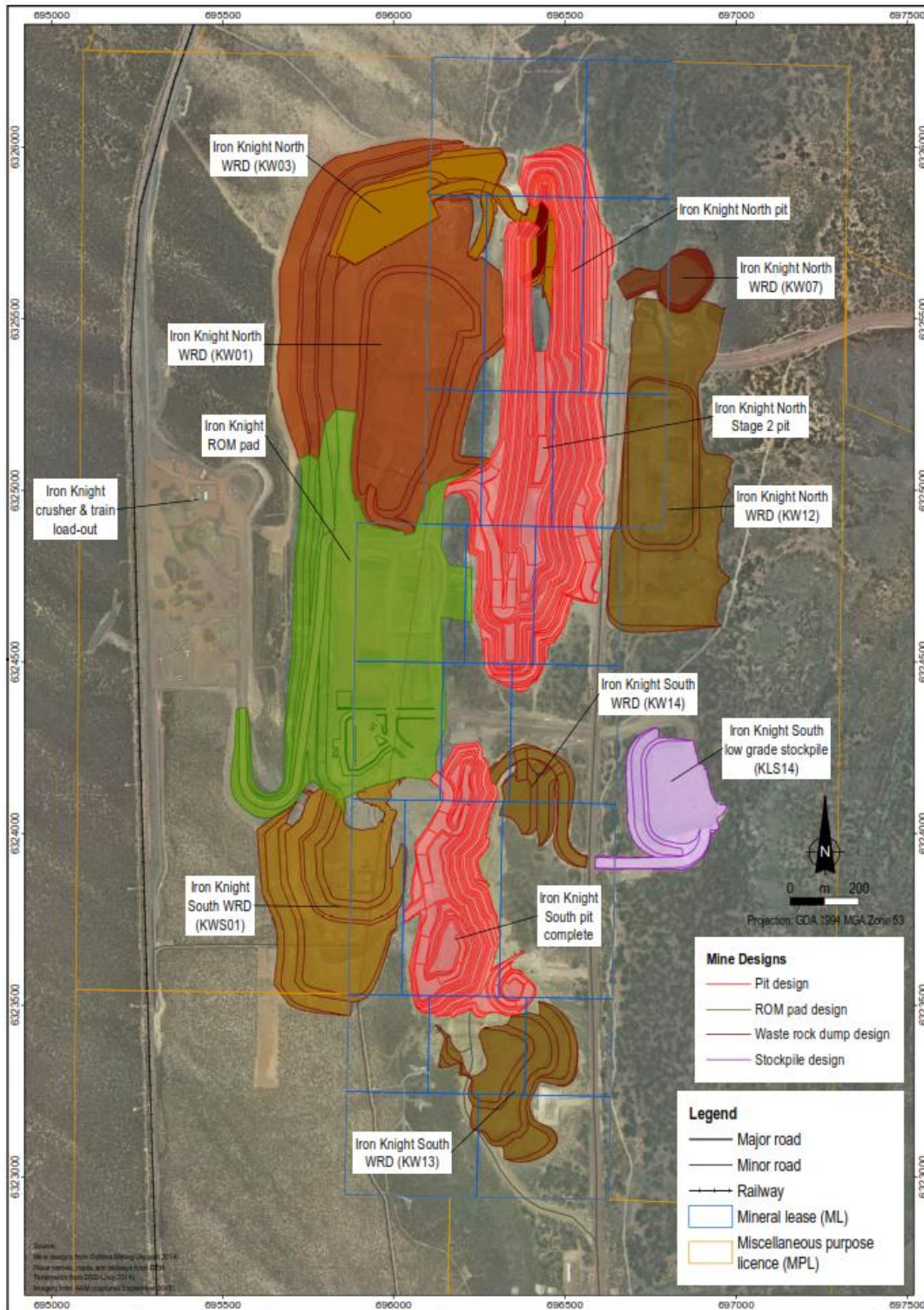
Type	No.	Make	Model
Track Dozer	3	Komatsu	D375
	4	Caterpillar	D9
Grader	3	Caterpillar	16M
Drill	2	Cubex/Sandvik	QXR1120/DR580
	1	Atlas Copco	D65
Wheel Loader	7	Komatsu	WA900
	1	Komatsu	WA600
Water Cart	3	Komatsu	HD785 (80,000 L)
	1	Komatsu	HD405 (40,000 L)

Source: Arrium Mining 2014

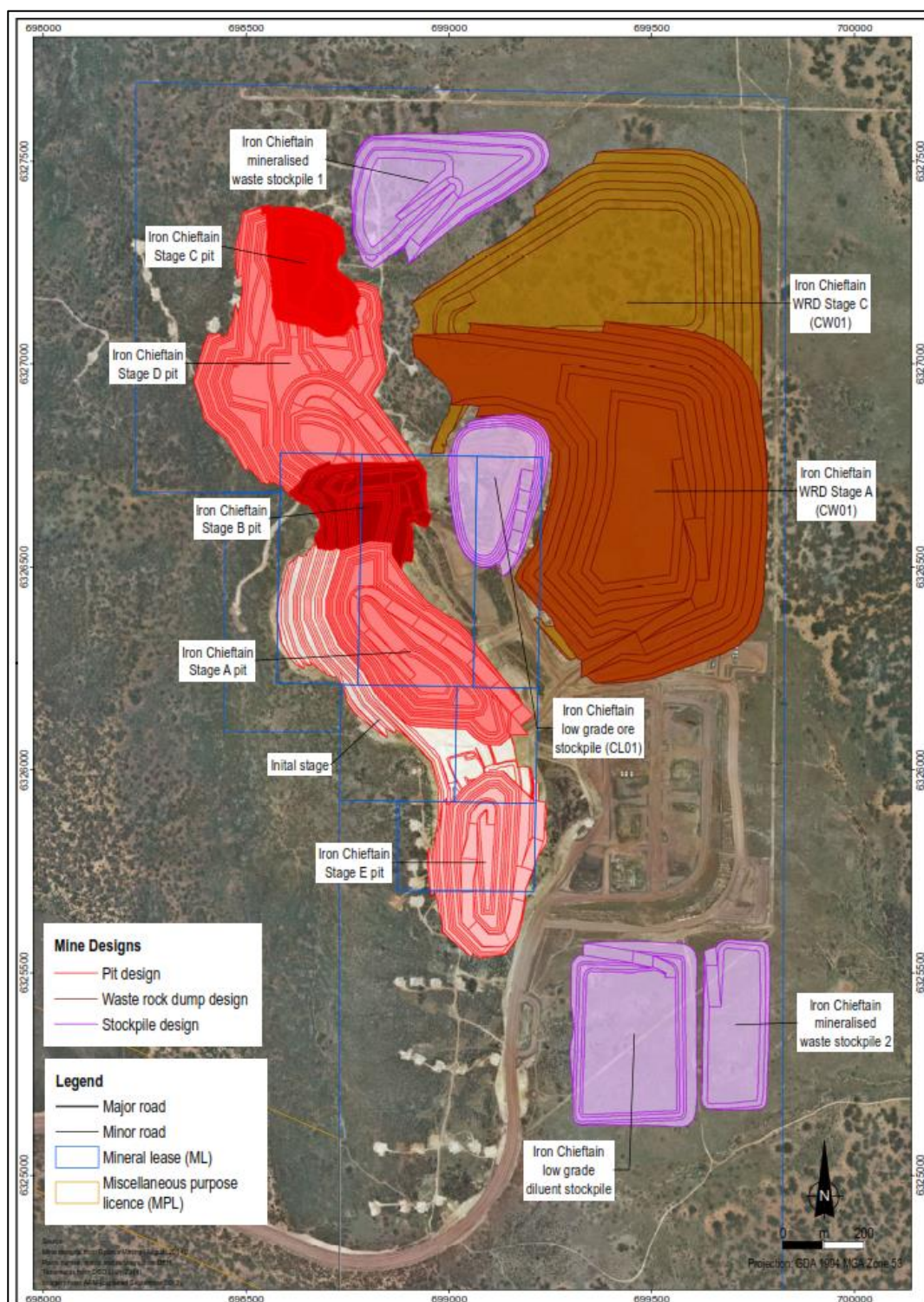


### 3.3 Open pit dimensions (final pit shell)

The final concept for site layout for each pit in the N-SMR is shown in Figure 7 and Figure 8.



**Figure 7 Iron Knight final site layout (planned)**



**Figure 8 Iron Chieftain final site layout (planned)**



### **3.4 Processing method**

#### **3.4.1 Processing plant**

Crushing and screening of ore from the N-SMR is conducted at the Iron Knight crushing and screening and train loading pad.

#### **3.4.2 ROM pad/s**

The Iron Knight ROM pad is used for storage and blending of ore products from the N-SMR.

#### **3.4.3 Crushing and screening**

Crushing and screening facilities are in place to produce lump and fines product which are then loaded onto rail wagons at the Iron Knight siding by front-end loaders.

#### **3.4.4 Product transport**

The crushed DSO material is loaded into trains and transported from the Iron Knight siding 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.

### **3.5 Operating Hours**

#### **3.5.1 Modes and hours of operation**

The N-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**

No tailings are stored or managed within the N-SMR.

#### **3.6.2 Waste Rock Storage**

WRDs are designed and managed in accordance with the strategy set out in PEPR ADP2010/00014.

### 3.7 Electrical consumption and power source

Recent power usage draws for the N-SMR operations, which occurs through a main feed line for Iron Knight (feeding crushing and screening operations and ancillary power for the Knight and Chieftain operations) is summarised in Table 16.

**Table 16 Measured power usage for SMR operations for Financial Year 2014**

Month/Year	Iron Knight feed line (kWh)	Comments (where applicable)
July 2013	134,468	
August 2013	191,413	
September 2013	189,423	
October 2013	245,884	Second crusher commissioned at Iron Knight
November 2013	247,774	
December 2013	248,649	
January 2014	284,662	
February 2014	256,345	
March 2014	328,326	
April 2014	288,656	
May 2014	297,713	
June 2014	345,472	

### 3.8 Water Usage

#### 3.8.1 Water supply infrastructure and use

SA Water supplied 3.2 GL of potable water in FY14 for mining and processing at all MBR mines.

A lot of effort and infrastructure has been put in place to recover as much process water as possible. Recovered water is reused for ore processing or dust suppression.

The majority of dust suppression water is supplied from recycled process water or groundwater which is extracted from the pits or adjacent to the Magnet Tailings Storage Facility (Mag TSF).

### 3.9 Accommodation

There are no camp facilities in the N-SMR. Accommodation is predominately provided by the city of Whyalla and the township of Cowell.

### 3.10 Environmental Research Information

Arrium Mining is sponsoring 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 will become available in late 2014, or on completion.

### **3.11 Community and Wider Environment Support Activities**

#### **3.11.1 Community sponsorship and support**

Arrium Mining and its employees support regional and local activities by providing education and sponsorships through to charity fundraising events, all of which require personal commitment and the dedication of individuals.

Arrium Mining's Community Support Program continues to assist 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.

Examples of some of the ongoing programs to 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
- the Whyalla Hockey Association's Hockey in Schools program
- Whyalla Christmas Appeal
- Fishy Fringe festival
- D'faces of Youth Arts
- the Whyalla Tennis Association's Hot Shots program
- Phoenix Society Whyalla branch
- Whyalla Science & Engineering Challenge
- SciWorld
- Junk to Funk Youth Scholarship.



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

Arrium Mining is the major supporter of Foodbank's new School Breakfast Program which launched in Whyalla in late 2014.

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.

## **3.12 Community Engagement Activities**

### **3.12.1 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
- dust forums with interested residents in Whyalla.

### **3.12.2 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.

### **3.12.3 Middleback Alliance**

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

The Middleback Alliance is directed by three major landholders in the region (Ecological Horizons, Natural Resources Eyre Peninsula (DEWNR) and Arrium Mining).

By sharing resources and cooperatively delivering a works program across land boundaries, the Middleback Alliance delivers improved and sustainable land management outcomes. Achievements for 2014 include:

- removal of 1654 feral goats regionally including 480 from the Middleback Ranges area

- baiting (feral animal control)
- continued monitoring (trapping and micro-chipping) of nationally threatened Sandhill Dunnarts
- survey and monitoring of active mallee fowl nests
- other works included pest plant and animal control and erosion mitigation on 'Uplands' and The Ironstone Conservation Park.

## 4 PROJECT VARIATIONS

Variations to the N-SMR operations in 2014 are provided in Table 17.

**Table 17 Description of changes to N-SMR mining operations**

Description of change to mining operation	Date project variation submitted to DMITRE or other Regulatory Agency	Document reference number	Date regulatory authority endorsement received	Forward work plan
Iron Chieftain pit extension and WRD design changes	7 March 2014	WPC-129	20 June 14	Implement pit and WRD design changes described in WPC-129
Planned application for supplementary tenements to extend Iron Chieftain pit beyond current tenement boundaries	Supplementary Tenements Application (submitted 20 June 2014)	WPC-123 (Rev 1)	Assessment currently in progress	Submit tenement proposal and obtain offer of new tenements supplementary to existing tenements in Iron Chieftain  Include proposed tenements and associated activities in the consolidated SMR PEPR planned for submission in September 2014
Inclusion of N-SMR operations into the consolidated SMR PEPR	18 December 2014	WPC-108 (PEPR 2014/109)	19 December 2014	Operate mining operations in accordance with PEPR 2014/109

## 5 COMPLAINTS

A single complaint was received in relation to N-SMR mining operations during the reporting period, see Table 18.

**Table 18 Complaints register - N-SMR (1 January to 31 December 2014)**

Complaint reference	Complaint type	Was the complaint a result of a PEPR non-compliance?	Resolution date	Forward work plan
14/22	Dust	N	14 September 2014	Continued focus on dust control strategies

## 6 COMPLIANCE

### 6.1 Compliance summary

A summary of compliance items is provided in Table 19.

**Table 19 Compliance summary - N-SMR (1 January to 31 December 2014)**

Licence/Permit/Tenement	Type of non-compliance	Brief description	Status	Section of report for further detail
PEPR2010/0014	PEPR Outcome	Red Hematite dust washed into offsite drainage channels following episodic rainfall event	Rectified	See details provided in Section 6.2 and the Forward Work Plan 2015 Summary, Section 15



## 6.2 Compliance with Outcomes

An overview of compliance against outcomes and associated measurement criteria for N-SMR is provided in Table 20.

**Table 20 Compliance with Environmental Outcomes**

Outcome	Lease condition number	Outcome measurement criteria (OMC)	OMC compliance status	Leading indicator	Leading indicator status	Leading indicator actions summary	Evidence	Forward work plan
No unauthorised clearance of native vegetation	ML6361: Condition #5	Total area cleared is not to exceed the area of the approved clearance footprint.	Compliant	Any vegetation clearance outside of the approved footprint	Compliant		Geographic Information Systems (GIS) area calculations against the Oct 2014 orthorectified aerial image plus clearance register data from Oct 2014 to 19 December 2014 showed that clearance within the approval area = 324.29 ha compared to 335.7ha approved for clearance leaving 11.41 ha of approved clearance area uncleared (see Figure 9)	N/A
Ongoing feral animal control (Threat abatement)	ML6361: Condition #6	Demonstration of participation in Alliance of landowner's maintenance of feral animal control programs.	Compliant				Arrium Mining continues to participate in regional feral animal control through the Middleback Alliance of Land Managers (MBA). MBA control programs include fox and cat baiting, rabbit warren ripping and goat mustering and destruction.	
No new incursions of declared weed species, nor increase in abundance	ML6361: Condition #6 MPL123:	Records show that the draft pest plant and animal strategy is complete and	Compliant	A single incursion of a declared weed species	Compliant		The Pest Plant and Animal Control Strategy (QP50_62) has been	

Outcome	Lease condition number	Outcome measurement criteria (OMC)	OMC compliance status	Leading indicator	Leading indicator status	Leading indicator actions summary	Evidence	Forward work plan
of existing weed species	Condition #3	implemented					<p>implemented and exists on the quality controlled Arrium Mining intranet website</p> <p>Weed audits identified Onion Weed limited to the Knight rail access road and Knight stand pipe. Saffron Thistle present in drainage lines adjacent to the Chieftain and Knight ROM pad. Horehound restricted to near Iron Chieftain. Control measures have been implemented, none are declared noxious and all were present prior to mining operations. Prickly Pear planted by early pastoral settlers to the district have been controlled near Iron Chieftain.</p>	
Adequate topsoil stripped during construction stockpiled and maintained until required for remediation	ML6361: Condition #7	Topsoil and grubbed material managed as per PEPR2010/0014	Compliant				Topsoil and grubbed material has been stripped and stored to comply with N-SMR PEPR 2010/0014 and in accordance with Arrium Mining Topsoil Management Plan (QP50_66)	
No significant impacts on fauna living near the mining operations	ML6361: Condition #4	No more than six road traffic related deaths of any one species in a calendar year	Compliant	More than three road traffic related deaths of any one species in a six month period	Compliant		Four incidents of vehicles colliding with kangaroos within the N-SMR site were recorded within the 12 month reporting period	

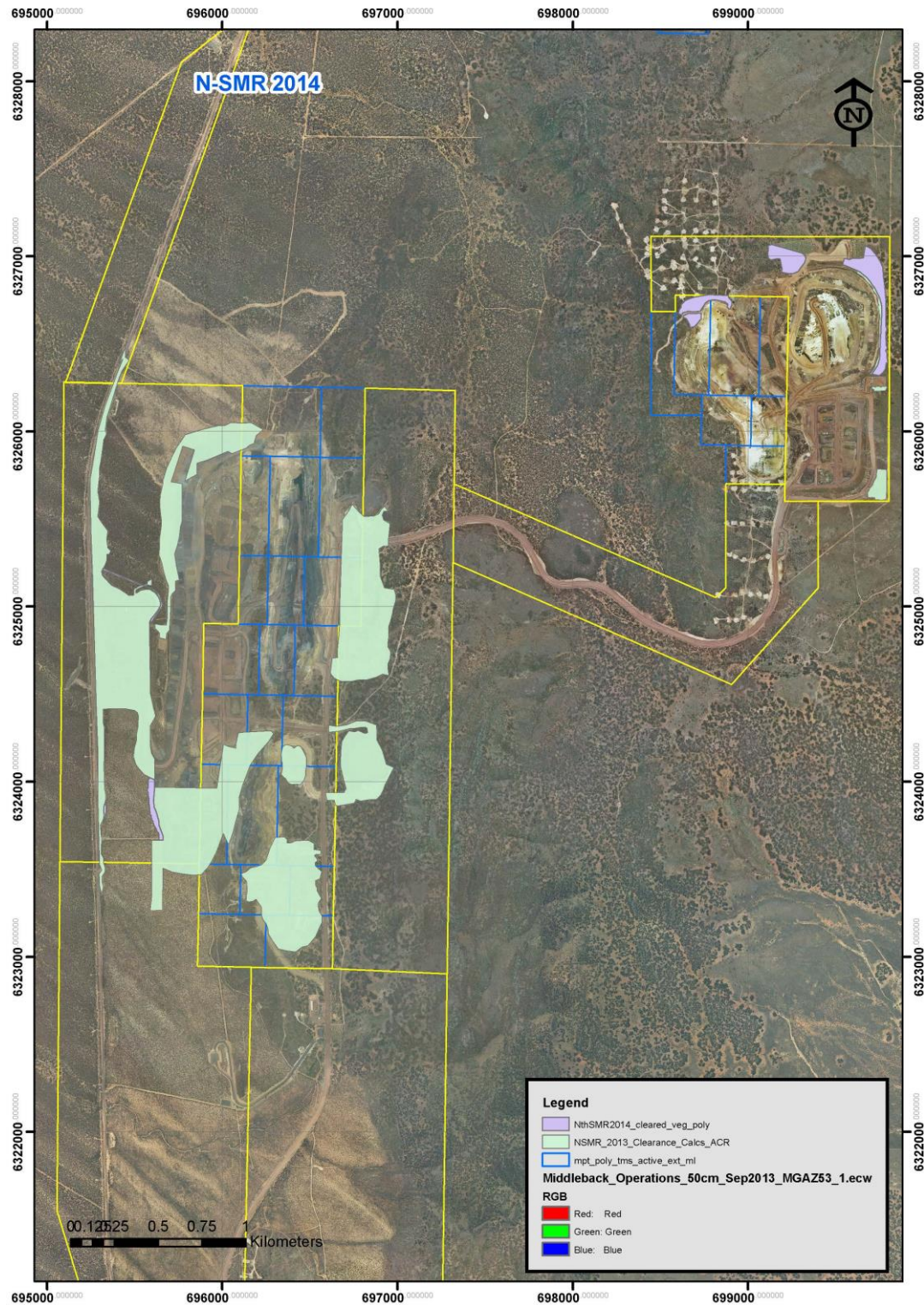
Outcome	Lease condition number	Outcome measurement criteria (OMC)	OMC compliance status	Leading indicator	Leading indicator status	Leading indicator actions summary	Evidence	Forward work plan
No contamination or erosion of natural drainage channels	ML6361: Condition #5	No visual iron ore siltation beyond ML and MPL boundaries  No operational induced gully erosion exceeding 300mm deep or 2m in length  Inspection record maintained of silt traps, culverts and drainage channels	Not compliant	Iron ore siltation evident >50m downstream of rail lines, haul roads or hard stand pads.  Gully erosion 200mm deep or 1m in length greater than the natural gully erosion that existed prior to the development	Not compliant		in CY 2014.  Following an extremely heavy rainfall event, some Chieftain Haul Road silt traps were overloaded and failed, resulting in visible silt in drainage channels in excess of 50m from the haul road and outside of operational areas.	Continue to monitor and maintain silt traps.
No interruptions to natural drainage channels	ML6361: Condition #8	Blocked drains reported, corrective action identified and allocated. Blockage cleared within 7 days  Demonstration that the flow of water in natural drainage channels has not been blocked more than once in a calendar year and any blockage is cleared within 7 days	Compliant	If a drain blocks more than once in a calendar year, investigate the cause, report and implement corrective actions	Compliant		Inspection records demonstrated that no culverts have been blocked in the 2014 calendar year	
No adverse effect to groundwater	ML6361: Condition #8	All fuel and oil is to be stored in accordance with EPA bunding guidelines  HWE PM1602-10 Oil Management and Spill Response Arrium Mining QP 29_06 Incident Reporting	Compliant	A non-compliant incident report	Compliant		Audit reports demonstrate that all fuel and oil is stored in compliance to EPA bunding guidelines	

Outcome	Lease condition number	Outcome measurement criteria (OMC)	OMC compliance status	Leading indicator	Leading indicator status	Leading indicator actions summary	Evidence	Forward work plan
Final mound profiles that are similar to natural topographic features	ML6361: Condition #1	WRD developed and remediated in accordance with PEPR2010/00014 Proposed Chieftain WRD Development and Rehabilitation Plan  Final remediation of WRD in accordance with PEPR2010/00014 Chieftain Development and Rehabilitation Plan not more than two years after second lift has been completed	Compliant	Remediation not progressing in accordance with PEPR2010/00014	Triggered	Minor change notifications submitted and approved	To date 28.01 ha of the Iron Knight WRDs and 2.4 Ha of the Iron Chieftain WRD have been rehabilitated in accordance with PEPR2010/00014 by remediating the slope angle to 20 degrees. placing top soil on the remediated slope and mixing the top soil with surface rock and implementing erosion control by utilizing the 'seed boxing' technique	Continue to rehabilitate WRD slope faces as they become available
Provide soil cover to remediated WRD slopes sufficient to allow regeneration by local native flora	ML6361: Condition #7	WRD developed and remediated as per PEPR2010/00014 Proposed Chieftain WRD Development and Rehabilitation Plan  Final remediation of WRD as per PEPR2010/00014 Chieftain Development and Rehabilitation Plan not more than 2 years after final lift has been completed  Land Function Analysis (LFA) to show a trend of improvement over a 10 year period after final remediation is completed  Final (10 year) remediation report to be submitted to	Compliant	No vegetation cover two years after completion of remediation work	Not applicable at this stage		Iron Chieftain and Iron Knight WRD have been developed and remediated as per PEPR 2010/0014, and minor change notification <ul style="list-style-type: none"> <li>WPC-104 (Rev 0) May 2013</li> </ul> Top soil placed on the remediated slope and mixed with surface rock by utilizing the 'seed boxing' technique to control erosion  Baseline LFA and second round data has been collected on the remediated WRD areas.	

Outcome	Lease condition number	Outcome measurement criteria (OMC)	OMC compliance status	Leading indicator	Leading indicator status	Leading indicator actions summary	Evidence	Forward work plan
		DSD Include analysis results in annual report						
No dust related vegetation deaths 100 m or more from mining operations boundaries	ML6361: Condition #5	Progressive photo-point records of the condition of flora communities within 100m of mine operations boundaries, at the start of operations, and at six monthly intervals to record vegetation density and deaths if any occur  Dust deposition gauge data – compare to established baselines	Compliant	An individual plant death or partial dieback on individual trees within 100 m of mining operations boundaries	Compliant	NA	Following reporting multiple deaths in 2013 of plant species <i>Phebalium bullatum</i> which may have been attributed to dust deposition from the Iron Knight crushing and screening operations, no further decline of this species have been observed in 2014.  Refer: MI204_Mines Vegetation Dust Impact Inspection, MI225(a)_SMR Vegetation Dust Impact Inspection and MI229_2014 Dec Flora Monitoring Report.	
Any complaints from the general public, or neighbouring landholders due to dust emissions directed to Arrium Mining, are investigated, responsibly managed and responded to		Complaints and concerns responded to within one calendar week  Track the number of dust related complaints through monthly Arrium Mining reports	Compliant	More than two complaints from of dust emissions from neighbours in any six-month period	Compliant		One dust related complaint received in relation to N-SMR operations which was responded to within one calendar week.  Dust related complaints received in relation to SMR operations are detailed in S-SMR 2014 Compliance Report (Doc. Ref: WPC153)	



Outcome	Lease condition number	Outcome measurement criteria (OMC)	OMC compliance status	Leading indicator	Leading indicator status	Leading indicator actions summary	Evidence	Forward work plan
Collect, store, recycle and dispose of all wastes in an approved manner  No breaches of EPA waste policies and applicable guidelines	ML6361: Condition #10	Records show that all wastes have been disposed of in the approved manner (WTF's WTC's, tracking data, cart notes etc.)	Compliant	One incident report of inappropriate waste disposal in a month	Compliant		General and recycle wastes are removed from site by a licensed contractor. WTF for listed waste are subject to Regulatory compliance audits, as per schedule	
No public injuries or death resulting from unauthorised entry to the site	ML6361: Condition #2  MPL123: Condition #1	Number of incidences of unauthorised access, signage not being in place, access gates left unlocked, locks or fences being willfully damaged	Compliant	Any incident	Compliant		No incidents of un-authorised access to the N-SMR were recorded in 2014	
No disturbance to Aboriginal or European artefacts or sites of significance is to occur unless prior regulatory approval is obtained	ML6361: Condition #3  MPL123: Condition #2	Number of incidences of unauthorised disturbance to Aboriginal or European artefacts or sites	Compliant	Any Incident	Compliant		No incidents of disturbance of sites were recorded within the reporting period	



**Figure 9 Vegetation clearance in the N-SMR to September 2014**

## 7 CLOSURE

Activities associated with rehabilitation in the N-SMR during 2014 is summarised in Table 21. See Section 10 for information on planned rehabilitation in other closure domains.

**Table 21 Rehabilitation and environmental activities in the N-SMR - 2014**

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)					
KW01	1.2	28.01	Nil	Nil			Final mound profiles that are similar to natural topographic features	Final remediation of WRD as per PEPR2010/00014 not more than two years after second lift has been completed	Rehabilitation of closed WRD sections has progressed during 2014  Slopes have been pushed down to 20 degree slope angles applied with topsoil and seeded with local native species to encourage swift regeneration of the slopes  Baseline and second round LFA data has been collected		Continue to rehabilitate WRD sections as they become available and monitor response of rehabilitated areas
CW01			14.06	2.44							

## 8 NON-OUTCOME BASED LEASE CONDITIONS

A review of compliance against non-outcome based lease conditions for N-SMR is provided in Table 22.

**Table 22 Compliance against non-outcome based lease conditions for N-SMR - 2014**

Lease condition	Compliance status	Evidence	Forward work plan
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	Letter issued by PIRSA (NOW DSD) on 15 October 2010 (Ref: MO6331.01-V05; C2010/01263 0003221/EL) stating that the program for N-SMR, Version WPC-051 Rev 2 as submitted 15 October 2010 has been approved as Mining and Rehabilitation Program No. ADP2010/00014 in accordance with Regulation 42(b)(1) under the <i>Mining Act 1971</i>	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	Letter issued by PIRSA (NOW DSD) on 15 October 2010 (Ref: MO6331.01-V05; C2010/01263 0003221/EL) stating that the program for N-SMR, Version WPC-051 Rev 2 as submitted 15 October 2010 has been approved as Mining and Rehabilitation Program No. ADP2010/00014 in accordance with Regulation 42(b)(1) under the <i>Mining Act 1971</i>	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> </ul>	Compliant	Environmental outcomes and measurement criteria are specified in Section 7 approved PEPR2010/0014  Closure outcomes and measurement criteria are specified in Section 8 of approved PEPR2010/0014	Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions



Lease condition	Compliance status	Evidence	Forward work plan
<ul style="list-style-type: none"> <li>Specifying the locations that the parameters will be measured or how these locations will be determined</li> <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>			
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	Compliant	Compliance with Direction from Chief Inspector of Mines to amend approved MARP No. ADP2010/00014 within six months of the date of PIRSA approval letter (Ref: MO6331.01-V05; C2010/01263 0003221/EL)	Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
The Lessee agrees to the approved MARP being made available for public inspection	Compliant		Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions
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	Compliant	See Section 5 of 2007 SMR MARP (Doc. Ref: 06-0066-04-2102691A) which demonstrates Arrium Mining capability and competence to comply with all requirements, licence conditions and the approved PEPR EPA Sustainability Licence #13109	Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions  Maintain and implement ISO14001 Environmental Management System  Maintain commitment to: <ul style="list-style-type: none"> <li>maintaining and improving environmental compliance</li> <li>Environmental sustainability</li> <li>Respectful relationships with the</li> </ul>



Lease condition	Compliance status	Evidence	Forward work plan
			EPA, local community and other stakeholders
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	Compliant	Submission of Compliance Reports: <ul style="list-style-type: none"> <li>N-SMR 2014 Compliance Report (Doc Ref: WPC-152)</li> <li>N-SMR 2013 Compliance Report (Doc Ref: WPC-136)</li> <li>N-SMR 2012 Mining and Rehabilitation Compliance Report (MARCR) (Doc. Ref: WPC-116, Rev 0)</li> </ul> Annual compliance reports submitted in accordance with: <ul style="list-style-type: none"> <li>PEPR2010/00014</li> <li>Minerals Regulatory Guidelines MG3</li> </ul>	
The Lessee must if requested by the Director of 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	Compliant	No request received by the Minister	
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	Not relevant	This phase of operations is yet to commence	
The Lessee must prior to commencing operations under this Lease and for the duration of the lease maintain public liability insurance to	Compliant	Public liability insurance maintained to a value stipulated by the Director of Mines not less than \$20 million	

Lease condition	Compliance status	Evidence	Forward work plan
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			
A copy of the cover note of certificate of currency for the insurance must be provided to the Director of Mines upon request	Compliant	Certificate of Currency can be made available upon request	
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	Not relevant	No such request has been received from the Director of Mines to date	Comply with any request from the Director of Mines to 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
In specifying the level of insurance required, the Director of Mines accepts no liability for the 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	Unable to determine compliance		
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	Single PEPR non-compliance reported 9/9/14	Verbally report any non-compliance with Licence Conditions to the Director of Mines within 24 hours of becoming aware of the non-compliance  Provide a written report to the Director of Mines of any non-compliance with Licence Conditions

Lease condition	Compliance status	Evidence	Forward work plan
			within 3 days of becoming aware of the non-compliance
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	Not relevant	The Minister has made no request for independent quotes for rehabilitation costs to date	Implement and comply with PEPR2014/109, applicable Legislation, Regulations and Licence Conditions or any request from the Director of Mines to obtain written quotes from an independent third party specifying the cost of rehabilitating the site
The Lessee must meet all the charges and costs in obtaining and maintaining the Bond	Compliant		

## 9 RECTIFICATION OF NON-COMPLIANCE

Details of actions associated with non-compliances in 2014 for N-SMR is provided in Table 23.

**Table 23 Rectification of non-compliances N-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
MPL 123	February 2014	August 2014	Reported	9 September 2014	9 September 2014	Red Hematite dust washed into offsite drainage channels following episodic rainfall event	Rectified Action #: N-SMR 2014-02	Continue to monitor and maintain silt traps

## 10 DISTURBANCE AND REHABILITATION

Areas of disturbance, areas that have been rehabilitated in the N-SMR (as at 31 December 2014) and areas anticipated to be disturbed in calendar year (CY) 2015 are outlined in Table 24. See Figure 9 for a map showing vegetation clearance areas.

**Table 24 Disturbance and rehabilitation N-SMR (2014)**

Domain	Pit name	Clearance 1 January to 31 December 2014		Proposed next twelve months	
		Disturbed (ha)	Rehabilitated (ha)	Disturbed (ha)	Rehabilitated (ha)
CW01	Iron Chieftain	1.84	2.44		
KNN Northern Extn	Iron Knight	0.64			
Chieftain B pit	Iron Chieftain	2.45			
CW01 Eastern Extn	Iron Chieftain	12.22			
Chieftain A pit	Iron Chieftain	0.54			
<b>Total</b>		<b>17.69</b>	<b>2.44</b>		

Arrium Mining's Significant Environmental Benefit (SEB) credit ledger to December 2014 is provided in Table 25.



**Table 25 Arrium Mining Significant Environmental Benefit (SEB) credit ledger to December 2014**

Arrium Mining – Middleback Ranges 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			19,900
<b>TOTAL SEB CREDIT</b>						<b>20,872</b>
SMR Project Magnet	SMR MARP 2007	356.65	2007	various	3,188.64	17,683.36
Trans-shipment pad and spurline	NVC2007/3063/010 07WLB06139	0.9	2007	10:1	9	17,674.36
BOS slag dumps	NVC 07WLB07865	10	2007	4:1	40	17,634.36
Rail passing loops	NVC2008/3164/850	1.275	2008	various	5.95	17,628.41
N-SMR (Chieftain–Knight)	N-SMR MARP 2010	335.7	2010	various	2,641.08	14,987.33
Iron Baron ore beneficiation plant (OBP)	Iron Baron Construction MARP (Jan) 2011	17	2011	8:1	136	14,851.33
NE WRD extension	SMR MARP 2007 Addendum 2011	56	2011	10:1	560	14,291.33
SE WRD extension	SMR MARP 2007 Addendum 2011	132	2011	10:1	1320	12,971.33
Iron Baron OBP (update)	Iron Baron Construction MARP 2011 (update)	8.48	2011	various	32.12	12,939.21
Iron Baron OBP surplus (credit)	WPC-056 approved 30 ha for construction, (17+ 8.48 = 25.48 used = 4.52 remaining)	4.52	2011	8:1	36.16	12,903.05
SMR access road realignment	PIRSA Notification 2011	6	2011	10:1	60	12,843.05
SMR workshop extension	Letter to PIRSA re MPL 34 activity 16/7/10	5	2011	10:1	50	12,793.05
N-SMR (Chieftain–Knight) update	WPC-081 SMR minor mine adjustments_PIRSA_7-10-11	35.29	2011	various	286.52	12,506.53
IBMA WRDs	IBMA PEPR WPC-059 ( <i>Eucalyptus Oleosa</i> )	36	2011	8:1	288	12,218.53
IBMA WRDs	IBMA PEPR WPC-059 ( <i>Casuarina pauper</i> )	1.4	2011	6:1	8.4	12,210.13
IBMA extension to Little Baron pit	IBMA PEPR WPC-059	0.2	2011	4:1	0.08	12,210.05
IBMA LGO temp out-of-spec	IBMA PEPR WPC-059	2.3	2011	2:1	4.6	12,205.45

Arrium Mining – Middleback Ranges SEB Credit Ledger						
Description	Reference	Area disturbed (ha)	Date	Offset ratio	SEB area (ha)	Credit (ha)
IBMA surplus (credit)	IBMA PEPR WPC-059	10.9	2011	8:1	87.2	12,118.25
Iron Chieftain go-line adjustment	MPL 34_Iron Chieftain Go-Line_VCCA	0.28	2011	2:1	0.56	12,117.69
IBMA surplus (credit)	IBMA PEPR WPC-083 (credit reduced from 059)	-0.9	2012	8:1	-7.2	12,124.89
IBMA out-of-spec LGO stockpile	IBMA PEPR WPC-083	6.4	2012	2:1	12.8	12,112.09
Reclamation of LGO dumps PC and IBDU07	IBMA PEPR WPC-083	6	2012	2:1	12	12,100.09
IBMA boundary fence	IBMA PEPR WPC-083	2.4	2012	8:1	19.2	12,080.89
IBMA WRDs	IBMA PEPR WPC-083 ( <i>Eucalyptus Oleosa</i> ) Increase to WPC-059 line 19; 36+13.9=49.9	13.9	2012	8:1	111.2	11,969.69
Whyalla Steelworks Ports project rail construction	NVC 12NRM0198	2.2	2012	4:1	8.8	11,960.89
Whyalla Steelworks Ports project rail construction	NVC 12NRM0298	8.8	2012	4:1	35.2	11,925.69
Iron Baron OBP surplus (credit)	Reference line 15 (4.52 ha credit minus 1.74, Lucas workshops reference MI 165 = 2.78 ha remaining)	0	2012	8:1	0	11,925.69
Iron Princess groundwater monitoring wells	IKMA PEPR WPC-084	1	2012	8:1	8	11,917.69
Whyalla Steelworks Ports project rail construction	NVC 12NRM0875	7.2	2012	4:1	28.8	11,888.89
Iron Knob Phase 1 operations	IKMA PEPR WPC-088	75.1	2012	various	515.5	11,373.39
Iron Knob Phase 2 operations	IKMA Phase 2 PEPR WPC-103	258.67	2014	Various	1,969.66	9,403.73
Iron Chieftain extension	Iron Chieftain Supplementary Tenement Proposal WPC-123	116.2	2014	Various	920.6	8,483.13
<b>TOTAL</b>		<b>1,516.87</b>			<b>12,388.87</b>	<b>8,483.13</b>

## 11 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT REPORTING

No tenements in the N-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 2014 as part of its ISO AS/NZS 14001 certification program (certificate number C10317) with SAI Global (2014). The purpose of the audit was to determine the capability and effectiveness of Arrium Mining's management system in:

- ensuring continual compliance with customer, statutory and regulatory requirements
- meeting its specified objectives
- conformity of the management system to stated criteria.

SAI Global has recognised that the strength of the Arrium Mining Environmental Management System (EMS) has been the capacity to adapt to changes in the business environment, and that the EMS remains effective and relevant to the needs of the organisation, despite the significant increase in mining activities.

The surveillance audit undertaken in September 2014 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 issues management system for tracking and close-out. No findings were made that identified a threat to Arrium's ability to meet the approved environmental outcomes.

## 13 VERIFICATION OF UNCERTAINTIES

Assumptions of uncertainties related to N-SMR operations in 2014 are provided in Table 26.

**Table 26**      **Uncertainties in relation to compliance for N-SMR in 2014**

Description of assumption of uncertainty	Estimated date to resolve	Progress in reporting period	Confirmed	Forward work plan
High dust conditions and emissions	Ongoing	<p>Redesign, installation and implementation of crushing and screening dust suppression system at Iron Knight ROM Pad</p> <p>Photo monitoring points have been established in consultation with the land holder.</p> <p>The development of the daily fugitive dust report records, production activities, dust sources, mitigation actions and weather data. This enables comprehensive analysis of events and continual improvement</p>	No	<p>Review recent dust control improvement measures and monitor for effectiveness.</p> <p>Implement regular housekeeping to remove spilt product that has high potential as fugitive dust</p>

## 14 TECHNICAL REPORTS

A list of technical reports prepared for the N-SMR in 2014 is provided in Table 27.

**Table 27 Technical reports for N-SMR in 2014**

Report	Author
MI 204 Vegetation Dust Impact Inspection Report (May 2014)	Arrium Mining
MI 225-a (SMR) Vegetation Dust Impact Report (December 2014)	Arrium Mining
Minor Change Notification: Iron Chieftain Pit Optimisation and WRD Design Change, March 2014 (Doc. Ref: WPC-129)	Arrium Mining
MI229 Flora Monitoring Arrium Whyalla Middleback Range Mines December 2014	Larry Bebbington Habitat and Land Management Consultant
WPC-136 N-SMR 2013 Compliance Report	Arrium Mining



## 15 FORWARD WORK PLAN

The forward work plan is provided in Table 28.

**Table 28 Forward Work Plan for N-SMR 2015**

Action Number	Action description	Responsible department	Proposed completion date	Compliance report reference
N-SMR 2014-01	Implement mining operations described in WPC-108 (PEPR 2014/109)	Arrium Mine Planning team	ongoing	Section 4
N-SMR 2014-02	Continue to monitor and maintain silt traps.	Arrium Mining Operations Team Arrium Mining Environmental Assurance	Ongoing	Section 6.2
N-SMR 2014-03	Continue to rehabilitate CW01 WRD sections as they become available and monitor response of rehabilitated areas	Arrium Mining Environmental Assurance	ongoing	Section 0

Note: The Action Number is an assigned number specific to the reporting year

## 16 REFERENCES

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

Arrium Mining 2012a, *Arrium Mining Soil Management Plan, QP50\_66*, unpublished company plan.

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

Arrium Mining 2013, *Northern South Middleback Range (N-SMR), Minor Change Notification, Iron Chieftain Pit Extension and WRD Design Change, May 2013* (Doc. Ref: WPC-104 Rev 0), Arrium Mining, Whyalla, South Australia.

Arrium Mining 2014a, *Northern – South Middleback Range Minor Change Notification: Iron Chieftain Pit Optimisation and WRD Design Change, March 2014* (Doc. Ref: WPC-129, Rev 0), Arrium Mining, Whyalla, South Australia.

Arrium Mining 2014b, *Mines Vegetation Dust Impact Inspection Report MI204 (May 2014)*, unpublished company report, Whyalla, South Australia

Arrium Mining 2014c, *Northern South Middleback Range (N-SMR), Iron Chieftain Supplementary Mining Lease Proposal, June 2014* (Doc. Ref: WPC-123 Rev 1), Arrium Mining, Whyalla, South Australia.

Arrium Mining 2014d, *Northern South Middleback Range (N-SMR) 2013 Compliance Report, August 2014*, (Doc.Ref:WPC-136), Arrium Mining, Whyalla, South Australia.

Arrium Mining 2014e, *Vegetation Dust Impact Report, SMR, Middleback Ranges, Biannual Inspection, MI 225-a (SMR) (December 2014)*, unpublished company report, Whyalla, South Australia.

Arrium Mining 2014f, *South Middleback Range, Program for Environmental Protection and Rehabilitation (PEPR2014/109), December 2014* (Doc. Ref: WPC-108 Rev 1), Arrium Mining, Whyalla, South Australia.

Bebbington, L 2014, *Flora Monitoring Arrium Whyalla Middleback Range Mines – December 2014 (MI229)*, unpublished report prepared for Arrium Mining, Port Lincoln, South Australia.

Department for Manufacturing, Innovation, Trade, Resources and Energy 2014, *Guidelines for miners: preparation of a compliance report for non-extractive operations (Regulation 86) in South Australia, Minerals Regulatory Guidelines MG3*, Resources and Energy Group, V3, unpublished draft guidelines.

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) and any associated Miscellaneous Purposes Licence (MPL) for metallic and industrial minerals*, unpublished draft Ministerial Determination.