Annual Review Canyon Coal Mine

Name of operation	Canyon Coal Mine
Name of operator	Whitehaven Coal Mining Ltd
Development consent/project approval number	DA 8-1-2005
Name of holder of development consent/project	Whitehaven Coal Mining Ltd
approval	
Mining lease number	ML 1464, ML 1471
Name of holder of mining lease	Whitehaven Coal Mining Ltd
Water licence number	WAL 29458
Name of holder of water licence	Whitehaven Coal Mining Ltd
MOP start date	7 September 2015
MOP end date	6 September 2022
Annual review start date	1 January 2017
Annual review end date	31 December 2017
I, Nigel Woods, certify that this audit report is a true	and accurate record of the compliance status
of Canyon Coal Mine for the period 1 st January 2017	until 31 st December 2017, and that I am
authorised to make this statement on behalf of Wh	itehaven Coal Mining Pty Ltd.

Note. a) The Annual Review is an 'environmental audit' for the purposes of section 122B (2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).

Name of authorised reporting officer	Nigel Woods
Title of authorised reporting officer	Director- Whitehaven Coal Mining Ltd
Signature of authorised reporting officer	Plano
Date	30-5-18

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1 STATEMENT OF COMPLIANCE

The compliance status of the Canyon Coal Mine (CCM) as at 31st December 2017 is summarised in Table 1. Table 2 notes non-compliances that occurred during the reporting period.

Were all conditions of the relevant approval(s) complied with? ¹		
ML 1471	Yes	
ML 1464	Yes	
DA 8-1-2005	No	
WAL 29458	Yes	

Table 1 - Statement of Compliance

Relevant Approval	Condition Schedule and Number	Condition Description (summary)	Compliance status	Comment	Where Addressed in Annual Review
DA- 8-1-2005	2(2)	The Proponent shall carry out the development: Generally in accordance with the EIS; and In accordance with the conditions of this consent.	NC	Non-compliances with the Development Consent are identified below.	Sections 9 and 10.2
DA- 8-1-2005	5(12)	Revision of strategies and plans within 3 months of submission of an Annual Review.	NC	Revision of the Water Management Plan (WMP) not undertaken during reporting period, pending results from groundwater assessment.	Section 10.2

Table 2 - Non-compliances

Note: Non-compliances identified within the most recent Independent Environmental Audit are listed in Table 8.

Risk level	Colour code	Description	
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence	
Medium	Non-compliant	 Non-compliance with: potential for serious environmental consequences, but is unlikely to occur; or potential for moderate environmental consequences, but is likely to occur 	
Low	Non-compliant	 Non-compliance with: potential for moderate environmental consequences, but is unlikely to occur; or potential for low environmental consequences, but is likely to occur 	
Administrative non-compliance	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)	

Compliance status key for Table 2

2 INTRODUCTION

This is the 17th Annual Review (AR), formally Annual Environmental Management Report, produced for the CCM, and it has been prepared in accordance with Condition 3 of Mining Leases (MLs) 1464 and 1471 (Mining Act 1992) and Condition 5 (Schedule 5) of DA 8-1-2005, as modified. The AR follows the format required by the NSW Government Annual Review Guideline (October, 2015). The AR covers the period from 1st January 2017 until 31st December 2017.

CCM is located within the Narrabri Shire, approximately 30 km north-west of Gunnedah, 16 km east-south-east of Boggabri and immediately north of the former Vickery Coal Mine (Figure 1).

Mining at CCM ceased in July 2009, and the mine is now in Closure, with a small area leased to Hitachi as a maintenance compound.

2.1 Mine Contacts

The management personnel responsible for the CCM and their relevant contact details are as follows:

- Mr Nigel Wood, General Manager, Open Cut Operations oversees Open Cut Operations for the Whitehaven Group. Contact: (02) 6741 9309.
- Miss Emily Clements, Graduate Environmental Officer oversees day to day environmental and rehabilitation performance across the site. Contact: (02) 6740 7009.

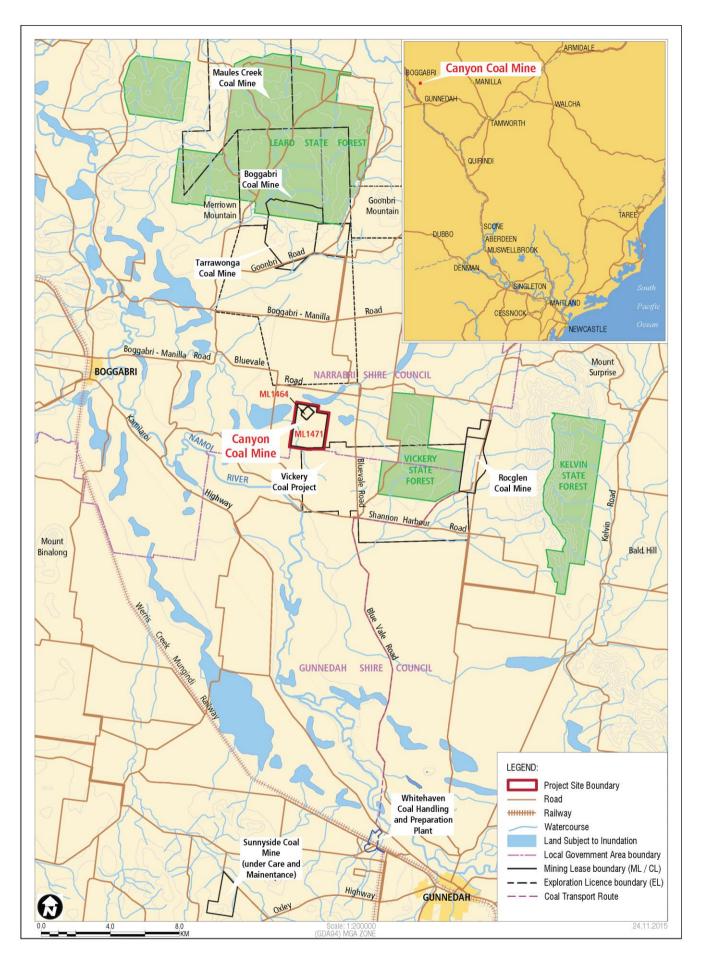


Figure 1 - Locality Plan

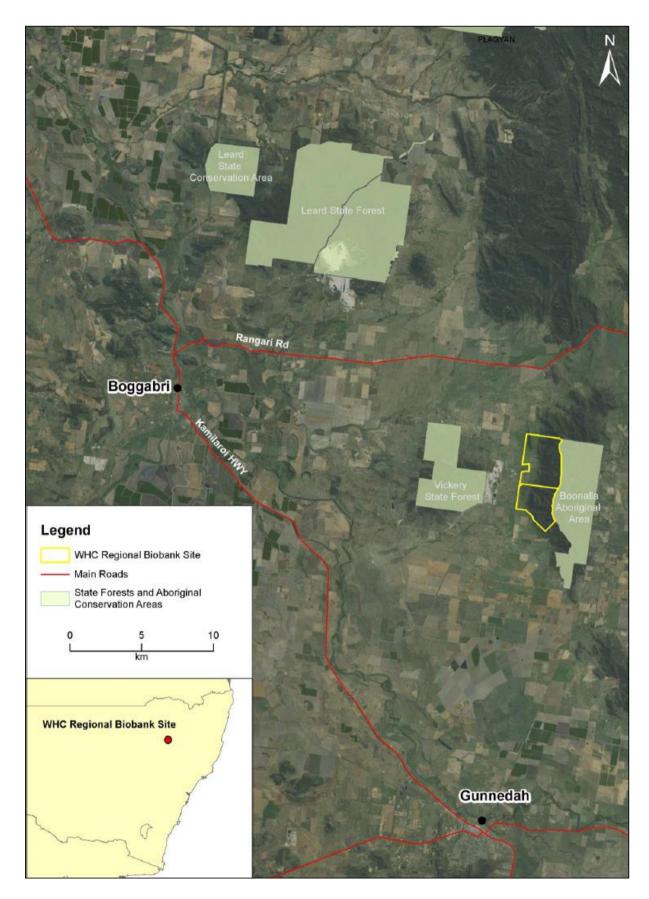


Figure 2 – Location of Biobank Site

3 APPROVALS

3.1 Tenements, Licences, and Approvals

Table 3 identifies the approvals in place for the CCM at the end of the reporting period, the issuing / responsible Authority, dates of issue, expiry date and relevant comments.

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Department of Planning and Environment (DP&E)	Development Consent DA 8-1- 2005, Modification 3	3 September 2015	N/A	-
Department of Primary Industry- Division of Resources and Geoscience (DRG)	ML 1471	7 th September 2000	7 th September 2021	-
Department of Primary Industry- Division of Resources and Geoscience	ML 1464	21 August 2006	21 st August 2027	-
Department of Primary Industry - Water	WAL 29458 (90WA822498)	12 September 2012	In perpetuity	-

Table 3 - Tenements, Licences and Approvals

4 **OPERATIONS SUMMARY**

4.1 Mining Operations

No mining operations have occurred at the CCM during the reporting period.

Table 4	- Production	Summary
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Material	Approved Limit	Previous Reporting Period (actual)	This Reporting Period (actual)	Next Reporting Period (forecast)
Waste Rock/Overburden	n/a	0	0	0
ROM Coal/Ore	n/a	0	0	0
Coarse Reject	n/a	0	0	0
Fine Reject (Tailings)	n/a	0	0	0
Saleable Product	n/a	0	0	0

4.2 Next Reporting Period

Operations forecast for the next reporting period are expected to be limited to environmental monitoring and maintenance earthworks, if and as required.

5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

DP&E's response in July 2017 to the 2016 Annual Review requested that ongoing monitoring and necessary maintenance is undertaken of areas of erosion on the void batters at CCM. These inspections are captured in the Monthly Environmental Inspections, and addressed in Table 6.

DRG have requested the removal of concrete and tyres located on site. This work has been completed.

6 ENVIRONMENTAL PERFORMANCE

The following sub-sections document the implementation and effectiveness of the various control strategies adopted at the CCM.

6.1 Air Quality

6.1.1 Criteria

The air quality criteria applicable to the CCM are specified in DA 8-1-2005, and are summarised below.

- Maximum increase in deposited dust 2 g/m²/month.
- Maximum mean total deposited dust level (insoluble solids) 4 g/m²/month.
- Mean annual Total Suspended Particulate (TSP) matter (all sources) concentration 90 μg/m³.
- Mean annual PM_{10} particulate level 30 μ g/m³.
- 24 hour average PM_{10} particulate level 50 μ g/m³.

6.1.2 Dust Monitoring

Monitoring of deposited dust is undertaken on a monthly basis, with results presented below in Table 5.

Site	Property Name	Annual Mean Total Insoluble Solids (g/m2/month)	Annual Mean Ash (g/m2/month)
D1	Whitehaven	1.9	0.8
D2	Merton	2.3	1.1
D12	Whitehaven	1.9	0.6
D13b	Womboola	2.8	1.6

Table 5 - Deposited Dust Monitoring Data

A review of Table 5 shows that the annual average limit for deposited dust was not exceeded at any location during the reporting period.

6.1.3 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.1.4 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.2 Biodiversity

6.2.1 Flora

Biodiversity management of the Biobank Offset Site for CCM was ongoing during the reporting period, with the latest Annual Biobank Report received in February 2017, and available in Appendix 3.

6.2.2 Fauna

A series of investigations into the occurrence of Threatened fauna within the DA Area were undertaken by Countrywide Ecological Service as part of the Stage 2 EIS preparation phase, with two vulnerable micro bat species and a koala recorded within open woodland areas within the "Womboola" property. No targeted fauna monitoring was completed during the short reporting period.

6.2.3 Weeds

Weed spraying was undertaken by Whitehaven's own qualified personnel following the detection of weeds within the monthly environmental inspections during the reporting period. Spraying occurred in February, March, May, June and August 2017, and was predominately spot spraying for African Boxthorn and Prickly Pear, with broad leaf weeds also targeted around the leased Hitachi compound.

6.2.4 Feral Animal Control

Feral animals are not a significant land management issue on CCM's landholding and are limited to isolated occurrences of pigs, foxes, hares and rabbits. In view of the low frequency of occurrence, and in the absence of an extensive programme by all surrounding landowners, no broad scale feral animal control programme was considered warranted during the reporting period. One pig trap has been in place on site since April 2016, with 7 feral pigs trapped during the reporting period.

6.2.5 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.2.6 Proposed Improvements to Environmental Management

Ongoing campaign weed spraying will be undertaken as required on site, along with opportunistic feral animal control.

6.3 Blasting

6.3.1 Criteria

Blasting criteria for the CCM are noted in DA 8-1-2005, however they are not relevant for this reporting period, as no blasting has been undertaken onsite.

6.3.2 Key Environmental Performance/Management Issues

No blasts were undertaken during the reporting period.

6.3.3 Proposed Improvements to Environmental Management

No blasting is proposed within the next reporting period.

6.4 Operational Noise

6.4.1 Criteria

DA 8-1-2005 details the noise criteria for site operations and coal haulage, however there was no requirement for noise monitoring during the reporting period.

6.4.2 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.4.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.5 Transport

6.5.1 Criteria

Schedule 3 Condition 36 of DA 8-1-2005 details the monitoring requirements for gravel and coal haulage. There was no transport of either gravel or coal during the reporting period.

6.5.2 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.5.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.6 Greenhouse Gas

6.6.1 Criteria

Schedule 3 Condition 39 of DA 8-1-2005 details the monitoring, management and reporting requirements for greenhouse gas emissions, however no operations were undertaken on site during the reporting period.

Canyon is included in Whitehaven Coal's annual National Greenhouse and Energy Reporting.

6.6.2 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.6.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.7 Aboriginal Heritage Management

6.7.1 Environmental Management Measures

Four Aboriginal heritage sites have been discovered since 1999, during investigations for the CCM. Two of these sites, Whitehaven 3 and Whitehaven 4, were located within the Mining Lease area. Whitehaven 3, a scar tree located adjacent to the southern mine lease boundary, has been protected by fencing to minimise the potential for adverse impacts. Whitehaven 4 was located within the extraction area, and artefacts at this site were salvaged by representatives of the Red Chief LALC in accordance with a Section 90 Permit (No 2051) prior to disturbance. The remaining two heritage sites, Whitehaven 1 and Whitehaven 2, although not located within the Mine Lease boundary, have also been fenced and demarcated to avoid disturbance.

6.7.2 Consultation

No soil stripping has been undertaken for the CCM. No additional Aboriginal cultural heritage items have been discovered during the reporting period, and no consultation with Aboriginal stakeholders was conducted.

6.7.3 Environmental Management Measures

Given the status of the site the environmental management measures for Aboriginal Heritage are limited to ensuring that any identified heritage sites remain undisturbed.

6.7.4 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.7.5 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.8 Natural Heritage

There are no features of natural heritage within the Project Approval area and hence no specific management procedures are required.

6.9 Bushfire Management

6.9.1 Environmental Management Measures

CCM is located within an area of cleared agricultural land, and Whitehaven Coal personnel liaise with the local Rural Fire Service, as required. All fire breaks were last graded in November 2016. There have been no bushfire incidents on, or adjacent to, the mine site during this reporting period.

6.9.2 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.9.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.9.4 Environmental Management Measures

Access to the site is restricted to authorised personnel only.

6.9.5 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.9.6 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.10 Waste

No waste was produced by Whitehaven Coal Mining (WHC) at the Canyon mine site during the reporting period. The small compound currently leased to Hitachi is managed by the tenants, who maintain responsibility of their own waste treatment and removal.

6.11 Environmental Performance Summary

An environmental performance summary for CCM is presented in Table 6 below.

Aspect	Approval Criteria / EIS Prediction	Performance during the reporting period	Trend / Key Management Implications	Implemented / proposed management actions
Erosion Control	N/A	Previous areas of erosion seeded with a cover crop for stabilisation. Monthly inspections undertaken.	Nil	The sowing of a cover crop was undertaken in the previous reporting period. Ongoing monitoring of the erosion was undertaken on a monthly basis, and will continue in the next reporting period, with maintenance works completed as required.

Table 6 – Environmental Performance

7 WATER MANAGEMENT

7.1 Surface Water Management

Surface water monitoring on site is limited to the void, and wet weather monitoring as required, with the complete surface water monitoring results presented in Appendix 1. This period has seen a return to normal oil and grease levels, following two high readings in late 2015, while the long term water results are continuing to show a slight upward trend in pH and EC readings. During the reporting period CCM engaged the services of a Hydrogeologist with SLR Consulting Australia to determine the basis of these observed trends. The findings of this work concluded that water percolating through waste-rock on the site and into the groundwater system, which then flows to the upper and lower void onsite, is the most likely cause of the observed water chemistry. These findings are further discussed in Section 7.2.1.

7.1.1 Discharges

There were no wet weather discharges during the reporting period.

7.1.2 Water Take

During the reporting period no water was taken from any bores on site.

7.2 Groundwater Management

7.2.1 Environmental Performance/Management

Current requirements include 6 monthly monitoring of:

- Standing water level, pH, conductivity, Cl, Na, and oil and grease at GW-11 and P3; and
- Standing water level at GW-7, GW-8, AND GW-9.

Groundwater testing was undertaken twice during the reporting period, in February and August 2017.

Water quality results and standing water levels have remained relatively consistent throughout the monitoring period. GW11 results continue to indicate a slightly increasing conductivity trend, while all other monitored parameters remain consistent. As discussed in Section 7.1, during the reporting period CCM engaged the services of a Hydrogeologist with SLR Consulting Australia to determine the basis of the observed trends. The findings of this work concluded that water percolating through waste-rock on the site and into the groundwater system is the most likely explanation for the trends observed at GW11. The findings also noted that the groundwater system on site at CCM and surrounding GW11 is a closed system in respect to the regional system, with the area of CCM flowing towards the void onsite. This therefore limits the impacts of waste-rock leachate on the regional system. There have been no changes in groundwater chemistry recorded at any of the other bores in the CCM network.

GW8 continues to show large fluctuations in standing water level, as it has for the previous 3 years. GW8 is located on mine owned land, and is currently leased. It is expected that the drawn down is being caused by farm use, with a solar pump installed on the bore, and therefore unrelated to CCM.

Full monitoring data results for GW11 and GW8, along with all other groundwater monitoring sites, are included in Appendix 2.

7.3 Rehabilitation Performance during the Reporting Period

7.3.1 Status of Mining and Rehabilitation

Mine Area Type ¹	Previous Reporting Period (Actual) 2016 (ha)	This Reporting Period (Actual) 2017 (ha)	Next Reporting Period (Forecast) 2018 (ha)
A. Total Mine Footprint	416.98	416.98	416.98

Table 7 – Rehabilitation Status

В.	Total Active Disturbance	2.9	2.9	2.9
C.	Land Being Prepared for Rehabilitation	0	0	0
D.	Land Under Active Rehabilitation	249.8	249.8	249.8
E.	Completed Rehabilitation	0	0	0

¹ Refer Annual Review Guideline (p.11) for description of mine area types.

7.3.2 Annual Rehabilitation Monitoring

Flora

Remote Sensing Monitoring

Remote sensing monitoring analysis identified significant increases in Photosynthetically Active Biomass (PAB) due to substantial groundcover increases over much of the rehabilitation area and any decreases were generally associated with ponded water in 2016. These increases/decreases respectively are attributed to higher than average rainfall in the months preceding monitoring in 2016 and this increase in groundcover was confirmed during the field surveys (Eco Logical, 2017).

Species Richness

All rehabilitation zones have increased in flora species richness from 2015 except for Wood_05 which decreased slightly in 2016 (Eco Logical, 2017). Burnt_2013 species richness has increased substantially from the previous monitoring period, and is comparable with initial 2011 survey records. Both control zones had substantial increases in species richness (Eco Logical, 2017). Exotic species richness follows the same trend as native species, with a slight increase across all zones excepting Wood_06a. As with native species the control zones show a uniform increase in exotic species and remain higher than 2011 levels, though the rehabilitation zones still fluctuate (Eco Logical, 2017).

Vegetation Cover

Variations in mean native species cover has stabilised from the 2015 monitoring period and shows an overall decrease in native species cover in most zones in 2016 mostly likely due to be smoothed by the significant exotic species cover in response to the high rainfall in 2016.

Fauna

Birds

Bird species composition analysis shows that species composition fluctuates at both the control and rehabilitation zones, though this fluctuation is marginally less at the control zones in 2016 (Eco Logical, 2017). The Grey-crowned Babbler (*Pomatostomus temporalis temporalis*) was seen for the second consecutive year during the 2016 monitoring period (Eco Logical, 2017). The Turquoise Parrot (*Neophema pulchella*) remains unrecorded. Other threatened species identified during 2016 were the Black Falcon (*Falco subniger*), Little Eagle (*Hieraaetus morphnoides*), Hooded Robin (*Melanodrayas cucullata*) and Diamond Firetail (*Stagonopleura guttata*).

Terrestrial Fauna

Seven mammal species were observed during the 2016 monitoring period, all of which have been recorded in previous monitoring periods. *Macropus giganteus* (Eastern Grey Kangaroo), *Macropus robustus* (Common Wallaroo) and *Wallabia bicolor* (Swamp Wallaby) have been seen at the Control Zones in previous survey periods and continued to be present and widespread in the current monitoring period (Eco Logical, 2017). Four exotic species - *Lepus capensis* (Hare), *Oryctolagus cuniculus* (Rabbit), *Vulpes vulpes* (Fox) and *Sus scrofa* (Feral Pig) - recorded in the previous monitoring period, were present in the control zones during the current monitoring report, no amphibians or reptiles were recorded during the current monitoring period. The survey zones had dense and high groundcover which may have limited the visibility of amphibians and reptiles, though none were seen basking either (Eco Logical, 2017).

7.3.3 Post Rehabilitation Land Uses

The overall closure goal for Canyon is for the restored landform to be capable of sustaining pre-mining land-uses.

7.3.4 Renovation or Removal of Buildings

No renovation or removal of buildings occurred during the reporting period.

7.3.5 Other Rehabilitation Undertaken

No additional rehabilitation of explorations areas, infrastructure, shafts, adits, dams, fence lines or bunds occurred during the reporting period.

7.3.6 Departmental Sign-off of Rehabilitated Areas

No departmental sign-off of rehabilitated areas was received during the reporting period.

7.3.7 Variations in Activities against MOP/RMP

Not applicable.

7.3.8 Trials, Research Projects and Initiatives

No rehabilitation trials, research projects or other initiatives were undertaken during the reporting period.

7.3.9 Key Issues to Achieving Successful Rehabilitation

The key issues to achieving successful rehabilitation are:-

- Landform stability (Final Void);
- Soil quality;
- Water quality;
- Pasture development; and
- Land management, including weed control.

Management measures to address these key issues, including both trigger levels and response, are described in the Closure MOP prepared by SLR Consulting Australia, and approved in September 2015 by the Division of Resources and Energy.

7.4 Actions for Next Reporting Period

Ongoing environmental monitoring and management, as per DA 88-1-2005 and relevant environmental management plans.

8 **COMMUNITY**

Whitehaven Coal maintains an open door policy for interested local groups, including local residents, landholders, schools and community groups, to visit the mine where practically possible. Furthermore, Canyon has a designated complaints line advertised on the Whitehaven Coal website and, in the event of a complaint, details pertaining to the complainant, complaint and action taken are recorded. A complaints register is maintained on Whitehaven's website. No complaints have been received for the site since 2008.

A Community Consultative Committee (CCC) for Canyon is covered under the terms of reference of the Vickery Coal Mine CCC, which last met in March 2017.

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Community contributions are managed in accordance the Whitehaven Coal Donations and Sponsorship Policy.

9 INDEPENDENT AUDIT

The most recent independent audit of CCM was undertaken by Environmental Resource Management Australia Pty Ltd (ERM) in early 2016, with the site component completed on the 23rd March 2016. Outstanding items from the 2016 Audit Action Plan, and how they are being addressed, are summarised in Table 8 below.

Condition/Plan	Proposed Action	Status
Minister's Conditions of Approval	Ensure the transport management	TMP to be updated prior to
DA 8-1-2005	plan for the Vickery Project outlines the requirements of this consent condition for any material transported to the Canyon Mine prior to works commencing.	commencement of Vickery construction. Not yet triggered.
	Consider including the requirement to report volume discharged from site and the method for estimating /calculating the volume of any discharges from site into the Water Management Plan	WMP to be revised in accordance with DA 8-1-2005 Schedule 5 Condition 12.
	Consider submitting the revised plan to DPI (Water), EPA and DP&E requesting comment. Consider including evidence of any consultation and liaison into the annex of the plan.	Consultation to be undertaken as part of WMP revision. Consultation and liaison records not to be included in WMP.
Water Access Licence 29458	Consider including record keeping requirement for the water access licence into the Water Management Plan.	WMP to be revised in accordance with DA 8-1-2005 Schedule 5 Condition 12.
Closure Mining Operations Plan	Consider including in the references section of the Rehabilitation Monitoring Reports the list of operational records as discussed in this commitment to indicate these records have been considered.	There were no operational records utilised in the 2016 Rehabilitation Monitoring report (received during the reporting period), given that there was no additional rehabilitation undertaken.
	MOP to be updated to reflect EPL surrender.	Next MOP amendment.
Rehabilitation Monitoring Program	Consider completing LiDAR assessment as detailed in the Rehabilitation Monitoring Plan	Consideration into the utilisation of LiDAR assessment has been discussed between CCM and

Table 8 – 2016 Independent Audit- Outstanding Actions

	EcoLogical Australia, however has
	been deemed to be unnecessary
	for the site in conjunction with the
	multi-spectral imagery and on-
	ground assessments already
	undertaken.
Consider updating the	Next MOP amendment.
Rehabilitation Monitoring Program	
to reflect the review	
recommendations once	
stakeholder feedback has been	
requested and received (see	
below).	
Consider issuing the letter outlining	Next MOP amendment.
the review to key stakeholders to	
ensure acceptance of the proposed	
changes.	

10 INCIDENTS AND NON-COMPLIANCES DURING THE

REPORTING PERIOD

10.1 Reportable Incidents

No environmental incidents occurred at CCM during the reporting period.

10.2 Non-compliances

Non-compliances with relevant approvals have been ranked as either administrative or low, with very limited potential for environmental harm, as addressed below.

 Condition 5(12) of DA- 8-1-2005 requires the revision of all strategies and plans as required by the approval. The WMP was not updated during the reporting period. During the reporting period CCM engaged a hydrogeologist to prepare a report on trends observed onsite in both surface water and ground water. This report was received in November 2017. The plan will be reviewed, and revised as necessary given the findings of the report, during the next reporting period. This revision will also capture the outstanding actions required from the IEA.

10.3 Regulatory Actions

There were no regulatory actions received for the Canyon Coal Mine during the reporting period.

11 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

The following measures will be continued, or implemented, in the next reporting period to improve the environmental or community performance of the operation:-

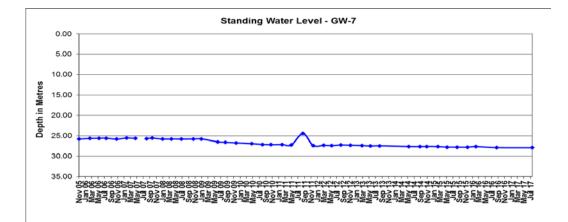
- The maintenance of woodland and rehabilitated areas,
- Continued implementation of DA 88-1-2005 and relevant environmental management plans;
- Completion of outstanding Independent Environmental Audit actions, as per Table 8; and
- The continuation of environmental monitoring and management, as per DA 88-1-2005 and relevant environmental management plans.

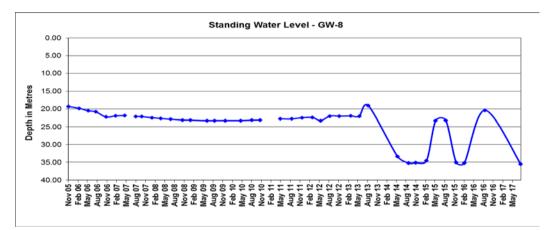
APPENDIX 1 SURFACE WATER MONITORING RESULTS

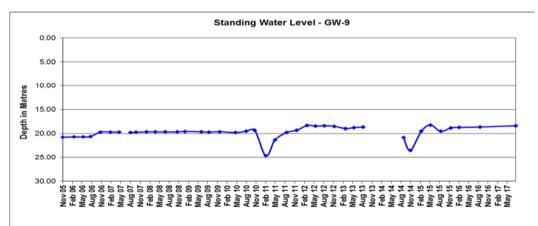
Sample No.	Date	Time	Sample Location	pH Field	pН	Electricity Conductivity Field		Total Suspended Solids (mg/L)			Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Antimony	Arsenic	Molybdenum	Selenium	Chloride	Sodium	Aluminium	Arseni c Mar	nganese Iro	n Total Organic Carbon (TOC)	Grease & Oil (mg/L)	Comments
909246-001 2	4 June 2009	1125	WW8		8.42		4110	45														5	<10	Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
909246-002 2	24 June 2009	1140	WW9		6.77		135	114														43	<10	Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
000714-001 15	January 2010	1250	WW9		6.82		204	38														20	<5	
000714-002 15	January 2010	1320			6.77		76	69														5	<5	
000714-003 15	January 2010	1340	WW12		6.5		132	72														9	<5	
								10														2	-	
103385-001 16 103385-002 16					8.33 8.19		264 346	19 14														2	<5 <5	
03365-002 16	February 2011	1230	VOID LANGE		0.19		340	14														3	<5	
09073-001	2 May 2011	1240	VOID UPPER		8.66		293	<5														4	<5	
09073-002	2 May 2011	1330	VOID		8.89		395	48														7	<5	
17879-001 17	7 August 2011	1350	VOID UPPER		8.39		321	182	<1	3	114	117					17	58	0.29	0.004 0			<5	
17879-002 17	7 August 2011	1410	LOWER		8.52		451	22	<1	12	136	149					31	85	0.41	0.004 0	0.035 0.3	3 5	<5	
19820-001 9.5	eptember 2011	900	WW 11		7.02		131	147								-						15	<5	
19820-002 9 S	eptember 2011	920	WW 12		6.58		52	282						1			1					10	<5	
21348-001 29 S	September 2011	1015			6.97		109	236							_							16	<5	
21348-002 29 S	September 2011	1030	WW 11		7.09		58	412														7	<5	
240.41.001 111	November 2011	010	14/14/ 12		7.45		84	60												<u>├</u>		16	<5	
24941-001 14 0	November 2011 November 2011	910	WW 12 WW 11		7.45		84 183	60 50												<u>├</u>		16 35	<5	
L0-+1-002 14 1	1000011001 2011	323			1.20		105	50								1							~ 3	
11262-001	8 May 2012	920	VOID UPPER		8.48	l	242	13						1		1						3	<5	
	8 May 2012		VOID		7.98		376	8														4	<5	
7199-001 15 M	November 2012	1150	VOID UPPER		8.39		315	20														3	<5	
/199-002 15 M	November 2012	1230	LOWED		8.68		446	18														4	<5	
03393-001 13	February 2013	1130		9.58	9.33	324	330	12														5	<5	
03393-002 13	February 2013	1210	VOID	9.02	8.79	496	512	23														5	8	
10050-001	1 May 2013	1120	UPPER VOID	9.81	9.68	349	353	17					<0.001			<0.01						6	<5	
10050-002	1 May 2013	1150	VOID	8.78	8.63	523	553	97					<0.001	0.004	0.003	<0.01						7	<5	
40000 004 4	3 June 2013	4004	MARAKA D		7.08		48	74														14	-	
13688-001 1	3 June 2013	1001	WWIR		7.08		48	/4														14	<5	
17466-001 5	August 2013	1135	UPPER VOID	8.7	8.56	574	601	9														6	<5	
17466-002 5	August 2013 August 2013	1100	LOWER	8.97	9.1	341	348	11														8	6	
323917-001 4 N			UPPER VOID			391	429	12	<1	88	117	205					17	71		0.005 0			<5	
23917-002 4 N	ovember 2013	1200	LOWER	8.8	8.54	681	776	23	<1	41	234	275					78	119	0.85	0.003 0	0.072 0.7	1 8	<5	
02413-001 5 F	February 2014	1120		10.2	0.22	481	533	25					<0.001	0.006	0.003	< 0.01						9	<5	
	February 2014		LOWER	9.6		936	1070	33					<0.001	0.000	0.003	<0.01						7	<5	
			VOID																					
9710-001	1 May 2014 1 May 2014	905	UPPER VOID	9.6	8.74	478	496	<5	<1	32	202	234								0.005 0			<5	
9710-002	1 May 2014	935	LOWER	9.4	8.54	1100	1150	<5	<1	26	287	313					165	184	0.25	0.005 0	0.074 0.1	8 5	<5	
																				<u> </u>				
4402-001 5 N	ovember 2014	940	LOWER	10.3 9.2			535 1510	6 36					<0.001 <0.001		0.003	<0.01 <0.01						9	<5 <5	
	wwwennber 2014	1015	VOID	9.4	0.03	1470	1310	30					<0.001	0.003	0.003	<0.01	-					9	<0	
03935-001 17	February 2015	900	UPPER VOID	10.2	9.34	612	626	44					<0.001	0.005	0.003	<0.01						12	<5	
03935-002 17	February 2015	935	LOWER	9.4	8.5	1800	1900	37					<0.001	0.006	0.005	<0.01						11	7	
		_																						
21402-001	6 May 2015	1105	UPPER VOID			633	626	<5	<1	50	231	280					31	163		0.005 0			9	
1402-002	6 May 2015	1135	VOID	9.2	8.76	1870	1950	8	<1	71	275	346					425	425	0.53	0.004 0	0.037 0.4	2 <1	8	
8268-001 12	2-August-2015	1100		9.8	9.13	617	622	12						-			+					15	15	
268-002 12	2-August-2015 2-August-2015	1025	LOWER	9.3	8.71	1970	1870	46						1			1					5	9	
5953-001 10 M	November 2015 November 2015	1225	UPPER VOID	9.5	9.3	674	692	12				-			_							14	25	
5953-002 10 M	November 2015	1250	VOID	9.2	9	2180	2350	20														10	15	
	5-h0045	4405		0.7	0.05	704	0.40	10												<u> </u>		10		
	February 2016 February 2016			9.7 9.5		784 2430	846 2730	19 111														13	<5 <5	
2001-002 91	i ebiuary 2016	1203			0.90	2430	2130										+					0	<0	
19369-001 31	August 2016	910	LOWER	9	8.73	2730	2830	13															<5	
														1		1								
03109-001 9 F						3230	3440	43						1		1	1						5	

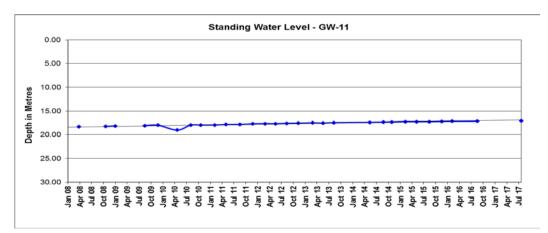
APPENDIX 2 GROUNDWATER MONITORING RESULTS

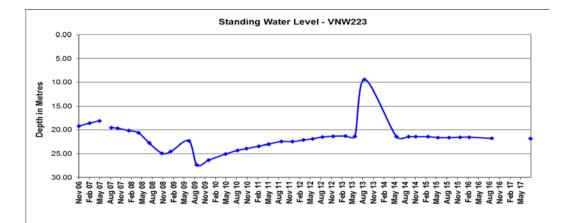
Sibe 10	Piezamet er / Water Bare	Date		Depch to Dep Ground - Sto mbg/ mb		EC - Field - Jst, Con	- Temp - Field - *C	Aluminis m (A) - (A) mgA mgA	Baron B mg/L 5	rium Beryd Iaj- (An Igit mg	ium - Cd)-	nian - nga nga	Total Me Cobalt (Ca)- mg/L	Capper (Cu) - eng/L	an (Fe) - Le mg/l	ad (Pb) - Ma mg/2 is i	asgone // (Mn) - mg/G	nicke/ (N) - mg/L	ninsian mg/L m	odu 20 101- 10 ⁴	nc (Zn) - Mercury pig) - mg/	L piv-Lob	EC - Lab - µt/cm	Coldum (Co) - mg/L	Majar Co Magnetiy m (Mg) - mg/2	Sodium (Nej- mg/l	Pocossiv m (K) - mg/1	Total istices - (Cl)- meg/L - (Cl)- mg/L	Sulfate (SOI) - mg/L	Major Anians Hydrasid Alkalinity at CoCO2 - mg/L - mg/L	Alcorbee 419 Alcolorby es CoCO2 - mg/L	Total Asians - meg.C	Janic Balance	Ammonia es Nitragen (N)	Albrite os N-mg/L	Nitrate os NOX a N - mg/L mg	r N - Tatai A Diccolv Solidi	d ved t
		56 Nov-65 27 Feb-06 25 May 66 2 May 66 7 Max 66 7 Feb-07 4 Max 87	1203 1227 1227 1222 0925 1017	21.78 20 21.46 20 21.49 20 21.59 20 21.59 20 21.59 20 21.52 20 21.55 20 21.55 20 21.56 20	120 122 107 105 129 105	4210																																
		4-May-47 3-cal-47 15-May-47 15-Cct-67 15-Ian-68 8-Aar-48 9-cal-68 21-Oct-68	0915 1530 1700	25.68 20 25.58 20	k16	4250 4270																																
		8-A2-68 9-A4-68 31-001-08	1110 1515 1115	25.79 N 25.78 N 25.79 N 25.78 N	125 127 128	4220 4250																																
		13-120-09 15-120-09 28-020-09 8-020-09 8-020-09 15-029-00 15-029-00 15-029-01 15-029-01	1045 1015 1610 1645	26.0 A 26.6 N 26.6 N 26.7 N 26.9 N	594 8.07 7.3 7.57	4620 4470 5210	19.5 24.7 23.3	-0.001 -0.01 -0.001 -0.001		0046 <01 0091 <01	81 40.0 81 40.0	<pre>0001 <0.001 <0.001 <0.005 <0.001</pre>	-0.001 -0.001	0.008 -0.001 0.004	5.22 -0.05 2.41	0.002 -0.005 -0.005	0.029	0.004	4	0.01 0.01	0.001 <0.0001 <0.005 <0.0001 0.021 <0.0001	£17	4190 4110 4790	1 1 15	81 80 75	554 580 590	247 250 287	27.5 1000 28.6 1090 41.2 1090	<10 0.57 42.5	a a a a a a	655 655 591 591 859 859	41.4 42.3 64.2	4.88 4.6 2.54	52.3 46.9	4.61	0.06 0.0	2251 4 268	2
		13-May-11 31-Mat-11	1415 1240 1400 1220 1115	27.19 27 27.19 27 27.17 27 27.27 27 27.25 2 24.45 2	7.54 7.52 7.67 7.6 7.84	4820 2900 4785 4175	20.6 27.5 21.3 22.8	0.05 <0.001		0.063 <0.0	01 00	<0.005 0001 <0.001	40.001	0.02	0.88	-0.005	0.03	0.001	4	0.01	0.097 <0.0001	2.92	4680 \$170	15 13	82 83	628 684	297 322	42.5 1050	20	a a	796 797 805 805	46.3 66.3	4.32	\$1.2	0.04	0.16 0.	2 2464	2
E		5-Dic-11 12-Mar-12 29-May-12 23-Aug-12 22-Nav-12 11-Mar-13 20-Mar-13	1140 1200 1215 1150 1145	27.39 27 27.45 2 27.4 21 27.27 27 27.32 27	7.74 <u>8.02</u> 7.7 7.85	4180 2490 2220 2390 2440	27.5 21.3 22.8 22.5 21.9 21.2 22.3 22.3 22.3	-0.01 <0.001 0.12 0.002		1.034 <0.1	101 <0.0	<0.005 0001 1000	40.001	0.01	-0.05 13.2	0.001	0.003	0.004	d	.01	-0.005 -0.0001 0.227 -0.0001	8.06 8.04	2870	57 17	90 87	212 215	271 283	20 221 29 275	162	a a a a	701 701 1000 1000	29.1	1.52	0.95	8.48 <0.01	68.6 % -03.01 -03.0	9	
		22-Aug-12 16-Min-14	1500 1200 1115 1120 1120	27.5 27 27.5 27 27.45 2 27.45 2 27.41 27 27.61 27	7.26 7.96 7.85 8.08 7.8 8.07 7.98 8.2 28 8.2	2400 2970 2720 2940 8510	22.1 22.4 22.4 22.1 20.4 22.1 21.4 21.4 22.2	0.04 -0.001 0.2 0.001 0.09 -0.001	0.26 0	0.04 <0.0 1.035 <0.0	001 -00.0 101 -00.0 101 -00.0	0001 <0.001 0001 <0.001 0001 <0.001	-0.001 -0.001 -0.001	0.02	9.54 5.24 10.3	0.004	0.561 .	0.003	40.01 d 40.01 d	0.01	0.165 <0.0001 0.189 <0.0001 0.197 <0.0001	#24 #17 #23	2970	17 20	90 86 69	320 352 444	285 274 252	28.7 239 20.4 255 21.8 648	109	a a a a	909 909 888 888 767 779	30	0.36	2.84	0.04	0.01 0.0	6 1699 1469	0
		8 589-54 12 502-54 24 545-15 21 May-15 25 Aug-15 1-Ouc-15	1215 1110 1115 1115	27.61 21 27.65 2 27.77 25 27.78 21 27.78 25 27.78 25	7.96 8.1 28 8.2 8.12 8.2 8.13 8.3	2450 2270 2280 2640	22.2 22.1 20.8 20.9 22.3	0.13 <0.001 0.07 <0.001	0.2 0.19 0	0.03 <04 1.058 <04	001 -000 101 -000	0001 <0.001 0001 <0.001	-0.001 -0.001	0.006	238 2.72	0.005	0.064	0.002	40.01 d 40.01 d	0.01	0.089 <0.0001 0.097 <0.0001	7.98 8.23	2470 2960	3) 8	76 70	429 495	225 215	24.2 508 35.8 522	41 20	a a a a	976 976 960 960	24.2 24.4	0.77 2.62	11.2 15.5	0.05 -0.05	-0.01 0.0 -0.01 0.0	6 194 51 204	8
GW-8		2000/01 11/02/2016 11/08/2016 3.4.02-05 22.4.02-05 22.4.02-05 25.402-05 25.402-06 25.402-06 2.4.02-06 7.400-06	1120 1250 12:00 12:05	27.56 25 27.65 25 27.90 25 27.91 28 19.29 15 19.92 20 20.51 21	28 8.5 124 126 192	3720	22	0.03 -0.001	0.15 0	0.031 <04	101 40.0	0001 0001	40.001	0.093	4.39	0.003	0.04 ·	<0.001	40.01 4	0.01	0.058 <0.0001	826	4060	*	75	\$23	301	27 747	2	d d	854 854	28.4	1.81	22.9	0.02	<0.01 <0.0	2451	
		27-948-06 25-May 66 2-May 66 7-Nov-66 7-Feb-67 6-May 67	1215 1227 1252 0902 1024	20.53 21 20.53 21 20.76 21 22.24 21 21.93 22 21.93 22	193	6120 5640																																
		4 May 49 2 -04-47 15 -Aug-07 15 -021-07 15 -120-08 8 -Agr-08 16 -321-08 16 -521-08 16 -521-08	0940 - 1540 1643 1100	22.30 22 22.36 22 22.46 23 22.46 23		4090 4820																																=
			1150 0920 1920 0910	22.67 21 22.89 21 23.10 21 23.15 21	2.28 2.51 2.71	5490 6010																																
		13-120-09 15-140-09 22-Aug-09 3-Dix-09 4-May-20 55-Aug-10	1420 1142 1405 1050	223.31 22 223.29 23 223.2 2 223.2 2 21.27 23 31.16 35	1.93 6.8 1.99 2.9 6.62	6120 6010 5940	20.9 27.3 22.7 20.5	<0.001 <0.01 <0.001 0.009	0.723	di di	01 00	<pre>0001 <0.001 <0.001 0.002</pre>	0.002	0.018 <0.001 0.047	214 203 295	0.002 -0.005 0.002	1.97 1.5 2.13	0.004 0.004 0.012	d	0.01	1.38 <0.0001 0.07 <0.0001 0.228 <0.0001	642	\$420 \$100 \$620	230 252 235	87 98 507	606 690 691	11 10 17	50.2 1910 48.4 1800 51 1850	<10 0.81 0.34	a < a a a a	44 44 21 31 85 85	54.6 51.4 54	4.17 2.06 2.82	134 21	40.01	0.06 0.0	2351 14 1561	0
		4-May 50 55-Aug-10 3-Mor-18 16-Feb-11 13-May-13 31-Aug-11 5-Day-11	1210 1145 1110 1040	22.11 21 22.78 21 22.78 21 22.78 21	by 128 6.75 128 6.79	5850 5120	21.3 22.7	0.34 <0.001	0.505	41	81 60	0047 <0.001	0.001	0.097	123	0.006	1.04	0.005	d	0.01	0.226 <0.0001	64	6182	175	110	290	17	S2.6 1700	d	a a	66 68	49.1	3.21	18.2	44	0.07 0.0	a 3721	0 Windmill
		17 May 11 5 Okt 11 12 May 12 19 May 12 12 May 12 12 May 12 10 May 13 10 May 13 10 May 13 12 May 14 23 May 14 24 May 14	1120 1145 1120 1110	22.45 23 22.4 2 21.35 22 21.00 22 21.99 22 21.99 22 21.98 22	23 7.28	1750 1950 2820 2110	22.9 23.4 21 22.3 22.8	-0.01 <0.001 0.17 <0.001	0.219	41	101 -01	<0.005 0001 <0.001	40.001	0.006	-0.05	<pre>c0.00s</pre>	0.545	0.004	d	9.01	0.007 <0.0001	7.68	2520	65 56	45 53	463 565	28	27.8 407 31.7 732	89 2	a a	692 692 616 616	27.2	1.54 2.1	15.8	0.51	01 00	1 1671	0 Windmill
		11-M2-11 10-May-11 22-Aug-11 26-May-14 8-Sec-14	1100 1105 1050 1100	21.54 22 22.65 22 19 2 21.35 21 25.2 2	258 7.21 261 7.3 96 7.18 295 6.9 58 6.9	2540 5290 5500 5580	22.3 22.8 22.8 22.2 20.5 22.4 22.4 22.4 22.5 22.4	0.09 <0.001	0.192	0.08 <0.0	101 0.0 101 0.0	0001 <1.001 0001 <1.001	0.002	0.08	12.6	0.003	0.913	0.003	4001 4 4001 4	0.01	0.992 <0.0001 0.941 <0.0001	7.62	6160 5850	201 205	54 151 143	\$75 \$29 274	15	61.1 1450 56.5 1270	188 213	a a a a	472 472 628 628 607 607	57.4 55.2	3.12	0.9	44	0.04 0.0	316	0
		8-500-54 12-809-54 24-542-15 21-May-15 26-842-15 1-08-15	1145 1115 1040 71140 1055	24.6 2 24.6 2 21.21 21 22.2 2 24.97 21	2.8 7	\$490 \$490 \$580 \$570 \$460	24.2 27.4 21.2 21.3 25.8	0.44 <0.001 0.44 <0.001	0.178	0.07 <00 0.05 <00	891 -00.0 891 -00.0	0001 <0.001 0001 <0.001	-0.001 -0.001	0.012	02 148	0.005 I	0.005	0.001	40.65 d 40.65 d	0.01	0.052 <0.0001	7.18	\$770 6190	204 201	151 167	869 861	10 10	60.7 1260 59.8 1060	216 242	d d d d	719 719 726 724	54.4 49.4	5.42 9.53	0.51	40.65 40.65	0.01 0.0	11 2968 12 3421	5
GW-9		1-016-15 11/02/2016 11/02/2016 11/02/2016 12/09/2017 16-Nov-05 27-6eb-06	1100 1225 11:30 1240 1105	25.17 25 20.36 20 25.51 30 20.75 21 20.76 21	196 k11	4990	20.2	4001	0.152	0.06 <01	101 <0.0	0001 0001	-0.001	0.019	-0.05	-0.005	0.011	0.004	40.01 4	0.01	0.169 <0.0001	7.68	\$540	152	134	125	10	54.8 1266	28	a a	456 456	49.5	4.98	0.07	40.01	-0.01 -01	310 346	,
		25-May 66 2-Aug 65 7-Nor-65 7-Fab-87 4-May-87	1428 1211 1104 1106 0740	20.71 21 20.62 21 19.71 26 19.69 26 19.73 26	1.40 1.35 2.43 2.40 2.44	11450 11930 12690																																
		4-Max-67 3-04-67 15-Mag-07 16-0x1-07 15-1an-68 8-4ax-68	1500 1820 1225	19.77 20 19.72 20 19.66 20 19.66 20	2.45 2.40 2.42	12940																																
		15-120-08 8-Apr-08 10-34-08 21-0x7-08 13-120-09	0940 1215 1640	19.44 X 19.67 X 19.54 X 19.55 X	141 145 136 129 6.6	12690	19.2																		548	1376											0	
		13-140-09 18-140-09 28-642-09 3-Dac-09 4-May-10 3-6-449-10 3-Nor-10	1055 1510 0915 0915	19.00 20 19.01 20 19.02 20 19.8 20 19.92 20 19.02 20	1.29 0.3 6.32 2.48 8.04	11810 7490 6670	24 21.6 18.6	40.01 40.001	0.014	4	01 00	<0.001 <0.001	40.001	-0.001 0.017	286 52.8	0.005	18.2 4.1	0.004	4	2.01	0.025 <0.0001	536	1070 7490	80 22	132 134	1730 1830 1280	29 22	96.3 357 71.7 2270	1.17 196		d d 201 201	101 72	2.81 0.22	17.1	-044	0.17 0.1	7 664	•
		14/00-10 16-745-11 13-May-11 11-Aut-11 5-0ac-11	0915 0950 0920 0900	24.69 21 24.69 21 21.37 22 19.78 20 19.33 15	534	7465 6110	20.1 19.7 21.6	149 -0.001	0.05	44	101 -0.0	0001 0.002	0.002	0.022	49.1	6.003	2.91	0.01	d	0.01	0.122 <0.0001	7.25	7420	22	554	1290	29	67 1760	280	d d	288 288	62.3	2.81	12.4	40.65	0.02 0.0	2 369	No water 0 Windmill
		16448-11 1344ap-11 13-4ap-11 13-4ap-12 13-4ap-12 13-4ap-12 13-4ap-12 13-4ap-12 13-4ap-12 13-4ap-12 13-4ap-12 13-4ap-14 13-4ap-14 13-5ap-54	1000 0920 0915 0915 1500	18.35 18.47 15 18.42 15 18.5 15 18.96 15	19 8.35 8.12 8.19 8.07 7.4 8.15 7.62 8.61 7.58	1140 3410 4750 5560 6240	22.6 19.8 19.5 21.5 21.3	0.01 0.001 0.02 0.001 0.04 0.001	0.028	41	101 <0.0	<0.001 0001 <0.001 0001 <0.001	40.001	0.001	46.5	0.005	1.29 1.09	0.001	4	0.01	0.005 <0.0001 0.117 <0.0001 0.041 <0.0001	7.9 2.25 8.03	1240 5370 6930	12 25 28	14 72 83	220 1020 1360	8 15 19	11.5 341 52 1490 67.9 1850	29 193 254	a a a a	60 60 101 101 325 325	48.1	2.94	0.89	0.01 <0.01	-0.06 0.0	17 21 278 16 371	Windmill 0 Windmill 0
		10-May-12 22-Aug-12 26-May-14 8-Sep-34 12-Nov-34	0920 0900 0900 0915 0945	18.78 15 18.65 2 20.85 2 21.56 24	Dry 1.5 6.8	6740 6710 6740 6540	20.6 19.4 19.9 21	5.54 <0.001 0.05 <0.001	0.05	0.05 <01	01 00 01 00	0001 0.1 0002 <0.001	0.001	0.126	26.7 128	0.008	1.16 4.99	0.01 0.01	40.65 G	05	0.229 <0.0001 0.361 <0.0001	8.01 7.03	7500	23	85 110	1900	22 18	69.6 2230 60.7 1430	126 569	a a a a	230 220 234 284	70.1 59.9	0.28	2.55	40.01	0.32 0.3	2 336	-
		12-Nov-54 24-Feb-15 21-May-15 26-Aug-15 1-Oug-15 15/02/2016	0900 0915 0910 900	1955 2 1824 15 1955 2 1883 15 1883 15	0.2 0.9 8.89 7 0.2 7.1 1.49 23	6220 6110 6020 5770 5450	21.3 20 19.4 20.9 20.8	0.46 <0.001 0.1 <0.001 0.04 <0.001	0.029 -	0.05 <0.1 0.05 <0.1	101 -0.0 101 -0.0	0001 0.001	0.001	0.005	22.1 17	0.001	2.11 1.6	0.005	4061 4 4061 4	0.01	0.11 0.0002 0.047 <0.0001 0.049 <0.0001	7.26	6560 6570 5930	25	99 80 71	1260 1130	16 18 20	66.1 1500 57.9 1210 54.8 1490	214 184	a a a a	550 560 476 476 334 304	47.5 48.4	4.78 9.9 6.34	2.8 3.12 3.44	43.65	0.0 20.0	12 3688 11 3399 21 2969	0
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		18-141-09 28-644-09 8-014-09 4-May-00 56-64g-10 8-864-10 15-642-11	1450 1155 955 950	17.99 15 19.03 15 17.96 15 17.96 15 17.96 1	121 125 128 7.72 121 9.31 12 129 74	2720 4060 2820	25.4 24.1 19	441 4001 4001	0.04	4	101 d0.0	<0.001 0001 <0.001	-0.001	-0.001	-0.05	0.005	0.565 -	0.001	d	0.01	0.005 <0.0001	841	2450 2750 2750	6) 55	22 24	667 722	9 11	23.6 1090 26.4 1160	0.50	d 4 d d	50 54 61 61 61 61	21.9	2.55	4.61	0.01	-0.01 -0.0	2299	0
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		10-May-11 22-Aug-12 26-May-14 8-Sap-54 12-Nov-54 12-Nov-54 14-540-15	0940 0955 1025 0950	17.38 17 17.38 17 17.36 17 17.32 17 17.32 17 17.35 1	7.44 7.63 7.2 7.6 7 7.57 6.9 7.57 6.9 7.5 7	4520 4760 4780 4650	21.5 19.6 20.5 20.4 21.6 21.5	0.08 <0.001	0.129	0.08 <0.0	01 00 01 00	0001 0.001	40.001	0.02	22.7	0.001	0.824	0.004	0 0.01 0	0.01	1.12 <1.0001 0.49 <1.0001	6.49 6.03	4920 4970	205	44 50	630 636	12 10	41.1 1440 44.8 1410	d d	a a	20 50 11 11 11 7 7 7	42.8	0.36	2.42	-0.61 -0.61	0.12 0.1	2 2721 2 2721 21 2951	0
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		24-545-15 21-May-15 26-Aug-15 1-Dic-15 18/02/2016	1020 1025 1015	21.63 2 21.63 2 21.65 2 21.57 22 21.55 2	2.24 7.2 2.4 7.2 2.32 7.3 2.32 7.3 2.3 7.2	8870	22.2	0.28 <0.001		0.08 <04 0.1 <04 0.08 <04		0001 0.001 0.001 0.004 0001 -0.001	0.001		0.28			0.005	40.65 d 40.65 d 40.65 d	0.01 0.01	0.155 <0.0001 0.059 <0.0001 0.05 <0.0001	2.4 2.53 2.57	8890 9960 9750	158 164 193	237 243 255	1510 1500 1540	10 10	93.3 2460 93.7 1920 98 2550	196 198 171	a a a a	900 900 859 859 782 782	90.6 75.4 100	1.45 10.8 1.25	0.02	40.61 40.61 40.65	0.72 0.3	2 569	
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APPENDIX 3 ANNUAL BIOBANK REPORT



Whitehaven Coal Mining Pty Ltd

ABN: 65 086 426 253

Biobank Site Annual Report 2016-2017



Tree Planting on Belah Property, Whitehaven Biobank Site

Annual reporting template

			Biobank	Site Annual R	eport							
			Loc	cation details								
Biobanking agreeme	ent ID: 43			Name of lan	Name of landowner/s: Whitehaven Coal Mining Pty Limited							
Reporting date: 28 th	July 2017			Property add	Property address: "Yarrari" & "Belah", Wean Road, Kelvin 2380							
		Reco	rds of manag	gement action	s undertaken							
Management Action	Item Reference Number	Required completion time and frequency	Action completed (Yes/No)	Actual completion date/s	Description of actions undertaken (including where undertaken (including reference to management zones), any variations and the reasons for variation).	Visual observations and other comments (including reasons for non completion)						
1. Management of grazing for conservation	1.1	Ongoing from commence ment date	Yes	1 st July 2016	Grazing excluded from all areas of Biobank Site during Year 4.	Consol Grass under control and no longer requiring grazing management.						
	1.2	Ongoing from first payment date (i.e. Year 1) until end of Year 4	Yes	1 st July 2016	No grazing of MZ1 during Year 4.	As per 1.1						
	1.3	Ongoing from first payment date	Yes	1 st July 2016	No stock present where replanting undertaken during Year 4.	As per 1.1						
	1.4	Ongoing from commence ment date	Yes	1 st July 2016	No stock present on Biobank Site during Year 4.	As per 1.1						

Biodiversity Banking and Offsets Scheme

Biobanking agreement

2.	Weed control	2.1	Ongoing from first payment date	Yes	Various	Fire Management Plan implemented during Year 4. Weed control undertaken included Prickly Pear, Consol Grass, African Boxthorn, Noogoora & Bathurst Burr.	Weed control being undertaken on Biobank Site.
		2.2	Ongoing from first payment date	N/A in this period	Ongoing	N/A in this reporting period.	As required by the Biobanking Agreement; a review of the Weed Management Plan will be undertaken in Year 5 and submitted to the Director General who will determine if the plan needs to be updated.
3.	Management of fire for conservation	3.1	Ongoing from commence ment date	Not yet required	Not yet required	Fire Management Plan implemented during Year 4. Biobanking Agreement indicates no ecological burns until Year 40.	Ecological burns not required under management plan.
		3.2	Ongoing from first payment date	N/A in this period	Ongoing	N/A in this reporting period.	As required by the Biobanking Agreement; a review of the Fire Management Plan will be undertaken in Year 5 and submitted to the Director General who will determine if the plan needs to be updated.
		3.3	Ongoing from commence ment date	Yes	Ongoing	No fires lit on Biobank Site during Year 4.	N/A in this reporting period.

Biobanking agreement

4.	Management of human disturbance	4.1	Ongoing from commence ment date	Yes Ongoing	Ongoing	Human activities that affect biodiversity values have not occurred during Year 4.	No unauthorised human disturbance has occurred at Biobank.
		4.2	Ongoing from commence ment date	Ongoing	Ongoing	Human activities undertaken on Biobank are in accordance with management actions and plans during Year 4.	As per 4.1
		4.4	Ongoing from commence ment date	Ongoing	Ongoing	No waste disposed of on Biobank Site during Year 4.	As per 4.1
		4.5	Ongoing from commence ment date	Ongoing	Ongoing	No waste deposited by others on Biobank Site during Year 4.	As per 4.1
		4.6	Ongoing from commence ment date	Yes Ongoing	Ongoing	Fencing, locked gates and signage in place during Year 4. Property Manager has been nominated to implement the management plan for the Biobank Site.	Fencing, locked gates and signage previously undertaken.
5.	Retention of native vegetation	5.1	Ongoing from commence ment date	Yes Ongoing	Ongoing	No vegetation removal during Year 4.	No activities have been undertaken on site to date that have resulted in vegetation removal.
		5.2	Ongoing from commence ment date	Ongoing	Ongoing	There have been no requirements to burn native vegetation under the fire management plan.	N/A in this reporting period.

Biobanking agreement

6. Planting or seeding	6.1	Commence from first payment date	Yes Ongoing	Ongoing	Planting (including tree guards) and seeding undertaken over ~277ha during Year 4 following intensive goat and Consol Grass control.	Planting commenced in 2014-2015. Significant revegetation program undertaken during 2016- 2017 across Biobank Site.
	6.3	Conduct the first survey 24 months after the completion of planting or seeding in each area of planting or seeding and then every 12 months thereafter.	Yes Ongoing	Ongoing	First survey of Planting from 2014-2015 undertaken.	Establishment and survival rates of plants from 2014- 2015 were below usual and supplementary planting undertaken during 2016- 2017.
	6.4	As required; from the date that planting or seeding areas are established	Yes Ongoing	Ongoing	Management of planting areas was undertaken to assist establishment and survival.	Good early signs of survival of planting and seeding areas from 2016-2017 (Year 4).
	6.5	As required (from commence ment date if relevant to prepare for future planting)	Ongoing	Ongoing	No seed collection during Year 4 was undertaken on Yarrari & Belah.	Seed previously collected from White Box on the Biobank Site during 2015- 2016 (Year 3) used in planting during 2016-2017 (Year 4).

Biodiversity Banking and Offsets Scheme

Biobanking agreement

		6.6	From the start of Year 4 until the end of Year 6. Enhanceme nt planting start of Year 7 until end of Year 10	Yes Ongoing	Ongoing	Planting of MZ1 and MZ2 during Year 4 included White Box tubestock. Seeding of MZ1 during Year 4 included Themeda triandra, Austrostipa scabra, Bothriochloa macra, Chloris truncate, Eragrostis sp., Panicum sp. and Aristida sp.	White Box density/spacing in accordance with Biobanking Agreement. Other species not available at time of planting but will be included within supplementary plantings in future years.
7.	Retention of dead timber	7.1	Ongoing from commence ment date	Yes Ongoing	Ongoing	No dead timber removed during Year 4.	Dead timber is retained on site in accordance with the management plan.
		7.2	When required	Not yet required	Not yet required	N/A in this reporting period.	No timber introduced to Biobank Site during Year 4.
8.	Erosion control	8.1	Commence from first payment date	No – not yet requirea	Ongoing	No active erosion identified during Year 4.	There have been no areas of active erosion identified as a cause of concern during this reporting period.
9.	Retention of rocks	9.1	Ongoing from commence ment date	Yes Ongoing	Ongoing	No rocks have been removed during Year 4.	Rocks retained on site in accordance with the management plan.
		9.2	When required	Not yet required	Not yet required	NA in this reporting period.	No rocks introduced to Biobank Site during Year 4.

Biobanking agreement

ID Number 43

10. Control of feral and over abundant native herbivores	10.1	Ongoing from first payment date	Yes Ongoing	Ongoing	Feral and Overabundant Native Herbivores Management Plan implemented during Year 4. Feral animal control has been ongoing by the resident property manager. Contract goat harvester mustered and trapped over 300 goats and kids during Year 4.	The resident property manager has undertaken feral animal control throughout the reporting period, removing 1,220 goats and approximately 70 rabbits from the property since 2008.
	10.2	Ongoing from first payment date	N/A in this reporting period.	Ongoing	N/A in this reporting period.	As required by the Biobanking Agreement; a review of the Feral and Overabundant Native Herbivores Management Plan will be undertaken in Year 5 and submitted to the Director General who will determine if the plan needs to be updated.
11. Vertebrate pest management	11.1	Ongoing from first payment date	Yes Ongoing	Ongoing	Vertebrate Pest Management Plan implemented during Year 4. Vertebrate pest control has been ongoing by the resident property manager. Professional feral animal contractor conducted fox baiting programs during Year 4.	The resident property manager has undertaken vertebrate pest management, removing 409 pigs and 44 foxes from the property since 2008 by opportunistic shooting and/or trapping.

Biobanking agreement

		11.2	Ongoing from first payment date	N/A in this reporting period.	Ongoing	N/A in this reporting period.	As required by the Biobanking Agreement; a review of the Vertebrate Pest Management Plan will be undertaken in Year 5 and submitted to the Director General who will determine if the plan needs to be updated.
	Nutrient control	12.1	Ongoing from commence ment	Yes Ongoing	Ongoing	No fertilisers were applied during Year 4.	Pesticides and herbicides may be applied to the Biobank in accordance with the management plan requirements.
13.	Control of exotic fish species	13.1	Not Applicable	Not Applicable	Not Applicable	Not Applicable.	Not Applicable
14.	Maintenance or reintroduction of natural flow regimes	14.1	Commence from first payment date	Yes Ongoing	Ongoing	Natural flow regimes maintained during Year 4.	All nominated dams on the Biobank Site were filled and seeded in September 2014.
	-	14.2	When required from date an artificial structure is removed	Yes Ongoing	Ongoing	Revegetation of infilled dams incorporated into planting and seeding of Biobank Site during Year 4.	Good early signs of survival of planting and seeding areas from 2016-2017 (Year 4).
		14.3	Ongoing from commence ment	N/A in this reporting period.	Ongoing	N/A in this reporting period.	No dams or levee banks were constructed on Biobank Site during Year 4.

Biobanking agreement

Incident or event that has adverse effect on biodiversity values on biobank site				
Incident or event including adverse impacts (eg. natural events) Action taken and proposed recommended actions				
None.	Not required.			
Records submitte	ed with this report			
✓ Photographs taken at the photo points set in the biobanking age	reement			
✓ Results of the inspections required to be conducted in item 1.3	of Annexure D to the biobanking agreement			
✓ Results of any monitoring, inspections or surveys required in Ar	nnexures C and D to the biobanking agreement			
Signature an	d certification			
I hereby declare that the information supplied in this report is accurate and complies with the reporting requirements under item 2 of the Annexure D to the biobanking agreement. Note: If the land that forms the biobank site is owned by multiple persons, each landowner must sign this annual report.				
Signed Signed				
Date 24/7/17 Date				
0				

ID Number 43

Photo Points

Photo Point 1 E 240629 N 6593772 13/07/17 3:33pm
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From North West Corner



Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

Photo Point 2 E240925 N6593562 22/07/17 5:05pm
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From South West Corner





Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreem

ID Number 43

Photo Point 4 E240439	N6592054 13/07/17	3:10pm
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From South West Corner





Biobanking agreement

ID Number 43

From North East Corner





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Photo Point 5 E240595 N6593324 13/07/17 2:31pm	Photo Point 5	E240595	N6593324	13/07/17	2.31000
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From North West Corner



Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

Photo Point 8 E241170 N659	4590 23/07/17	2:05pm
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From North West Corner



ID Number 43





From South East Corner



Biobanking agreement

ID Number 43

Photo Point 9	F241424	N6594095	22/07/17	3:27pm
1 11010 1 01111 3		10004000	22/01/11	0.27 pm



From North West Corner



Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreem

ID Number 43

Photo Point 10	E241780	N6591054	22/07/17	4:36pm



From North West Corner



ID Number 43



From South East Corner



Biobanking agreement

ID Number 43

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Photo Point 11	E241101	N6591953	22/07/17	4:09pm

From South West Corner







From North East Corner



Biobanking agreement

ID Number 43

Photo Point 12	E241321	N6593399	22/07/17	4:54pm

From South West Corner







From South East Corner



Biobanking agreement

ID Number 43

Photo Point 14 E241172 N659	3839 22/07/17	3:20pm
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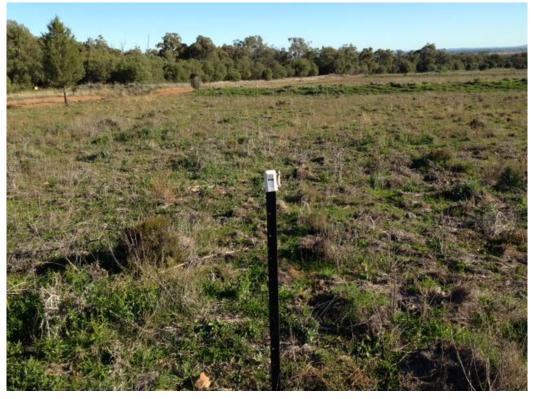


From North West Corner



ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

Photo Point 15 E243373 N6594221 24/07/17 4·29nm		E040070	NCE04004	24/07/17	1.00
	Photo Point 15	E243373	N6594221	24/07/17	4:29pm

From South West Corner





Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

	Photo Point 17	E243026	N6593081	25/07/16	3:36pm
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From North West Corner



Biobanking agreement

From North East Corner





Biobanking agreem		.		ID Number 43
Photo Point 20	E241993	N6595399	23/07/17	3:52pm

From South West Corner





Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

Photo Point 21	E241317	N6594719	23/07/17	2:11pm
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From North West Corner



From North East Corner





Biobanking agreement

ID Number 43

	Photo Point 22	E241476	N6595059	23/07/17	2:25pm
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From North West Corner



ID Number 43



From South East Corner



Biobanking agreem	nent			ID Number 43
Photo Point 23	E241304	N6595199	23/07/17	2:33pm



From North West Corner



ID Number 43



From North East Corner



Biobanking agreement

ID Number 43

Photo Point 24	E241672	N6597031	23/07/17	2:55pm
1 11010 1 01111 24	L2+1072	10001001	20/01/11	2.00pm

From South West Corner





ID Number 43

From North East Corner





ID Number 43

Photo Point 26 E241410	N6596513	26/07/16	11:48am
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From North West Corner



ID Number 43

From North East Corner





ID Number 43

	Photo Point 27	E241465	N6591717	22/07/17	4:18pm
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From South West Corner



From North West Corner





From South East Corner



Biobanking agreement

ID Number 43

Photo Point 30 E241383 N6592453 22/07/17	3:53pm

From South West Corner



From North West Corner



Biobanking agreement

ID Number 43



From South East Corner



Biobanking agreement

ID Number 43

Photo Point 35	E241839	N6595941	23/07/17	3:32pm

From South West Corner



From North West Corner



Biobanking agreement

ID Number 43

From North East Corner





ID Number 43

Photo Point 38	E242139	N6596965	23/07/17	3:13pm



From North West Corner



Biobanking agreement

ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

Photo Point 40 E2411	1 N6595487	24/07/16	3:50pm
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From North West Corner



ID Number 43

From North East Corner





Biobanking agreement

Photo Point 42 E240603 N6597014 23/07/17 3:00pm					
Dam site that has been in-filled					
From South West Corner					



From North West Corner



ID Number 43

From North East Corner





Biobanking agreement

ID Number 43

Photo Point 43 E240603	N6591987	13/07/17	3:03pm
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From South West Corner



From North West Corner



ID Number 43

From North East Corner





ID Number 43

INSPECTION OUTCOMES (SECTION 1.3 OF ANNEXURE D)

BIOBANK SITE VISUAL INSPECTION PROFORMA – QUARTERLY STOCK ACCESS INSPECTION

Who: Trevor Jones, Property Manager

Date: 16th July 2016

INSPECTION ITEM	PHOTO NO.	CO-ORDINATES	COMMENT	ACTION COMPLETED
Evidence of Stock	N/A	N/A	No evidence of stock	No action required.
accessing the			within Biobank site	
Biobank			during this inspection.	

Who: Trevor Jones, Property Manager

Date: 30th October 2016

INSPECTION ITEM	PHOTO NO.	CO-ORDINATES	COMMENT	ACTION COMPLETED
Evidence of Stock accessing the Biobank	N/A	N/A	No evidence of stock within Biobank site during this inspection.	No action required.

Who: Trevor Jones, Property Manager

Date: 18th January 2017

INSPECTION ITEM	PHOTO	CO-ORDINATES	COMMENT	ACTION
	NO.			COMPLETED
Evidence of Stock accessing the	N/A	N/A	No evidence of stock within Biobank site	No action required.
Biobank			during this inspection.	

Who: Trevor Jones, Property Manager

Date: 4th April 2017

INSPECTION ITEM	PHOTO NO.	CO-ORDINATES	COMMENT	ACTION COMPLETED
Evidence of Stock accessing the Biobank	N/A	N/A	No evidence of stock within Biobank site during this inspection.	No action required.

2 Signature

24-7-17

Date

ID Number 43

BIOBANK SITE VISUAL INSPECTION PROFORMA – 6 MONTHLY HUMAN DISTURBANCE, EROSION AND WASTE INSPECTION

Who: Trevor Jones, Property Manager

Date: 16th July 2016

INSPECTION ITEM	PHOTO NO.	CO-ORDINATES	COMMENT	ACTION COMPLETED
Evidence of Disturbance	N/A	N/A	Biobank Site is in good condition with no evidence of active human disturbance present across the site.	No action required.
Evidence of Erosion	N/A	N/A	No evidence of active erosion occurring within the Biobank site requiring remediation activities.	No action required.
Evidence of Waste	N/A	N/A	No evidence of waste disposal occurring within the Biobank site.	No action required.

Who: Trevor Jones, Property Manager

Date: 18th January 2017

INSPECTION ITEM	PHOTO NO.	CO-ORDINATES	COMMENT	ACTION COMPLETED
Evidence of Disturbance	N/A	N/A	Biobank Site is in good condition with no evidence of active human disturbance present across the site.	No action required.
Evidence of Erosion	N/A	N/A	No evidence of active erosion occurring within the Biobank site requiring remediation activities.	No action required.
Evidence of Waste	N/A	N/A	No evidence of waste disposal occurring within the Biobank site.	No action required.

..... Signature

24-7-17

Date

BIOBANK SITE VISUAL INSPECTION PROFORMA – ANNUAL GROUNDCOVER %, AND CONDITION OF FENCING INSPECTION

Who: Trevor Jones, Property Manager

Date: 13th July 2017

INSPECTION ITEM	РНОТО	CO-ORDINATES	COMMENT	ACTION
	NO.			COMPLETED
Percentage of	See all	As per Photo	Groundcover across	Undertake Year 4
Groundcover	Photo	Monitoring	MZ3 would be averaging	direct seeding
across Biobank Site	Monitoring	Points	above 70% which is	revegetation of
	Point		good. Groundcover	native grass seed
	Photo's.		across MZ1 & 2 reduced	across MZ1 and
			due to significant African	MZ2.
			(Consul) Lovegrass and	
			Broadleaf weed control	
			to between 10% and	
			50% ahead of	
			revegetation program.	
Physical condition	N/A	N/A	General maintenance is	No action
of fencing to			ongoing to maintain	required.
determine if they			control of stock. As	
can control the			there is no fencing	
movement of			between the Biobank	
stock, control			and adjoining Kelvin	
human			Aboriginal Area, it can	
disturbance,		-	be difficult to control	
control movement			movement of goats and	
of overabundant			pigs, however ongoing	
native herbivores			pest control will improve	
and control			this aspect over time.	
vertebrate pests				

...... Signature

24-7-17 Date

ID Number 43

REPORTING FORM – FIRE FOR CONSERVATION MANAGEMENT

Who: Trevor Jones, Property Manager

Date: 21st July 2016

MANAGEMENT ZONES	DATE	OBSERVATIONS AND ASSESSMENT OF MONITORING
All	21 st July 2016	During Year 4, no burning for conservation purposes was undertaken on the Biobank Site in accordance with the fire management plan. Monitoring for bushfire control will continue, and firebreaks will be maintained annually in Spring prior to the summer bushfire period.

Signature

24-7-17

Date

BIOBANKING FERAL ANIMAL AND OVERABUNDANT HERBIVORE AND VERTEBRATE PEST MONITORING ACTIVITIES FORM

		MONITORING ACTIVITIES FORM	
Date	Management Zone/s	Current level of impact on vegetation or native fauna (This column must record impact As Negligible, Minimal, Moderate or High)	Minor Variations (details/reasons)
July 2016	1/2/3	Negligible – No cats, wild dogs or rabbits/hare sighted. Minimal – One fox and 2 pigs sighted but plenty of pig sign. High – A number of small mobs of Goats sighted.	No evidence of excessive grazing by kangaroos.
October 2016	1/2/3	Negligible – No cats, wild dogs or rabbits sighted. Minimal – One fox and 2 pigs sighted. High – A number of small mobs of Goats sighted.	Due to fire break maintenance and revegetation ground preparation – no pig sign evident. No evidence of excessive grazing by kangaroos.
December 2016	1/2/3	Negligible – No cats, foxes, wild dogs or rabbits sighted. High – Mob of Goats sighted >100.	Record wet winter/spring in 2016 has limited access to undertake goat harvesting. No evidence of excessive grazing by kangaroos.
May 2017	1/2/3	Negligible – No cats, foxes or wild dogs sighted. Minimal – 11 hares sighted. Moderate – Goats in small mobs sighted. 22 pigs sighted.	High number of Kangaroos observed.

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24-7-17

Date

Signature

BIOBANKING FERAL ANIMAL AND OVERABUNDANT HERBIVORE MANAGEMENT ACTIVITIES FORM

		MANAGEMENT ACTIVITIES FO	RM
Date	Management Zone/s	Description and type of activity undertaken (This column must include details of the feral and overabundant herbivores targeted, control techniques applied and numbers controlled.)	Observations & assessment of monitoring
2008-2015	1,2 & 3	1,220 feral goats and 70 rabbits have been removed from site through both trapping and opportunistic shooting.	At commencement of ownership feral goat numbers were excessive, however ongoing management by the property manager has reduced this number.
September 2016	3	2 goats removed by shooting.	None.
December 2016	2 &3	39 goats trapped and removed to depot/abattoir.	None.
April 2016	2 &3	32 goats trapped and removed to depot/abattoir.	None.
May 2017	1,2 & 3	11 hares shot.	None.
June 2016	2 &3	133 goats trapped and removed to depot/abattoir.	None.

Signature

24-7-17

Date

BIOBANKING VERTEBRATE PEST MANAGEMENT ACTIVITIES FORM

		MANAGEMENT ACTIVITIES	FORM
Date	Management Zone/s	Description and type of activity undertaken (This column must include details of the feral and overabundant herbivores targeted, control techniques applied and no. controlled.)	Observations & assessment of monitoring
2008-2016	1, 2 and 3	376 pigs removed from biobank through opportunistic trapping and shooting and 40 foxes removed by opportunistic shooting.	Pig numbers were very high when WHC acquired the property. General management by the property manager over this time has reduced pig numbers.
July 2016	2&3	5 pigs removed by trapping and shooting	None.
August 2016	2&3	6 pigs removed by trapping and shooting	None.
December 2016	2 & 3	4 pigs removed by trapping and shooting	None.
December 2016	1	2 foxes removed by shooting	None.
March 2017	2	1 fox removed by shooting	None.
April 2017	2	1 fox removed by shooting	None.
April 2017	2	1 pig removed by trapping and shooting	None.
May 2017	2&3	22 pigs removed by trapping and shooting	None.
June 2017	2	2 pigs removed by trapping and shooting	None.

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24-7-17

Signature

Date

BIOBANKING WEED MONITORING ACTIVITIES FORM

		MONITORING ACTIVITIES FORM	
Date	Management Zone/s	Current level of impact on vegetation	Minor Variations (details/reasons)
28 July 2016	2/3	Small number of Box Thorn plants reshooting.	Previously controlled with many individuals dead.
12 January 2017	1/2/3	Bathurst Burr, Thornapple and Heliotrope observed.	None.

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24-7-17

Date

		MANAGEMENT ACTIVITIES FOR	RM
Date	Management Zone/s	Description and type of activity undertaken	Observations & assessment of monitoring
July 2016	1,2 & 3	A couple of small Box Thorns sprayed. Much of MZ1 sprayed for African (Consul) Grass sprayed.	None.
September 2016	1, 2 & 3	A couple of small Box Thorns sprayed. MZ1 and 2 all sprayed for broadleaf weeds and part of MZ3.	Broadleafs included variegated thistle and pattersons curse.
December 2016	1&2	Follow up spraying for African (Consul) Grass.	Initial spraying >80% effective.
January 2016	2 &3	Bathurst Burr, Thornapple and Heliotrope sprayed.	None.
May 2017	1&2	MZ1 and 2 all sprayed for broadleaf weeds.	None.

BIOBANKING WEED MANAGEMENT ACTIVITIES FORM

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24-7-17

Signature

Date