

SPRINGVALE MINE HERITAGE MANAGEMENT PLAN

Extraction plan for Longwalls 424, 425, 426 & 427

PR138532

3

10 August 2021

REPORT

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
0	Draft for internal review	Tessa Boer-Mah and Ben Slack	Tessa Boer-Mah	Tessa Boer-Mah	27/2/2018
1	Final for Client	Tessa Boer-Mah and Ben Slack	Tessa Boer-Mah	Tessa Boer-Mah	20/03/2018
2	Revised final for Client	Kate Morris	Ben Slack	Ben Slack	30/04/2021
3	Revised final for Client	Kate Morris	Ben Slack	Ben Slack	10/08/2021

Approval for issue

Ben Slack



10/08/2021

This report was prepared by RPS within the terms of RPS' engagement with its client and in direct response to a scope of services. This report is supplied for the sole and specific purpose for use by RPS' client. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

Prepared by:

RPS

Ben Slack
Senior Heritage Consultant

Unit 2A, 45 Fitzroy Street
Carrington NSW 2294

T +61 2 4940 4200
E ben.slack@rpsgroup.com.au

Prepared for:

Centennial Coal - Springvale

Natalie Gardiner
Environment and Community Coordinator

980 Castlereagh Highway
Lidsdale NSW 2790

T +61 2 9350 1672
E Natalie.Gardiner@centennialcoal.com.au

ACKNOWLEDGEMENTS

Centennial Coal would like to acknowledge the Traditional Custodians of the Blue Mountains in which it operates. Centennial also recognises that the territorial boundary and extent of each Aboriginal group's interest and spiritual and cultural connection to the Country varies.

We acknowledge the importance of the Traditional Owners in the greater understanding of the area, and special acknowledgement is extended to the Elders (past, present and future) for they are the holders of knowledge, traditions, culture and aspirations of the Aboriginal people.

EXECUTIVE SUMMARY

Springvale Mine is an existing underground coal mine located in the Western Coalfield of NSW, approximately 15 km northwest of Lithgow and 120 km west-northwest of Sydney. RPS was commissioned by Springvale Coal Pty Ltd (Springvale Coal) to prepare a Heritage Management Plan to support an Extraction Plan for the extraction of coal from Springvale Mine longwall panels 424 to 427.

The Extraction Plan Area for this Heritage Management Plan encompasses the 26.5 degree angle of draw around the secondary extraction areas of Longwalls 424 to 427. This report has considered the environmental and archaeological context of the Extraction Plan Area, identified the predicted environmental consequences of the proposed second workings on Aboriginal and non-Aboriginal heritage items within the Extraction Plan Area and details management and mitigation measures where required.

The LW 424 – 427 Extraction Plan Area contains a total of eight Aboriginal registered sites; AHIMS 45-1-2669 (artefact scatter), 45-1-0185 (artefact scatter), 45-1-0184 (artefact scatter), 45-1-0005 (grinding grooves), 45-1-0002 (grinding grooves), 45-1-0065 (shelter with grinding grooves and deposit); AHIMS 45-1-2796 (artefact scatter), and AHIMS 45-1-2805 (grinding grooves).

One locally listed heritage item also exists in the Extraction Plan Area, I245 is listed on the Lithgow LEP and consists of the Wolgan Valley Railway Corridor (Newnes to Zig Zag). The present state of physical archaeological remains associated with this item within the Extraction Plan Area is unknown. The majority of the route currently follows an unsealed public road.

The revised MSEC (2020) prepared subsidence predictions for all sites (Aboriginal and European), providing maximum predicted tilt, curvature and strain with predicted values based on the EIS layout. Based on the MSEC (2020), the performance measures for the sites within the Extraction Plan Area will be achieved. Monitoring, mitigation and management measures will be implemented to ensure inadvertent harm to sites can be avoided.

The predicted sagging curvature slightly increases for the artefact site 45-1-2669, however the predicted hogging curvature for this site decreases. The potential for surface cracking in this location does not change. It is unlikely that the artefact scatter sites would experience adverse impacts due to surface cracking. It is also unlikely that the grinding groove sites and rock shelter would experience adverse impacts due to their distances from the longwalls. Based on the predicted subsidence level, it is highly unlikely that these sites will experience adverse disturbance, but the management of these sites, as detailed in Centennial Coal's Western Region ACHMP should still be followed.

The following recommendations have been made to ensure that inadvertent harm to Aboriginal sites can be avoided and ensure the performance criteria for Aboriginal Heritage sites, as detailed within the Springvale Mine Development Consent (SSD 5594) are achieved.

Recommendation 1

It is recommended that AHIMS 45-1-2669, 45-1-0185, 45-1-0184, 45-1-0005, 45-1-0002, 45-1-0065, 45-1-2796, and 45-1-2805 be managed according to the procedures as outlined in Centennial Coal's Western Region Aboriginal Cultural Heritage Management Plan (ACHMP) and this includes baseline recording and monitoring.

Recommendation 2

The locally listed Wolgan Valley Railway (Newnes to Zig Zag) (I245) be managed according to the procedures as outlined in Centennial Coal's Western Region Historic Heritage Management Plan (HHMP)

Recommendation 3

If unrecorded Aboriginal object/s are identified in the Project Area during works, then all works in the immediate area must cease and the area cordoned off. The area is to be managed in accordance with the procedures outlined in Centennial Coal's Western Region Aboriginal Cultural Heritage Management Plan (ACHMP).

Recommendation 4

If, during the course of development works, suspected historic cultural heritage material is uncovered, work should cease in that area immediately and procedures followed as outlined in Centennial Coal's Historic Heritage Management Plan – Western Region.

Contents

ACKNOWLEDGEMENTS	ii
EXECUTIVE SUMMARY	iii
1 INTRODUCTION	1
1.1 Stakeholder Engagement and Document Development.....	1
1.2 Authorship	1
2 PURPOSE	3
3 SCOPE	4
3.1 Management Area.....	4
3.2 Mining Approval	4
4 REGULATORY REQUIREMENTS	5
5 MINE DESIGN TO AVOID AND MITIGATE POTENTIAL IMPACTS	8
6 RELEVANT FEATURES, SUBSIDENCE PREDICTIONS AND IMPACTS	9
6.1 AHIMS in Extraction Area	9
6.1.1 AHIMS Site 45-1-0065	9
6.1.2 AHIMS Site 45-1-2669.....	9
6.1.3 AHIMS Site 45-1-0184.....	9
6.1.4 AHIMS Site 45-1-0185.....	9
6.1.5 AHIMS Site 45-1-0005.....	9
6.1.6 AHIMS Site 45-1-0002.....	9
6.1.7 AHIMS Site 45-1-2805.....	10
6.1.8 AHIMS 45-1-2796	10
6.2 Relevant Features – Historic Heritage	13
6.3 Aboriginal Heritage.....	13
6.4 Historic Heritage Significance	13
6.5 Aboriginal Heritage Significance	13
6.6 Cultural (Aboriginal) Significance.....	14
6.7 Predicted Subsidence and Potential Impacts	14
6.8 Updated Subsidence Predictions.....	15
6.8.1 Review of Potential Subsidence Impacts and Environmental Consequences	15
7 PERFORMANCE MEASURES	16
8 MONITORING AND MITIGATION	17
8.1 Historic	17
8.1.1 Heritage Sites Monitoring Program.....	17
8.2 Aboriginal	17
8.2.1 Monitoring Protocols for Artefact Scatters/Isolated Finds/Open Quarries.....	17
8.2.2 Monitoring Protocols for Structurally Sensitive Sites (Grinding Grooves and Rockshelters).....	18
8.3 Summary of Mitigation Measures.....	19
9 ADAPTIVE MANAGEMENT	20
9.1 9.1 Centennial Coal Management Framework	20
9.2 Adaptive Management Strategy for Springvale Mine	20
9.3 Remediation / Rehabilitation of Potential Impacts	21
10 CONTINGENCY PLAN	22
11 REPORTING AND NOTIFICATIONS	23
12 CONTINUAL REVIEW AND IMPROVEMENT	25

13 CONCLUSIONS AND RECOMMENDATIONS26

14 REFERENCES27

Tables

Table 1 Consultation undertaken for this management plan1

Table 2 Key Conditions of Development Consent SSD_5594.....5

Table 3 AHIMS within the Extraction Plan Area.....13

Table 4 Assessed Levels of Significance (Scientific) for Aboriginal Sites13

Table 5 Cultural Significance results.....14

Table 6 SSD 5594 Performance Measures for Aboriginal and historic heritage16

Table 7 Reporting and Notification Requirements23

Table 8 Trigger Action Response Plan29

Table 9 Extraction Plan Guideline Requirements32

Figures

Figure 1 Extraction Plan Area for Longwalls 424, 425, 426 & 4272

Figure 2 Extraction Plan Area with AHIMS.....11

Figure 3 LEP items12

Appendices

- Appendix A Trigger Action Response Plan
- Appendix B Other Relevant Regulatory Requirements
- Appendix C Development Consent SSD_5594
- Appendix D Lithgow City Council LEP Inventory Sheet I245
- Appendix E Aboriginal Heritage Site Cards
- Appendix F Consultation Documents

1 INTRODUCTION

RPS was commissioned by Springvale Coal Pty Ltd (Springvale Coal) to prepare a Heritage Management Plan to support an Extraction Plan for the extraction of Springvale Mine Longwalls 424, 425, 426 and 427.

Springvale Mine is an existing underground coal mine producing high quality thermal coal which is supplied to local domestic markets. The Springvale pit top is located to the west of the Blue Mountains (Figure 1) in the Western Coalfield of NSW, approximately 15 km northwest of Lithgow and 120 km west-northwest of Sydney, NSW.

Underground mining commenced at Springvale in 1995. Springvale Mine was granted Development Consent SSD 5594 on 21 September 2015 by the NSW Planning and Assessment Commission. The main components of Springvale Mine's existing operations are an underground longwall mine, accessed via the Springvale pit top and supporting surface infrastructure within the pit top area and on Newnes Plateau within the Newnes State Forest. The mine previously submitted an Environmental Impact Statement (EIS) to extract Longwalls 416 through 432 and 501 through 503 under the recently approved Development Consent SSD 5594.

The Extraction Plan Area for this Heritage Management Plan encompasses the 26.5-degree angle of draw around the secondary extraction areas of Longwalls 424 to 427 as shown on Figure 1.

The 424-427 Heritage Management Plan has been updated to address requirements of SSD_5594 MOD3 which was determined by DPIE on 2 June 2021.

1.1 Stakeholder Engagement and Document Development

This management plan has been developed in consultation with key stakeholders as required by the Development Consent SSD_5594. Version 1 of the Longwall 424-427 Heritage Management Extraction Plan consultation is documented in Volume 1 Appendix 3 of the approved Extraction Plan. **Table 1** will be updated following consultation.

Table 1 Consultation undertaken for this management plan

Stakeholder	Date	Comments/Issues Raised
Lithgow City Council	26/5/2021	Satisfied with the plan and no objections
Heritage NSW	16/6/2021	Version addresses newly identified Aboriginal heritage sites.
	16/7/2021	No feedback provided.
Local Aboriginal stakeholders	10/6/2021	Undermining of AHIMS site 45-1-2805 and mitigation of impacts.

1.2 Authorship

This report was prepared by RPS Heritage Consultants Kate Morris, Tessa Boer-Mah, Ben Slack and Alex Byrne. The document was reviewed by Ben Slack (RPS Senior Heritage Consultant Newcastle).

Figure 1 Extraction Plan Area for Longwalls 424, 425, 426 & 427

2 PURPOSE

This Heritage Management Plan was prepared to support an Extraction Plan for the extraction of coal from the Springvale Mine LW424 to 427. The locations of the longwalls are shown in Figure 1 above. The colliery previously submitted an EIS for LW 416 to 432 and 501 to 503, located to the south of the existing longwalls at Springvale.

This Heritage Management Plan has been designed to identify the monitoring and management measures for heritage sites within the Extraction Plan Area which must be implemented to demonstrate that the relevant performance measures are achieved. Mitigation and management measures have been proposed where relevant.

While negligible impacts to heritage have been predicted for works under consent SSD_5594, this management plan importantly establishes appropriate monitoring and management frameworks to confirm that this is so for sites within the Extraction Plan Area and provides baseline monitoring for subsequent secondary extraction plans to follow in future.

3 SCOPE

This Management Plan:

- Addresses specific requirements set by Condition 10(vii) in Schedule 3 of SSD_5594, and related regulatory requirements in accordance with Condition 2 of Schedule 6 as outlined in Section 4.
- Manages first workings within the Extraction Plan Area defined in Section 3.1 below.

Addresses the monitoring and management of potential subsidence-related impacts to Aboriginal and historic heritage resulting from the extraction of longwalls LW424-427 and includes a Trigger Action Response Plan Appendix A. It also addressed the regulatory requirements (Appendix B) and the Development Consent SSD_5594 (Appendix C).

Registered Aboriginal parties undertake inspections of Aboriginal heritage sites and may discover previously unidentified sites. Centennial will adopt the management and monitoring practices outlined in the Modification 3 Modification Report as described in this document.

Version 2 of the document was prepared during the Extraction of Longwall 427 in 2021 to address newly identified Aboriginal heritage sites since the determination on SSD 5594 in 2015.

3.1 Management Area

This management plan applies to the following Extraction Plan Area (EP Area) illustrated on Figure 1.

- LW 424-427 within boundary of consent SSD_5594
- Includes all second workings proposed within the Extraction Plan Area from the date of consent SSD_5594 for the duration of the approval granted, as detailed in the Extraction Plan.

The Extraction Plan is approved for Longwalls 425, 426 and 427 only per conditional approval dated 27 July 2018. Longwall 424 is shown for consistency in the extraction plan documentation only.

3.2 Mining Approval

Underground coal mining commenced at Springvale Mine in 1995 following the granting of the development consent DA 11/92 on 27 July 1992. The DA was issued for Mining Lease (ML) 1326, issued on 28 September 1993. This approval was valid for 21 years and would have expired in 2014, however a modification to the consent was sought and gained which permitted operations to continue until 30 September 2015. At this time an Environmental Impact Statement was prepared to support an application for the continuation of underground longwall mining at Springvale Mine beyond the expiry of DA 11/92. The project was approved as a State Significant Development (SSD) on 21 September 2015 and is referred to as SSD_5594.

4 REGULATORY REQUIREMENTS

Centennial Springvale's operations are conducted in accordance with applicable State and Commonwealth environmental, planning, mining, safety and natural resource legislation. Centennial Springvale maintains a register of relevant environmental legislative and regulatory requirements in a compliance database.

The Springvale Mine Extension Project (MEP) was granted Development Consent SSD_5594 on 21 September 2015. The consent provides the conditional planning approval framework for mining activities to be addressed within an Extraction Plan and supporting management plans required by Condition 10 in Schedule 3, as detailed in Table 2. Performance measures relevant to this management plan (as described in Schedule 3 of SSD_5594) are detailed separately in Section 7.

In accordance with Condition 2, Schedule 6 of SSD_5594, other applicable requirements of development consent, EIS/Statement of Commitments and other related approvals, leases, licences, and guidelines relevant to this management plan are presented in Appendix B. This includes the *Guidelines for the Preparation of Extraction Plans* (DP&E, V5 2015).

Table 2 Key Conditions of Development Consent SSD_5594

Condition	Requirement	Section Addressed
Schedule 3, Condition 1 (<i>Performance Measures – Natural and Heritage Features, etc</i>)	The Applicant must ensure that the development does not cause any exceedances of the performance measures in Table 1 to the satisfaction of the Secretary. (<i>Refer to Section 7 for details of relevant Performance Measures listed by SSD_5594</i>).	Section 6 and 7
Schedule 3, Condition 10 (<i>Extraction Plan</i>)	The Applicant shall prepare and implement an Extraction Plan for all second workings on site to the satisfaction of the Secretary: Each Extraction Plan must:	
	(e) Provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed mining covered by the Extraction Plan, incorporating any relevant information obtained since this consent.	Section 6
	(g) describe in detail the performance indicators that would be implemented to ensure compliance with the performance measures in Tables 1 and 2 and manage or remediate any impacts and/or environmental consequences to meet the rehabilitation objectives in condition 30 of Schedule 4.	Section 7
	(h) include a <i>vii) Heritage Management Plan</i> which has been prepared in consultation with HNSW and relevant stakeholders for both Aboriginal and non-Aboriginal heritage, which provides for the management of potential environmental consequences of the proposed second workings on Aboriginal and non-Aboriginal heritage and includes all requirements under condition 24 of Schedule 4.	This document
	(h) include a <i>ix) TARPs</i> addressing all features in Tables 1 and 2, which contain: <ul style="list-style-type: none"> • Appropriate triggers to warn of increased risk of exceedance of any performance measure; and • Specific actions to respond to high risk of exceedance of any performance measure to ensure that the measure is not exceeded; • As assessment of remediation measures that may be required if exceedances occur and the capacity to implement the measures. 	Appendix 1
	(h) include a <i>x) Contingency Plan</i> that expressly provides for: <ul style="list-style-type: none"> • Adaptive management where monitoring indicates that here has been an exceedance of any performance 	Section 9

Condition	Requirement	Section Addressed
	<p>measure in Tables 1 and 2, or where any such exceedance seems likely; and</p> <ul style="list-style-type: none"> An assessment of remediation revisions that may be required if exceedances occur and the capacity to implement those measures. 	
	<p>(h) include a</p> <p><i>xii</i>) program to collect sufficient baseline data for future Extraction Plans</p>	Section 8
	<p>(h) Notes:</p> <ul style="list-style-type: none"> In accordance with Condition 7 in Schedule 6, the preparation and implementation of Extraction Plans may be <u>staged</u>, with each plan covering a defined area of underground workings. In addition, these plans are only required to contain management plans that are relevant to the specific underground workings that are being carried out. Due to the sensitive and rugged terrain of the Newnes Plateau, the Applicant may propose remote subsidence monitoring techniques. 	Section 3
Schedule 4, Condition 23 <i>Protection of Aboriginal Heritage Items</i>	<p>Unless otherwise authorised under <i>National Parks and Wildlife Act 1974</i>, the Applicant shall ensure that the development does not cause any direct or indirect impact on identified Aboriginal heritage items located outside approved disturbance areas on the site.</p> <p><i>Note: Identified Aboriginal heritage items are shown on the figure in Appendix 6 (of consent).</i></p>	
Schedule 4, Condition 24 <i>Heritage Management Plan</i>	The Applicant shall prepare a Heritage Management Plan for the development to the satisfaction of the Secretary.	ACHMP Western Holdings And HMP Western Holdings
Schedule 6, Condition 2 <i>Management Plan Requirements</i>	The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:	
	a) Detailed baseline data;	Section 8
	b) A description of:	
	<ul style="list-style-type: none"> The relevant statutory requirements (including any relevant approval, licence or lease conditions); Any relevant limits or performance measures/criteria; The specific performance indicators or triggers that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures. 	Section 4, Appendix 2 Section 7 Section 7
	c) A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria.	Section 5 and 6
	d) A program to monitor and report on the:	Section 8
	<ul style="list-style-type: none"> Impacts an environmental performance of the development; Effectiveness of any management measures (see c) above); 	
	e) A contingency plan to manage any unpredicted impacts and consequences	Appendix 1
	f) A program to investigate and implement ways to improve the environmental performance of the development over time	Section 12
	g) A protocol for managing and reporting any:	Section 11
	<ul style="list-style-type: none"> Incidents; 	

REPORT

Condition	Requirement	Section Addressed
	<ul style="list-style-type: none">• Complaints;• Non-compliances with statutory requirements; and• Exceedances of the impact assessment criteria and/or performance criteria; and	
	h) A protocol for periodic review of the plan.	Section 12

5 MINE DESIGN TO AVOID AND MITIGATE POTENTIAL IMPACTS

The mine design has been specifically developed in response to the sensitive surface features and environment in order to avoid significant impact. As a result, Springvale Mine operates in specific mining zones using low-impact underground mining methods that limit void widths and leaves sufficiently large pillars to support the overburden and prevent subsidence impacts.

Longwall mining techniques are undertaken at Springvale Mine. Through conservative mine planning, Springvale Mine has sought to avoid or reduce impacts upon sensitive surface features situated on Newnes Plateau. A review of subsidence results for all extracted longwalls at Springvale Mine during the preparation of the Environmental Impact Statement showed that there had been an increase in subsidence above the last six longwalls extracted compared with the first ten. Increases in measured subsidence were attributed to mining geometry changes.

Springvale Mine has used width to depth ratios to inform future mine design as they are the most important predictors of subsidence behaviour.

The following parameters are presented in the Environmental Impact Statement, as approved by the development consent SSD_5594:

- The maximum total subsidence is 1650 mm which represents approximately 52% of the 3.2 m maximum extraction height. Predicted total tilt is 25mm/m (i.e. 2.5%) which represents a change in grade of 1 in 40.
- Maximum predicted total curvatures are 0.60km^{-1} hogging and 0.60km^{-1} sagging, which represent minimum radii of curvature of 1.7 kilometres and 1.7 kilometres.

The maximum predicted vertical subsidence specifically for LW424 to 427 as provided in the Environmental Impact Statement was 1050 mm, however the Extraction Plan prepared by MSEC for these longwalls indicates that vertical movement may be as much as 1150 mm. This increase is due to the modified mining sequence, where LW424 is extracted after the completion of LW425 to 427, thereby resulting in additional subsidence above LW425.

6 RELEVANT FEATURES, SUBSIDENCE PREDICTIONS AND IMPACTS

This section outlines the historic heritage in the Extraction Plan Area as well as outlining the background history which contributes to its significance assessment of the heritage items.

6.1 AHIMS in Extraction Area

The following provides a summary of the sites located in the Extraction Plan Area.

6.1.1 AHIMS Site 45-1-0065

45-1-0065 was originally recorded in 1981 and consists of a shelter with grinding grooves and deposits.

A subsequent survey of the site in 2013 located the site approximately 113 metres west of the registered coordinates. It was noted that the site was in relatively good condition although some rock fall had been observed at the site. A number of water holes, grinding grooves and the rock shelter itself were identified, however no stone artefacts were observed in association with this site.

6.1.2 AHIMS Site 45-1-2669

Artefact scatter 45-1-2669 consists of five quartzite flakes recorded in 1998 on a fire trail adjoining the southernmost pine plantation above longwall 425. Disturbances noted during the initial survey consisted of vehicle movements and grader scrapes and were noted as being “likely not in-situ”.

6.1.3 AHIMS Site 45-1-0184

Originally recorded in 1998, AHIMS site 45-1-0184 comprises at least 10 quartz flakes and at least 5 indurated mudstone flakes located in a 10 x 20 metre adjacent to Paddy’s Creek. The site was in a disturbed context located within a heavily utilised dirt track.

6.1.4 AHIMS Site 45-1-0185

AHIMS site 45-1-0185 was identified in 1998 on the margins of Paddy’s swamp and consists of at least 10 quartz cores and flakes.

A subsequent survey of the site was conducted in 2016, GPS co-ordinates placed the site on the northern side of the dirt track, however, site descriptions and sketches showed the site to the west and adjacent to Paddy’s Creek. No artefacts could be relocated throughout this area and no new sites were identified during this survey.

6.1.5 AHIMS Site 45-1-0005

The grinding groove site 45-1-0005 was initially recorded in 1977 consisting of 8 grinding grooves near to a water hole on a large flat outcropping of sandstone above longwall 426. An updated site survey conducted in 1991 found the sites to be in good condition.

6.1.6 AHIMS Site 45-1-0002

45-1-0002 is a grinding groove complex located close to Bungleboori Picnic area. The site was originally recorded in 1970 and comprised a total of twelve grinding grooves on a flat rock surface. A subsequent report conducted after the original recording found the site to be in poor condition and very faint with only two grinding grooves identified.

6.1.7 AHIMS Site 45-1-2805

AHIMS 45-1-2805 is a Grinding Groove site recorded in 2019 and is located on a slope 700m north-east of the Bungleboori Camp Site. Six grinding grooves were recorded in an area approximately 5x5m. It was noted that more grinding grooves were likely however dense vegetation cover including leaf litter and soils covered much of the sandstone outcropping. A nearby water hole in the form of a large depression sits adjacent to several grinding grooves.

6.1.8 AHIMS 45-1-2796

AHIMS 45-1-2796 was recorded in 2017 as an isolated find on the Newnes Plateau. The artefact is a single quartz flake with axial termination and three negative flake scars on the dorsal surface. The dimensions are a length of 22mm, width of 17mm, and thickness of 9mm.

Figure 2 Extraction Plan Area with AHIMS



Legend

- Extraction Plan Area / Trigger Investigation Area (TIA)
- LW424 - 427 EP Area
- Longwalls 425 - 247
- SVC Approved Boundary
- Tracks & Roads
- 10m Contours
- Drainage
- Existing Workings
- Proposed Workings

AHIMS

- Artefact Scatter
- Axe Grinding Groove
- Axe Grinding Groove, Shelter with Art
- ◆ Axe Grinding Groove, Shelter with Deposit
- ▼ Scarred Tree
- Shelter with Art
- ▼ Shelter with Deposit
- Stone Arrangement

IMPORTANT NOTE

1. This plan was prepared for the sole purposes of the client for the specific purpose of producing a photographic overlay plan. This plan is strictly limited to the Purpose and does not apply directly or indirectly and will not be used for any other application, purpose, use or matter. The plan is presented in the assumption of a duty of care to any other person (other than the Client ("Third Party")) and may not be relied on by Third Party.
2. RPS Australia East Pty Ltd will not be liable (in negligence or otherwise) for any direct or indirect loss, damage, liability or claim arising out of or incident to:
 - a. a Third Party publishing, using or relying on the plan;
 - b. RPS Australia East Pty Ltd relying on information provided to it by the Client or a Third Party where the information is incorrect, incomplete, inaccurate, out-of-date or unrepresentative;
 - c. any inaccuracies or other faults with information or data received from a Third Party;
 - d. RPS Australia East Pty Ltd relying on surface indicators that are incorrect or unrepresentative;
 - e. the Client or any Third Party not verifying information in this plan where recommended by RPS Australia East Pty Ltd;
 - f. judgement of this plan with any local authority against the recommendation of RPS Australia East Pty Ltd;
 - g. the accuracy, reliability, suitability or completeness of any approximations or estimates made or referred to by RPS Australia East Pty Ltd in this plan.
3. Without limiting paragraph 1 or 2 above, this plan may not be copied, distributed, or reproduced by any person unless this note is clearly displayed on the plan.
4. The aerial photography used in this plan has not been rectified. This image has been overlaid on a best fit on the boundaries shown and position is approximate only.



TITLE : **FIGURE 2: EXTRACTION PLAN AREA WITH AHIMS** LOCATION : **SPRINGVALE** DATUM: GDA 1994 DATE : **30/04/2021** VERSION (PLAN BY): **F A3 (Natalie.Wood)**

PROJECTION: GDA 1994 MGA Zone 56 PURPOSE: **HERITAGE** PATH: S:\Centennial\All Jobs\138532 Longwalls - Heritage Management Plan\10 - Drafting\Arcgis Map Documents\Arch\138532 Figure 2 AHIMS F A3 20210430.mxd

Figure 3 LEP items



Legend

- Extraction Plan Area / Trigger Investigation Area (TIA)
- LW424 - 427 EP
- Longwalls 425 - 247
- SVC Approved Boundary

Listed Historic Heritage Items

- Lithgow LEP (Built)
- Workings
- Springvale_Proposed_Longwalls
- Tracks & Roads
- 10m Contours
- Drainage

IMPORTANT NOTE

1. This plan was prepared for the sole purpose of the client for the extraction of coal as a geotechnical mining plan. This plan is not to be used for any other purpose, including but not limited to, but not limited to, the construction of any infrastructure, including, but not limited to, roads, bridges, railways, or any other infrastructure. The plan is prepared without the assumption of a duty of care or any other legal obligation. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

2. RPS Australia East Pty Ltd will not be liable for any negligence or otherwise for any direct or indirect loss, damage, liability or other loss or expenditure.

3. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

4. RPS Australia East Pty Ltd is not responsible for any information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

5. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

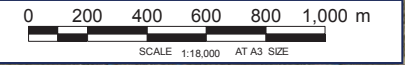
6. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

7. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

8. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

9. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.

10. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client. The client is responsible for the accuracy and completeness of the information provided to the client.



TITLE : FIGURE 3: EXTRACTION PLAN AREA WITH HERITAGE ITEMS **LOCATION :** SPRINGVALE **DATUM:** GDA 1994 **DATE :** 27/02/2018 **VERSION (PLAN BY):** D A3 (Natalie.Wood)

PROJECTION: GDA 1994 MGA Zone 56 **PURPOSE:** HERITAGE **PATH:** S:\Centennial\All Jobs\138532 Longwalls - Heritage Management Plan\10 - Drafting\Arcgis Map Documents\Arch\138532 Figure 3 Heritage Items D A3 20180227.mxd

6.2 Relevant Features – Historic Heritage

One site occurs within the Extraction Plan Area; locally listed I245, the Wolgan Valley Railway (Newnes to Zig Zag) (Appendix D). This railway and the route generally follows an unsealed public road.

Possible remains of this item may be present within the subsidence zone of LW424 to 427.

The item as a whole is locally significant as part of the early infrastructure which connected Newnes to the Main Western Line, and was built by Henry Deane in standard gauge, making it compatible with lines to Sydney. Extant remains of this line in recognisable condition would be highly significant in contributing to the local heritage value.

6.3 Aboriginal Heritage

There are eight Aboriginal sites registered on AHIMS in the Extraction Plan Area Appendix E.

Table 3 AHIMS within the Extraction Plan Area

AHIMS Number	Site Types	Easting	Northing
45-1-2669	Artefact Scatter	240500	6299923
45-1-0185	Artefact Scatter	241305	6298690
45-1-0184	Artefact Scatter	240854	6298589
45-1-0005	Grinding Grooves	240064	6301189
45-1-0002	Grinding Grooves	239404	6300589
45-1-0065	Grinding Grooves and Shelter with Deposit	241091	6299415
45-1-2796	Artefact Scatter	238877	6298948
45-1-2805	Grinding Grooves	239931	6300959

6.4 Historic Heritage Significance

The Wolgan Valley (I245) is registered on the Lithgow local environment plan and holds local significance (Lithgow City Council 2014) (Figure 3).

6.5 Aboriginal Heritage Significance

The archaeological significance of the identified Aboriginal sites has been assessed and is summarised in Table 4.

Table 4 Assessed Levels of Significance (Scientific) for Aboriginal Sites

AHIMS#	Site Type	Significance Scale		Representativeness		Integrity	Education-Potential	Research Potential	Overall Significance Rank	Overall Significance
		Local	Regional	Rarity	Integrity					
45-1-2669	Artefact Scatter	Local	1	1	1	1	1	1	5	Low
		Regional	1	1	1	1	1	1	5	Low
45-1-0184	Artefact Scatter	Local	1	1	1	1	1	1	5	Low
		Regional	1	1	1	1	1	1	5	Low
45-1-0185	Artefact Scatter	Local	1	1	1	1	1	1	5	Low
		Regional	1	1	1	1	1	1	5	Low

AHIMS#	Site Type	Significance Scale		Representativeness		Education-Potential	Research Potential	Overall Significance Rank	Overall Significance
		Local	Rarity	Integrity	Integrity				
45-1-0005	Grinding Grooves	Local	2	2	1	2	2	9	Moderate
		Regional	2	2	1	2	2	9	Moderate
45-1-0002	Grinding Grooves	Local	2	2	1	2	2	9	Moderate
		Regional	2	2	1	2	2	9	Moderate
45-1-0065	Grinding Grooves and Shelter with Deposit	Local	3	3	3	3	3	15	High
		Regional	2	2	2	2	2	10	Moderate
45-1-2805	Grinding Grooves	Local	2	2	2	2	2	10	Moderate
		Regional	2	2	1	2	2	9	Moderate
45-1-2796	Artefact Scatter	Local	1	1	1	1	1	5	Low
		Regional	1	1	1	1	1	5	Low

6.6 Cultural (Aboriginal) Significance

The Registered Aboriginal Parties undertook a cultural significance assessment of the sites on 30 March 2015 as part of a workshop for Centennial Coal’s Western Region Aboriginal Cultural Heritage Management Plan (RPS 2016). A meeting was held on 19 January 2021 to rank the cultural significance of the recently identified AHIMS sites 45-1-2805 and 45-1-2796.

Sites with extremely high cultural significance included areas which had exceptional site types, which was indicative of special purpose sites and cultural activities.

The cultural significance of the Aboriginal heritage sites within the Extraction Plan Area are detailed in Table 5.

Table 5 Cultural Significance results

Site	Site Type	Significance
45-1-2669	Artefact Scatter	Extremely High
45-1-0185	Artefact Scatter	Extremely High
45-1-0184	Artefact Scatter	Extremely High
45-1-0005	Grinding Grooves	Extremely High
45-1-0002	Grinding Grooves	Extremely High
45-1-0065	Grinding Grooves and Shelter with Deposit	Extremely High
45-1-2805	Grinding Grooves	Extremely High
45-1-2796	Isolated Find	Extremely High

6.7 Predicted Subsidence and Potential Impacts

Condition 10(e) of the consent requires a review of the potential impacts and environmental consequences for the revised predictions of potential subsidence effects, subsidence impacts and environmental consequences to be presented within the Extraction Plan for the EP Area, including any relevant information obtained since the EIS and consent.

6.8 Updated Subsidence Predictions

The predicted subsidence parameters for the proposed LW424 to LW427 have been obtained using the incremental profile method. The maximum predicted conventional parameters above the proposed longwalls are 1150 mm vertical subsidence, 7.5 mm/m tilt, 0.11 km⁻¹ hogging curvature and 0.14 km⁻¹ sagging curvature.

The maximum predicted vertical subsidence of 1150 mm is slightly greater than the maximum predicted value of 1050 mm based on the EIS layout. This increase is due to the modified mining sequence, where LW424 is extracted after the completion of LW425 to LW427, which results in additional subsidence above LW425. The potential for impact on the surface features does not result from vertical subsidence itself, rather it depends on the differential movements. The maximum predicted tilt, curvature and strain are slightly less than the maximum predicted values based on the EIS layout.

The extent of vertical subsidence in the southern part of the mining area reduces due to the shortened commencing ends of LW424, LW425 and LW427. The surface area located directly above the proposed longwalls reduces from 325 ha to 300 ha (MSEC 2017:2).

It is noted that the predicted subsidence parameters for the areas in which known Aboriginal sites are located are the same or less than those presented in the Environmental Impact Statement. The predicted sagging curvature slightly increases for the site located directly above the longwalls (AHIMS 45-1-2669), but predicted hogging curvature decreases. The potential for surface cracking has not changed and it is unlikely that the artefact sites would experience adverse impacts due to surface cracking. According to MSEC, known grinding groove and rockshelter sites are located outside the predicted impact zone of undermining and it is considered highly unlikely that there would be adverse impacts. Minor cracking could occur along the section of the disused railway corridor located directly above the proposed LW426 and LW427; this is consistent with the EIS for this area (MSEC 2017:58).

6.8.1 Review of Potential Subsidence Impacts and Environmental Consequences

Condition 10(e), Schedule 3, of Development Consent requires a review of potential impacts and environmental consequences for the revised subsidence predictions (as presented above in Section 6.8) to confirm these are equal to or less than those approved by development consent under SSD_5594 (as is required).

As noted above, the Extraction Plan is for secondary extraction by retreat longwall mining technique. Negligible subsidence impacts are predicted for the proposed works and accordingly, no significant impact is predicted for the known Aboriginal and Historic Heritage Sites within the Extraction Plan Area.

6.8.1.1 Impacts to Historic Heritage

The locally listed disused railway corridor crosses directly above the northern and southern ends of the proposed LW 426 and LW427. A baseline recording will be undertaken to monitor potential impacts. The extraction of the proposed longwalls could result in minor surface cracking along the section of corridor that is located above the proposed longwalls. These impacts could be managed using strategies similar to those adopted for the unsealed roads, as required (MSEC 2017:4).

6.8.1.2 Impacts to Aboriginal Heritage

The maximum predicted subsidence for the six Aboriginal heritage sites are generally the same or slightly less than those presented in the EIS Application. The predicted sagging curvature slightly increases for the artefact site 45-1-2669, however the predicted hogging curvature for this site decreases. The potential for surface cracking in this location does not change.

It is unlikely that the artefact scatter sites would experience adverse impacts due to surface cracking. It is also unlikely that the grinding groove sites and rock shelter would experience adverse impacts due to their distances from the longwalls. The impact assessments and proposed management strategies for the Aboriginal heritage sites are therefore the same as those provided in the EIS (MSEC 2017:4).

7 PERFORMANCE MEASURES

Performance measures for Aboriginal and Historic heritage sites are provided for in Table 1 of Schedule 3 of the SSD 5594 conditions of consent and summarised in Table 6 below.

Table 6 SSD 5594 Performance Measures for Aboriginal and historic heritage

Site Type	Performance Measures
Aboriginal heritage sites identified in Appendix 6 (except sites 45-1-0002, 45-1-0005, 45-1-2805 and 45-1-0065)	Negligible subsidence impact or environmental consequences.
Aboriginal Heritage Sites 45-1-0002, 45-1-0005, 45-1-2805 and 45-1-0065	No greater subsidence impact or environmental consequences than predicted in the EIS.
Historic heritage site Wolgan Valley Railway I245	Negligible subsidence impact or environmental consequences.

Based on the predicted subsidence impacts (MSEC 2020) it is considered the performance measures for the sites within the Extraction Plan Area will be achieved. Monitoring, mitigation and management measures to be implemented to ensure inadvertent harm to Aboriginal sites can be avoided.

“Negligible” is defined as per the SSD-5594 “small and unimportant, such as not to be worth

considering”. For the purpose of this Management Plan, negligible as referred to in this section is defined as:

In the longer term being small and insignificant and causing little or no impact. Short term impacts may be greater than negligible but if they are of limited duration they may be negligible when considered over the longer term.

Based on the predicted subsidence impacts (MSEC 2017) it is considered the performance measures for the six Aboriginal heritage sites and one historic heritage site within the Extraction Plan Area will be achieved. A monitoring program will be implemented to confirm if impacts remain within predictions and identify any management or mitigation measures as required.

To establish compliance with the performance measures outlined in Section 7, Springvale has developed a Trigger Action Response Plan (TARP) to work with existing monitoring program established by the Western Region ACHMP and HHMP. Centennial’s approach to the monitoring program is presented in Section 8 and the TARP is provided in Appendix A.

For unknown cultural heritage sites, case by case subsidence impacts based on a site’s position on the surface with regard to the mine layout as presented in this HMP for LWs 424-427 will be determined and assessed against the subsidence predictions outlined in section 7.4 of the Mod 3 Modification Report.

8 MONITORING AND MITIGATION

The following sections identified monitoring protocols for the identified historic and Aboriginal sites identified above the proposed longwalls.

8.1 Historic

The Wolgan Valley Railway (I245) is in the Extraction Plan Area. This item is located above longwalls 424 to 427, The extraction of the proposed longwalls could result in minor surface cracking along the section of corridor that is located above the proposed longwalls. A baseline recording and the ongoing monitoring of these sites should be undertaken under Centennial Coal's Western Region HHMP (2016). Relevant sections of Centennial Coal's Western Region HHMP (2016) have been reproduced.

8.1.1 Heritage Sites Monitoring Program

The monitoring program will record the condition of the site before mining (baseline survey and baseline check) and the condition of the heritage item/site after mining (post mining initial condition and post mining secondary condition check) and thus has been separated into two phases.

- Phase 1: Baseline recording (prior to site being undermined); and,
- Phase 2: Post mining initial condition (immediately after undermining).

Phase 1 baseline survey aims to record the condition of the site before mining (for example existing cracks to foundation of built structure). Phase 2, the post mining initial condition check is to establish whether there has been any change to the heritage item/site and if change has occurred from the effects of subsidence (Centennial Coal 2016:17).

8.2 Aboriginal

There are no identified impacts to the Aboriginal sites and thus no mitigation or management is required as a result of the proposed longwall development. Newly identified Aboriginal sites will be monitored in accordance with the protocols described in the following sections The sites monitoring processes will be undertaken under Centennial Coal's Western Region ACHMP (2016). Relevant sections of Centennial Coal's Western Region ACHMP (2016) have been reproduced.

8.2.1 Monitoring Protocols for Artefact Scatters/Isolated Finds/Open Quarries

Phase 1: Before the commencement of mining activity, a baseline check of the sites condition must be undertaken. The purpose of this exercise is to document the condition of the site immediately before mining related activities take place and gauge whether there are impacts to the site related to natural processes rather than mining activities. Monitoring of the site will be undertaken using the following documentation methods:

- Digital photography (scaled as appropriate);
- Field notes to record the current condition and status of the site;
- GPS (using differential, preferably) to locate and confirm site location; and
- Produce a site plan using baseline and offsets (tape measure), or GPS plotted polygons, as appropriate

During the due diligence inspection and baseline recording, the location of the site will be verified using a GPS and the site dimensions and content will be confirmed. Photos of the site will be taken so that the overall condition can be documented.

If the site is determined by the archaeologist and representatives of the Aboriginal Parties to be at an inappropriate risk of harm, consideration will be given to salvage the artefacts with the aim of returning the objects to their original location after the completion of mining. This process would be subject to a Section 90 NPW Act application approval by HNSW.

Phase 2: Following the completion of undermining, the condition of the site will be reinspected and the condition of the site compared to the last documented results. If the level of harm to the site becomes evident immediately post-mining, Centennial will endeavour to protect the site from further harm for example, by using non-invasive barrier fencing to prevent erosion. The Centennial Environmental Team will notify and inform HNSW (Enviroline: 131 555) if that there is a potential for harm to the site and follow the advice given by HNSW.

Phase 3: The post mining secondary check will be undertaken approximately 8 months after the mining activity has finished. The inspection is required to make an assessment on whether the ground surface conditions have stabilised. If ground conditions have stabilised and no changes to site condition are observed, then no further monitoring will be required. If noticeable amounts of erosion or disturbance is identified, Centennial's Environmental Team will notify and inform HNSW (Enviroline: 131 555) that there is a potential for harm to the site and follow the advice given by HNSW.

Phase 3a: (Longwall Mining) - In instances where final subsidence is not achieved until after a number of longwall extractions have taken place, then additional inspections by a qualified cultural heritage consultant may be required to assess any further risks to Aboriginal cultural heritage sites.

Additional Items: All phases should be undertaken in partnership with the registered Aboriginal parties. This includes the baseline check (Phase 1) and subsequent checks (Phase 2 and Phase 3 and/ or 3a). The registered Aboriginal parties will determine who the most appropriate representative should attend each phase of monitoring, as well as the installation of mitigation measures (if required). If, during Phase 2 and Phase 3 and/ or 3a works, harm (inadvertent or deliberate) has been noted, Centennial will notify the registered Aboriginal parties in addition to the statutory authorities.

8.2.2 Monitoring Protocols for Structurally Sensitive Sites (Grinding Grooves and Rockshelters)

Phase 1: In order to manage rockshelter/grinding groove site, a baseline recording will be undertaken before the commencement of mining. This baseline recording must include the following:

- Detailed archaeological recording,
- Archival-quality photos; and
- The designation of survey control points for monitoring.

The heritage consultant will be responsible for undertaking the detailed recording and taking photographs of the site and observations of the rock morphology (surface) will be recorded. The archival-quality photographs will be taken in accordance with HNSW and Heritage Branch guidelines. A 3D terrestrial scan of the rockshelter/grinding groove site(s) may also be considered if appropriate.

A minimum of six (6) control points will be nominated on the rockshelter/grinding groove site(s). The recording of control points will be undertaken by a suitably qualified surveyor (appointed by Centennial or heritage consultant) in consultation with the heritage consultant using a total station or better equipment if available. The purpose of the control points is to provide points of reference on the rockshelter/grinding groove in order to later monitor the effects of subsidence. The location of these control points will, where practical, be tied to known surveyed points outside the zone of influence and/or other permanent points such as electricity transmission towers.

Measures to reduce potential adverse impacts to sites at high risk as a result of mining activities will be considered in consultation with the Aboriginal parties.

Phase 2: After the completion of undermining, the condition of the site will be reinspected and the condition of the site compared to the last documented results. Again, observations of the rock morphology (surface) will also be recorded, particularly if there is widening of existing cracks and/or development of new cracks. Signs of sheet erosion or exfoliation will also be recorded and archived. This data will be compared to recorded information in Phase 1.

If the site is assessed to be at a greater risk of harm as a result of mining activities, Centennial's Environmental Team will notify and inform HNSW (Enviroline: 131 555) that there is a potential for harm to the site and follow the advice given by HNSW.

Phase 3: The post mining secondary check will be undertaken approximately 8 months after the mining activity has finished. A final check of the six (6) control point measurements will be undertaken and

compared to previous results. If there are no changes to the rock surface morphology, widening of existing cracks or signs of sheet erosion/surface exfoliation, then no further monitoring is required.

If there is a discrepancy from the baseline recording and determined to be as a result of subsidence, Centennial will contact a suitably qualified cultural heritage consultant to assess the potential risk of harm to the site. The appropriate mitigation measures provided by the inspecting heritage consultant will be followed and implemented accordingly.

Phase 3a: (Longwall Mining) - In instances where final subsidence is not achieved until after a number of longwall extractions have taken place, then additional inspections by a qualified cultural heritage consultant may be required to assess any further risks to Aboriginal cultural heritage sites.

Additional Items: All phases should be undertaken in partnership with the registered Aboriginal parties. This includes the baseline check (Phase 1) and subsequent checks (Phase 2 and Phase 3 and/ or 3a). The registered Aboriginal parties will determine who the most appropriate representative should attend each phase of monitoring, as well as the installation of mitigation measures (if required). If, during Phase 2 and Phase 3 and/ or 3a works, harm (inadvertent or deliberate) has been noted, Centennial will notify the registered Aboriginal parties in addition to the statutory authorities.

8.3 Summary of Mitigation Measures

There are no identified impacts to the Aboriginal sites and thus no mitigation or management required as a result of the proposed longwall development. The ongoing monitoring of these sites will be undertaken under Centennial's Western region ACHMP

A baseline recording of Wolgan Valley Railway (I245) is to be undertaken for the portion of this item that is in the Extraction Plan Area. It is above the proposed longwall mining, therefore monitoring of this site will be undertaken under Centennial's Western Region HHMP.

9 9 ADAPTIVE MANAGEMENT

9.1 9.1 Centennial Coal Management Framework

An Adaptive Management Framework provides for flexible decision making, adjusted to consider uncertainties as management outcomes are understood.

Through feedback to the management process, the management procedures are changed in steps until monitoring shows that the desired outcome is obtained. The monitoring program has been developed so that there is statistical confidence in the outcome.

In adaptive management, the goal to be achieved is set, so there is no uncertainty as to the outcome, and conditions requiring adaptive management do not lack certainty, but rather they establish a regime which would permit changes, within defined parameters, to the way the outcome is achieved.

The Centennial Coal Adaptive Management Framework is a process of ongoing testing, learning, monitoring and managing and relies on:

- Description of the environmental value and its role in the landscape, including aspects of an operation that may result in a significant impact to the environmental value (not all aspects of a project will generate impacts;
- A model of the environmental response to certain management actions/decisions, supported by the description of the environment;
- Mechanisms to test the model;
- Engagement with relevant stakeholders in the description of the environment and development of models, model outcomes and management actions/decisions;
- Identification of clear management objectives for each environmental value (including heritage);
 - Monitoring the system using best available technologies and multiple lines of evidence to:
 - Evaluate progress against objectives;
 - Determine the status of the system;
 - Increase our understanding of the system; and
 - Refine the modelling where applicable.

9.2 Adaptive Management Strategy for Springvale Mine

As the most effective form of management on the risk hierarchy, Springvale Mine has gone through an extensive mine design process specifically to eliminate risks and avoid potential impacts to surface features (refer to **Sections 3** through **8**). Progressive implementation and monitoring of mining within the approved mining zones during the mine schedule affords further opportunity and flexibility for adaptive management if required.

The adaptive management approach at Springvale Mine involves monitoring and evaluation against performance measures and associated indicators in the TARP established for the extraction plan and supporting management plans (**Appendix A**). Where performance indicators indicate increasing levels of risk (conditions green, amber then red being exceeded), escalating adaptive management measures are engaged in accordance with the TARP. The process has been successfully implemented in existing Extraction Plan areas at Springvale Mine and has been updated to reflect EIS commitments and consent requirements for the Springvale Mine Extension Project, including specific performance measures.

In accordance with Condition 10(h) (Adaptive Management) in Schedule 3 of SSD_5594, where any exceedance of applicable criteria and/or performance measures has occurred, Centennial will at the earliest opportunity:

- a. Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur
- b. Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and

- c. Implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

Adaptive management measures would follow failure/root cause analysis where appropriate (including review of any observed impacts in Extraction Plan Areas for potential mining induced causes, acknowledging the dynamic natural environment such as cliffs), and would be undertaken in consultation with relevant stakeholders, and involve review of this management plan.

9.3 Remediation / Rehabilitation of Potential Impacts

Due to the minimal subsidence expected as presented in Section 6.8, the need to implement remediation/rehabilitation measures for potential impacts are considered unlikely. However, in the event that remediation is required, Springvale Mine will undertake remediation in accordance with:

- Conditions 10a)-10h) in Schedule 3 of SSD_5594 (refer details in Section 9.2 above), noting in particular the requirement to submit a report to DP&E describing remediation options and any preferred remediation measures or other course of action;
- Any relevant actions prescribed in the TARP developed for relevant plans of management;
- The current Mining Operations Plan and Rehabilitation Management Plan;
- Sections 5 and 6 of the Western Region HHMP;
- Section 6 and Attachment 5 of the Western Region ACHMP; and
- In consultation with key stakeholders including Aboriginal stakeholders, any affected land holders and relevant government agencies.

A Response Strategy will be adopted if a significant impact is detected as a result of mining activities within the Extraction Plan Area.

10 CONTINGENCY PLAN

A TARP has been developed using the performance indicators for management of heritage (Appendix A). The TARP applies only to the Extraction Plan Area within LW424 to 427 (separate TARPs will be established in future for other mining zones and associated areas/features beyond the current Extraction Plan Area).

The contingency plan where a performance indicator has been exceeded is outlined in the TARP. A trigger will result in additional investigations to determine if the exceedance is related to non-mining-factors or is a consequence of mining activity. The response to these exceedances will follow the TARP. Management/corrective actions can be implemented where required to remedy these non-conformities and report accordingly.

11 REPORTING AND NOTIFICATIONS

Reporting is undertaken in accordance with the requirements of specific requirements of the relevant approval SSD_5594 and generally in accordance with the Guidelines for the Preparation of Extraction Plans ('EP Guidelines', DP&E, 2015).

As per Section 6 of the EP Guidelines, given nature of the current Extraction Plan Area only for first workings with no predicted surface impacts and negligible ground movements, the frequency of reporting is proposed to be proportionate and reflective of this. The approach is also consistent with that undertaken by previously approved extraction plans.

Springvale will submit the following reports as detailed in **Table 7** during the first workings as relevant to management of heritage.

Complaints received (as relevant to this management plan) will be included in the established complaints register for the mine in accordance with protocols established under the Centennial Springvale Environmental Management Strategy (EMS) and published on the Centennial Springvale website, in accordance with Condition 1 of Schedule 6 of consent SSD_5594.

Table 7 Reporting and Notification Requirements

Report	Triggers	Requirements
Website Publication (of information relating to biodiversity)	<ul style="list-style-type: none"> Approval of the management plan by the Minister (DP&E); Advice /reports received from the IEP (relevant to this management plan); Completion of the Annual Review Receipt of complaint relating to biodiversity 	<ul style="list-style-type: none"> • Copy of this management plan to be published on Centennial Springvale website within one (1) month of approval by the Minister (DP&E). • Any advice/reports (relevant to this management plan) issued by the IEP are to be published on the Centennial Springvale website. • The last five (5) Annual Reviews (see below) to be published on Centennial Springvale website, • Complaints register updated monthly and published on website.
Incident ¹ , Reporting	Any incident ¹ relating to heritage in accordance with consent condition 9 (Schedule 6), EPL12374 condition R2, EPBC 2013/7076 Condition 1, or as triggered by the TARP.	<ul style="list-style-type: none"> • Secretary of DP&E, Lithgow City Council, HNSW and any other relevant agencies to be notified immediately (including DP&E, EPA and DoEE) if material harm to the historic heritage is threatened or caused. • Detailed report to be provided to DP&E on the incident within seven (7) days of the incident (and to EPA where potential or actual material harm to environment). • Any additional notifications and reporting as per relevant approved TARP, including actions being undertaken to prevent recurrence. • Includes non-compliance with any statutory requirements or exceedance of performance measures.
Subsidence Impacts and Environmental Monitoring Report	Reporting of all impacts and environmental monitoring results initially every six months (ie following completion of aerial surveys). Reporting would be reduced to annually after the first two (2) years in consultation with relevant stakeholders if no mining induced impacts are observed as predicted (ie reporting would be included in the Annual Review).	<p>This report will include:</p> <ul style="list-style-type: none"> • a comprehensive summary of all impacts, including: <ul style="list-style-type: none"> – A summary of integrated subsidence monitoring program results (aerial high definition LiDAR, high resolution 3D photogrammetry, and underground pillar surveys and inspections); – Results of related environmental monitoring where applicable (refer Section 7); – An assessment of impact compliance (if impacts remained within predictions, any which exceed predictions but remained with performance measures and/or performance indicators, and if any impacts exceeded performance measures of consent).

Report	Triggers	Requirements
Annual Review	Annual Review report required under development consent condition 12 (Schedule 6), SSD_5594.	<ul style="list-style-type: none"> - Details of any observed impacts (including full description, location identification using aerial photos and mining layout, photos, targeted inspection results (including photos) and characterization of the impact in accordance with the relevant TARP). - Details if impacts were likely mining-induced. • Actions to be undertaken to prevent recurrence of any mining induced impacts; • a comprehensive summary of relevant quantitative and qualitative environmental monitoring results. • Any revisions to the TARP undertaken in consultation with stakeholders. • Any other adaptive management measures as relevant. <p>By the end of March each year, unless the Secretary agrees otherwise, the Applicant shall review the environmental performance of the development to the satisfaction of the secretary. This review must:</p> <ol style="list-style-type: none"> a. describe the development (including any rehabilitation) that was carried out in the past calendar year, the development that is proposed to be carried out over the current calendar year b. include a comprehensive review of the monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the: <ul style="list-style-type: none"> - Relevant statutory requirements, limits or performance measures criteria; - The monitoring results of previous years; and - The relevant prediction in the EIS c. identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance; d. identify any trends in the monitoring data over the life of the development e. identify any discrepancies between the predicted and actual impacts of the development, analyse the potential cause of any significant discrepancies; and f. describe what measures will be implemented over the next year to improve the environmental performance of the development.

Notes: 1) SSD_5594 defines an incident as “a set of circumstances that:

- causes or threatens to cause material harm to the environment; and/or
- breaches or exceeds the limits or performance measures/criteria in this consent”

12 CONTINUAL REVIEW AND IMPROVEMENT

In accordance with the requirements of Schedule 6, Condition 6 of Development Consent SSD_5594, Springvale will review this Plan within three months of the following:

- a. Submission of an incident report;
- b. Submission of an Annual Review;
- c. Submission of an Independent Environmental Audit; or
- d. Any modification to the conditions of SSD_5594.

The Applicant shall review the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Continual improvement shall be achieved through monitoring, internal and external communication with stakeholders, implementation of corrective and preventative actions and through monitoring progress against the objectives included in the environmental management plans. The reporting framework (refer Section 11) will document the effectiveness of this document (and the related Extraction Plan) through comparison of the predicted negligible impacts of subsidence on heritage values against actual outcomes.

Each variation to this Plan will be identified in the Document Control Table at the beginning of this document.

13 CONCLUSIONS AND RECOMMENDATIONS

RPS has prepared a Heritage Management Plan to inform the Springvale Mine Extraction Plan for Longwalls (LW) 424 to 427.

This report has considered the environmental and archaeological context of the Extraction Plan Area, identified the predicted environmental consequences of the proposed second workings on Aboriginal and non-Aboriginal heritage items within the Extraction Plan Area and details management and mitigation measures where required.

The LW 424 – 427 Extraction Plan Area contains a total of eight Aboriginal registered sites; AHIMS 45-1-2669 (artefact scatter), 45-1-0185 (artefact scatter), 45-1-0184 (artefact scatter), 45-1-0005 (grinding grooves), 45-1-0002 (grinding grooves), 45-1-0065 (shelter with grinding grooves and deposit); AHIMS 45-1-2796 (artefact scatter), and AHIMS 45-1-2805 (grinding grooves).

One locally listed heritage item also exists in the Extraction Plan Area, I245 is listed on the Lithgow LEP and consists of the Wolgan Valley Railway Corridor (Newnes to Zig Zag). The revised MSEC (2020) prepared subsidence predictions for all sites (Aboriginal and European), providing maximum predicted tilt, curvature and strain with predicted values based on the EIS layout. Based on the MSEC (2020), the performance measures for the sites within the Extraction Plan Area will be achieved. Monitoring, mitigation and management measures will be implemented to ensure inadvertent harm to sites can be avoided.

In total, nine sites (eight Aboriginal and one Historic) will need to undergo phased monitoring as identified in Centennial's Western Region ACHMP and HHMP.

The following recommendations have been made to ensure that inadvertent harm to Aboriginal sites can be avoided and ensure the performance criteria for Aboriginal Heritage sites, as detailed within the Springvale Mine Development Consent (SSD 5594) are achieved.

Recommendation 1

It is recommended that AHIMS 45-1-2669, 45-1-0185, 45-1-0184, 45-1-0005, 45-1-0002, 45-1-0065, 45-1-2796, and 45-1-2805 be managed according to the procedures as outlined in Centennial Coal's Western Region Aboriginal Cultural Heritage Management Plan (ACHMP) and this includes baseline recording and monitoring.

Recommendation 2

The locally listed Wolgan Valley Railway (Newnes to Zig Zag) (I245) be managed according to the procedures as outlined in Centennial Coal's Western Region Historic Heritage Management Plan (HHMP) and this includes baseline recording and monitoring.

Recommendation 3

If unrecorded Aboriginal object/s are identified in the Project Area during works, then all works in the immediate area must cease and the area cordoned off. The area is to be managed in accordance with the procedures outlined in Centennial Coal's Western Region Aboriginal Cultural Heritage Management Plan (ACHMP).

Recommendation 4

If, during the course of development works, suspected historic cultural heritage material is uncovered, work should cease in that area immediately and procedures followed as outlined in Centennial Coal's Historic Heritage Management Plan – Western Region.

14 REFERENCES

Centennial Coal (2016). Historic Heritage Management Plan: Western Region.

Lithgow City Council (2014). Local Environmental Plan.

MSEC (2020). Springvale Colliery Extraction Plan for LW424 to LW427: Subsidence Predictions and Impact Assessments for the Natural and Built Features in Support of the Extraction Plan for Lonwalls 424 to 427 in the Lithgow Seam.

MSEC (2017). "Springvale Colliery Extraction Plan for LW424 to LW427: Subsidence Predictions and Impact Assessments for the Natural and Built Features in Support of the Extraction Plan for Lonwalls 424 to 427 in the Lithgow Seam."

NSW Department of Planning and Environment (2015). Guidelines for the Preparation of Extraction Plans (Draft V5).

RPS (2021). Aboriginal Cultural Heritage Due Diligence Letter Report - Springvale MOD3.

RPS (2016). Centennial's Western Region Aboriginal Cultural Heritage Management Plan, Report to Centennial Coal.

Appendix A

Trigger Action Response Plan

TRIGGER ACTION RESPONSE PLAN (TARP)

The trigger action response plan (TARP) (Table 8) defines the minimum set of corrective actions that are required by site personnel in response to unpredicted impacts or deviation in the mine conditions from normality.

The TARP defines what is “normal” by way of a set of criteria for a range of aspects and are shown as green in the TARP. Criteria relating to abnormal conditions including trigger values are also defined in the TARP and are rated based on increased risk and potential impact and shown as orange or red. Corresponding corrective actions for each risk level are also clearly defined.

Table 8 Trigger Action Response Plan

Aspect	Condition Green	Condition Orange	Condition Red
	Trigger	Trigger	Trigger
	<ul style="list-style-type: none"> Subsidence monitoring indicates actual subsidence is within predictions. 	<ul style="list-style-type: none"> Subsidence monitoring indicates actual subsidence is greater than predictions. 	<ul style="list-style-type: none"> Subsidence monitoring indicates actual subsidence is greater than predictions.
	And	And	And
	<ul style="list-style-type: none"> Aboriginal heritage site monitoring indicates environmental consequences within approved criteria 	<ul style="list-style-type: none"> Aboriginal heritage monitoring indicates environmental consequences within approved criteria 	<ul style="list-style-type: none"> Aboriginal heritage monitoring indicates environmental consequences greater than approved criteria
	Action	Action	Action
Aboriginal Heritage	<ul style="list-style-type: none"> No response required. Continue Subsidence Monitoring Program. Continue Monitoring/Management of sites in accordance with the Western Region ACHMP and Extraction Plan Heritage Management Plan. 	<ul style="list-style-type: none"> Confirm monitoring results (QA check). Investigate exceedance of subsidence prediction. Review of mine design/ predictions against mine design criteria. Continue Monitoring/Management of sites in accordance with the Western Region ACHMP and Extraction Plan Heritage Management Plan. Implement any additional management measures as required in consultation with the Registered Aboriginal Parties. 	<ul style="list-style-type: none"> Notify Registered Aboriginal Parties and co-ordinate a site inspection with the Registered Aboriginal Parties. Notify relevant government agencies as per Development Consent. Implement any additional management measures as required in consultation with the Registered Aboriginal Parties. Investigate exceedance of subsidence prediction. Review of mine design /predictions against mine design criteria. Continue Monitoring/Management of in accordance with the Western Region ACHMP and Extraction Plan Heritage Management Plan.
	Trigger	Trigger	Trigger
Historic Heritage	<ul style="list-style-type: none"> Subsidence monitoring indicates actual subsidence is within predictions. 	<ul style="list-style-type: none"> Subsidence monitoring indicates actual subsidence is greater than predictions. 	<ul style="list-style-type: none"> Subsidence monitoring indicates actual subsidence is greater than predictions.
	And	And	And
	<ul style="list-style-type: none"> Aboriginal heritage site monitoring indicates environmental consequences within approved criteria 	<ul style="list-style-type: none"> Aboriginal heritage monitoring indicates environmental consequences within approved criteria 	<ul style="list-style-type: none"> Aboriginal heritage monitoring indicates environmental consequences greater than approved criteria

REPORT

Aspect	Condition Green	Condition Orange	Condition Red
	Action	Action	Action
	<ul style="list-style-type: none"> • No response required. • Continue Subsidence Monitoring Program. 	<ul style="list-style-type: none"> • Confirm monitoring results (QA check). • Investigate exceedance of subsidence prediction. • Review of mine design /predictions against mine design criteria. • Continue Monitoring/Management of sites in accordance with the Western Region Historic Heritage Management Plan and Extraction Plan Heritage Management Plan. 	<ul style="list-style-type: none"> • Notify relevant government agencies as per Development Consent. • Investigate exceedance of subsidence prediction. • Review of mine design /predictions against mine design criteria. • Implement any additional management measures as required. • Continue Monitoring/Management of sites in accordance with the Western Region Historic Heritage Management Plan and Extraction Plan Heritage Management Plan.

Appendix B

Other Relevant Regulatory Requirements

OTHER RELEVANT REGULATORY REQUIREMENTS

Extraction Plan Guidelines

The Extraction Plan Guidelines (Version 5) (NSW Department of Planning and Environment 2015) identifies typical requirements for the Extraction Plan and supporting management plans. The requirements from the Guideline are presented in **Table 9** below.

Table 9 Extraction Plan Guideline Requirements

Extraction Plan Guideline Requirement (Sub-Plans)	Section Addressed
An overview of all landscape features, heritage sites, environmental values, built features or other values to be managed under the component plan	Section 6
Setting out all performance measures included in the development consent relevant to the features or values to be managed under the component plan	Section 7
Setting out clear objectives to ensure the delivery of the performance measures and all other relevant statutory requirements (including relevant safety legislation)	Sections 2, 3 and 7
Proposing performance indicators to establish compliance with these performance measures and statutory requirements;	Section 7
Describe the landscape features, heritage sites and environmental values to be managed under the component plan, and their significance. It should be noted that a full description of such features, sites and values would commonly have been provided and considered in a recent environmental impact assessment. Consequently, this section can be relatively brief, and focus on the presentation of appropriate figures and/or graphical plans;	Section 6
Describe all currently predicted subsidence impacts and environmental consequences relevant to the features, sites and values to be managed under the component plan;	Section 2, Section 6.5
Describe all measures planned to remediate these impacts and/or consequences, including any measures proposed to ensure that impacts and/or consequences comply with performance measures and/or the Applicant's commitments;	Section 7
Describe the existing baseline monitoring network and the current baseline monitoring results, including pre-subsidence photographic surveys of key landscape features and key heritage sites which may be subject to significant subsidence impacts (such as significant watercourses, swamps and Aboriginal heritage sites);	Section 7, Section 8
Fully describing the proposed monitoring of subsidence impacts and environmental consequences;	Section 8.1
Describe the proposed monitoring of the success of remediation measures following implementation;	Section 7
Describe adaptive management proposed to avoid repetition of unpredicted subsidence impacts and/or environmental consequences;	Section 9
Describe contingency plans proposed to prevent, mitigate or remediate subsidence impacts and/or environmental consequences which substantially exceed predictions or which exceed performance measures;	Section 10
Listing responsibilities for implementation of the plan; and	Section 11
An attached Trigger, Action, Response Plan (effectively a tabular summary of most of the above).	Appendix A

Other relevant Plans and Guidelines

Condition 2 of Schedule 6 of SSD_5594 requires all management plans required by consent to be prepared in accordance with any relevant guidelines. Specific guidelines relevant to the preparation of this management plan which have referenced during its development include:

COMMONWEALTH

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSIHIP Act Amendment 2006)

The purpose of this Act is to preserve and protect all heritage places of particular significance to Aboriginal and Torres Strait Islander people. This Act applies to all sites and objects across Australia and in Australian waters (s4).

It would appear that the intention of this Act is to provide national baseline protection for Aboriginal places and objects where State legislation is absent. It is not to exclude or limit State laws (s7(1)). Should State legislation cover a matter already covered in the Commonwealth legislation, and a person contravenes that matter, that person may be prosecuted under either Act, but not both (s7(3)).

The Act provides for the preservation and protection of all Aboriginal objects and places from injury and/or desecration. A place is construed to be injured or desecrated if it is not treated consistently with the manner of Aboriginal tradition or is or likely to be adversely affected (s3).

STATE

It is incumbent on any land manager to adhere to state legislative requirements that protect Aboriginal Cultural heritage. The relevant legislation in NSW includes but is not limited to the summary below.

National Parks and Wildlife Act 1974 (NPW ACT)

The NPW Act provides statutory protection for all Aboriginal heritage, places and objects (not being a handicraft made for sale), with penalties levied for breaches of the Act. This legislation is overseen by Heritage NSW (HNSW, formerly OEH and DPIE), and specifically the Director-General of HNSW. Part 6 of this Act is the relevant part concerned with Aboriginal objects and places, with Section 86 and Section 90 being the most pertinent. In 2010, this Act was substantially amended, particularly with respect to Aboriginal cultural heritage requirements. Relevant sections include:

Section 86

This section now lists four major offences:

1. A person must not harm an object that the person knows is an Aboriginal object;
2. A person must not harm an Aboriginal object;
3. For the purposes of s86, "circumstances of aggravation" include:
 - e. The offence being committed during the course of a commercial activity; or
 - f. That the offence was the second or subsequent offence committed by the person;
4. A person must not harm or desecrate an Aboriginal place.

Offences under s86 (2) and (4) are now strict liability offences, i.e. knowledge that the object or place harmed was an Aboriginal object or place needs to be proven. Penalties for all offences under Part 6 of this Act have also been substantially increased, depending on the nature and severity of the offence.

Section 87

This section now provides defences to the offences of s86. These offences chiefly consist of having an appropriate Aboriginal Heritage Impact Permit (AHIP), not contravening the conditions of the AHIP or demonstrating that due diligence was exercised prior to the alleged offence.

Section 87A & 87B

These sections provide exemptions from the operation of s86; Section 87A for authorities such as the Rural Fire Service, State Emergency Services and officers of the National Parks & Wildlife Service in the performance of their duties, and s87B for Aboriginal people performing traditional activities.

Section 89A

If a person knows of the location of an Aboriginal object or place that has not been previously registered and does not advise the Director-General of that object or place within a reasonable period of time, then that person is guilty of an offence under this Section of the Act.

Section 90

This section authorises the Director-General to issue and AHIP.

Section 90A-90R

These sections govern the requirements relating to applying for an AHIP. In addition to the amendments to the Act, HNSW have issued three new policy documents clarifying HNSW's requirements with regards to Aboriginal archaeological investigations: *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* and *Code of Practice for Archaeological Investigations in NSW*. The Consultation Requirements formalise the consultation with Aboriginal community groups into four main stages, and includes details regarding the parties required to be consulted, advertisements inviting Aboriginal community groups to participate in the consultation process, requirements regarding the provision of methodologies, draft and final reports to the Aboriginal stakeholders and timetables for the four stages. The Due Diligence Code of Practice sets out the minimum requirements for investigation, with particular regard as to whether an AHIP is required. The Code of Practice for Archaeological Investigation sets out the minimum requirements for archaeological investigation of Aboriginal sites.

Aboriginal Heritage Impact Permits (AHIP)

HNSW encourages consultation with relevant Aboriginal stakeholders for all Aboriginal Heritage Assessments. However, if an Aboriginal Heritage Impact Permit (AHIP) is required for an Aboriginal site, then specific HNSW guidelines are triggered for Aboriginal consultation.

Aboriginal Cultural Heritage Consultation Requirements for Proponents

In 2010, the Aboriginal Cultural Heritage Consultation Requirements for Proponents (ACHCR's) were issued by HNSW (12th April 2010). These consultation requirements replace the previously issued Interim Community Consultation Requirements (ICCR) for Applicants (Dec 2004). These guidelines apply to all AHIP applications prepared after 12th April 2010; for projects commenced prior to 12th April 2010, transitional arrangements have been stipulated in a supporting document, Questions and Answers 2: Transitional Arrangements.

The ACHCR's 2010 include a four stage Aboriginal consultation process and stipulate specific timeframes for each state. Stage 1 requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest in the assessment. Stage 1 includes the identification of Aboriginal people who may have an interest in the Project Area and hold information relevant to determining the cultural significance of Aboriginal objects or places. This identification process should draw on reasonable sources of information including: the relevant HNSW EPRG regional office, the relevant Local Aboriginal Land Council(s), the Registrar of Aboriginal Owners, Aboriginal Land Rights Act (1983), the Native Title Tribunal, Native Title Services Corporation Limited, the relevant local council(s), and the relevant catchment management authority. The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the Project Area. Aboriginal organisations and/or individuals identified should be notified of the project and invited to register an Expression of Interest (Eol) for Aboriginal consultation. Once a list of Aboriginal stakeholders has been compiled from the Eol's, they need to be consulted in accordance with ACHCR's Stages 2, 3 and 4.

Environmental Planning & Assessment Act 1979 (EP&A Act)

This Act regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Within the *EP&A Act*, Parts 3, 4 and 5 relate to Aboriginal heritage.

Part 3 regulates the preparation of planning policies and plans. Part 4 governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part 5 regulates government agencies that act as determining authorities for activities conducted by that agency or by authority from the agency. The National Parks & Wildlife Service is a Part 5 authority under the *EP&A Act*.

In brief, the NPW Act provides protection for Aboriginal objects or places, while the *EP&A Act* ensures that Aboriginal cultural heritage is properly assessed in land use planning and development.

The Heritage Act 1977

This Act protects the natural and cultural history of NSW with emphasis on non-indigenous cultural heritage through protection provisions and the establishment of a Heritage Council. Although Aboriginal heritage sites and objects are primarily protected by the *National Parks & Wildlife Act (1974, as amended)*, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council.

Other legislation of relevance to Aboriginal cultural heritage in NSW includes the *NSW Local Government Act (1993)*. Local planning instruments also contain provisions relating to indigenous heritage and development conditions of consent.

Appendix C

Development Consent SSD_5594

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning, the Planning Assessment Commission of NSW approves the development application referred to in Schedule 1, subject to the conditions in Schedules 2 to 6.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- prevent, minimise and/or offset impacts on controlling provisions and matters protected under the EPBC Act;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Sydney

21 September 2015

SCHEDULE 1

Application Number:	SSD_5594
Applicant:	Centennial Springvale Pty Limited
Consent Authority:	Minister for Planning
Land:	See Appendix 1
Development:	Springvale Mine Extension Project

The Department has prepared a consolidated version of the consent which is intended to include all modifications to the original determination instrument.

The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.

CONSOLIDATED CONSENT

SUMMARY OF MODIFICATIONS

Application Number	Determination Date	Decider	Modification Description
SSD-5594-Mod-1	19 April 2017	Planning Assessment Commission	Production increase
SSD-5594-Mod-2	19 June 2017	Planning Assessment Commission	Deferral of salinity reductions
SSD-5594-Mod-3	2 June 2021	Director – Resource Assessments	New Aboriginal cultural heritage sites

For Information

CONSOLIDATED CONSENT

TABLE OF CONTENTS

TABLE OF CONTENTS	3
DEFINITIONS	4
ADMINISTRATIVE CONDITIONS	7
Obligation to Minimise Harm to the Environment.....	7
Terms of Approval.....	7
Limits on Consent	7
Surrender of Existing Development consents	7
Structural Adequacy.....	8
Demolition	8
Protection of Public Infrastructure	8
Operation of Plant And Equipment.....	8
Community Enhancement.....	8
SPECIFIC ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING	9
Subsidence	9
Payment of Reasonable Costs.....	14
ENVIRONMENTAL PERFORMANCE CONDITIONS	15
Noise.....	15
Air Quality & Greenhouse Gas.....	16
Water	17
Biodiversity.....	20
Transport.....	21
Heritage	21
Visual	22
Bushfire Management.....	22
Waste.....	22
Exploration Activities & Surface Infrastructure	22
Rehabilitation	23
ADDITIONAL PROCEDURES	25
Notification of Landowners.....	25
Independent Review	25
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	26
Environmental Management	26
Reporting	28
Annual Review	28
Independent Environmental Audit	28
Access to Information.....	28
APPENDIX 1: SCHEDULE OF LAND	30
APPENDIX 2: DEVELOPMENT LAYOUT PLAN	32
APPENDIX 3: STATEMENT OF COMMITMENTS	35
APPENDIX 4: NOISE RECEIVER LOCATION PLAN	38
APPENDIX 5: NOISE COMPLIANCE ASSESSMENT	39
APPENDIX 6: ABORIGINAL HERITAGE SITES	40
APPENDIX 7: CATCHMENT IMPROVEMENT AND LAND MANAGEMENT PLAN	41

CONSOLIDATED CONSENT

DEFINITIONS

Adaptive management	Adaptive management includes monitoring subsidence effects and impacts and, based on the results, modifying the mine plan (including potentially modifying mining height, longwall width or any other element of the mine plan) as mining proceeds to ensure that the effects, impacts and/or associated environmental consequences remain within the predicted and/or designated ranges and in compliance with the conditions of this consent
Annual Review	The review required by condition 12 of Schedule 6
Applicant	Centennial Springvale Pty Limited, or any other person/s who rely on this consent to carry out the development
ANZECC Guidelines	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000), or their latest version
BCA	Building Code of Australia
BCS	Biodiversity, Conservation and Science Directorate, within the Department
Built features	Includes any building or work erected or constructed on land, including dwellings, outbuildings and infrastructure such as any formed road, street, path, walk, or driveway and any pipeline, water, sewer, telephone, gas or other service main
CCC	Community Consultative Committee
Cliff	Continuous rock face, including overhangs, having a minimum length of 20 metres, a minimum height of 10 metres and a minimum slope of 2 to 1 (> 63.4°)
Conditions of this consent	Conditions contained in Schedules 2 to 6 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
Council	Lithgow City Council
DAWE	Commonwealth Department of Agriculture, Water and the Environment (or Department responsible for administering the EPBC Act)
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Department	Department of Planning, Industry and Environment
Development	Springvale Mine Extension Project, as described in the EIS
DPIE Water	Water Group, within the Department
DSC	Dams Safety Committee
EEC	Endangered ecological community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental Impact Statement titled <i>Springvale Mine Extension Project – State significant Development 5594</i> (dated April 2014) including the associated Response to Submissions (dated September 2014), and the following additional information: <ul style="list-style-type: none">- <i>Additional Simulations of the Regional Water Quality Impact Assessment Model</i> (25 March 2015) undertaken by Jacobs Group (Australia) Limited.- <i>Springvale Colliery Mine Extension Project, Economic Impact Assessment</i> (March 2015) undertaken by Aigis Group.- <i>Statement of Environmental Effects titled Springvale Mine Extension Project State Significant Development 5594 – Modification 1</i> (dated July 2016) including the associated Response to Submissions (dated October 2016).- <i>Statement of Environmental Effects titled Springvale Mine Extension Project State Significant Development 5594 – Modification 2</i> (dated December 2016), including the associated Response to Submissions (dated March 2017).- <i>MOD 3 – Modification Report titled “Modification Report - Springvale Mine SSD-5594 Mod 3”</i> (dated 22 March 2021) including the associated Submissions Report titled “<i>RE: SSD-5594 Mod 3 Submissions Report</i>” (dated 20 April 2021).
Environmental consequences	The environmental consequences of subsidence impacts, including: damage to built features; loss of surface water flows to the subsurface; loss of standing pools; adverse water quality impacts; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts on aquatic ecology; and ponding.
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence issued under the POEO Act
Evening	The period from 6 pm to 10 pm
Exploration activities	Prospecting operations, as defined under the <i>Mining Act 1992</i>
Feasible	Feasible relates to engineering considerations and what is practical to build or to implement
First workings	Extraction of coal from bord and pillar workings and development of main headings, longwall gate roads, related cut throughs and the like

CONSOLIDATED CONSENT

GDE	Groundwater dependent ecosystem
Heritage item	An item defined under the <i>Heritage Act 1977</i> and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i>
Heritage NSW	Heritage NSW, within the Department of Premier and Cabinet
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent
INP	<i>NSW Industrial Noise Policy</i> (NSW EPA, 2000)
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedule 4 of this consent where it is defined to mean the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mine water	Water that accumulates within, or drains from, active mining areas, emplacements, stockpiles, tailings dams and infrastructure areas
Mining operations	Includes the extraction, processing, handling, storage and transportation of coal carried out on the site
Minister	Minister for Planning and Public Spaces, or delegate
Minor	Not very large, important or serious
Minor cliff	A continuous rock face, including overhangs, which has a minimum length of 20 metres, a height between 5 metres and 10 metres, and a minimum slope of 2 to 1 (> 63.4°)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
NRAR	Natural Resources Access Regulator
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10 pm to 7 am, Monday to Saturday, 10 pm to 8 am on Sundays and Public Holidays
Pagoda formations	Smooth or platy conical sandstone formations found in the Blue Mountains Region of NSW
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency, a mining company (or its subsidiary)
Public infrastructure	Linear and related infrastructure and the like that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Reasonable costs	The costs agreed between the Department and the Applicant for obtaining independent experts to review the adequacy of any aspects of the extraction plan, or where such costs cannot be agreed, the costs determined by a dispute resolution process
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Remediation	Activities associated with partially or fully repairing or rehabilitating the impacts of the development or controlling the environmental consequences of this impact
Resources Regulator	NSW Resources Regulator, within the Department of Regional NSW
ROM coal	Run-of-mine coal
Safe, serviceable & repairable	Safe means no danger to users who are present, serviceable means available for its intended use, and repairable means damaged components can be repaired economically
Second workings	Extraction of coal from longwall panels, mini-wall panels or pillar extraction
Secretary	Secretary of the Department, of any person authorised to act on their behalf
Site	Land to which the development consent applies (see Appendix 1)
Springvale Delta Water Transfer Scheme	Existing pipeline that transfers groundwater inflows from the underground workings and dewatering bores to licenced discharge point LDP009 (see also Appendix 2)
Statement of Commitments	The Applicant's commitments set out in Appendix 3
Steep slope	An area of land having a gradient between 1 in 3 (33% or 18.3°) and 2 in 1 (200% or 63.4°)
Subsidence	The totality of subsidence effects, subsidence impacts and environmental consequences of subsidence impacts
Subsidence effects	Deformation of the ground mass due to mining, including all mining-induced ground movements, including both vertical and horizontal displacement, tilt, strain and curvature

CONSOLIDATED CONSENT

Subsidence impacts

Physical changes to the ground and its surface caused by subsidence effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface depressions or troughs

TARP
TfNSW
µS/cm EC

Trigger Action Response Plan
Transport for NSW
Microsiemens per centimetre Electrical Conductivity

For Information

CONSOLIDATED CONSENT

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance measures and criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF APPROVAL

2. The Applicant shall carry out the development:
 - (a) generally in accordance with the EIS;
 - (b) in accordance with the Development Layout Plan and the Statement of Commitments; and
 - (c) in accordance with the conditions of this consent.

Notes:

- *The Development Layout Plan is shown in Appendix 2*
- *The Applicant's Statement of Commitments is shown in Appendix 3.*

3. If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
 - (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this consent; and
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Mining Operations

5. The Applicant may carry out mining operations on the site until 31 December 2028.

Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Secretary and the Resources Regulator. Consequently this consent will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Coal Extraction

6. The Applicant shall not extract more than 5.5 million tonnes of ROM coal from the site per calendar year.

Hours of Operation

7. The Applicant may undertake mining operations 24 hours a day, 7 days a week.

Coal Transport

8. The Applicant shall not transport more than 50,000 tonnes of ROM coal by road from the site to local domestic customers in any calendar year.

Springvale Delta Water Transfer Scheme

9. Nothing in this consent allows duplication of pipelines or other increase in capacity of the Springvale Delta Water Transfer Scheme.

SURRENDER OF EXISTING DEVELOPMENT CONSENTS

10. The Applicant shall surrender all existing development consents for the site in accordance with section 4.63 of the EP&A Act within 12 months of the date of this consent, unless otherwise agreed by the Secretary.

Prior to the surrender or lapsing of any existing development consents, the conditions of this consent shall prevail to the extent of any inconsistency with the conditions of these consents.

CONSOLIDATED CONSENT

Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent should not be understood as implying that works legally constructed under a valid consent can no longer be legally maintained or used.

STRUCTURAL ADEQUACY

11. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works; and*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

DEMOLITION

12. The Applicant shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

13. Unless the Applicant and the applicable authority agree otherwise, the Applicant shall:
- repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

14. The Applicant shall ensure that all plant and equipment used on site is:
- maintained in a proper and efficient condition; and
 - operated in a proper and efficient manner.

COMMUNITY ENHANCEMENT

15. From 31 March 2017, the Applicant shall pay a community contribution to LCC of \$0.03 per saleable tonne of coal produced from the Springvale, Angus Place and Airly mines capped at a maximum payment of \$200,000 in total (ie for all 3 mines collectively). The community contribution shall be paid on an annual basis to LCC and no later than 31 March each year (for the preceding year). The contribution shall be used for long-term community activities and projects to be agreed by both the Applicant and LCC and must be reported publicly.

SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING

SUBSIDENCE

Performance Measures – Natural and Heritage Features, etc

- The Applicant shall ensure that the development does not cause any exceedances of the performance measures in Table 1, to the satisfaction of the Secretary.

Table 1: Subsidence Impact Performance Measures – Natural and Heritage Features, etc

Water Resources	Performance Measure
Wolgan River, and other watercourses located outside the site	Negligible subsidence impacts or environmental consequences including: <ul style="list-style-type: none"> • <i>negligible</i> diversion of flows or changes in the natural drainage behaviour of pools; • <i>negligible</i> reduction in water quality; • <i>negligible</i> increase in bank erosion or sediment load.
Carne Creek, Marrangaroo Creek and Paddys Creek	No greater subsidence impacts or environmental consequences than predicted in the EIS
All other watercourses	No greater subsidence impacts or environmental consequences than predicted in the EIS
Swamps	
Shrub swamps: Sunnyside and Nine Mile	Negligible environmental consequences including: <ul style="list-style-type: none"> • <i>negligible</i> change to the shallow groundwater regime when compared with control swamps; • <i>negligible</i> erosion of the surface of the swamp; • <i>negligible</i> change in the size of the swamp; • <i>negligible</i> change in the ecosystem functionality of the swamp; • <i>negligible</i> change to the composition or distribution of species within the swamp; and • <i>negligible</i> change to the structural integrity of the bedrock base or any controlling rockbar/s of the swamp.
Hanging swamps	Negligible environmental consequences including: <ul style="list-style-type: none"> • <i>negligible</i> change in the size of the swamp; • <i>negligible</i> change in the ecosystem functionality of the swamp; and • <i>negligible</i> change to the composition or distribution of species within the swamp.
Land	
Cliffs, minor cliffs, steep slopes and pagoda formations	No greater subsidence impacts or environmental consequences than predicted in the EIS.
Biodiversity	
Threatened species, populations or their habitats and EECs (except Sunnyside East, Carne West, Gang Gang South West, Gang Gang East, Pine, Pine Upper, Paddys, Marangaroo Creek and Marrangaroo Creek Upper Swamps)	Negligible environmental consequences.
Heritage Features	
Aboriginal heritage sites identified in Appendix 6 (except sites 45-1-0002, 45-1-0005, 45-1-2805, and 45-1-0065)	Negligible subsidence impact or environmental consequences.
Aboriginal heritage sites 45-1-0002, 45-1-0005, 45-1-2805, and 45-1-0065	No greater subsidence impact or environmental consequences than predicted in the EIS.
Historic heritage sites	Negligible subsidence impact or environmental consequences.
Mine workings	
First workings beneath any feature where performance measures in this table require negligible subsidence impact or environmental consequences. First workings within a 26.5 degree angle of draw of cliffs.	To remain long-term stable and non-subsiding
Second workings	To be carried out only in accordance with an approved Extraction Plan

Notes:

- These performance measures apply to all mining taking place after the date of this consent.
- The Applicant will be required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are required under this consent (see Condition 5 below).
- Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Secretary will be the final arbiter.
- *Aboriginal heritage sites not shown in Appendix 6 must be managed in accordance with the relevant Heritage Management Plan required by Condition 10 of Schedule 3 and Condition 24 of Schedule 4.*

2. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the performance measures in Table 1. Any exceedance of these performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation, notwithstanding actions taken pursuant to paragraphs (a)-(c) or condition 4 below. Where any exceedance of these performance measures has occurred, the Applicant must, at the earliest opportunity:
- take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
 - consider all reasonable and feasible options for remediation and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
 - implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

Offsets

3. If the Applicant exceeds the performance measures in Table 1 and the Secretary determines that:
- it is not reasonable or feasible to remediate the subsidence impact or environmental consequence; or
 - remediation measures implemented by the Applicant have failed to satisfactorily remediate the subsidence impact or environmental consequence;
- then the Applicant shall provide a suitable offset to compensate for the subsidence impact or environmental consequence, to the satisfaction of the Secretary.

The offset must give priority to like-for-like physical environmental offsets, but may also consider payment into the [Biodiversity Conservation Fund](#), or funding or implementation of supplementary measures such as:

- actions outlined in threatened species recovery programs;
- actions that contribute to threat abatement programs;
- biodiversity research and survey programs; and/or
- rehabilitating degraded habitat.

Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.

Swamp Offset Bond for First Swamps Undermined

4. Prior to the commencement of mining, unless otherwise agreed by the Secretary, the Applicant shall lodge a Swamp Offset Bond of \$2,000,000 with the Department.

If, after 12 months of completion of all mining under this consent within 400 metres of either Sunnyside East or Carne West Swamps, monitoring demonstrates that no greater than 'negligible environmental consequences' have resulted to the swamp from mining under this consent, to the satisfaction of the Secretary, then the Secretary will release the half of the Bond that applies to that swamp.

If monitoring demonstrates that greater than 'negligible environmental consequences' have resulted to either of these shrub swamps from mining under this consent, and that these consequences have stabilised for a period of at least 12 months, then the Applicant must offset the environmental consequences to that swamp to the satisfaction of the Secretary within any period specified by the Secretary.

The offset liability will be set by the Secretary in consultation with [BCS](#), following consideration of:

- the estimated liability using the Framework for Biodiversity Assessment in accordance with the *NSW Biodiversity Offsets Policy for Major Projects*; and
- advice from the Independent Monitoring Panel that will be established by the Secretary for the development.

Once the Applicant has offset the environmental consequences to the satisfaction of the Secretary, the relevant proportion of the Swamp Offset Bond will be returned to the Applicant.

Notes:

- *Alternative funding arrangements, such as provision of capital and management funding as agreed by BCS as part of a Biobanking Agreement or transfer to conservation reserve estate, can be used as part of the Swamp Offset Bond. A bank guarantee can be lodged in place of a cash bond.*

Swamp Offsets for all other Shrub Swamps

5. Prior to the commencement of mining operations under an approved Extraction Plan which are predicted to cause greater than negligible environmental consequences to either Gang Gang South West, Gang Gang East, Pine, Pine Upper, Paddys, Marangaroo Creek or Marrangaroo Creek Upper Swamp, the Applicant shall demonstrate that it can satisfy the maximum predicted offset liability for the total area of swamp(s) predicted to be impacted under that Extraction Plan.

If, after 12 months of completion of all mining under this consent within 400 metres of any of these shrub swamps, monitoring demonstrates that no greater than 'negligible environmental consequences' have resulted to the swamp from mining under this consent, to the satisfaction of the Secretary, then the Applicant will not be required to secure the offset or retire the credits relating to that swamp.

If monitoring demonstrates that greater than 'negligible environmental consequences' have resulted to any of these shrub swamps from mining under this consent, and that these consequences have stabilised for a period of at least 12 months, then the Applicant must offset the environmental consequences to that swamp to the satisfaction of the Secretary within any period specified by the Secretary.

The offset liability will be set by the Secretary in consultation with BCS, following consideration of:

- the estimated liability using the Framework for Biodiversity Assessment in accordance with the NSW *Biodiversity Offsets Policy for Major Projects*; and
- advice from the Independent Monitoring Panel that will be established by the Secretary for the development.

Note: Alternative funding arrangements, such as provision of capital and management funding as agreed by BCS as part of a Biobanking Agreement or transfer to conservation reserve estate, can be used as part of the Swamp Offset.

6. As part of each Extraction Plan for mining within 400 metres of the swamps subject to condition 5 above, the Applicant must:
- calculate the maximum predicted offset liability for any environmental consequences on these swamps that may result from the proposed mining using the Framework for Biodiversity Assessment in accordance with the NSW *Biodiversity Offsets Policy for Major Projects*; and
 - demonstrate that it has suitable arrangements in place to deal with these liabilities quickly in the event that offsets are required.

Performance Measures – Built Features

7. The Applicant shall ensure that the development does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the Secretary.

Table 2: Subsidence Impact Performance Measures

Built Features	Performance Measures
Key public infrastructure: Lithgow Water Supply Dam	No damage or additional risk.
Power transmission lines and associated towers, unsealed roads and road culverts, fire trails, other public infrastructure, fences and other built features	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.
Public safety	
Public Safety	Negligible additional risk

Notes:

- *These performance measures apply to all mining taking place after the date of this consent.*
- *The Applicant will be required to define more detailed performance indicators for each of these performance measures in the Built Features Management Plans or Public Safety Management Plan (see condition 10 below).*
- *Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Secretary will be the final arbiter.*
- *Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.*

8. Any dispute between the Applicant and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by the Secretary, following consultation with the Resources Regulator. Any decision by the Secretary shall be final and not subject to further dispute resolution under this consent.

First Workings

9. Subject to condition 10 below, the Applicant may carry out first workings within the underground mining area, other than in accordance with an approved Extraction Plan, provided that the Resources Regulator is satisfied that the first workings are designed to remain stable and non-subsiding in the long-term, except insofar as they may be impacted by approved second workings.

Note: The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with negligible resulting direct subsidence impacts.

Extraction Plan

10. The Applicant shall prepare and implement an Extraction Plan for all second workings on site to the satisfaction of the Secretary. Each Extraction Plan must:
- be prepared in consultation with the Resources Regulator and by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
 - be approved by the Secretary before the Applicant carries out any of the second workings covered by the plan;
 - include detailed plans of existing and proposed first and second workings and overlying surface features, including any applicable adaptive management measures;
 - include adequate consideration of mine roof and floor conditions, pillar width to height ratio, final pillar design dimensions and the long-term stability of pillars which has been undertaken in consultation with the Resources Regulator;
 - provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed mining covered by the Extraction Plan, incorporating any relevant information obtained since this consent;
 - provide revised predictions for potential environmental consequences on affected shrub swamps and the social and economic costs of avoiding these consequences;
 - describe in detail the performance indicators that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences to meet the rehabilitation objectives in condition 30 of Schedule 4;
 - include a:
 - Subsidence Monitoring Program* which has been prepared in consultation with the Resources Regulator to:
 - describe the ongoing conventional and non-conventional subsidence monitoring program;
 - provide data to assist with the management of risks associated with conventional and non-conventional subsidence;
 - validate the conventional and non-conventional subsidence predictions;
 - analyse the relationship between the predicted and resulting conventional and non-conventional subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and
 - inform the contingency plan and adaptive management process in paragraphs (ix) and (x) below;
 - Built Features Management Plan* which has been prepared in consultation with the Resources Regulator, to manage the potential subsidence impacts of the proposed underground workings on built features, and which:
 - has been prepared in consultation with the owner/s of potentially affected feature/s;
 - addresses in appropriate detail all items of key public infrastructure and other public infrastructure and all classes of other built features;
 - recommends appropriate pre-mining mitigation measures to reduce subsidence impacts; and
 - recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate predicted impacts on potentially affected built features in a timely manner;
 - Water Management Plan* which has been prepared in consultation with DPIE Water, WaterNSW and the Independent Monitoring Panel (required by condition 11), which provides for the management of potential impacts and/or environmental consequences of the proposed underground workings on watercourses and aquifers, including:
 - detailed baseline data on:
 - surface water flows and quality in water bodies that could be affected by subsidence, including Wolgan River, Carne Creek, Marangaroo Creek, Coxs River and all major associated tributaries;
 - groundwater levels, yield and quality in the region;

CONSOLIDATED CONSENT

- surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;
 - a surface water monitoring program to monitor and report on:
 - stream flows and quality;
 - stream and riparian vegetation health;
 - channel and bank stability;
 - a groundwater monitoring program to monitor and report on:
 - springs, their discharge quantity and quality, as well as associated groundwater dependent ecosystems;
 - groundwater inflows to the underground mining operations;
 - the height of groundwater depressurization;
 - background changes in groundwater yield/quality against mine-induced changes, in particular, on groundwater bore users in the vicinity of the site;
 - permeability, hydraulic gradient, flow direction and connectivity of the deep and shallow groundwater aquifers;
 - impacts of the development on upland swamps (refer to condition 10 below) and other groundwater dependent ecosystems;
 - a description of any adaptive management practices implemented to guide future mining activities in the event of greater than predicted impacts on aquatic habitat;
 - a program to validate the surface water and groundwater models for the development, and compare monitoring results with modelled predictions; and
 - a plan to respond to any exceedances of the surface water and groundwater assessment criteria;
- (iv) *Biodiversity Management Plan* which has been prepared in consultation with **BCS** and the Independent Monitoring Panel, which provides for the management of potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats and EECs, including a management and research program for the Blue Mountains Water Skink (*Eulamprus leuraensis*);
- (v) *Swamp Monitoring Program* which has been prepared in consultation with **BCS**, **DPIE Water**, **WaterNSW** and the Independent Monitoring Panel, and which includes (as a minimum):
- further consideration of the location of existing piezometers and the installation of upslope and downslope piezometers in all shrub swamps, in order to better understand the down-slope movement of shallow groundwater;
 - installation of flow monitoring points in all shrub swamps;
 - measures to record the nature and condition of terrestrial and aquatic flora and fauna within all shrub swamps and selected hanging swamps;
 - measures to characterise soils or peat layers within the swamps to determine:
 - porosity;
 - a basis for relating water levels to rainfall and evapotranspiration; and
 - the presence, or absence, of clay materials at the interface with the underlying bedrock;
 - a program for monthly review of the water balance of all monitored swamps based on recorded rainfall, estimated evapotranspiration and recorded surface and shallow groundwater levels and outflow measurements;
 - detailed performance indicators for the relevant performance measures in Table 1, including performance indicators relating to surface and shallow groundwater levels and outflow measurements;
 - assessment of any post-mining impacts on the incision feature in Sunnyside East Swamp;
 - specific consideration of subsidence impacts on and environmental consequences to hanging swamps;
 - consideration of a minimum of 2 years of baseline data for swamp hydrology and swamp vegetation;
 - hydrological and vegetative monitoring which fully satisfies Before After Control Impact (BACI) design principles;
 - provision of raw piezometer and other monitoring data to the Department, **BCS** and the Independent Monitoring Panel, if requested; and
 - incorporation of any relevant findings from swamp research projects into the swamp monitoring program;
- (vi) *Land Management Plan* which has been prepared in consultation with **BCS** and any other affected public authorities, which provides for the management of potential impacts and/or environmental consequences of the proposed underground workings on land in general, with a specific focus on cliffs, minor cliffs, pagoda formations, steep slopes and gorges;
- (vii) *Heritage Management Plan* which has been prepared in consultation with **Heritage NSW** and relevant stakeholders for both Aboriginal and non-Aboriginal heritage, which provides for the management of potential environmental consequences of the proposed second workings on Aboriginal and non-Aboriginal heritage and includes all requirements under condition 24 of Schedule 4;
- (viii) *Public Safety Management Plan* which has been prepared in consultation with **the Resources Regulator** and **BCS**, which ensures public safety and manages access on the site;

CONSOLIDATED CONSENT

- (ix) TARPs addressing all features in Tables 1 and 2, which contain:
 - appropriate triggers to warn of increased risk of exceedance of any performance measure; and
 - specific actions to respond to high risk of exceedance of any performance measure to ensure that the measure is not exceeded;
 - an assessment of remediation measures that may be required if exceedances occur and the capacity to implement the measures;
- (x) *Contingency Plan* that expressly provides for:
 - adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Tables 1 and 2, or where any such exceedance appears likely; and
 - an assessment of remediation measures that may be required if exceedances occur and the capacity to implement those measures;
- (xi) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 32 in Schedule 4; and
- (xii) includes a program to collect sufficient baseline data for future Extraction Plans.

Notes:

- *This condition does not apply to first or second workings which are covered by an Extraction Plan or Subsidence Management Plan approved, or submitted for approval, as at the date of this development consent.*
- *In accordance with condition 7 in Schedule 6, the preparation and implementation of Extraction Plans may be staged, with each plan covering a defined area of underground workings. In addition, these plans are only required to contain management plans that are relevant to the specific underground workings that are being carried out.*
- *Due to the sensitive and rugged terrain of the Newnes Plateau, the Applicant may propose remote subsidence monitoring techniques.*

Independent Monitoring Panel

11. An Independent Monitoring Panel for the development will be established by the Secretary, and be comprised of suitably qualified experts in the fields of mining subsidence, upland swamps and landforms of the western Blue Mountains. The role of the Panel is to provide timely, accurate and focussed advice to the Applicant and the Secretary regarding the:
- (a) collection of relevant data to predict and monitor the potential subsidence impacts and environmental consequences of second workings;
 - (b) achievement of performance measures in Table 1 in respect of Swamps, Land and Biodiversity, including relevant performance indicators, including avoidance of impacts where reasonable and feasible, rather than relying on remediation and offsets;
 - (c) preparation, revision and implementation of Extraction Plans, particularly the Swamp Monitoring Program, Biodiversity Management Plan and Land Management Plan components;
 - (d) undertaking iterative risk assessment in Extraction Plans, including consideration of all options for avoiding or minimising damage to swamps and all possible adaptive management measures;
 - (e) appropriate implementation of the swamp and groundwater monitoring programs and adaptive management regime throughout the life of the project; and
 - (f) calculation of swamp offset liability and verification of calculated swamp offset liability under conditions 4 and 5 of Schedule 3.

PAYMENT OF REASONABLE COSTS

12. The Applicant shall pay all reasonable costs incurred by the Department to:
- (a) engage suitably qualified, experienced and independent persons to review the adequacy of any aspect of an Extraction Plan; and
 - (b) establish and operate the Independent Monitoring Panel for the development.

SCHEDULE 4 ENVIRONMENTAL PERFORMANCE CONDITIONS

NOISE

Noise Criteria

- From the date of this consent until 30 June 2016, the Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 3 at any residence on privately-owned land.

Table 3: Noise Criteria dB(A)

Location Receiver Number	Day	Evening	Night	
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)
S1	44	44	46	52
S2	43	43	46	53
S3	35	35	35	60
All other privately-owned land	35	35	35	45

Note: To interpret the locations referred to in Table 3 see the applicable figure in Appendix 4.

Noise generated by the development is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy*. Appendix 5 details the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a negotiated agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

- From 1 July 2016, the Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 4 at any residence on privately-owned land, or have notified, in accordance with Schedule 5, the owners of residences represented by Receiver Numbers S1 and S2 that they are entitled to acoustic treatment of their residence.

Table 4: Noise Criteria dB(A)

Location Receiver Number	Day	Evening	Night	
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)
S1	44	44	42	52
S2	43	43	43	53
S3	35	35	35	60
All other privately-owned land	35	35	35	45

Note: To interpret the land referred to in Table 4 see the applicable figure in Appendix 4.

Operating Conditions

- The Applicant shall:
 - implement best management practice to minimise the construction, operational and road noise of the development;
 - minimise the noise impacts of the development during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 5); and
 - carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent,
 - regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent,
 to the satisfaction of the Secretary.

Noise Management Plan

4. The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with EPA, and submitted to the Secretary for approval within three months of the date of this consent, unless otherwise agreed by the Secretary;
 - (b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions of this consent;
 - (c) describe the proposed noise management system in detail;
 - (d) include an investigation into the generation and perception of low frequency noise by the project;
 - (e) include a noise monitoring program that:
 - evaluates and reports on:
 - the effectiveness of the on-site noise management system;
 - compliance against the noise criteria in this consent; and
 - compliance against the operating conditions in condition 3 above;
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents; and
 - outlines procedures to manage responses to any complaints or issues raised by the owners of affected residences

AIR QUALITY & GREENHOUSE GAS

Air Quality Criteria

5. The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 5 at any residence on privately-owned land.

Table 5: Air quality criteria

Pollutant	Averaging Period	Criterion	
Particulate matter < 10 µm (PM ₁₀)	Annual	a,d 25 µg/m ³	
Particulate matter < 10 µm (PM ₁₀)	24 hour	a 50 µg/m ³	
Total suspended particulates (TSP)	Annual	a,d 90 µg/m ³	
^c Deposited dust	Annual	^b 2 g/m ² /month	a,d 4 g/m ² /month

Notes to Table 5:

a Cumulative impact (ie increase in concentrations due to the development plus background concentrations due to all other sources).

b Incremental impact (ie increase in concentrations due to the development alone, with zero allowable exceedances of the criteria over the life of the development).

c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: **Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.**

d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.

e "Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 6 and 7 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.

Operating Conditions

6. The Applicant shall:
- (a) implement all reasonable and feasible measures to minimise the:
 - odour, fume and dust emissions of the development; and
 - release of greenhouse gas emissions from the development;
 - (b) minimise any visible off-site air pollution generated by the development;
 - (c) minimise the surface disturbance of the site generated by the development;
 - (d) regularly assess the air quality monitoring data, and modify operations on site to ensure compliance with the relevant conditions of this consent;
 - (e) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note *d* to Table 5 above),
- to the satisfaction of the Secretary.

Air Quality & Greenhouse Gas Management Plan

7. The Applicant shall prepare and implement an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA, and submitted to the Secretary within 3 months of the date of this consent, unless otherwise agreed by the Secretary;
 - describe all reasonable and feasible measures which would be implemented to ensure compliance with the air quality criteria and operating conditions of this consent;
 - describe the air quality management system in detail;
 - include an air quality monitoring program that:
 - uses monitors to evaluate the performance of the development against the air quality criteria in this consent;
 - adequately supports the air quality management system;
 - evaluates and reports on the:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality criteria and operating conditions in condition 6 above; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

Meteorological Monitoring

8. Within 6 months of the date of this consent and for the life of the development, the Applicant shall ensure that there is a meteorological station in the vicinity of the site that:
- complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline and the *NSW Industrial Noise Policy*; and
 - is capable of continuous real-time measurement of atmospheric stability category determined by the sigma theta method in accordance with the *NSW Industrial Noise Policy*.

WATER

Water Supply

9. The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations on site to match its available water supply.

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.

Water Pollution

10. Unless an EPL authorises otherwise, the Applicant shall comply with section 120 of the POEO Act.

Compensatory Water Supply

11. The Proponent shall provide a compensatory water supply to any landowner of privately owned land whose water supply is adversely and directly impacted (other than an impact that is negligible) as a result of the project, in consultation with [DPIE Water](#), and to the satisfaction of the Secretary.

The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified.

If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Secretary.

Water Management Performance Measures

12. The Applicant shall comply with the performance measures in Table 6 to the satisfaction of the Secretary.

Table 6: Water Management Performance Measures

Feature	Performance Measure
Water Management – General	<ul style="list-style-type: none">Minimise the use of clean water on siteMinimise the use of water from external sources

Construction operation infrastructure and of	<ul style="list-style-type: none"> Design, install and maintain erosion and sediment controls generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction</i> including <i>Volume 1</i>, <i>Volume 2A – Installation of Services</i> and <i>Volume 2C – Unsealed Roads</i> Design, install and maintain the infrastructure within 40 m of watercourses generally in accordance with the <i>Guidelines for Controlled Activities on Waterfront Land (NRAR 2018)</i>, or its latest version Design, install and maintain creek crossings generally in accordance with the <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (NSW Fisheries, 2003) and <i>Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings</i> (NSW Fisheries 2003), or their latest versions
Clean water diversion	<ul style="list-style-type: none"> Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site, except where clean water is captured for use on site
Sediment dams	<ul style="list-style-type: none"> Design, install and maintain the new dams generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction – Volume 1</i> and <i>Volume 2E – Mines and Quarries</i>
Mine water storages	<ul style="list-style-type: none"> Design, install and maintain mine water storage infrastructure to ensure no unlicensed or uncontrolled discharge of mine water off-site Minimise discharges to surface waters as far as reasonable and practicable New storages (mine infrastructure dams, groundwater storage and treatment dams) are suitably treated to comply with a permeability standard of $< 1 \times 10^{-9}$ m/s
Mine water discharges	<ul style="list-style-type: none"> Discharge all groundwater inflow mine water (except from the Renoun workings) through the Springvale Delta Water Transfer Scheme Meet a limit for salinity of 500 (90th percentile) $\mu\text{S/cm EC}$ by 30 June 2019 Eliminate acute toxicity from LDP009 discharges to aquatic species by 30 June 2017, and chronic toxicity from LDP009 discharges to aquatic species by 30 June 2019, or when the Springvale Water Treatment Project is operational, whichever occurs first with acute toxicity defined as >10% effect relative to the control group and chronic toxicity defined as >20% effect relative to the control group Meet a discharge limit of 0 ML/day of mine water through LDP009 into the Springvale Delta Water Transfer Scheme by 1 July 2019
Aquatic and riparian ecosystems	<ul style="list-style-type: none"> Maintain or improve baseline channel stability Develop site-specific water quality objectives in accordance with the ANZECC Guidelines and <i>Using the ANZECC Guidelines and Water Quality Objectives in NSW procedures</i> (DECC 2006), or its latest version
Chemical and petroleum storage	<ul style="list-style-type: none"> Chemical and hydrocarbon products to be stored in banded areas in accordance with the relevant Australian Standards

Upper Coxs River Action & Monitoring Plan

13. The Applicant shall prepare an Upper Coxs River Action & Monitoring Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with **DPiE Water**, WaterNSW, EPA and Energy Australia;
 - be submitted to the Secretary for approval by 30 June 2016, unless otherwise agreed by the Secretary;
 - identify all available water management measures designed to achieve the mine water discharge criteria and associated timeframes required by condition 12 above, including potential transfer of mine water to Mt Piper Power Station and consideration of all licensed discharge points within the Upper Coxs River catchment (including at Springvale Mine, Lidsdale Siding, Western Coal Services and Angus Place Colliery);
 - include a financial justification and timetable for achieving reductions in salinity in the Upper Coxs River to 500 (90th percentile) $\mu\text{S/cm EC}$ by June 2019 and identify enforceable mechanisms for the implementation of the proposed measures;
 - include a monitoring program which is based on:
 - water quality, macroinvertebrate and ecotoxicology monitoring across the Coxs River Catchment to measure performance against a long term water quality objective of 350 $\mu\text{S/cm EC}$ and the impacts of salinity and toxicity changes on the aquatic ecology and ecosystem health of the Cox River;
 - water quality parameters to be monitored at all existing and proposed licensed discharge points (focusing on those parameters that have been identified as having potential to cause harm to the environment, the frequency of monitoring and concentration limits required by condition 12 above and any EPL that applies to the site);
 - a TARP identifying actions to be implemented should any concentration limits be exceeded (focusing on the extent to which exceedances might affect aquatic ecology); and

- (f) provide for status reports, to be submitted to the EPA and WaterNSW by 30 June 2017 and 30 September 2020, on the impact of the mine water discharges on the aquatic environment.

Water Management Plan

14. The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with **DPIE Water**, WaterNSW, **BCS** and the EPA, by suitably qualified and experienced person/s whose appointment has been approved by the Secretary;
 - (b) be submitted to the Secretary for approval within 6 months of the date of this consent, unless otherwise agreed by the Secretary;
 - (c) include detailed performance criteria and describes measures to ensure that the Applicant complies with the Water Management Performance Measures (see Table 6);
 - (d) in addition to the standard requirements for management plans (see condition 2 of Schedule 6), this plan must include a:
 - (i) Site Water Balance that:
 - includes details of:
 - sources and security of water supply, including contingency planning for future reporting periods;
 - water use and management on site;
 - any off-site water discharges; and
 - reporting procedures, including the preparation of a site water balance for each calendar year; and
 - investigates and implements all reasonable and feasible measures to minimise water use on site;
 - (ii) Surface Water Management Plan, that includes:
 - detailed baseline data on water flows and quality in the waterbodies that could be affected by the development, including Wolgan River, Carne Creek, Marrangaroo Creek and Paddys Creek, Coxs River, Lake Lyell, Lake Wallace, Lake Burragorang and associated tributaries;
 - a detailed description of the water management systems on site, including the:
 - clean water diversion systems;
 - erosion and sediment controls; and
 - mine water management systems;
 - detailed objectives and performance criteria, including trigger levels for investigating any potentially adverse impacts associated with the development for:
 - the water management system;
 - downstream surface water quality;
 - downstream flooding impacts; and
 - stream and riparian vegetation health for rivers and creeks and their tributaries potentially impacted by the development;
 - design and management for the emplacement of coal reject materials;
 - restoration of an appropriate drainage network on the rehabilitated areas of the site; and
 - control of any potential water pollution from the rehabilitated areas of the site;
 - a program to monitor and report on:
 - the performance measures listed in Table 6;
 - the effectiveness of the water management system;
 - surface water flows, quality and geomorphology of the watercourses potentially affected by the development within and immediately outside of the site;
 - the seepage/leachate from on-site water storages; and
 - downstream flooding impacts;
 - consideration of any EPA review of licensed discharge points for the development and any further advice from WaterNSW in relation to water discharges;
 - an updated Regional Water Quality Impact Assessment Model having regard for variations in Lake Burragorang (salinity and volume) and spillages from Lake Lyell;
 - reporting procedures for the results of the monitoring program;
 - a program to validate the Regional Water Quality Impact Assessment Model, including an independent review of the model every 3 years, and comparison of monitoring results with modelled predictions; and
 - a plan to respond to any exceedances of the performance measures, and repair, mitigate and/or offset any adverse surface water impacts of the development; and
 - (iii) Groundwater Management Plan, which is consistent with the **NSW Government's** guideline entitled *Groundwater Monitoring and Modelling Plans – Introduction for prospective mining and petroleum activities*, and includes:

CONSOLIDATED CONSENT

- detailed baseline data of groundwater levels, yield and quality in the region that could be affected by the development, including licensed privately-owned groundwater bores and a detailed survey/schedule of groundwater dependent ecosystems;
- groundwater assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts;
- a program to monitor and report on:
 - springs and their discharge quantity and quality;
 - groundwater inflows transferred to the surface water management system;
 - the seepage/leachate from water storages and emplacements;
 - impacts of the development on:
 - o regional and local (including alluvial) aquifers;
 - o groundwater supply of potentially affected landowners; and
 - o groundwater dependent ecosystems (including rules for the management of groundwater level impacts to protect GDEs), and riparian vegetation;
- a program to validate the groundwater model for the development, including an independent review of the model every 3 years, and comparison of monitoring results with modelled predictions; and
- a plan to respond to any exceedances of the performance measures.

BIODIVERSITY

Biodiversity Offset Strategy

15. By the end of December 2016, the Applicant shall update the *Western Projects Biodiversity Strategy* (RPS Australia East Pty Ltd, 1 October 2014) to provide a suitable offset for:
- (a) the clearing of 4 hectares of native vegetation associated with the construction of Bore 8; and
 - (b) the clearing of 8.94 hectares of native vegetation associated with surface infrastructure for the development; to the satisfaction of BCS and the Secretary.

These offsets must be developed in accordance with the *NSW Biodiversity Offset Policy for Major Projects*, or its current version.

Long Term Security of Offset

16. By the end of December 2016, unless the Secretary agrees otherwise, the Applicant shall make suitable arrangements to protect the biodiversity offset areas referred to in condition 15(a)&(b) above in perpetuity, to the satisfaction of the Secretary.

Stygofauna Assessment

17. The Applicant shall prepare and implement a Regional Stygofauna Monitoring and Assessment Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with BCS, and be submitted to the Secretary for approval within 6 months of the date of this consent, unless otherwise agreed by the Secretary;
 - (b) provide for ongoing monitoring for stygofauna in at least one borehole in each aquifer where stygofauna are known to occur;
 - (c) monitor for the presence of stygofauna in the deep aquifer system (AQ1 to AQ3);
 - (d) collate existing available information on groundwater bores, water quality and characteristics in Centennial Coal's mines throughout the Western Coalfield;
 - (e) use this information to form a prioritisation list of likely areas for GDEs to occur;
 - (f) use the prioritisation protocol to identify bores that can be sampled to provide data on the presence and significance of fauna both within and outside mine areas;
 - (g) identify any stygofauna found to a minimum of Family level;
 - (h) advise on the significance of the findings; and
 - (i) examine relationship between bore characteristics and presence of stygofauna

Biodiversity Management Plan

18. The Applicant shall prepare and implement a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with BCS, Forestry Corporation of NSW and DAWE and be submitted to the Secretary for approval by the end of December 2016, unless otherwise agreed by the Secretary;
 - (b) establish baseline data for existing remnant vegetation and habitat on site;
 - (c) describe the short, medium, and long-term measures to be implemented to manage remnant vegetation and habitat on the site, including upland swamps;
 - (d) describe an ongoing monitoring program and TARP for upland swamps and EECs with a particular focus on

- subsidence-related changes to surface and ground water drainage;
- (e) include a detailed description of the measures that would be implemented to:
 - minimise impacts to fauna on site, including undertaking pre-clearance surveys;
 - control weeds and feral pests (including goats, rabbits, foxes, cats and pigs);
 - control erosion;
 - control access; and
 - manage bushfire risk;
 - (f) include a program to monitor and report on the effectiveness of these measures and progress against detailed performance and completion criteria; and
 - (g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

Catchment Improvement and Land Management Plan

- 18A. The Applicant must prepare and implement a Catchment Improvement and Land Management Plan for the land shown in yellow highlight in Appendix 7, to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with Local Land Services, WaterNSW and BCS, and be submitted to the Secretary for approval by the end of October 2017;
 - (b) describe the measures that would be implemented to protect and manage the subject land, and improve its riparian habitat;
 - (c) detail the schedule of works, completion criteria and the monitoring program that would be implemented to measure the success of the improvements; and
 - (d) make arrangements to manage, protect and provide long-term security for the subject land.

TRANSPORT

Monitoring of Coal Transport

19. The Applicant shall monitor and report on:
- (a) the amount of coal transported from the site by conveyor, private haul roads and, if used, public roads (on a daily basis);
 - (b) make these records publicly available on its website at the end of each calendar quarter. to the satisfaction of the Secretary.

Road Transport Restrictions

20. The Applicant shall ensure that any truck leaving the site:
- (a) does not carry dirt or mud onto public roads; and
 - (b) is free of material that may fall on the road and create a road safety hazard or public nuisance, to the satisfaction of the Secretary.

Mine Access Road Intersection Upgrade

21. Unless the Secretary agrees otherwise, when peak two-way traffic volume on the Castlereagh Highway at its intersection with the Mine Access Road exceeds 400 vehicles per hour, the Applicant shall upgrade that intersection to include a Channelised Right Turn in accordance with Austroads standards, to the satisfaction of TfNSW.

Note: Circumstances in which the Secretary may agree to vary the requirement to upgrade the intersection include limited remaining life for mining operations under this consent.

Forestry Roads

22. The Applicant shall maintain forestry access roads when being used for construction and/or exploration activities, to the satisfaction of the Forestry Corporation of NSW.

HERITAGE

Protection of Aboriginal Heritage Items

23. Unless otherwise authorised under the *National Parks and Wildlife Act 1974*, the Applicant shall ensure that the development does not cause any direct or indirect impact on identified Aboriginal heritage items located outside approved disturbance areas on the site.

Note: Identified Aboriginal heritage items are shown on the figure in Appendix 6.

Heritage Management Plan

CONSOLIDATED CONSENT

24. The Applicant shall prepare and implement a Heritage Management Plan for the development to the satisfaction of the Secretary. This Plan must:
- (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;
 - (b) be prepared in consultation with **Heritage NSW**, Council and local Aboriginal stakeholders (in relation to management of Aboriginal heritage values);
 - (c) be submitted to the Secretary for approval within 6 months of the date of this consent, unless the Secretary agrees otherwise;
 - (d) include a description of the measures that would be implemented for:
 - managing the discovery of human remains or previously unidentified heritage items, including historic heritage items, on site;
 - ensuring any workers on site receive suitable heritage inductions prior to carrying out any development on site, and that suitable records are kept of these inductions;
 - (e) include the following for the management of Aboriginal heritage:
 - a description of the measures that would be implemented for:
 - protecting, monitoring and/or managing the heritage items identified in Table 1 (including any proposed archaeological investigations and/or salvage measures);
 - managing the discovery of previously unidentified Aboriginal items on site;
 - conserving the sites outside approved disturbance areas (see Appendix 6), including measures that would be implemented to secure, analyse and record any sites at risk of subsidence impacts;
 - maintaining and managing reasonable access for Aboriginal stakeholders to heritage items on site;
 - ongoing consultation with the Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage on site; and
 - (f) include the following for the management of non-Aboriginal heritage items:
 - a description of the measures that would be implemented for:
 - protecting, monitoring and managing the heritage items identified in Appendix 6; and
 - managing the discovery of previously unidentified cultural heritage items on site.

Note: This plan can be incorporated with any Aboriginal Cultural Heritage Management Plan for Centennial Coal's other mines and mine infrastructure in the Lithgow Local Government Area.

VISUAL

Visual and Lighting

25. The Applicant shall:
- (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;
 - (b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version;
 - (c) ensure that the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications) is aimed at blending as far as possible with the surrounding landscape, to the satisfaction of the Secretary.

BUSHFIRE MANAGEMENT

26. The Applicant shall:
- (a) ensure that the development is suitably equipped to respond to any fires on site; and
 - (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.

WASTE

27. The Applicant shall:
- (a) implement all reasonable and feasible measures to minimise the waste (including coal reject) generated by the development;
 - (b) ensure that the waste generated by the development is appropriately stored, handled and disposed of; and
 - (c) monitor and report on effectiveness of the waste minimisation and management measures in the Annual Review,
- to the satisfaction of the Secretary.

EXPLORATION ACTIVITIES & SURFACE INFRASTRUCTURE

Exploration Activities and Minor Surface Infrastructure Management Plan

CONSOLIDATED CONSENT

28. The Applicant shall prepare and implement an Exploration Activities and Minor Surface Infrastructure Management Plan for the development to the satisfaction of the Secretary. This Plan must:
- be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;
 - be prepared in consultation with the Resources Regulator and the Forestry Corporation of NSW;
 - be submitted to the Secretary for approval within 6 months of the date of this consent or prior to carrying out exploration activities causing surface disturbance or constructing surface infrastructure (whichever is the earlier), unless the Secretary agrees otherwise;
 - include a description of the measures that would be implemented for:
 - managing exploration activities;
 - managing construction and operation of minor surface infrastructure (including minewater drainage bores, service boreholes and infrastructure corridors) and associated access tracks;
 - consulting with and compensating affected landowners;
 - avoiding threatened species, populations or their habitats and EECs;
 - minimising clearance and disturbance of native vegetation;
 - minimising erosion and sedimentation;
 - achieving applicable standards and goals; and
 - rehabilitating disturbed areas.

Note: This condition does not apply to the construction of approved surface infrastructure in the Springvale Pit Top area.

REHABILITATION

Rehabilitation Objectives

30. The Applicant shall rehabilitate the site to the satisfaction of the Resources Regulator. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EIS, and comply with the objectives in Table 7.

Table 7: Rehabilitation Objectives

Feature	Objective
Mine site (as a whole)	<ul style="list-style-type: none"> Safe, stable & non-polluting
Rehabilitation materials	<ul style="list-style-type: none"> Materials from areas disturbed under this consent (including topsoils, substrates and seeds) are to be recovered, managed and used as rehabilitation resources
Surface infrastructure	<ul style="list-style-type: none"> To be decommissioned and removed unless the Resources Regulator agrees otherwise All surface infrastructure sites are to be revegetated with suitable local native plant species to a landform consistent with the surrounding environment
Portals and vent shafts	<ul style="list-style-type: none"> To be decommissioned and made safe and stable Retain habitat for threatened species (eg bats), where practicable
Revegetated final landforms	<ul style="list-style-type: none"> Stable and sustain the intended land use Consistent with surrounding topography to minimise visual impacts Incorporate relief patterns and design principles consistent with natural drainage
Native flora and fauna	<ul style="list-style-type: none"> Flora species used in rehabilitation selected to re-establish and complement local and regional biodiversity Rehabilitated areas contribute to achieving self-sustaining biodiversity habitats
All watercourses subject to mine-water discharges and/or subsidence impacts	<ul style="list-style-type: none"> Hydraulically and geomorphologically stable, with aquatic ecology and riparian vegetation that is the same, or better than prior to grant of this consent
Cliffs, minor cliffs and steep slopes	<ul style="list-style-type: none"> No additional risk to public safety compared to prior to mining
Other land affected by the development	<ul style="list-style-type: none"> Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native plant species (unless the Resources Regulator agrees otherwise)
Built features damaged by mining operations	<ul style="list-style-type: none"> Repair to pre-mining condition or equivalent unless the: <ul style="list-style-type: none"> owner agrees otherwise; or damage is fully restored, repaired or compensated for under the <i>Mine Subsidence Compensation Act 1961</i>
Community	<ul style="list-style-type: none"> Ensure public safety Minimise the adverse socio-economic effects associated with mine closure

Notes:

- *These rehabilitation objectives apply to all subsidence impacts and environmental consequences caused by mining taking place after the date of this consent; and to all surface infrastructure parts of the development, whether constructed prior to or following the date of this consent.*

Progressive Rehabilitation

31. The Applicant shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time.

Rehabilitation Management Plan

32. The Applicant shall prepare and implement a Rehabilitation Management Plan to the satisfaction of the Resources Regulator. This plan must:
 - (a) be prepared in consultation with the Department, DPIE Water, BCS, Council, WaterNSW and the CCC;
 - (b) be submitted to the Resources Regulator for approval within 6 months of the date of this consent, unless the Resources Regulator agrees otherwise;
 - (c) be prepared in accordance with any relevant NSW Government guideline;
 - (d) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
 - (e) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform and final land use;
 - (f) include interim rehabilitation where necessary to minimise the area exposed for dust generation;
 - (g) include a program to monitor and report on the effectiveness of the rehabilitation measures and progress against the detailed performance and completion criteria; and
 - (h) build to the maximum extent practicable on the other management plans required under this consent.

Note: The Biodiversity Management Plan and Rehabilitation Management Plan require substantial integration to achieve biodiversity objectives for the rehabilitated mine site.

SCHEDULE 5 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing:
 - (a) an exceedance of any relevant criteria in Schedule 4, the Applicant shall notify the affected landowners in writing of the exceedance, and provide regular monitoring results to these landowners until the development is again complying with the relevant criteria; and
 - (b) an exceedance of any relevant air quality criteria in Schedule 4, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 4, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant shall:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 4;
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

SCHEDULE 6 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the date of this consent, unless the Secretary agrees otherwise;
 - (b) provide the strategic framework for the environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

Management Plan Requirements

2. The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria;
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the development;
 - effectiveness of any management measures (see c above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance measures; and
 - (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Application of Existing Management Plans

3. Prior to the approval of management plans under this consent, the Applicant shall manage development undertaken pursuant to this consent in accordance with any equivalent or similar management plan/s required under consent DA 11/92.

Relationships between Management Plans

4. The Upper Cocks River Action & Monitoring, Water, Biodiversity and Heritage Management Plans required by conditions 13, 14, 18 and 24 of Schedule 4, respectively, are to be prepared in respect of all parts of the development that are not covered by an Extraction Plan approved under condition 10 of Schedule 3. In particular, those management plans should address all areas subject to existing or proposed surface disturbance associated with the development.

Consolidation of Strategies, Plans or Programs

5. With the approval of the Secretary, the Applicant may incorporate any strategies, plans or programs required by this consent (except those required under condition 10 of Schedule 3) with the strategies, plans and programs required for Centennial Coal's mining operations in the Lithgow Local Government Area.

Revision of Strategies, Plans and Programs

6. Within 3 months of:
 - (a) the submission of an incident report under condition 10 below;
 - (b) the submission of an annual review under condition 12 below;
 - (c) the submission of an audit under condition 13 below; or
 - (d) any modification to the conditions of this consent (unless the conditions require otherwise),the Applicant shall review the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

Updating & Staging Strategies, Plans or Programs

7. To ensure that strategies, plans and programs required under this consent are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

With the agreement of the Secretary, the Applicant may prepare a revision of or a stage of a strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.

Notes:

- *While any strategy, plan or program may be submitted on a staged basis, the Applicant will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.*
- *If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the development to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.*

Adaptive Management

8. The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

Community Consultative Committee

9. The Applicant shall operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments* (Department of Planning, 2007), or its latest version or replacement.

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent;*
- *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community;*
- *The requirement for this CCC may be fulfilled by the operation of a regional CCC for Centennial Coal's mines and mine infrastructure in the Lithgow Local Government Area, and*
- *The Department will accept the continued representation from existing CCC members.*

REPORTING

Incident Reporting

10. The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

11. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent, and to the satisfaction of the Secretary.

ANNUAL REVIEW

12. By the end of March each year, unless the Secretary agrees otherwise, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:
 - (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the:
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the EIS;
 - (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the next year to improve the environmental performance of the development.

INDEPENDENT ENVIRONMENTAL AUDIT

Independent Environmental Review

13. Prior to 30 June 2016, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent and any other relevant approval, relevant EPL/s or Mining Lease/s (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
 - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

14. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

15. Within 3 months from the date of this consent, the Applicant shall:
 - (a) make copies of the following publicly available on its website:
 - the EIS;
 - all current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
 - a complaints register, which is to be updated on a monthly basis;
 - minutes of CCC meetings;

CONSOLIDATED CONSENT

- the last five annual reviews;
 - information provided to and recommendations made by the Independent Monitoring Panel;
 - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Secretary; and
- (b) keep this information up-to-date, to the satisfaction of the Secretary.

For Information

CONSOLIDATED CONSENT

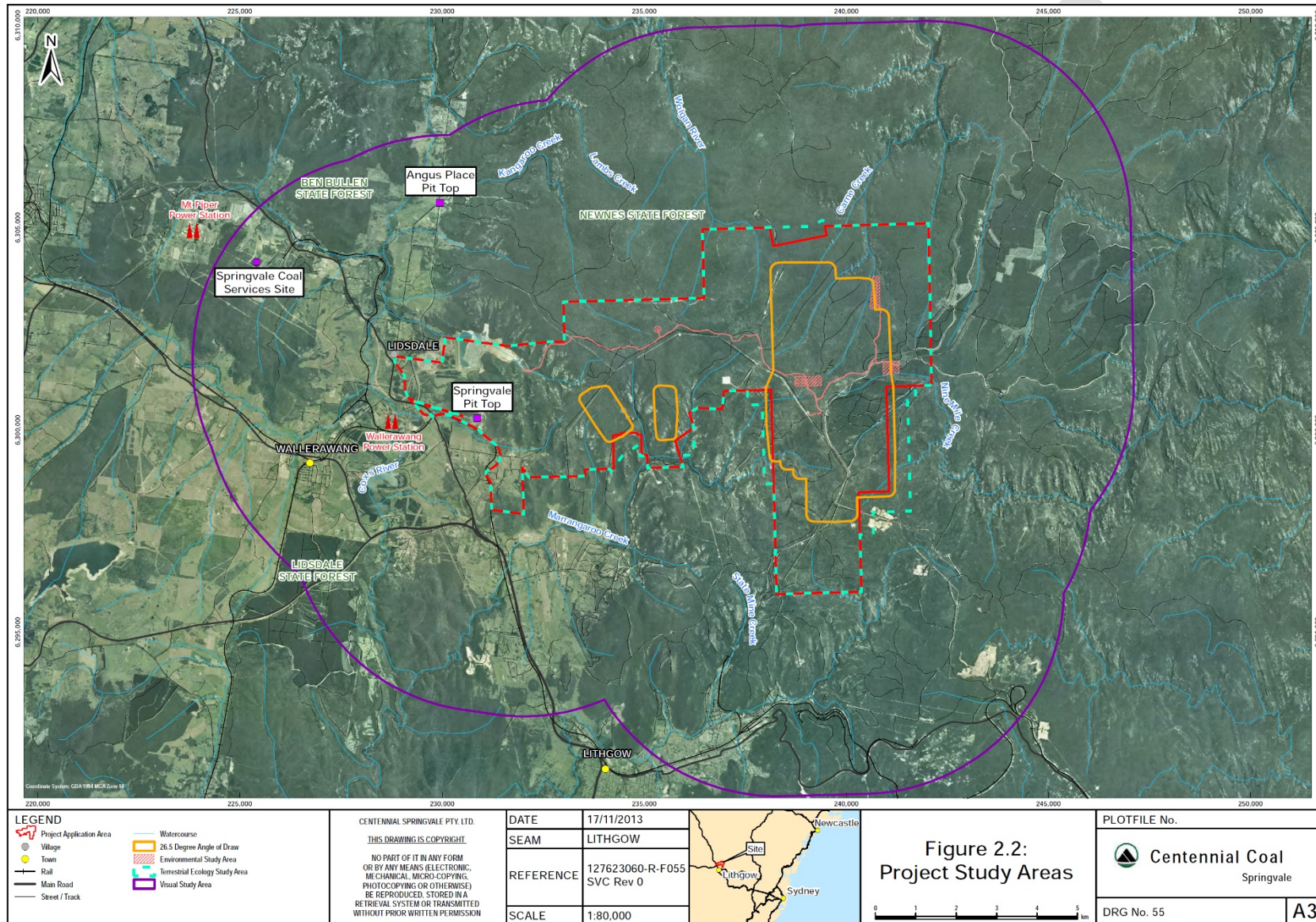
APPENDIX 1: SCHEDULE OF LAND

Land_Status	Created_date	Last_Update	Lot_DP
FREEHOLD	19930804	20041126	9//16283
FREEHOLD	19930804	20041126	10//16283
FREEHOLD	19930804	20041126	26//16283
FREEHOLD	19930804	20041126	23//16283
FREEHOLD	19930804	20041126	B//417872
FREEHOLD	19930804	20041126	14//16283
FREEHOLD	19930804	20041126	1//551636
FREEHOLD	19930804	20041126	19//16283
FREEHOLD	19930804	20041126	2//607402
FREEHOLD	19930804	20041126	28//16283
FREEHOLD	19930804	20041126	30//16283
FREEHOLD	19930804	20041126	1//421721
FREEHOLD	20010504	20041126	2//1018958
FREEHOLD	19930804	20041126	18//16283
FREEHOLD	19930804	20041126	8//16283
FREEHOLD	20000308	20041126	101//829410
FREEHOLD	19930804	20041126	1//607402
FREEHOLD	19960418	20041126	1//825124
FREEHOLD	19940418	20041126	3//829137
FREEHOLD	19930804	20041126	16//16283
FREEHOLD	19930804	20041126	24//16283
FREEHOLD	19930804	20041126	20//16283
FREEHOLD	19930804	20041126	29//16283
FREEHOLD	19930804	20041126	25//16283
FREEHOLD	19930804	20041126	3//607402
FREEHOLD	19930804	20041126	A//417872
FREEHOLD	19930804	20041126	12//16283
FREEHOLD	19930804	20041126	15//16283
FREEHOLD	19940418	20041126	2//829137
FREEHOLD	19930804	20041126	11//16283
FREEHOLD	19930804	20041126	C//417872
FREEHOLD	19930804	20041126	7//16283
FREEHOLD	19930804	20041126	17//16283
FREEHOLD	19930804	20041126	13//16283
FREEHOLD	19930804	20041126	27//16283
FREEHOLD	20060925	20060925	23//1101696
FREEHOLD	20060925	20060925	21//1101696
FREEHOLD	20060925	20060925	22//1101696
FREEHOLD	20081023	20081023	228//1131953
FREEHOLD	20090712	20090715	10//1139978
FREEHOLD	20090712	20090715	11//1139978
FREEHOLD	20010504	20041126	1//1018958
FREEHOLD	19940418	20041126	1//175470
FREEHOLD	19930804	20041126	4//805024
FREEHOLD	19930804	20041126	33//751655
FREEHOLD	19930804	20041126	32//751655
FREEHOLD	19930804	20041126	39//751655
FREEHOLD	19930804	20090407	72//751651
FREEHOLD	19930804	20090407	302//751651

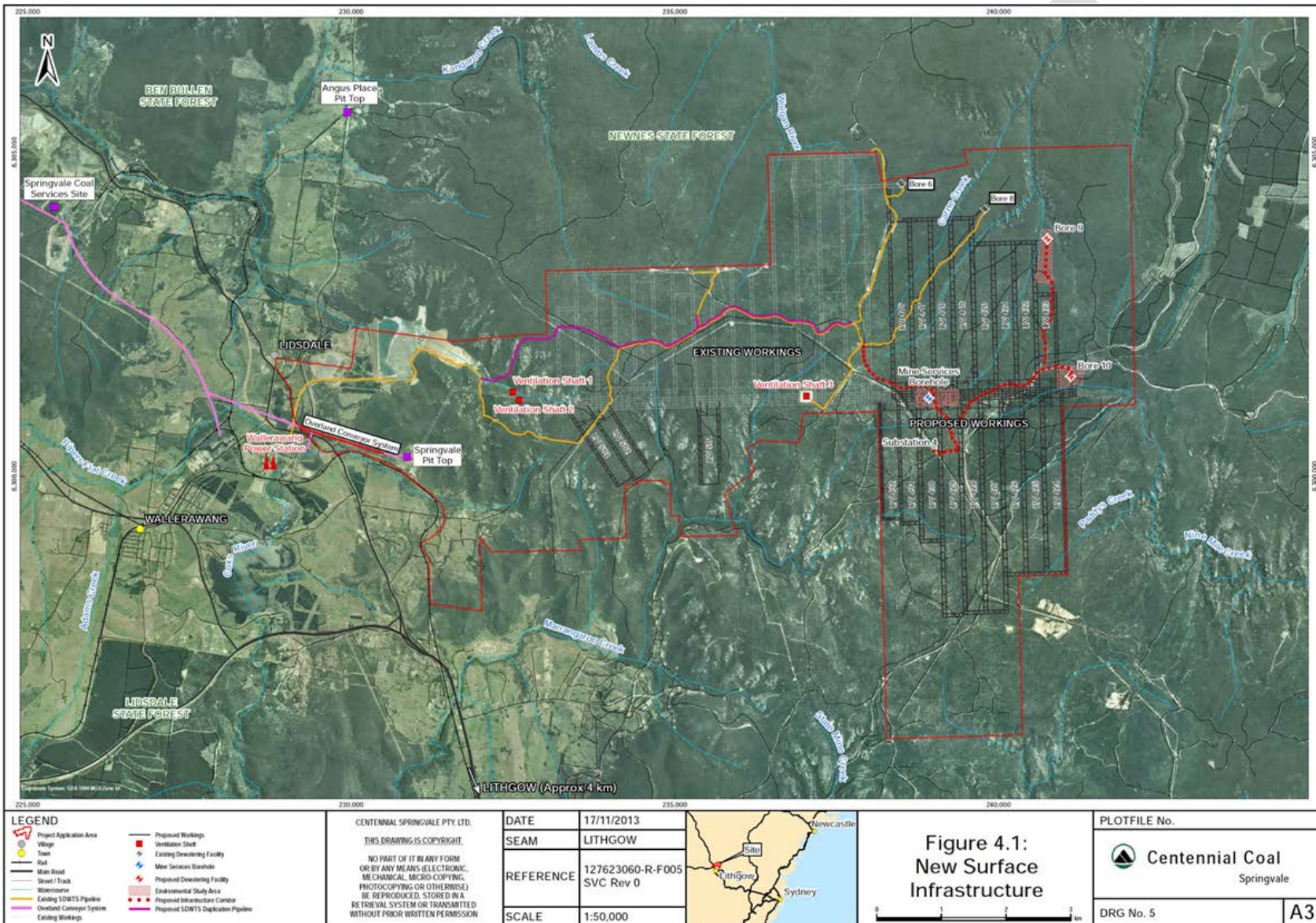
CONSOLIDATED CONSENT

FREEHOLD	19930804	20090407	68//751651
FREEHOLD	19930804	20090411	407//751651
CROWN	19930804	20090906	195//751651
FREEHOLD	19951010	20111223	1//787242
FREEHOLD	19990823	20111223	67//1004747
FREEHOLD	19930804	20041126	37//751655
FREEHOLD	19940418	20041126	5//829137
FREEHOLD	19930804	20041126	30//751655
FREEHOLD	19970520	20041126	21//868170
FREEHOLD	19960222	20041126	38//751655
FREEHOLD	19970415	20041126	2//226790
FREEHOLD	19970415	20041126	3//226790
FREEHOLD	19930804	20041126	3//805024
FREEHOLD	19970415	20041126	1//226790
FREEHOLD	19930804	20041126	26//751655
FREEHOLD	19930804	20041126	31//751655
FREEHOLD	19930804	20041126	99//751655
FREEHOLD	19950215	20041126	2//835651
FREEHOLD	19970520	20041126	22//868170
FREEHOLD	19930804	20090411	73//751651
CROWN	19930804	20090829	129//751651
CROWN	20100322	20100617	7318//1149348
FREEHOLD	19930804	20100903	125//751651
STATE FORESTS OF NSW	19930804	20110313	201//751655
STATE FORESTS OF NSW	19930804	20110313	84//751655
FREEHOLD	19940415	20041126	1//576152
FREEHOLD	19930804	20041126	1//113040
FREEHOLD	19930804	20041126	50//751655
FREEHOLD	19930804	20041126	47//751655
STATE FORESTS OF NSW	19930804	20110313	35//751634
STATE FORESTS OF NSW	19930804	20110313	203//751655
STATE FORESTS OF NSW	19930804	20110313	52//751655
STATE FORESTS OF NSW	19930804	20110313	53//751655
STATE FORESTS OF NSW	19940810	20110313	51//751655
STATE FORESTS OF NSW	19930804	20110313	202//751655
STATE FORESTS OF NSW	19930804	20110313	54//751655

APPENDIX 2: DEVELOPMENT LAYOUT PLAN



CONSOLIDATED CONSENT



CONSOLIDATED CONSENT



Pit Top Surface Facility

CONSOLIDATED CONSENT

APPENDIX 3: STATEMENT OF COMMITMENTS

Desired Outcome	Action
1. General	
All operations are undertaken in a manner that will minimise the environmental impacts associated with the Project.	<p>Operations will be undertaken in accordance with the description provided in this EIS.</p> <p>As the required exploration drill holes are determined, Springvale Coal will undertake a series of due diligence assessments to consider key impacts as relevant. The general approach of the due diligence assessments will be to conduct site investigations to ensure that significant impacts are avoided.</p> <p>Springvale Coal will develop Trigger Action Response Plans as part of the development of the certain management plans which will detail the response to be taken if mining induced impacts occur.</p>
2. Development Phase	
All construction operations are appropriately undertaken to minimise potential impacts to the environment.	Prior to construction of surface facilities on the Newnes Plateau, a Construction Environmental Management Plan will be developed in consultation with the Forestry Corporation of NSW. This plan will include noise management in accordance with the Project Specific Noise Criteria detailed in Section 10.6.3 of the EIS. A copy of the Construction Environmental Management Plan will be provided to Lithgow City Council for their consideration.
3. Exploration	
All exploration activities are appropriately undertaken to minimise potential impacts to the environment.	Proposed exploration activities will be notified to the Department and where applicable to the Forestry Corporation of NSW. All required approvals will be obtained prior to the commencement of any exploration activities. Copies of any due diligence assessments will also be provided to the Department and Forestry Corporation (where applicable).
4. Hours of Operation	
All operations are undertaken within the approved operating hours.	Operations will be undertaken 24 hours a day 7 days a week, 52 weeks per year.
5. Surface Water, Groundwater, Geomorphology and Aquatic	
All surface water groundwater and aquatic impacts are minimised to the greatest extent possible.	<p>Within six (6) months of development consent, a Water Management Plan will be developed that includes the monitoring requirements identified in Section 10.2.5 of the EIS.</p> <p>The Water Management Plan will be developed in consultation with the NSW Office of Water.</p> <p>Groundwater models will be updated every 6 months and a review will be included in the Annual Review. Copies of the Annual Review will continue to be provided to NOW.</p> <p>Throughout the life of the Project, stygofauna will be monitored using standing water levels within one borehole in each aquifer where stygofauna are known to occur (AQ4 to AQ6). Where available, monitoring of the deep aquifer system, AQ 1 to AQ3 will be undertaken to establish presence of stygofauna.</p> <p>Centennial Coal will undertake a regional stygofauna assessment which will:</p> <ul style="list-style-type: none"> • Collate existing available information on groundwater bores, water quality and characteristics in Centennial Coal's area of operations throughout the Western Coalfield. • Use this information to form a prioritisation list of likely areas for GDE to occur. • Use the prioritisation protocol to identify bores that can be sampled to provide data on the presence and significance of fauna both within and outside mine areas. • Identify any stygofauna found to a minimum of Family level. • Advise on the significance of the findings.

CONSOLIDATED CONSENT

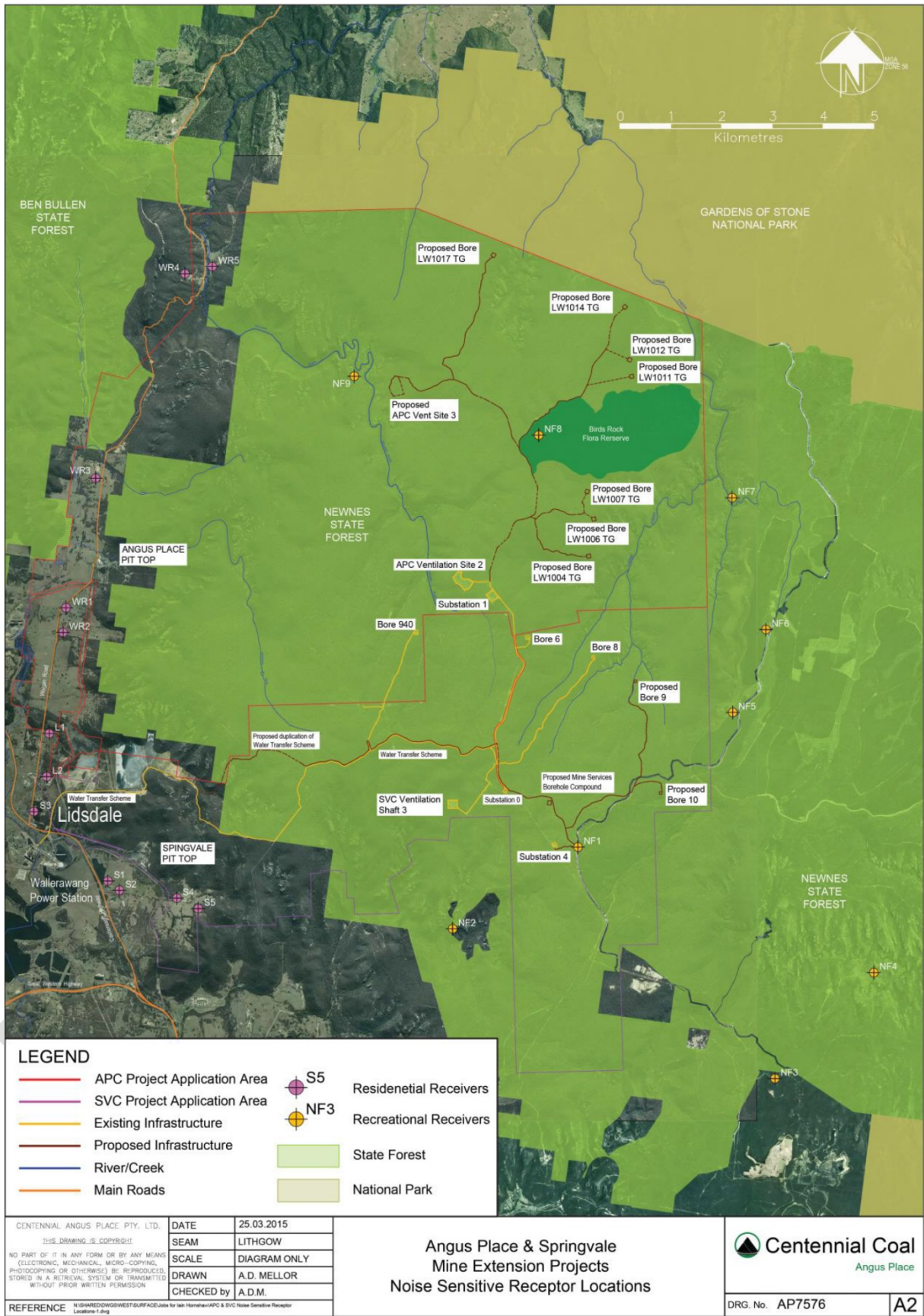
Desired Outcome	Action
	<ul style="list-style-type: none"> • Examine relationship between bore characteristics and presence of stygofauna. <p>Springvale Coal have commenced the process to secure the required surface water licences for the Project.</p> <p>Springvale Coal will commit to notify NSW Fisheries if any monitoring detects significant impacts to third order drainage lines as a result of subsidence.</p> <p>Springvale Coal will undertake further investigations into the toxicity of LDP009 water discharge to identify the cause of the toxicity.</p> <p>Springvale Coal will develop and implement a management program that includes:</p> <ol style="list-style-type: none"> a) Water quality, macroinvertebrate and ecotoxicology monitoring across the Coxs River Catchment to measure the performance against the long term water quality objective and the impacts of change on the aquatic ecology and ecosystem health of the Coxs River. b) The water quality parameters to be monitored at all proposed Licenced Discharge Points, the frequency of monitoring and concentration limits focussed on those that have been identified as having potential to cause harm to the environment. c) A Trigger Action Response Plan should concentration limits be exceeded that focusses on the extent to which an exceedance of quality limits might affect aquatic ecology of the Coxs River catchment.
6. Terrestrial and Aquatic Ecology	
	<p>Within two (2) years of development consent, a Biodiversity Management Plan will be developed and implemented. The Plan will be developed in consultation with DPE, OEH, DoE, Forestry Corporation of NSW, NPWS and will include the outcomes of the Research Strategy.</p>
7. Aboriginal Heritage Management	
<p>Ensure that identified and unidentified Aboriginal Sites are appropriately managed.</p>	<p>Aboriginal Heritage will be monitored and managed in accordance with Table 8.2 of this EIS.</p> <p>Within 6 months of the date of approval, the Cultural Heritage Management Plan will be updated.</p>
8. Traffic and Transport	
<p>Project-related impacts on the road network are limited.</p>	<p>Prior to the commencement of construction activities, a Construction Traffic Management Plan will be developed and implemented. The Plan will be developed in consultation with Lithgow City Council and Forestry Corporation of NSW.</p>
9. Noise and Vibration	
<p>All noise impacts are minimised to the greatest extent possible.</p>	<p>The existing Noise Management Plan will be updated to include the noise criteria for the Project and a noise monitoring programme for the sensitive receptors identified in Figure 10.25 of the EIS. The noise monitoring programme will include continuous, unattended noise monitoring and operator attended quarterly noise monitoring.</p>
10. Air Quality and Greenhouse Gas	
<p>All air quality impacts are minimised to the greatest extent possible.</p>	<p>Within six (6) months of development consent, the Air Quality Management Plan will be updated to include the mitigation measures identified in Section 10.7 of the EIS.</p> <p>An additional TEOM will be installed as part of a regional air quality monitoring programme that is currently being developed by Centennial Coal.</p>
11. Soils and Land Capability	

CONSOLIDATED CONSENT

Desired Outcome	Action
All soil and land impacts are minimised to the greatest extent possible	<p>Soil stripping will be undertaken in accordance with the soil stripping depths in the Soils and Land Capability Report appended to this EIS.</p> <p>The following topsoil management measures will be applied:</p> <ul style="list-style-type: none"> • topsoil will be stripped to depths in Table 10.44 of the EIS only when moist and stockpiled a maximum of 3 m high; • topsoil stripping will immediately precede construction to minimise the time that bare subsoils are exposed; • ameliorants for each soil type will be applied as per the Soils and Land Capability Report; • topsoil that is to be stockpiled for longer than 3 months will be stabilised with an annual cover crop; and • prior to re-spreading stockpiled topsoil, weeds will be removed.
12. Life of Mine and Rehabilitation	
Rehabilitation of the Springvale Coal Services Site is conducted in accordance with Industry Standards.	<p>Progressive rehabilitation will be undertaken in accordance with the Rehabilitation Strategy appended to this EIS.</p> <p>Within 6 months of approval, the Mining Operations Plan will be updated to include the rehabilitation requirements outlined in the Rehabilitation Strategy of this EIS.</p>
13. Hazards	
Safety of the underground personnel from the underground strata will be maintained.	The existing Hazard Plan, being part of the Strata Failure Management System, will be maintained and updated on an ongoing basis as required, in accordance with the Clause 28b (ii) of the <i>Coal Mine Health and Safety Regulation 2006</i> .
14. Community Contributions	
Meet Centennial's corporate social responsibility objectives	Centennial Coal will contribute three cents per saleable tonne of coal (exclusive of GST) produced from the Springvale, Angus Place and Airly Mines, as a 'Community Contribution' to Lithgow City Council. This Community Contribution will be capped at \$200,000 annually and the funds allocated to long-term community activities and projects agreed by both parties and reported publicly. Commencement of the 'Community Contribution' will be from the date the first of the above three mines is granted consent.

CONSOLIDATED CONSENT

APPENDIX 4: NOISE RECEIVER LOCATION PLAN



CONSOLIDATED CONSENT

APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Tables 3 and 4 in Schedule 4 are to apply to a receiver under all meteorological conditions except under:
 - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - (b) stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or
 - (c) stability category G temperature inversion conditions.

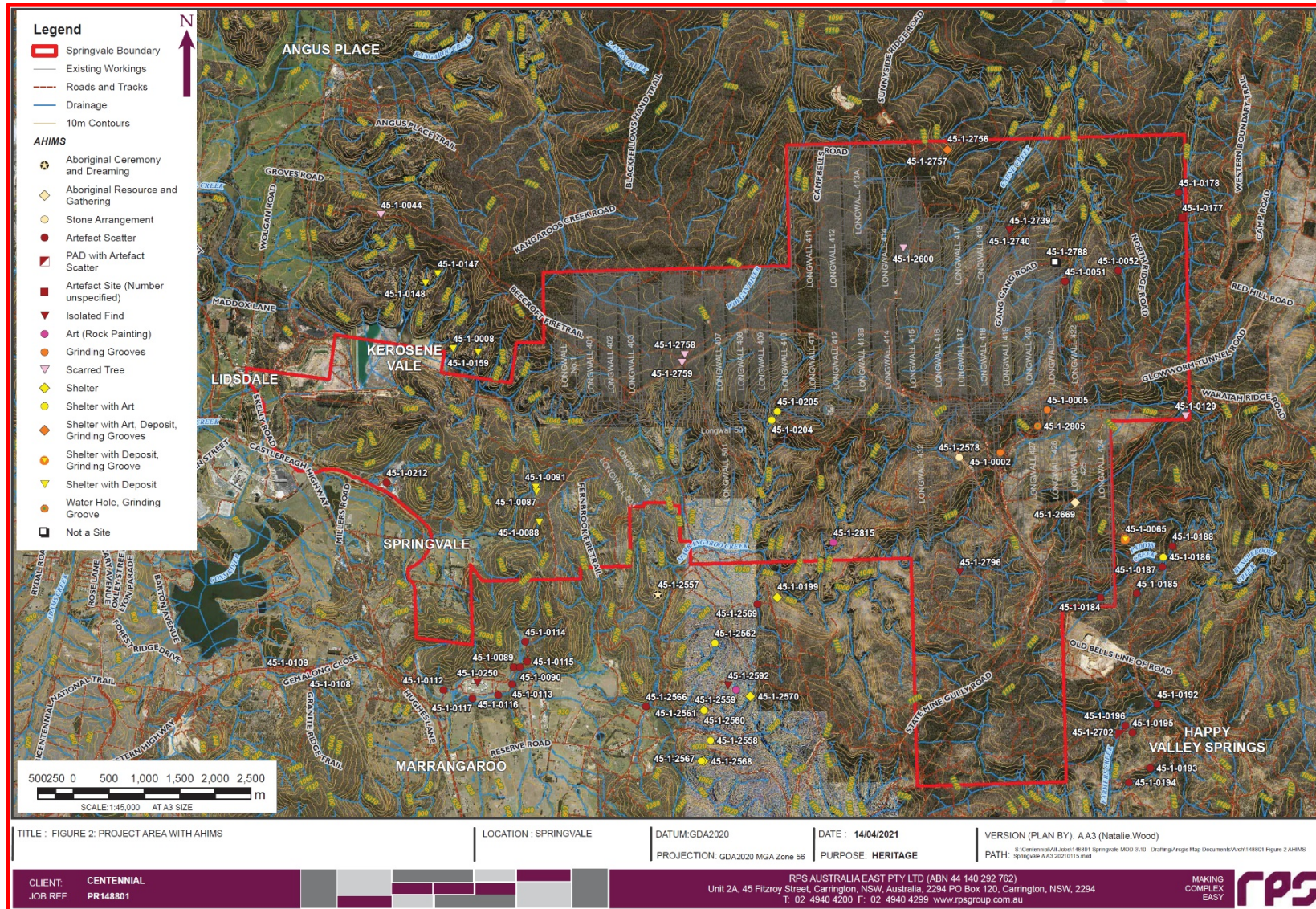
Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station required under condition 8 of Schedule 4.

Compliance Monitoring

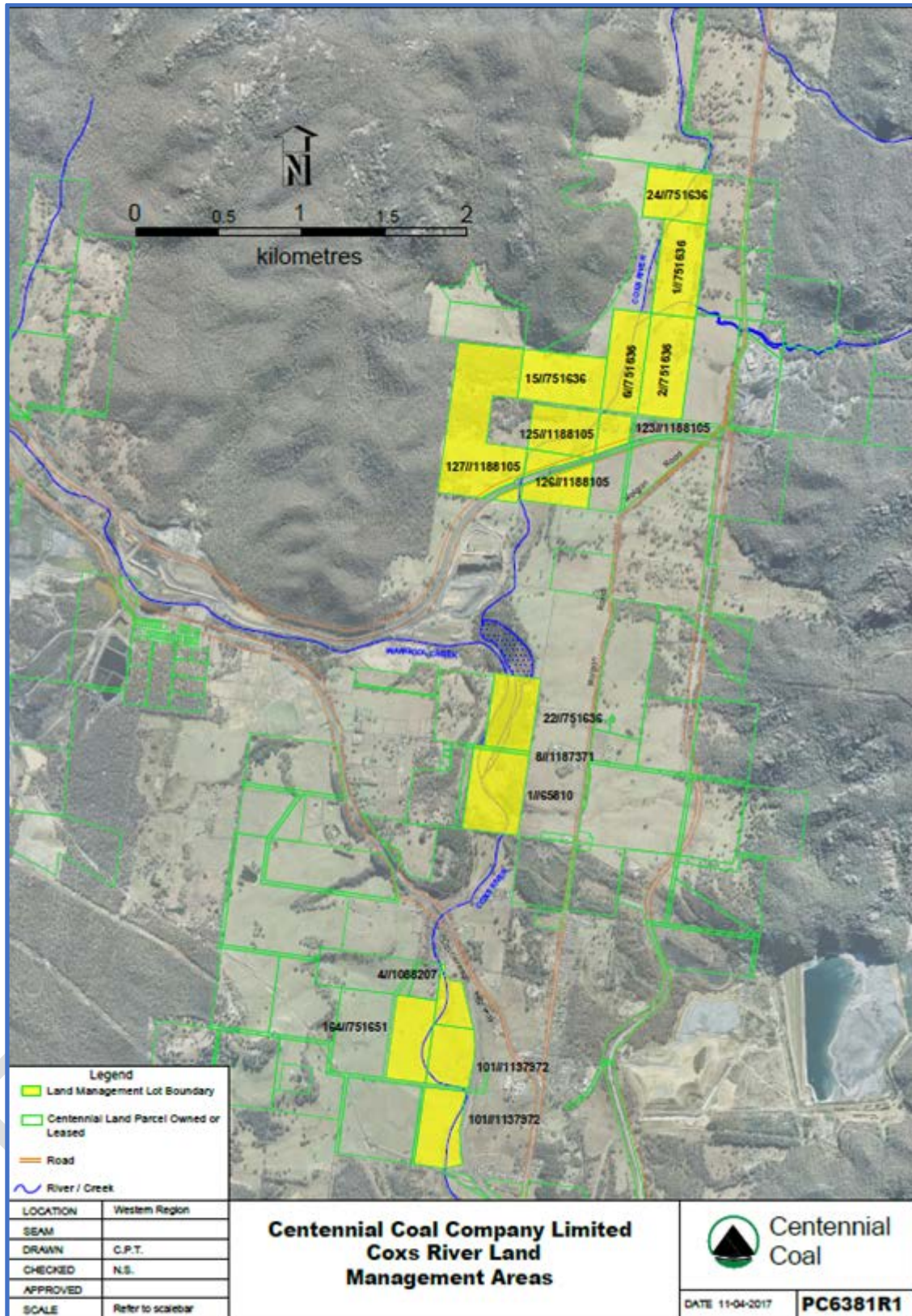
3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.
4. This monitoring must be carried out at least 4 times in each calendar year (ie at least once in every quarter), unless the Secretary directs otherwise.
5. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
 - (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
 - (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the INP) and before comparison with the specified noise levels in the consent.

APPENDIX 6: ABORIGINAL HERITAGE SITES



CONSOLIDATED CONSENT

APPENDIX 7: CATCHMENT IMPROVEMENT AND LAND MANAGEMENT PLAN



Appendix D

Lithgow City Council LEP Inventory Sheet I245

[Home](#) > [Topics](#) > [Heritage places and items](#) > [Search for heritage](#)

Wolgan Valley Railway

Item details

Name of item: Wolgan Valley Railway

Other name/s: Main West Line

Type of item: Built

Group/Collection: Transport - Rail

Category: Railway

Primary address: Main West Line, Newnes Junction, NSW 2790

Local govt. area: Lithgow

All addresses

Street Address	Suburb/town	LGA	Parish	County	Type
Main West Line	Newnes Junction	Lithgow			Primary Address

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Local Environmental Plan			09 Dec 94		

References, internet links & images

None

Note: internet links may be to web pages, documents or images.

Data source

The information for this entry comes from the following source:

Name: Local Government

Database number: 1960370

[Return to previous page](#)

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to the [Database Manager](#).

All information and pictures on this page are the copyright of the Heritage Division or respective copyright owners.

Appendix E

Aboriginal Heritage Site Cards

A1474

REGISTERED COPY

1. Map Name Lithgow ~~Wallerawang~~ Sydney 5. Site No. 45-1-2
 2. Scale 1:25,000 ~~1:63,860~~ 1:250,000 6. Site type Grinding Grooves.
 3. Grid ref ~~393.63~~ 185.719 ~~3185.8721~~
 4. Site name(s) Bungleboori... Old Bells Line Track 7. Classification ... O.....
 8. Air photo ref Wallerawang N.S.W. 1920, 29/11/70, Run 4, Nos. 5005, 5006.....
 9. Cadastral County of Cook, Parish of Clwydd.....
 10. Land Status Crown Land within Newnes State Forest 11.

12. Directions for site relocation

Using the Lithgow topo map, turn off the Bells Line of Road at Clarence and follow the Old Bells Line of Road through Happy Valley Springs and along the Blue Mountains Range to the Forestry Huts on the Western edge of 'Nine Mile Pine Plantation'. The Aboriginal Relic site is located to the West of the road leading to Newnes Afforestation Camp and North of the Old Bells Line of Road.

13. Owner 14. Tenant/Manager Forestry Commission of NSW
 Address Address Lithgow, 2790.....
 Attitude Attitude Sympathetic.....

15. Site Description

12 Grinding Grooves on flat rock surface in Newnes State Forest.

(subsequent report that grooves are v. faint, & only 2 were found to follow)



16. Reasons for investigation Your Ref.: 'Aboriginal Relics in Newnes State Forest', A: 1474
 17. Condition Good
 18. Interpretation Education and Scientific Reference.....
 19. Visitation Very little, by Forestry Commission personnel only...
 20. Recommendations The Forestry Commission is aware of the existence of this site and accepts that no disturbance should occur.



45-1-0002

+

21. Environmental description of site locality

The grinding grooves occur on a flat rock surface surrounded by tall woodland vegetation characterised by E. blaxlandii, E. sieberi and E. radiata with an understorey of xerophytic shrubs. Shallow pools of water form on the rock surface after rain.

22. Relation to other sites in locality

3 Other Aboriginal Relic sites occur within Newnes State Forest, to the North East of this site - a) 1 Km NE - Grinding Grooves
b) Mt Horne - Rock shelter & Grinding Grooves
c) Waratah Ridge - Rock shelter, bird print engravings & Grinding Grooves.

23. Details of artifact collections

Nil

24. Is plan or diagram of site attached? Yes/No

25. Are annotated photographs attached? Yes/No How many? 1

26. Other additions

27. Importance of site to Aborigines

28. Source of this information

29. Oral sources of information Steve Ellery
Foreman
Forestry Commission, NSW
Lithgow, 2790

30. Written references

31. Recorded by Ann Jelinek Filed by H. Clemens
Ranger Naturalist
Blue Mountains District
P.O. Box 43
Address Blackheath, 2785

Date 31/5/77

Date 17-6-77

1. Map Name ..Lithgow...Wallerawang...Sydney..... 5. Site No. ..45-1-5.....
 2. Scale1:25,000...1:63,360...1:250,000..... 6. Site type Grinding.Grooves.
 3. Grid ref ..^{2/3996}6/0100...193.727...3194.8~~27~~8727
 4. Site name(s) ..Old Bells Line Track..... 7. Classification ..0.....
 8. Air photo ref Wallerawang, NSW 1920, 29/11/70, Run.3, Nos. 5028, 5029.....
 9. CadastralCounty of Cook, Parish of Clwydd.....
 10. Land Status ..Crown Land within Newnes.. 11.
 State Forest

12. Directions for site relocation

Using the Lithgow 1:25,000 topo map, turn off the Bells Line of Road at Clarence and follow the Old Bells Line of Road through Happy Valley Springs and along the Blue Mountains Range to the Forestry Huts on the Western edge of 'Nine Mile Pine Plantation'. Follow the road which leads to the Newnes Afforestation Camp for 1Km. The Aboriginal Relic site is approx. 150m to the NW of the road.

13. Owner 14. Tenant/Manager Forestry Commission of NSW
 Address AddressLithgow, 2790

 Attitude AttitudeSympathetic

15. Site Description

5 Grinding grooves near water hole on flat rock surface, Newnes State Forest.



16. Reasons for investigation Your Ref: 'Aboriginal Relics in Newnes State Forest'. A.1474
 17. Condition Good
 18. Interpretation ..Education & Scientific Reference.....
 19. VisitationLight, Forestry Commission personnel only.....
 20. Recommendations The Forestry Commission, NSW, Lithgow, is aware of the existence...
 of this site and accepts that no disturbance should occur.....



45-1-0005

+

21. Environmental description of site locality

The grinding grooves and water hole occur on a flat rock surface surrounded by tall woodland vegetation. The dominant tree species present are E. sieberi, E. blaxlandii and E. radiata with an understorey of dry shrubs.

22. Relation to other sites in locality

3 other Aboriginal Relic sites are known to occur in Newnes State Forest:

1. Bungleboori - grinding grooves
2. Mt Horne - rock shelter and grinding grooves
3. Waratah Ridge - rock shelter, bird print engravings & grinding grooves.

23. Details of artifact collections

Nil

24. Is plan or diagram of site attached? Yes/No

25. Are annotated photographs attached? Yes/No How many? 1

26. Other additions

27. Importance of site to Aborigines

28. Source of this information

29. Oral sources of information

Steve Ellery
Foreman
Forestry Commission, NSW
Lithgow, 2790

30. Written references

31. Recorded by

Ann Jelinek
Ranger Naturalist
Blue Mountains District
P.O. Box 43
Blackheath, 2785

Filed by

H. Clemens

Date

31st May, 1977

Date

17-6-77

AHIMS #45-1-0065 Additional Information for Existing Site Card

AHIMS #45-1-0065 was relocated on 6 February 2013 by an RPS survey team. A number of water holes, grinding grooves and a large rock shelter were observed at the site. The site was largely in good condition, although the rock shelter appeared to have been subject to rock fall and some ground surface disturbance on the floor.

The site was relocated approximately 113 metres to the west of the registered location at GDA Zone 56 241091.77mE 6299415.46mS. No stone artefacts were identified in association with this site.



Plate 1: Rock shelter at AHIMS site #45-1-0065



Aboriginal Site Recording Form



AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Office Use Only

Site Number - -

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

Information Access

Gender/male Gender/female Location restriction General restriction No access

For Further Information Contact:

Nominated Trustee

Title Surname First Name Initials

Organisation

Address

Phone number Fax

Knowledge Holder

Title Surname First Name Initials

Organisation

Address

Phone number Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Office Use Only

Client on system

Client on system

Geographic Location

Site Name - -

Easting Northing AGD/GDA

Mapsheet

Zone Location Method

Other Registration

Primary Recorder

Title Surname First Name Initials

Organisation

Address

Phone number Fax

Date recorded

Client on system

General Site Information

Closed Site

Shelter/Cave Formation

- Boulder
- Wind erosion
- Water erosion
- Rock collapse

Rock Surface Condition

- Boulder
- Sandstone platform
- Silica gloss
- Tessellated
- Weathered
- Other platform

Condition of Ceiling

- Boulder
- Sandstone platform
- Silica gloss
- Tessellated
- Weathered
- Other platform

Shelter Aspect

- North
- North East
- East
- South East
- South
- South West
- West
- North West

Open Site

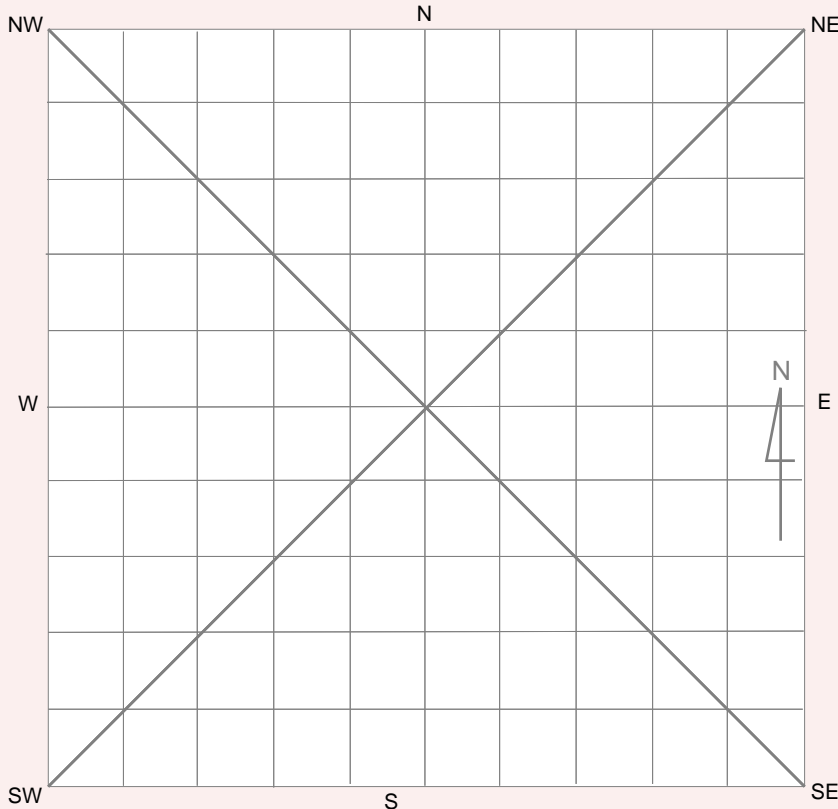
Site Orientation

- N-S
- NE-SW
- E-W
- SE-NW
- N/A

Features

- 1. Aboriginal Ceremony & Dreaming
- 2. Aboriginal Resource & Gathering
- 3. Art
- 4. Artefact
- 5. Burial
- 6. Ceremonial Ring
- 7. Conflict
- 8. Earth Mound
- 9. Fish Trap
- 10. Grinding Groove
- 11. Habitation Structure
- 12. Hearth
- 13. Non Human Bone & Organic Material
- 14. Ochre quarry
- 15. Potential Archaeological Deposit
- 16. Stone Quarry
- 17. Shell
- 18. Stone Arrangement
- 19. Modified Tree
- 20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
- Internal width
- Shelter height
- Shelter floor area

Open Site Dimensions (m)

- Total length of visible site
- Average width of visible site
- Estimated area of visible site
- Length of assessed site area

Site I.D. Site Name

First recorded date Importance Aboriginal Information Recorded?

No. of instances

Recorded by

Feature description

No. of scars

No. of carved panels

Feature Condition

Very good

Good

Poor

Easting Northing

Condition

Weathered

Ringbarked

Fire damage

Vehicle damage

Insects/termites

Rot

Limb fall

Stock damage

Recommended Action

Fencing

Closure to public

Continued inspection

Expert assessment

Fire hazard reduction

Insect removal

Meeting with land manager

Rubbish removal

Signage

Tree health assessment

Track closure/re-routing

Additional recording

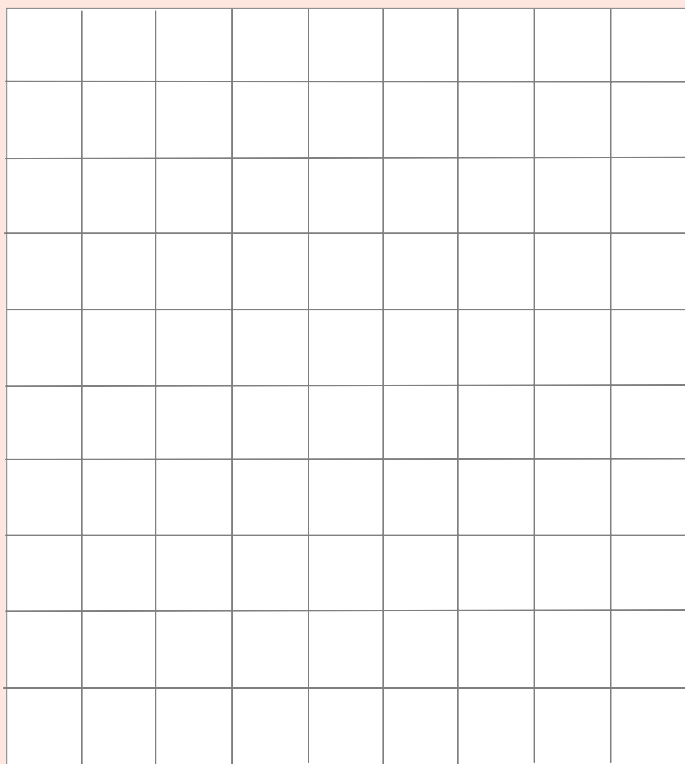
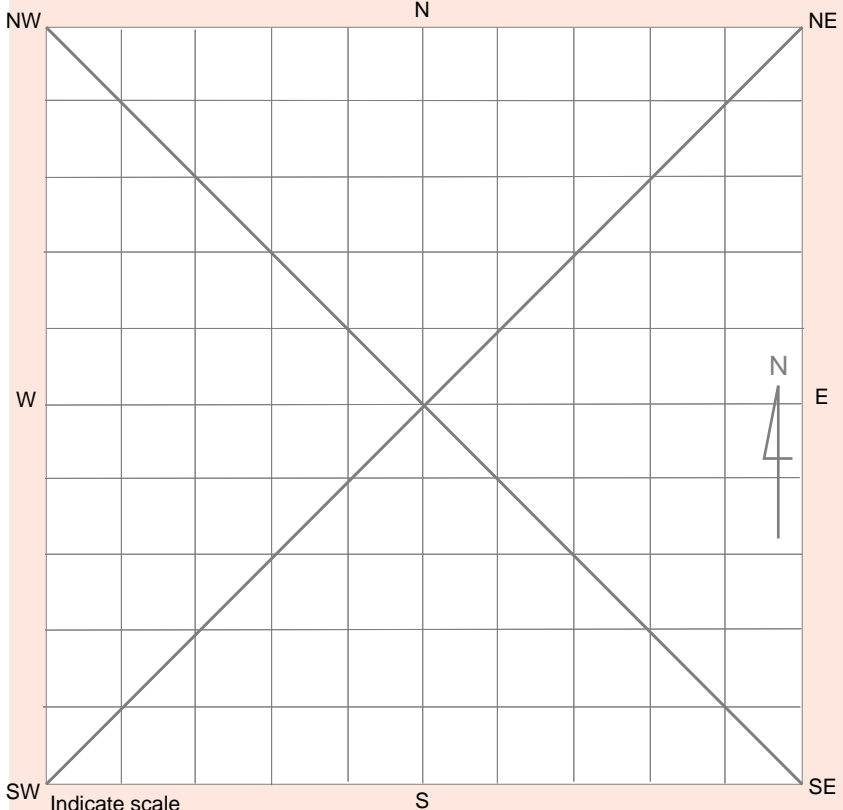
Feature environment

(Complete when *feature* environment differs to *site* environment, use attributes from cover card, page 2)

<input type="text"/>	Land form	Water	
<input type="text"/>	Land form unit	Distance to permanent water source	<input type="text"/> metres
<input type="text"/>	Slope	Distance to temporary water source	<input type="text"/> metres
<input type="text"/>	Vegetation	Name of nearest permanent water source	<input type="text"/>
<input type="text"/>	Land use	Name of nearest temporary water	<input type="text"/>

Feature Location Plan

Scar/Carved Panel Drawing



Site I.D. Site Name

First recorded date Importance Aboriginal Information Recorded?

No. of instances

Recorded by

Feature Description

Type of Grinding Feature Broad Narrow/point Hollow Flat

Profile Shape 'U' shaped 'V' shaped Flat

Seed Species Present

Groove Function

Dimensions

Smallest	Largest	
Length (mm) <input type="text"/>	Length (mm) <input type="text"/>	Groove count <input type="text"/>
Width (mm) <input type="text"/>	Width (mm) <input type="text"/>	Cluster count <input type="text"/>
Depth (mm) <input type="text"/>	Depth (mm) <input type="text"/>	

Recording date

Feature Context & Condition

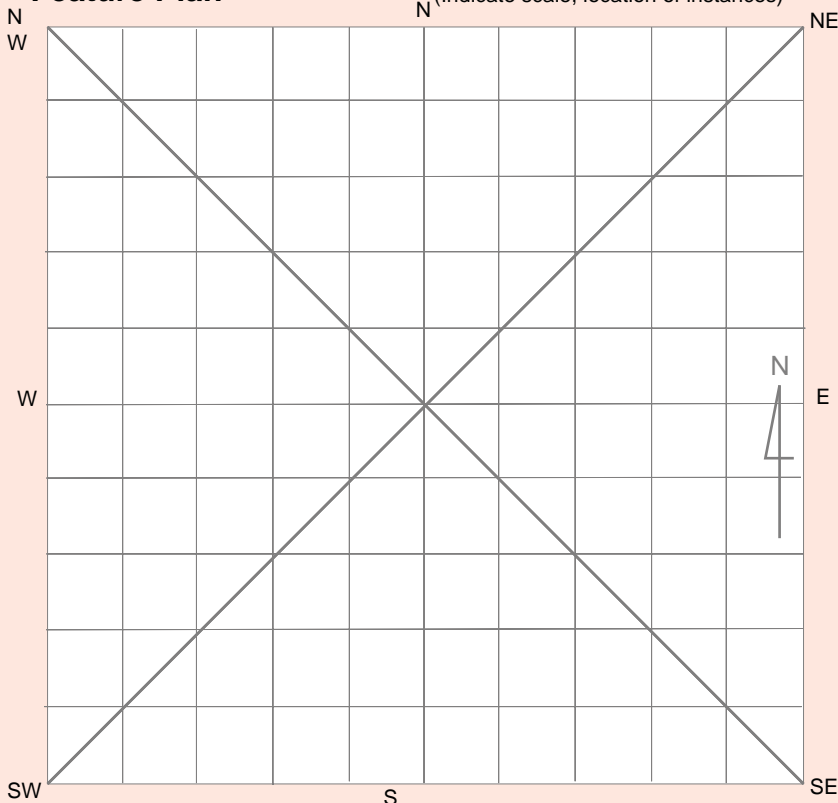
Easting Northing

Dimensions of Whole Feature Length (m) Width (m)

Feature Condition	General Condition ctd	Recommended Action	
<input type="checkbox"/> Very good	<input type="checkbox"/> Fire damage	<input type="checkbox"/> Boardwalk	<input type="checkbox"/> Revegetation
<input type="checkbox"/> Good	<input type="checkbox"/> Surface water wash	<input type="checkbox"/> Cage/barrier/fencing	<input type="checkbox"/> Rubbish removal
<input type="checkbox"/> Poor	<input type="checkbox"/> Graffiti	<input type="checkbox"/> Closure to public	<input type="checkbox"/> Signage
General Condition	<input type="checkbox"/> Vehicle damage	<input type="checkbox"/> Continued inspection	<input type="checkbox"/> Erosion control
<input type="checkbox"/> Weathered	<input type="checkbox"/> Erosion	<input type="checkbox"/> Expert assessment	<input type="checkbox"/> Track closure/re-routing
<input type="checkbox"/> Vandalised	<input type="checkbox"/> Stock damage	<input type="checkbox"/> Graffiti removal	<input type="checkbox"/> Additional recording
		<input type="checkbox"/> Meeting with land manager	

Feature Plan

(Indicate scale, location of instances)



Feature Environment

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

Land use

Water

Distance to permanent water source metres

Distance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water

Site I.D. Site Name

First recorded date / / Importance Aboriginal Information Recorded?

No. of instances

Recorded by

Feature Context & Condition

Easting Northing

Dimensions of Whole Feature Length (m) Width (m) Depth (m)

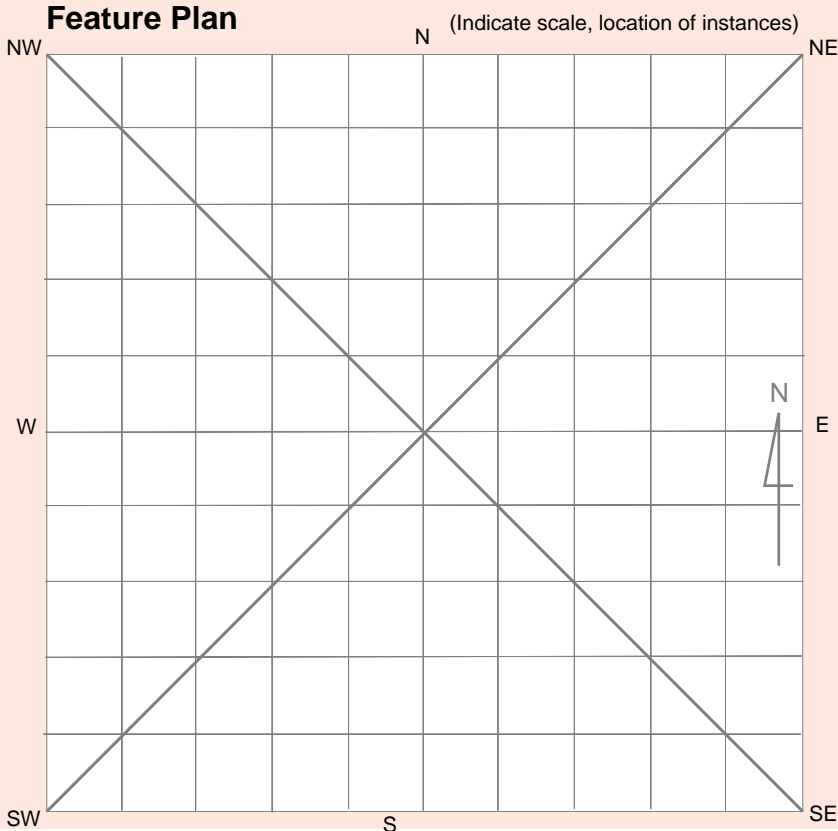
Shell Distribution

Surface scatter Distance to high water mark (m)

Stratified deposit

Mounded

Feature Condition	General Condition ctd	Recommended Action	
<input type="checkbox"/> Very good	<input type="checkbox"/> Fire damage	<input type="checkbox"/> Boardwalk	<input type="checkbox"/> Revegetation
<input type="checkbox"/> Good	<input type="checkbox"/> Vehicle damage	<input type="checkbox"/> Cage/barrier/fencing	<input type="checkbox"/> Rubbish removal
<input type="checkbox"/> Poor	<input type="checkbox"/> Insects/termites	<input type="checkbox"/> Closure to public	<input type="checkbox"/> Signage
General Condition	<input type="checkbox"/> Erosion	<input type="checkbox"/> Continued inspection	<input type="checkbox"/> Erosion control
<input type="checkbox"/> Weathered	<input type="checkbox"/> Stock damage	<input type="checkbox"/> Expert assessment	<input type="checkbox"/> Track closure/re-routing
<input type="checkbox"/> Vandalised	<input type="checkbox"/> Unstable structure	<input type="checkbox"/> Fire hazard removal	<input type="checkbox"/> Additional recording
<input type="checkbox"/> Surface water wash	<input type="checkbox"/> Exposed bone material	<input type="checkbox"/> Graffiti removal	
<input type="checkbox"/> Mineralisation	<input type="checkbox"/> Exposed archaeological material	<input type="checkbox"/> Meeting with land manager	
<input type="checkbox"/> Graffiti		<input type="checkbox"/> Insect/bird nest removal	



Feature Environment (Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

Land use

Water

Distance to permanent water source metres

Distance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



National Parks and Wildlife Service

Standard Site Recording Form



45-1-0184

MAP NAME	EDITION	SCALE	REFERENCE	HEAD OFFICE USE ONLY:
Lithgow Sydney		25K 250K	24075 ⁶² 9840 3200 8700	NWPS site no: 45-1-184 Site types: open (artefacts) File nos: Report filed with site no: Classification: Site status: Filed by: S fields Date: 25-6-82
Site name: PC 1 (Paddy's Creek)				
Local post office: Lithgow				
Locality/property name: News S.F.				
NPWS District: BSM		Region: C		

Reason for investigation (give H.O. instruction no. or full title of accompanying report where applicable):

News Plateau Research Project

Portion no:	Other land category:	Plan/sketch/section of site attached? Yes/No.
Parish: Marangaroo	County: Cook	How many?
Air photo refs. (for stereo pair)		Annotated photos attached? Yes/No
		How many?
Condition of site: Log dump: disturbed Swire	Causes of damage/disturbance/threat to site: (Fill in separate management/protection recommendations sheet if necessary) logging traffic / fire	

How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. Draw diagram on separate sheet if necessary).

Cut off Bell's line track along N side of Paddy's Creek.

Other sites in locality? <input checked="" type="radio"/> Yes <input type="radio"/> No.	Site Types include: open, shelter.
Are sites in NPWS Register? <input checked="" type="radio"/> Yes <input type="radio"/> No.	Unregistered sites-plans for future recording? Yes/No.
Have artefacts been removed from site? Yes/No/don't know. When?	
By whom? Deposited where?	
Is site important to local Aborigines? Yes/No/ <u>don't know</u>	
Give contact(s) name(s) + address(es)	
Contacted for this recording? Yes/No. (Attach additional information separately) If not, why not?	

Verbal/written reference sources:
News Plateau Arch. Survey Report 1, 2, 3. KGM

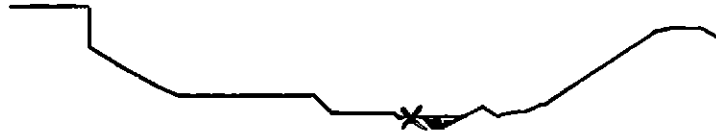
Site recorded by: KGM
Address/institution: NPWS H.O.
Date: Sep 83

X

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no: 45-1-188

1. Land form e.g. beach/hill slope/ridge top, etc: **banks of Swamp.**
2. Describe briefly & mark on diagram provided or on your own sketch the position of the site:



3a Local rock type: **Sandstone** b rock type at site: **Sandstone** c site aspect: **NE** d slope: **0°**

4. Distance from drinking water: **5m** Source: **Swamp.** (Perm/emp.?)

5. Vegetation: **Heath**

6. Edible plants noted: **Sedges.**

7. Faunal resources (Include shellfish)
wombat, shellfish

DESCRIPTION OF SITE & CONTENTS.

Site type(es):

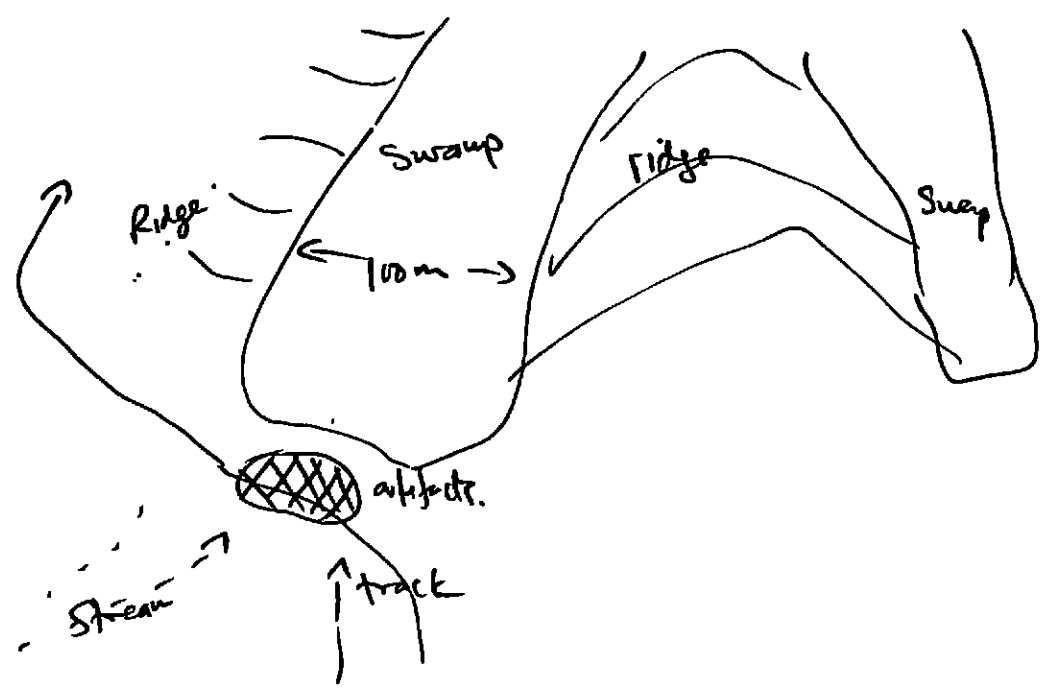
Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.
Attach sketches etc, eg. plan & section of shelter, show relation between site contents. indicate scale.
Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

- CHECKLIST TO HELP:**
length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.
- DEPOSIT:** colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.
- ART:** area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.
- BURIALS:** number & condition of bone, position, age, sex, associated artefacts.
- TREES:** number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth.
- QUARRIES:** rock type, debris, recognisable artefacts, percentage quarried.
- OTHER SITES EG.** structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate

Track runs down to edge (southern end) of major swamp. 10 x 20m area with diffuse artefact scatter on sandy surface.

Quartz: coarse flakes ≥ 10

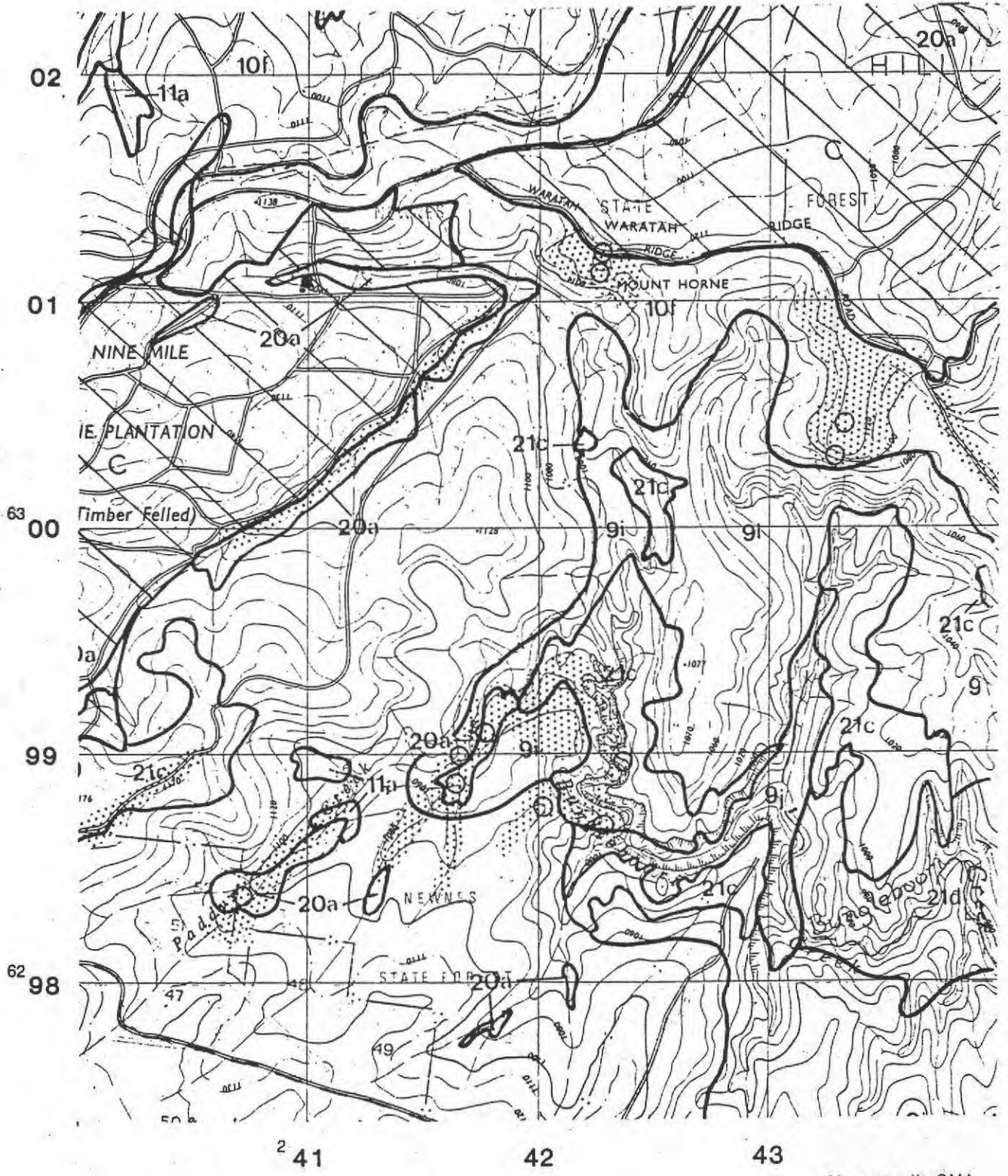
Indurated Mudstone: flakes ≥ 5 (local origin)



45-1-184

MAP 9

Lithgow 8931-III-S 1:25k



Paddys Creek Survey Unit



TABLE 4 Site Characteristics

Site (field) names open shelters	gridref E N	Site elements (key below)	density #:sq m
Farmers Creek			
FC1	24110 629660	Q,M, flakes	1:10
FC2	24120 629650	deposit, flakes	
FC3	24115 629580	Q, flakes	1:20
FC4	24145 629600	Q, flakes	1:10
HSV1	24155 62690	Q,M, flakes	1:5
Paddys Creek			
PC1	24295 629850	Q,M, flakes	1:10
PC2	24295 629860	Q, flakes	1:10
PC3	24240 629895	2 red hand stencils	
PC4	24165 629880	Q, Q'ite, M flakes	1:10
PC5	24180 629915	Q,M, flakes	1:10
PC6	24240 629895	2 red hand stencils	
PC7	24295 629860	Q, flakes	1:10
PC8	24220 629910	Q,M, flakes	1:4
Carne Creek			
CC1	24208 630395	Q, flakes	1:10
CC2	24210 630320	Q,M, flakes	1:10
CC3	24190 630375	Q,M, flakes	1:20
CC4	24185 630410	Q, flakes	1:5
CC5	24210 630475	deposit, 2 red hands	
CC6	24400 630575	Q,M,Q'ite, flakes	1:10
Galah Mt, Rocky Creek			
RC1	24655 631665	Q'ite, Q flakes	1:20
RC2	24655 631650	burial	
RC3	24650 631620	Q,M, flakes	1:50
RC4	24650 631540	scarred tree	
RC5	24655 631515	burial?, scarred tree Q	
RC6	24660 631445	Q, flakes	1:20
GM1	24720 631450	deposit, flakes	
GM2	24730 631445	deposit, white hands	
Mt Horne			
MH1	24235 630120	deposit, axe-grinding	
MH2	24235 630115	deposit	
MH3	24340 630035	deposit	
MH4	24335 630045	engravings	
Bald Hill Trig			
BHT1	24310 629585	deposit	
BHT2	24325 629580	deposit	
Budgery Mountain			
BM1	24725 631070	quarry, basalt flakes	
BM2	24745 631045	deposit, burial?, flakes	
State Mine Creek			
SMC1	23645 629400	deposit	
Deep Pass			
DP1	24980 630755	deposit, art?	
DP2	24905 630705	deposit	
Marangaroo Creek			
MC1	23635 629845	M, flakes	1:10
Budgery Creek			
BC1	24535 630700	Q,M,GS, flakes core	2:1
BC2	24570 630740	Q,M, flakes	1:5
BC3	24630 630785	Q,M, flakes, cores	1:10
BC4	24670 630820	Q, Q'ite, M, flakes	1:5
BC5	24680 630823	Q,M, flakes, core	1:5

Q Quartz Q'ite Quartzite M Mudstone

TABLE 4 Site Characteristics

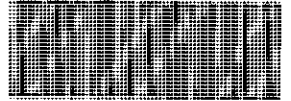
Site (field) names open shelters	Veg. (Benson)	Aspect	Dist. to water	Landform	slope
Farmers Creek					
FC1	10f	N	5	SM	0
FC2	21c	W	60	HS	5
FC3	21c	W	100	HS	5
FC4	21c	all	500	R	5
H5V1	20a	NW	10	SM	0
Paddys Creek					
PC1	20a	NE	5	SM	0
PC2	9i	E	5	SM	0
PC3	9i	S	10	pagoda	10
PC4	20a	W	100	SM	0
PC5	20a	W	5	SM	0
PC6	21c	N	10	SM	0
PC7	9i	N	5	R	0
PC8	10f	NE	50	R	0
Carne Creek					
CC1	20a	NE	10	SM	0
CC2	9i	W	10	SM	0-5
CC3	20a	NE	15	SM	0-5
CC4	20a	NE	5	SM	0-5
CC5	21c	W	15	talus	15
CC6	9i	NE	5	SM	0-5
Galah Mt, Rocky Creek					
RC1	11a	W	10	SM	0-5
RC2	11a	W	10	SM	0-5
RC3	20a	W	10	SM	0-5
RC4	11a	W	10	SM	0-5
RC5	11a	NW	10	SM	0-5
RC6	9i	NW	10	SM	0-5
GM1	9i	W	400	LP	5
GM2	9i	SE	400	LP	5
Mt Horne					
MH1	10f	W	300	LP	15
MH2	10f	SE	300	LP	15
MH3	10f	SE	300	LP	15
MH4	10f	SE	300	LP	0
Bald Hill Trig					
BHT1	21c	W	500	LP	15
BHT2	21c	NE	500	LP	15
Budgery Mountain					
BM1	9i	E	400	LP	15
BM2	9i	E	400	LP	15
State Mine Creek					
SMC1	10f	NE	300	talus	20
Deep Pass					
DP1	9j	W	30	talus	15
DP2	9j	NW	30	talus	5
Harangaroo Creek					
MC1	9j	NE	250	talus	20
Budgery Creek					
BC1	11a	NW	5	SM	0-5
BC2	20a	NW	5	SM	0-5
BC3	20a	NW	5	SM	0-5
BC4	11a	N	5	SM	0-5
BC5	11a	W	5	SM	0-5

Reference: SM Stream/swamp margin HS Hillslope R Ridge LP Local Peak



National Parks and Wildlife Service

Standard Site Recording Form



45-1-0185

MAP NAME Littgow Sydney	EDITION	SCALE 25K 250K	REFERENCE 4120^{by} 4885 3205 8705	HEAD OFFICE USE ONLY: NWPS site no: 45-1-185 Site types: open (artefacts) File nos: Report filed with site no: Classification: Site status: Filed by: S fields Date:
Site name: PC 2 (Paddy's Creek)				
Local post office: Littgow				
Locality/property name: Newnes S.F.				
NPWS District: BM		Region: C		
Reason for investigation (give H.O. instruction no. or full title of accompanying report where applicable): Newnes Project.				
Portion no: Parish: Marangaroo		Other land category: County: Cook		Plan/sketch/section of site attached? Yes/No. How many?
Air photo refs. (for stereo pair)			Annotated photos attached? Yes/No How many?	
Condition of site: Stable		Causes of damage/disturbance/threat to site: (Fill in separate management/protection recommendations sheet if necessary) logging / fine slope erosion		
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. Draw diagram on separate sheet if necessary). track along Northern side of swamp from PC1 ~ 200m.				
Other sites in locality: <input checked="" type="radio"/> Yes <input type="radio"/> No		Site Types include: open, art, shelter.		
Are sites in NPWS Register: <input checked="" type="radio"/> Yes <input type="radio"/> No		Unregistered sites-plans for future recording? Yes/No.		
Have artefacts been removed from site? Yes <input type="radio"/> No <input checked="" type="radio"/> don't know. When? By whom? Deposited where?				
Is site important to local Aborigines? Yes/No/ <input checked="" type="radio"/> don't know. Give contact(s) name(s) + address(es)				
Contacted for this recording? Yes/No. (Attach additional information separately) If not, why not?				
Verbal/written reference sources: Newnes Plateau Arch. Survey Reports 1,2,3. Koman				
Site recorded by: Koman			Date: Sep 83	
Address/institution: NDWS Ho				

X

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no: 45-1-185

1. Land form e.g. beach/hill slope/ridge top, etc: **swamp bank.**
 2. Describe briefly & mark on diagram provided or on your own sketch the position of the site:



- 3a Local rock type: **sandstone** b rock type at site: **sandstone** c site aspect: **E** d slope: **0**

4. Distance from drinking water: **5m** Source: **swamp** **Perm** temp.?
 5. Vegetation:

Swamp Heath. (open forest)

6. Edible plants noted: **nil.**
 7. Faunal resources (include shellfish)
nil

DESCRIPTION OF SITE & CONTENTS.

Site type(es):

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

Attach sketches etc, eg. plan & section of shelter, show relation between site contents, indicate scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

CHECKLIST TO HELP:

length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.

DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.

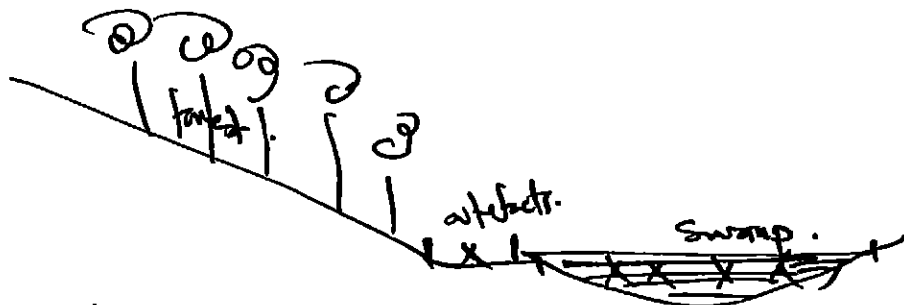
ART: area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.

BURIALS: number & condition of bone, position, age, sex, associated artefacts.

TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth.

QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.

OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate

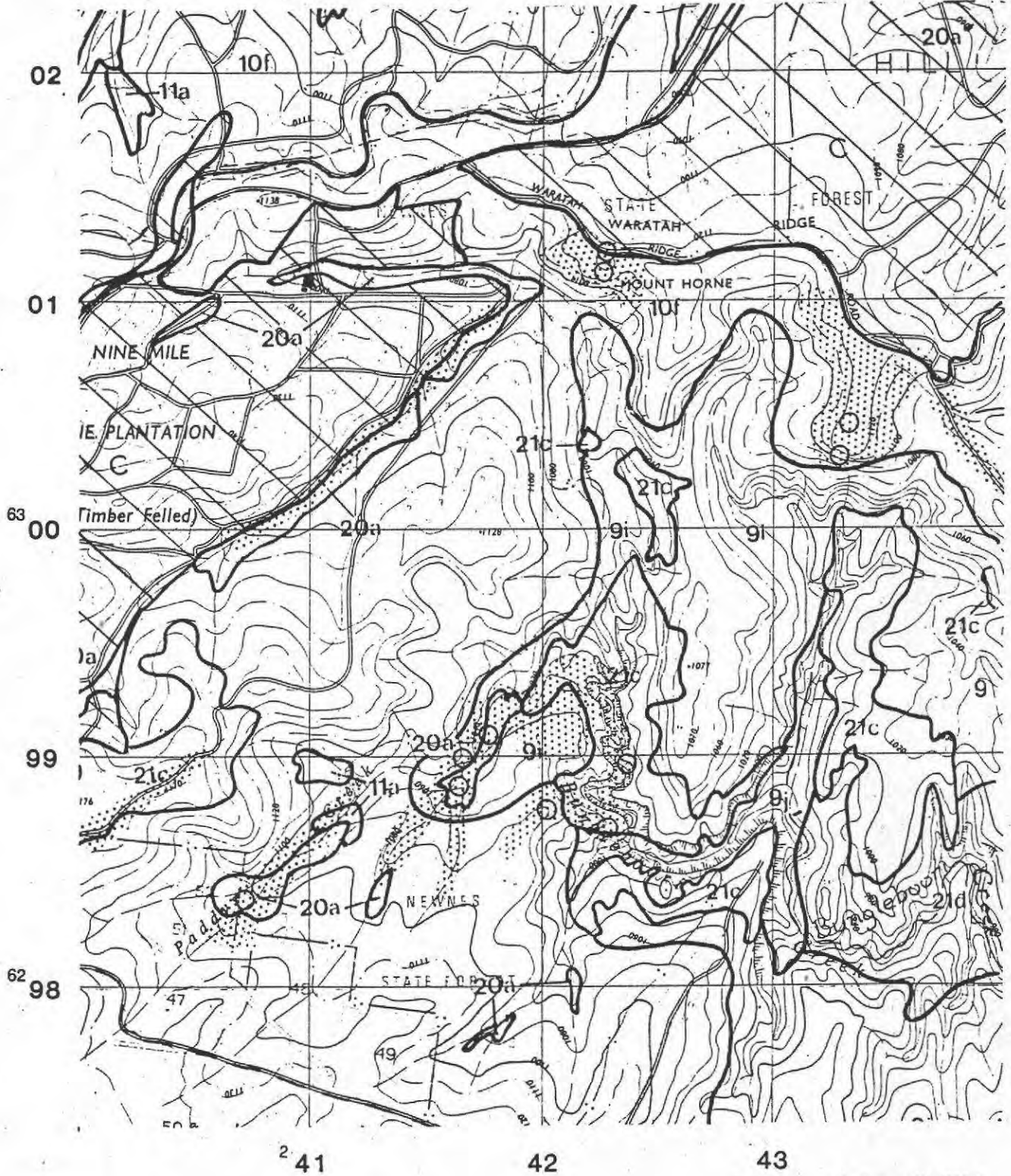


artefact scatter a swamp margin.

Quartz. conc e flakes. > 10 (local origin in conglomerates)
 Sandy matrix, underlying

MAP 9

Lithgow 8931-III-S 1:25k



Map credit CMA

Paddys Creek Survey Unit



45-1-185 additional information

TABLE 4 Site Characteristics

Site (field) names		gridref		Site elements	density
open	shelters	E	N	(key below)	#/sq m
Farmers Creek					
FC1		24110	629660	Q,M, flakes	1:10
	FC2	24120	629650	deposit, flakes	
FC3		24115	629580	Q, flakes	1:20
FC4		24145	629600	Q, flakes	1:10
HSV1		24155	62690	Q,M, flakes	1:5
Paddys Creek					
PC1		24295	629850	Q,M, flakes	1:10
PC2		24295	629860	Q, flakes	1:10
	PC3	24240	629895	2 red hand stencils	
PC4		24165	629880	Q, Q'ite, M flakes	1:10
PC5		24180	629915	Q,M, flakes	1:10
	PC6	24240	629895	2 red hand stencils	
PC7		24295	629860	Q, flakes	1:10
PC8		24220	629910	Q,M, flakes	1:4
Carne Creek					
CC1		24208	630395	Q, flakes	1:10
CC2		24210	630320	Q,M, flakes	1:10
CC3		24190	630375	Q,M, flakes	1:20
CC4		24185	630410	Q, flakes	1:5
	CC5	24210	630475	deposit, 2 red hands	
CC6		24400	630575	Q,M,Q'ite, flakes	1:10
Galah Mt, Rocky Creek					
RC1		24655	631665	Q'ite, Q flakes	1:20
RC2		24655	631650	burial	
RC3		24650	631620	Q,M, flakes	1:50
RC4		24650	631540	scarred tree	
RC5		24655	631515	burial?, scarred tree Q	
RC6		24660	631445	Q, flakes	1:20
	GM1	24720	631450	deposit, flakes	
	GM2	24730	631445	deposit, white hands	
Mt Horne					
	MH1	24235	630120	deposit, axe-grinding	
	MH2	24235	630115	deposit	
	MH3	24340	630035	deposit	
	MH4	24335	630045	engravings	
Bald Hill Trig					
	BHT1	24310	629585	deposit	
	BHT2	24325	629580	deposit	
Budgery Mountain					
	BM1	24725	631070	quarry, basalt flakes	
	BM2	24745	631045	deposit, burial?, flakes	
State Mine Creek					
	SNC1	23645	629400	deposit	
Deep Pass					
	DP1	24980	630755	deposit, art?	
	DP2	24905	630705	deposit	
Marangaroo Creek					
	MC1	23635	629845	M, flakes	1:10
Budgery Creek					
	BC1	24535	630700	Q,M,GS, flakes core	2:1
	BC2	24570	630740	Q,M, flakes	1:5
	BC3	24630	630785	Q,M, flakes, cores	1:10
	BC4	24670	630820	Q,Q'ite,M, flakes	1:5
	BC5	24680	630823	Q,M, flakes, core	1:5

Q Quartz Q'ite Quartzite M Mudstone

TABLE 4 Site Characteristics

Site (field) names open shelters	Veg. (Benson)	Aspect	Dist. to water	Landform	slope
Farmers Creek					
FC1	10f	N	5	SM	0
FC2	21c	W	60	HS	5
FC3	21c	W	100	HS	5
FC4	21c	all	500	R	5
HISV1	20a	NW	10	SM	0
Paddys Creek					
PC1	20a	NE	5	SM	0
PC2	9i	E	5	SM	0
PC3	9i	S	10	pagoda	10
PC4	20a	W	100	SM	0
PC5	20a	W	5	SM	0
PC6	21c	N	10	SM	0
PC7	9i	N	5	R	0
PC8	10f	NE	50	R	0
Carne Creek					
CC1	20a	NE	10	SM	0
CC2	9i	W	10	SM	0-5
CC3	20a	NE	15	SM	0-5
CC4	20a	NE	5	SM	0-5
CC5	21c	W	15	talus	15
CC6	9i	NE	5	SM	0-5
Galah Mt, Rocky Creek					
RC1	11a	W	10	SM	0-5
RC2	11a	W	10	SM	0-5
RC3	20a	W	10	SM	0-5
RC4	11a	W	10	SM	0-5
RC5	11a	NW	10	SM	0-5
RC6	9i	NW	10	SM	0-5
GM1	9i	W	400	LP	5
GM2	9i	SE	400	LP	5
Mt Horne					
MH1	10f	W	300	LP	15
MH2	10f	SE	300	LP	15
MH3	10f	SE	300	LP	15
MH4	10f	SE	300	LP	0
Bald Hill Trig					
BHT1	21c	W	500	LP	15
BHT2	21c	NE	500	LP	15
Budgery Mountain					
BM1	9i	E	400	LP	15
BM2	9i	E	400	LP	15
State Mine Creek					
SMC1	10f	NE	300	talus	20
Deep Pass					
DP1	9j	W	30	talus	15
DP2	9j	NW	30	talus	5
Harangaroo Creek					
MC1	9j	NE	250	talus	20
Budgery Creek					
BC1	11a	NW	5	SM	0-5
BC2	20a	NW	5	SM	0-5
BC3	20a	NW	5	SM	0-5
BC4	11a	N	5	SM	0-5
BC5	11a	W	5	SM	0-5

Reference: SM Stream/swamp margin HS Hillslope R Ridge LP Local Peak



Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

New Recording Additional

information

SITE IDENTIFICATION					
Site name	NPSPR55-OS1			NPWS Site Number	45-1-2669
Owner/manager	NSW Department of Primary Industries (Forests NSW) Bathurst				
Owner Address	PO Box 1386, Bathurst NSW 2795				
LOCATION					
Location	Newnes Plateau				
How to get to the site	site is located on a fire trail adjoining the southern most pine plantation around 10 m northwest of the borehole site SPR55. It is at the foot of a low hill at the point where the upper flood plain of the adjacent drainage line begins.				
1:250,000 map name	Lithgow			NPWS map code	
AMG Zone	56	AMG Easting	362405ec	AMG Northing	6299924
Method for grid reference	Hand-held GPS	Map scale (if method = map)	1:25,000	Map name	Lithgow 1:25k
NPWS District Name (see map)				NPWS Zone (see map)	Western Zone
Portion no.				Parish	
SITE DESCRIPTION					
Site type(s)	Open Camp Site			Site type code (NPWS use only)	
Description of site and contents CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART: area of decorated surface, motifs, colours, wet/dry pigment, engraving technique, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried	<p>Newnes Plateau (NP) Springvale (SPR) borehole 55 Open Camp Site No.1 (OS1) was located on a fire trail around 10 m northwest of the borehole site SPR55. The site consisted of at least five artefacts of Aboriginal origin, although more artefacts were located in the general vicinity. NPSPR55-OS1 is an open artefact scatter containing quartzite flakes in what is a heavily disturbed area adjacent to a drainage line that would have contained permanent water at times.</p> <p>The site has been disturbed by the grading of a fire trail, vehicle use, and the planting and maintenance of the pine plantation. The portions of NPSPR55-OS1 recorded during this survey are likely to be out of situ and may originate from higher areas to the north of the fire trail.</p> <p>NP-SPR 55 OS 1 Artefact Descriptions</p> <ul style="list-style-type: none"> 1 x pale cream quartzite flake • 9.79 x 9.92 x 3.0 mm • 3 bladelet scars on dorsal. 1 x pale cream quartzite flake • 13.49 x 19.73 x 3.09 mm • Struck from multi-directional core (dorsal scars at right angles to removal blow) • 3 reverse scars on dorsal 1 x pale cream quartzite chip • 12.22 x 7.35 x 4.72 mm • Previous working undefined 1 x clear quartz flake • 16.16 x 19.07 x 4.37 • Primary flake • 50% cortex 1 x1 x clear quartz flake • 21.19 x 11.24 x 5.37 mm • Previous working undefined <p>Attach photographs and sketches, eg. plan & section of shelter. Do NOT dig, disturb or damage site or contents.</p>				

Version: June 1998

Data entered by:

Date entered:



Aboriginal Sites Register of NSW

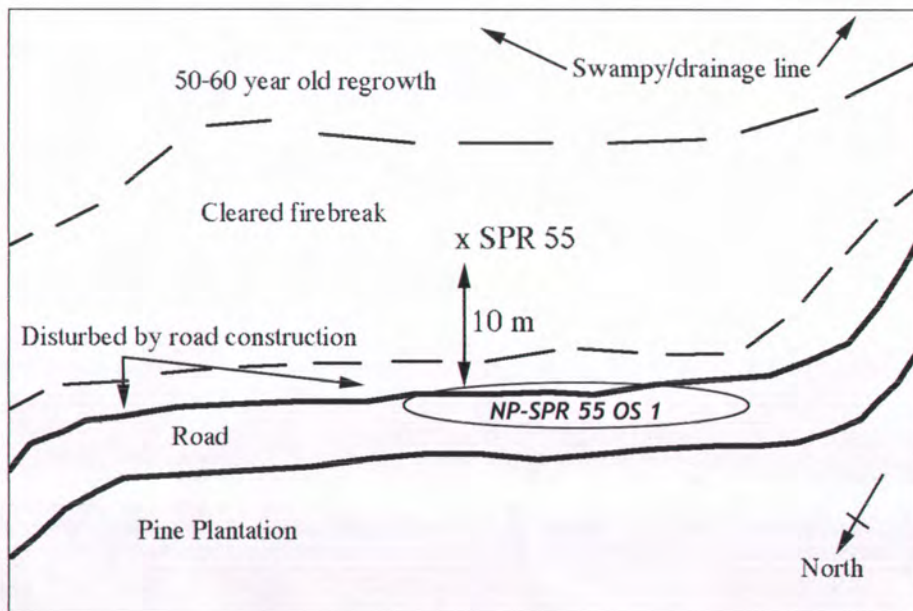
NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

SITE ENVIRONMENT					
Land form		Aspect	open	Slope	flat
Mark position of the site					
Local rock type	Sandstone	Land use/effect	Forestry		
Distance from drinking water	10m	Source			
Resource zone (eg. estuarine, river, forest)	Shrub Swamp	Vegetation	Pine Forest		
Edible plants		Faunal resources (include shellfish)			
Other exploitable resources (eg. ochre)					
Are there other sites in the locality	No	Are they in the Sites Register	No	Other site types include	
SITE MANAGEMENT					
Site condition	Very disturbed				
Management recommendations	Avoid, fence off. Induct workers.				
Have artefacts been removed from site	No	When			
By whom		Deposited at			
Consent applied for	<input type="checkbox"/>	Consent issued	<input type="checkbox"/>		
Date of issue		Consent number			
SITE INSPECTION AND RECORDING					
Reason for investigation					
Were local Aborigines contacted or present for the recording	<input type="checkbox"/> Not contacted <input checked="" type="checkbox"/> Contacted and present <input type="checkbox"/> Contacted but not present	Names and addresses	Rick Peters Bathurst LALC 149 Russell Street Bathurst NSW 2795		
Is the site important to local Aborigines	Yes				
Verbal/written reference sources	OzArk EHM P/L . Report for Centennial Coal 'Ecological & Archaeological Assessment: Boreholes SPR53 to 58 in the Newnes State Forest.' May 2008.		ASR report number(s) (or title)	C- C-	
Photographs taken	Yes		No. of Photos attached		
Site recorded by	Ben Churcher, Rick Peters, Phillip Cameron		Date of recording	1 March, 2008	
Address/institution	Ben Churcher: Senior Archaeologist - OzArk Environmental & Heritage Management P/L : PO Box 2069 Dubbo NSW 2830				



View southeast showing the location of NP-SPR 55 OS 1 in relation to the road and the site of SPR 55.



Sketch diagram showing the location of NP-SPR 55 OS 1.

NP-SPR 55 OS 1 Artefact Descriptions

1 x pale cream quartzite flake

- 9.79 x 9.92 x 3.0 mm
- 3 bladelet scars on dorsal.

1 x pale cream quartzite flake



pale, fine-grained quartzites

clear quartz

Artefacts recorded during the survey at NPSPR55-OS 1.



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID:

Date recorded:

Site Location Information

Site name:

Easting: Northing: Coordinates must be in GDA (MGA)

Horizontal Accuracy (m):

Zone: Location method:

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
<input type="text" value="Mr."/>	<input type="text" value="Slack"/>	<input type="text" value="Ben"/>

Organisation:

Address:

Phone: E-mail:

Site Context Information

Land Form Pattern: Land Use:

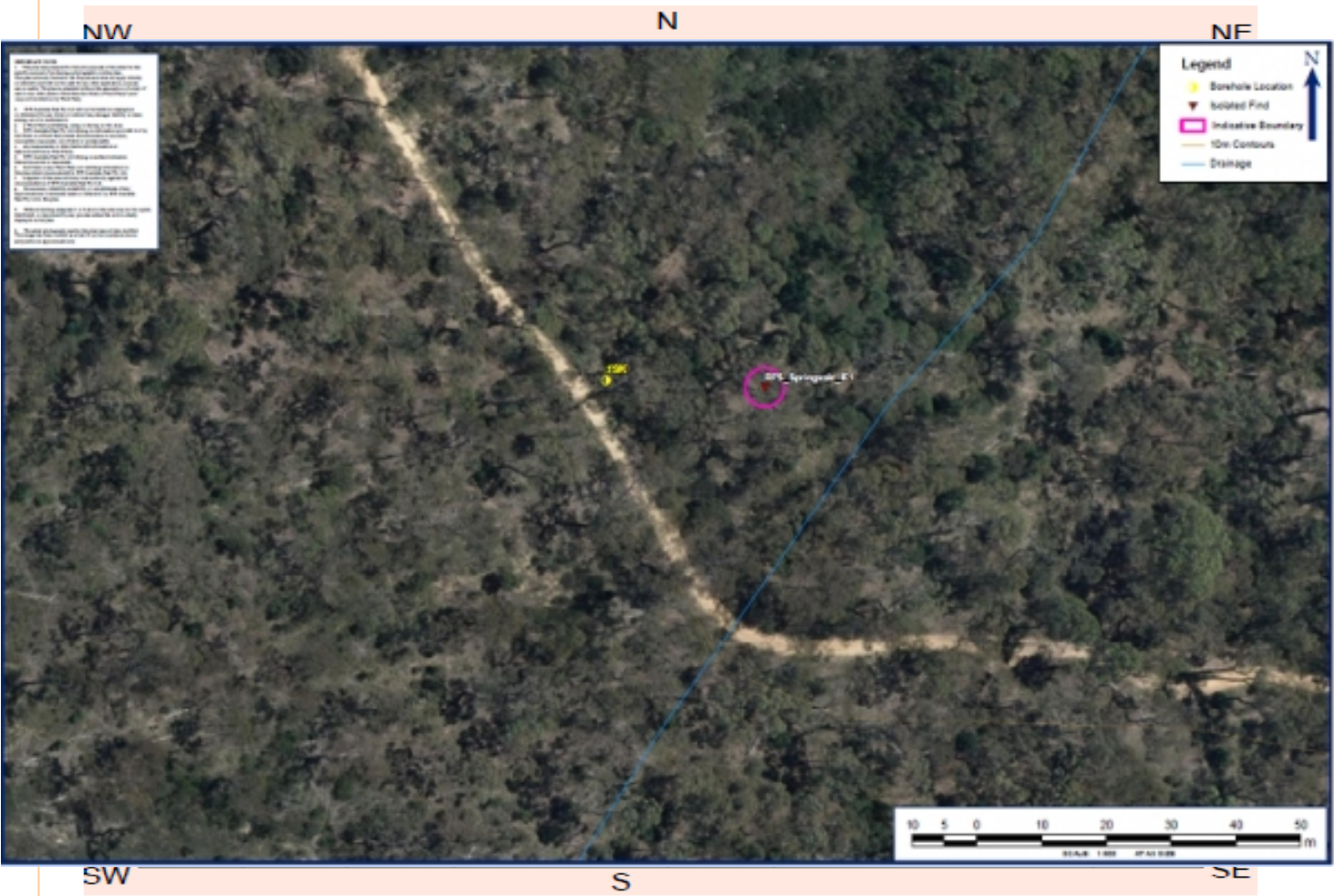
Land Form Unit: Vegetation:

Distance to Water (m): Primary Report:

How to get to the site:

Other site information:

Site location map



Site contents information

open/closed site: Site condition:

Features:

1.	Features:	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	Scarred Trees			
					Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
1.	Artefact	1	1	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Single complete quartz flake with axial termination. Length 22mm, Width 17mm, Thickness 9mm. Three negative flake scars on dorsal surface.

Features:

2.	Features:	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	Scarred Trees			
					Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
2.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

3.

Number of features Length of feature(s) extent (m) Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

4.

Number of features Length of feature(s) extent (m) Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

5.

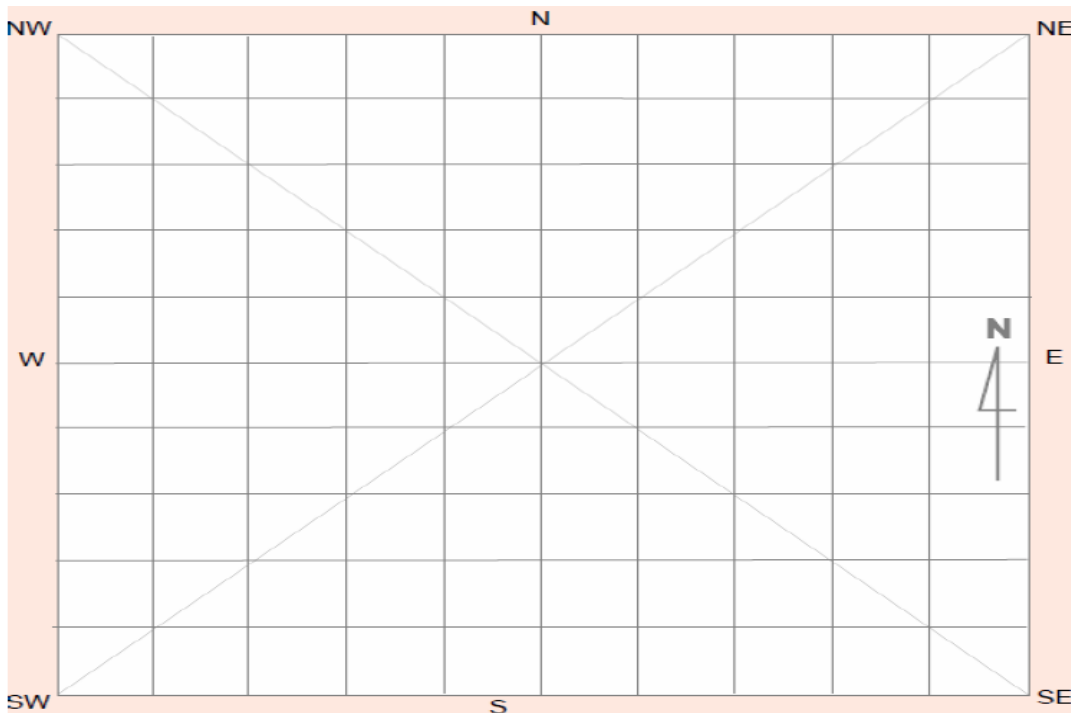
Number of features Length of feature(s) extent (m) Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Other Site Info:

Site plan



Site photographs



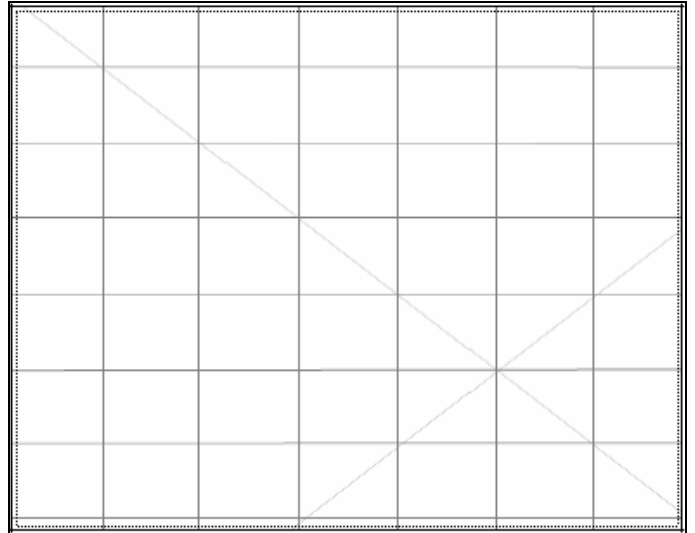
Description:



Description:



Description:



Description:

Site restrictions

Do you want to Restrict this site?:

Restriction type: Gender General Location

Why is this site restricted?:

Further information contact

Title Surname First name

Organisation:

Address:

Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID:

Date recorded:

Site Location Information

Site name:

Easting: Northing: Coordinates must be in GDA (MGA)

Horizontal Accuracy (m):

Zone: Location method:

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
<input type="text" value="Mr."/>	<input type="text" value="Slack"/>	<input type="text" value="Ben"/>

Organisation:

Address:

Phone: E-mail:

Site Context Information

Land Form Pattern: Land Use:

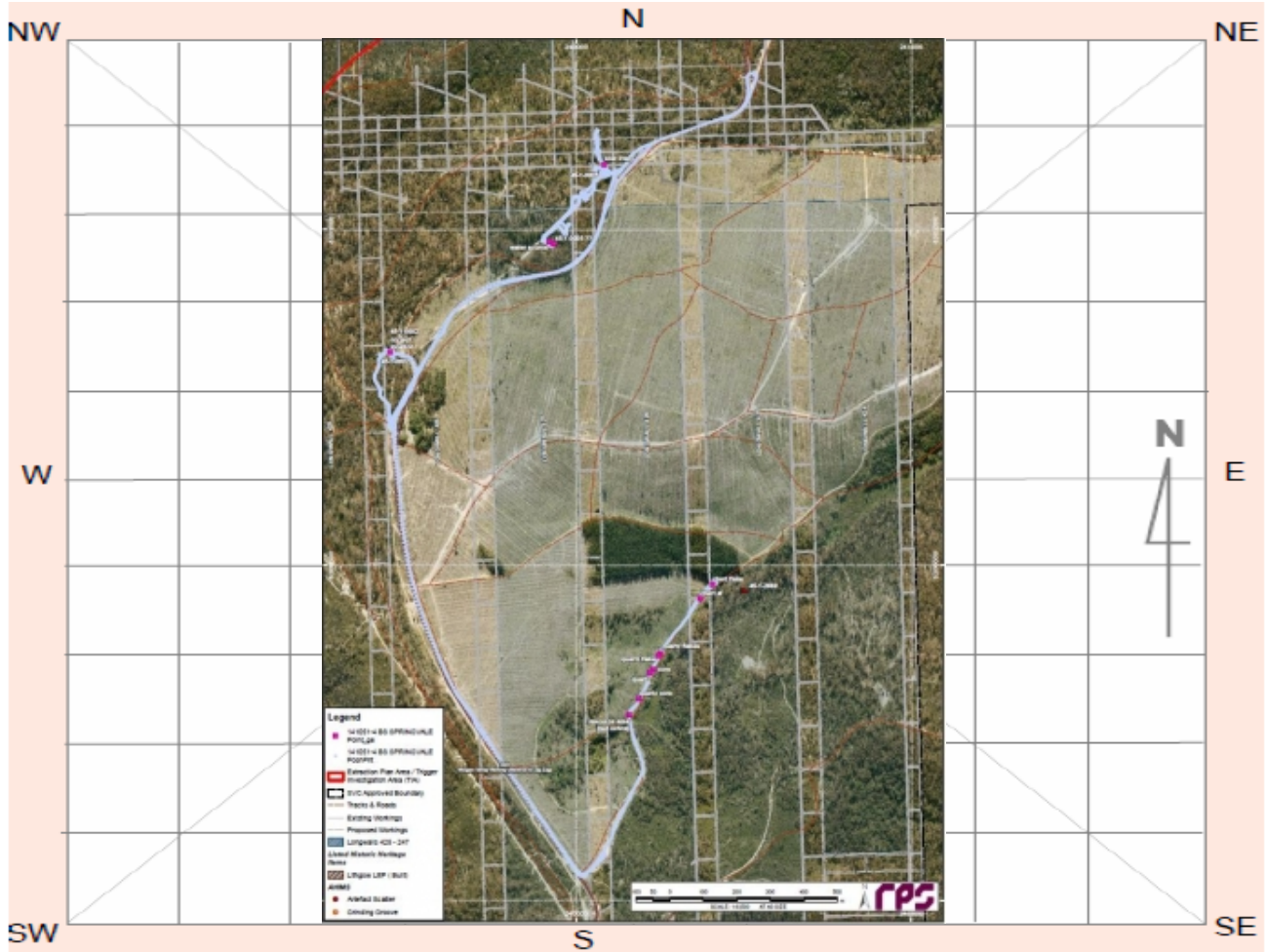
Land Form Unit: Vegetation:

Distance to Water (m): Primary Report:

How to get to the site:

Other site information:

Site location map



Site contents information

open/closed site:

Site condition:

Features:

1.	Features:	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	Scarred Trees			
					Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
	<input type="text" value="Grinding Groove"/>	<input type="text" value="6"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

More grinding grooves likely however dense vegetation cover including leaf litter and soils covered much of the sandstone outcropping

Features:

2.	Features:	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	Scarred Trees			
					Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
	<input type="text" value="Water Hole"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Large depression adjacent to several grinding grooves

Features:

3.

Number of features
Length of feature(s) extent (m)
Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

4.

Number of features
Length of feature(s) extent (m)
Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

5.

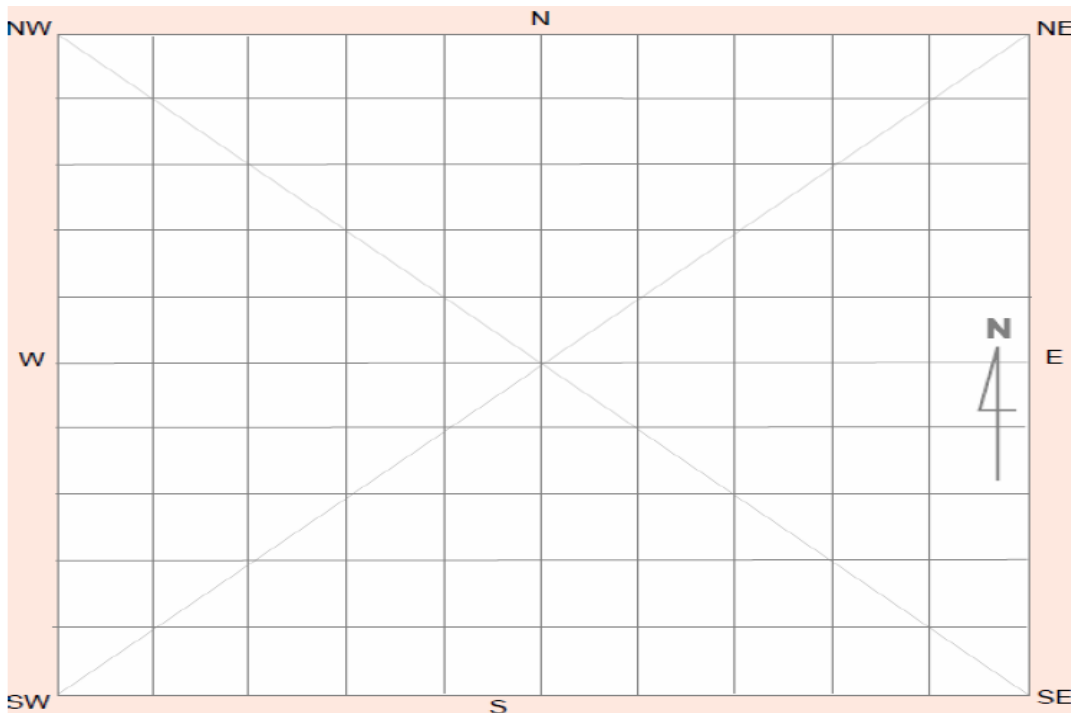
Number of features
Length of feature(s) extent (m)
Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Other Site Info:

Site plan



Site photographs



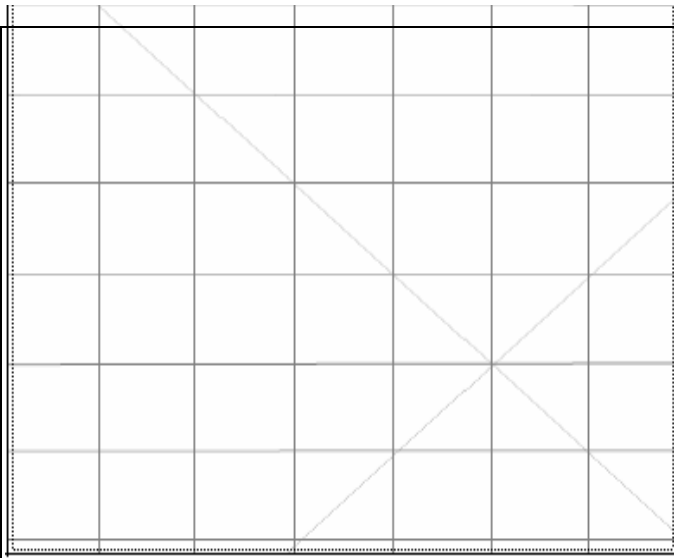
Description:

Grooves

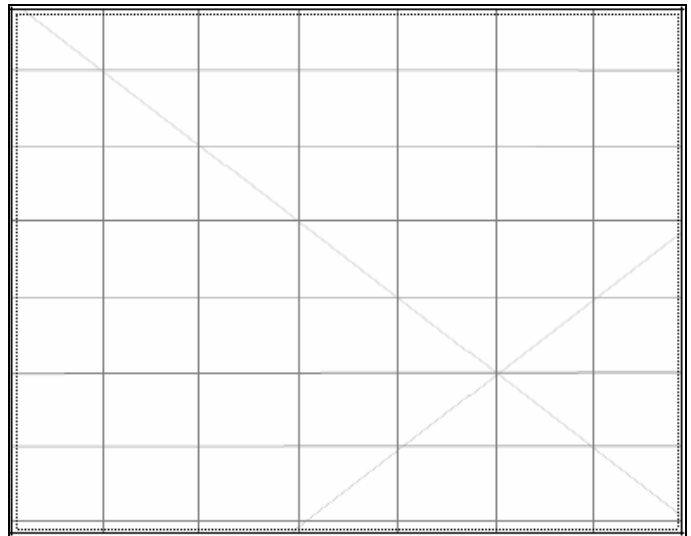


Description:

Small sandstone outcropping where grooves were identified



Description:



Description:

Site restrictions

Do you want to Restrict this site?:

Restriction type: Gender General Location

Why is this site restricted?:

Further information contact

Title Surname First name

Organisation:

Address:

Phone: E-mail:

Appendix F Consultation Documents

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:41 PM
To: bathlalc2@bigpond.com
Subject: Consultation Springvale Extraction Plan
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan or wish to request a full version of the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:42 PM
To: jilleanbower14@gmail.com
Subject: Consultation Springvale 424-427 Extraction Plan
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan or wish to request a full version of the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:45 PM
To: trindall@live.com.au; sharonnb53@gmail.com
Subject: Consultation 424-427 Extraction plan
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:49 PM
To: jackpennell@hotmail.com
Subject: Springvale 424-427 Extraction Plan Consultation

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:50 PM
To: bill.allen47@yahoo.com.au
Subject: Consultation Longwall 424-427 EP
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:51 PM
To: wwac@hotmail.com
Subject: Consultation 424-427 Extraction Plan
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 4:15 PM
To: wirimbili@newco.page
Subject: Springvale Extraction Plan Longwall 424-427
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Sorry please note we need this feedback by 16 June 2021.

Thankyou

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:48 PM
To: wirimbili@newco.page
Subject: Springvale Extraction Plan Longwall 424-427

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 4:16 PM
To: 'mingaan.lithgow@gmail.com'
Subject: Consultation Springvale 424-427 Extraction Plan
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Sorry please note we need this feedback by 16 June 2021.

Thankyou

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 3:46 PM
To: minggaan.lithgow@gmail.com
Subject: Consultation Springvale 424-427 Extraction Plan

Springvale Mine has updated The Longwall 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 4:01 PM
To: steven.cox@environment.nsw.gov.au
Subject: Springvale Heritage Management Plan Consultation
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

In accordance with the consent requirements for SSD 5594 Consultation is required with OEH during the development of the Heritage Management Plan which is a component of the Extraction plan.

The Longwall 424-427 Extraction Plan is approved by DPIE and modifications are occurring in accordance with the sites outlined in Modification 3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Wednesday, 19 May 2021 4:09 PM
To: Lauren Stevens
Subject: Longwall 424-427 Consultation
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

Hi Lauren-

In accordance with the consent requirements for SSD 5594 Consultation is required with relevant landholders during the development of the Heritage Management Plan which is a component of the Extraction plan.

The Longwall 424-427 Extraction Plan is approved by DPIE and modifications are occurring in accordance with the sites outlined in Modification 3 which pertain to aboriginal heritage

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Natalie Gardiner

From: Natalie Gardiner
Sent: Thursday, 20 May 2021 7:08 AM
To: heritagemailbox@environment.nsw.gov.au
Subject: Springvale Heritage Management Plan Consultation
Attachments: 138532 Springvale LW 424 - 427 HMP v2 tracked changes.pdf

In accordance with the consent requirements for SSD 5594 Consultation is required with OEH during the development of the Heritage Management Plan which is a component of the Extraction plan.

The Longwall 424-427 Extraction Plan is approved by DPIE and modifications are occurring in accordance with the sites outlined in Modification 3.

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

19 May 2021

Chairperson
PO Box 31
LAWSON NSW 2783

Springvale Longwall 424-427 Heritage Management Plan Update

Springvale Mine has updated The Longwall (LW) 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the LW 424-427 Heritage Management Plan or wish to request a full version of the LW 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Yours sincerely



Natalie Gardiner

Environment and Community Co-ordinator

19 May 2021

Mr Neville Williams
PO Box 70
COWRA NSW 2794

Springvale Longwall 424-427 Heritage Management Plan Update

Springvale Mine has updated The Longwall (LW) 424-427 Heritage Management Plan to include the two cultural heritage sites discussed during our workshop at Black Gold Cabins, Wallerawang on 19 January 2021.

The two cultural heritage sites are:

- AHIMS site 45-1-2805 (Grinding Groove), and
- AHIMS site 45-1-2796 (Artefact Scatter).

We are providing you with notification of this update as a registered Aboriginal party of Springvale Mine with a tracked change version of the previously approved document for review. The Western Region Cultural Heritage Management Plan will be updated within 3 months of a determination of MOD3.

Should you wish to provide any feedback regarding this update to the LW 424-427 Heritage Management Plan or wish to request a full version of the LW 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Yours sincerely



Natalie Gardiner

Environment and Community Co-ordinator

Centennial Springvale Pty Limited

ABN 64 052 096 812

Springvale Coal Pty Limited

ABN 39 052 096 769

PO Box 198

Wallerawang NSW 2845

T. +61 02 6350 1600

E: info@centennialcoal.com.au

www.centennialcoal.com.au

Natalie Gardiner

From: Lauren Stevens <Lauren.Stevens@lithgow.nsw.gov.au>
Sent: Wednesday, 26 May 2021 3:40 PM
To: Natalie Gardiner
Subject: RE: Longwall 424-427 Consultation

Thanks Natalie,
Council is satisfied with the plan and has no objections.

Thanks

Lauren Stevens | Development Planner

Economic Development & Environment | [Lithgow City Council](#)
Phone: (02) 6354 9999 | Fax: (02) 6351 4259

From: Natalie Gardiner <Natalie.Gardiner@centennialcoal.com.au>
Sent: Wednesday, 19 May 2021 4:09 PM
To: Lauren Stevens <Lauren.Stevens@lithgow.nsw.gov.au>
Subject: Longwall 424-427 Consultation

Hi Lauren-

In accordance with the consent requirements for SSD 5594 Consultation is required with relevant landholders during the development of the Heritage Management Plan which is a component of the Extraction plan.

The Longwall 424-427 Extraction Plan is approved by DPIE and modifications are occurring in accordance with the sites outlined in Modification 3 which pertain to aboriginal heritage

Should you wish to provide any feedback regarding this update to the 424-427 Heritage Management Plan please contact Natalie Gardiner by phone (02) 6350 1672 or email natalie.gardiner@centennialcoal.com.au.

We request that any feedback please be provided by 16 June 2021.

Regards

Natalie Gardiner
Environment and Community Coordinator



p: +61 (0) 2 6350 1672 | m: +61 (0) 4 6770 8799

Centennial | Springvale
980 Castlereagh Highway | NSW | 2790 | Australia
centennialcoal.com.au

Attention:

This message and any files transmitted with it are confidential and intended solely for the use of those persons to whom the message is addressed. If you have received this message in error please notify the sender immediately and then delete this message. Any unauthorised form of reproduction of this message or any files transmitted with it is strictly prohibited. Any views or opinions presented in this message are solely those of the author and do not necessarily represent those of Centennial Coal Company Limited. The recipient should check this message and any attachments for the presence of viruses. Centennial Coal Company Limited accepts no liability for any damage caused by any virus transmitted by this message.

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

1 July 2021

Mr Brad Bliss
Chief Executive Officer
Wellington Valley Wiradjuri Aboriginal Corporation
Via email: wwac@hotmail.com

Dear Brad

Acknowledgement of WWAC Submission: Revised Springvale Mine Heritage Management Plan; Extraction Plan for Longwalls 424, 425, 426 and 427.

Thank you for your written submission in response to Centennial Springvale's revision of its Heritage Management Plan; Extraction Plan for Longwalls 424, 425, 426 and 427. Centennial Springvale acknowledges that traditional owners represented by WWAC provisionally agree to the Revised Heritage Management Plan and seek further discussion in relation to the following matter:

- The avoidance of AHIMS 45-1-2805 from longwall mining or management and/or compensation to the Aboriginal community should the site be damaged.

While it is not feasible to avoid undermining AHIMS 45-1-2805 without sterilizing a substantial amount of reserve, subsidence predictions indicate that the risk of fracturing of the site is low (i.e. less than 10% chance). While the likelihood is low, it does not rule out the potential for fracturing.

As you are aware, Centennial will implement the pre and post mining survey of the site which will include involvement from the all registered Aboriginal parties. At the time of the pre-mining survey, the site condition is noted and management of the site, should fracturing (or any mine related impact) occur will be discussed with input from the broader community, including the elders represented by WWAC.

Management options may include (but not be limited to) improved recording of the site via 3 dimensional photogrammetry, inspection of the broader area to understand and document the cultural landscape of the area, techniques to minimize the likelihood of fracturing and remediation options, such as should any damage occur.

Ongoing engagement with registered Aboriginal parties in relation to the management of cultural sites is possible through the Aboriginal Cultural Heritage Committee (the next meeting is scheduled for 17 November), on site during the pre and post mining survey process or at any other time you would like to engage with a representative of Centennial.

Centennial Springvale Pty Limited

ABN 64 052 096 812

Springvale Coal Pty Limited

ABN 39 052 096 769

PO Box 198

Wallerawang NSW 2845

T. +61 02 6350 1600

E: info@centennialcoal.com.au

www.centennialcoal.com.au

APP245923

In the meantime, should you wish to discuss Centennial's response to your submission, please feel free to contact me on 63501672

Yours sincerely

Natalie Gardiner

Environment and Community Coordinator

Springvale Colliery



WELLINGTON VALLEY WIRADJURI
ABORIGINAL CORPORATION

P.O. Box 1583
Orange NSW 2800
ABN: 77 548 143 187
ICN: 7398

WWWAC@hotmail.com

10 June 2021

Ben Slack
RPS Australia East Pty Ltd
PO Box 428,
Hamilton, NSW, 2303

Re: Revised Springvale Mine Heritage Management Plan, Extraction Plan for Long Walls 424, 425, 426 & 427. Dated 30 April 2021.

Dear Ben,

Wellington Valley Wiradjuri Aboriginal Corporation (WWWAC) would like to thank you for your invitation to provide a response for This Aboriginal Cultural Heritage issue relevant to obligations to protect our Heritage within our Traditional Lands. Wellington Valley Wiradjuri represent the fourteen traditional families with identified apical ancestry pre European occupation with our known Traditional Lands. We know our culture, country and continue with our association with our traditional lands (Ngurangbang).

WWWAC object to any other non-traditional aboriginal organizations or people taking part in site surveys, consultation and assessments within our defined Traditional Lands. These non-traditional people and groups are outsiders under Traditional Lore and have no right to advise on or to be present during consultation or site visits as they do not possess the specific traditional knowledge in relation to these lands or sites. These participants may be indigenous and may live locally within the region however, this still does not give them the right to disregard Traditional Lore and values.

Wellington Valley Wiradjuri Aboriginal Corporation (WWWAC) have through consultation with other Traditional Elders and Traditional Community with cultural knowledge have the following comments and or recommendations:

- ❖ WWWWAC on behalf of our traditional owner members would like to request that AHIMS 45-1-2805, being grinding grooves be avoided from any impact if possible, this is our preferred outcome.
- ❖ If the Cultural Heritage Grinding Grooves site AHIMS 45-1-2805 cannot be avoided, we request further investigation of this site to definitively identify the extent of the site use by our members ancestors.
- ❖ If this site were to be damaged by subsidence due to Long Wall Coal Extraction, please supply further information as to how Centennial Coal will rectify the site and or compensate the wider Aboriginal Community for the damage or loss of this cultural site, as the management plan does not detail this.

- ❖ WWAC on behalf of our traditional owner members provisionally agree to the Revised Springvale Mine Heritage Management Plan, Extraction Plan for Long Walls 424, 425, 426 & 427. Dated 30 April 2021, with further ongoing discussions around the comments or questions raised on page 1 of this document.

WWAC look forward to further participating in the above project, sharing our knowledge of country and to ensure our Heritage is protected. We trust our response meets your requirements. Please contact WWAC Directors should you require our assistance to address any Aboriginal issues to support your future plans.

Regards,

A handwritten signature in dark ink, appearing to read 'BRJ', with a large, stylized flourish extending from the end of the signature.

Bradley R. Bliss J.P.
WWAC CEO and Contact Officer
Gallangabang Aboriginal Corporation Director
Senior Aboriginal Cultural Heritage Field Officer
Senior Aboriginal Cultural Mentor and Educator
Traditional Owner Clan Descendant
Mobile: 0427321016



Natalie Gardiner
Environment and Community Coordinator
Centennial Coal
LEVEL 18 1 MARKET ST, SYDNEY NSW 2000

By email: Natalie.Gardiner@centennialcoal.com.au

Dear Ms Gardiner

Update to the 424-427 Heritage Management Plan for Springvale Colliery (SSD 5594)

Thank you for your referral dated 20 May 2021 inviting comments from the Heritage Council of NSW on the revised Heritage Management Plan (HMP) (Version 2) prepared by RPS Australia East P/L dated 30 April 2021 following the approval of MOD3 on 2 June 2021 and in accordance with Condition 24 of Schedule 4 of the above State Significant Development (SSD) consent.

It is noted that the 424-427 Heritage Management Plan has been updated to address the requirements of SSD 5594 MOD3 in accordance with Schedule 3, Condition 10 of the Development Consent SSD_5594, with Version 2 prepared to address newly identified aboriginal heritage sites since the determination in 2015. There is no proposed change to historic heritage management.

There are no listed items on the State Heritage Register (SHR) within the subject site however, it is located near the SHR items St. John the Evangelist Church (SHR No: 01702), Wallerawang rail bridges over Cox's River (SHR No: 01064) and Wallerawang Railway Station and yard group (SHR No: 01282).

As delegate of the Heritage Council of NSW, we note the document adequately addresses the requirements necessary to identify any impacts to historic heritage within the project impact areas shown in the report listed above. Further, the site has low to nil potential for historical archaeological deposits. Therefore, no further heritage comments are required.

As the site contains a local heritage item, the Wolgan Valley Railway (I245), advice should be sought from Lithgow City Council.

If you have any questions regarding the above advice, please contact Tempe Beaven, Senior Heritage Assessment Officer, at Heritage NSW on 9873 8629 or Tempe.Beaven@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Katrina Stankowski'.

Katrina Stankowski
Senior Team Leader, North Assessments
Heritage NSW
Department of Premier & Cabinet
As Delegate of the Heritage Council of NSW
16/06/2021

Iain Hornshaw

From: Iain Hornshaw
Sent: Friday, 16 July 2021 3:43 PM
To: HERITAGEMailbox@environment.nsw.gov.au
Cc: Jack.Turner@planning.nsw.gov.au
Subject: Centennial Springvale EP HMP LWs 424-427
Attachments: Springvale Mine EP HMP LW424-427.pdf; Springvale Mine EP HMP LW424-427 TC.docx

To whom it may concern,

Please see attached a PDF clean and MS Word tracked change copy of the updated (rev 2) Extraction Plan Heritage Management Plan (HMP) regarding LWs 424-428 at Springvale Mine.

The HMP was reviewed and revised following the approval of Mod 3 to SSD-5594 as required by condition 6; Schedule 6 of the consent. Mod 3 as approved includes subsidence impacts regarding two recently identified Aboriginal cultural heritage sites within the existing approved mining area and clarifies the process for managing any currently unidentified Aboriginal cultural heritage sites.

In accordance with condition 10(h)(vii) of Schedule 3, Springvale is required to prepare the HMP in consultation with Heritage NSW (HNSW). A copy of the updated HMP was initially provided to HNSW on 20 May 2021. In response to a request from DPIE we are following up with HNSW to request advice on the revised HMP from the Aboriginal Cultural Heritage Team.

Please forward any feedback to me at your earliest opportunity.