EPBC 2013/6881

Annual Compliance Report

Springvale Mine

July 2017

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Declaration of Accuracy

In making this declaration, I am aware that Section 490 and 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed _____

Full name (please print) PAUL RAYMOND WILLIAMS

Position (please print) GROUP ENVIRONMENT MANAGER

Organisation (please print including ABN/ACN if applicable)

SPRINGVALE COAL ACN 052-096-769

Date 19/07/17

DOCUMENT OWNER AND ORIGINATOR: **Catherine Suggate** **Springvale Environment and Community Coordinator**
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30/03/2017	V1 – Submission to DoE	DoE, Centennial Springvale Website
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APPENDICES

Appendix 1 MCW Environment Independent Environmental Audit (October 2016)

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1. INTRODUCTION

Springvale Mine is an existing underground coal mine producing high quality thermal coal which is supplied to both domestic and international markets. It is located 15 kilometres to the northwest of the regional city of Lithgow and 120 kilometres west-northwest of Sydney in New South Wales (NSW). The mine is a joint venture owned in equal share by Centennial Springvale Pty Ltd (a wholly owned subsidiary of Banpu Minerals Ltd) and Springvale SK Kores Pty Limited. Springvale Coal Pty Limited is the operator of Springvale Mine.

Underground coal mining commenced at Springvale Mine in 1995 following the granting of Springvale Mine's development consent (DA 11/92) on the 27th of July 1992, pursuant to Section 101 under Part 4 of the NSW Environmental Planning and Assessment Act, 1979 (EP&A Act).

The Springvale Mine Extension Project (SMEP) was approved by the New South Wales Planning and Assessment Commission on the 21st of September 2015 (SSD_5594). The Commonwealth Department of Environment subsequently assessed the SMEP and the Minister of Environment approved the SMEP and issued the approval EPBC 2013/6881 on the 15th of October 2015 to allow secondary extraction associated with the Springvale Mine Extension Project SSD_5594.

A variation to Conditions 6 and 7 of EPBC 2013/6881 was approved on the 29th of July 2016. The variation related to Temperate Highland Peat Swamp monitoring requirements and was subsequently implemented as part of the Swamp Monitoring Program for longwall 419.

This report has been prepared in accordance with the Annual Compliance Report Guidelines (Department of Environment, 2014) to address the requirement of EPBC 2013/6881 Condition 18, which state that:

Before 31 March each year, the approval holder must publish a report on its website addressing compliance with each of the conditions of this approval, including the implementation of any management documents as specified in the conditions during the previous calendar year. Documentary evidence of the date of publication of the compliance report, as well as details of any reported potential non-compliance, must be provided at the same time as the compliance report is published.

The reporting period for this Annual Compliance Report is from the 1st of January 2016 to the 31st of December 2016.

2. DESCRIPTION OF ACTIVITIES

2.1. Project Details

An overview of EPBC 2013/6881 project details, as per Annual Compliance Report Guidelines (Department of Environment, 2014) is outlined in Table 1.

Table 1. EPBC 2013/6881 Project Details

EPBC Number	EPBC 2013 / 6881
Project Name	Springvale Mine Extension Project
Approval Holder	Springvale Coal Pty Ltd ACN 052 096 769
Approved Action	To expand underground mining operations at the existing Springvale Mine.
Location of the Project	Springvale Mine, 8km north-east of Lithgow. Refer Figure 1 for controlled action area.
Reporting Period	1st of January 2016 to 31st of December 2016
Date of Report	First submission: 31st March 2017 Second submission: 19th July 2017

2.2. Approvals

Springvale operates under NSW Development Consent SSD_5594, two EPBC Approvals and EPL3607. Details of these are provided in Table 2. During the reporting period two modifications to SSD_5594 were submitted and subsequently approved by DPE. Details of these are outlined in 0.

Table 2. Springvale Major Approvals

Approval	Details	Date of Issue	Expiry
SSD_5594	Springvale Mine Extension Project	21 September 2015	31 December 2028
EPBC 2011/5949	Mining of Longwalls 415 – 417.	14 March 2012	19 March 2032
EPBC 2013/6881	Mining associated with the Springvale Mine Extension Project.	15 October 2015	8 October 2035
EPL3607	Environmental Protection License for Springvale Coal Pty Limited	17 May 2000	Renewed Annually

Table 3. SSD_5594 Modifications during the Reporting Period

Modification No.	Details of Modification	Date of Application /Exhibition Period	Status (as at 31 December 2016)
Mod 1	• Increase of the approved workforce (including contractors) from 310 full time equivalent (FTE) to 450; • Increase in ROM coal production from the approved 4.5 Mtpa to 5.5 Mtpa; and • Increase in the existing stockpile capacity at the Springvale pit top from 85,000 tonnes to 200,000 tonnes capacity and an increase in the coal stockpile footprint by 0.3ha northeast of the stockpile area.	23/07/2016 / 02/08/2016 – 23/08/2016	Assessment
Mod 2	• To remove the requirement to *Meet limits for salinity of 700 (50th percentile), 900 (90th percentile)and 1000 (100th percentile) uS/cm by 30 June 2017;* and • To defer to 30 June 2019 the requirement to *Eliminate acute and chronic toxicity from LDP009 discharges to aquatic species by 30 June 2017, with acute toxicity defined as >10% effect relative to the control group and chronic toxicity defined as >20% effect relative to the control group.*	22/12/2016 / 24/01/2017 – 28/02/2017	Submitted

2.3. Operational Summary

The approval of SSD_5594 allowed Springvale to continue underground coal mining operations within the Lithgow Seam until 31 December 2028, with subsequent rehabilitation and closure works. In summary the project includes:

- continued longwall mining operations to extract up to 4.5 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal from the Lithgow Seam;
- continued operation of the mine's pit top area, support facilities and utilities;
- extension and continued use of the Springvale Delta Water Transfer Scheme, bore dewatering facilities and ventilation infrastructure;
- continued processing (sizing and screening) of ROM coal at the pit top area;
- continued stockpiling of ROM coal (85,000 tonnes (t) capacity);
- continued transportation of processed coal by overland conveyor to Centennial's Western Coal Services site (WCSS) for further processing or to the Mt Piper Power Station;
- continued transportation of processed coal by road haulage to other local domestic customers (limited to 50,000 tpa); and
- rehabilitation of the pit top area and Newnes Plateau surface infrastructure sites.

The main components of Springvale Mine's 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.

During the reporting period, extraction of longwalls 418 and 419 were undertaken.

Extraction of longwall 418 commenced on the 22nd of October 2015 and was completed on the 27th of May 2016 with a total retreat of 2487m.

Extraction of longwall 419 commenced on the 2nd of August 2016 and was completed on 18th of March 2017 with a total chainage of 2340m.

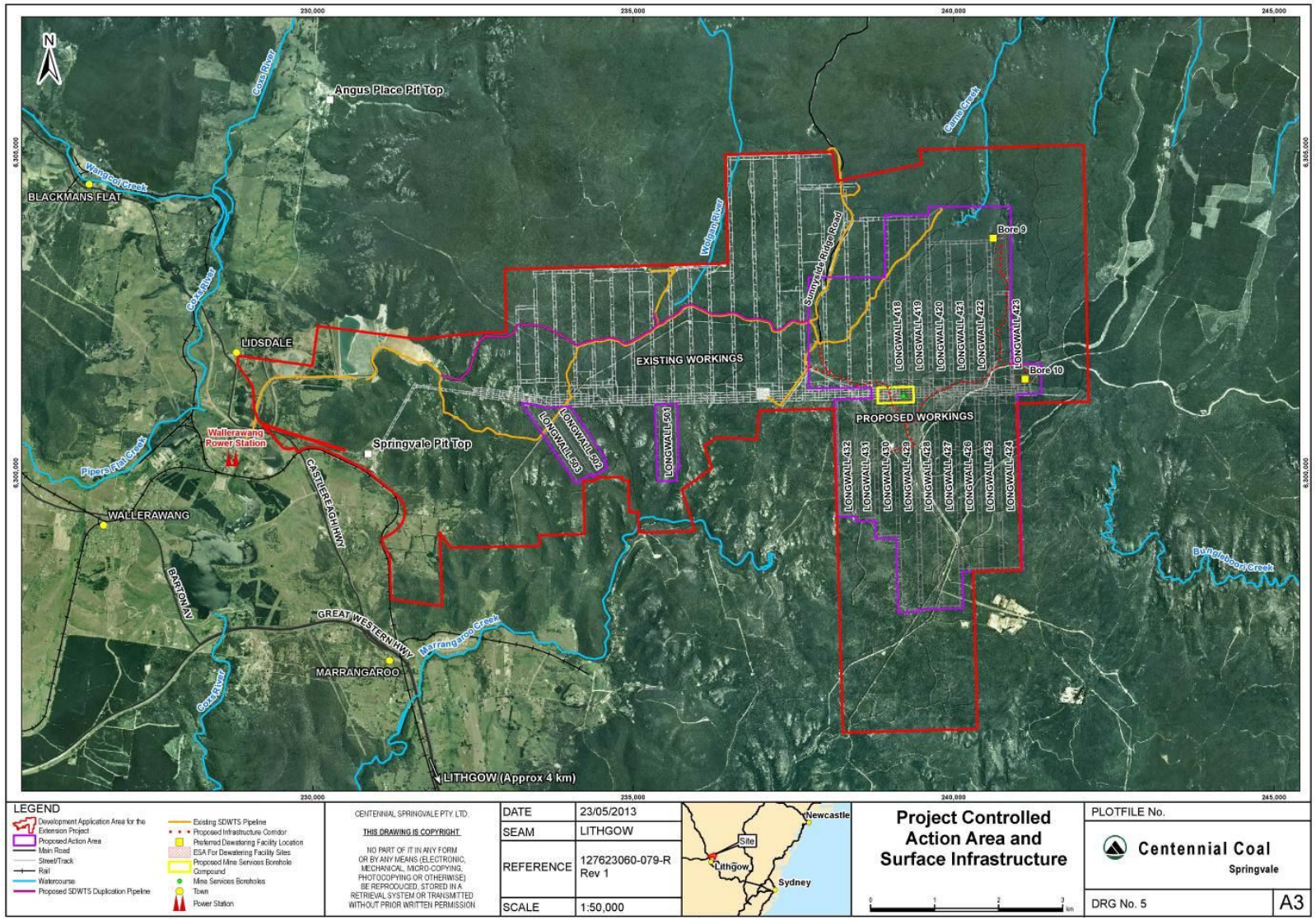

Figure 1 Controlled Action Area EPBC 2013/6881

3. DETAILS OF COMPLIANCE WITH APPROVAL CONDITIONS

Springvale's compliance status with EPBC 2013/6881 is outlined in Tables 4 through 7.

During the reporting period, a three yearly Independent Environmental Audit was undertaken by MCW Environmental, per Schedule 6, Condition 13 of SSD_5594. EPBC 2013/6881 was assessed as part of this Audit and the audit findings have been referenced in assessing compliance.

Table 4. EPBC 2013/6881 - Condition Compliance Status

<table>
<tr><th>Condition Number / Reference</th><th>Condition</th><th>Project Compliance Status</th><th>Evidence / Comments</th></tr>
<tr><td>1</td><td>To minimise and compensate for impacts to listed threatened species and communities, the approval holder must comply with the following conditions of the New South Wales development consent.
<table>
<tr><th>Schedule</th><th>Condition</th><th>Subject</th></tr>
<tr><td>3</td><td>1</td><td>General performance measures</td></tr>
<tr><td rowspan="6">4</td><td>15</td><td>Biodiversity offset strategy</td></tr>
<tr><td>16</td><td>Long-term security of offsets</td></tr>
<tr><td>18</td><td>Biodiversity management plan</td></tr>
<tr><td>30</td><td rowspan="3">Rehabilitation</td></tr>
<tr><td>31</td></tr>
<tr><td>32</td></tr>
<tr><td>5</td><td>all</td><td>Notification of landowners and independent review</td></tr>
</table></td><td>Compliant</td><td>Refer Table 5 for breakdown of Development Consent condition compliance.</td></tr>
<tr><td>2</td><td>To minimise and compensate for impacts on Temperate Highland Peat Swamps, the approval holder must comply with the following conditions on the New South Wales development consent.
<table>
<tr><th>Schedule</th><th>Condition</th><th>Subject</th></tr>
<tr><td>3</td><td>1</td><td>General performance measures and risk</td></tr>
</table></td><td>Compliant</td><td>Refer Table 6 for breakdown of Development Consent condition compliance.</td></tr>
</table>

		2	management and assessment		
		3	Offsets for breach of performance measures		
		4	Offsets for first undermined swamps		
		5	Offsets for other undermined swamps		
		6			
		10	Extraction plans		
		11	Independent Monitoring Panel		
	5	all	Notification of landowners and independent review		
3	To minimise impacts no water resources, the approval holder must comply with the following conditions on the New South Wales development consent.			Compliant	Refer Table 7 for breakdown of Development Consent condition compliance.
	Schedule	**Condition**	**Subject**		
	3	1	General performance measures		
		10(h)(iii)	Water management plan		
	4	9	Water supply		
		10	Water pollution		
		12	Water management performance measures		
		14	Water management plan		
	5	all	Notification of landholders and independent review		
4	To minimise impacts on Temperate Highland Peat Swamps, in addition to Condition 1 (Schedule 3) on the New South Wales development consent, the approval holder must ensure that the action does not have greater than negligible environmental consequences on any Temperate Highland Peat Swamps within the project area, including in relation to their size, ecological functionality and species composition or distribution, unless those			Compliant	Refer Table 5 for breakdown of Schedule 3, Condition 1 compliance. In addition to actions undertaken under SSD_5594, documents have been developed to monitor and manage potential environmental consequences as a result of the approved actions of LW418 and LW419 extraction.

	consequences are addressed through Condition 5.		LW418 Springvale developed the THPSSMMP for 418 (October, 2015) which included processes to monitor environmental impacts on THPS within the project area, trigger levels, and notification and reporting requirements. The THPSSMP was approved by the DoE. LW419 Springvale developed the LW 419 Extraction Plan and component management plans to meet SSD-5594 CoA S3-1 and CoA S3-10. The Extraction Plan and component management plans included means of tracking monitoring results against 'negligible environmental consequences on swamps' performance measures'. The IMP reviewed draft versions of the LW 419 Extraction Plan and concluded that LW 419 be allowed to commence subject to recommendations. The DPE informed CC on 21/07/2016 that following acceptance of the IMP recommendations on the LW 419 Extraction Plan, the DPE had assessed and approved the Extraction Plan attaching strict conditions to monitoring impacts on swamp vegetation communities. Through the approval and implementation of these Management Plan documents, Springvale monitor the environment consequences on THPS within the project area in accordance with Condition 4.
5	To minimise impacts on Temperate Highland Peat Swamps, in addition to Conditions 4, 5 and 6 (Schedule 3) on the New South Wales development consent: a. Greater than negligible environmental consequences on Temperate Highland Peat Swamps, and therefore offset liabilities, must be initially determined based on changes to the shallow groundwater aquifer as measured using piezometers in accordance with Conditions 6 to 10. b. Where monitoring identifies a change to the shallow groundwater aquifer below an undermined Temperate Highland Peat Swamp and that change cannot be reasonably attributed to other specific factors to the satisfaction of the Minister, the swamp will be	Compliant	Refer Table 6 for breakdown of Schedule 3, Conditions 4/5/6 compliance. a. The Draft Upland Swamp Maximum Offset Liability Framework Western Region has been developed to address the requirements of SSD-5594 CoA S3-5 by describing how Centennial propose to: • Define a negligible environmental consequence in the context of swamp communities; • Establish the offset liability; and • Monitor for mining induced impacts for which an offset would be required.

	considered to have experienced a greater than negligible environmental consequence of the action. c. 90 *per cent* (by area) of offset liabilities for Temperate Highland Peat Swamps must be met with direct offsets, within the meaning of the Commonwealth offsets policy. d. If after five (5) years, the approval holder can demonstrate to the satisfaction of the Minister that a greater than negligible environmental consequence on Temperate Highland Peat Swamps identified under Condition 5a has been reversed, has not eventuated or has only partially eventuated, whether due to active remediation or passive (natural) equilibration, any offsets already provided in relation to that identified consequence may be held by the approval holder and used to offset future liabilities. e. Except in relation to Sunnyside East and Carne West Swamps, the approval holder must not commence longwall mining before the corresponding maximum predicted offset liability has been determined in accordance with Conditions 4 and 5 (Schedule 3) on the New South Wales development consent and approved in writing by the Minister.		The Framework monitors for mining induced impacts based on monitoring outlined in the Swamp Monitoring Program. The Swamp Monitoring Program in turn uses groundwater monitoring results in the context of trigger levels and TARPs to assess for potential impacts. b. To date, greater than negligible impacts to swamps has not been identified. Springvale has calculated the maximum offset liability for swamps as part of each Extraction Plan submitted to DPE. Springvale is continuing to work with DPE on a Swamp Offset Package should offsets for swamps be required. This Swamp Offset package is part of ongoing discussions with various government agencies. In the meantime, while a suitable Swamp Offset Package is being developed and agreed to, Springvale Coal has increased the security bond held with the DPE from $2 Million to $6 Million. c. Springvale is continuing to work with DPE on a Swamp Offset Package should offsets for swamps be required. The offsets package will be aimed at meeting the conditions of Springvale approval. d. Point d has not been triggered during this reporting period. e. In accordance with SSD_5594, Springvale has increased the security bond held with the DPE from $2 Million to $6 Million in accordance with Schedule 3, Conditions 4 and 5.
6	The condition applies to all longwalls except LW418 and LW419. To minimise impacts on Temperate Highland Peat Swamps, in addition to Condition 10(h)(v) (Schedule 3) on the New South Wales development consent, swamp monitoring programs (or similar documents) must: a. be capable of detecting any greater than negligible environmental consequence on any swamps within the project area that meet the	Not Applicable	No mining outside of longwalls 418 and 419 was undertaken during the reporting period. Extraction of longwall 418 commenced on the 22nd of October 2015 and was completed on the 27th of May. Extraction of longwall 419 commenced on the 2nd of August 2016 and was completed on 18th of March 2017.

	listing criteria for Temperate Highland Peat Swamps; b. include at least three (3) control swamps for each swamp to which the program applies, matched in terms of vegetation, geomorphology, hydrology and size, which must be monitored according to the same standards and protocols (a swamp may serve as a control for any number of suitably matched swamps to which the program applies); and c. establish for each swamp proposed for undermining a monitoring regime that includes daily data collection from each swamp with data review at least weekly during undermining operations and at least monthly at all other times The approval holder must not commence longwall mining before the corresponding swamp monitoring program has been approved in writing by the Minister. Each approved swamp monitoring program must be implemented for no less than five (5) years from the approval of the program.		This condition has therefore been assessed as not applicable.
7	This Condition applies to Longwalls LW418 and LW419 To minimise impacts on Temperate Highland Peat Swamps, in addition to Condition 10(h)(v) (Schedule 3) on the New South Wales development consent, swamp monitoring programs (or similar documents) must: a. Be capable of detecting any greater than negligible environmental consequence on any swamps within the project area that meet the listing criteria for Temperate Highland Peat Swamps; b. Include at least three (3) control swamps for each swamp to which the program applies, matched in terms of vegetation, geomorphology, hydrology and size, which must be monitored according to the same standards and protocols (a swamp may serve as a control for any number of suitably matched swamps to which the program applies); and c. Establish for each swamp proposed for undermining a monitoring regime that includes daily data collection from each swamp with data review at least weekly during undermining operations and at least monthly at all other times. The approval holder must not continue longwall mining beyond 21 July 2016 until the swamp monitoring program(s) has been approved in writing by the Minister. Each approved swamp monitoring program must be implemented for no less than five (5) years from the approval of the	Compliant	This condition applies to longwalls 419 and 419 (longwalls extracted during the reporting report). *a.* To be able to detect any greater than negligible environmental consequences Springvale has prepared and implemented the overarching management plans for longwalls 418 and 419, the LW418 THPSSMMP and LW419 Swamp Monitoring Program (component of the LW419 Extraction Plan) respectively. The monitoring programs have evolved over time to reflect updated monitoring methodologies and understandings. Monitoring has transitioned to the Unmanned Aerial Vehicle (UAV) method developed by the University of Queensland (developed in 2014 by Brownstein et al). This method was developed as a result of a research program undertaken over five years, as the traditional Blanquet monitoring methods, had not been effective at detecting change. Centennial undertook consultation on the Brownstein methodology with OEH and the DoE in 2014 and obtained peer review of the methodology by David Golding (Cenwest) in 2014. The major difference between the LW 415 -417 THPSSMMP and the LW 418 THPSSMMP was the inclusion of the Brownstein methodology for LW 418 THPSSMMP. A component of the LW 419 Extraction Plan, the LW

	program.		419 Swamp Monitoring Program, was prepared to meet the requirements of SSD_5594 and EPBC 6811 Approval CoAs 7 and 9 and references the 'Flora monitoring methods for Newnes Plateau Shrub Swamps and Hanging Swamps' (Brownstein et al. 2014). The LW419 Extraction Plan approval contained strict conditions to monitoring impacts on swamp vegetation communities e.g. layout of piezometers as presented in the EPBC Approval 2013/6881, and requirement to address a knowledge gap on soil moisture in swamps. *The Swamp Monitoring Program was approved by the Department of Environment on the 29th July 2016 as in accordance with Condition 7 of the EPBC2013-6881.* b. Control swamps are identified in the LW419 Swamp Monitoring Program in accordance with point b) of Condition 7. They are as follows: • Shrub swamp reference sites listed in the LW 419 Swamp Monitoring Program are: Barrier Swamp, Carne Central Swamp, Marrangaroo Swamp, Twin Gully Swamp and TriStar Swamp. • Hanging swamp reference listed in the LW 419 Swamp Monitoring Program are: Barrier are Northern portions of Reference Swamp 1, Southern section of Twin Gully Swamp and South eastern arm of TriStar Swamp. Monitoring undertaken in regards to these swamps include: Subsidence, Flora, Fauna, Aquatic Ecology, Stygofauna, Surface Water and Groundwater. c. Daily data collection is carried out at groundwater monitoring locations through data loggers. Weekly reports are prepared based on weekly data collected and provided to Springvale in the form of a Weekly Report. Sites included in this weekly report are within 600m of the advancing longwall. Where swamps are intersected by this buffer zone, all piezometer data is collected for inclusion in the Weekly Report. Impact and Reference swamp monitoring sites not included in the weekly data download and reporting are downloaded and reported monthly. The remaining swamp,

			ridge/aquifer and vibrating wire piezometers are downloaded either bi-monthly or quarterly. The monitoring regime is outlined in the LW419 Swamp Monitoring Program. Mining of LW419 did not commence until the 2nd of August 2016, following the approval of the LW419 Extraction Plan.
8	Until Condition 7 has been met, the approval holder must monitor LW418 and LW419 consistent with Temperate Highland Peat Swamps on Sandstone Monitoring and Management Plan for LW418, August 2015, except that data collection must be consistent with Condition 7d from the commencement of longwall mining in LW418 and LW419.	Compliant	Prior to the approval and implementation of the Swamp Monitoring Program for Longwall 419, monitoring was undertaken in accordance with the Temperate Highland Peat Swamps on Sandstone Monitoring and Management Plan for Longwall 418. This included weekly reporting and downloads in undertaken in accordance with Condition 7(d), which was varied on the 29th of July 2016.
9	This condition applies to all longwalls except LW418. To minimise impacts on Temperate Highland Peat Swamps, in addition to Condition 10(h)(ix) (Schedule 3) on the New South Wales development consent, trigger action response plans (or similar documents) must: a. define specific triggers (exceedence thresholds), with reference to baseline data and control swamps, which will apply to each Temperate Highland Peat Swamp within the project area b. define specific cease-work triggers, with reference to baseline data and control swamps, to respond to cases of sudden, unexpected or persistent exceedences, after which work may not recommence until the impact has been explained or offset to the satisfaction of the Minister c. define protocols for investigation and appropriate treatment of early warning and ceasework triggers in a timely fashion d. establish a protocol for reporting exceedences promptly to the Department; and e. explain how the measures described in the trigger action response plan will protect Temperate Highland Peat Swamps. The approval holder must not commence longwall mining before the corresponding trigger action response plan has been approved in writing by the Minister. The approved trigger action response plan must be implemented.	Compliant	During the reporting period, this condition only applied to longwall 419. The LW 419 Swamp Monitoring Program and associated TARP (component management plan of the LW419 Extraction Plan), was approved by the DPE on the 11th of July 2016. The Swamp Monitoring Program included the following to address the points of Condition 9: a. Specific triggers (exceedence thresholds), with reference to baseline data and control swamps, which will apply to each Temperate Highland Peat Swamp within the project area (Section 7 and Table 27); b. Specific cease-work triggers, with reference to baseline data and control swamps, to respond to cases of sudden, unexpected or persistent exceedences, after which work may not recommence until the impact has been explained or offset to the satisfaction of the Minister (Table 27, sections7, 9 and 10) c. Defines protocols for investigation and appropriate treatment of early warning and cease work triggers in a timely fashion (sections 9 and 10) d. Establishes a protocol for reporting exceedences

			promptly to the Department (Chart 3 and section 10); and e. Explains how the measures described in the trigger action response plan will protect Temperate Highland Peat Swamps (section 7). Extraction of LW419 commenced on the 2nd of August 2017, following the approval of the LW419 Extraction Plan (including Swamp Monitoring Program and TARP) on the 11th of July 2017. Longwall mining did therefore not commence until the TARP was approved in writing by the Minister. The TARPs contained within the LW419 Swamp Monitoring Program were implemented during the reporting period through weekly data downloads and reporting as outlined in Table 22 of the Swamp Monitoring Program and through the trigger notifications and investigative reports submitted under them. During the reporting period, notifications submitted under the LW419 Swamp Monitoring Program included (further outlined in Section 5 of this report); • GW1; and • SPR1104 and SPR1107.
10	This condition applies to LW418, for which a trigger action response plan already exists. At any time after an exceedence has been reported to the Department, the Minister may order the approval holder to cease work, after which work may not recommence until the exceedence has been explained or offset to the satisfaction of the Minister.	Not Applicable	Springvale has not received a cease work notification from the Minister. As this condition has not been triggered, it has been assessed as not applicable.
11	To minimise impacts on listed threatened species and communities, the approval holder must not clear more than 13 hectares of habitat for threatened species within the project area.	Compliant	No clearing of land has been undertaken within the project area since EPBC Approval 2013/6881 was granted on 13/10/2015. As outlined in the Springvale 2015 and 2016 Annual Review (Tables 24 and 38 respectively), no clearing was undertaken during 2015 and 2016.
12	This condition applies to all longwalls except LW418. To minimise impacts on listed threatened species and communities, in	Compliant	This condition is only relevant to LW419 during the reporting period.

	addition to Condition 18 (Schedule 4) on the New South Wales development consent, the biodiversity management plan (or similar document) must: a. include measures to avoid and / or mitigate impacts on listed threatened species and communities that may occupy landform habitats including cliffs, minor cliffs, pagodas and gorges - these measures must include pre-mining surveys and translocation and / or cease work protocols if any sites with potential as nursery caves for Large-eared Pied Bat are identified b. include measures to control the spread of pathogens including chytrid fungus and P*hytophtora cinnamomi* c. explain how the mitigation and management measures described will protect *specific* listed threatened species and communities; and d. specify clear timeframes for all management and mitigation measures described. The approval holder must not commence the action before the biodiversity management plan has been approved in writing by the Minister. The approved biodiversity management plan must be implemented.		During 2016, Springvale prepared the LW419 Biodiversity Management Plan addressing the requirements of Condition 12. The LW 419 Biodiversity Management Plan was approved in July 2016 and includes an Appendix that specifically addresses the points of Condition 12 (a) to (d) of the EPBC Approval EPBC 2013/6881 as follows: a. includes measures to avoid and / or mitigate impacts on listed threatened species and communities (section 4) b. includes measures to control the spread of pathogens including cheered fungus and Phytophthora cinematic (section 4) c. explains how the mitigation and management measures described will protect specific listed threatened species and communities (section 4); and d. specifies clear timeframes for all management and mitigation measures described (section 4). Extraction of LW419 commenced on the 2nd of August 2017, following the approval of the LW419 Extraction Plan (including Swamp Monitoring Program and TARP) on the 11th of July 2017. Longwall mining did therefore not commenced until the TARP was approved in writing by the Minister.
13	The approval holder must prepare a management and research program for the Blue Mountains Water Skink at Carne West Swamp, including specific measures for monitoring that population and response measures to be implemented if a decline is detected. The approval holder must not commence undermining of Carne West Swamp before the management and research program has been approved in writing by the Minister. The approved management and research program must be implemented.	Compliant	The Blue Mountains Water Skink Research and Management program was submitted on the 30th October 2015 and was approved on the 27th of November 2015. This was prior to the commencement of undermining Carne West Swamp under EPBC 2013/6881. The RPS Australia report Appended to the Biodiversity Management Plan addressed Condition 12 of the EPBC Approval 2013/6881 and identifies that the Blue Mountains Water Skink Research and Monitoring Program was commenced by RPS in October 2015 and involved monitoring populations of the BMWS within certain swamps in the site and overarching Project Application Area.

			The 2015/2016 program has been completed and a draft report has been provided to Springvale.
14	The approval holder must provide the Department with details of each offset area secured in accordance with Conditions 3 to 5 (Schedule 3) or Conditions 15 and 16 (Schedule 4), on the New South Wales development consent, within twenty (20) business days of securing each offset. Details to be provided must include but are not necessarily limited to: • textual descriptions and maps to clearly define the location and boundaries of the offset areas • written evidence of legal protection • management plans • offset attributes and shapefiles	Not Applicable	Offset areas have not been secured and therefore the requirement has not been triggered. It has therefore been assessed as not applicable. In accordance with SSD_5594 a $2,000,000 Swamp Offset bond was lodged with the Department of Planning and Environment during 2016.
15	Within ten (10) days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement of the action.	Compliant	The Department was notified on the 16th of October 2015 that the action had commenced. This was within 10 days of commencing the action (10th of October 2015).
16	The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of this approval, including measures taken to implement management documents required by this approval, and make them available on request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of this approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Compliant	MCW Environmental reported the following in assessment of Condition 16 (note the audit was undertaken in June 2016): *The following documents were sighted as evidence to demonstrate that records were maintained:* • *Subsidence data portal records from 01/08/2015 to 28/06/2016;* • *Flora monitoring results compared to THPSSMMP trigger results since 2013;* • *Groundwater results compared to THPSSMMP trigger results since 2013;* • *Water quality data since 2013; and* • *Notification of trigger level exceedances from piezometers at CW1 and CW2 in December 2015.* Springvale has continued to maintain accurate records substantiating compliance with Condition 16. In addition to internal data records maintained by Springvale, compliance with this condition is demonstrated through routine compliance reporting published to the Springvale website, including Subsidence Management Status Reports (reporting required of the LW411-418 SMP), Annual Reviews

			(requirement of SSD_5594) and trigger notifications submitted during the reporting period. No requests for documents or requests to undertake an audit have been received by Springvale.
17	The approval holder must report potential non-compliance with any of the conditions of this approval to the Department within two (2) business days of becoming aware of the non-compliance.	Compliant	No non-compliances with conditions of the EPBC approval 2013/6881 were detected during the reporting period. During the reporting period, trigger notifications were submitted to DoE under this condition. These provided notification of potential non-compliances (through triggers identified through the LW419 Swamp Monitoring Program and LW418 THPSSMMP TARPs). These notifications were submitted within two business days as demonstrated by the below notification and submission days. • GW1 (groundwater trigger) – Springvale notified on 02/11/2016, notification provided to DoE on 03/11/2016. • SPR1104 & SPR 1107 (groundwater trigger) - Springvale notified on 22/12/2016, notification provided to DoE on 22/12/2016. • SSE1, WC01, WC03, WC04 (flora triggers) – Springvale notified on 08/11/2016, notification provided to DoE on 10/11/2016. Further information regarding these notifications is provided in Section 5 of this report.
18	Before 31 March each year, the approval holder must publish a report on its website addressing compliance with each of the conditions of this approval, including implementation of any management documents as specified in the conditions during the previous calendar year. Documentary evidence of the date of publication of the compliance report, as well as details of any reported potential non-compliance, must be provided to the Department at the same time as the compliance report is published.	Compliant	During the reporting period, the 2015 Annual Compliance Report was published on the Centennial Springvale website (uploaded 23rd of March 2016). This Annual Compliance Report for the 2016 reporting period was submitted and published on the Centennial Website on the 30th of March 2017. This report represents the second submission following a request for further information from DoE.
19	Upon the direction of the Minister, the approval holder must ensure that an	Not Applicable	No direction has been received by the Minister to undertake

	independent audit of compliance with the conditions of this approval is conducted and a report submitted to the Minister. The audit must not commence until the independent auditor and audit criteria have been approved by the Minister. The audit report must address the criteria to the satisfaction of the Minister.		an audit. As this condition has not been triggered it has been assessed as not applicable.
20	The approval holder may choose to revise a management document approved by the Minister under Conditions 6, 7, 9 12 or 13 without submitting it for approval under Section 143A of the EPBC Act, if the taking of the action in accordance with the revised management document would not be likely to have a new or increased impact on a matter protected under the conditions of this approval. If the approval holder makes this choice, it must: a. notify the Department in writing that the approved management document has been revised and provide the Department with an electronic copy of the revised management document b. implement the revised management document from the date that it is submitted to the Department; and c. for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised management document would not be likely to have a new or increased impact on a matter protected under the conditions of this approval.	Not Applicable	Springvale has not revised any management document associated with EPBC 2013/6881. As this condition has not been triggered it has been assessed as not applicable.
21	The approval holder may revoke its choice under Condition 20 at any time by notice to the Department. If the approval holder revokes the choice to implement a revised management document, without approval under section 143A of the EPBC Act, the approval holder must implement the management document most recently approved by the Minister.	Not Applicable	Springvale has not revised any management document associated with EPBC 2013/6881. As this condition has not been triggered it has been assessed as not applicable.
22	Condition 20 does not apply if the revisions to the approved management document include changes to offsets established under the conditions of the approval, unless otherwise agreed in writing by the Minister. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised management document would, or would not, be likely to have new or increased impacts.	Not Applicable	Springvale has not revised any management document associated with EPBC 2013/6881. As this condition has not been triggered it has been assessed as not applicable.
23	If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the revised management document would be likely to have a new or increased impact on a matter protected by the conditions of this approval, then:	Not Applicable	Springvale has not revised any management document associated with EPBC 2013/6881. As this condition has not been triggered it has been assessed

	a. Condition 20 does not apply, or ceases to apply, in relation to the revised management documents; and b. the approval holder must implement the management documents most recently approved by the Minister. At the time of giving the notice, the Minister may also notify that for a specified period of time that Condition 20 does not apply for one or more specified plans, programs or strategies required under the approval. To avoid any doubt, this condition does not affect any operation of Conditions 20 to 22 in the period before the day after the notice is given.		as not applicable.
24	Conditions 20 to 23 are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised management document to the Minister for approval.	Not Applicable	Springvale has not revised any management document associated with EPBC 2013/6881. As this condition has not been triggered it has been assessed as not applicable.
25	The approval holder must not commence longwall mining at any time after five (5) years from the date of this approval without the written agreement of the Minister.	Not Applicable	Following the approval of EPBC 2013/6881 on the 15th of October 2015, mining commenced on the 16th of October 2015. As this condition has not been triggered it has been assessed as not applicable.
26	Unless otherwise agreed to in writing by the Minister, the approval holder must publish all management documents on their website. Each management document must be published on the website within one (1) month of being approved by the Minister or being submitted under Condition 20.	Compliant	MCW Environmental reported the following in assessment of Condition 26 (note the audit was undertaken in June 2016): *The following management documents referenced in EPBC Approval 2013/6881 were available on the Centennial Coal website:* • *LW 418 THPSSMMP* • *EPBC Approval 2013/6881 Variation (conditions 6 and 7)* • *EPBC Approval 2013/6881 Variation (condition 7)* • *EPBC Approval 2013/6881 Annual Report (which includes the Annual Compliance Report)* • *Blue Mountains Water Skink Research Program* • *Approval of the Blue Mountains Water Skink Research Program* No documents haven been published under Condition 20, as this condition has yet to be triggered. During the reporting

			period the following documents were uploaded to the Centennial Springvale website: • 2015 Annual Compliance Report (uploaded 23 March 2016). • EPBC Condition 7 variation (dated 1 April 2016), uploaded 1 April 2016. • EPBC Condition 6 & 7 variation (dated 29 July 2016), uploaded 11 August 2016. All documents published to the Springvale website were uploaded within one month.

Table 5. EPBC Condition 1 – NSW Development Consent SSD_5594 Conditions

<table>
<tr><th>Condition Number / Reference</th><th>Condition</th><th>Project Compliance Status</th><th>Evidence / Comments</th></tr>
<tr>
<td>Schedule 3

Condition 1</td>
<td>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.
<table>
<tr><th>Water Resources</th><th>Performance Measures</th></tr>
<tr><td>Wolgan River, and other watercourses located outside the site</td><td>Negligible subsidence impacts or environmental consequences including:
□ negligible diversion of flows or changes in the natural drainage behaviour of pools;
□ negligible reduction in water quality;
□ negligible increase in bank erosion or sediment load.</td></tr>
<tr><td>Carne Creek, Marrangaroo Creek and Paddys Creek</td><td>No greater subsidence impacts or environmental consequences than predicted in the EIS</td></tr>
<tr><td>All other watercourses</td><td>No greater subsidence impacts or environmental consequences than predicted in the EIS</td></tr>
<tr><th>Swamps</th><th></th></tr>
<tr><td>Shrub swamps: Sunnyside and Nine Mile</td><td>Negligible environmental consequences including:
□ negligible change to the shallow groundwater regime when compared with control swamps;
□ negligible erosion of the surface of the swamp;
□ negligible change in the size of the swamp;
□ negligible change in the ecosystem functionality of the swamp;
□ negligible change to the composition or distribution of species within the swamp; and</td></tr>
</table>
</td>
<td>Compliant</td>
<td>The performance measures under this condition relate to LW418 and LW419 (longwalls mined during the reporting period).

<u>LW418</u>

Longwall 418 is covered under LW 411-418 LW EMP, EPBC 2013/6881 and the Longwall 418 THPSS MMP.
The LW418 THPSSMMP was prepared prior to the issue of SSD_5594 and therefore does not reproduce the Table 1 performance measures. The document applies the same methodology as the THPSSMMP for LWs 415-417 and specifically addresses EPBC 2013/6881 approval conditions 6 and 7. Sections 6 and 7 of the LW418 THPSSMMP identifies trigger levels sufficient to detect potential impacts of subsidence on THPSS ECs and details flora, groundwater, surface water and subsidence parameters to be monitored to detect changes.

<u>LW419</u>

Subsidence Impact Performance Measures, per table 1, are listed in the LW419 Extraction Plan and component management plans. Monitoring of performance indicators to address the performance measures listed in Table are described in the following management plans and monitoring programs:
• Water Resources – LW419 water Management Plan (which includes surface water and groundwater monitoring).
• Swamps - LW 419 Biodiversity Management Plan (which includes flora, fauna, aquatic ecology and EPBC Approval CoA 12 (a) to (d) monitoring) and Swamp Monitoring Program.
• Land - LW 419 Land Management Plan and Subsidence Monitoring Program.
• Biodiversity - LW 419 Biodiversity Management Plan (which includes flora, fauna, aquatic ecology and EPBC Approval CoA 12 (a) to (d) monitoring).
• Heritage – LW 419 Heritage Management Plan (which includes aboriginal cultural heritage monitoring).
• Mine workings – LW 419 Subsidence Monitoring Program.</td>
</tr>
</table>

		□ *negligible* change to the structural integrity of the bedrock base or any controlling rockbar/s of the swamp.		.
	Hanging swamps	Negligible environmental consequences including: □ *negligible* change in the size of the swamp; □ *negligible* change in the ecosystem functionality of the swamp; and □ *negligible* change to the composition or distribution of species within the swamp.		The LW 419 Subsidence Monitoring Program and LW 419 Swamp Monitoring Program included performance measures, performance indicators and reporting requirements. The LW419 Extraction Plan and component management plans were prepared and approved on the 11th of July 2016. <u>Compliance</u> To date, monitoring undertaken by Springvale Coal has not determined there to be a greater than negligible impact against the performance criteria listed in Table 1 of the Development Consent. Monitoring is being undertaken in accordance with the relevant Swamp Monitoring Programmes with reporting of trigger notifications as required. While triggers have been detected under the LW418 THPSS MMP and LW419 Extraction Plan TARPs, the triggers do not necessarily mean an impact has occurred to the swamp, but that investigation should be undertaken into the trigger causation.
	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 (except sites 45-1-0002, 45-1-005 and 45-1-0065)	Negligible subsidence impact or environmental consequences.		
	Aboriginal heritage sites 45-1-0002, 45-1-005 and 45-1-0065	No greater subsidence impact or environmental consequences than predicted in the EIS.		
	Historic heritage sites	Negligible subsidence impact or		

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<tr><td></td><td>environmental consequences.</td></tr>
<tr><td>Mine workings</td><td></td></tr>
<tr><td>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.</td><td>To remain long-term stable and non-subsiding</td></tr>
<tr><td>Second workings</td><td>To be carried out only in accordance with an approved Extraction Plan</td></tr>
</table>
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.

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<td>Schedule 4

Condition 15</td>
<td>Biodiversity Offset Strategy

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;</td>
<td>Compliant</td>
<td>The Western Region Biodiversity Offset Package was revised and submitted to the NSW Department of Planning and Environment on the 23rd of December 2016.

Condition points a and b (Bore 8 and Springvale surface infrastructure native vegetation clearing) are accounted for in the WRBOP (Appendix 1 – Impact Assessment).

Section 1.3.1 of the WRBOP outlines how Centennial has developed the Offsets Package in respect to the NSW Biodiversity Policy for Major Projects, or its current version.</td>
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	to the satisfaction of OEH and the Secretary. These offsets must be developed in accordance with the *NSW Biodiversity Offset Policy for Major Projects*, or its current version.		
Schedule 4 Condition 16	**Long Term Security of Offset** 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.	Compliant	Arrangements proposed for the long term security of offsets is detailed within the Western Region Biodiversity Offset Package (submitted to DPE on the 23rd of December 2016). Due to additional information requested by the NSW Office of Environment and Heritage, the NSW Department of Planning have not approved the Western Region Biodiversity Offset Package to-date. As such, the proposed arrangements to provide long term security have not been implemented to date. Centennial Coal has entered into a Voluntary Undertaking with the NSW Department of Planning and Environment to submit the registration applications to on title by 31 January 2018 and commence implementation of the land management actions by 1 April 2018.
Schedule 4 Condition 18	**Biodiversity Management Plan** 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 OEH, Forestry Corporation of NSW and DoE 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:	Compliant	The Springvale Biodiversity Management Plan (appended to the Western Region Biodiversity Management Plan (WRBMP) maps the requirements of CoA S4-18 and relevant EPBC 2013/6881 Conditions. a. The Biodiversity Management Plan was provided for consultation to OEH, FCNSW and DoE prior to submission to the Secretary in December 2016. Appendix D of the WRBMP outlines consultation undertaken. b. The baseline data for existing remnant vegetation and habitat on site is described n the Baseline Data section of the Springvale Biodiversity Management Plan (appended to the WRBMP). c. The measures to be implemented to manage remnant vegetation and habitat on site are included in Management Measures Section of the Springvale Biodiversity Management Plan. d. The requirement for a TARP for upland swamp and EECs with a particular focus on subsidence-related changes to surface and ground water drainage are related to CoA S3-10 Extraction Plans. A Swamp Monitoring Program and Extraction Plan Biodiversity Management Plan are required for each Extraction Plan area and detail the baseline, monitoring and adaptive management of the values for each area. e. Measures to be implemented are described in the Management

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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.
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Section of the Springvale Biodiversity Management Plan. The measures are consistent with the Western Region Biodiversity Management Plan.

f. The Management Section of this Springvale Biodiversity Management Plan describes the monitoring program to demonstrate effectiveness of management measures. The requirements for reporting are also included in the Western Region Biodiversity Management Plan Section 5.4 Reporting.

g. The identification of responsible persons for monitoring, reviewing and implementing the Western Region Biodiversity Management Plan are included in Section 5.1 Roles and Responsibilities.
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<td>Schedule 4

Condition 30</td>
<td>
Rehabilitation Objectives

The Applicant shall rehabilitate the site to the satisfaction of DRE . 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
<table>
<tr><th>Feature</th><th>Objective</th></tr>
<tr><td>Mine site (as a whole)</td><td>□ Safe, stable & non-polluting</td></tr>
<tr><td>Rehabilitation materials</td><td>□ Materials from areas disturbed under this consent (including topsoils, substrates and seeds) are to be recovered, managed and used as rehabilitation resources</td></tr>
</table>
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<td>Compliant</td>
<td>
Springvale has an approved MOP covering the period November 2015 – October 2022. During the reporting period the MOP was updated to reflect proposed infrastructure projects. DRE approved the MOP on the 1st of December 2016.

The MOP includes the rehabilitation objectives listed in SSD-5594 Schedule 4, Condition 30, Table 7 (MOP Tables 3 and 14).

The MOP also identifies performance indicators and completion criteria for rehabilitation phases in Tables 18 – 22.

No major rehabilitation has been undertaken during the reporting period and as such, Springvale has not sought any relinquishment of land from DRE against the rehabilitation objectives listed in Table 7.

The condition has been assessed as compliant based on the MOP identifying the rehabilitation objectives consistent with Table 7.
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	Surface infrastructure	□ To be decommissioned and removed unless DRE 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	□ To be decommissioned and made safe and stable □ Retain habitat for threatened species (eg bats), where practicable		
	Revegetated final landforms	□ 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	□ 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	□ Hydraulically and geomorphologically stable, with aquatic ecology and riparian vegetation that is the same, or better than prior to grant of this		

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<table>
<tr><td></td><td>consent</td></tr>
<tr><td>Cliffs, minor cliffs and steep slopes</td><td> No additional risk to public safety compared to prior to mining</td></tr>
<tr><td>Other land affected by the development</td><td> Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native plant species (unless DRE agrees otherwise)</td></tr>
<tr><td>Built features damaged by mining operations</td><td> Repair to pre-mining condition or equivalent unless the:
- owner agrees otherwise; or
- damage is fully restored, repaired or compensated for under the Mine Subsidence Compensation Act 1961</td></tr>
<tr><td>Community</td><td> Ensure public safety
 Minimise the adverse socio-economic effects associated with mine closure</td></tr>
</table>
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.
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<tr>
<td>Schedule 4

Condition 31</td>
<td>Progressive Rehabilitation

The Applicant shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible</td>
<td>Compliant</td>
<td>The Springvale MOP identifies that no major rehabilitation of the pit top and Newnes Plateau infrastructure is anticipated until site closure and that Springvale Coal has adopted a progressive approach to rehabilitation to reduce and mitigate potential environmental impacts. Consultation has been undertaken</td>
</tr>
</table>

	measures must be taken to minimise the total area exposed for dust generation at any time.		with FCNSW (Newnes Plateau State Forest landholder) regarding rehabilitation objectives and progress. MCW Environmental made the following notes in there assessment of compliance: *Exploration sites visited during the site inspection were observed to be rehabilitated and the footprint of the Borehole 8 dewatering compound had been reduced by rehabilitation. Consultation with FCNSW undertaken as part of this IEA identified that FCNSW had undertaken regular inspections of access tracks and rehabilitation sites in the Newnes State Forest (including as recently as the last week in June 2016) and that there were currently no outstanding issues.* No major rehabilitation has been undertaken during the reporting period. Annual Rehabilitation Monitoring was undertaken during the reporting period and reported on in the 2016 Annual Review. Findings from the report indicated improvement opportunities in revegetation practices; however no issues regarding exposed area causing dust generation. This condition has been assessed as compliant based on progressive rehabilitation completed and no outstanding landholder issues with disturbance areas.
Schedule 4 Condition 32	**Rehabilitation Management Plan** The Applicant shall prepare and implement a Rehabilitation Management Plan to the satisfaction of DRE. This plan must: (a) be prepared in consultation with the Department, DPI-Water, OEH, Council, WaterNSW and the CCC; (b) be submitted to DRE for approval within 6 months of the date of this consent, unless DRE agrees otherwise; (c) be prepared in accordance with any relevant DRE 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	Compliant	The Springvale MOP was prepared to address both the MOP requirements within Mining Leases and to meet the SSD-5594 CoA S4-32 for a Rehabilitation Management Plan. The 2015 -2022 MOP met the requirements of SSD-5594 CoA S4-32 as follows: (a) Following approval of the MOP by DRE, the MOP was submitted to DPE, DPI-Water, OEH, LCC and the CCC on 18/01/2016 for consultation. Feedback received from stakeholders was considered prior to submission to the Secretary DRE for approval, satisfying the requirements of CoA S4-32(a); (b) The MOP had been submitted to the DRE for approval before 21/03/2016 (submitted 10/11/2015); (c) The MOP references (Section 1) and was prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines (DRE 2013); (d) The MOP included detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, 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.*		triggering remedial action (if necessary) (Tables 18-22); (e) The MOP described the measures 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 (sections, 4, 6 and 7); (f) The MOP included interim rehabilitation where necessary to minimise the area exposed for dust generation (section 2.2.8); (g) The MOP includes the rehabilitation objectives listed in SSD-5594 CoA S4-30 Table 7 (MP Tables 3 and 14). The MOP also identifies performance indicators and completion criteria for rehabilitation phases in Tables 18 – 22. The MOP (section 8.1) states that "*A dedicated monitoring system will be established in spring 2015 to assess effectiveness of implementation of the rehabilitation measures as well as to identify the need for corrective action as soon as required*" and that monitoring results will be reported in the AR. Annual Rehabilitation Monitoring was undertaken in 2015 and 2016 in accordance with Section 8.1 and was reported in the Annual Review. (h) Sections 3.2 and 3.3 of the MOP identifies the Management Plans required/prepared under SSD_5594 and how environmental issues are managed through the relevant Management Plans. Updates to the Management Plans and the MOP are completed to ensure consistency and continuity between the documents, allowing for integration of objectives outlined in the SSD_5594. The MOP seeks to reflect current practices carried out under Centennial Springvale Management Plans and is updated as necessary to capture any changes.
Schedule 5 Condition 1	**NOTIFICATION OF LANOWNERS** 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	Compliant	During the reporting period point (a) of CoA 5-1 was triggered once in relation to a noise exceedance recorded at one receptor (S2) during quarter 1 attended noise monitoring. The result was reported to Springvale on the 12/04/2016 and notification was provided to the landholder on the 13/04/2016. Notification was also provided to EPA and DPE on the 12/04/2016. Quarter 2 results were provided to the landholder on the 20/07/2016, outlining that compliance had been achieved as part of quarter 2 attended noise monitoring. No air quality monitoring results were recorded during the reporting period. Point (b) of CoA 5-1 was therefore not triggered during the reporting period.

	time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).		
Schedule 5 Condition 2	**INDEPENDENT REVIEW** 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. (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.	Not Applicable	As no request for review received, this condition has been assessed as not applicable.

Table 6. EPBC Condition 2 – NSW Development Consent SSD_5594 Conditions

Condition Number / Reference	Condition	Project Compliance Status	Evidence / Comments
Schedule 3 Condition 1	Refer Table 5 for condition.	Compliant	Refer Table 5 for condition compliance assessment.
Schedule 3 Condition 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	Not Applicable	Per the Table 5 condition compliance assessment for CoA S3-1 Springvale has prepared and implemented the LW 411-418 LW EMP, LW418 THPSS MMP and LW419 Extraction Plan to monitor and manage risks associated with LW418 and LW419. To date, monitoring undertaken by Springvale Coal has not determined there to

	exceedance of these 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 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.		be a greater than negligible impact against the performance criteria listed in Table 1 of the Development Consent. As an exceedance of the performance criteria has not been identified, this condition has been as assessed as not applicable.
Schedule 3 Condition 3	**Offsets** If the Applicant exceeds the performance measures in Table 1 and the Secretary determines that: (a) it is not reasonable or feasible to remediate the subsidence impact or environmental consequence; or (b) remediation measures implemented by the Applicant have failed to satisfactorily remediate the subsidence impact or environmental consequence; □ actions outlined in threatened species recovery programs; □ actions that contribute to threat abatement programs; □ biodiversity research and survey programs; and/or □ rehabilitating degraded habitat. 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 any NSW Offset Fund established by OEH, or funding or implementation of supplementary measures such as: *Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.*	Not Applicable	To date, monitoring undertaken by Springvale Coal has not determined there to be a greater than negligible impact against the performance criteria listed in Table 1 of the Development Consent. Monitoring is being undertaken in accordance with the relevant Swamp Monitoring Programmes with reporting of trigger notifications as required. Springvale Coal is working with DPE to develop a suitable Swamp Offset Package, should a swamp offset be required. Currently, DPE hold $6 million in security bonds should monitoring identify a greater than negligible impact and no swamp offset strategy be in place. This condition has therefore been assessed as not applicable.
Schedule 3	**Swamp Offset Bond for First Swamps Undermined**	Compliant	The LW 419 Extraction Plan identified that SSD 5594 CoA S3-4 has been triggered and as such a $2 Million swamp offset security bond was lodged with

Condition 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 OEH, following consideration of: (a) the estimated liability using the Framework for Biodiversity Assessment in accordance with the *NSW Biodiversity Offsets Policy for Major Projects*; and (b) 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 OEH 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.*		DPE for these swamps on 8 October 2015. Points a and b of this condition have not yet been triggered as mining under this consent was within 400m of Sunnyside East and Carne West Swamps during the reporting period, i.e. 12 months has not elapsed. As noted above, monitoring undertaken in accordance with the relevant approved swamp monitoring programs, has not identified a greater than negligible impact to the performance criteria for these swamps.
Schedule 3	**Swamp Offsets for all other Shrub Swamps**	Compliant	Springvale has calculated the maximum offset liability for swamps as part of

Condition 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 OEH, following consideration of: (a) the estimated liability using the Framework for Biodiversity Assessment in accordance with the *NSW Biodiversity Offsets Policy for Major Projects*; and (b) 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 OEH as part of a Biobanking Agreement or transfer to conservation reserve estate, can be used as part of the Swamp Offset.*		each Extraction Plan submitted to DPE. Springvale is continuing to work with DPE on a Swamp Offset Package should offsets for swamps be required. This Swamp Offset package is part of ongoing discussions with various government agencies. In the meantime, while a suitable Swamp Offset Package is being developed and agreed to, Springvale Coal has increased the security bond held with the DPE from $2 Million to $6 Million. The Draft Upland Swamp Maximum Offset Liability Framework Western Region has been developed to address the requirements of SSD-5594 CoA S3-5 by describing how CC propose to: • Define a negligible environmental consequence in the context of swamp communities; • Establish the offset liability; and • Monitor for mining induced impacts for which an offset would be required. The Framework includes monitoring performance indicators and trigger levels for both shrub swamps (MU50) and hanging swamps (MU51); and three scenarios to calculate the offset liability using the BioBanking Assessment Methodology 2014 (BBAM 2014); this being the methodology that underpins the Framework for Biodiversity Assessment (OEH, 2014).
Schedule 3 Condition 6	As part of each Extraction Plan for mining within 400 metres of the swamps subject to condition 5 above, the Applicant must: (a) 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	Compliant	Springvale Coal has prepared the Draft Upland Swamp Maximum Offset Liability Framework Western Region to address the requirements of SSD-5594 CoA S3-5 and calculation of offset liability. Springvale has calculated the maximum offset liability for swamps as part of each Extraction Plan submitted to DPE. Springvale is continuing to work with DPE on a Swamp Offset Package should offsets for swamps be required. This

	(b) demonstrate that it has suitable arrangements in place to deal with these liabilities quickly in the event that offsets are required.		Swamp Offset package is part of ongoing discussions with various government agencies. In the meantime, while a suitable Swamp Offset Package is being developed and agreed to, Springvale Coal has increased the security bond held with the DPE from $2 Million to $6 Million.
Schedule 3 Condition 10	**Extraction Plan** 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: (a) be prepared in consultation with DRE and by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary; (b) be approved by the Secretary before the Applicant carries out any of the second workings covered by the plan; (c) include detailed plans of existing and proposed first and second workings and overlying surface features, including any applicable adaptive management measures; (d) 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 DRE; (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; (f) provide revised predictions for potential environmental consequences on affected shrub swamps and the social and economic costs of avoiding these consequences; (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 consequences to meet the rehabilitation objectives in condition 30 of Schedule 4; (h) include a: (i) *Subsidence Monitoring Program* which has been prepared in consultation with DRE to: □ describe the ongoing conventional and non-conventional subsidence monitoring program: □ provide data to assist with the management of risks associated with conventional and nonconventional 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 ensuring environmental	Compliant	The LW419 Extraction Plan was the first prepared under this consent and is the only Extraction Plan prepared during the reporting period. (a)&(b) The LW419 Extraction Plan was prepared in accordance with the DPE and DRE draft Guidelines for the Preparation of Extraction Plans, and provided to the DPE in March 2016. The Extraction Plan was prepared by suitably qualified and experienced persons whose appointments were endorsed by the DPE. The draft LW 419 Extraction Plan and component management plans were prepared and provided to the DPE and IMP for comment. The IMP provided preliminary comments on the draft LW 419 Extraction Plans to the DPE on 13/04/2016. A letter report (dated 09/06/2016) from the IMP states that Centennial Coal provided the IMP with a revised LW 419 Extraction Plan for review in May 2016 and that the IMP recommended that LW 419 be allowed to commence subject to recommendations contained within the advice. (c)-(g) The LW419 Extraction Plan Main Document acknowledges these conditions as requirements of SSD_5594 CoA S3-10 for the Extraction Plan. These conditions have been met through Section 3 of the Main Document. (h) The LW 419 Extraction Plan and the following component management plans referenced in SSD-5594 CoA S3-10 were approved by DPE on the 11th of July 2016: (i) LW 419 Subsidence Monitoring Program (ii) LW 419 Built Feature Management Plan (iii) LW 419 Water Management Plan (iv) LW 419 Biodiversity Management Plan (v) LW 419 Swamp Monitoring Program (vi) LW 419 Land Management Plan (vii) LW 419 Heritage Management Plan (viii) LW 419 Public Safety Management Plan The LW419 Extraction Plan and component plans map where the requirements of SSD-5594 CoA S3-10 are addressed within each document and include (ix) TARPs addressing features in Tables 1 and 2 and (x) contingency plans.

	consequences; and □ inform the contingency plan and adaptive management process in paragraphs (ix) and (x) below; (ii) *Built Features Management Plan* which has been prepared in consultation with DRE, 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; (iii) *Water Management Plan* which has been prepared in consultation with DPI-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; □ 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 OEH 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 (*Eulamprusleuraensis*); (v) *Swamp Monitoring Program* which has been prepared in consultation with OEH, DPI-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, OEH 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 OEH 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 OEH 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 DRE and OEH, which ensures public safety and manages access on the site; (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.*		
Schedule 3 Condition 11	**Independent Monitoring Panel** 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.	Compliant	The IMP has been established and consists of Dr Wendy Timms (water/groundwater), Dr Barbara Mactaggart (swamp ecology), and Emeritus Professor Jim Galvin (subsidence). MCW Environmental provided the following comments in there assessment of compliance: *Evidence was sighted of correspondence between the IMP and the DPE regarding review of the LW 419 Extraction Plan and component management plans: Water Management Plan, Biodiversity Management Plan and Swamp Monitoring Program. The correspondence included references to adequacy of the plans and recommendations for changes.*

Schedule 5 Condition 1	Refer Table 5 for condition.	Compliant	Refer Table 5 for condition compliance assessment.
Schedule 5 Condition 2	Refer Table 5 for condition.	Not Applicable	Refer Table 5 for condition compliance assessment.

Table 7. EPBC 2013/6881 Condition 3 – NSW Development Consent SSD_5594 Conditions

Condition Number / Reference	Condition	Project Compliance Status	Evidence / Comments
Schedule 3 Condition 1	Refer Table 5 for condition.		Refer Table 5 for condition compliance assessment.
Schedule 3 Condition 10 (h)(iii)	**Extraction Plan** 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: (h) include a: iii. *Water Management Plan* which has been prepared in consultation with DPI-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; • surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;		The LW419 Extraction Plan was the first prepared under this consent and is the only Extraction Plan prepared during the reporting period. The LW419 Water Management Plan maps where the requirements of SSD-5594 CoA S3-10(h)(iii) are addressed (Section 4.1- Table 1). The LW419 Water Management Plan was approved as part of the LW419 Extraction Plan on the 11th of July 2016.

	• 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;		

Schedule 4 Condition 9	**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.*	Compliant	The Springvale Water Management Plan (Table 3-4) includes a summary of water inputs and outputs of water management system for the existing conditions (2013) and for proposed conditions (2022). Table 3-4 identifies that Springvale Coal has sufficient water for both of these stages.
Schedule 4 Condition 10	**Water Pollution** Unless an EPL authorises otherwise, the Applicant shall comply with section 120 of the POEO Act.	Compliant	This condition is also included in the Springvale EPL 3607 as condition L1.1. EPL 3607 includes management, monitoring and reporting requirements for water pollution and siltation at Springvale operations.

<table>
<tr><td></td><td></td><td></td><td>Non-compliances with EPL 3607 conditions during the reporting period were reported in the 2016 Annual Return (EPL), Annual Review (SSD_5594), in monthly environmental monitoring reports available on the Springvale Centennial and are available on the EPA Public Register website.

All non-compliances during the reporting period were reported in accordance with relevant approvals.</td></tr>
<tr><td>Schedule 4

Condition 12</td><td>Water Management Performance Measures

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

<table><tr><th>Feature</th><th>Performance Measure</th></tr><tr><td>Water Management – General</td><td>• Minimise the use of clean water on site
• Minimise the use of water from external sources</td></tr><tr><td>Construction and operation of infrastructure</td><td>• Design, install and maintain erosion and sediment controls generally in accordance with the series Managing Urban Stormwater: Soils and Construction including Volume 1, Volume 2A – Installation of Services and Volume 2C – Unsealed Roads
• Design, install and maintain the infrastructure within 40 m of watercourses generally in accordance with the Guidelines for Controlled Activities on Waterfront Land (DPI 2012), or its latest version
• Design, install and maintain creek crossings generally in accordance with the Policy and Guidelines for Fish Friendly Waterway Crossings (NSW Fisheries,</td></tr></table></td><td>Compliant</td><td>Springvale has prepared a Western Region Water Management Plan and Springvale Water Management Plan which were provided to the DPE, EPA, DPI-Water and WaterNSW for review to meet SSD-5594 S4-14.

The Management Plans seek to address the performance measures from SSD-5594 CoA S4-12 Table 6 and includes management controls to enable the performance measures to be met.

To date, neither Management Plan has been approved. Consultation with stakeholders will continue to be undertaken to ensure the Management Plans suitably comply to the performance measures stated in this condition.</td></tr>
</table>

		2003) and *Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings* (NSW Fisheries 2003), or their latest versions		
	Clean water diversion	• 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	• Design, install and maintain the new dams generally in accordance with the series *Managing Urban Stormwater: Soils and Construction – Volume 1* and *Volume 2E – Mines and Quarries*		
	Mine water storages	• 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 x 10-9 m/s		
	Mine water discharges	Discharge all groundwater inflow mine water (except from the Renoun workings) through the Springvale Delta Water Transfer Scheme		

		Meet limits for salinity of 700 (50th percentile), 900 (90th percentile) and 1,000 (100th percentile) µS/cm EC by 30 June 2017 Meet a limit for salinity of 500 (90th percentile) µS/cm EC by 30 June 2019 Eliminate acute and chronic toxicity from LDP009 discharges to aquatic species by 30 June 2017, with acute toxicity defined as >10% effect relative to the control group and chronic toxicity defined as >20% effect relative to the control group		
	Aquatic and riparian ecosystems	Maintain or improve baseline channel stability Develop site-specific water quality objectives in accordance with the ANZECC Guidelines and *Using the ANZECC Guidelines and Water Quality Objectives in NSW* procedures (DECC 2006), or its latest version		
	Chemical and petroleum storage	Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards		
Schedule 4 Condition 14	**Water Management Plan** 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 DPI-Water, WaterNSW, OEH 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		Compliant	Springvale has prepared a Western Region Water Management Plan and Springvale Water Management Plan which were provided to the DPE, EPA, DPI-Water and WaterNSW for review to meet SSD-5594 S4-14. The Management Plans seek to address the performance measures from SSD-5594 CoA S4-12 Table 6 and includes management controls to enable the performance measures to be met. To date, neither Management Plan has been approved. Consultation with stakeholders will continue to be undertaken to ensure the Management Plans

	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;		suitably comply to the performance measures stated in this condition.

	- 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 DPI-Water's guideline entitled *Groundwater Monitoring and Modelling Plans – Introduction for prospective mining and petroleum activities*, and includes: □ 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.		
Schedule 5 Condition 1	Refer Table 5 for condition.	Compliant	Refer Table 5 for condition compliance assessment.

Schedule 5 Condition 2	Refer Table 5 for condition.	Not Applicable	Refer Table 5 for condition compliance assessment.

4. IMPLEMENTATION OF MANAGEMENT DOCUMENTS

There are four documents which have been approved under EPBC 2013/6881. These are listed below. Potential non-compliances reported under these management documents and EPBC2013/6881 are presented in Section 4 of this report.

1. The Temperate Highland Peat Swamps on Sandstone Monitoring and Management Plan for LW 418;
2. The Blue Mountains Water Skink Research and Management Plan;
3. The Swamp Monitoring Program for Longwall 419; and
4. The Biodiversity Management Plan for Longwall 419.

Monitoring undertaken in accordance with the Monitoring Programs and an analysis of results are presented in the Subsidence Management Status Reports (prepared four-monthly) and the Annual Review (submitted by the 31st of March each year). The Annual Review also represents the first *Six Monthly Environmental Monitoring Report* for the longwall 419 Extraction Plan.

The inaugural monitoring event for the Blue Mountains Water Skink was conducted in 2015 – 2016. Replicated surveys were conducted over three monitoring rounds and across ten sites to establish the foundations for a successful multi-year monitoring program by:

- Determining Blue Mountains Water Skink presence at each candidate swamp;
- Refining monitoring methodologies and capture-mark-recapture techniques to improve the accuracy of population estimate; and
- Initiating the development of a baseline dataset for impact and control sites thus define the natural pre-impact variation within Blue Mountains Water Skins populations.

It is expected that two to three years of monitoring will be required to provided a baseline for future analyses. A draft report has been provided to Springvale for the 2015 – 2016 sampling program. The draft report indicated that Blue Mountains Water Skink was found within nine of thirteen Temperate Highland Peat Swamps on Sandstone sampled. Results indicated varying population sizes, although the reliability of these population estimates is intrinsically linked by the limit dataset on hand. A program review was completed as part of the Report and consultation will be conducted with the Office of Environment and Heritage and Department of Environment as required.

5. TRIGGER NOTIFICATIONS

The following notifications were provided to the Department of Environment during the reporting period. In accordance with relevant approval requirements, Centennial notified the Department of Environment and has undertaken investigations into the exceedances. The following sections summarise the actions undertaken in relation to each trigger. Additional detail is included in the reports provided to the Department.

5.1. GW1

Initial Notification

Notification of an exceedance at groundwater monitoring location GW1 was received by Springvale from RPS on the 2nd of November 2016. Notification of the trigger was then provided to the Department of Environment and the Department of Planning and Environment on the 3rd of November 2016, as required under the response protocol in the Swamp Monitoring Program for longwall 419 and EPBC 2013/6881 Condition 17.

Investigative Report

A Trigger Investigation Report was submitted to both Departments of the 23rd of December 2016. The Report outlined a series of checks to discern non-mining impacts from mining related impacts and a proposed action plan.

Response Strategy

The following actions are currently being undertaken by Centennial:

- The following actions will be reviewed to form part of a further investigation program to determine potential causes in the change in groundwater level behaviour observed in GW1:
    - Centennial to continue its investigations into subsidence effects to groundwater systems to determine if there is a relationship between mine subsidence and the change in groundwater level behaviour observed in GW1.
    - Review the results obtained from the Stage 1 Hydrological Modelling of Shrub Swamps recently completed by Jacobs.
    - Complete a review of adjacent aquifer piezometers to determine whether there has been a corresponding decline in regional groundwater beneath the base of GW1.
- Continue to monitor conditions for a 6 month period and:
    - Undertake any necessary investigations.
    - Review data from all monitoring programs.

Investigation Outcomes

The swamp piezometer GW1, installed within the peat/soil profile of Gang Gang Swamp South West, exceeded the short term groundwater trigger level following monitoring conducted in October 2016.

While swamps cannot be classified rigidly based on interpretation of the dominant water source, groundwater specialists acknowledge that there may be a transition from rainfall to groundwater dependency along a swamp depending on prevailing climatic conditions. The observed groundwater response to rainfall events is therefore important in the interpretation of hydrographs. Whether or not the change in groundwater level behaviour in GW1 is solely due to dry climatic conditions or is compounded by far-field subsidence interactions is not clear. Data indicates, however, that the observed change in behaviour is not due to conventional subsidence prior to mining within 600m of GW1. Rainfall has been shown to have significant effect on water levels within all impact and reference swamps identified under the SMP. Baseline water levels used to establish triggers were set using historical data where the Cumulative Rainfall Deviation (CRD) was positive (indicating above average rainfall).

From March 2013 to June 2016, the CRD was in decline, indicating a period of below average rainfall. Both impact and reference swamps have shown a response in groundwater levels to this variation.

The triggers in the SMP are based on statistically derived 95th percentile values for standing water levels. The standing water levels at a number of reference swamp piezometers were also below the 95th percentile values at the time of the GW1 trigger activation.

The regional groundwater level recorded in SPR1602 and SPR1603 has dropped below the Gang Gang Swamp South West basement. This is consistent with the decline in water levels in both GW1 and GW2. SPR1602 and SPR1603 were only installed three months ago, and during a period of above average rainfall. The recorded decline may therefore only be temporary and should continue to be observed.

Although the trigger has been activated, it is necessary to view the trigger in the context of regional monitoring at SMP reference sites. The results of the preliminary investigation indicate that the current reduction in standing water level at GW1 could be associated with the rainfall deficit observed since March 2013, or the effects of mining, with the potential for this climatic decline being compounded, or enhanced by far-field subsidence interactions with geological lineaments.

5.2. SPR1104 and SPR1107

Initial Notification

Notification of an exceedance of water level trigger thresholds (short-term) at SPR1104 and SPR1107 was received by Centennial from RPS on the 22nd of December 2016, following scheduled monitoring and subsequent data verification. Notification of the triggers was provided to the Department of Environment and the Department of Planning and Environment on the 22nd of December 2016, as required under Springvale approvals.

Investigative Report

A Trigger Investigation Report was submitted to both Departments on the 16th of February 2017. The Report outlined a series of checks to discern non-mining impacts from mining related impacts and a proposed action plan.

Response Strategy

The following actions are currently being undertaken by Centennial:

- Centennial will continue investigations into subsidence affects to groundwater systems to determine if there is a relationship between mine subsidence and the change in groundwater level behaviour observed at SPR1104 and SPR1107.
- Continue to monitor conditions for a 6 month period and:
    - Undertake any necessary investigations if conditions worsen.
    - Review data from all monitoring programs.

Investigation Outcomes

Both SPR1104 and SPR1107 exceeded the 5th percentile pre-mining thresholds during the pre-mining period. This caused the immediate trigger of SPR1104 and SPR1107 when the longwall approached within the 600m trigger investigation area. With the same trigger criteria applied, reference piezometers SPR1108, SPR1111, and SPR1113 were also found to trigger during the pre-mining period, indicating a regional climatic influence on groundwater levels. This is supported by a rainfall deficit from March 2013 which is observable through CRD.

SPR1104 shows a sharp declining trend towards the end of September 2016 that does not correlate with reference piezometers or climatic conditions. The hydrograph indicates that groundwater level in the vicinity of the piezometer has re-equilibrated with reduced groundwater levels above the longwall goaf which have been impacted by subsidence, likely fracture dilation and bed separation resulting in increased storage capacity and a corresponding reduction in groundwater levels. This is further supported by stabilisation towards the end of the data set. There is no evidence of continued decline that might be associated with vertical fracturing or deep drainage at this stage.

Post-mining, the groundwater level at SPR1107 has continued at a similar gradient to reference piezometers. Continued monitoring may be expected to show a similar response with the passing of Longwall 419, as observed at SPR1104.

5.3. SSE1 and WC01, WC03 & WC04

Initial Notification

Notification of an exceedance of flora performance indicator triggers at monitoring locations SSE1 (Sunnyside East Swamp) and WC03 & WC04 (Carne West Swamp) was received by Centennial from RPS on the 8th of November 2016. Notification of the triggers was provided to the Department of Environment on the 10th of November 2016, as required under the response protocol in the Longwall 415 – 417 THPSSMP and Longwall 418 THPSS MMP TARP.

Investigative Report

A Trigger Investigation Report was submitted to the Department on the 23rd of December 2016. The Report outlined a series of checks to discern non-mining impacts from mining related impacts and a proposed action plan.

Response Strategy

The following actions were recommended for consideration and are currently being undertaken/investigated by Centennial:

SSE1

- Continue to perform monitoring activities in accordance with the THPSSMP for Longwalls 415 – 417.
- Repeat investigations performed in this analysis to evaluate eucalypt recruitment at a swamp scale.
- Instigate a swamp rehabilitation program centering on the removal of eucalypt regrowth throughout the central and lower parts of the swamp.*

* Note: this recommendation may necessitate application for a licence under Section 91 of the *Threatened Species Conservation Act* 1995. Consultation is required with the Office of Environment and Heritage to discern this requirement.

WC01

- Continue to perform monitoring activities in accordance with the THPSS MMP for LW418.
- Review recent data collected from monitoring methods applied in accordance with the Swamp Monitoring Program for LW419 (i.e. Brownstein et al 2014).
- Consider options for reducing the amount of entry into Carne West for monitoring purposes and/ or consider alternate access options (e.g. installation of raised boardwalk to piezometer sites).
- Consider construction of a barrier along the swamp margin at the vehicle track elbow to disperse fauna movements thus potentially reduce trampling impacts.

WC03 & WC04

- Continue to perform monitoring activities in accordance with the THPSS MMP for LW418.
- Review recent data collected from monitoring methods applied in accordance with the Swamp Monitoring Program for LW419 (i.e. Brownstein et al 2014).

Investigative Outcomes

SSE1

The drying effect of the incision feature (an aged and previously documented erosion feature within Sunnyside East Swamp that pre-dates mining) and the recent prolonged period of dry weather provide an alternative hypothesis for the emergence of eucalypt recruitment. Contrary to other monitored swamps, it is also noteworthy to mention the extensive eucalypt canopy overhang within Sunnyside East Swamp, thus its increased exposure to eucalypt seed accumulation.

Unseasonably dry warm conditions were also prevalent in the preceding months adding further pressure on water availability in the upper peat layers. The combined influence of the incision feature and weather conditions could explain the emergence of eucalypt regeneration within the swamp.

Other measures monitored at SSE01 remain within the expected range and have not resulted in a trigger event. While inconclusive, it is reasonable to speculate that the eucalypt trigger is not necessarily related to mining, rather may be a function of weather and opportunity (i.e. a considerable proportion of Sunnyside East Swamp has overhanging eucalypt cover).

WC01, WC03 & WC04

Coral Fern is a characteristic species in THPSS of the Newnes Plateau area. At Carne West this species forms dense aggregations on the swamp margins decreasing to dense patches in the central parts. Being a fern, this species generally develops a shallow root system in the upper parts of the peat profile and is reliant on constant high soil moisture for growth and vigour. These two factors make this species particularly susceptible to water loss and/ or fluctuation.

According to Hose et al. (2014), Coral Fern is characteristic of the wetter parts of the 'Budderoo' THPSS where it associates with sedge (i.e. Gymnoschoenus sphaerocephalus) and tussock (Xyris operculata) species. Zonation of this nature in Carne West is not exactly the same as described by Hose et al. (2014), however is broadly similar with Xyris ustulata substituting X. operculata and the sedge Lepidosperma limicola substituting G. sphaerocephalus on the swamp margins.

Centennial (2016) provides insight into the recent hydrological regime of Carne West indicating a shift in 2014 from a groundwater to rainfall dependent swamp. Ongoing groundwater investigations are currently being performed to determine if this shift in water reliance is mining induced or is a delayed response to longer term climatic influences.

In consideration of Hose et al. (2014) and Centennial (2016), the exclusion of mining as a possible cause for the decline in Coral Fern condition is a feasible conclusion given that recent dry warm weather conditions may represent a plausible reason for the observed change. If Carne West is rainfall dependent then it is reasonable to assume that the swamp margins will experience the greatest water stress and do so earlier than the swamp axis. Other anthropogenic and natural influences may also have contributed to the sharp decline in Coral Fern condition. Therefore, without clarity on the reason for change in water dependency, it is premature to conclude if the change in Coral Fern condition is mining related or not.

Centennial Coal

Springvale