

Myuna Colliery Independent Environmental Audit Action Plan 26th June 2012 – 31st May 2016

Non compliances and indeterminate compliance status's in relation to conditions in Project Approval 10_0080 MOD1, EPL 366, ML1632 and MPL334 along with the required actions to achieve compliance are summarised in the following table. These were identified in an audit carried out by MCW Environmental Pty. Limited on 31st May 2016.

Item No.	Title Condition No.	Requirement	Auditors Comments	Compliance/ Recommendations	Action Required	Date Required
1	PA 10_0080 S3.13	<p>Noise Management Plan</p> <p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <ol style="list-style-type: none"> a) be submitted for approval to the Secretary within 7 months of the date of this approval; b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval; c) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and d) include a noise monitoring program that: <ul style="list-style-type: none"> • uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and <p>includes a protocol for determining exceedances of the relevant conditions of this approval.</p>	<p>The Noise Management Plan has been reviewed and updated twice since the previous IEA (URS, 2013). The latest review was conducted in May 2016 as part of the Annual Review process; however, the plan had not been submitted to DP&E for approval at the time of the site inspection.</p> <p>Centennial wrote to DP&E on 30 October 2015 (Centennial, 2015) notifying the Department of their intent to adopt a regional approach to the development of the following management plans: Air Quality and Greenhouse Gas Management Plan / Biodiversity Management Plan / Heritage Management Plan / Noise Management Plan / Water Management Plan. Centennial noted that the plans would take into consideration the conditions, commitments and operations of their regional operations including Myuna Colliery.</p> <p>Preparation</p> <ol style="list-style-type: none"> a) MCW Environmental sighted a letter from the DP&E to Myuna dated 30 July 2012 that approved the Noise Management Plan in accordance with Condition 13 of Schedule 3 of the Myuna Project Approval. Myuna submitted the Noise Management Plan on 27 July 2012. b) Sections 7.1.2 and 7.1.3 outlined the measures that are implemented to ensure compliance with the conditions of this approval and EPL 366. c) Section 5.1 outlined the protocols for managing noise exceedances and community noise complaints. d) <ul style="list-style-type: none"> – sections 7.1.2 and 7.1.3 described that attended and real-time noise monitoring would be 	<p>Preparation – Compliant (pending approval from the Secretary)</p> <p>Implementation – Non-compliant</p> <p>Administrative Non-compliance</p> <p>PA 10_0080-REC-02 - The Noise Management Plan should be updated to reflect the maintenance, operation, collection and use of modelling data of the on-site real-time noise logger.</p>	<p>Update the Noise Management Plan to reflect the maintenance, operation, collection and use of modelling data of the on-site real-time noise logger.</p>	30/6/2017

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			<p>conducted. The real-time noise logger was installed in January 2014.</p> <ul style="list-style-type: none"> - a protocol for determining exceedances was included as Appendix A". <p>Implementation</p> <ul style="list-style-type: none"> • Quarterly noise monitoring is conducted at the site. The auditors sighted quarterly and annual attended noise reports for 2013, 2014 and 2015 conducted by AECOM (Australia) Pty Ltd. • A permanent noise logger had been installed during the audit period in accordance with the NMP (Section 7.1.3, p.12); however, the NMP did not include any details concerning the collection of modelling data that may be used to facilitate compliance with EPL 366 noise criteria. Section 7.1.3 also noted that the site 'would' install a real-time noise logger. • The NMP did not include details concerning the maintenance (i.e. calibration frequency) and operation of the on-site noise logger. • The auditors conducted a 'drive by' inspection of the noise monitoring location located at Turrara Street. <p>Given the collection of real-time noise data for modelling purposes to facilitate compliance with PA 10_0080 and EPL 366 was not detailed in the Noise Management Plan [May, 2016] and that the noise logger was installed in January 2014, implementation of the plan was found to be non-compliant.</p>			
2	<p>Soil and Water</p> <p><i>Note: Under the Water Act 1912</i></p>		<p>The following is noted concerning water licences at the site:</p> <ul style="list-style-type: none"> • Siphon - One borehole is located adjacent to the sediment ponds where water is directed into the underground workings to facilitate surface water management. The installation of this bore occurred during the audit period. No licence was available for 	Not Verified	Obtain approval for a licence to inject water to the under ground workings from DPI Water.	30/06/2018

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	<p><i>and/or the Water Management Act 2000, The Proponent is required to obtain the necessary water licences for the project.</i></p>		<p>directing water underground at this location.</p> <ul style="list-style-type: none"> Portal - Water from the sediments ponds is piped down the drift and into the underground workings. No licence was available for directing water underground at this location. <p>An email from Centennial to DPI Water dated 3 November 2014 requested that the Department provide clarification concerning the applicability of two legislative clauses so that the site could determine whether a licence application was required to be submitted. No response from DPI Water to the site's email was available for review at the time of the site inspection.</p> <p>Site management reported that a licence for directing/injecting water underground is pending approval from DPI Water and that the application process for the licence is being managed by Centennial Corporate. A meeting was reported to have been arranged with DPI Water prior to the end of June 2016.</p> <p>GHD was engaged by Myuna to conduct an independent environmental audit of Centennial's compliance with the requirements of Myuna Bore Licence Number 20BL172565 (GHD, 2016-B). The licence requires that <i>"At five yearly intervals, and on completion of mining operations the licence holder must engage an independent expert, approved by DPI-Water, to undertake an audit of the groundwater conditions, all monitoring records and any related impacts."</i> The GHD audit (GHD, 2016-B) identified four non-compliant conditions, eight compliant conditions and five conditions that were 'not applicable'. The audit report noted that there was a delay between granting of the licence in 2010 and issue of the licence to Myuna in 2014 and that as a result a number of the requirements of the licence were not conducted within the specified timeframes. The report noted that the <i>"majority of these conditions have since been fulfilled"</i> (GHD, 2016, p.5), A total of five recommendations were identified in the report.</p>			

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			<p><u>Aboveground</u></p> <p>Three pipes from the portal discharge into the sediment ponds (Licence #20BL172565); however, the site was awaiting a copy of the licence from DPI Water at the time of the site inspection.</p> <p>MCW Environmental sighted the previous copy of the licence that was held on-site. It is noted that the licence required an annual review and a five year groundwater audit. GHD Australia Pty Ltd had been engaged to conduct the groundwater study. Site management reported that a draft report had been prepared and that comments had been returned to the consultant.</p> <p><u>Phase 2 ESA</u></p> <p>MCW Environmental sighted bore licence 20BL173259 for 13 groundwater monitoring bores installed as part of a Phase 2 ESA.</p> <p>Given a groundwater licence was in the process of being applied for and discussions with DPI Water were ongoing at the time of the site inspection as to what licences would be issued, this condition was found to be Not Verified.</p>			
3	PA 10_0080 S3.21	<p>Surface Water Discharges</p> <p>The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.</p>	<p>The following non-compliances concerning concentration levels were noted as having been reported by Myuna for the audit period:</p> <ul style="list-style-type: none"> • 2013: <p><u>22 November 2013:</u> TSS was recorded at 94 mg/L from LDP B during a rainfall event. The cause of the TSS exceedance was not identified.</p> <ul style="list-style-type: none"> • 2014: 	<p>Non-compliant</p> <p>Low Risk</p>	<p>Nil, Implemented manual operation of the syphon line from the CHP dam to the U/G reservoir.</p>	

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			<p><u>28 February 2014</u>: Dam water was discharged at LDP A following a high rainfall event. The on-site weather station recorded rainfall of 302 mm on the 28 February 2014. Laboratory analysis of pH indicated a result of 6.3 which exceeded the lower concentration EPL 366 limit of 6.5.</p> <p><u>1 March 2014</u>: Dam water was discharged at LDP A following a high rainfall event. The on-site weather station recorded rainfall of 302mm for the 28 February 2014. The discharge continued until 09:00am on 1 March 2014. Laboratory analysis for TSS indicated a result of 157 mg/L (i.e.107 mg/L greater than the TSS EPL criteria of 50 mg/L).</p> <ul style="list-style-type: none"> 2015: <p><u>2 April 2015</u>: TSS was recorded as 60 mg/L from LDP B. The solid matter collected in the sample was analysed by the Hunter Water Corporation Laboratory as organic (algae and plant matter). The Myuna weather station recorded no rainfall on the 2 April 2015 therefore there were no unplanned discharge events on that day. Real-time monitoring of the parameters including turbidity, pH, EC and temperature has been undertaken at LDP B since July 2013. Turbidity levels recorded at LDP B on the 2 April ranged from 15 Formazin Turbidity Unit (FTU) to 18 FTU.</p> <p><u>4 April 2015</u>: TSS was recorded as 63 mg/L from LDP B. A total of 67.8mm of rainfall was recorded for the 24 hours preceding the sample collection from the on-site weather station. Site management reported that the CHP Dam had insufficient capacity to control surface run-off from the storm and overflowed into the clean water dams which then flowed through LDP B.</p> <p><u>22 May 2015</u>: TSS was recorded as 70 mg/L from LDP B. A total of 40 mm of rainfall was recorded for the four hours preceding the sample collection from the on-site weather station. Site management reported that the high intensity run-</p>			

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			<p>off from the rain event caused the CHP Dam dirty water to overflow into the clean water settlement ponds which then flowed through LDP B.</p> <ul style="list-style-type: none"> 2016: <p><u>16 March 2016</u>: TSS was recorded as 111 mg/L from LDP B. The increase in the discharge water turbidity, which site management reported to quickly peak and subside was identified to be from mineral solids that were washed in from the bank of the discharge channel at the discharge point during the rainfall event.</p> <p>One volume exceedance from LDP B was noted in the 2015 Annual Return.</p> <p><u>21 April 2015</u>: 13,590 kL was discharged through LDP B exceeding the volume limit of 13,000 kL. The volume of mine water pumped to the surface to be discharged was reported to be 4, 519 kL. Site management reported that a large storm event caused a high volume of surface water run-off as well as a local power outage that led to on-site system and electronic communication failures. The power outage led to insufficient information being available to manage the volume of water being discharged from the site and prevented water being pumped to the underground workings from the CHP Dam via the Borehole. Site management reported that despite the power outage equipment at LDP B was monitoring the flow/volume; however, management was unable to view the data due to the power outage. Following the event a corrective action was to change water transfer from the CHP dam to the borehole from electrical operation to manual operation so that the CHP Dam water levels can be managed in the event of a power outage. Data from the on-site weather station observed during the site inspection indicated monitoring continued at LDP B during the power outage.</p> <p>Improvements to the water management system have been</p>			

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			<p>conducted by increasing the rate of transfer (from approximately 10 L/sec to approximately 50 L/sec) from the CHP Dam to the underground workings settlement reservoir. Site management reported that this has been achieved by the addition of a larger pipe to the automated pumping system and the construction of a Siphon line from the CHP Dam to the underground workings via a borehole. The new pipeline and Siphon was observed during the site inspection.</p> <p>Given the above exceedances noted above during the audit period this condition was found to be non-compliant.</p>			
4	PA 10_0080 S3.22	<p>Water Management Plan</p> <p>The Proponent shall prepare and implement a Water Management Plan for the surface facilities sites to the satisfaction of the Secretary and in consultation with NOW, DRE, and LMCC. This plan must:</p> <p>a) be prepared by suitably qualified and experienced persons whose appointment has been approved by the Secretary;</p> <p>b) be submitted for approval to the Secretary within 7 months of the date of this approval; and</p> <p>c) include a:</p> <ul style="list-style-type: none"> - Site Water Balance; - Erosion and Sediment Control Plan; - Surface Water Monitoring Plan; - Groundwater Monitoring Program; and - Surface and Ground Water Response Plan. 	<p>Preparation</p> <p>A Water Management Plan (WMP) prepared by GHD Pty Ltd was approved by the Secretary on 23 January 2014. MCW Environmental sighted a letter from DP&E dated 23 January 2014 approving the WMP as required by conditions 22 to 27 of PA 10_0080.</p> <p>Site management reported that a regional Centennial WMP that has been prepared does not include Myuna; however, there are plans to include the site in the regional plan. GHD were in the process of drafting the Myuna section of the regional plan at the time of the site inspection and were likely to have this ready for review shortly. Centennial wrote to DP&E on 30 October 2015 (Centennial, 2015) notifying the Department of their intent to adopt a regional approach to the development of the following management plans: Air Quality and Greenhouse Gas Management Plan / Biodiversity Management Plan / Heritage Management Plan / Noise Management Plan / Water Management Plan. Centennial noted that the plans would take into consideration the conditions, commitments and operations of their regional operations including Myuna Colliery.</p> <p>The July 2013 WMP is considered to be out of date concerning activities conducted at the site as it still references</p>	<p>Preparation - Compliant</p> <p>Implementation – Non Compliant</p> <p>PA 10_0080-REC-05 - The Water Management Plan (and sub plans) should be updated to reflect the changes to the EPL licenced discharge points (LDP A and LDP B) [Repeat finding from 2013], the transfer of surface water and the injection of surface water to underground workings.</p>	<p>Update the Water Management Plan to reflect the changes to the EPL licenced discharge points (LDP A and LDP B), the transfer of surface water and the injection of surface water to underground workings.</p>	30/06/2017

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			<p>former licenced discharge points LDP 001 and LDP 002 and doesn't include the reinjection of water to underground workings via the siphon at the CHP Dam or via the drift pipeline.</p> <p>The 2013 WMP includes: Site Water and Salt Balance, Erosion and Sediment Control Plan, Surface Water Management Plan, Groundwater Monitoring Program and Surface and Groundwater Response Plan.</p> <p>The previous IEA (URS, 2013, Appendix A, p.14) noted that:</p> <p>a) <i>"The WMP was prepared by a suitably qualified and experienced persons whose appointment has been approved by the Secretary;</i></p> <p>b) <i>The draft WMP was submitted for approval to the Secretary within seven months of the date of the approval".</i></p> <p>Implementation</p> <p>During the site inspection a number of upgrades to water management were observed that are not detailed in the 2013 WMP. These included:</p> <ul style="list-style-type: none"> • The transfer pipeline and pump had been upgraded from the emergency coal stockpile dam the settlement ponds since the previous IEA (URS, 2013). The • Installation of siphon at CHP Dam that injects water to the underground workings to facilitate management of surface storage capacity. • Water was being pumped to underground workings via the Drift. This activity was occurring during the previous IEA (URS, 2013) but was not referenced in the WMP. • The discharge pipe from the First Flush Settlement Tank [or Gross Settlement Pond (GSP)] had been diverted to the CHP Dam rather than directly to LDP B. <p>Section 9, Revision of the WMP details the requirements for</p>			

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			auditing and reviewing the “ <i>performance and/or compliance</i> ” of the WMP. It is noted that the plan requires a review “ <i>three years following the adoption of the WMP</i> ”. Given the activities and operations concerning surface water management observed during the site inspection did not reflect the measures and actions detailed in the 2013 WMP, implementation of the plan was found to be non-compliant. It is noted that this is a repeat finding from the 2013 IEA (URS, 2013).			
5	PA 10_0080 S5.10	Independent Environmental Audit Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary , the Proponent shall submit a copy of the audit report to the Secretary , together with its response to any recommendations contained in the audit report.	The 2013 IEA (URS, 2013) was submitted to DP&E on 30 October 2013. A letter from DP&E dated 20 December 2013 acknowledging receipt of the 2013 IEA. Given the late submittal (greater than 6 weeks) of the 2013 IEA (URS, 2013) this condition was found to be non-compliant.	Non-compliant Administrative Non-Compliance	Noted	
6	EPL366 L2.1	Concentration Limits For each monitoring/discharge point or utilisation area specified in the table below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified in the EPL.	The following non-compliances were noted concerning concentration levels for the audit period: <u>22 November 2013</u> : TSS was recorded at 94 mg/L from LDP B during a rainfall event. The cause of the TSS exceedance was not identified. <u>1 March 2014</u> : Dam water was discharged at LDP A following a high rainfall event. The on-site weather station recorded rainfall of 302 mm for the 28 February 2014. The discharge continued until 09:00am on 1 March 2014. Laboratory analysis for TSS indicated a result of 157 mg/L (i.e. 107 mg/L greater than the TSS EPL criteria of 50 mg/L). <u>2 April 2015</u> : TSS was recorded as 60 mg/L from LDP B. The solid matter collected in the sample was analysed by the Hunter Water Corporation Laboratory as organic (algae and plant matter). The Myuna weather station recorded no rainfall	Non-Compliant Low Risk EPL 366-REC-01 - Monitor the effectiveness of the change to the water management system and if exceedances (i.e. TSS) continue, implement further measures to address the exceedances.	Monitor the effectiveness of changes to the Water Management System. Investigate further measures to improve the effectiveness of the water Management System.	30/05/2017 30/06/2017

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			<p>on the 2 April 2015 therefore there were no unplanned discharge events on that day. Real-time monitoring of the parameters including turbidity, pH, EC and temperature has been undertaken at LDP B since July 2013. Turbidity levels recorded at LDP B on the 2 April ranged from 15 Formazin Turbidity Unit (FTU) to 18 FTU.</p> <p><u>4 April 2015</u>: TSS was recorded as 63 mg/L from LDP B. A total of 67.8mm of rainfall was recorded for the 24 hours preceding the sample collection from the on-site weather station. Site management reported that the CHP Dam had insufficient capacity to control surface run-off from the storm and overflowed into the clean water dams which then flowed through LDP B.</p> <p><u>22 May 2015</u>: TSS was recorded as 70 mg/L from LDP B. A total of 40 mm of rainfall was recorded for the four hours preceding the sample collection from the on-site weather station. Site management reported that the high intensity run-off from the rain event caused the CHP Dam dirty water to overflow into the clean water settlement ponds which then flowed through LDP B.</p> <p><u>16 March 2016</u>: TSS was recorded as 111 mg/L from LDP B. The increase in the discharge water turbidity, which site management reported to quickly peak and subside was identified to be from mineral solids that were washed in from the bank of the discharge channel at the discharge point during the rainfall event.</p> <p>Improvements to the water management system have been conducted by increasing the rate of transfer (from approximately 10 L/sec to approximately 50 L/sec) from the CHP Dam to the underground settlement reservoir. Site management reported that this has been achieved by the addition of a larger pipe to the automated pumping system and the construction of a Siphon line from the CHP Dam to the underground workings via a borehole. The new pipeline</p>			

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			and Siphon were observed during the site inspection. Given the above exceedances noted above during the audit period this condition was found to be non-compliant.			
7	EPL366 L2.2	Concentration Limits Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	On 28 February 2014 dam water was discharged at LDP A following a high rainfall event. The on-site weather station recorded rainfall of 302 mm on the 28 February 2014. Laboratory analysis of pH indicated a result of 6.3 which was not in compliance with the lower concentration EPL 366 limit of 6.5.	Non-Compliant Low Risk	Nil, Action taken following the incident. Upgraded the Emergency Stockpile Dam pump.	
8	EPL366 L3.1	Volume and Mass Limits For each discharge point or utilisation area specified below (by a point number), the volume/mass of: a) liquids discharged to water; or b) solids or liquids applied to the area; must not exceed the volume/mass limit specified for that discharge point or area.	A total of 13,590 kL was discharged through LDP B on 21 April 2016 exceeding the volume limit of 13,000 kL. The volume of mine water pumped to the surface to be discharged was reported to be 4, 519 kL. Site management reported that a large storm event caused a high volume of surface water run-off as well as a local power outage that led to on-site system and electronic communication failures. The power outage led to insufficient information being available to manage the volume of water being discharged from the site and prevented water being pumped to the underground workings from the CHP Dam via the Bore hole. Site management reported that despite the power outage equipment at LDP B was monitoring the flow/volume; however, management was unable to view the data due to the power outage. Following the event a corrective action was to change the water transfer from the CHP dam to the borehole from electrical operation to manual operation so that the CHP Dam water levels can be managed in the event of a power outage. Data from the on-site weather station observed during the site inspection indicated monitoring continued at LDP B during the power outage. Improvements to the water management system have been conducted by increasing the rate of transfer (from approximately 10 L/sec to approximately 50 L/sec) from the CHP Dam to the underground workings settlement reservoir.	Non-Compliant Low Risk	Nil, Implemented manual operation of the syphon line from the CHP dam to the U/G reservoir.	

Point	Unit of Measure	Volume/Mass of Limit
9	Kilolitres per day	13,000

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			Site management reported that this has been achieved by the addition of a larger pipe to the automated pumping system and the construction of a Siphon line from the CHP Dam to the underground workings via a borehole. The new pipeline and Siphon was observed during the site inspection.											
9	EPL366 M2.1 M2.2	<p>Requirement to monitor concentration of pollutants discharged</p> <p>For each monitoring/discharge point or utilisation area specified in the table (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:</p> <p>Points 3, 4, 5, 6 (Dust)</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Particulates - Deposited Matter</td> <td>grams per square metre per month</td> <td>Monthly</td> <td>AM-19</td> </tr> </tbody> </table> <p>Points 7 (High Volume Air Sampler)</p>	Pollutant	Units	Frequency	Sampling Method	Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19	<p>Monitoring results for dust are compiled and stored on a spread sheet within the Centennial Lotus Notes Intranet. Monitoring results for depositional dust data were sighted from May 2014 to April 2016. HVAS data was available from 5 May 2015 to 29 April 2016. For the data reviewed TSS and PM₁₀ had been recorded every six days.</p> <p>A non-compliance was reported in the EPA 2014 Annual Return for a failure to collect and analyse the required number of samples from DG2. The monthly sample collection and analysis for 2014 was undertaken by a contractor. No result is recorded for DG2 for the months September and December 2014. Site management reported that the sample jar collected from DG2 for the months of September and December was broken during transportation on a bush track between DG2 and DG1. An incident investigation and a procedural review was undertaken and subsequently a container was designed and implemented for the secure transport of dust deposition sample jars.</p> <p>Carbon Based (2016, p.3) stated that “<i>The depositional dust gauges are operated to the Australian Standard AS3580.10.1 “Methods for Sampling and Analysis of Ambient Air Method 10.1 Determination of Particulates—Deposited Matter—Gravimetric Method” (equivalent to EPA AM-19). Sampling occurs every 30 +/- 2 days and each gauge is analysed for insoluble solids and ash residue. The results are reported as g/m2.month. The High Volume Air Samplers are operated to the Australian Standards AS2724.3 “Ambient Air—Particulate matter, Part 3: Determination of Total suspended particulates (TSP)—High Volume sampler Gravimetric method” (equivalent to EPA AM-15) and AS3580.9.6 “Methods for</i></p>	<p>Non-compliant</p> <p>Low Risk</p>	<p>Nil, Implemented procedure for the secure transport of dust deposition sampler jars.</p>	
Pollutant	Units	Frequency	Sampling Method											
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19											

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		<table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Total suspended solids</td> <td>Micrograms per cubic metre</td> <td>Every 6 days</td> <td>AM-15</td> </tr> </tbody> </table> <p>Points 8 (High Volume Air Sampler)</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>Micrograms per cubic metre</td> <td>Every 6 days</td> <td>AM-18</td> </tr> </tbody> </table>	Pollutant	Units	Frequency	Sampling Method	Total suspended solids	Micrograms per cubic metre	Every 6 days	AM-15	Pollutant	Units	Frequency	Sampling Method	PM10	Micrograms per cubic metre	Every 6 days	AM-18	<p><i>Sampling and Analysis of Ambient Air. Determination of Suspended Particulates—PM10 High Volume Air sampler with size selective inlet - Gravimetric method” (equivalent to EPA AM-18). Sampling is scheduled for 24 hours every 6 days to the DECCW (EPA) protocol”.</i></p> <p>There was general compliance with this condition, however, given dust deposition monitoring was not conducted for the months of September and December 2014 Myuna was found to be non-compliant with this condition.</p>			
Pollutant	Units	Frequency	Sampling Method																			
Total suspended solids	Micrograms per cubic metre	Every 6 days	AM-15																			
Pollutant	Units	Frequency	Sampling Method																			
PM10	Micrograms per cubic metre	Every 6 days	AM-18																			
10	EPL366 M4.1	<p>Environmental Monitoring Requirement to monitor noise</p> <p>To determine compliance with condition L5.1, attended noise monitoring must be undertaken in accordance with conditions L5.5 and L5.6, and</p> <ol style="list-style-type: none"> at each one of the locations listed in condition L5.1; occur annually within the reporting period of the Environment Protection Licence; occur during each day, evening and night period as defined in the NSW Industrial 	<p>The 2015 Annual Noise Report (AECOM, 2016, Appendix B) included an email from the EPA (EPA, 2015) that indicated Myuna had telephoned the EPA officer for the site to notify them that the site had inadvertently undertaken monitoring on the same day of the week for the first two quarterly monitoring periods. The first quarter and second quarter day, evening and night time noise monitoring were undertaken on the same week day. This condition came into effect with Licence Variation notice 1527732 issued on the 13 May 2015 which is in the second quarter of the Annual Return monitoring period. Myuna was advised by the EPA officer to include the incident as a non-compliance in the Annual Return for the period; however, recommend that the EPA treat the incident as a transitional phase and that the EPA would not take any</p>	<p>Non-compliant</p> <p>Administrative Non-compliance</p>	<p>Nil, implemented action to include the noise monitoring schedule in the Quarterly Noise Monitoring report.</p>																	

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		Noise Policy (EPA 2000) for a minimum of 1.5 hours during the day; 30 minutes during the evening; and 1 hour during the night, and occur for three (3) consecutive days.	action. The incident was included in the 2015 Annual Return.									
11	EPL366 M8.1	<p>Requirement to Monitor Volume or Mass</p> <p>For each discharge point or utilisation area specified below, the licensee must monitor:</p> <p>a) the volume of liquids discharged to water or applied to the area; b) the mass of solids applied to the area; c) the mass of pollutants emitted to the air;</p> <p>at the frequency and using the method and units of measure, specified below.</p> <p>Point 9</p> <table border="1"> <thead> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Daily during any discharge</td> <td>Kilolitres per day</td> <td>Continuously</td> </tr> </tbody> </table>	Frequency	Unit of Measure	Sampling Method	Daily during any discharge	Kilolitres per day	Continuously	<p>The Centennial Weather Portal provides real-time data for volume of liquids discharged to water at LDP B Continuous flow monitoring data for LDP B showing the water sensor flow was available for review.</p> <p>A technical non-compliance resulted from a power outage due to battery failure between 22 and 27 January 2015. The volume of water discharged through LDP B was not recorded by the LDP B web based real-time monitor for the period 5:25pm 22 January 2015 to 2:55pm 27 January 2015. There are three mine water discharge lines which contribute to the discharge at LDP B. Each discharge line is metered. An approximate volume of discharge at LDP B was determined from the metered mine water discharge lines. The volume limit was not exceeded.</p> <p>On 21 April 2015 13,590 kL was discharged through LDP B exceeding the volume limit of 13,000 kL. The volume of mine water pumped to the surface to be discharged was reported to be 4, 519 kL. Site management reported that a large storm event caused a high volume of surface water run-off as well as a local power outage that led to on-site system and electronic communication failures. The power outage led to insufficient information being available to manage the volume of water being discharged from the site and prevented water being pumped to the underground workings from the CHP Dam via the Siphon. Site management reported that despite the power outage equipment at LDP B was monitoring the flow/volume; however, management was unable to view the data due to the power outage. Following the event a corrective action was to change the Siphon from electrical</p>	<p>Non-compliant</p> <p>Low Risk</p>	<p>Nil, Implemented manual operation of the syphon line from the CHP dam to the U/G reservoir to prevent re-occurrence.</p>	
Frequency	Unit of Measure	Sampling Method										
Daily during any discharge	Kilolitres per day	Continuously										

Item No.	Title Condition No.	Requirement	Auditors Comments	Compliance/ Recommendations	Action Required	Date Required
			<p>operation to manual operation so that the CHP Dam water levels can be managed in the event of a power outage. Data from the on-site weather station observed during the site inspection indicated monitoring continued at LDP B during the power outage.</p> <p>Given the two above incidents this condition was found to be non-compliant.</p>			
12	ML1632 c12	<p>Prevention of Soil Erosion and Pollution</p> <p>Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, water body or ground waters. The lease holder must observe and perform any instructions given by the Director-General in this regard.</p>	<p>Myuna operate under EPL 366 that regulates the levels of pollution in water discharges. A review of the EPL is provided in this report (Appendix A). The review found overall compliance with the EPL 366.</p> <p>Refer to EPL 366, Condition L1.1 and Conditions L2.1 to L2.5 for further information.</p>	<p>Non-compliant</p> <p>Low Risk</p>	<p>Install sediment erosion controls beneath the outflow to LDP A to minimise the potential for erosion to the drainage channel.</p>	30/03/2017
13	MPL334 c6	<p>Dams and Escape of Water</p> <p>Settling dams or other dams constructed or to be constructed on the subject area shall be constructed, maintained and sealed to the satisfaction of the Inspector.</p>	<p>As identified in the previous IEA (URS, 2013) settling dams for water treatment are located in the lease area. The construction of the dams was not reviewed as part of the audit. No evidence of whether these dams were constructed to the satisfaction of the Director was available for review.</p> <p>MCW Environmental concur with the previous finding that compliance with the condition is not verified as construction information was not available for review.</p>	Not Verified	Noted	
14	MPL334 c14	<p>a) The report shall comprise:</p> <p>i. A plan showing short, medium and long-term mining plans;</p>	<p>The following is noted:</p> <p>a) Mining plans for the reporting period were outlined in</p>	Administrative Non-compliance	Review the requirements of the Annual reporting	30/01/2017

Item No.	Title Condition No.	Requirement	Auditors Comments	Compliance/ Recommendations	Action Required	Date Required
		<p>ii. A rehabilitation report (in respect of open cut operations) and/or a surface environmental management report (in respect of underground operations).</p> <p>iii. A review performance in terms of Environment Protection Authority and department of Water Resources Licence and approval conditions (related to the Clean Air Act 1961, the Clean Waters Act 1970, the Noise Control Act 1975, the Environmentally Hazardous Chemical Act 1985, the Pollution Control Act 1970 and the Water Act 1912) applicable to the subject area.</p> <p>iv. A review of performance in terms of Development Consent conditions for the subject area.</p> <p>A listing of any variations obtained to approvals applicable to the subject area during the previous year.</p>	<p>Section 2.4 of the Annual Review. Section 6 addressed activities for the next reporting year but did not clearly address medium and long-term mining plans.</p> <p>b) Rehabilitation was addressed in Section 5 of the Annual Review.</p> <p>c) Compliance with current regulatory requirements were addressed throughout the Annual Review, in particular in Section 3.</p> <p>d) Development consent conditions were addressed throughout the AEMR, in particular in Section 3.</p> <p>Section 1.1 addressed approvals applicable to the subject area during the previous year.</p>	<p>MPL 334-REC-01 - Include medium and long-term mining plans in the AEMR.</p>	<p>Guidelines and Include all plans required by the guideline.</p>	
15	MPL334 c21	<p>Where the registered holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse, groundwater or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse, groundwater or catchment area, or any undue interference to</p>	<p>Myuna operate under EPL 366 that regulates the levels of pollution in water discharges. A review of the EPL is provided in this report (Appendix A). The review found overall compliance with the EPL 366. Notwithstanding this, the following incidents were recorded concerning water during the audit period:</p> <p>Refer to EPL 366, Condition L1.1 and Conditions L2.1 to L2.5 for further information.</p> <p>Site management reported that no directions had been given by the Minister relating to this requirement during the audit period.</p>	<p>Non-compliant</p> <p>Low Risk</p>	<p>Install sediment erosion controls beneath the outflow to LDP A to minimise the potential for erosion to the drainage channel.</p>	30/03/2017

Item No.	Title Condition No.	Requirement	Auditors Comments	Compliance/ Recommendations	Action Required	Date Required
		fish or their environment.				
16	MPL334 c30	The registered holder shall ensure that the run off from any disturbed areas including the overflow from any depression of ponded area is discharged in such a manner that it will not cause erosion.	<p>LDP A is located at the Emergency Coal Stockpile Dam for event based discharges from a small diameter pipe into an unlined drainage channel that flows to Wangi Creek. No erosion control devices were observed at the outlet of LDP A to minimise the impact of discharged water to the base and/or bank or the receiving channel. The distance between the end of the outflow pipe and the base of the channel was estimated to be greater than two meters.</p> <p>No dedicated spillway was observed at the dam to facilitate water management in the event of the dam overtopping.</p> <p>It was observed that there was no dedicated sampling site for the outflow pipe of LDP A and that when collecting a sample a person may be required to climb down the steep bank beneath the outflow. AS/NZS 5667.1.1998, <i>Water quality – sampling Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples</i> Section 3.6 (p.9) states that “<i>Sampling from unsafe sites, such as unstable banks, should be avoided if possible. If this is unavoidable, the operation should be conducted by a team using appropriate precautions rather than one person</i>”. A metal gantry/walkway with attached steps was observed adjacent to the container housing the water pump at the Emergency Coal Stockpile Dam. Site management reported that the intention was that the gantry would be installed at the LDP A outflow to provide a safe sampling site.</p> <p>A gap was observed between the earthen bund adjacent to the container housing the water pump at the Emergency Coal Stockpile Dam. The gap provided a potential pathway for run-off from a disturbed area to flow into the drainage channel at LDP A.</p> <p>Given the installation of erosion control structures at LDP A is</p>	<p>Non-compliant</p> <p>Low Risk</p> <p>MPL 334-REC-02a – Erosion controls should be installed beneath the outflow to LDP A to minimise the potential for erosion to the drainage channel. Consideration should be given to the installation of a spillway at the Emergency Coal Stockpile Dam including provision of a safe sampling site for the LDP A outflow pipe.</p> <p>MPL 334-REC-02b – The earthen bund adjacent to the container housing the water pump at the Emergency Coal Stockpile Dam should be reformed to prevent run-off from a disturbed area to flow into the drainage channel at LDP A.</p> <p>Refer to PA 10_0080-REC-05 (PA 10_0080,</p>	<p>Install sediment erosion controls beneath the outflow to LDP A to minimise the potential for erosion to the drainage channel.</p> <p>Investigate the installation of a spillway at the Emergency Coal Stockpile Dam.</p> <p>Install a safe sample collection site for the LDP A outflow pipe.</p> <p>Construct a bund adjacent to the container housing the water pump to direct surface flow into the Emergency Coal Stockpile Dam.</p>	<p>30/03/2017</p> <p>30/06/2017</p> <p>30/06/2017</p> <p>30/03/2017</p>

Item No.	Title Condition No.	Requirement	Auditors Comments	Compliance/ Recommendations	Action Required	Date Required
			a repeat finding from the previous IEA (URS, 2013, Appendix A, p.82) this condition was found to be non-compliant.	S3.24)		
17	MPL334 c34	<p>Within a period of three months from the date of this authority or a period of three months from the date of service of the notice of renewal, or within such further time as the Secretary may allow the registered holder shall serve on each owner and occupier of the private land and on each occupier of the Crown land held under a pastoral lease within the subject area a notice in writing indicating that this authority has been granted or renewed and whether the authority includes the surface. The notice shall be accompanied by an adequate plan and description of the subject area.</p> <p>If there are ten or more owners or occupiers affected the registered holder may serve the notice by publication in a newspaper circulating in the region where the subject area is situated. The notice shall indicate that this authority has been granted or renewed, state whether the authority includes the surface and shall contain an adequate plan and description of the subject area.</p>	<p>MCW Environmental concur with the previous finding (URS, 2013) that noted:</p> <p><i>"This requirement was initiated well before operations were managed by Centennial Coal. As such, this requirement was assumed to have been addressed at the time of the ML 334 being issued and was not assessed as part of this audit".</i></p> <p>For this reason, this condition was assessed as not verified.</p>	<p>Not Verified</p> <p>(Historical requirement)</p>	Noted	

Recommendations for conditions considered compliant for improved compliance and continuous improvement.

Item No.	Approval & Condition Number	Auditors Comment	Recommendation	Action	Date Required
18	PA10_0080 S3.1 Subsidence		PA 10_0080 – REC-01 - Update the Subsidence Management Plan WHS-PHMP-901 [November 2015] so that it includes reference to subsidence related conditions of PA10_0080 and also how vertical subsidence within Zone A will be limited to a maximum of 20 millimetres (mm) and that extraction methods are to be limited to first workings only.	Update the Subsidence Management Plan so that it includes reference to subsidence related conditions of PA10_0080 and also how vertical subsidence within Zone A will be limited to a maximum of 20 millimetres (mm) and that extraction methods are to be limited to first workings only.	30/04/2017
19	PA10_0080 S3.16 Greenhouse Gas Emissions		PA 10_0080 – REC-03 – Reasonable and feasible measure to minimise the release of greenhouse gas emissions from the site should be included in the Regional Air Quality and Greenhouse Gas Management Plan.	Include reasonable and feasible measures to minimise the release of green house gas emissions from the site in the Regional Air Quality and Greenhouse Gas Management Plan.	30/05/2017
20	PA10_0080 S3.19 Air Quality and Greenhouse Gas Management Plan		PA 10_0080 – REC-04 – In accordance with condition 3.19(d) it is recommended that the measures to minimise Greenhouse Gas Emissions from the site be clearly stated or referenced to a corporate Centennial policy or standard.	Include reference to the corporate Centennial Policy or standard to minimise Greenhouse Gas Emissions from the site.	30/05/2017
21	PA10_0080 S3.22 Water Management Plan		PA 10_0080 – REC-05 – The Water Management Plan (and sub plans) should be updated to reflect the changes to the EPL licensed discharge points (LDP A and LDP B), the transfer of surface water and the injection of surface water to the underground workings.	Update the Water Management Plan to reflect the changes to the EPL licenced discharge points (LDP A and LDP B), the transfer of surface water and the injection of surface water to underground workings.	30/06/2017
22	PA10_0080 S3.24 Erosion and Sediment Control Plan		PA 10_0080 – REC-06 – Consideration should be given to the installation of erosion and sediment control structures to reduce the flow of surface water across the emergency coal stockpile pad towards the LDP A discharge	Investigate options for erosion and sediment control and install erosion and sediment control structures to reduce the flow of surface water across the emergency coal stockpile pad	30/04/2017

Item No.	Approval & Condition Number	Auditors Comment	Recommendation	Action	Date Required
			point.	towards the LDP A discharge point.	
23	PA10_0080 S3.26 Groundwater Monitoring Program		PA 10_0080 – REC-07 – Implement the recommendations provided in the Annual Groundwater Management Report (GHD, 2016-A) and the Groundwater Bore Licence Audit (GHD, 2016-B).	Implement the recommendations provided in the Annual Groundwater Management Report and the Groundwater Bore Licence Audit.	28/02/2017
24	PA10_0080 S3.28 Biodiversity Management Plan		PA 10_0080 – REC-08a – Consideration should be given to conducting a second weed survey of treated areas to determine and document the effectiveness of weed control. PA 10_0080 – REC-08b – The Weed Action Plan should include a section / description documenting the effectiveness of the previous years weed treatments.	Conduct a weed survey to determine and document the effectiveness of weed control. Include in the Annual Weed Action Plan a section documenting the effectiveness of the previous years weed treatments.	28/02/2017 28/02/2017
25	PA10_0080 S3.31 Waste		PA 10_0080 – REC-09 – Surrender the Hunter Water Corporation Trade Waste Agreement if disposal of waste water from the wash bay oil/water separator to the municipal sewer is no longer required.	Investigate the relinquishment of the Hunter Water Corporation Trade Waste Agreement.	30/04/2017
26	PA10_0080 S5.7 Reporting – Incident Reporting		PA 10_0080 – REC-10 – Update the Water Management Plan to include the process for reporting exceedances of EPL and / or PA10_0080 water criteria to relevant agencies (i.e. EPA, DPE and DRE).	Update the Water Management Plan to include the process for reporting exceedances of EPL and / or PA10_0080 water criteria to relevant agencies (i.e. EPA, DPE and DRE).	30/06/2017
27	EPL366 L4.1 Waste		EPL366–REC-02 – Remove the rubbish from the clean water diversion drain behind the waste storage bund and include the location in the pit top inspections.	Rubbish removed from the clean water diversion drain. Add to the weekly site Inspection, the inspection of the clean water diversion drain.	30/03/2017
28	EPL366 O1.1		EPL366–REC-03 – Develop and implement a procedure / process so that hazardous	Develop and implement a procedure so that hazardous chemicals in the	30/04/2017

Item No.	Approval & Condition Number	Auditors Comment	Recommendation	Action	Date Required
	Activities must be carried out in a competent manner		chemicals located in the Haz Chem Store are stored behind the painted line so that any leaks flow backwards towards the drain.	HazChem store are stored within the bunded area.	
29	EPL366 O3.4 Dust		EPL366-REC-04 – The mobile spray for the emergency coal stockpile should be commissioned as soon as possible. Measure to mitigate corrosion to the metal pipework should be investigated and implemented (e.g. replacement of metal pipework with PVC).	Commission the mobile spray for the emergency coal stockpile pad. Investigate measures to mitigate corrosion to the metal pipework of the Stockpile Pad spray system.	30/06/2017 30/06/2017
30	EPL366 M7.2 Telephone Complaints Line		EPL366-REC-05 – Update the Community Complaints register to include the correct telephone number.	Nil, The Community Complaints Register has been updated with the correct telephone number. No further action required.	

Recommendations relating to Management Plans and Site Observations

Item No.	Document or Area of Recommendation	Auditors Comment	Recommendation	Action	Date Required
31	Section 3.7, Community Consultative Committee.		MR-REC-2016-01 – Contact details, including a telephone number(s) for key members of the CCC should be maintained by Site management.	Nil, A CCC member's data base has been developed. No further action required.	
32	Table 7-1, Air Quality and Greenhouse Management Plan (May, 2016)	The Air Quality and Greenhouse Gas Management Plan (May 2016) has been revised four times since the previous IEA (URS, 2013). Revision 1 of the Air Quality and Greenhouse Gas Management Plan (August, 2012) was approved by the Director-General (letter dated 8 August 2012) and was considered to adequately address the requirements of Condition 19, Schedule 3 of the PA 10_0080.	MR-REC-2016-02 - Until such time as the Regional Air Quality and Greenhouse Gas Management Plan is approved, the Myuna Air Quality and Greenhouse Gas Management Plan should be updated to reflect	Update the Myuna Air Quality and Greenhouse Gas Management Plan to reflect GHG reporting is conducted at a corporate level.	30/05/2017

Item No.	Document or Area of Recommendation	Auditors Comment	Recommendation	Action	Date Required
		<p>The plan was concise and generally considered adequate for the control of air quality risks on-site if implemented effectively. The plan included limited information concerning how greenhouse gas data will be collected and reported other than it will be reported in the Annual Review.</p> <p>The 2015 Annual Review noted that a Regional Air Quality and Greenhouse Gas Management Plan which will include the Centennial sites of Mandalong, Myuna, Newstan and Northern Coal will be developed and implemented in 2016.</p> <p>MCW Environmental consider that the observations from the previous IEA (URS, 2013, p.25) remain valid:</p> <p>“The pit top area was generally sealed and well kept. The only unsealed area of land (grassed) at the pit top was around the settlement ponds and garden areas by the entrance.</p> <p>Section 7.1.3 (p.16) stated that a high volume air sampler (HVAS) will be installed”. The HVAS was observed to have been installed during the site inspection.</p>	<p>GHG reporting is conducted at a corporate level.</p>		
33	Table 7-1, Water Management Plan (July, 2013)	<p>The Water Management Plan (WMP) prepared by GHD Pty Ltd was approved by the Secretary on 23 January 2014. MCW Environmental sighted a letter from DP&E dated 23 January 2014 approving the WMP as required by conditions 22 to 27 of PA 10_0080.</p> <p>The Water Management Plan (WMP), dated July 2013 has been established and implemented by Myuna to address the requirement of Conditions 22 to 27, Schedule 3 of the PA 10_0080. The WMP incorporates the Water and Salt Balance Assessment (July, 2013), Erosion and Sediment Control Plan (July, 2013), Surface Water Management Plan (August, 2012), Groundwater Monitoring Program (August, 2012) and the Surface and Groundwater Response Plan (August, 2012).</p> <p>The Surface Water Management Plan (SWMP) is the principal component of the WMP and includes copies of two background water management</p>	<p>MR-REC-2016-03 - A drainage investigation be conducted to confirm the capacity of the stormwater network to carry flow from clean water diversions.</p> <p>MR-REC-2016-04 - To enable ongoing assessment of water quality discharged from Myuna the existing monitoring program to be maintained for the life of the Project with the following enhancements:</p> <p>augment sampling analytes as per</p>	<p>Investigate the capacity of the stormwater network to carry flow from clean water diversions.</p> <p>Update the Water Management Plan to reflect the changes to the EPL licenced discharge points</p>	<p>30/05/2017</p> <p>30/06/217</p>

Item No.	Document or Area of Recommendation	Auditors Comment	Recommendation	Action	Date Required
		<p>assessments in conducted in 2008 (Water Management Options) and 2010 (Water Quality Options).</p> <p>From an adequacy perspective the draft WMP generally covers the requirements of the PA 80_0010. The objectives of the WMP are to satisfy the imposed statutory environmental and health requirements.</p> <p>At the time of the previous IEA (URS, 2013) the WMP had not been approved by the Secretary (formerly the Director-General); however, the approved WMP did not appear to have been updated since the previous IEA (URS, 2013) as there was still reference to former licenced discharge points LDP001 and LDP002 (e.g. WMP, Table 5-2, p.38).</p> <p>The technical studies that form the basis of the WMP are listed below:</p> <p>Groundwater and surface water:</p> <p>variation to EPL to: (i) combine LDP001 and LDP002 into LDP B;</p> <p>establish LDP A at the ECS dam; and</p> <p>investigate water reuse options.</p> <p>The WMP included a Failure Modes and Effects Analysis (FMEA) risk assessment which revealed that the most significant environmental risk to the management of water is heavy and prolonged rainfall (WMP, Section 1.3, p.8).</p> <p>There are five categories of water within the Myuna Colliery operations: clean, dirty, underground mine water, potable and waste water. The SWMP focuses primarily on the management of clean and dirty water at the surface. Key pieces of water management infrastructure are:</p> <p>clean water management: catering for (i) buildings runoff, (ii) hardstand areas runoff, (iii) clean water diversions catering for perimeter catchments to the west of the site.</p> <p>dirty water management to mitigate the risk of coal-laden water from being discharged from the site downstream into Wangi Creek: First Flush</p>	<p>the SWMP.</p> <p>include geomorphic monitoring of Wangi Creek as per the SWMP.</p> <p>MR-REC-2016-05 - Update the WMP and Figures to include the locations of LDP A and LDP B and remove references to LDP001 and LDP002.</p>	<p>(LDP A and LDP B).</p>	

Item No.	Document or Area of Recommendation	Auditors Comment	Recommendation	Action	Date Required
		<p>Settlement Tank, CHP Dam, Emergency Stockpile Dam and to a lesser extent the Mine Water Settling Ponds 2 and 3.</p> <p>The SWMP assessed the capacity of both the clean and dirty water management system concluding:</p> <p>the clean water diversions cater for flows between 90 to 630 L/s in a 20 year ARI event storm (Table 4-1). The assessment states that "It is assumed that the drainage network is of a capacity that can convey the 20 year ARI" (p.10). The plans also recommends that a separate detailed hydraulic assessment be undertaken where the diverted catchment is routed through the existing drainage network (Erosion and Sediment Control Plan, p.13).</p> <p>the Erosion and Sediment Control Plan (p.22) refers to the construction of an injection bore near the sediment dams to act as a sink for the pumped water from the CHP Dam where settlement of particles can occur on a much larger time frame than with the limitations at the surface. This had been completed during the audit period.</p> <p>The assessment discusses options for water reuse on site as required by the consent conditions and concludes that the opportunities for water reuse are limited due to the high salt concentrations (EC) of the site's mine water thereby requiring some form of desalination prior to reuse (for instance in the underground operation where most of the potable water is consumed). Site management reported they considered this to be impractical and uneconomical. The site does recycle its dirty water, primarily by using it to aid dilution of high TSS/EC water at the CHP dam (however the volumes and frequency of this opportunity are small compared with the overall discharge off site), and dust suppression within the Emergency Stockpile Area (again, given that most coal is conveyed directly to Vales Point there is little opportunity for this reuse).</p> <p>A water quality assessment was performed by the WMP authors (GHD). The assessment evaluates the baseline water quality, the default water quality criteria and proposes new trigger values and expands the suite of anolytes.</p> <p>A geomorphic/stream health assessment of Wangi Creek is also included and discusses the issues associated with establishing LDP A and LDP B.</p>			

Item No.	Document or Area of Recommendation	Auditors Comment	Recommendation	Action	Date Required
		<p>Although no major impacts are predicted, the report recommends repair of discrete reaches plus monitor/repair of channel incision.</p> <p>Throughout the plan references are made to the proposed licenced discharge points LDP A and LDP B. These have now been installed and are included on EPL 366.</p>			
34	Table 7-1, Pollution Incident Response Management Plan (PIRMP) (April, 2016)	<p>The PIRMP defines how external pollution reporting is to be undertaken in accordance with Centennial Coal's Management Standard-012 External Environmental Reporting and provides guidance concerning pollution incident reporting.</p> <p>Centennial internal standards are referenced in the PIRMP for external reporting and internal incident investigation purposes.</p> <p>MCW Environmental undertook a high-level, summary assessment of adequacy against the content of the PIRMP, as outlined at Clause 98C of the Protection of the Environment (General) Regulation 2009 and found a high level of compliance against the requirements identified in the Regulation. The following observations are made:</p> <p>The PIRMP was last tested on 17 December 2015. The simulation involved a large oil spill on the pit stop surface hard stand area. The (simulated) oil spill supposedly entered the storm water system and flowed through to the gross pollutant trap. Personnel were not informed of the simulated emergency prior to it occurring. The PIRMP test audit report dated December 2015 noted that there were no significant issues identified during the test and that the PIRMP would be updated to reflect the test had been conducted.</p> <p>The Figures provided in the PIRMP did not show the location of potential pollutants on the premises.</p>	<p>MR-REC-2016-06 - To comply with Protection of the Environment (General) Regulation 2009 Clause 98C, ensure the figure appended to the PIRMP clearly and legibly show the location of potential pollutants on the premises.</p>	<p>Nil, The PIRMP was updated 15/11/2016 to clearly and legibly show the location of potential pollutants on the premises.</p> <p>No further action required.</p>	