

Table 1
Response to 2019 Dartbrook Independent Environmental Audit Non-Compliances

Non-Compliant Schedule and Condition Number	SLR Audit Finding	SLR Audit Recommendation	AQC Response Action	AQC Action Date
Development Consent				
Condition 2.1	Evidence of email submitting the approved 2018 MOP. Note approval letter was dated 18.12.2017. The email providing the approved MOP to Upper Hunter Shire Council, Muswellbrook Council and the DPIE was on 5.02.2018. This is greater than 14 days from approval.	REC 1 Ensure MOPs are provided to the required government departments within 14 days of approval.	Future MOP documents will be distributed within 14 days of approval, as required.	Ongoing
Condition 3.2	<p>The Water Management Plan, Dust Management Plan, Erosion and Sediment Control Plan and MOP are currently available on website. The Contract Environmental Officer noted that other approved plans are not updated for C&M operations.</p> <p>The Environmental Management Strategy is currently not on the website.</p> <p>In the email from Megan Dawson from DPIE to Dianne Munro at Hansen Bailey on 9 April, 2018, it stated:</p>	REC 2 With MOD 7 now approved, all management plans, including the SWMP, are required to be updated prior to recommencing mining operations. Approved plans should be put on the website.	<p>The SWMP is being reviewed and will be provided to regulatory agencies for comment.</p> <p>The following management plans (MPs) required under the MOD7 development consent will be updated for regulatory consultation:</p> <ul style="list-style-type: none"> • Environmental Management Strategy; • Spontaneous Combustion MP; • Archaeology and Cultural Heritage MP; 	<p>28/02/2020</p> <p>30/06/2020</p>

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	<p><i>"other than the Water Management Plan, AQC will continue to use the existing approved Anglo American management plans until Mod 7 is determined. As such, I will remove the draft EMS and Land Management Strategy (received from Doug Stewart last year) from our list of plans to review".</i></p> <p>SLR understands management plans will be reviewed once MOD 7 is approved and these updated management plans will be put on the website.</p> <p><u>Admin Non - Compliance</u> The approved SWMP is dated 20/4/2015. The SWMP is under review at the time of IEA, however it should have been submitted at some time between 9 April 2018 and August 2019 following the 2018 email from DPIE. This condition is not compliant for not completing the SWMP update in the relevant period.</p>		<ul style="list-style-type: none"> • Flora and Fauna MP; • Erosion and Sediment Control MP; • Soil Stripping MP; • Landscape MP; • Bushfire MP; • Land MP; • SWMP (see above); • Waste MP; • Air Quality and Greenhouse Gas MP; • Blast and Road Closure MP; • Noise MP; • Lighting MP; and • Vibration MP. 	
Condition 4.1(a(iv))	<p>SWMP 2015 refers to this being addressed in Section 2.2.3 and 5.2.</p> <p>There is no Section 2.2.3. Section 2.3.3 details that monthly monitoring of inflows</p>	<p>GW REC 1 Recommend update the SWMP to include a monitoring program to ensure early identification of potential</p>	<p>The SWMP is being reviewed and will be provided to regulatory agencies for comment.</p>	28/02/2020

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	<p>and water quality to the Hunter Tunnel and refers to the monitoring program in Section 4, and details that any monitoring results that may indicate unexpected impact such increased flow rate or reduced salinity will trigger an investigation.</p> <p>Section 4.3 includes mention of monitoring of dewatering volumes from the Hunter Tunnel and annual reconciliation of the site water balance. No details are provided on how monthly data for inflows and water quality will be utilised to monitor potential impacts.</p> <p>Section 4.4 includes details for 6 monthly monitoring of four Hunter River alluvial bores (FRA1, JOR1, KAI1 and WAL2), and water level and quality triggers for five alluvial bores (lists WAL2 twice with separate triggers).</p> <p>Section 5.2 relates to Excess Mine Water management – when water levels reach 269 mbgl at the pleuger pump site the consumption of mine water will be reviewed.</p>	<p>impacts associated with dewatering from the Hunter Tunnel utilising the monthly monitoring data. Develop a clear action response plan, including timing for actions to be commenced from when triggers are exceeded or adverse trends identified.</p>		

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	<p>No impacts with regards to the Hunter River alluvium were identified in the groundwater assessment and the SWMP (Section 5.3) indicates studies were conducted to verify hydraulic connectivity. However, there is a risk that the current SWMP does not fully address all requirements within the consent conditions and is not adequate for early identification of groundwater impacts with regards to the Hunter Tunnel.</p>			
Condition 4.1(v)	<p>SWMP 2015 refers to this being addressed in Section 2.2.3 and 5.2.</p> <p>There is no Section 2.2.3.</p> <p>Section 2.3.3 details that any monitoring results that may indicate unexpected impact such increased flow rate or reduced salinity will trigger an investigation. No details on the measures to be implemented if an increase in salinity in the Hunter River alluvium is detected.</p>	<p>GW REC 2</p> <p>Update the SWMP to include measures to be implemented in response to increase in groundwater salinity in alluvial aquifer being identified in site monitoring.</p>	<p>The SWMP is being reviewed and will be provided to regulatory agencies for comment.</p>	28/02/2020
Condition 4.1(xii)	<p>Referred to as Section 2.2 of SWMP 2015, which relates to surface water management only.</p>	<p>GW REC 5</p> <p>Trigger threshold criteria for the REA monitoring bore FRA1 have been triggered over the review period. No evidence provided on action to investigate or manage</p>	<p>The SWMP is being reviewed and will be provided to regulatory agencies for comment.</p>	28/02/2020

Non-Compliant Schedule and Condition Number	SLR Audit Finding	SLR Audit Recommendation	AQC Response Action	AQC Action Date
	No measures are specified to manage groundwater quality changes and mobilisation of salts including downgradient of the REA.	potential changes in water quality and mobilisation of salts. Additional detail to be provided in the next revision to the SWMP.		
Condition 6.1(a(i))	<p><u>2016:</u> In 2016, annual average dust deposition rates were below the limit of 4 g/m²/month at all sites. TSP results were within the criteria. The data recovery rate was 100% for all HVAS sites.</p> <p>Contamination testing being undertaken on depositional dust results. Contaminated samples have been excluded from calculations of annual averages, as outlined in the 2018 Annual Review.</p> <p><u>2017:</u> In 2017, annual average dust deposition rates were below the limit of 4 g/m²/month at all sites. TSP results were within criteria. The data recovery rate was 100% for all HVAS sites in 2017.</p> <p><u>2018:</u> 2018 Annual Review indicated depositional dust exceedance at site 897, with an exceedance of 12.1g /m²/month. Dartbrook stated that 'although this was an</p>	<p>REC 3 All exceedances of dust goals, regardless of the cause should be reported in Section 1 and 11 of the Annual Review.</p>	<p>Exceedances of development consent dust goals will be reported in future Annual Reviews.</p> <p>At the next review of the Air Quality and Greenhouse Gas MP, the locations of monitors such as dust gauge 897 will be reviewed. Monitoring locations which are not representative of private receivers will be clearly indicated and such, will not from part of the compliance monitoring network.</p>	<p>31/03/2020</p> <p>30/06/2020</p>

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	<p>exceedance of DA231-07-2000 criteria for depositional dust, Dartbrook Care and Maintenance Activities during that year were not a significant contribution to this elevated result. Numerous gauges had contamination. It is noted that the exceedance of site 897 was not reported in Section 1 or 11 of the 2018 Annual Review which details non compliances. All exceedances, regardless of the cause should be reported in Section 1 and 11.</p> <p>TSP results were within criteria. It's noted there was full data capture.</p> <p><u>2019:</u> No annual averages yet.</p>			
EPL 4885				
R1.3	<p>Relevant EPL Annual Returns cover:</p> <ul style="list-style-type: none"> * 1 Dec 2015- 30 Nov 2016 - Anglo Coal (Dartbrook Management) Pty Limited; * 1 Dec 2016-30 Nov 2017 - AQC Dartbrook Management Ptd Ltd; and * 1 Dec 2017-30 November 2018 - AQC Dartbrook Management Ptd Ltd <p>Next Annual Return is not yet due.</p>	Nil recommendation	No action required.	-

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	<p>The acquisition of the site by AQC Dartbrook Management Ptd Ltd was finalised on 29 May 2017. Therefore separate EPL Annual Returns should have been completed for:</p> <ul style="list-style-type: none"> * Anglo Coal (Dartbrook Management) Pty Limited from 1 December 2016 - 28 May 2017; * AQC Dartbrook Management Pty Ltd from 29 May 2017 - 30 November 2017. <p>The EPL wasn't formally transferred to AQC Dartbrook Management Pty Ltd until the March 2019 revision. On 29 May 2017 when AQC Dartbrook Management Pty Ltd took ownership of the site, the EPA should have been contacted by AQC Dartbrook Management Pty Ltd to outline the change of owners and request a change to the licence holder.</p>			

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	<p>To complete 2 separate EPL Annual Returns for 2016-17 would now not be beneficial as Anglo Coal (Dartbrook Management) Pty Limited does not exist as a company. The required information was also provided to the EPA in the Annual Returns submitted during the IEA period under Condition R1.2 above. Therefore no further recommendation.</p>			
Consolidated Coal Lease 386				
Condition 1a)	<p>It is noted that in a letter dated 30 October 2015 Resources Regulator approved an application for suspension of mining operations within CCL386, ML1381, ML1456, ML1497, until 31 Dec 2017.</p> <p>Evidence of letter from the Resources Regulator dated 8 August 2019 indicates the approval to suspend mining leases had lapsed.</p>	Nil recommendation	AQC to regularly follow up with the Resources Regulator over the status of this application.	Ongoing

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	<p>Evidence of email correspondence from AQC dated 31 August 2018 stating "AQC is seeking further approval to suspend mining operations within Coal Lease 386, Mining Lease (ML) 1381, ML 1497, ML 1382 and ML 1456, pursuant to clause 7A of Schedule 1B of the Mining Act 1992. The existing approval to suspend mining operations expired on 13 December 2017 and as such, AQC would like to apply to for an extension to the abovementioned suspensions of operations and conditions for a period of up to another three years, up to the end of 2020".</p> <p>Assessment of this application by the Resources Regulator was pending at the time of the IEA. The Resources Regulator confirmed in a meeting on 27 August 2019 that AQC had provided all information required for their assessment and determination of the application.</p>			

Table 2
Response to 2019 Dartbrook Independent Environmental Audit Recommendations

Aspect	SLR Recommendation	AQC Response Action	AQC Action Date
General	<p>REC 4 General recommendation AQC to provide an update to DPIE and other relevant agencies of the future plans for the site (in terms of activities, timings, and implementation of MOD 7). Recommend that this update is provided by end of November 2019.</p> <p>REC 5 Update to EPA/ Pollution Reduction Program Provide an update on the status of the operation with this condition E2 Discontinuation of Mining) to be enacted by the EPA if mining recommences. SLR understands that it is the EPA's intention to include a Pollution Reduction Program requiring the licensee to conduct a site specific determination of best management practices to reduce particulate emissions from coal mining activities</p>	<p>AQC will continue to consult with DPIE and other agencies regarding the status of activities on site.</p> <p>AQC will consult with EPA prior to the recommencement of mining on site.</p>	<p>30/11/2019</p> <p>-</p>
All Management Plans	<p>REC 6 With MOD 7 now approved, all management plans are required to be updated prior to recommencing mining operations.</p>	<p>AQC will review and update the Development Consent required environmental management plans for regulatory consultation prior to recommencement of mining operations (see Condition 3.1 in Table 1).</p>	<p>30/06/2020</p>
Annual Reviews	<p>REC 7 General Layout of the Annual Review</p>		

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	<p>If mining recommences future Annual Reviews should provide a greater level of comparison against the EIS predictions/commitments for MOD 7. Ensure that future Annual Reviews are completed in accordance with the MOD 7 requirements. This includes additional detail regarding trends in environmental data and rehabilitation. Additional information is required in the Annual Review relating to historic subsidence areas at the site.</p> <p>REC 8 Discharges</p> <p>There is not enough information in the 2016 Annual Review regarding the September 2016 Hunter River Salinity Trading Scheme (HRSTS) discharge. Description of HRSTS discharges in future Annual Reviews should have:</p> <ul style="list-style-type: none"> • Dates of discharge; • Some more details about volumes (ie. Volumes over different days); • Results of water quality testing for that discharge event compared against HRSTS Criteria and EPL Criteria; and • Comparison to upstream and downstream data. <p>REC 9 Complaints Management</p> <p>Ensure sufficient details of the queries/complaints (not including personal information) are provided in the Annual Review.</p>	<p>This information will be included in future Annual Reviews if mining recommences.</p> <p>Information from future HRSTS discharges from site will be provided in future Annual Reviews.</p> <p>No complaints were recorded during the reporting periods for the 2016, 2017 or 2018 Annual Reviews.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>

Aspect	SLR Recommendation	AQC Response Action	AQC Action Date
		Details of any community enquiries and complaints will continue to be reported in Annual Reviews.	
Rehabilitation and Closure	<p>REC 10 Closure Plan Liaise with DPIE and the Resources Regulator regarding the requirement and level of detail for a Closure Plan based on Condition 1.2. Unless there is a change to the Development Consent approval date, a Final Closure Plan/Final Closure MOP to be developed prior to July 2020. Consultation is required with the Resources Regulator and the other government departments listed in this condition.</p> <p>REC 11 Rehabilitation Monitoring Recommend implementing an annual rehabilitation monitoring program for the REA by a qualified rehabilitation consultant. This should focus on how the site is tracking against completion criteria in the MOP and focus on obtaining and reviewing quantifiable data.</p> <p>REC 12 Grazing Trials If grazing trials are recommenced these need to be described in the relevant Annual Reviews.</p>	<p>AQC will prepare a Mine Closure Plan for consultation with regulatory agencies.</p> <p>AQC will scope and commission an annual rehabilitation monitoring program for the REA.</p> <p>A summary of results from the annual REA rehabilitation assessment will be included in future Annual Reviews.</p> <p>A description of any grazing trials will be included in future Annual Reviews.</p>	<p>30/06/2020</p> <p>31/12/2020</p> <p>31/03/2021</p> <p>-</p>

Aspect	SLR Recommendation	AQC Response Action	AQC Action Date
	<p>REC 13 REA Some areas of bare ground identified. Due to current climatic conditions we recommend continuing to monitor the area for ground cover, however if climatic conditions improve (i.e. more rain) then additional seeding should be completed over these areas. No grazing in the REA until climatic conditions improve. Any grazing trials on the REA are to be described in the relevant Annual Reviews.</p>	Continue to monitor ground cover on the REA following significant rainfall events.	Ongoing
Rehabilitation Cost Estimate	<p>REC 14 If mining recommences a full review of the RCE should be completed, in consultation with the Resources Regulator.</p>	AQC will prepare a revised MOP and RCE for the site prior to any commencement of mining.	-
Spontaneous Combustion	<p>REC 15 Spontaneous combustion management to be included as a heading in any new MOP. The Spontaneous Combustion Management Plan is very old and the risk of spontaneous combustion may increase if approved mining operations recommence. The Spontaneous Combustion Management Plan requires updating if this is to occur.</p>	AQC will prepare a revised Spontaneous Combustion Management Plan for regulatory consultation prior to any commencement of mining.	30/6/2020
Subsidence	<p>REC 16 Extraction Plan The MOD 7 consent now includes a requirement to prepare Extraction Plans for all secondary workings. This must be completed prior to the commencement of mining.</p>	AQC will prepare an Extraction Plan for any secondary workings prior to any commencement of mining in accordance with Condition 3.3 of the MOD7 development consent.	-

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	<p>REC 17 Areas of Previous Undermining We recommend that a Subsidence Management Protocol to be developed for former mining areas as the SMP's are not very relevant anymore for the site due to the age of these documents and long period of time since mining operations were undertaken at Dartbrook. We envisage this to be a very streamlined document and should cover inspections, subsidence management and any reporting requirements for historic areas where surface subsidence was observed.</p>	<p>AQC will develop an inspection checklist for annual field reviews of historic surface subsidence areas.</p>	<p>31/12/2019</p>
Fire Management	<p>REC 18 Undertake a fire assessment if MOD 7 operations recommence to assess compliance against Condition 3.9.</p>	<p>AQC will update the site Bushfire Management Plan for regulatory consultation.</p>	<p>30/06/2020</p>
Dust Management/Stabilisation	<p>REC 19 If a decision is made to recommence operations, bare areas on former coal stockpile at CHPP should be stabilised if not being used for coal storage. If decision is made to close the site, the areas should be rehabilitated as part of planned closure. Additional soil testing and advice from a rehabilitation specialist would be required for any stabilisation or final rehabilitation activities.</p>	<p>AQC will reseed the cover crop on bare sections of the former East Site coal stockpiles when environmental conditions improve, if not required for site operations.</p>	<p>-</p>
Waste Management	<p>REC 20 Move the above ground tank to bunded area or remove from site. Once the tank has been moved, review the previous area for potential contamination from leaks.</p>	<p>The decommissioned tank will be moved to a bunded area.</p>	<p>31/12/2019</p>
Surface Water	<p>REC 21 CHPP Minor grading/shaping and seeding of windrow which runs parallel to the main dirt road.</p>	<p>AQC will reseed the windrow in December 2019 once the current maintenance program for East Site drains is completed.</p>	<p>31/12/2019</p>



Australian Pacific Coal

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	<p>REC 22 REA Two ESC features at the lower area of the REA are showing minor evidence of erosion, however they have a high potential for additional erosion during large rainfall events. Continue to inspect and maintain these structures.</p> <p>The recommendations identified by the Douglas Partners REA Geotechnical Inspection Report (February 2019) should be implemented.</p> <p>REC 23 West Site internal access road Drainage line along the box cut fence is only partially stable and needs additional stabilisation. This would likely include additional reshaping, and completion of rock lining or grass lined channels.</p>	<p>AQC will continue to inspect the REA on a monthly basis and following significant rainfall events. Remedial erosion control and rehabilitation management actions will continue to be undertaken.</p> <p>The minor maintenance actions for REA drainage pipelines identified in the Douglas Partners inspection have been completed.</p> <p>REA landform and drainage arrangements will be reviewed in the updated Mine Closure Plan to assess requirements for final backfilling of the REA inlet drain.</p> <p>These maintenance works will be completed in December 2019.</p>	<p>Ongoing</p> <p>-</p> <p>30/06/2020</p> <p>31/12/2019</p>

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	<p>REC 24 Drainage line along internal access road Additional engineering work required including reshaping. This would likely included additional reshaping, and completion of rock lining or grass lined channels.</p> <p>REC 25 Pipeline area of Western Holding Dam Current erosion where water from the pipe enters the dam. Additional erosion and sediment control works required to stabilise. Engineer to advise. Possible solutions include extending the length of the pipeline into the dam.</p> <p>REC 26 Geotechnical Assessment Recommend geotechnical assessment of all major mine water dams on site (excepting the SDD which was assessed in 2018) prior to recommencement of operations associated with MOD 7.</p>	<p>These works have been completed following the audit site inspection.</p> <p>These maintenance works will be completed in December 2019.</p> <p>AQC will commission a geotechnical review of site mine water dams prior to the recommencement of operations.</p>	<p>-</p> <p>31/12/2019</p> <p>30/06/2020</p>
Groundwater	<p>GW REC 3: Recommend update the SWMP to include clear procedures with regards to the timing and types of actions to be initiated in response to unexpected impacts.</p> <p>GW REC 4: Observation – no discussion on potential sources of contamination and subsequent measures to isolate waters is specified in the SWMP. Additional detail to be provided in the next revision to the SWMP.</p>	<p>The SWMP is being reviewed and will be provided to regulatory agencies for comment.</p> <p>The recommendations from the IEA will be considered in the revised document.</p>	<p>28/02/2020</p>

Aspect	SLR Recommendation	AQC Response Action	AQC Action Date
	<p>GW REC 7 Recommend current water licencing is included in the revised SWMP.</p> <p>GW REC 8 Observation – the groundwater monitoring network and monitoring frequency outlined within the SWMP 2015 does not fully comply with the recommended monitoring program included in Appendix A of the SWMP 2015. For example, three monitoring points (WSG1 to WSG3) for the Wynn Seam Goaf have not been included in the monitoring program. Review of monitoring program is required for MOD 7.</p> <p>GW REC 9 Recommend updating the monitoring program in the SMWP for consistency with current monitoring arrangements for the Wynn Seam Goaf and Hunter Tunnel. Liaise with groundwater specialist regarding monitoring program to ensure potential additional groundwater impacts from MOD 7 are being effectively being monitored and reviewed.</p> <p>GW REC 10 Recommend also presenting groundwater level contour maps to identify any potential flow pathways.</p> <p>GW REC 11 Recommend improved discussion on water take compared to 2000 EIS and previous years. Annual groundwater reviews (AGE 2016, 2017 and 2018) include only discussion on previous modelled results for alluvial groundwater leakage.</p>		

Aspect	SLR Recommendation	AQC Response Action	AQC Action Date
	Further work to review and discuss the groundwater inflows to the mine area is recommended, particularly monthly flow volumes and water quality from the Hunter Tunnel and groundwater storage within the Wynn Seam Goaf.		