



## Broken Hill Operations Pty Ltd - Rasp Mine 2019 Independent Environmental Audit – Action Plan

An independent audit covering the period from 6 February 2016 to 15 February 2019 was conducted for Project Approval 07\_0018 MOD5, Environmental Protection Licence 12559, and Consolidated Mining Lease 7, in February 2019. The actions and timeframes to address Non-compliances and Observations identified in the audit are addressed in the following tables.

### Non-compliances

Item No.	Condition	Requirement	Finding	Non-compliances or Recommendations	Action	Date Required
1	PA 07_0018 Sch2 Cond8	<p><b>Structural Adequacy</b></p> <p>The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.</p> <p><i>Notes to Condition 8:</i></p> <ul style="list-style-type: none"> <li>• Under Part 4A of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and</li> <li>• Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	<p>As noted in the 2015 AEMR (section 5.1), 2016 AEMR (section 7.1) and the 2017 AEMR (section 8.1): "There were no buildings erected or demolished during the year."</p> <p>It was stated that the only new structure constructed on site in the audit period was the Concrete Batching Plant (commissioned in September 2018).</p>	<p><b>Administrative non-compliance</b></p> <p>At the time of this February 2019 audit, BHOP was unable to provide evidence (e.g. an occupation certificate) that the Concrete Batching Plant was constructed in accordance with the relevant requirements of the Building Code of Australia.</p> <p>It was stated that asbestos removal is expected to occur in the future within some buildings on site, including roof replacement works that will occur as a result of hail damage from a previous storm.</p>	<p><b>Administrative non-compliance</b></p> <p>BHOP will seek a final inspection and an Occupation Certificate from Broken Hill City Council.</p>	30 Sept 2019
2	PA 07_0018 Sch2 Cond10	<p><b>Operation of Plant and Equipment</b></p> <p>The Proponent shall ensure that all the plant and equipment used on site, or to transport materials to and from the site, is:</p> <p>(a) maintained in a proper and efficient condition; and</p> <p>(b) operated in a proper and efficient manner.</p>	<p>BHOP uses the Pronto software system to record its plant and equipment assets, and for maintenance planning and scheduling.</p> <p>In relation to paragraph (a) of this condition, records which were sighted in this February 2019 audit included:</p> <ul style="list-style-type: none"> <li>• maintenance records (a history of scheduled services and unscheduled repairs) held in the Pronto system (including assigned work priorities from '1' to '5', with '1' being immediate, '2' within 24 hours, '3' within 7 days, '4' within 4</li> </ul>	<p><b>Non-compliant (low risk)</b></p> <p>During the audit period there were several incidents involving failures in environmental monitoring equipment. For example, TEOM data for PM10 was not collected from TEOM2 in April and May 2018 due to a storage card malfunction in TEOM2 and the data was not being downloaded or being reviewed on a daily basis. It is acknowledged that redundant/dual data acquisition has since been installed and daily data downloads are now occurring.</p>	<p><b>Non-compliant (low risk)</b></p> <p>BHOP has implemented actions from incident investigations which included redundant data acquisition, storage of spare parts, third party monitoring and alerts provision, and the review of monitoring practices.</p>	Complete



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			<p>weeks and '5' during shutdown) for assets including the Baghouse (Pronto item 310-DC-01), the BHOP-owned Isuzu water truck (Pronto item WT-03) and the wash-bay at the entrance to the mining area of the site (Pronto item RINFR-TW);</p> <ul style="list-style-type: none"> <li>• completed Workshop Weekly Inspection Records (Work Order No. 0189880 for an inspection on 27 November 2018, and Work Order No.0192594 for an inspection on 18 December 2018); and</li> <li>• completed Weather Station and TEOM Units Inspections Log Sheet Forms (BHO-FRM-ENV-009) for dates from 4 February 2019 to 13 February 2019, and 14 September 2018 to 25 September 2018.</li> </ul>			
3	PA 07_0018 Sch3 Cond3	<p><b>Air Quality and Greenhouse Gas – Air Quality Criteria</b></p> <p>The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not cause an exceedance of the criteria listed in Tables 1, 2 or 3 at any residence on privately-owned land.</p>	<p>BHOP's current 'Air Quality or Dust or Other Contaminants Management Plan' (AQMP) is revision no. 5, issued on 28 September 2017, Doc ID: BHO-PLN-ENV-001. Section 9 of the AQMP defines avoidance and mitigation measures to help ensure particulate matter emissions generated by the project do not cause an exceedance of the criteria listed in Tables 1, 2 or 3 of this condition at any residence on privately-owned land. Refer to condition 5 of this Schedule for examples of BHOP's dust management practices.</p> <p><b>High Volume Air Samplers (HVASs)</b> BHOP operates and maintains three HVASs to measure ambient air quality at the Rasp Mine:</p> <ul style="list-style-type: none"> <li>• HVAS (EPL10) and HVAS1 (EPL11) are located at the Silver Tank, central and to the south of the mine lease; and</li> </ul>	<p><b>Non-compliant (low risk)</b></p> <p>During the audit period, some minor isolated exceedances were experienced in Total Suspended Particulates, PM10 and total depositional dust, against limits defined in Tables 1, 2 and 3 of this condition.</p>	<p><b>Non-compliant (low risk)</b></p> <p>Non-compliance with PM10 annual average criterion at TEOM2 in December 2018 is likely the result of high regional dust levels. TEOM data is validated by a third party (Ecotech) in compliance with AS 3580.9.8 – 2008 and Ecotech Internal Standards. BHOP is also reviewing the methods for conducting data screening and analysis.</p>	31 Oct 2019



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			<ul style="list-style-type: none"> <li>HVAS2 (EPL12) is located adjacent to and north of Blackwood Pit (TSF2).</li> </ul> <p>HVAS samples for total suspended particulates (TSP) and lead dust, and HVAS1 and HVAS2 sample for particulate matter less than 10 microns (PM10) and lead dust.</p> <p>Selected BHOP Monthly Environmental Monitoring Reports were viewed to assess HVAS results against Table 1 of this condition.</p> <p>The Monthly Environmental Monitoring Report for January 2017 showed that:</p> <ul style="list-style-type: none"> <li>for HVAS, averaged values for PM10 in 2016 indicate that the annual average total suspended particles (TSP) at <math>36 \mu\text{g}/\text{m}^3</math> is well below the <math>90 \mu\text{g}/\text{m}^3</math> annual average criterion;</li> <li>for HVAS1, annual average PM10 at <math>13 \mu\text{g}/\text{m}^3</math> is well below the <math>25 \mu\text{g}/\text{m}^3</math> annual average criterion; and</li> <li>at HVAS2, annual average PM10 at <math>12 \mu\text{g}/\text{m}^3</math> is well below the <math>25 \mu\text{g}/\text{m}^3</math> annual average criterion.</li> </ul> <p>The Monthly Environmental Monitoring Report for December 2017 showed that:</p> <ul style="list-style-type: none"> <li>for HVAS, averaged values for TSP of approximately <math>34 \mu\text{g}/\text{m}^3</math> are below the <math>90 \mu\text{g}/\text{m}^3</math> annual average criterion;</li> <li>for HVAS1, the Rolling Annual Average for PM10 of approximately <math>16 \mu\text{g}/\text{m}^3</math> is below the <math>25 \mu\text{g}/\text{m}^3</math> annual average criterion; and</li> <li>for HVAS2, the Rolling Annual Average</li> </ul>			



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			<p>for PM10 of approximately <math>13 \mu\text{g}/\text{m}^3</math> is below the <math>25 \mu\text{g}/\text{m}^3</math> annual average criterion.</p> <p>The Monthly Environmental Monitoring Report for December 2018 showed that:</p> <ul style="list-style-type: none"> <li>• for HVAS, averaged values for TSP to December 2018 is <math>62.89 \mu\text{g}/\text{m}^3</math> which is below the <math>90 \mu\text{g}/\text{m}^3</math> annual average criterion;</li> <li>• for HVAS1, the PM10 rolling annual average was <math>25.4 \mu\text{g}/\text{m}^3</math> which is slightly above the PM10 annual average criterion of <math>25 \mu\text{g}/\text{m}^3</math>. The increase in the PM10 annual average was a result of severe drought conditions over this period; and</li> <li>• for HVAS2, the rolling annual average PM10 to December 2018 is <math>23.78 \mu\text{g}/\text{m}^3</math> which is below the PM10 annual average criterion of <math>25 \mu\text{g}/\text{m}^3</math>.</li> </ul> <p><b>TEOM Samplers (PM10)</b> In addition to HVAS samplers, BHOP operates and maintains two Tapered Element Oscillating Microbalance (TEOM) sampling units to measure ambient air quality at the Rasp Mine:</p> <ul style="list-style-type: none"> <li>• TEOM1 (EPL13) is located off-site within the perimeter fence of Essential Water south of the mine lease; and</li> <li>• TEOM2 (EPL14) is located on-site adjacent to Blackwood Pit to the north of the mine lease.</li> </ul> <p>TEOM1 and TEOM2 operate continuously and sample for particulate matter less than 10 microns (PM10) in size. No spare TEOM unit exists on site, but BHOP stated that a replacement unit is able to be sourced</p>			



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			<p>within three days.</p> <p>BHOP has commissioned service provider, Ecotech, to provide monthly monitoring and data reporting services for the Broken Hill Site 1 and Site 2 ambient air quality monitoring stations (i.e. TEOM1 and TEOM2 stations for monitoring ambient PM10). Ecotech retains NATA Accreditation No. 14184.</p> <p>Selected Ecotech reports and BHOP Monthly Environmental Monitoring Reports were viewed to assess TEOM results against this condition.</p> <p>The Monthly Environmental Monitoring Report for December 2016 showed that:</p> <ul style="list-style-type: none"> <li>• for TEOM1, the PM10 <math>\mu\text{g}/\text{m}^3</math> annual average was 13.7 <math>\mu\text{g}/\text{m}^3</math> (below the limits in Tables 1 and 2); and</li> <li>• for TEOM2, the PM10 <math>\mu\text{g}/\text{m}^3</math> annual average was 14.0 <math>\mu\text{g}/\text{m}^3</math> (below the limits specified in Tables 1 and 2).</li> </ul> <p>The Monthly Environmental Monitoring Report for December 2017 showed that:</p> <ul style="list-style-type: none"> <li>• for TEOM1, the PM10 <math>\mu\text{g}/\text{m}^3</math> annual average was 16.7 <math>\mu\text{g}/\text{m}^3</math> (below the limits in Tables 1 and 2); and</li> <li>• for TEOM2, the PM10 <math>\mu\text{g}/\text{m}^3</math> 12 annual average was 19.5 <math>\mu\text{g}/\text{m}^3</math> (below the limits specified in Tables 1 and 2).</li> </ul> <p>The Monthly Environmental Monitoring Report for December 2018 stated that both Project Approval and Environment Protection Licence criteria exclude dust storms and other extraordinary events. If</p>			



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			<p>the results of 1, 8, 13, 20, and 29 – 31 December were not included in the calculations then the rolling annual average PM10 results for TEOM1 and TEOM2 would be 20.9 <math>\mu\text{g}/\text{m}^3</math> and 25.2 <math>\mu\text{g}/\text{m}^3</math> respectively, which is below the PM10 annual average criterion of 25 <math>\mu\text{g}/\text{m}^3</math> for TEOM1 and slightly above the PM10 annual average criterion of 25 <math>\mu\text{g}/\text{m}^3</math> for TEOM2 required at the nearest residence on privately-owned land. Taking this into consideration the Rasp Mine is compliant with this criterion at TEOM1 and non-compliant with this criterion at TEOM2.</p> <p><b>Dust Deposition Sampling</b> BHOP operates and maintains seven dust deposition gauges to measure ambient air quality at the Rasp Mine – D1 to D7. D1 and D6 are located off-site, with D1 located near the St Johns training facility north of the Rasp Mine and D6 located in Casuarina Avenue south of the Rasp Mine. D2 to D5 and D7 are located on the mine lease in various locations. Dust samples are collected monthly and analysed for total deposited dust and deposited lead dust.</p> <p>Selected BHOP Monthly Environmental Monitoring Reports were viewed to assess dust deposition results against this condition.</p> <p>The Monthly Environmental Monitoring Report for December 2016 stated that with the exception of the background site (D6) in February 2016 and September 2016, depositional dust was within the maximum</p>			



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			<p>allowable total concentration of deposited dust of <math>4\text{g/m}^2/\text{month}</math> (annual average) with the maximum allowable contribution from the mine being <math>2\text{g/m}^2/\text{month}</math> (annual average).</p> <p>The Monthly Environmental Monitoring Report for December 2017 stated that the Rasp Mine is in compliance with criteria. Elevated total dust recorded at the offsite monitor at Casuarina Avenue appears to have been caused by motor bikes accessing the vacant lot at the rear of the property.</p> <p>The Monthly Environmental Monitoring Report for December 2018 stated that results for all dust gauges were elevated in December 2018. While the December results at D4 and D6 are above the background levels measured in 2010 they were impacted by particularly dry conditions resulting in dust storms on 1 and 13 December 2018. Results were highest at Junction Mine and Casuarina Ave. There are no Rasp Mine activities being undertaken at the Junction Mine and Casuarina Avenue is not on the Rasp Mine site. The Casuarina Avenue location returns consistently high dust readings which is likely due to it being located in the backyard of a residence adjacent to a bare block. The Junction Mine location is also surrounded by sparsely vegetated areas subject to vehicular traffic, which likely contributes to the elevated readings.</p> <p>Given the dust storms experienced in December 2018 and the erroneous/unrepresentative location of the</p>			



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			background sampling site D6 – Casuarina Ave, it is difficult to conclude the status of compliance with depositional dust limits in Table 3 for 2018.			
4	PA 07_0018 Sch3 Cond10	<b>Air Quality and Greenhouse Gas – Operating Conditions</b>  Video recording equipment shall be installed to assist in the active management of emissions from the tailings storage facility.	As noted in the February 2016 audit report, it was stated that video recording equipment was previously installed for an embankment lift on TSF1.  In the February 2016 audit report, BHOP noted (in response to PA Observation No. 9) that: <ul style="list-style-type: none"> <li>• because TSF2 was an in-pit facility, dust take up from wind will not become an issue until tailings levels rise closer to the surface; and</li> <li>• that it would confirm with the EPA, who requested the equipment be installed on TSF1, and if it is agreed that it is not required, apply to the DPE to have this condition removed.</li> </ul>	<b>Non-compliant (low risk)</b>  Given the inclusion of a definition of TSF2 as “tailing storage facility 2” in the MOD 4 Project Approval, it is considered that this condition applies to TSF2 and to any other tailings storage facility. No video recording equipment for management of emissions from TSF2 was in place during the audit period.  During this February 2019 audit it was stated that BHOP has secured a quotation for the supply and installation of a camera(s) for the planned TSF2 Embankment Lift (i.e. as a means of observing dust emissions from the mill Control Room).	<b>Non-compliant (low risk)</b>  BHOP will install video recording equipment to assist in the active management of emissions from the tailings storage facility.	Complete (two cameras installed to monitor TSF2).
5	PA 07_0018 Sch3 Cond11	<b>Air Quality and Greenhouse Gas – Air Quality Management Plan</b>  The Proponent shall prepare and implement a detailed Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with EPA and submitted to the Secretary for approval prior to the commencement of construction on the site; (b) identify all major sources of particulates and other air pollutants that may be emitted	BHOP’s current ‘Air Quality or Dust or Other Contaminants Management Plan’ (AQMP) is revision no. 5, issued on 28 September 2017, Doc ID: BHO-PLN-ENV-001. A different version of the AQMP is on the CBH website (titled ‘Air Quality Management Plan’, version no. 2, issued on 28 July 2016, Doc ID: BHO-PLN-ENV-001).  This audit finding relates to the AQMP revision no. 5, issued on 28 September 2017.	<b>Non-compliant (low risk)</b>  BHOP’s current AQMP (revision no. 5 issued on 28 September 2017) does not include the following details: <ul style="list-style-type: none"> <li>• There is no provision for triggering the automated water spray system referred to in the first dot point of paragraph (c) because the system has not yet been installed. It is acknowledged that section 5.9 of BHOP’s ‘Construction Environment Management Plan TSF2 Embankment Construction’ (BHO-PLN-ENV-012, revision no. 1 issued on 17</li> </ul>	<b>Non-compliant (low risk)</b>  BHOP will update the AQMP to include provision for triggering the automated water spray system, protocols in the AQMP for regular maintenance of plant and equipment to minimise the potential	Complete





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		<p>from the project, being both point source and diffuse emissions, including identification of the potential for lead contamination to be carried by these particulates;</p> <p>(c) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> <li>• provides a real-time monitoring system of dust emissions around the perimeter of TSF2 that triggers an automated water spray system prior to adverse meteorological conditions occurring;</li> <li>• is capable of measuring lead concentrations located in the prevailing down wind direction near the perimeter of TSF2;</li> <li>• provides for periodic point source monitoring at Point 1 (Ventilation Shaft) and Point 2 (Process Enclosure/ Baghouse Stack);</li> <li>• provides for continuous ambient monitoring across an ambient air quality and dust monitoring network comprising no fewer than ten monitoring locations (Points 3 to 12) for total suspended particulates, PM10, lead and dust deposition. Monitoring locations shall be informed by the outcomes of the air quality assessments presented in the EA and PPR and identified in consultation with EPA; and</li> <li>• provides for continuous meteorological monitoring using a meteorological monitoring station located on the site;</li> <li>• is consistent with the requirements of <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (DECC, 2007)</i>, the <i>Protection of the Environment Operations Act 1997</i> and the <i>Protection of the Environment (Clean Air)</i></li> </ul>	<p>During this February 2019 audit there was evidence that BHOP is implementing the AQMP. Refer to condition 5 of this Schedule for examples of implementation of the AQMP.</p> <p>In addition to the AQMP, BHOP has an Air Quality Monitoring Program Management Plan (AQMPMP), the current version being revision no. 2 issued on 28 July 2016, Doc ID: BHO-PLN-ENV-0010. The AQMPMP is on the CBH website.</p> <p>In relation to the paragraphs of this condition:</p> <p>(a) Appendix D to the AQMP reproduces email correspondence with the EPA circa March 2016. It is considered that the requirement for submission of the AQMP to the Secretary for approval prior to the commencement of construction on the site does not apply to subsequent revisions of the AQMP.</p> <p>(b) Section 7 of the AQMP identifies pollutants that may be emitted from the project, being both point source and diffuse emissions, including identification of the potential for lead contamination to be carried by these particulates.</p> <p>(c) The AQMPMP (referred to in section 13 of the AQMP) references a number of Procedures for Air Quality Monitoring (section 8) and generally satisfies the points in paragraph (c). Refer to the non-compliance below.</p> <p>(d) Section 9 of the AQMP describes management strategies including measures</p>	<p>January 2019) states: “The spray system is to be installed once EMB2 has been completed and access to the Pit rim becomes available, and will be designed such that the piping and sprays can be activated at any time during operations.”</p> <ul style="list-style-type: none"> <li>• There are no protocols in the AQMP for regular maintenance of plant and equipment to minimise the potential for elevated dust generation, leaks and fugitive emissions (paragraph (k)).</li> <li>• There is no contingency plan in the AQMP should an incident, upset or other initiating factor lead to elevated dust impacts, whether above normal operating conditions or above environmental performance goals/limits (paragraph (l)).</li> </ul>	<p>for elevated dust generation, leaks and fugitive emissions, and a contingency plan should an incident, upset or other initiating factor lead to elevated dust impacts, whether above normal operating conditions or above environmental performance goals/limits.</p>	



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		<p><i>Regulation 2010.</i></p> <p>(d) pro-active and reactive management and response mechanisms for particulates with specific reference to measures to be implemented and actions to be taken to minimise and prevent potential elevated air quality impacts (including ambient air and deposited dust impacts) on surrounding land uses as a consequence of meteorological conditions, upsets within the project, or the mode of operation of the project at any time;</p> <p>(e) procedures to review and refine the reactive management triggers for wind speed and dust concentrations;</p> <p>(f) procedures and processes for monitoring ambient dust and deposited dust impacts;</p> <p>(g) provision for regular review of dust monitoring data, with comparison of monitoring data with that assumed and predicted in the documents referred to under Condition 2 of Schedule 2;</p> <p>(h) details of measures to be implemented to address any situation in which monitored dust impacts exceed those assumed and predicted in the documents referred to under Condition 2 of Schedule 2;</p> <p>(i) specific complaints management procedures in the event that dust monitoring indicates elevated offsite impacts;</p> <p>(j) procedures for the minimisation of dust generation on the site;</p> <p>(k) protocols for regular maintenance of plant and equipment to minimise the potential for elevated dust generation, leaks and fugitive emissions; and</p> <p>(l) a contingency plan should an incident, upset or other initiating factor lead to elevated dust impacts, whether above</p>	<p>to manage air quality impacts including: exposed areas (section 9.1), sealed roads (section 9.3), TSF wind erosion (section 9.5), transfer to/from crushed ore storage bin (section 9.6), ventilation exhaust (section 9.7), crusher circuit (section 9.10), vehicle wash facilities (section 9.15) and meteorological forecasting to guide dust management (section 9.18).</p> <p>(e) The AQMP or AQMPMP do not describe procedures to review and refine the reactive management triggers for wind speed and dust concentrations.</p> <p>(f) The AQMPMP includes procedures and processes for monitoring ambient dust and deposited dust impacts (e.g. reporting frequencies and selection of monitoring locations in Appendix D).</p> <p>(g) The AQMP or AQMPMP do not include provision for regular review of dust data. The AQMPMP does include baseline air quality monitoring data and some predicted impacts (Appendix E, Figure D6).</p> <p>(h) The AQMP or AQMPMP do not include details of measures to be implemented to address any situation in which monitored dust impacts exceed those assumed and predicted.</p> <p>(i) Section 11 of the AQMP describes complaints management procedures (in relation to documentation and recording of information).</p> <p>(j) Refer to comments for paragraph (d) above.</p> <p>(k) Appendix B to the AQMP includes air quality controls within Rasp Mine Procedures, including requirements to regularly inspect plant and equipment.</p>			



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		normal operating conditions or above environmental performance goals/ limits.	However there are no protocols in the AQMP or AQMPMP for regular maintenance of plant and equipment to minimise the potential for elevated dust generation, leaks and fugitive emissions. Refer to the non-compliance below. (I) The AQMP does not include a contingency plan should an incident, upset or other initiating factor lead to elevated dust impacts, whether above normal operating conditions or above environmental performance goals/ limits. Section 9 of the AQMPMP deals with responses to community complaints and non-compliances (incident) and references the management strategies in the AQMP. Refer to the non-compliance.			
6	PA 07_0018 Sch3 Cond18	<b>Noise and Vibration – Blasting Limits</b>  The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Tables 8 and 9.	Blast monitoring at the Rasp Mine is scheduled and conducted by personnel from BHOP's Environment Department. Personnel from BHOP's Technical Services Department are responsible for reviewing the blast vibration data.  BHOP maintains six compliance blast monitors and an additional four roving blast monitors. These are listed in BHOP's Register of Blast Monitors.  During the audit period there was no identified exceedance of blast noise and vibration criteria in Table 8: Blasting Criteria (excluding Block 7).	<b>Non-compliant (low risk)</b>  In the audit period (relating to Table 9: Blasting Criteria (Block 7)) BHOP exceeded the allowable 5% above 3mm/s limit of the total number of blasts over a 12 month period at Block 7 (V5 blast monitor). A total of four blasts were recorded over 3 mm/sec and ranged from 3.07 mm/sec to 3.45 mm/sec. No external complaints from these blasts in Block 7 were received. The non-compliance with the 5% allowable limit is a result of the reduced number of blasts calculated in the 12 month rolling average.  It was stated that BHOP has not blasted or mined Block 7 since July 2018. There is no known plan to recommence blasting or mining of Block 7 in 2019.	<b>Non-compliant (low risk)</b>  Compliance has returned to 100% in Block 7.	Complete



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		<div>Table 8: Blasting Criteria (excluding Block 7)</div> <table><tr><th>Location</th><th>Airblast Overpressure (dB(Lin Peak))</th><th>Ground Vibration (mm/s)</th><th>* Allowable Exceedance</th></tr><tr><td rowspan="2">Residence on privately owned land</td><td>115</td><td>5</td><td><sup>b</sup> 5% of the total number of blasts over a 12-month period</td></tr><tr><td>120</td><td>10</td><td>0%</td></tr><tr><td>Public Infrastructure</td><td>-</td><td>100</td><td>0%</td></tr></table> <div>Table 9: Blasting Criteria (Block 7)</div> <table><tr><th>Location</th><th>Airblast Overpressure (dB(Lin Peak))</th><th>Ground Vibration (mm/s)</th><th>* Allowable Exceedance</th></tr><tr><td rowspan="2">Residence on privately owned land</td><td>115</td><td><sup>c</sup> 3 (interim)</td><td>5% of the total number of blasts over a 12-month period</td></tr><tr><td>120</td><td>10</td><td>0%</td></tr><tr><td>Broken Hill Bowling Club, Italo (Bocce) Club, Heritage Items within CML7</td><td>-</td><td>50</td><td>0%</td></tr><tr><td>Periya Southern Operations</td><td>-</td><td>100</td><td>0%</td></tr><tr><td><sup>d</sup> Public Infrastructure</td><td>-</td><td>100</td><td>0%</td></tr></table> <div>These criteria do not apply if the Proponent has a written agreement with the relevant owner to exceed these criteria, and has advised the Department in writing of the terms of this agreement.</div> <div>Notes to Tables 8 and 9:</div> <ul style="list-style-type: none"><li>* The allowable exceedance must be calculated separately for development blasts and production blasts;</li><li><sup>b</sup> The 5% allowable exceedance does not apply to production blasts until the Proponent has successfully completed a Pollution Reduction Program aimed at achieving this goal, as required by the EPA under the Proponent's EPL (No. 12559), or as otherwise agreed with the EPA;</li></ul>	Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	* Allowable Exceedance	Residence on privately owned land	115	5	<sup>b</sup> 5% of the total number of blasts over a 12-month period	120	10	0%	Public Infrastructure	-	100	0%	Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	* Allowable Exceedance	Residence on privately owned land	115	<sup>c</sup> 3 (interim)	5% of the total number of blasts over a 12-month period	120	10	0%	Broken Hill Bowling Club, Italo (Bocce) Club, Heritage Items within CML7	-	50	0%	Periya Southern Operations	-	100	0%	<sup>d</sup> Public Infrastructure	-	100	0%				
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Public Infrastructure	-	100	0%																																									
Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	* Allowable Exceedance																																									
Residence on privately owned land	115	<sup>c</sup> 3 (interim)	5% of the total number of blasts over a 12-month period																																									
	120	10	0%																																									
Broken Hill Bowling Club, Italo (Bocce) Club, Heritage Items within CML7	-	50	0%																																									
Periya Southern Operations	-	100	0%																																									
<sup>d</sup> Public Infrastructure	-	100	0%																																									
7	PA 07_0018 Sch3 Cond20	<p><b>Noise and Vibration – Noise and Blast Management Plan</b></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> <p><i>[Auditor’s Note: there is no paragraph (a).]</i></p> <p>(b) be prepared in consultation with EPA, and submitted to the Secretary for approval by the end of June 2011;</p> <p>(c) describe the noise mitigation measures that would be implemented to:</p> <ul style="list-style-type: none"><li>ensure compliance with the relevant conditions of this approval, including a real-time</li></ul>	<p>BHOP has prepared and implemented the following Management Plans in relation to this condition:</p> <ul style="list-style-type: none"><li>a Blasting Monitoring Program Management Plan (BMPMP) which currently is revision no. 3, issued on 4 November 2016, Doc ID: BHO-PLN-ENV-006;</li><li>a Technical Blasting Management Plan (TBMP) which currently is revision no. 1, issued on 30 March 2015, Doc ID: BHO-PLN-MIN-002;</li><li>a Noise Monitoring Management Plan (NMMP) which currently is revision</li></ul>	<p><b>Non-compliant (low risk)</b></p> <p>BHOP’s current BMPMP and TBMP do not address activities associated with the construction of the Concrete Batching Plant and TSF2 (i.e. the TSF2 Embankment Lift) and the capping and rehabilitation of TSF2 (paragraph (c)).</p>	<p><b>Non-compliant (low risk)</b></p> <p>BHOP’s current BMPMP and TBMP do not address activities associated with the construction of the Concrete Batching Plant and TSF2 (i.e. the TSF2 Embankment Lift) and the capping and rehabilitation of TSF2 (paragraph (c)).</p>	<p>Complete (Updated NMP addressing MOD4 requirement s on website. MOD5 requirement s addressed in current NMP with regulators for approval)</p>																																						



# Broken Hill Operations Pty Ltd - Rasp Mine 2019 Independent Environmental Audit – Action Plan

Item No.	Condition	Requirement	Finding	Non-compliances or Recommendations	Action	Date Required
		<p>noise management system that employs both reactive and proactive mitigation measures; and</p> <ul style="list-style-type: none"> <li>• address activities associated with the construction of the concrete batching plant and TSF2, and the capping and rehabilitation of TSF2;</li> </ul> <p>(d) include a noise monitoring program that:</p> <ul style="list-style-type: none"> <li>• uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and</li> <li>• includes a protocol for determining exceedances of the relevant conditions of this approval;</li> </ul> <p>(e) describe the blast management measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this approval; and</p> <p>(f) include a blast monitoring program that:</p> <ul style="list-style-type: none"> <li>• evaluates the performance of the project, including compliance with the applicable criteria;</li> <li>• uses a combination of roving blast monitors (at least 1) and fixed blast monitors (at least 6); and</li> </ul> <p>includes a protocol for determining and responding to exceedances of the relevant conditions of this approval.</p>	<p>no. 3, issued on 19 January 2018, Doc ID: BHO-PLN-ENV-009. Refer to observation below regarding the version number.</p> <p>During this February 2019 audit there was evidence that BHOP is implementing the BMPMP, TBMP and NMMP. Refer to comments for condition 19B of this Schedule for examples of implementation of the BMPMP and TBMP.</p> <p>Implementation of 'best management practices' in section 8.2 of the NMMP observed during this February 2019 audit included noise awareness information in the BHOP Rasp Mine General Induction (page 94), and the use of enclosed conveyors and transfer stations prior to the grinding circuit.</p> <p>In relation to the paragraphs of this condition:</p> <p>(a) There is no paragraph (a) in the condition.</p> <p>(b) Section 9 of the BMPMP and Appendix A of the NMMP provide evidence of consultation with the EPA. It is considered that the requirement for submission of the BMPMP and NMMP to the Secretary for approval by the end of June 2011 does not apply to subsequent revisions of the BMPMP and NMMP.</p> <p>(c) Section 6.3 of the NMMP describes 'Action Limits' during attended noise monitoring and section 7.2 of the NMMP describes noise mitigation measures to reduce a noise</p>			



# Broken Hill Operations Pty Ltd - Rasp Mine 2019 Independent Environmental Audit – Action Plan

Item No.	Condition	Requirement	Finding	Non-compliances or Recommendations	Action	Date Required
			<p>exceedance to below the action limit (e.g. elimination by using a new design, plant or equipment). The NMMP includes sufficient content relating to the Concrete Batching Plant. Refer to non-compliance below in relation to the BMPMP and TBMP.</p> <p>(d) Sections 6.1 and 6.2 of the NMMP and section 6.1 of the BMPMP include details of noise monitoring programs (i.e. monitoring locations and frequency).</p> <p>(e) Section 6 of the BMPMP and sections 7.2.2 and 7.3 of the TBMP describe blast management measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this approval, for example:</p> <ul style="list-style-type: none"> <li>instrumentation used and procedures will be in accordance with AS 2817.2-2006 (section 6.1 of the BMPMP); and</li> <li>all blasting data is electronically uploaded from the monitors four times daily (section 6.3 of the BMPMP).</li> </ul> <p>(f) The BMPMP and TBMP include a blast monitoring program that:</p> <ul style="list-style-type: none"> <li>evaluates the performance of the project, including compliance with the applicable blasting criteria (section 6.2 of the BMPMP);</li> <li>uses a combination of at least one roving monitor and at least</li> </ul>			



## Broken Hill Operations Pty Ltd - Rasp Mine 2019 Independent Environmental Audit – Action Plan

Item No.	Condition	Requirement	Finding	Non-compliances or Recommendations	Action	Date Required
			<p>six fixed monitors (section 6.1 of the BMPMP);</p> <ul style="list-style-type: none"> <li>includes a protocol for determining and responding to exceedances of the relevant conditions of this approval (sections 7.1 and 7.3 of the BMPMP and section 10 of the TBMP).</li> </ul>			
8	PA 07_0018 Sch3 Cond32	<p><b>Waste</b></p> <p>The Proponent shall:</p> <p>(a) minimise the waste generated by the project; and</p> <p>(b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, to the satisfaction of the Secretary.</p>	<p>Regulated waste inclusive of: a) waste oils; b) waste grease; c) hydrocarbon contaminated rags; d) oil filters etc, are removed by external service provider, Toxfree (i.e. part of the Cleanaway network of companies).</p> <p>Batteries are temporarily stored and removed of site for recycling.</p> <p>Used heavy vehicle tyres are either repaired or used for demarcation of haul and access roads around the site. Used light vehicle tyres are removed off site to commercial suppliers that manage this waste stream.</p> <p>External provider, Broken Hill Skip Bins, is contracted to supply and remove general domestic waste to landfill.</p> <p>It was stated that a glass and aluminum/steel can recycler has recently reopened in Broken Hill which may be utilised by BHOP.</p>	<p><b>Non-compliant (low risk)</b></p> <p>Whilst most regulated waste and recyclable products are segregated at source, no formal program has been developed and implemented by BHOP to continue to proactively review, identify and implement additional programs to minimise waste going to landfill and the volume of waste being recycled (i.e. BHOP waste minimisation plans should formally include existing and planned programs to reduce waste in the future).</p>	<p><b>Non-compliant (low risk)</b></p> <p>BHOP will develop waste reduction strategies.</p>	31 Mar 2019



## Broken Hill Operations Pty Ltd - Rasp Mine 2019 Independent Environmental Audit – Action Plan

Item No.	Condition	Requirement	Finding	Non-compliances or Recommendations	Action	Date Required
			<p>Some waste cardboard and paper is segregated and transported to the Broken Hill City Council (BHCC) facilities for collection.</p> <p>Septic waste from the site is collected by a third-party contractor (i.e. Silver Sweep) and transported to the BHCC Sewerage Treatment Plant (STP).</p> <p>Licensed waste contractors that remove regulated waste off-site utilise the NSW EPA on-line waste tracking process and define the relevant electronic EPA Tracking Numbers on the submitted service reports/invoices. These records are received by BHOP stores and forwarded to BHOP accounts in hard copy.</p>			
9	PA 07_0018 Sch3 Cond33A	<p><b>Waste</b></p> <p>The Proponent must update the Waste Management Plan required by condition 33 of this approval by December 2017, unless the Secretary agrees otherwise. The updated plan must include:</p> <p>(a) a long-term waste management strategy; and</p> <p>(b) an action plan for the implementation of the key measures proposed to achieve the strategy.</p> <p>Following approval, the Proponent must implement the plan.</p>	It was stated that BHOP only had a period of three months to lodge a suitable Waste Management Plan (WMP) when MOD4 was approved in September 2017.	<p><b>Non-compliant (low risk)</b></p> <p>In relation to the WMP:</p> <ul style="list-style-type: none"> <li>No documented record exists to demonstrate that BHOP submitted an updated WMP to the Secretary for approval prior to December 2017 (i.e. the current 2012 WMP was not submitted and the draft WMP (V4), dated January 2019, has not been issued).</li> <li>BHOP's current 2012 WMP (Rev 2) does not define the action plan (i.e. actions, responsibilities and timeframes) for effective and improved waste management across the operation.</li> </ul>	<p><b>Non-compliant (low risk)</b></p> <p>The updated WMP with action plan has been submitted and approved in June 2019.</p>	Complete



