

Certificate of approval – transitional environmental program

This certificate of approval for a transitional environmental program (TEP) is issued by the administering authority pursuant to section 340 of the Environmental Protection Act 1994 (the Act).

Mr Gopal Hota
Birla Mt Gordon Pty Ltd
Level 3, Septimus Roe Square
256 Adelaide Terrace
PERTH WA 6000

Your reference: EPML00911413

Our reference: NOR/045024

07 March 2014

Certificate of approval number: MAN17560

Dear Sir

Take notice: that under the provisions of the *Environmental Protection Act 1994* (the Act) this certificate of approval for a transitional environmental program (TEP) is served on you by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Heritage Protection (the department).

The TEP remains in force until **1 March 2019**.

An annual return and the payment of the assessment fee are due within 22 business days after the anniversary day, each year.

The anniversary date of this transitional environmental program is 7 March each year.

A. Certificate of approval issued to:

Name	Registered address
Birla Mt Gordon Pty Ltd	Level 3, Septimus Roe Square 256 Adelaide Terrace PERTH WA 6000



B. Transitional environmental program details

Location(s)

Mt Gordon Operation (MGO) located approximately 120 north-west of Mt Isa on mining leases (ML): ML5407, ML5412, ML5413, ML5418, ML5419, ML5420, ML5429, ML5430, ML5441, ML5442, ML5443, ML5444, ML5451, ML5454, ML5457, ML5459, ML5467, ML5485, ML5486, ML5489, ML5500, ML5548, ML5549, ML5550, ML5562, ML5563, ML90180, ML90181 & ML90182

The approved TEP consists of the following:

- the document titled "Draft Transitional Environmental Program SURFACE WATER CONTAMINATION AND IMPACT ON RECEIVING ENVIRONMENT Birla Mt Gordon" as amended on 6 March 2014 (attached); and
- a copy of this certificate of approval.

C. Conditions

The draft transitional environmental program is approved subject to the conditions set out in Schedule 1.

D. Additional information

Contaminated land

It is a requirement of the Act that if an owner or occupier of land becomes aware a notifiable activity (as defined in schedule 3 and schedule 4 of the Act) is being carried out on the land, or that the land has been, or is being, contaminated by a hazardous contaminant, the owner or occupier must, within 22 business days after becoming so aware, give written notice to the department in the approved form.

Obligations under the Act

In addition to the requirements found in the conditions of this certificate of approval, the holder must also meet their obligations under the Act, and the regulations made under the Act. For example:

- the holder must comply with the following provisions of the Act:
 - general environmental duty (section 319); and
 - duty to notify environmental harm (sections 320 - 320G);
- the holder must also ensure that they do not commit offences of:
 - causing serious or material environmental harm (sections 437 - 439);
 - causing environmental nuisance (section 440);
 - depositing prescribed water contaminants in waters and related matters (section 440ZG); and
 - placing contaminant where environmental harm or nuisance may be caused (section 443).

Should you have any queries in relation to the notice, please contact Jacob Toe by phone on (07) 42225332 or by email at jacob.toe@ehp.qld.gov.au.

Permit

Certificate of approval – transitional environmental program



Signature



Date

Hamish Butler
Delegate of the Chief Executive
Department of Environment and Heritage Protection
Environmental Protection Act 1994

Enquiries:
5B Sheridan Street, CAIRNS
PO Box 7230, CAIRNS
Queensland 4870
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Attachments

Document titled "Draft Transitional Environmental Program SURFACE WATER CONTAMINATION AND IMPACT ON RECEIVING ENVIRONMENT Birla Mt Gordon".

Schedule 1—Conditions of transitional environmental program

The transitional environmental program (TEP) at the location described above must be conducted in accordance with the following conditions of approval.

Condition number	Condition
1	All conditions of the EA apply during the period of this TEP unless a condition of this certificate of approval specifies otherwise.
2	BMG must ensure that the water quality of receiving waters is maintained or improved during the period of the TEP.
3	Contaminant releases may occur from the area defined in Figure 1 as 'Old TSF', subject to condition 2 of this certificate of approval.
4	BMG must ensure there is no exceedence of any EA contaminant limit, except for: (a) The sulfate contaminant limit within the section of Gunpowder Creek defined in Figure 1 as 'Section 1: Gunpowder Ck', subject to condition 2 of this certificate of approval; and (b) The sulfate contaminant limit within the section of Gunpowder Creek defined in Figure 1 as 'Section 3: Gunpowder Ck', which must not exceed 2,000 mg/L during the period of this TEP.
5	BMG must ensure there is no exceedence of any EA contaminant limit within the section of Magazine Creek defined in Figure 1 as 'Section 2: Magazine Ck', except for copper and pH, subject to condition 2 of this certificate of approval.



Certificate of approval – transitional environmental program

6	BMG must ensure that a review of water quality monitoring data, sufficient to determine compliance with condition 2 of this certificate of approval, is undertaken by an appropriately qualified person at least once per calendar month. At minimum, each review must: a) Be in accordance with the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)</i> produced by the Australian and New Zealand Environment and Conservation Council; b) Include consideration of all water quality parameters specified in <i>Schedule C - Table 4 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits)</i> of the EA; c) Include all available monitoring data relevant to the review; d) Detail the methodology adopted for the review and any assumptions relied upon; e) Be documented and kept for a period of not less than three years following completion of the TEP; and f) Be provided to the administering authority within five business days of a request.
7	BMG must notify the administering authority within twenty-four hours of identifying any non-compliance with a condition of this certificate of approval.
8	The progress of the TEP must be monitored by BMG and documented in a report completed at a frequency of once every six months. Each report must be submitted to EHP by the following dates: a) 1 September 2014; b) 1 March 2015; c) 1 September 2015; d) 1 March 2016; e) 1 September 2016; f) 1 March 2017; g) 1 September 2017; h) 1 March 2018; i) 1 September 2018; j) 1 March 2019.

Definitions

"appropriately qualified person" means a person who has professional qualifications, training and experience relevant to the nominated subject matter, who can give authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods and literature.

"BMG" means Birla Mt Gordon Pty Ltd.

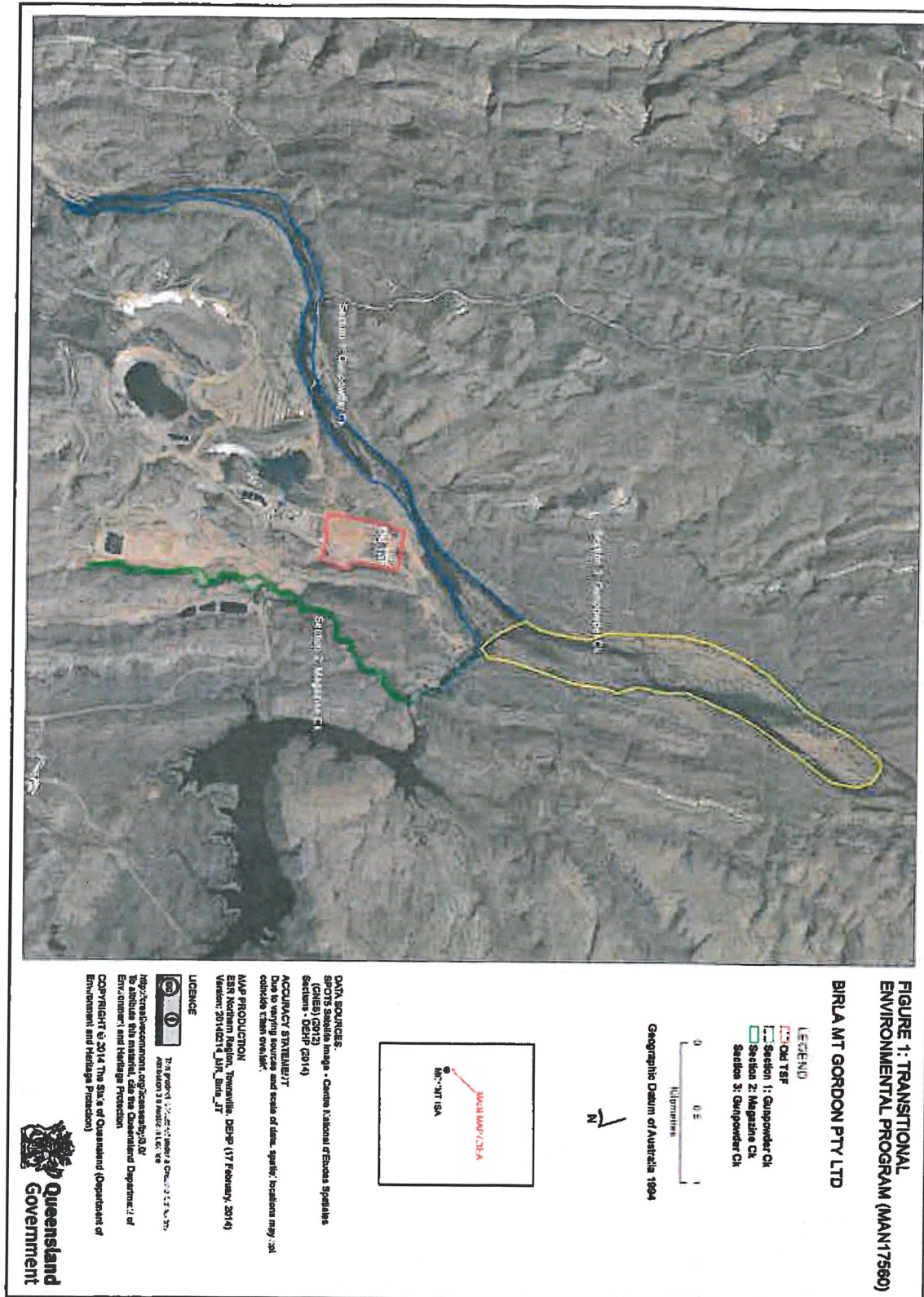
"EA" means environmental authority EPML00911413 as issued to Birla Mt Gordon Pty Ltd by the administering authority.

"EA contaminant limit" means a water quality contaminant limit specified in Schedule C - Table 4 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits) of environmental authority EPML00911413.

"maintained" in regards to water quality of receiving waters, means no measurable increase in the concentration of any contaminant with the potential to cause environmental harm.

"receiving waters" means Gunpowder Creek (upstream of the junction with Greenstone Creek), Magazine Creek and Greenstone Creek (downstream of Lake Waggaboonya).

Figure 1



END OF CERTIFICATE



Draft Transitional Environmental Program

SURFACE WATER CONTAMINATION AND IMPACT ON RECEIVING ENVIRONMENT

Birla Mt Gordon

**Submitted In accordance with s 332(5) of the
*Environmental Protection Act 1994 (QLD)***

6 March 2014



Principle Holder: Birla Mt Gordon Pty Ltd.
EA Number: EPML00911413
Title: Surface water contamination and impact on receiving environment
Date: February 2014
Term of TEP: 5 years from approval

1. Background

The Birla Mt Gordon project is an historic copper mining operation situated within the Gunpowder, Magazine and Greenstone Creek catchments.

The project has a long history of environmental non-compliances and has confirmed exceedences beyond that approved under environmental authority EPML00911413 (EA) for surface waters, sediments, and groundwater within the receiving environment. The extent, environmental implications, and reasons for these exceedences have been defined within the BMG Seepage Environmental Evaluation (NRA, 2012 report #3). The major identified causes of receiving environment contamination are:

- Seepage generated from Esperanza TSF was confirmed as a major contributor to the sulphate and metal loads entering Gunpowder Creek, which cumulatively lead to a situation whereby EA contamination limits were exceeded in Gunpowder Creek. BMG have proactively managed this situation during 2012 by constructing and operating 3 major Seepage Interception Systems. This situation was non-compliant with EA condition Table C4, due to likely impact on Gunpowder Creek as a source of contaminated seepage.
- Mammoth Tailings Storage Facility (TSF) and Heap Leach Pad #2, where currently unlicensed discharge occurs causing high sulphate and metal surface flows, which also cumulatively impact upon receiving environment. This situation is non-compliant with condition (C2-1) and Table C-4, due to being unauthorised discharge points, causing surface flows which exceed receiving environment contamination limits, and has a cumulative impact upon Gunpowder Creek.
- A general generation of sulphate rich seepage and surface flows across numerous mining domains, which impacted upon the surface waters of the receiving environment either by direct flow or via the contaminated groundwater aquifer. This situation results in non-compliances with condition (C2-1) and Table C-4, as it increases the sulphate and metal load in Gunpowder and Magazine Creek.

The seepage EE also determined what is considered to be all reasonable and practical mitigation measures to reduce these occurrences (NRA, 2013 report #4). EHP accepted the Seepage Environmental Evaluation on 2 August 2013. In accepting the EE environmental reports, EHP issued a notice requiring a draft Transitional Environmental Program (TEP) to address the identified receiving environment contamination. This TEP will address the matters outlined in the notice requiring the draft TEP by achieving the objectives outlined in section 2.

In accordance with section 331 (c) of the EP Act, the actions proposed in this draft TEP shall result in substantial improvements to the Old TSF area and Heap Leach Pad #2 landforms and reduce their impact on the receiving environment, including the avoidance of any unauthorised discharge (EA condition C2-1). The remaining aspects of the action program aims to reduce the contaminant load entering the groundwater and receiving environment. As a result it is expected that by the end of this 5 year TEP term, the sulphate and metal concentrations within the receiving environment (wet and dry season) shall have returned to within EA specifications for receiving water contamination limits of Table C-4.



2. Objectives

The overriding objective of this draft TEP is to reduce the environmental harm caused by release of contaminants from the mining activities.

In accordance with section 331 (a) of the EP Act, the specific objectives of this draft TEP are:

1. Prevent unauthorised contaminant release from the Old TSF area to Gunpowder Creek.
2. Return to compliance with water quality contaminant limits of Table 4 for Magazine Creek.
3. Return to compliance with water quality contaminant limits of Table 4 for Gunpowder Creek.

3. Action Program

In accordance with section 331 (b) of the EP Act, an action program specifying BMG's proposed actions and timeframes to achieve the draft TEP's objectives is shown in Table 1.

The BMG project is currently in a state of Care and Maintenance therefore not conducting any mining operations. During the term of this TEP, the project may commence an operational phase. In either scenario, the actions proposed by this TEP represent all reasonable actions to minimise the impact of environmental harm to the receiving environment (surface waters, sediments, and groundwater), and there is no risk of cumulative impact due to mining operations.

In accordance with EP Act section 331 (b) (i) and (ii), the objectives and actions of this TEP have been developed with an understanding of industry best practice and risk assessment. Issues with the potential to cause environmental impact (i.e. contribute the greatest increase to the sulphate load of Gunpowder or Magazine Creek) have been prioritised for first actions. The proposed actions and timeframes were discussed in the Seepage EE (NRA, 2013 Report #4) which constitutes all reasonable actions to reduce impact on surface waters, sediments and groundwater. EHP have accepted this document.

In circumstances where it becomes necessary to alter the actions or timeframes set out in the below TEP action plan, be it as a result of findings from completed investigations, or actions beyond BMG's reasonable control, then BMG shall contact EHP as soon as possible of the nature of any required modifications.



Table 1 – TEP action program

Objective	Action	Description of action to achieve the objective	Timeframe	Performance indicator	Reporting requirement
1) Prevent unauthorised contaminant release from Old TSF area to Gunpowder Creek	1 - 6	Management of Old TSF from a final closure perspective to cease seepage through the facility. Achieved through 3 sub-objectives (1a - 1c).	As below actions	No surface expressions of seepage, improvement of water quality in Sump 6 (inc GWM# 32, 34 & 36), and compliant surface flows in Gunpowder Creek.	As below actions, and TEP final report.
1a) Cease surface seepage expression downstream of Old TSF.	1	Removal of heavy equipment in hardstand (including old genset), which may reasonably be inducing consolidation.	Completed by 22 August 2014.	Removal of genset, and any equipment within 100m of the consolidation zone.	Pre and post photographic records.
	2	Associated earthworks to ensure surface of Mammoth TSF cannot pool water.	Completed by 14 November 2014.	Water shedding surface, with no ability to pool water.	Construction report, including pre and post survey pickup
	3	Improve drainage to shed water and no external catchment. Including interception of any surface run-off from the Concentrate Shed	Completed by 14 November 2014.	No external catchment.	Construction report and survey pickup
1b) Define and implement an appropriate final landform and cover design for Old TSF	4	Develop "Old TSF Final Landform and Cover Design" including engineering drawing to construction specifications for cover.	Completed by 21 August 2015.	Verification that monitoring program has been implemented.	Submission of report
	5	Physical earthworks required to execute Old TSF - Final Landform and Cover Design report, including construction of a cover if so recommended.	Completed by 7 March 2017.	RPEQ certification of constructed cover, as designed in Old TSF Final Landform and Cover Design report.	As constructed report, including details of QA program.
1c) Interim management of Old TSF seepage.	6	Continuation of the sump 6 seepage interception & monitoring system.	Over the term of the TEP	Avoid uncontrolled release from Sump 6 as much as practicable.	TEP progress report (inc rates of recovered seepage).
2) Return to compliance with water quality contaminant limits of Table C-4 for Magazine Creek.	7 - 11	Remediate known point sources for contaminant inflows, resulting in a return to compliance of surface flows. Achieved through 3 sub-objectives (2a - 2c).	As per below actions	Water quality monitoring (adj heap leach pad#2, Mammoth Portal Sump & WC03)	As below actions, and TEP final report.
2a) Remediate all known point sources of contaminant generation impacting Magazine and Greenstone Cr.	7	Decommission the Heap Leach Evaporation Pan #2 (HLEP), by undertaking associated earthworks to ensure surface of HLEP#2 cannot pool water.	Completed by 14 November 2014.	Reduction of occurrence of low pH waters pooling in Magazine Creek adj to Heap Leach Pad #2	Submission of Heap Leach Pad Evaporation Pan Remediation report, including pre and post survey pickup
	8	Develop "HLEP#2 Final Landform and Cover Design" including engineering drawing to construction specifications for cover.	Completed by 21 August 2015.	Verification that monitoring program has been implemented.	Submission of report
	9	Physical earthworks required to execute HLEP#2- Final Landform and Cover Design report, including construction of a cover if so recommended.	Completed by 7 March 2017.	RPEQ certification of constructed cover, as designed in Old TSF Final Landform and Cover Design report.	As constructed report, including details of QA program.
2b) Investigate if any additional point sources of contamination.	10	Continue the monitoring program Stage 1 - existing monitoring program (water quality at Mammoth Portal, HLEP#2, WC03, sediment transect along Magazine Cr) and monitoring of accumulated contaminated soil in Magazine Creek by annual sediment sampling (before end of July of each year - 1 st qtr of dry season). Stage 2 - additional investigatory sampling if required.	Over the term of the TEP	Improvement in water quality (post removal of contaminant sources in actions 7-9)	TEP progress report (monitoring data). Annual review of Magazine Creek monitoring results.
2c) Minimise risk of no contaminated flows occur past Mammoth Portal Sump,	11	Capture contaminated water before it reports to Greenstone Creek (prior to completion of actions 7-9).	Completed by 7 March 2017.	Water within EA limits at WC03 (during high flows)	1 st TEP progress report due by 1 st September 2014. Confirm action by photos, pump hire records and WC03 water sampling records.



Objective	Action	Description of action to achieve the objective	Timeframe	Performance Indicator	Reporting requirement
3) Return to compliance with water quality contaminant limits of Table C-4 for Gunpowder Creek.	12-15	Reduction of the sulphate and metal contamination load entering Gunpowder Creek to a point whereby no exceedances of receiving water contamination limits occurs (EA Table C4). Achieved through 3 sub-objectives (3a - 3c), along with successful achievement of objectives 1 and 2.	As per below actions	Improvement of water quality results in Gunpowder Creek (WC01, WC02 and WC04).	As below actions, and TEP final report.
3a) Improved Esperanza TSF seepage management.	12	Operation of the Esperanza TSF in accordance with EA condition G-12-1 "Esperanza TSF Master Seepage Report"	As per requirements of EA	3 rd party certification of compliance.	October of each TEP year. Certification of compliance occurs within Annual Hazardous Dams Inspection Report.
	13	Continuous operation of North Waste Rock Dump, Saddle Dam #2 & Saddle Dam #3 seepage pumping systems.	Over the term of the TEP	REMP data showing no impact to Gunpowder d/s of saddle dam #2, SD#3, or North Rock.	TEP progress report, exact from REMF report.
3b) Ensure that discharge does not unnecessarily increase sulphate load in Gunpowder Creek at beginning of dry season.	14	Discharge in accordance with court order #3267 of 2013 (i.e. when creek flowing >1.1m ³ /s for sufficient dilution and movement)	Over the term of the TEP or Court Order	No non-compliances with court order discharge conditions.	TEP progress reports.
3c) Reduce groundwater and soils contamination (from Sump 6), to reduce the contamination load entering Gunpowder Creek.	15	Annual scalping of visually evident seepage induced efflorescence in the area known as Sump 6 (immediately downstream of Old TSF)	Completed by 31 October of each year if required	Removal of sulphates and metals which would otherwise impact upon surface water quality.	TEP progress reports (Pre and post photos).

4. Monitoring and Reporting

The specific monitoring and reporting for each of the actions planned is listed in Table 1, and is in accordance with section 331 (h) of the EP Act. BMG shall continue its current monitoring program which is considered adequate for it to track the success of the TEP actions in regaining compliance with EA table C-5. BMG shall conduct the following reporting:

- Bi-annual TEP progress reporting in June and December of each year. Reports aim to provide all stakeholders with a formal update on progress in achieving TEP action milestones for the 6 months prior and upcoming. First report due on 1 June 2014, and continuing in 6 month increments for the full term of TEP.
- Annual review of the receiving water monitoring program data, specifically assessing the success of the TEP's progress in regaining compliance with the EA (condition C2-1 and table C-5). First annual review due on 1 October, 2015 as defined by the EA.
- Annual review of the Magazine and Greenstone Creek monitoring program, in regards to identifying improvements in water and sediments along this stretch of creek, or potentially triggering a requirement for additional monitoring to determine additional point sources. To be conducted in conjunction with the above EA required REMP report.
- Monthly monitoring of environmental values of receiving waters at Gunpowder Creek, Greenstone Creek and Magazine Creek by an appropriately qualified person to ensure the values do not measurably increased during the period of the TEP. Trend data will be made to the administering authority within 5 business days of a request or otherwise it will be formally reported in the Bi-annual TEP progress report.
- Old TSF:
 - Final Landform and Cover Design report
 - Final Landform and Cover as constructed report
- A final TEP report shall be completed and submitted to DEHP before the end of the fifth year from the date of approval of this TEP.

Please note, as the genesis for this TEP relates to ongoing compliance issues within the receiving environment, which was investigated extensively within the Environmental Evaluation (NRA, 2012). The cause and extent of impact has been fully investigated and is understood by all stakeholders. Additional EA conditions obligate BMG to extensive monitoring of the receiving environment which will further define and track any positive or negative changes to the receiving environment.

5. Definitions

'Old TSF area' means the infrastructure specified as the 'Old TSF' and 'Concentrate Shed Area' in Schedule A – Table 1 (Authorised Disturbance) of environmental authority EPML00911413.

'condition (C2-1)' means the following condition from environmental authority EPML00911413:

(C2-1) The release of contaminants to waters must only occur from the release point specified in Schedule C - Table 1 (Contaminant Release Point) and identified in Schedule J – Plan 1 (Contaminant Release Point).

'Table 4' means the following condition (C3-2) and Schedule C – Table 4 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits)' from environmental authority EPML00911413:

(C3-2) Contaminant levels in receiving waters (for water quality and sediment quality) must not exceed any of the contaminant limits specified in Schedule C - Table 4 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).

Schedule C - Table 4 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits)

Parameter	Water Quality ⁶		Sediment Quality ⁷	
	Trigger Level ⁴ (µg/L unless otherwise specified)	Contaminant Limit ⁴ (mg/L unless otherwise specified)	Trigger Level ⁴ (mg/L unless otherwise specified)	Contaminant Limit ⁴ (mg/L unless otherwise specified)
pH (pH units)	6.0 – 8.5		Not applicable	
EC (µS/cm)	435	TBD*	Not applicable	
Sulphate	250 mg/L	1,000 mg/L	Not applicable	
Fluoride	80 th percentile ¹ of reference site concentration ²	2 mg/L	Not applicable	
Major cations	For interpretive purposes		Not applicable	
Major anions	For interpretive purposes		Not applicable	
Aluminium	80 th percentile ¹ of reference site ² concentration ³ or 55, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 5, whichever is lower	Not applicable	
Arsenic ⁵	80 th percentile ¹ of reference site ² concentration ³ or 13, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 0.5, whichever is lower	Reference site concentration ² or 20, whichever is higher	70 or three times the reference site concentration ² , whichever is higher
Boron	80 th percentile ¹ of reference site ² concentration ³ or 370, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 5, whichever is lower	Reference site concentration ²	Three times the reference site concentration ²
Cadmium	80 th percentile ¹ of reference site ² concentration ³ or 0.2, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 0.01, whichever is lower	Reference site concentration ² or 1, whichever is higher	10 or three times the reference site concentration ² , whichever is higher
Chromium ⁵	80 th percentile ¹ of reference site ² concentration ³ or 1.0, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 1, whichever is lower	Reference site concentration ² or 80, whichever is higher	370 or three times the reference site concentration ² , whichever is higher
Cobalt	80 th percentile ¹ of reference site ² concentration ³	95 th percentile ¹ of reference site ² concentration ³ or 1, whichever is lower	Reference site concentration ²	Three times the reference site concentration ²
Copper	80 th percentile ¹ of reference site ² concentration ³ or 1.4, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 1, whichever is lower	Reference site concentration ² or 65, whichever is higher	270 or three times the reference site concentration ² , whichever is higher

Lead	80 th percentile ¹ of reference site ² concentration ³ or 3.4, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 0.01, whichever is lower	Reference site concentration ² or 50, whichever is higher	220 or three times the reference site concentration ² , whichever is higher
Manganese	80 th percentile ¹ of reference site ² concentration ³ or 1900, whichever is higher	95 th percentile ¹ of reference site ² concentration ³	Reference site concentration ²	Three times the reference site concentration ²
Nickel	80 th percentile ¹ of reference site ² concentration ³ or 11, whichever is higher	95 th percentile ¹ of reference site ² concentration ³ or 1, whichever is lower	Reference site concentration ² or 21, whichever is higher	52 or three times the reference site concentration ² , whichever is higher
Uranium	80 th percentile ¹ of reference site ² concentration ³	95 th percentile ¹ of reference site ² concentration ³ or 0.2, whichever is lower	Reference concentration ²	Three times the reference concentration ²
Zinc	80 th percentile ¹ of reference site ² concentration ³ or 8.0	95 th percentile ¹ of reference site ² concentration ³ or 20, whichever is lower	Reference concentration ² or 200, whichever is higher	410 or three times the reference concentration ² , whichever is higher
Total Hardness	For interpretive purposes only		Not applicable	
Total Organic Carbon	Not applicable		For interpretive purposes	
Particle size distribution	Not applicable		For interpretive purposes	

1 Must be determined in accordance with QWQG (2009) and ANZECC (2000) methodology.

2 Reference sites are specified in Schedule C - Table 3 (Receiving Waters Monitoring Locations).

3 Where the 80th/95th percentile of a water quality trigger level contaminant limit is exceeded at a receiving water site and the reference site also exceeds this concentration during the release flow event, the value of the reference site applies as the water quality trigger level/contaminant limit for the duration of the event.

4 Site specific trigger levels and contaminant limits for water quality (80th and 95th percentile of reference site concentration) must be calculated in accordance with QWQG (2009) and ANZECC (2000) methodology if sufficient monitoring data is available. The environmental authority holder must maintain a database documenting all relevant water quality monitoring data and calculation of 80th/95th percentiles adopted as water quality trigger levels and contaminant limits.

5 Routine analysis for this parameter is based on combined/total species of the element, where the exceedence of the WQO is identified, an additional sample must be taken and analysed as soon as practicable to determine and quantify speciated forms of this element. This does not apply to sediment analysis.

6 For all water quality monitoring, metals and metalloids must be measured and reported as both total (unfiltered) and dissolved (field filtered) concentrations.

7 All stream sediment sampling must be undertaken in accordance with AS 5667.12 *Guidance on Sampling of Bottom Sediments of 1998*.

TBD – The holder must determine a trigger level and contaminant limit for Electrical Conductivity in accordance with the REMP, relevant provisions of the Environmental Protection (Water) Policy 2009 and ANZECC (2000) methodology before 1 October 2013.