



Challenger Gold
Annual Compliance Report

Barton Gold

DOCUMENT TRACKING

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Template 2.8.1

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Abbreviations and definitions

Abbreviation	Description
ACR	Annual Compliance Report
CIP	Carbon-in-Pulp
DEM	Department for Energy and Mining
DEW	Department of Environment and Water
DoH	Department of Health
DSD	Department for State Development
EL	Exploration Licence
ELA	Eco Logical Australia
EMMP	Environmental Management and Monitoring Program
EPA	Environmental Protection Authority
JORC	Joint ore reserves committee
LoM	Life of Mine
ML	Mining Lease
MPL	Miscellaneous Purpose Licences
MD 009	Ministerial Determination 009
Mining Act	<i>Mining Act 1971</i>
MSDS	Material Safety Data Sheets
NTMA	Native Title Mining Agreement
OMC	Outcome Measurement Criteria
PEPR	Program for Environment Protection and Rehabilitation
tpa	tonnes per annum
TDS	Total dissolved solids
WPG	WPG Resources Limited

Executive summary

This Annual Compliance Report (ACR) is submitted for the Challenger Gold Mine (Challenger) for the period 1 April 2018 to 30 June 2020. Challenger is located approximately 780 km north-west of Adelaide and 225 km north-northwest of Ceduna in South Australia and is owned and operated by Barton Gold. The Project commenced operations in 2002 under the ownership of Kingsgate Consolidated Limited (Kingsgate). WPG Resources Limited (WPG) acquired Challenger in 2016. In 2019 Barton Gold acquired a number of former WPG tenements. Those tenements comprise Challenger's operations and include Mining Leases (MLs) 6103 and 6547, as well as Miscellaneous Purpose Licences (MPLs) 63, 65 and 66. There have been several updates to the Program for Environment Protection and Rehabilitation (PEPR) for Challenger, since the initial document was submitted in April 2002 (previously referred to as a Mining and Rehabilitation Program (MARP)). This ACR applies to the period 1 April 2018 to 30 June 2020. During this period a revised PEPR was approved by the DEM, a change from operational phase to care and maintenance phase occurred, and ownership transitioned from WPG to Barton Gold. Key dates relating to these changes are as follows:

- 1) An updated PEPR was approved by DEM on 31 July 2018 and PEPR2017/020 came into effect.
- 2) The Project was in an operational phase between April 2018 and mid October 2018. In October 2018, the Project was placed into care and maintenance by the then operator WPG, who was at that time under administration.
- 3) In 2019, Barton Gold acquired a number of former WPG tenements, including ML 6103 and ML 6457 for the Project.

Since the Project was acquired by Barton Gold, it has remained in a period of care and maintenance. The Project is subject to the conditions outlined within the ML documents and approved PEPR (PEPR2017/020). With the most recent regulatory ACR for the site submitted in May 2018, covering the period between 1 April 2017 and 31 March 2018, DEM is now seeking an updated ACR for Challenger.

This ACR reports the evidence available to demonstrate compliance of the Project against requirements of the current approved PEPR2017/020 (dated February 2018) document's Outcome Measurement Criteria (OMC). This document has been prepared in accordance with the Minerals Regulatory Guidelines *Reporting periods and minimum information required to be provided in a compliance report for a holder of a mineral lease and any associated miscellaneous purpose licence or associated extractive mineral lease*, Ministerial Determination 009 (MD 009), dated 27 February 2020.

This ACR has considered available records and data to demonstrate compliance against the current approved PEPR 2017/202, in addition it considers compliance with the OMC contained within the original PEPR 2016/058 (approved January 2017) that were not carried through as OMC in the revised PEPR 2017/020 and that would have applied to the site between the commencement of this ACR period (1 April 2018) and the revised PEPR coming into effect (31 July 2018).

In relation to some environmental outcomes and OMC and lease conditions, there was insufficient data or records available to demonstrate achievement compliance with the criteria or conditions. This has occurred due to a gap in resources allocated to undertaking tasks and/ or maintaining records since the care and maintenance period commenced in October 2018. Proposed corrective actions and timeframes to address all outstanding compliance matters are further detailed in this report.

Ministerial determination checklist

Compliance with the *Ministerial Determination 009* (MD 009) and the associated *Mining Compliance Report (MCR) Template* is summarised in Table 1.

Table 1 Compliance with MD 009 and MCR template

Section (as per MD 009 / MCR template)	Section in this ACR
Item 1.1 / Section 1: Declaration of accuracy	
Item 4.1 / Section 2: Public liability insurance	
Item 4.2 / Section 3: Identification	1.2
Item 4.3 / Section 4: Tenements	1.3
Item 4.4 / Section 5: Other approvals	1.4
Item 4.5 / Section 6: Ore reserves and mineral resources	2.1
Item 4.6 / Section 7: Mining, processing and waste storage activities	2.2
Item 4.7 / Section 8: Compliance with environmental outcomes and leading indicator criteria	3.1
Item 4.8 / Section 9: Compliance with non-outcome-based tenement conditions	3.2
Item 4.9 / Section 10: Rectification of non-compliances	3.4
Item 4.10 / Section 11: Disturbance and rehabilitation activities	4
Item 4.11 / Section 12: Reconciliation of native vegetation clearance	5
Item 4.12 / Section 13: Environment Protection and Biodiversity Conservation Act 1999 reporting	6
Item 4.13 / Section 14: Exempt land	7
Item 4.14 / Section 15: Complaints	8Error! Reference source not found.
Item 4.15 / Section 16: Management system reviews	9.2
Item 4.16 / Section 17: Verification of uncertainty	10
Item 4.17 / Section 18: Change to mining operations and emerging environmental hazards	12
Item 4.18 / Section 19: Technical reports	13
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Declaration of accuracy

This report is prepared for the DEM to fulfil the annual mining compliance reporting requirements for the tenements listed herein. The information contained in this report is to the best of my knowledge a true and accurate record of the mining activities and compliance status for the reporting period.

Table 2 Declaration of accuracy

Name	Andrew Bales
Position	General Manager
Company / agent	Barton Gold
Signature	
Date	5/11/20
Summary of steps undertaken to review the compliance report to ensure its accuracy	<p>I, Mr Andrew Bales, holding the position of General Manager, Projects for the tenement holder Barton Gold, have taken the following steps to review the information in this compliance report to ensure its accuracy:</p> <ul style="list-style-type: none"> • implemented an audit process against the Ministerial Determination MD009 to ensure the minimum requirements have been addressed; • obtained a third-party review of annual compliance data; and • undertaken an internal process for review, endorsement and sign off by senior management of Barton Gold.

Public liability insurance



Certificate of Currency

Class of Business: Resource Industry Public & Products Liability

Policy Number: P-RL/0/300878/20/L-6

Policyholder: Barton Gold Pty Ltd; Roma Resources SA Pty Ltd; Challenger 2 Pty Ltd; Tunkilla 2 Pty Ltd; Tarcoola 2 Pty Ltd; Jumbuck Equipment Pty Ltd

Business Description: Mineral Exploration Including Mine on Care & Maintenance

Insurance Period: From 4:00pm on 31/10/2020 to 4:00pm on 31/10/2021
Australian local time in the State or Territory where this policy was purchased

Indemnity Limit: Section A: \$ 20,000,000
Section B: \$ 20,000,000
Section C: \$ 20,000,000

Deductibles: Worker to Worker Excess \$ 25,000
Other Excess: \$ 5,000

Territorial limits: Worldwide excluding USA and Canada

Insurer: DUAL Australia Pty Ltd on behalf of certain underwriters at Lloyd's

Signature: 

Damien Coates - Chief Executive Officer, DUAL Asia Pacific

DUAL AUSTRALIA PTY LTD
Tel: 1300 789 772
Email: operations@dualaustralia.com.au
Website: www.dualaustralia.com.au
Registered under ABN 16 107 553 257



Certificate of Currency

The policy referred to is current as at the date of this certificate and whilst a due date has been indicated it should be noted that the policy may be cancelled in the future. Accordingly, reliance should not be placed on the expiry date.

Policy Number:	10M 8272185	
Insured:	Barton Gold Pty Ltd, Roma Resources SA Pty Ltd, Challenger 2 Pty Ltd, Tunkillia 2 Pty Ltd, Tarcoola 2 Pty Ltd, Jumbuck Equipment Pty Ltd	
Period of Insurance:	(From) 31 October 2020	at 4:00pm local time at the place of issue
	(To) 31 October 2021	at 4:00pm local time at the place of issue
Policy Type:	Excess Liability	
Limit of Liability:		
Public Liability:	\$30,000,000	any one Occurrence in excess of \$20,000,000
Advertising Liability:	\$30,000,000	any one Occurrence in excess of \$20,000,000
Products Liability:	\$30,000,000	any one Occurrence and in the aggregate for any one Period of Insurance in excess of \$20,000,000
Wording:	CGU Excess Liability Insurance Policy CID0343 REV1 0918	
Interest Noted:	It is noted and agreed that this Policy is endorsed to include the interests of: N/A	
Remarks:	The above is subject always to the terms, conditions, exclusions and endorsements of the Policy.	

Signed for and on behalf of Insurance Australia Limited trading as CGU Insurance.

Tami Sorensen
 Technical Liability Underwriting Manager
 Southern Region, Australia Division
 04/11/2020

1. Introduction

1.1 Background

Challenger Gold Mine (Challenger) has been operational since 2002 and consists of open pit and underground mining along the Jumbuck decline, with a crushing circuit and processing Carbon-in-Pulp (CIP) plant with a name plate capacity of 650,000 tonnes per annum (tpa). Challenger is located 780 kilometres (km) northwest of Adelaide in remote South Australia, south of Coober Pedy and approximately 225 km north-northwest of Ceduna, as shown in Figure 1 and Figure 2. Infrastructure associated with the Mine occupies approximately 3 square kilometres (km²) of a 13.2 km² mining tenement area within the Mobella Pastoral Station.

Challenger currently consists of Mining Lease (ML) ML6103, Miscellaneous Purpose Licences (MPL) MPL 63, 65 and 66, originally granted in November 2001; and ML 6457 granted in 2016, as shown in Figure 2 and Table 3 in the following section. ML 6457 was granted to extend operations at Challenger, with an updated Program for Environment Protection and Rehabilitation (PEPR) produced to account for this change in operations (PEPR 2016/058, approved 5 January 2017). Tenement boundaries are shown in Figure 3.

With the most recent regulatory Annual Compliance Report (ACR) for the site submitted in May 2018, covering the period up until 31 March 2018, DEM is now seeking updated an updated ACR for Challenger. This ACR applies to the reporting period from 1 April 2018 to 30 June 2020 (submission date: November 2020). During this period a revised PEPR was approved by the Department for Energy and Mining (DEM), a change from operational phase to care and maintenance phase occurred, and ownership transitioned from WPG Resources Limited (WPG) to Barton Gold.

Key dates relating to these changes are as follows:

- 1) A revised PEPR was approved by DEM on 31 July 2018 and PEPR2017/020 (dated February 2018) came into effect. The result of this PEPR review was that some Outcome Measurement Criteria (OMC) from the original PEPR were not carried forward into the OMC contained in the revised PEPR 2017/020.
- 2) The Project was in an operational phase between 1 April 2018 to mid-October 2018. In October 2018, the Project was placed into care and maintenance by the then operator WPG, who was at that time under administration.
- 3) In 2019, Barton Gold acquired a number of former WPG tenements, including ML 6455 for the Project.

Since the Project was acquired by Barton Gold, it has remained in a period of care and maintenance. The Project is subject to the conditions outlined within the MLe documents and approved PEPR 2017/020 (dated February 2018). A PEPR revision was approved for Challenger during this ACR reporting period as per timeframes shown in Table 3. This ACR has considered available records and data to demonstrate compliance against the current approved PEPR 2017/202, in addition it considers compliance with the OMC contained within the original PEPR 2016/058 (approved January 2017) that were not carried through as OMC in the revised PEPR 2017/020 and that would have applied to the site between the commencement of this ACR period (1 April 2018) and the revised PEPR coming into effect (31 July 2018).

Barton Gold is submitting this ACR as required by the *Mining Act 1971* (Mining Act) and associated *Mining Regulations 2011*, as well as the conditions of the MLs for the Challenger Gold Mine (ML 6103 and ML 6457).

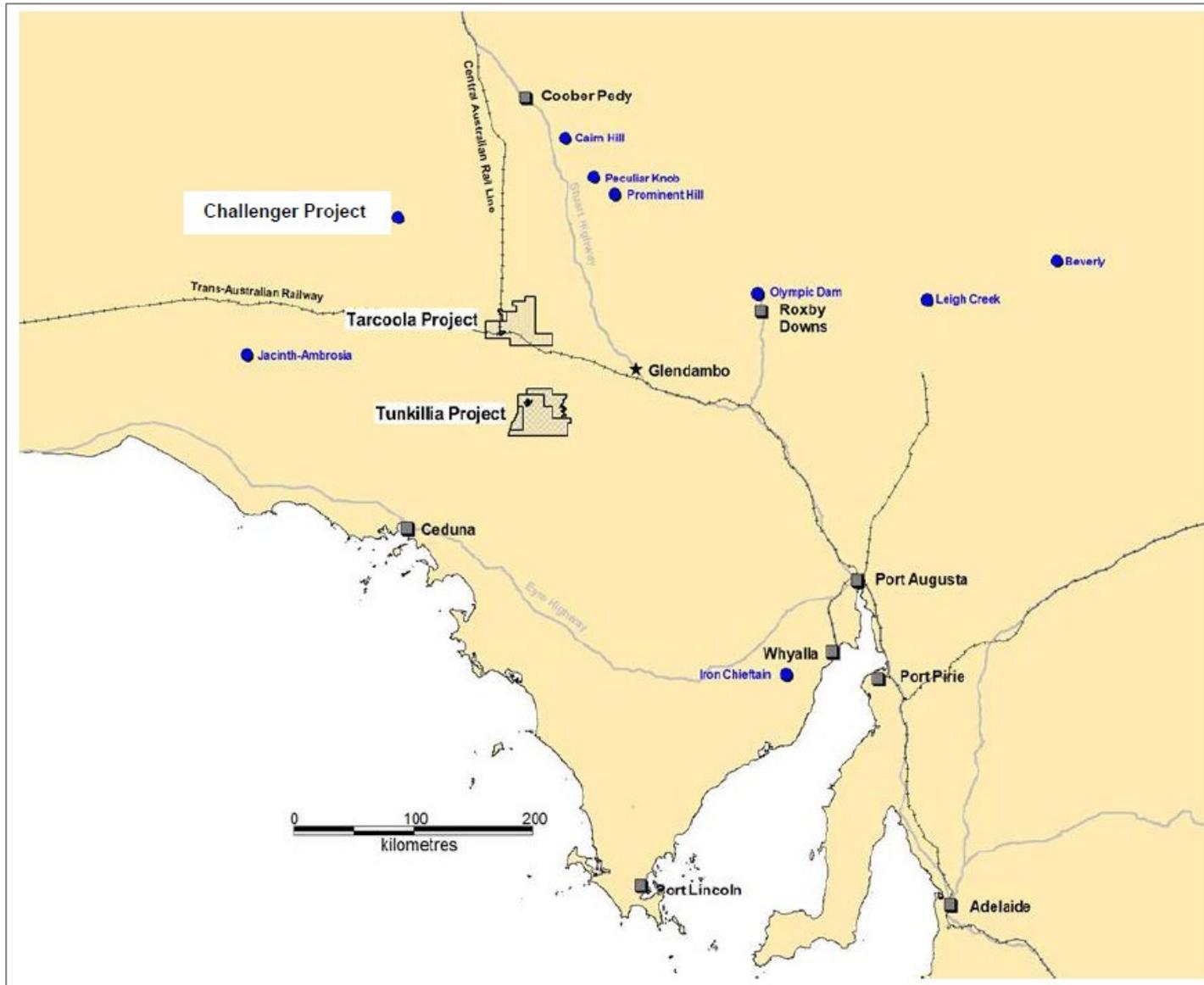


Figure 1 Challenger Gold project location

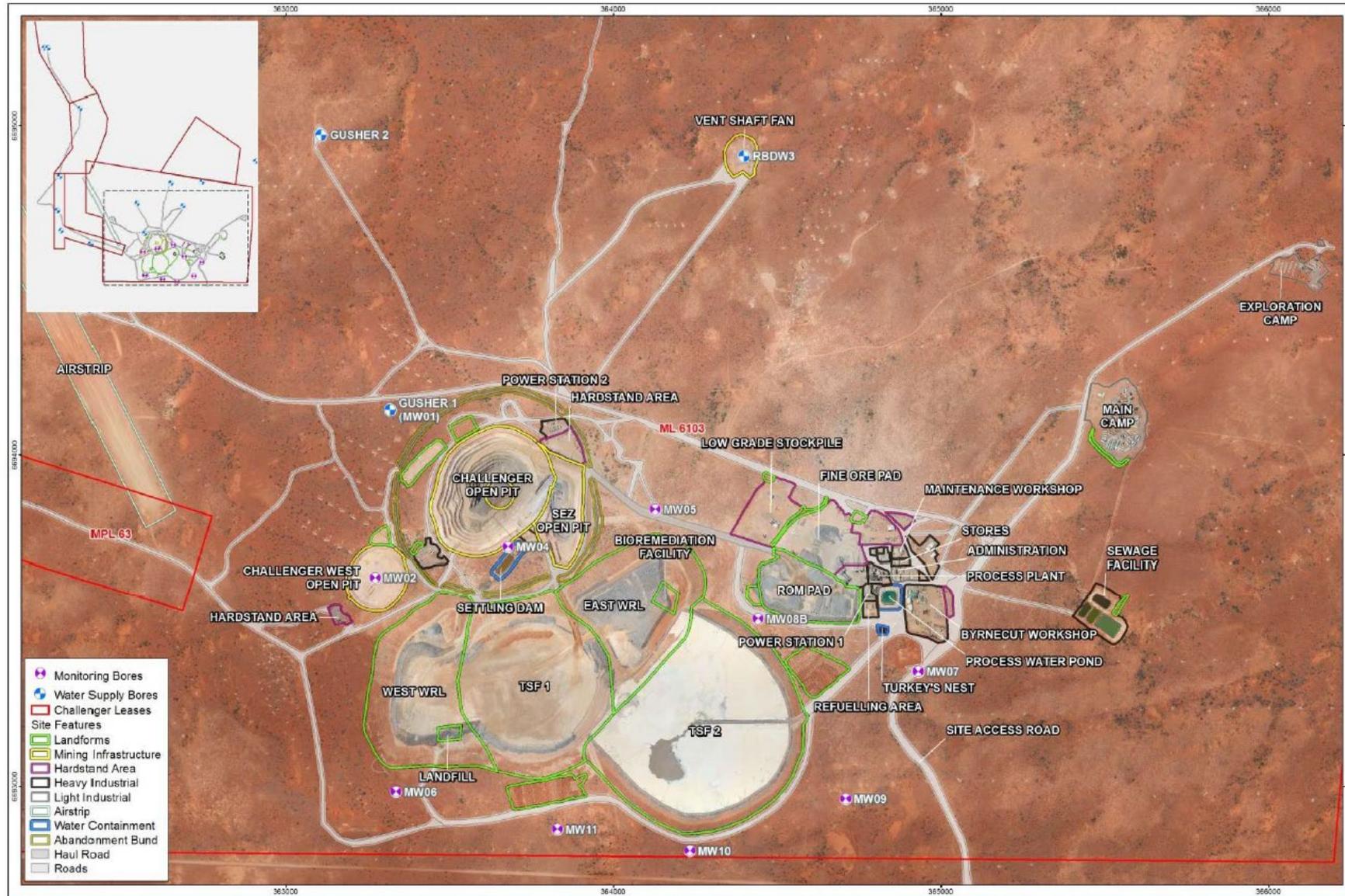


Figure 2 Location of Mineral Leases (inset) and project layout

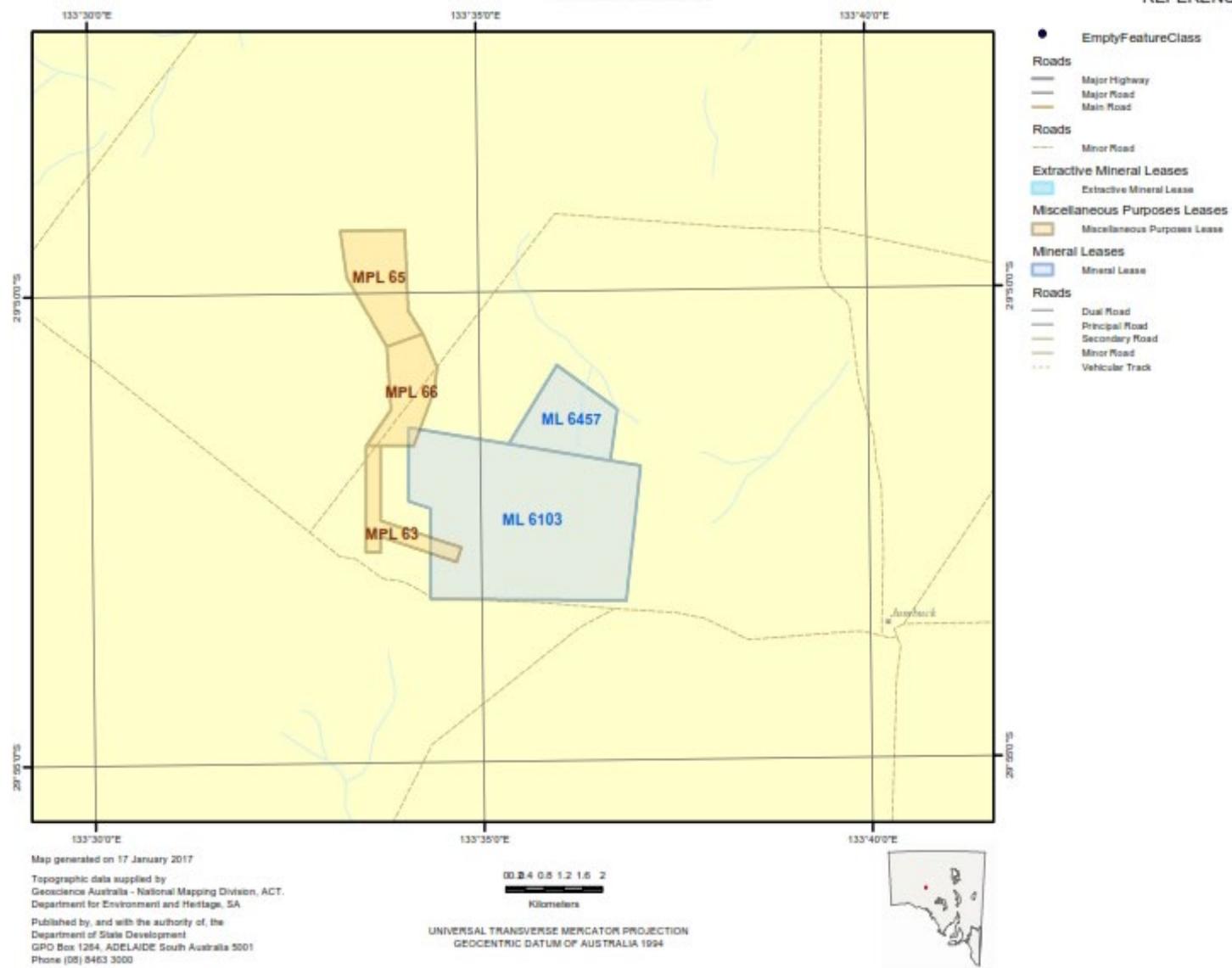


Figure 3 Challenger tenement boundaries (source: SARIG)

1.2 Identification

Site details are provided below in Table 3.

Table 3 Project and site details

Mine name(s)	Details		
Tenement holder(s)	Barton Gold Pty Ltd Suite 21, 22 Railway Road, Subiaco, WA 6008		
Operating company(s)	Barton Gold Suite 21, 22 Railway Road, Subiaco, WA 6008 (WPG Resources Ltd, now dissolved, was the previous operating company)		
Tenement number(s)	ML6103 – 12/12/2001, renewed 12/10/2008 ML6457 – 30/5/2016 MPL 63, 65 and 66 – (borefield) approved 6/11/2008		
PEPR(s) document	Challenger Gold Operations: Program for Environment Protection and Rehabilitation (February 2018)	PEPR No. PEPR approval date	PEPR 2017/020 31 July 2018
Site contact	Name	Andrew Bales	
	Email	Andrew.bales@miningplus.com.au	
	Phone	0427 957 054	
Location details	Challenger is located on Mobella Pastoral Station, situated approximately 225 km NNE of Ceduna and 780 km NE of Adelaide, South Australia. The mine site is located 6 km west of the Jumbuck outstation.		
Reporting period	From 1/04/2018	To 30/06/2020	
Compliance report submission date	November 2020		

1.3 Tenements

For the reporting period, Challenger includes the following tenements as outlined in Table 4.

Table 4 Tenement summary

Tenement	Tenement number	Tenement grant date	Approval date	Expiry date	Reporting period activity
Challenger ML	ML6103	12 October 2008	12 October 2008	11 October 2028	The tenement will be retained for Life of Mine (LoM). Mining related activities from beginning of the reporting period to October 2018. The Project was in care and maintenance for the remainder of the reporting period.
Challenger Extension	ML6457	30 May 2016	30 May 2016	11 October 2028	The tenement will be retained for LoM. Underground mining activities from beginning of the reporting period to October 2018. The Project was in care

Tenement	Tenement number	Tenement grant date	Approval date	Expiry date	Reporting period activity
					and maintenance for the remainder of the reporting period
MPLs	MPL 63, 65 and 66	6 November 2008	6 November 2008	5 November 2028	The tenement will be retained for LoM. Mining supporting activities related to infrastructure located on the MPLs from beginning of the reporting period to October 2018. The Project was in care and maintenance for the remainder of the reporting period.

The tenement boundaries covered by the approved PEPR(s) are shown in Figure 3 above.

1.4 Other approvals, licenses, permits, waivers and Native Title Agreements

In addition, and linked to, the approved PEPR, a series of additional licences and permits are associated with general operation and water use on site. These are summarised in Table 5 below.

In addition, there has been a Native Title Mining Agreement (NTMA) in place at Challenger since before mining commenced, signed 6 July 1999. There is also an NTMA for the exploration tenements, originally signed 18 June 2001, with the latest iteration (Native Title Mining and Land Access Agreement for Exploration) signed on 1 March 2013. This was followed by a schedule 7 Deed of Assignment and Assumption to allow access for all associated third-party exploration joint venture partners, signed in June 2015. The NTMA was assigned to Challenger 2 Pty Ltd (owned in whole by Barton Gold Pty Ltd) by way of a deed of covenant on 14 June 2019.

Table 5 Approval summary

Approval document	Regulatory authority or other	Supporting documents	Relevant environmental outcome or tenement condition	State of currency
EPA 19562	Environmental Protection Authority (EPA)	EPA Prescribed Premises 19562	No contamination of land and soils as a result of mining related activities that would preclude pre-mining land use.	Current (to 30 September 2022)
Permit to undertake a water affecting activity – Well Permit	Department for Environment and Water (DEW, formerly Department of Environment, Water and Natural Resources)	Various permits for each bore (drilling and construction)	N/A	N/A

2. Mining operations

2.1 Ore reserves and mineral resources

Mined materials comprise of primary and oxidised gold bearing mineralised ore and non-gold bearing waste. The total waste generated is a mixture of non-mineralised waste from the pit/underground sources and gold depleted tailings from the CIP processing plant.

Challenger joint ore reserves committee (JORC) compliant ore reserves and mineral resources are included in Table 6, based on June 2017 assessments. It's noted that mining continued at Challenger and processing until October 2018 and the current ore reserves are likely to be less. A mineral resource estimate was prepared in October 2018 for the appointed receivers, RSM Australia Pty Ltd (RSM). Data for oxidised gold grades above 3 g/t in lode extents above the 215 shear are presented in Table 7.

Table 6 Challenger ore reserves (June 2017)

Ore reserves			Mineral resources				
Category	Tonnes (million)	Gold (g/t)	Gold (M Oz)	Category	Tonnage (000 t)	Grade Gold (g/t)	Gold (M Oz)
Proved	0.099	3.99	0.013	Measured	246	5.49	0.04
Probable	0.44	5.97	0.08	Indicated	926	7.44	0.22
				Inferred	449	6.90	0.1
				Total	1,621	6.99	0.364

Table 7 Mineral resource statement - Challenger selected lode extents above 215 shear

Inferred resource (3 g/t cut off)	Tonnage (million)	Gold (g/t)	Gold (M Oz)
Upper case	0.219	5.6	0.040
Mid case	0.146	5.0	0.023
Lower case	0.109	4.7	0.016

2.2 Mining, processing and waste storage activities

Mining activity commenced in 2002 at Challenger. The quantity of ore mined and waste rock produced during the reporting period could not be quantified due to a transition in ownership and access to records. Ore mined at Challenger and ore hauled to Challenger during mine life as at 30 April 2018 was 7,951,693 T and 294,324 T respectively.

As only underground mining occurred at Challenger during the reporting period, there was limited overburden/ waste rock associated with the ore, and as far as reasonably possible waste rock was retained underground for backfilling. For these reasons, overburden mined (reporting period) is limited to material brought to surface and does not include material retained underground. There is no planned underground mining for the next reporting period.

2.3 Care and maintenance phase activities

During the care and maintenance phase standard mining operation activities e.g. ore extraction, waste rock haulage, ore processing and tailings production ceased. A Care and Maintenance Plan was developed for the Project as described in section 3.9 of the PEPR (February 2018) and outlines a number of activities to be conducted. The status against those activities is described below.

During the care and maintenance phase ownership transferred from WPG to Barton Gold. Care and maintenance inspection records were kept and have been viewed in the preparation of this ACR. Some records are limited in detail and there is some uncertainty whether sufficient information is available for the entire ACR period to conclude that criteria have been met. It should be noted however that a reduction in the intensity of mining activities at the Project site during the care and maintenance period may have reduced the risk of non-achievement of the overall outcomes. Where applicable, comments on this have been included in Section 3 of this ACR.

Table 8: Care and maintenance strategies and activities

Strategies and activities (PEPR 2017/020)	Status
Site to be made safe and access restricted.	Complete and ongoing – as per inspection summaries.
Demobilise contractors and their equipment.	Complete – as per inspection summaries.
Retain CGO owned equipment and vehicles onsite to maintain flexibility and complete remediation/repair works as required.	Complete – as per inspection summaries.
Progressive rehabilitation completed up to the point in time when care and maintenance begins.	Complete, includes capping of landfill during care and maintenance period (further rehabilitation on Project recommencement).
Topsoil stockpiles remain in situ.	Ongoing
Environmental monitoring (surface water, groundwater and flora) activities continue and be reviewed regularly.	Ongoing – as per inspection summaries.
Compliance reporting activities continue.	Records of inspections kept, DEM advised of incidents and compliance issues as per inspection summaries.
☐ Removal of general wastes, tyres, hydrocarbons and septic systems from site in accordance with EPA requirements.	Wastes managed at reduced capacity refuse pit, fuels removed, septic systems maintained for restart – as per inspection summaries.
Equipment to be maintained to ensure readiness for operation should the mine reopen.	Ongoing – as per inspection summaries.
Wastes generated during care and maintenance to be identified and managed as per operational management practices and PEPR Section 3.6.2.	Ongoing - as per inspection summaries.
Crushing, grinding and processing:	Ongoing – inspection summaries indicate these activities are occurring or have occurred:
<ul style="list-style-type: none"> Regular inspections to be carried out. Identified leaks repaired. Ore, chemicals and waste to be removed from crushing, grinding, processing and product transport plant and equipment. 	<ul style="list-style-type: none"> Yes Yes Yes Yes

Strategies and activities (PEPR 2017/020)	Status
<ul style="list-style-type: none"> • Stock levels of cyanide and other reagents to be depleted prior to care and maintenance period commencing. • Stock levels of diesel, LPG gas, oils/lubricants and other hydrocarbons reduced to as low as practicable prior to care and maintenance. Any remaining stores to be managed as per operational management practices. 	<ul style="list-style-type: none"> • Yes
Waste Infrastructure:	
<ul style="list-style-type: none"> • Tailings to be placed within tailings cells, as per the TMP and OM, and waste rock placed in the WRLs to be made stable. Due to inherent stability, no further work would be planned for the WRLs; • Progressive rehabilitation to continue into the care and maintenance period, where practicable. • Tailings surface in TSF2 covered with a thin layer of waste rock to prevent dust generation from the drying/dried tails. 	<ul style="list-style-type: none"> • Complete on entering care and maintenance. • Yes – landfill, clean-up of legacy equipment, infrastructure and signage from across ML/MPL. • Yes
Surface Infrastructure:	
<ul style="list-style-type: none"> • Supporting surface infrastructure to be inspected and maintained. • Any fuels and chemicals not required for care and maintenance activities relocated offsite, and any wastes associated with supporting surface infrastructure managed as per PEPR Section 3.6.3. 	<ul style="list-style-type: none"> • Yes • Yes
Underground mine:	
<ul style="list-style-type: none"> • Relocate electrical infrastructure i.e. jumbo boxes, pump starters, pump stations, etc. from the bottom of the mine to upper levels, to avoid flooding risk. • Adjust ventilation controls to ensure maximum possible air flow volumes via natural ventilation. • Pump stations and pumping reticulation systems remain in place, but only utilised if required. • No planned underground activities or inspections (including dewatering), due to the geotechnical stability of underground workings and dry nature of operations. All access to the mine barricaded to prevent access. • Power to the mine turned off. • Construct bunds at each mine decline to redirect potential surface water flows away from underground working and to the bottom of Challenger main pit. • In the event of a major rainfall event or unexpected groundwater accumulation, underground power could be restored to pump water and dewater mine if required. Or a portable generator could be utilised to dewater the pit sump by pumping water from pit sump to turkeys nest. 	<ul style="list-style-type: none"> • Yes • Yes • Yes • Yes • Yes • Yes • Groundwater levels in mineshaft monitored and addressed as required
Camp and Offices:	
<ul style="list-style-type: none"> • Turn off main power. A six room block and wet mess at camp to be powered by a portable generator and provide messing, sleeping and cooking facilities for care and maintenance crew. • Portable generator to be used at the office complex to maintain communications server and access to files and procedures. 	<ul style="list-style-type: none"> • Camp facilities mothballed and skeleton areas maintained for care and maintenance crew. • Yes

Strategies and activities (PEPR 2017/020)	Status
<p>Mill:</p> <ul style="list-style-type: none"> • Tanks filled with water to reduce maintenance requirements; • Gearboxes filled with oil to maintain and reduce maintenance requirements. • Daily turning of mill and gears to ensure even wear of bearings on equipment in process plant. • Regular running of the RO plant to provide fresh water and maintain membrane in working condition. 	<ul style="list-style-type: none"> • Yes • Unclear if this occurred. • Not required as mill has been lifted off bearings. • Yes
<p>During a care and maintenance period, there would be ongoing employment for 4 people, with two onsite at any time, working a 2:2 week, drive in/drive out roster. Other works, such as environmental monitoring, would be conducted on a drive-in drive-out basis by external parties.</p> <p>Due to the dry nature of the mine, ongoing mine dewatering would not be required.</p>	<p>Care and maintenance has been continuous throughout since October 2018. The number of personnel and duration and frequency of staffed periods has changed since October 2018, reflecting the reduction in risk profile as care and maintenance tasks have been achieved.</p>

3. Compliance

3.1 Compliance with environmental outcomes and leading indicator criteria

Unless otherwise indicated, tables and appendices referenced within the OMC and Leading Indicator Criteria columns in this section, refer to the PEPR (PEPR 2017/020 dated February 2018), as indicated. Compliance with outcome measurement criteria has been assessed as well as leading indicator criteria to the extent of being relevant to the operation of any control strategy.

Table 9 to Table 23 summarise outcomes per environmental aspect, as per the PEPR:

- surface water;
- land use;
- soil;
- native vegetation;
- groundwater and hydrology;
- native fauna;
- weeds and pests (and feral animals);
- Aboriginal and European heritage;
- waste disposal and hazardous substances, and
- air quality, odours and noise.

ENVIRONMENTAL OUTCOMES AND MEASUREMENT CRITERIA RELEVANT TO: PEPR 2017/020 (FEBRUARY 2018)

Table 9: Surface water and vegetation environmental outcome and compliance status

Aspect:	Surface water/ Vegetation	Tenements: ML6103, MPL63	Impact ID: C1	Compliance status:	Unable to be determined
Environmental outcome:	No long-term impact on local environmental values as a result of changes to flows or surface water quality characteristics.				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency	
	Landscape functional attributes include: <ul style="list-style-type: none"> abundance of long-lived perennial shrubs; cover of long-lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. 	Monitoring sites, CHA01 to CHA12 (refer to PEPR Figure 5.19).	Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled, i.e. on lease sites to match, exceed or trending towards off lease site values. Where lease sites do not match or exceed off-lease sites, differences are not attributed to site drainage issues.	Annual	
Outcome measurement criteria summary	An annual vegetation survey has not been completed for Challenger since spring 2017 (EBS, 2018a). During the 2017 survey, no significant reduction in species abundance and diversity was recorded. There are no records during the reporting period and as such it is unknown if vegetation communities and weed densities match with off lease site values and/ or whether any potential issues may/ not be attributable to site drainage network efficacy. Weed spraying in operational areas was occurring during the care and maintenance period as evidence by records. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.				
Leading indicator criteria	Inspection following intense and prolonged rainfall events demonstrate toe drains, diversion and other surface water and sediment control infrastructure are effectively managing surface water flows and containing sediment. Annual audit of inspection, monitoring and maintenance, incident and corrective action records, will demonstrate that toe drains, diversion and any other surface water and sediment control infrastructure are operating and being maintained to effectively managing surface water flows and containing sediment.				
Leading indicator criteria summary	Care and maintenance inspection records indicate toe drains, diversion and other surface water and sediment control infrastructure were being inspected regularly after rain and actions taken to address where possible.				
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to ACR 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.				
Supporting report reference	Care and maintenance inspection records (not appended).				
Forward work plan	Continue to undertake annual vegetation surveys to demonstrate the abundance and diversity of vegetation. A vegetation survey is planned for Autumn 2021 – see Section 11.				
Aspect:	Surface Water	Tenement: ML6103 and ML6457	Impact ID: C2	Compliance status:	Compliant
Environmental outcome:	No long-term impact on local environmental values as a result of changes to flows or surface water quality characteristics.				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency	
	<ul style="list-style-type: none"> Operation and maintenance of drainage containment system through inspection and annual assessment (audit). 	ML area, IWL, TSF2, toe drain.	Results of annual audits of inspection, monitoring and maintenance, incident and corrective action records, will demonstrate that toe drains, diversion and other surface water and sediment control infrastructure are effectively managing surface water flow sand containing sediment.	Annual	
Outcome measurement criteria summary	Care and maintenance inspection records indicate toe drains, diversion and other surface water and other surface water and sediment control infrastructure were being inspected regularly after rain and actions taken to address where possible. DEM was notified regarding potential wind erosion in relation to the TSF2 area occurring during December 2018. Regular inspections continued to be conducted and repair works carried out as required. Visual inspections of the IWL and TSF2 facilities have identified some cracking occurring in both facilities, and (with respect to TSF2) the dam engineer was consulted (Care and Maintenance Inspection Report, July 2019).				
Leading indicator criteria	Inspections following intense and prolonged rainfall events demonstrate toe drains, diversions and other surface water and sediment control infrastructure are effectively managing surface water flows and containing sediment.				

Leading indicator criteria summary	Care and maintenance inspection records indicate toe drains, diversion and other surface water and other surface water and sediment control infrastructure were being inspected regularly after rain and actions taken to address issues where possible.
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to ACR 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.
Supporting report reference	None
Forward work plan	Arrange for annual audit of inspection records before end Q2 2021. Ensure inspection records following intense and prolonged rainfall events are retained, so it can be demonstrated that surface water and sediment loads are being managed effectively

Table 10: Soils /land environmental outcome and compliance status

Aspect:	Land/Soils	Tenement:	ML6103	Impact ID:	C3, C4	Compliance status:	Unable to be determined
Environmental outcome:	No contamination of land and soils as a result of mining related activities that would preclude pre-mining land use.						
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency			
	<p>Audit of records of incidents – unplanned chemical releases breaching primary containment (bunds) to within secondary containment (disturbed operational areas, engineered or traffic compacted surfaces) – recorded and cleaned up.</p> <p>Records of incidents – Reviews of records demonstrates that where a chemical release breaches secondary containment (disturbed operational areas, engineered or traffic, compacted surfaces), DPC have been notified verbally within 24 hours and received a written report of incident details including: release location, volume, actions taken, forward plan, has been made to DPC within 2 business days of the incident occurring.</p>	<p>Mining related unplanned release (spill) locations within the tenement, breaching, primary containment.</p> <p>Mining related unplanned release (spill) locations within the tenement, breaching secondary containment.</p> <p>Mining related unplanned release (spill) locations within the tenement, to previously undisturbed areas.</p>	<p>Audit (annual) demonstrates spills and leaks outside primary containment/bunded areas (including within the plant) are recorded on the Incident Reporting System and have been cleaned up as per the Emergency Response procedures and MSDS sheets.</p> <p>Where a chemical release breaches secondary containment (disturbed operational areas, engineered or traffic compacted surfaces), DPC have been notified verbally withing 24 hours and received a written report of incident details including: release location, volume, actions taken, forward plan, has been made to DPC within 2 business days of the incident occurring.</p>	<p>Incident details recorded on incident Reporting System within 24 hours of unplanned releases breaching primary containment. Release has been cleaned up within 3 days of release unless otherwise agreed with DPC. Annual audit of records.</p> <p>Following unplanned releases breaching secondary containment, verbally reported to DPC within 24 hours of incident occurring, and follow up written report within 2 business days unless otherwise agreed with DPC.</p>			
Outcome measurement criteria summary	<p>Records could not be located for the operational period and as such it could not be demonstrated that incidents records were recorded on the incident reporting system and/ or cleaned up as per Emergency Response procedures and/ or that DPC (now DEM) were notified of breaches outside secondary containment.</p> <p>Care and maintenance inspection records indicate no chemical spills occurred outside of bunded areas.</p>						
Leading indicator criteria	<p>Audit (annual) of bunding and fuel, oil and chemical storage management, and of inspection, maintenance, incident and corrective action records, demonstrate that relevant facilities are designed, constructed and operated to minimise environmental impacts.</p> <p>Periodic assessment during the care and maintenance period of chemical storage areas demonstrate appropriate management.</p>						
Leading indicator criteria summary	Records could not be located and as such it could not be demonstrated that the relevant facilities were operating as designed or the chemical storage areas have been appropriately managed during the entire reporting period.						
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to ACR 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.						
Supporting report reference	None						
Forward work plan	Continue to care and maintenance inspections to maintain incident register and conduct audit of incident records, chemical storage facilities within 6 months of mining activities resuming to demonstrate compliance with the OMC.						
Aspect:	Land/Soils	Tenement:	ML6103, ML6457, MPL63, MPL65, MPL66	Impact ID:	C5	Compliance status:	Compliant
Environmental outcome:	No contamination of land and soils as a result of mining related activities that would preclude pre-mining land use.						
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency			
	<ul style="list-style-type: none"> Records of incidents – Review of records demonstrates that where an unplanned release of bore water of >1000 L occurs, DPC have been notified verbally within 24 hours and receive a written report of incident details including: release 	Unplanned releases of bore water within the tenement.	Where an unplanned release of >1000 L of bore water occurs, DPC have been notified verbally within 24 hours and received a written report of incident details	Following and unplanned release of >1000 L of bore water, verbally reported to DPC within 24 hours of			

	location, volume, actions taken, forward plan, has been made to DPC within 2 business days of the incident occurring.		including: release location, volume, actions taken, forward plan, has been made to DPC within 2 business days of the incident occurring.	incident occurring, and follow up written reporting within 2 business days.
Outcome measurement criteria summary	No incidents involving saline releases >1000 L recorded during reporting period. Care and maintenance inspection report records indicate incidents were being identified and recorded if occurred during the reporting period. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project. May 2020 care and maintenance report indicates a spill of approximately 1000L of bore water was recorded (but not reported).			
Leading indicator criteria	N/A			
Leading indicator criteria summary	Not required.			
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to ACR 2018).			
Supporting report reference	None			
Forward work plan	None			
Aspect:	Land/Soil	Tenement: ML6103, ML6457, MPL63, MPL65, MPL66	Impact ID: C6	Compliance status: Unable to be determined
Environmental outcome:	No contamination of land and soils as a result of mining related activities that would preclude pre-mining land use.			
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency
	<ul style="list-style-type: none"> Audit of waste disposal records. 	Challenger site.	Records show waste has been managed in accordance with the approved LEMP.	Annual
Outcome measurement criteria summary	Records could not be located for the operational period, however anecdotal evidence from former staff indicate waste practices was consistent with that reported in the 2018 ACR and the LEMP. During the care and maintenance period the landfill was capped and a small refuse pit with caged cover in the landfill area was utilised in accordance with the LEMP. It should be noted that active mining operations was for 6 months out of the entire reporting period, and the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.			
Leading indicator criteria	Periodic audits of landfill area and waste practices demonstrate EPA licence compliance.			
Leading indicator criteria summary	Records could not be located however anecdotal evidence from former staff indicate waste practices was consistent with that reported in the 2018 ACR and the LEMP.			
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective, however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.			
Supporting report reference	None			
Forward work plan	Conduct audit of waste disposal records to demonstrate achievement of the OMC and adherence to approved LEMP for waste disposal.			

Table 11: Soil/vegetation environmental outcome and compliance status

Aspect:	Soil/vegetation	Tenement: ML6103	Impact ID: C7	Compliance status: Unable to be determined
Environmental outcome:	No contamination of land as a result of loss of containment of ARD.			
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency
	Audit of the record of condition, monitoring and operation of the TSF. Construction of TSF lifts against proposed design.	TSF	Annual audits by a suitable independent professional demonstrate that the TSF has been operated in accordance with the Tailing Management Plan and Operating Manual. Audit demonstrates: <ul style="list-style-type: none"> freeboard is sufficient; tailings density is consistent with design density; the management plan and operating manual are suitable for the next lift; and 	Annual

			<ul style="list-style-type: none"> • embankment have been assessed for indications of seepage. • A construction report for TSF lifts, prepared by a suitably experience independent civil or mining engineer, demonstrates that the construction met specified design report: • design dimensions; • soil composition; and • soil properties, including moisture levels and compaction. 	Post TSF lift construction
Outcome measurement criteria summary	<p>Records for TSF1 and TSF2 management during the operational period have not been sighted. DEM was notified regarding potential wind erosion in relation to the TSF2 area occurring during December 2018. Regular inspections continued to be conducted and repair works carried out as required. Visual inspections of the IWL and TSF2 facilities have identified some cracking occurring in both facilities, and (with respect to TSF2) the dam engineer was consulted (Care and Maintenance Inspection Report, July 2019). Visual inspections of the TSF2 facilities had also identified some seepage at the toe of TSF2 and cracking occurring in TSF 2, however has been noted that the dam engineer has been determined not to be consulted in relation to that observation at this stage (Care and Maintenance Inspection Report, April 2020).</p> <p>ACR from previous reporting period (May 2018) confirmed achievement of OMC in relation to construction report requirement.</p>			
Leading indicator criteria	<p>Inspections following intense and prolonged rainfall events demonstrate toe drains, diversions and other surface water and sediment control infrastructure are effectively managing surface water flows and containing sediment.</p> <p>Annual audit of inspection, monitoring and maintenance, incident and corrective action records, will demonstrate that toe drains, diversions and any other surface water and sediment control infrastructure are operating and being maintained to effectively managing surface water flows and containing sediment.</p> <p>Daily inspections and recording (by plant staff) of observations are undertaken in relation to the operation of TSF1 and 2. This includes visual observation – total freeboard, seepage/wet areas, spillages downstream of TSF2, pumps operating, discharge water clarity, and distress/cracking on TSF2 embankment. Presence of avifauna and fauna and any deaths of either. Any death or stress in flora surrounding TSF1/TSF2, damage to instruments. Daily inspection forms are included in the Tailing Operating Manual.</p> <p>TSF2 operated in accordance with the Tailings Operating Manual, assessed during monthly inspection (condition of embankment, spigotting, decant system, water balance, monitoring, climatic data) – criteria not met leads to review of control measures and mitigation measures as required.</p> <p>Recommendations from annual TSF audits are closed out or scheduled prior to next audit.</p>			
Leading indicator criteria summary	<p>Records could not be located and as such it is unknown whether annual audit/s and recommendations from the 2018 audit report were conducted/ fully addressed. Care and maintenance inspection reports indicate regular monthly inspections of tailings facilities during the care and maintenance phase noting visual observations as outlined in the LIC, including documenting any potential fauna deaths (of which none have been recorded in relation to the TSFs). Evidence was provided to demonstrate action to address potential issues identified during regular inspections of the TSF2 facility, including consultation with Dam Engineer on some matters. The leading indicator criteria have been triggered in relation to visual observations of cracking and seepage.</p>			
Effectiveness of existing controls.	<p>Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective, however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.</p>			
Supporting report reference	None			
Forward work plan	Arrange for annual audit of TSF by dam engineer in Q1 2021. Forward final construction report to DEM.			

Table 12: Vegetation environmental outcome and compliance status

Aspect:	Vegetation	Tenement:	ML6103, MPL63	Impact ID:	C8	Compliance status:	Unable to be determined
Environmental outcome:	The tenement holder must during construction and operation, ensure that there is no loss of abundance or diversity of native vegetation on the Land unless a significant environmental benefit has been approved.						
Outcome measurement criteria	What will be measured and form (method) of measurement		Locations		Outcome achievement		Frequency
	<ul style="list-style-type: none"> • Landscape function attributes. Include: • abundance of long-lived perennial shrubs; • cover of long-lived perennial shrubs; • fecundity of perennial shrubs; • presence / cover of seed resource; • litter deposition; • grazing utilisation; • juvenile abundance; and • presence of perennial grass species. 		Existing monitoring sites (refer to PEPR Figure 5.12) reduced to a 10 x 2 metre plot.		On lease sites to match, exceed or trending towards off lease site values.		Annual

Outcome measurement criteria summary	An annual vegetation survey has not been completed for Challenger since spring 2017 (EBS, 2018a). During the 2017 survey, no significant reduction in species abundance and diversity was recorded. There are no records during the reporting period and as such it is unknown if vegetation communities and weed densities match with off lease site values. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.
Leading indicator criteria	The TSF is operated in accordance with ANCOLD requirements. Annual TSF audit considers embankment and toe for indications of seepage. Potential indicators of seepage are assessed – soil sampling and analysis (WAD, CN, total CN, free CN, thiocyanate) of samples within and external to the area will be undertaken to assess for the potential of seepage and consideration given to inclusion in future EFA assessments.
Leading indicator criteria summary	Records could not be located and as such it is unknown whether annual TSF audit and recommendations from the 2018 audit report were conducted/ fully addressed. Care and maintenance inspection reports indicate regular monthly inspections of tailings facilities during the care and maintenance phase noting visual observations. The leading indicator criteria have been triggered in relation to visual observations of cracking and seepage (Challenger Observation Report 15-21 April), leading to consultation with the tailings dam engineer (outcomes of that consult not sighted for the ACR) during the reporting period.
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective, however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.
Supporting report reference	None
Forward work plan	Arrange for annual audit of TSF by dam engineer in Q1 2021. Continue to undertake annual vegetation surveys to demonstrate the abundance and diversity of vegetation. A vegetation survey is planned for Autumn 2021 – see Section 11.

Table 13: Groundwater environmental outcome and compliance status

Aspect:	Groundwater	Tenement:	ML6103 and ML 6457	Impact ID:	C10	Compliance status:	Unable to be determined
Environmental outcome:	The tenement holder must during construction and operation, ensure that there is not adverse impact to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems (source ML6547)						
Outcome measurement criteria	What will be measured and form (method) of measurement			Locations		Outcome achievement	
	Groundwater quality including WADCN. Using best practice i.e. a low flow/ micro purge method and field filtered samples.			COW1, identified on Figure 2.		Biannual groundwater quality monitoring demonstrates WADCN in samples from COW1 does not exceed 0.08mg/L	
Frequency	6 monthly						
Outcome measurement criteria summary	Records could not be located, and groundwater quality has not been monitored on a 6 monthly basis during the care and maintenance period. As such there is insufficient data to demonstrate achievement of the OMC. It's noted that in 2017 concentrations of target analytes at Challenger mine site monitoring wells accessing the shallow fractured rock aquifer met criteria requirements and ANZECC (2000) livestock drinking water trigger values, and were consistent with previous monitoring results and all measurement criteria specified in the PEPR were complied with. The groundwater model was validated in 2017 and included within the 2018 PEPR submission. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.						
Leading indicator criteria	Biannual groundwater quality monitoring demonstrates water quality at Pastoral bores - Bluff bore and dead finish bore are assessed against the criteria listed in Table X, where exceedances are recorded further assessment is undertaken to consider what, if any, mining influences are present. Biannual groundwater quality monitoring demonstrates WADCN in COW1 and COW2 is less than LOR. Where WADCN in COW1 or COW2 is found to be greater than laboratory detection limit, further assessment (laboratory and/or desktop) is undertaken to consider the likelihood of mining influence and/or the veracity of the result. Biannual groundwater quality monitoring at MW06, 07, 09, 10 and 11 demonstrates achievement of trigger levels listed in Table X (NB Table X could not be located within the PEPR)						
Leading indicator criteria summary	There are no records from April 2018 to June 2020 and groundwater quality has not been monitored on a 6 monthly basis during the care and maintenance period. It's noted that in 2017 concentrations of target analytes at Challenger mine site monitoring wells accessing the shallow fractured rock aquifer met criteria requirements and ANZECC (2000) livestock drinking water trigger values, and were consistent with previous monitoring results and all measurement criteria specified in the PEPR were complied with. The groundwater model was validated in 2017 and included within the 2018 PEPR submission. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.						
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.						
Supporting report reference	None						
Forward work plan	Continue existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018). Locate Table X from WPG data records and addend to the PEPR.						
Aspect:	Groundwater	Tenement:	ML6457 ML6103	Impact ID:	C11	Compliance status:	Unable to be determined
Environmental outcome:	The tenement holder must during construction and operation, ensure that there is no adverse impact to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems (source ML6547).						
Outcome measurement criteria	What will be measured and form (method) of measurement			Locations		Outcome achievement	
	Groundwater quality including TDS, WAD, CN, pH, Arsenic as per the Groundwater Monitoring Plan for sampling and analysis protocols.			MW06, 07, 09, 10, 11.		Biannual groundwater monitoring results confirm that groundwater quality are consistent with	
Frequency	Biannual (typically January and July).						

				modelled predictions (PEPR Figure 5.18, table 5.4). TDS <50,000 mg/L WAD CN <0.08 mg/L pH 6>9 As <0.5.
Outcome measurement criteria summary	Records could not be located, and groundwater quality has not been monitored on a 6 monthly basis during the care and maintenance period. As such there is insufficient data to demonstrate achievement of the OMC. It's noted that in 2017 concentrations of target analytes at Challenger mine site monitoring wells accessing the shallow fractured rock aquifer met criteria requirements and ANZECC (2000) livestock drinking water trigger values, and were consistent with previous monitoring results and all measurement criteria specified in the PEPR were complied with. The groundwater model was validated in 2017 and included within the 2018 PEPR submission. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.			
Leading indicator criteria	N/A			
Leading indicator criteria summary	Not required.			
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.			
Supporting report reference	None			
Forward work plan	Continue existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018).			
Aspect:	Groundwater	Tenement:	ML6103 ML6457	Impact ID: C12
				Compliance status: Unable to be determined
Environmental outcome:	The tenement holder must during construction and operation, ensure that there is no adverse impacts to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems (source ML6547).			
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency
	Monitoring of groundwater standing levels. Monitoring of groundwater quality using best practice i.e. a low flow/micro purge method.	COW1 see Figure 2 (refer to PEPR Figure 5.8).	RL of COW1 groundwater levels remains greater than 159.9 mAHD (less than 19.2 mTOC) Biannual groundwater quality monitoring demonstrates TDS at COW1 does not exceed 7000 mg/L.	monthly (groundwater levels). 6 monthly (groundwater monitoring).
Outcome measurement criteria summary	Monitoring of the groundwater SWLs have been recorded between October 2018 and June 2020 (nine SWL records taken within the reporting period were sighted). SWL records for COW1 show that readings were below 19.2 mTOC for the months they were recorded (refer to Figure 4). Records could not be located, and groundwater quality has not been monitored on a 6 monthly basis during the care and maintenance period. As such there is insufficient data to demonstrate achievement of the OMC. Abstraction of groundwater reduced significantly from October 2018, with only minimal quantities abstracted for general care and maintenance purposes, significantly reducing the risk of impacts to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.			
Leading indicator criteria	Quarterly field measurements of TDS in groundwater in COW1 are 20% or less of baseline levels. Where exceedances are observed, undertake assessment works to determine the source and impact of the increased salinity, and any next steps. Biannual groundwater quality monitoring demonstrates water quality at Pastoral bores - Bluff bore and dead finish bore do not exceed ANZECC criteria for cobalt, TDS and pH, where exceedances are recorded further assessment is undertaken to consider what, if any, mining influences.			
Leading indicator criteria summary	There are no records from April 2018 to June 2020 and as such it is unknown whether biannual measurements of relevant parameters for COW1 were collected and if they were within the listed trigger levels. Abstraction of groundwater reduced significantly from October 2018, with only minimal quantities abstracted for general care and maintenance purposes, significantly reducing the risk of impacts to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.			
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.			
Supporting report reference	None			
Forward work plan	Continue existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018).			

Table 14: Flora environmental outcome and compliance status

Aspect:	Flora	Tenement:	ML6103 MPL63	Impact ID: C13	Compliance status: Unable to be determined
Environmental outcome:	To maintain the abundance, diversity and productivity of flora at ecosystems levels through the avoidance of management of adverse impacts.				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency	

	<ul style="list-style-type: none"> Ecosystem functional attributes include: abundance of long lived perennial shrubs; cover of long lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. <p>Presence and abundance of Kingoonya NRM board target weed species. Functional indices and plant cover data on rehabilitation transects.</p>	<p>Monitoring sites, CHA01 to CHA12 (refer to PEPR Figure 5.19). Selected locations based on risk assessment. Conducted on waste rock dump, TSF wall and other areas of rehabilitation of an area greater than 1ha. Two analogue sites, one in each vegetation community type of rehabilitation.</p>	<p>Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled, i.e. on lease sites to match, exceed or trending towards off lease site values. Annual review demonstrates that weed incursion have been managed and avoided through monitoring and treatment. Assessment of ecosystem function analysis for trends of continuous improvement towards analogue sites. Trend of continual improvement and move towards analogue values.</p>	<p>Annual</p> <p>Annual</p> <p>Annual for rehabilitation and biennial for analogue sites</p>
Outcome measurement criteria summary	An annual vegetation survey has not been completed for Challenger since spring 2017 (EBS, 2018a). During the 2017 survey, no significant reduction in species abundance and diversity was recorded. There are no records during the reporting period and as such it is unknown if vegetation communities and weed densities match with off lease site values. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.			
Leading indicator criteria	Operational inspections identify weed outbreaks or vegetation dieback or disturbance; site systems and incident reporting. Spot checking and treatment of weeds. Targeted checks following rainfall totals of >25mm, at locations based on risk assessment.			
Leading indicator criteria summary	An annual vegetation survey has not been completed for Challenger since 2018 (EBS, 2018a). During the 2018 survey, no significant reduction in species abundance and diversity was recorded. There are records of weed spraying during the care and maintenance period.			
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.			
Supporting report reference	None			
Forward work plan	Continue to undertake annual vegetation surveys to demonstrate the abundance and diversity of vegetation. A vegetation survey is planned for Autumn 2021 – see Section 11			

Table 15: Fauna environmental outcome and compliance status

Aspect:	Fauna	Tenement:	ML6103, MPL63	Impact ID:	C14	Compliance status:	Unable to be determined
Environmental outcome:	To maintain the abundance, diversity and productivity of fauna at ecosystems levels through the avoidance or management of adverse impacts						
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency			
	Species abundance and richness of key resident species. Bird species abundance and richness of known resident species. Frequency utilising motion sensing cameras.	Two near mine and two off lease sites (See PEPR Figure 5.19). Two near mining and two off lease sites (See PEPR Figure 5.19). At selected near mine lease sites.	Annual fauna monitoring and EFA at set monitoring locations (See PEPR Figure 5.19) indicates that the abundance, diversity and productivity of fauna is not impacted by mining operations (i.e. within 80% of mean equivalent site values collated 2002-date). Annual bird monitoring at set locations (See PEPR Figure 5.19) indicates abundance, and richness of known resident species is within 80% of mean long term equivalent site values collated 2002-date. Pest predator species monitoring report levels not significantly exceeding previously data from 2002 – 2016.	Annual	Annual	Annual	
Outcome measurement criteria summary	An annual fauna survey has not been completed for Challenger since spring 2017 (EBS, 2018a). During the 2017 survey, no significant reduction in species abundance and diversity was recorded. There are no records during the reporting period and as such it is unknown if fauna species abundance and richness match with off lease site values. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.						
Leading indicator criteria	N/A						

Leading indicator criteria summary	Not required.
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.
Supporting report reference	None
Forward work plan	Continue to undertake annual fauna surveys to demonstrate the abundance and diversity of fauna species. A fauna survey is planned for Autumn 2021 – see Section 11.

Table 16: Soil environmental outcome and compliance status

Aspect:	Soil	Tenement:	ML6103	Impact ID:	C15	Compliance status:	Unable to be determined
Environmental outcome:	Maintain quantity and quality of top soil for rehabilitation activities.						
Outcome measurement criteria	What will be measured and form (method) of measurement			Locations		Outcome achievement	
	<ul style="list-style-type: none"> Volume of topsoil stockpiles and use in rehabilitation works. 			Stockpiles as per PEPR Figure 3.8.		Topsoil register records demonstrate reconciliation of stockpile volumes against rehabilitation use.	
Outcome measurement criteria summary	As per the 2018 ACR a progressive rehabilitation and closure program (PRAC®) has been implemented for Challenger with sections already rehabilitated. No records of current topsoil stockpile volumes and /or reconciliation against rehabilitation uses have been located for the reporting period. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.						
Leading indicator criteria	N/A						
Leading indicator criteria summary	Not required.						
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.						
Supporting report reference	None						
Forward work plan	Review and/or update topsoil records to ensure reconciliation of stockpile volumes against rehabilitation uses reflects current status.						

Table 17: Air quality environmental outcome and compliance status

Aspect:	Tenement:	ML6103	Impact ID:	C17	Compliance status:	Compliant	
Environmental outcome:	Emission do not adversely affect the health, welfare and amenity of People (the public) and land use.						
Outcome measurement criteria	What will be measured and form (method) of measurement			Locations		Outcome achievement	
	<p>WPG response to and close out of complaints regarding dust impacts to the public as a result of mining operations.</p> <p>Assessment of potential for mining related dust impacts to the public (on receipt of complaint).</p>			Site of complaint.		<p>All complaints acknowledged (to complainant and the Regulator) within 48 hours and closed out within 7 days or as agreed with the Regulator).</p> <p>Mine operator did not cause or could not reasonably have prevented the incident occurring.</p>	
Outcome measurement criteria summary	There were no complaint records for the operational period. Care and maintenance inspection records from October 2018 to June 2020 indicate there were no complaints received.						
Leading indicator criteria	N/A						
Leading indicator criteria summary	Not required.						

Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.
Supporting report reference	None
Forward work plan	Continue to maintain incident/ complaints register and investigate where required.

Table 18: Cultural heritage environmental outcome and compliance status

Aspect:	Cultural Heritage	Tenement:	ML6103, ML6457, MPL63, MPL65, MPL66	Impact ID:	C20	Compliance status:	Compliant
Environmental outcome:	No disturbance to Aboriginal artefacts or sites of significance unless prior approval under the relevant legislation has been obtained.						
Outcome measurement criteria	What will be measured and form (method) of measurement		Locations		Outcome achievement		Frequency
	<ul style="list-style-type: none"> Audit of records relating to disturbance to Aboriginal heritage sites, objects or artefacts. 		All tenements.		Audit of records demonstrates procedure CEN-SOP-032 related to discovery of potential Aboriginal artefacts and/or Aboriginal/ European Heritage sites has been followed, including that no unauthorised disturbance has occurred. Where potential sites/artefacts are identified, work is stopped and not recommenced until authorised.		Annual
Outcome measurement criteria summary	Available records indicate there were no lodged incidents of disturbance to Aboriginal heritage sites, objects or artefacts. The previous 2018 ACR did confirm relevant information about Aboriginal Heritage was included in the induction and that no sites of Aboriginal cultural heritage or significance had been identified within the mining lease area. As a result, compliance with the OMC and achievement of the Outcome is deemed for the entire reporting period.						
Leading indicator criteria	Records demonstrate personnel have been appropriately inducted.						
Leading indicator criteria summary	There are no induction records available for review for the preparation of the ACR for the reporting period, however the previous 2018 ACR did confirm relevant information about Aboriginal Heritage was included in the induction. Challenger was placed under care and maintenance in October 2018, as such only care and maintenance related activities were conducted between October 2018 and June 2020. It should be noted that the risk of non-achievement of the Outcome has been reduced due to the care and maintenance status of the Project.						
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.						
Supporting report reference	None						
Forward work plan	Conduct audit of records to validate all activities are being conducted according to CEN-SOP-032 and personnel have been appropriately inducted.						

Table 19: Protection of third-party property environmental outcome and compliance status

Aspect:	Third Party Property	Tenement:	ML6103, ML6457, MPL63, MPL65, MPL66	Impact ID:	C21	Compliance status:	Compliant
Environmental outcome:	No unauthorised damage to adjacent public or private property and infrastructure, including that caused by fire, as a result of mine activity.						
Outcome measurement criteria	What will be measured and form (method) of measurement		Locations		Outcome achievement		Frequency
	<ul style="list-style-type: none"> Records demonstrate complaints have been resolved within timeframes and to the satisfaction of the complainant or DPC. The results of any investigations demonstrate damage (including caused by uncontrolled fires) to adjacent public or private property and infrastructure was not attributable to mining operations. 		Adjacent public or private property.		Complaints acknowledged within 48 hours and resolved within 14 days (or as agreed with DPC). Where complaints are not resolved to the satisfaction of the complainant or DPC, an internal investigation is commenced. Records of investigations carried out within 14 days (or as agreed with DPC) show that damage (including caused by controlled fires) to adjacent public or		Complaints acknowledged within 48 hours and resolved within 14 days (or as agreed with DPC).

			private property and infrastructure was not attributable to mining operations.
Outcome measurement criteria summary	Available records indicate there were no lodged complaints during the reporting period. As a result, compliance with the OMC and achievement of the Outcome are deemed to have been achieved for the reporting period.		
Leading indicator criteria	Records demonstrate personnel have been appropriately inducted.		
Leading indicator criteria summary	There are no induction records available for review for the preparation of the ACR for the reporting period. Challenger was placed under care and maintenance in October 2019, as such only care and maintenance related activities were conducted between October 2019 and June 2020.		
Effectiveness of existing controls.	Existing control and management strategies (as outlined in the PEPR dated February 2018) are deemed to be effective (refer to results presented in ACR from 2018), however, due to the Project being placed into care and maintenance in late 2018 and changing ownership in 2019, control and management strategies have failed to be fully implemented. It is the intention of the current ownership to fully restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period.		
Supporting report reference	None		
Forward work plan	Continue to maintain incident/ complaints register and investigate where required.		

ENVIRONMENTAL OUTCOMES AND MEASUREMENT CRITERIA RELEVANT TO: PEPR 2016/058

The period to which these OMC applied during the reporting period was 1 April 2018 until 20 July 2018. During this period the tenement holder was WPG Resources limited, not the current tenement holder Barton Gold. The other OMC contained within PEPR 2016/058 were revised and carried forward into the PEPR 2017/020 document. For completeness in this ACR, this summary has been included to provide the outcomes from assessing compliance against the OMC within 2016/058 which did not get carried forward into the PEPR 2017/020.

Table 20: Air quality environmental outcome and compliance status

Aspect:	Air quality	Tenement:	Compliance status:	Unable to be determined
Environmental outcome:	To ensure emissions do not adversely affect environmental values or the health, welfare and amenity of people and land use.			
Outcome measurement criteria	No exceedance of NOHSC recommended levels for lead, silica (Quartz) crystalline (respirable) and arsenic (elements) or regulatory limits (as per Western Australian DME (1999) Guideline for inhalable dust or respirable dust). If exposures exceed recommended upper limits, control measures will be reviewed and additional mitigation measures will be implemented as required.			
Outcome measurement criteria summary	There are no records from April 2018 to July 2018 and as such it is unknown whether the criteria within the relevant Guidelines were adhered to. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated for the entire reporting period. Previous ACR records confirmed the WPG administration did conduct monitoring for air quality in relation to the recommended levels and took additional mitigation measures where monitoring results indicated levels were being or had the potential to be exceeded. Particulate dust monitoring for Q1 2017 was below the regulation limit for silica, arsenic and lead at all 12 sampling locations. Note that the detection level of the test for crystalline silica is 20 mcg, and so results reported as 20 mcg should be read as <20 mcg, and the actual level is likely to be less than this. These results indicate that there were no exceedances of trigger levels for particulate dust monitoring for the previous reporting period. Although inhalable dust limits did exceed the trigger levels, control measures in the affected locations include the use of PPE to prevent impacts to human health. As a result, the outcome for air quality, “to ensure emissions do not adversely affect environmental values or the health, welfare and amenity of people and land use”, was previously met. There were no known changes to operations in the reporting period and the risk for non-compliance with the criteria is considered to be low.			
Leading indicator criteria	None specified.			
Leading indicator criteria summary	Not required.			
Effectiveness of existing controls.	This OMC has since been removed from the current PEPR 2019/020 document, therefore assessment of effectiveness not considered as part of this compliance assessment.			
Supporting report reference	None			
Forward work plan	This OMC has since been removed from the current PEPR 2019/020 document, therefore no forward work plan has been considered as part of this compliance assessment.			

Table 21: Noise and vibration environmental outcome and compliance status

Aspect:	Noise and vibration	Tenement:	ML 6103	Compliance status:	Compliant
Environmental outcome:	To protect the amenity of sensitive receptor, including nearby residents and fauna habitats.				
Outcome measurement criteria	No exceedance of criteria outlined in the Occupational Health and Safety Act 1983, AS/NZS 1269 “Occupational Noise Management” and WorkSafe Australia Guidelines in areas where hearing protection is not mandatory. More than one (1) complaint related to noise recorded in the register per year.				
Outcome measurement criteria summary	There have been no known incidents recorded on-site that would support exceedance of the OMC. PEPR 2016/058 indicates that noise monitoring is undertaken every two years; however, the 2017/2018 ACR indicates that CGO instead conducted noise monitoring every three years. Noise monitoring has previously been undertaken in 2011 and in 2014. A site wide independent review of Occupational Hygiene recommended a surface noise survey frequency of 5 years as operations had not changed. On this basis a noise survey would have been conducted in 2019. The guideline requirements are considered to have been complied with during the operational reporting period.				
Leading indicator criteria	None specified.				
Leading indicator criteria summary	Not required.				
Effectiveness of existing controls.	This OMC has since been removed from the current PEPR 2019/020 document, therefore assessment of effectiveness not considered as part of this compliance assessment.				
Supporting report reference	None				
Forward work plan	This OMC has since been removed from the current PEPR 2019/020 document, therefore no forward work plan has been considered as part of this compliance assessment.				

Table 22: Sewage ponds environmental outcome and compliance status

Aspect:	Sewage	Tenement:	ML 6103	Compliance status:	Unable to be determined
Environmental outcome:	Camp occupancy managed to the approved capacity of the sewage system.				

Outcome measurement criteria	The pond system design will be sized using 140L/day as per the minimum SA Health requirements. This design will allow for two thirds out of a total 300 connections using the 140L/day as per the minimum outlined in DSD discussions with DoH (SKM, 2011 Appendix D of PEPR 2016/058).
Outcome measurement criteria summary	There are no camp records that could be viewed from April 2018 to July 2018 and as such it cannot be confirmed that the camp occupancy was managed to the approved capacity during this period, however it is understood from staff that the occupancy was typically under capacity during this period. Compliance with the OMC and achievement of the Outcome cannot be demonstrated for the entire reporting period. Previous ACR records confirmed the WPG administration kept a record of daily camp numbers to ensure SA Health guideline requirements were met.
Leading indicator criteria	None specified.
Leading indicator criteria summary	Not required.
Effectiveness of existing controls.	This OMC has since been removed from the current PEPR 2019/020 document, therefore assessment of effectiveness not considered as part of this compliance assessment.
Supporting report reference	None
Forward work plan	This OMC has since been removed from the current PEPR 2019/020 document, therefore no forward work plan has been considered as part of this compliance assessment.

Table 23: Socio-economic environmental outcome and compliance status

Aspect:	Socio-economic	Tenement:	ML6103, ML6457, MPL63, MPL65, MPL66	Compliance status:	Unable to be determined
Environmental outcome:	To maximise social and economic benefits to the local community. To work with the community to reduce disruption.				
Outcome measurement criteria	Records of employment. 100% of training courses by employees. 100% completion of training of Emergency Response Unit. Incident/complaints register demonstrates that all incidents or complaints are resolved or addressed to the satisfaction of the complainant within 7 days of the incident or complaint or a time frame agreed with DSD.				
Outcome measurement criteria summary	Records from April 2018 to July 2018 could not be viewed and as such it is unknown whether the records of employment, training course attendance and the incident/ complaints register were maintained during this period. As a result, compliance with the OMC and achievement of the Outcome cannot be demonstrated for the entire reporting period. Previous ACR records confirmed the WPG administration kept a record of employees, training course attendance and incidents/complaints register.				
Leading indicator criteria	None specified.				
Leading indicator criteria summary	Not required.				
Effectiveness of existing controls.	This OMC has since been removed from the current PEPR 2019/020 document, therefore assessment of effectiveness not considered as part of this compliance assessment.				
Supporting report reference	None				
Forward work plan	This OMC has since been removed from the current PEPR 2019/020 document, therefore no forward work plan has been considered as part of this compliance assessment.				

3.2 Compliance with non-outcome based mining lease or tenement conditions

Table 24 summarises the compliance status of tenement conditions of the lease or licence that do not relate to an environmental outcome in the approved PEPR. Any non-compliances are also reported in Section 3.4.

Table 24 Compliance with non-outcome-based Mining Lease conditions

Lease condition	Compliance status	Summary and supporting evidence of compliance status determination
ML6103 S1 Condition 1 Mining operations may be carried out for the recovery of gold bearing ore from the area of the lease. Processing of ore may be carried out on the lease.	Complied	Mining operations have resulted in the recovery of gold ore from within the mining lease, and associated processing of ore.
ML6103 S1 Condition 2 The lessee shall ensure that mining operations on the land are carried out in an orderly and skilful manner in accordance with a Mining and Rehabilitation Program (MARP) approved by the Minister and according to the requirements of clause 5 of Schedule 2.	Complied	This ACR reports on compliance against the PEPR 2017/202. Overall, mining operations at Challenger are carried out in an orderly and skilful manner in accordance with the current PEPR.
ML6103 S1 Condition 3 The lessee shall submit, for approval by the Minister, an Environmental Management and Monitoring Program (EMMP) as supplement to the Mining and Rehabilitation Program and shall conduct operations, monitor parameters and report activity in accordance with the requirements of clause 7 of Schedule 2.	Complied	This ACR reports on compliance against the PEPR 2017/202. Table 6.7 of the PEPR contains the updated environmental outcomes, monitoring, measurement criteria and control methods for Challenger.
ML6103 S2 Condition 1 The lessee shall, prior to commencing any work, lodge a Rehabilitation Bond to ensure land disturbed by mining operations will be rehabilitated. The bond will be reviewed annually by the Minister.	Complied	A bank guarantee was provided when Challenger commenced.
ML6103 S2 Condition 2 The lessee shall ensure that land disturbed by mining operations is, where possible, progressively rehabilitated to the satisfaction of the Chief Inspector of Mines.	Complied	A progressive rehabilitation and closure program has been implemented for Challenger with rehabilitation tasks for the project sections already rehabilitated. Vegetation clearance and rehabilitation activities are reported as part of the ACR. See Section 5 for details.

Lease condition	Compliance status	Summary and supporting evidence of compliance status determination
<p>ML6103 S2 Condition 3</p> <p>The lessee shall ensure that topsoil is pre-stripped from the disturbance footprint of the pit, waste dump, tailings storage facility, airstrip, ROM pad and camp areas and temporally stockpiled for use in the rehabilitation of the land disturbed by mining.</p>	Complied	<p>Results of the 2017 EFA monitoring indicate that the current rehabilitation methods are adequate for the given landscape, and good results have been achieved so far (EBS 2018c).</p>
<p>ML6103 S2 Condition 4</p> <p>The waste dumps shall be constructed in a manner which will deposit the deeper and more saline waste material in the centre of the fill. The terminal slopes shall not exceed 1 vertical to 3 horizontal (max. 18o). The surface of the dumps shall be progressively rehabilitated and vegetated to the satisfaction of the Chief Inspector of Mines.</p>	Complied	<p>To date, rehabilitation has occurred at IWL Eastern Wing (2004), TSF 2 – Lift 1 (2011) and TSF Lift 2 (2014) (EBS 2018c). Further, topsoil placement and ripping has been conducted on Lift 3 during 2016 and 2017.</p> <p>Results of the 2017 EFA monitoring indicate that the current rehabilitation methods are more than adequate for the given landscape.</p>
<p>ML6103 S2 Condition 5</p> <p>The lessee shall prepare and submit for approval a Mining and Rehabilitation Program which amongst other things shall address the following:</p> <ul style="list-style-type: none"> • details of the stages of the mining sequence of the operations and proposed rehabilitation; • details of how the safe design and operation of the Tailings Storage System will be achieved; • details of the mine closure including the removal of all plant, structures, buildings, • equipment, materials and rehabilitation; • any other information as may be required by the Chief Inspector of Mines. • all changes or amendments to the approved Mining and Rehabilitation Program must be approved prior to implementation by the Minister. 	Complied	<p>Section 6.3 of the current PEPR details the Closure Environmental Outcomes for Challenger including the updated management strategies, monitoring, measurement criteria and control methods (Tables 6.9 and 6.10).</p>
<p>ML6103 S2 Condition 6</p> <p>The lessee shall prepare and implement an Environmental Management and Monitoring Program (EMMP) which will address, amongst other things:</p> <ul style="list-style-type: none"> • the impact of mining operations on native biological communities and measurements of the success of their rehabilitation; 	Complied	<p>Table 6.8 of the current PEPR contains the updated environmental outcomes, monitoring, measurement criteria and control methods for Challenger.</p>

Lease condition	Compliance status	Summary and supporting evidence of compliance status determination
<ul style="list-style-type: none"> the maintenance of environmental flows of water and minimising the amount of contaminants entering the natural drainage system, both surface and groundwater, minimising the erosive effect of surface water runoff and the management of surface water management issues; minimising the loss of surface soils due to heavy or excessive vehicle movements; monitoring of vegetation regeneration in rehabilitated areas, including photographic records of changes to the environment; and the management of rubbish and waste disposal issues. 		
<p>ML6103 S2 Condition 7</p> <p>The lessee shall provide the Minister with an annual environmental report detailing the following:</p> <ul style="list-style-type: none"> operations undertaken during the period; progressive rehabilitation undertaken during the period; an environmental report on the progress and monitoring which has been carried out in accordance with the EMMP; and any other information as may be required by the Chief Inspector of Mines. 	Complied	<p>An ACR has been submitted annually by the lessee whilst the site has been operational. No ACR was submitted between October 2018 and November 2020. Barton Gold, having become the lessee in November 2019, provide this ACR, and in doing so meet this lease condition.</p>
<p>ML6103 S2 Condition 8</p> <p>The lessee shall keep the Pastoral Lessee fully advised of their program of activities, particularly in regard to the impact on the land and the proposed rehabilitation technique to be undertaken.</p>	Complied	<p>Communications with the pastoralists were recorded during the operational and care and maintenance periods of the reporting period. Communication is undertaken as necessary and records retained by site staff.</p>
<p>ML6103 S2 Condition 11</p> <p>The lessee shall ensure all fuel and liquid chemical storage is adequately bunded to capture spillage and to prevent an accidental release of product from the storage area.</p>	Complied	<p>At this stage there is no evidence of noncompliance with this item, however, an independent audit of the bunds was conducted in 2017 and includes opportunities for improvement.</p>
<p>ML6103 S2 Condition 12</p> <p>The lessee shall ensure that areas compacted or disturbed land are progressively rehabilitated when practicable to do so in accordance with seasonal conditions, to achieve a grazing after use. The land is to be spread with available topsoil, ripped and sown, with self-sustaining floristic community, using species local to the area that is compatible with pastoral utilisation, to the satisfaction of the Chief Inspector of Mines.</p>	Complied	<p>A progressive rehabilitation and closure program has been implemented for Challenger with rehabilitation tasks for the project sections already rehabilitated.</p> <p>Results of the 2017 EFA monitoring indicate that the current rehabilitation methods is more than adequate for the given landscape, and excellent results have been achieved so far.</p>

Lease condition	Compliance status	Summary and supporting evidence of compliance status determination
<p>ML6103 S2 Condition 13</p> <p>The lessee shall implement a monitoring program to identify the impact of mining on stock water supply to Pastoral Lease 2169 and shall provide an alternate water supply of stock water should mining operations adversely impact that supply.</p>	Complied	<p>Monthly groundwater dipping records have been conducted and displayed no adverse impact to the supply of stock water.</p> <p>2017 Annual Groundwater Compliance Monitoring Report – Environmental Projects and periodic depth to groundwater measurements.</p>
<p>ML6103 S2 Condition 14</p> <p>The tenement holder shall be liable for the ongoing management of the Tailings Storage Facility following mine closure and decommissioning. The term of this will be coincident with the Bond and to the satisfaction of the Chief Inspector of Mines.</p>	Yet to be determined	This phase of operations is yet to commence.
<p>ML6103 S2 Condition 15</p> <p>The lessee shall on completion of mining ensure that the long-term pit wall slopes are geotechnically stable to the satisfaction of the Chief Inspector of Mines and define an adequate exclusion zone by constructing a bund around the pit and also chainmesh perimeter fence (with warning signs), to reduce access to the pit area by stock, other animals and unauthorised persons.</p>	Yet to be determined	This phase of operations is yet to commence.
<p>ML6457 S1 Condition 1</p> <p>The grant of the Mining Tenement authorises mining operations (only) for the recovery of: 1.1. Gold.</p>	Complied	Mining operations to date have produced ore for gold recovery only.
<p>ML6457 S1 Condition 2</p> <p>The grant of the Mining Tenement authorises mining operations (only) that are consistent with the mining operations described in the Mining Lease Proposal document dated April 2014.</p>	Acknowledged	PEPR2016/062 (rev. 3) was originally approved in November 2016 and updated (rev. 4) in March 2018 for mining operations consistent with those described in the MLP document dated August 2015 and subsequent Response Document dated 17 November 2015. Mining operations are conducted in accordance with the approved PEPR2016/062 (rev. 4).
<p>ML6457 S2 Condition 1</p> <p>The Tenement Holder agrees to the APPROVED PEPR and any compliance reports and reportable incident reports, submitted in accordance with the Regulations, being made available for public inspection.</p>	Complied	Updated PEPR was approved in March 2018 (rev. 4).
<p>ML6457 S6 Condition 1</p> <p>The tenement holder must during construction and operation, ensure that there is no adverse impact to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems.</p>	Yet to be determined.	Currently in Care of Maintenance, however future operation is expected.

Lease condition	Compliance status	Summary and supporting evidence of compliance status determination
<p>MPL 63, 65 & 66 S1 Condition 3</p> <p>The licensee shall ensure that the land disturbed by activity ancillary to mining shall be rehabilitated to return the land to grazing.</p>	Complied	<p>A progressive rehabilitation and closure program has been implemented for Challenger with rehabilitation tasks for the project sections already rehabilitated.</p> <p>Results of the most recent Ecological Function Analysis (EFA) monitoring indicate that the current rehabilitation methods is more than adequate for the given landscape, and excellent results have been achieved so far.</p>
<p>MPL 63, 65 & 66 S2 Condition 1</p> <p>The lessee shall, prior to commencing any work on the MPL, lodge a Rehabilitation Bond to ensure land disturbed by these ancillary operations will be rehabilitated.</p>	Complied	A bank guarantee was provided when Challenger commenced.
<p>MPL 63, 65 & 66 S2 Condition 6</p> <p>The licensee shall on completion of mining activity at the tenement on the Challenger Gold Mine, recover and remove the pipeline from the land and the bores shall be effectively capped below ground level and abandoned as per PIRSA Information sheet "Construction and Abandonment of Drill holes for Mineral Exploration", and to the satisfaction of the Chief Inspector of Mines.</p>	Yet to be determined	This phase of operations is yet to commence.
<p>MPL 63, 65 & 66 S2 Condition 7</p> <p>The licensee shall rehabilitate any land disturbed by activities ancillary to mining, when practical to do so and in accordance with seasonal conditions, to the satisfaction of the Chief Inspector for Mines.</p>	Complied	<p>A progressive rehabilitation and closure program has been implemented for Challenger with rehabilitation tasks for the project sections already rehabilitated.</p> <p>Rehabilitation activities are reported as part of the ACR.</p> <p>Results of the 2017 EFA monitoring indicate that the current rehabilitation method is more than adequate for the given landscape, and excellent results have been achieved so far.</p>

3.3 Compliance with mine closure criteria

Compliance assessment against mine completion criteria not already included are outlined in Table 31.

Table 25: Assessment against mine completion outcomes

Impact ID	Outcome	What will be measured and form (method) of measurement	Locations	OMC		Leading Indicator Criteria	Compliance status	Summary and supporting evidence of compliance status determination
				Outcome achievement	Frequency			
C102	Post closure, mining activities do not impact on the ability of existing and/or future users to continue to gain access to supplies of suitable quality groundwater.	Groundwater quality – CN in groundwater.	Gusher (MW01), MW02, MW11	1 Post closure groundwater monitoring indicates stable or declining concentrations of cyanide. Results at MW01, MW02, and MW11 <0.08 mg/L.	Annually for at least three years	Annual groundwater results (CN) are consistent with modelling predictions. Biannual groundwater quality monitoring during operation and closure demonstrates WADCN in samples from COW1 does not exceed 0.08mg/L (Operational Measurement Criteria C10).	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C104	Permanent landforms are chemically and physically stable so as to not impact the diversity and abundance of native vegetation.	Suitably qualified third party assessment of embankment stability and tailing density.	IWL	Audit report demonstrates that – tailings density is trending towards 1.5 t/m3 (TSF2 – TSF! – liquefaction assessment and seismic hazard assessment confirm embankment stability.	Once, post processing operations, prior to each 5 m lift.	Operational construction (lifts) meets approved design or equivalent performance as demonstrated through as construct report Annual third party audits of TSF2 conducted until closure and demonstrate sufficient freeboard has been maintained, Operations Manual are relevant, recommendations are actioned prior to next audit or confirmed as not necessary, by independent expert advice. Modelling of surface water, erosion and dispersion areas indicate abundance and diversity of vegetation will not be impacted.	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C108	Mining activities do not impact on the ability of existing and/or future users to continue to gain access to supplies of suitable quality groundwater.	Groundwater quality water quality against modelling outcomes, as defined in the groundwater monitoring plan.	Gusher1 (MW01), MW02, MW11	Post completion groundwater monitoring indicates stable or declining concentration of salinity, cyanide, pH and arsenic. Cyanide concentrations are consistent with or better than 2020 modelling predictions (wells MW01 – MW08b).	Annual for three years post completion	Annual groundwater results are consistent with modelling prediction in relation to impact to other users. Groundwater model, recalibrated at 2020, demonstrates no likely risk to groundwater suitable for industrial purposes.	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C109	Seepage from permanent landforms do not impact the diversity and abundance of native vegetation.	Depth to groundwater.	MW06, MW08b, MW09, MW10, MW11	Depths to groundwater are declining or stable and greater than 1m below surface.	6 monthly during operation and annually for three years post completion.	During operation and closure landscape functional attributes are measure and on lease sites match, exceed or trending towards off lease site value. Attributes include: <ul style="list-style-type: none"> Abundance of long live perennial shrubs; Cover of long lived perennial shrubs; Fecundity of perennial shrubs; Presence / cover of seed resource; Litter deposition; Grazing utilisation; Juvenile abundance; and Presence of perennial grass species (Operational Measurement Criteria C8). 	Not required.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C112	Sedimentation from permanent landforms does not impact the diversity and abundance of native vegetation.	Landscape functional attributes. Include: <ul style="list-style-type: none"> abundance of long lived perennial shrubs; cover of long lived perennial shrubs; presence / cover of seed resource; litter deposition; 	Monitoring sites. CHA01 to CHA12 (refer to Figure 5.19)	Landscape function monitoring in the post completion period demonstrates no loss of diversity or abundance of native vegetation as a result of mining activities.	Annually for three years post completion	Results of annual audits of inspection, monitoring and maintenance, incident and corrective action records, will demonstrate that toe drains, diversions and other surface water and sediment control infrastructure are effectively managing surface water flows and containing sediment <i>during operation, completion and for 3 years post completion</i> (operations measurement criteria impact event ID C2).	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).

Impact ID	Outcome	OMC				Leading Indicator Criteria	Compliance status	Summary and supporting evidence of compliance status determination
		What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency			
		<ul style="list-style-type: none"> grazing utilisation; juvenile abundance; and presence of perennial grass species. 				<p>Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being control, ie on lease sites to match, exceed or trending towards off lease site values</p> <p>Where landform based lease sites do not trend towards, match or exceed off-lease sites, differences are not attributed to erosion of permanent landforms (operations measurement criteria impact event C1).</p>		
C114	Where practicable, the pre-mining land use can be recommenced after mine completion.	<p>Soil sampling in accordance with the National Environment Protection (Assessment of Site Contamination) Measure.</p> <p>Landscape function attributes. Include:</p> <ul style="list-style-type: none"> abundance of long lived perennial shrubs; cover of long lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. 	<p>ML and MPL area, infrastructure locations.</p> <p>Monitoring sites, CHA01 to CHA12 (refer to PEPR Figure 5.19).</p>	<p>Prior to mine completion Soil sampling undertaken at infrastructure locations demonstrate that the concentration of analytes in soils will not preclude the post mining land-use of grazing</p> <p>Landscape function monitoring in the post completion period demonstrate rehabilitation of on lease sites match, exceed or trending towards off lease site values.</p>	<p>Post-closure and prior to relinquishment.</p> <p>Prior to relinquishment of tenement.</p>	<p>Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled, ie on lease sites to match, exceed or trending towards off lease site values.</p> <p>Where landform based lease sites do not trend towards, match or exceed off-lease sites, differences are not attributed to erosion of permanent landforms (operations measurement criteria impact event C1).</p> <p>N/A</p>	<p>Not relevant at this point.</p>	<p>Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).</p>
C115	Where practicable, the pre-mining land use can be recommenced after mine completion.	<p>Site contamination at closure compared to pre-mining, conducted by an independent auditor.</p> <p>Species abundance and richness of key resident species.</p>	<p>ML and MPL area.</p> <p>Two near mine and two off leas sites (See PEPR Figure 5.19).</p>	<p>Prior to mine completion an audit is conducted and concludes that the Lease is suitable for the future post-mining land use/pre-mining land use can recommence with no harm to ecological and human health.</p> <p>Post closure monitoring and EFA at set monitoring locations (See Fig 5.19) indicates that the abundance, diversity and productivity of fauna is no impacted by mining operations (i.e. within 80% of mean equivalent site values collated 2002-date).</p>	<p>Post-closure and prior to relinquishment.</p> <p>Once, prior to surrender.</p>	<p>Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled ie on lease sites to match exceed or trending towards off lease site values.</p> <p>Where landform based lease sites do not trend towards, match or exceed off-lease sites, differences are not attributed to erosion of permanent landforms (operational measurement criteria impact event C1).</p> <p>Result of annual assessment indicate stable or improving trends</p>	<p>Not relevant at this point</p> <p>Not relevant at this point.</p>	<p>Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).</p> <p>Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).</p>
C117	Post mine completion, the risks to the health and safety of the public so far as it may be affected by mining operations are as low as reasonably practicable.	<p>An audit of decommissioning rehabilitation and closure activities.</p>	<p>Decline – underground portal Vent shaft Abandonment bund at Challenger and</p>	<p>Audit at post closure demonstrates signage regarding unauthorised access has been installed, abandonment bund has been constructed as designed and portal and vent fan have been sealed.</p>	<p>Once, prior to surrender.</p>	<p>N/A</p>	<p>Not relevant at this point.</p>	<p>Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).</p>

Impact ID	Outcome	OMC				Leading Indicator Criteria	Compliance status	Summary and supporting evidence of compliance status determination
		What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency			
			Challenger West Pits.					
C119	Mining activities do not impact on the ability of existing and/or future users to continue to gain access to supplies of suitable quality groundwater.	Monitoring of groundwater standing levels Monitoring of groundwater quality using best practice i.e. a low flor/micro purge method. Groundwater conditions at mine site and stock watering bores.	COW1 see PEPR Figure 5.8. ML and MPL area (MW01 – MW11, dead finish, bluff bore, COW1).	RL of COW1 groundwater level remains greater than 159.9 mAHD (less than 19.2mTOC). Annual groundwater quality monitoring demonstrates TDS at COW1 does not exceed 7000mg/L. A post completion audit demonstrates that groundwater response in the mine area will not cause impact to third party access to stock water (at existing stock watering bores).	Post closure and prior to relinquishment – annually for three years. Post completion.	Quarterly field measurements of TDS in groundwater in COW1 are 120% or less of baseline levels. Where exceedances are observed, undertake assessment works to determine the source and impact of the increased salinity, and any next steps. Biannual groundwater quality monitoring demonstrates water quality at Pastoral bores – Bluff bore and dead finish bore do not exceed ANZECC criteria for cobalt, TDS and pH, where exceedances are recorded further assessment is undertaken to consider what, if any, mining influences are present.	Not relevant at this point Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase). Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C120	Mining activities do not impact on the ability of existing and/or future users to continue to gain access to supplies of suitable groundwater.	Depth to groundwater and groundwater RL.	COW1	Post closure groundwater monitoring indicates stable or increasing groundwater level.	Post-closure and prior to relinquishment – annually for three years.	Annual groundwater results are consistent with modelling predictions in relation to impact to other users.	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C121	Where practicable, the pre-mining land use can be recommenced after mine completion.	That remaining infrastructure meets the land transfer agreement.	the site	An independent audit demonstrates that the condition of the site will allow a pre-mining land use (pastoral) to be resumed and that the condition is in accordance with the transfer agreement.	Once, post completion.	N/A	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).
C122	Where practicable, the pre-mining land use can be recommenced after mine completion.	The condition of the site.	The site.	An independent audit demonstrates that the condition of the site will allow a pre-mining land use (pastoral) to be resumed and that the condition is in accordance with the transfer agreement.	Post completion.	N/A	Not relevant at this point.	Mine is in care and maintenance and future works are expected (i.e. site is not in post closure phase).
C123	Establishment of ecosystem and landscape function, commensurate with or trending towards surrounding within the site.	Ecosystem functional attributes. Include: <ul style="list-style-type: none"> abundance of long lived perennial shrubs; cover of long lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. 	Monitoring sites, CHA01 to CHA12 (refer to PEPR Figure 5.19). ML and MPL	Results of flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled, ie on lease sites to match, exceed or trending towards off lease site values. Audit by an independent suitably qualified and experienced specialist during closure, verifies that vegetation surveys at representative monitoring sites located on rehabilitated areas have achieved or are trending towards baseline ecosystem condition and landscape function and is appropriate for the agreed post-completion land use.	Post-closure and prior to relinquishment – annually for at least three years.	EFA monitoring performed and recommendations acted on progressively. Annual review during operation demonstrates that weed incursions have been managed and avoided through monitoring and treatment (C13).	Not relevant at this point.	Mine is in care and maintenance and future operation is expected (i.e. site is not in post closure phase).

3.4 Summary of non-compliances and corrective actions

Table 26 provides a summary of all non-compliances for the reporting period that relate to environmental outcomes. Table 27 provides details of the source of non-compliance and corrective actions identified in relation to environmental outcomes listed in the PEPR.

Table 26 Summary of non-compliances

Aspect of environment	Impact ID	Status
Surface water/ Vegetation	C1	Unable to determine
Land/soils	C3, C4	Unable to determine
Land/soils	C6	Unable to determine
Soil/ Vegetation	C7	Unable to determine
Vegetation	C8	Unable to determine
Groundwater	C10	Unable to determine
Groundwater	C11	Unable to determine
Groundwater	C12	Unable to determine
Vegetation	C13	Unable to determine
Fauna	C14	Unable to determine
Soil	C15	Unable to determine

Table 27 Non compliances and corrective actions associated with Environmental Outcomes and Measurement Criteria

Aspect	Surface water	Impact ID	C1	Tenement	ML6103, MPL63
Environmental Outcome	No long-term impact on local environmental values as a result of changes to flows or surface water quality characteristics.				
Outcome measurement criteria	What will be measured and form (method) of measurement		Locations	Outcome achievement	Frequency
	Landscape functional attributes include: <ul style="list-style-type: none"> abundance of long-lived perennial shrubs; cover of long-lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. 		Monitoring sites, CHA01 to CHA12 (refer to Figure 5.19).	Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled, ie on lease sites to match, exceed or trending towards off lease site values. Where lease sites do not match or exceed off-lease sites, differences are not attributed to site drainage issues.	Annual
Cause of non-compliance	No annual vegetation survey undertaken over reporting period, due to project being in care and maintenance and change of ownership.				
Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance	It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes: <ul style="list-style-type: none"> Continuing to undertake annual vegetation surveys to demonstrate the abundance and diversity of vegetation. A vegetation survey is planned for Autumn 2021 – see Section 11. 				
Aspect	Land/Soils	Impact ID	C3, C4	Tenement	ML 6103
Environmental Outcome	No contamination of land and soils as a result of mining related activities that would preclude pre-mining land use.				
Outcome measurement criteria	What will be measured and form (method) of measurement		Locations	Outcome achievement	Frequency
	Audit of records of incidents – unplanned chemical releases breaching primary containment (bunds) to within secondary containment (disturbed operational areas, engineered or traffic compacted surfaces) – recorded and cleaned up. <ul style="list-style-type: none"> Records of incidents – Reviews of records demonstrates that where a chemical release breaches secondary containment (disturbed 		Mining related unplanned release (spill) locations within the tenement, breaching, primary containment.	Audit (annual) demonstrates spills and leaks outside primary containment/bunded areas (including within the plant) are recorded on the Incident Reporting System and have been cleaned up as per the Emergency Response procedures and MSDS sheets.	Incident details recorded on incident Reporting System within 24 hours of unplanned releases breaching primary containment. Release has been cleaned up within 3 days of release unless

Aspect	Vegetation	Impact ID	C8	Tenement	ML6103, MPL63
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Environmental Outcome	The tenement holder must during construction and operation, ensure that there is no loss of abundance or diversity of native vegetation on the Land unless a significant environmental benefit has been approved.				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency	
	Landscape function attributes. Include: <ul style="list-style-type: none"> abundance of long-lived perennial shrubs; cover of long-lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. 	Existing monitoring sites (refer to Figure 5.12) reduced to a 10 x 2 metre plot.	On lease sites to match, exceed or trending towards off lease site values.	Annual	
Cause of non-compliance	No annual vegetation survey undertaken over reporting period, due to project being in care and maintenance and change of ownership.				
Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance	It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes: <ul style="list-style-type: none"> Continuing to undertake annual vegetation surveys to demonstrate the abundance and diversity of vegetation. A vegetation survey is planned for Autumn 2021 – see Section 11. 				

Aspect	Groundwater	Impact ID	C10	Tenement	ML6103 and ML 6457
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Environmental Outcome	The tenement holder must during construction and operation, ensure that there is not adverse impact to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems (source ML6547)				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency	
	Groundwater quality including WADCN. Using best practice i.e. a low flow/micro purge method and field filtered samples.	COW1, identified on Figure 2.	Biannual groundwater quality monitoring demonstrates WADCN in samples from COW1 does not exceed 0.08mg/L	6 monthly	
Cause of non-compliance	Records could not be located, and groundwater quality has not been monitored on a 6 monthly basis during the care and maintenance period.				
Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance	It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes: <ul style="list-style-type: none"> Continuation of existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018). Locate Table X from WPG data records and addend to the PEPR. 				

Aspect	Groundwater	Impact ID	C11	Tenement	ML6103 and ML6457
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Environmental Outcome	The tenement holder must during construction and operation, ensure that there is no adverse impact to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems (source ML6547).				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency	
	Groundwater quality including TDS, WAD, CN, pH, Arsenic as per the Groundwater Monitoring Plan for sampling and analysis protocols.	MW06, 07, 09, 10, 11.	Biannual groundwater monitoring results confirm that groundwater quality are consistent with modelled predictions (Figure 5.18, table 5.4). TDS <50,000mg/L WAD CN <0.08 mg/L pH 6>9 As <0.5.	Biannual (typically January and July).	
Cause of non-compliance	Records could not be located, and groundwater quality has not been monitored on a 6 monthly basis during the care and maintenance period.				
Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance	It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes continuation of existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018).				

Aspect	Groundwater	Impact ID	C12	Tenement
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Environmental outcome:	The tenement holder must during construction and operation, ensure that there is no adverse impacts to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems (source ML6547).			
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency

Monitoring of groundwater standing levels. <ul style="list-style-type: none"> Monitoring of groundwater quality using best practice i.e. a low flow/micro purge method. 	COW1 refer to PEPR Figure 5.8	RL of COW1 groundwater levels remains greater than 159.9 mAHD (less than 19.2 mTOC) Biannual groundwater quality monitoring demonstrates TDS at COW1 does not exceed 7000 mg/L.	monthly (groundwater levels). 6 monthly (groundwater monitoring).
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Cause of non-compliance

Records were unable to be located for 6 monthly groundwater quality monitoring. Monitoring of groundwater levels has been undertaken.

Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance

It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes continuation of existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018).

Aspect	Vegetation	Impact ID	C13	Tenement	ML 6103, MPL63
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Environmental Outcome To maintain the abundance, diversity and productivity of flora at ecosystems levels through the avoidance of management of adverse impacts

Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency
	Ecosystem functional attributes include: <ul style="list-style-type: none"> abundance of long lived perennial shrubs; cover of long lived perennial shrubs; fecundity of perennial shrubs; presence / cover of seed resource; litter deposition; grazing utilisation; juvenile abundance; and presence of perennial grass species. Presence and abundance of Kingoonya NRM board target weed species. Functional indices and plant cover data on rehabilitation transects.	Monitoring sites, CHA01 to CHA12 (refer to Figure 5.19). Selected locations based on risk assessment. Conducted on waste rock dump, TSF wall and other areas of rehabilitation of an area greater than 1ha. Two analogue sites, one in each vegetation community type of rehabilitation.	Annual flora monitoring and EFA indicates no impact to vegetation communities and weeds are being controlled, ie on lease sites to match, exceed or trending towards off lease site values. Annual review demonstrates that weed incursion have been managed and avoided through monitoring and treatment. Assessment of ecosystem function analysis for trends of continuous improvement towards analogue sites. Trend of continual improvement and move towards analogue values.	Annual Annual Annual for rehabilitation and biennial for analogue sites

Cause of non-compliance

No annual vegetation survey undertaken over reporting period, due to project being in care and maintenance and change of ownership.

Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance

It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes:

- Continuing to undertake annual vegetation surveys to demonstrate the abundance and diversity of vegetation.
- A vegetation survey is planned for Autumn 2021 – see Section 11.

Aspect	Fauna	Impact ID	C14	Tenement	ML 6103, MPL63
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Environmental Outcome To maintain the abundance, diversity and productivity of fauna at ecosystems levels through the avoidance or management of adverse impacts

Outcome measurement criteria	What will be measured and form (method) of measurement	Locations	Outcome achievement	Frequency
		1Two near mine and two off lease sites (See PEPR Figure 5.19). 2Two near mining and two off lease sites (See PEPR Figure 5.19). At selected near mine lease sites.	Annual fauna monitoring and EFA at set monitoring locations (See PEPR Figure 5.19) indicates that the abundance, diversity and productivity of fauna is not impacted by mining operations (i.e. within 80% of mean equivalent site values collated 2002-date). Annual bird monitoring at set locations (See PEPR Fig 5.19) indicates abundance, and richness of known resident species is within 80% of mean long term equivalent site values collated 2002-date. Pest predator species monitoring report levels not significantly exceeding previously data from 2002 – 2016.	Annual Annual Annual

Cause of non-compliance

No annual fauna survey has been undertaken during the reporting period, due to project being in care and maintenance and change of ownership.

Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance

It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes:

- Continuing to undertake annual fauna surveys to demonstrate the species abundance and richness of key resident species.
- A fauna survey is planned for Autumn 2021 – see Section 11.

Aspect	Soil	Impact ID	C15	Tenement	ML 6103
Environmental Outcome	Maintain quantity and quality of top soil for rehabilitation activities.				
Outcome measurement criteria	What will be measured and form (method) of measurement	Locations		Outcome achievement	
	Volume of topsoil stockpiles and use in rehabilitation works.	Stockpiles as per PEPR Figure 23.8.		Topsoil register records demonstrate reconciliation of stockpile volumes against rehabilitation use.	
Cause of non-compliance	No records of current topsoil stockpile volumes and /or reconciliation against rehabilitation uses have been located for the reporting period.				
Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance	It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes reviewing and/or updating topsoil records to ensure reconciliation of stockpile volumes against rehabilitation uses reflects current status.				

A review of the compliance status with non outcomes ML conditions has identified four conditions where compliance is unable to be determined. These are summarised in Table 28 below, including corrective actions proposed to be undertaken where applicable.

Table 28. Non compliances and corrective actions associated with Lease Conditions

Lease Condition	Summarise any actions taken or yet to be taken to rectify the non-compliance and to prevent the reoccurrence of any such non-compliance
<p>ML6103 S2 Condition 14</p> <p>The tenement holder shall be liable for the ongoing management of the Tailings Storage Facility following mine closure and decommissioning. The term of this will be coincident with the Bond and to the satisfaction of the Chief Inspector of Mines.</p>	<p>The mine closure and decommissioning phases are yet to commence, therefore no actions can be taken at this time. A Bond is held for the operation. The site is currently in Care and Maintenance phase, however future operation is expected..</p>
<p>ML6103 S2 Condition 15</p> <p>The lessee shall on completion of mining ensure that the long-term pit wall slopes are geotechnically stable to the satisfaction of the Chief Inspector of Mines and define an adequate exclusion zone by constructing a bund around the pit and also chainmesh perimeter fence (with warning signs), to reduce access to the pit area by stock, other animals and unauthorised persons.</p>	<p>The site is currently in Care and Maintenance phase, as such this phase is yet to commence. Regular inspections of the pit walls are conducted as part of ongoing Care and Maintenance activities.</p>
<p>ML6457 S6 Condition 1</p> <p>The tenement holder must during construction and operation, ensure that there is no adverse impact to the quality and quantity of groundwater caused by mining operations to existing users and water dependent ecosystems.</p>	<p>It is the intention of the current ownership (Barton Gold) to restore existing control and management strategies (as outlined in the PEPR) to meet compliance requirements in the next reporting period. This includes continuation of existing groundwater monitoring program and reporting requirements as per the PEPR (2017/020 dated February 2018).</p>
<p>MPL 63, 65 & 66 S2 Condition 6</p> <p>The licensee shall on completion of mining activity at the tenement on the Challenger Gold Mine, recover and remove the pipeline from the land and the bores shall be effectively capped below ground level and abandoned as per PIRSA Information sheet "Construction and Abandonment of Drill holes for Mineral Exploration", and to the satisfaction of the Chief Inspector of Mines.</p>	<p>The site is currently in Care and Maintenance phase, as such this phase is yet to commence.</p>

4. Disturbance and rehabilitation activities

Activities undertaken during the reporting period were limited to a period of underground mining until mid-October 2018, followed by care and maintenance activities (see Table 8) for the remainder of the reporting period. As a result, no disturbance or rehabilitation activities took place during the reporting period. Table 29 provides the clearance and rehabilitation activities for Challenger to date. Disturbance and/ or rehabilitation works for the next reporting period have not yet been finalised.

Table 29 Summary total of native vegetation clearance and rehabilitation

Summary total	Clearance (Ha)
Total area of native vegetation cleared in the reporting period	0
Total area of vegetation rehabilitated in the reporting period	0
Total area of native vegetation cleared to date	173.16
Total area of vegetation rehabilitated to date	24.06
Estimated area proposed to be cleared in the next reporting period*	-
Estimated area proposed to be rehabilitated in the next reporting period*	-

Note: figures in the table are subject to rounding

**uncertain at this point*

5. Reconciliation of Native Vegetation Clearance

The site is currently under care and maintenance and there was no clearing undertaken during the reporting period. Any future clearance will be subject to an internal application processes to ensure compliance with the Native Vegetation Management Plant (NVMP) and Significant Environmental Benefit (SEB) approved clearance.

6. Environment Protection and Biodiversity Conservation Act 1999 reporting

ML 6103 and 6457 for the Challenger Gold Mine are not subject to an approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

7. Exempt land

None of the land on which Challenger is located is exempt or requires a waiver of exemption. As such, the site is compliant with exempt land provisions in accordance with Section 9 of the Mining Act.

8. Complaints

No complaints were received during the reporting period.

9. Audits and management system review

9.1 Audits

During operations (up until October 2018) spot audits were undertaken to assess operational compliance. A tailings dam engineer was consulted regarding issues identified during routine inspections of the TSF2 area. Records of audits for the operational period could not be located.

During care and maintenance, regular inspections have been undertaken. The findings and actions arising from these have been recorded as caretaker inspections.

9.2 Management system reviews

No management system reviews, or audits have been undertaken during the reporting period. Barton Gold, as the new operators, will review and implement appropriate management systems and review processes to ensure compliance with environmental and mine closure outcomes.

10. Verification of uncertainty

No PEPR uncertainties have been addressed during the reporting period, as for most of this time the Project was in care and maintenance. Please see the forward work plan for planned works to address identified uncertainties.

11. Forward work plans

A summary of the proposed current and future works is provided in Table 30. The works have been proposed based on existing uncertainties or lack of data identified as part of defining the environmental outcomes. Table 30 does not include items that are considered controls, operational monitoring or actions required to confirm completion or components associated with Barton Gold's Environmental Management System or, which will be implemented, reviewed, continuously improved and maintained in order to ensure compliance and to manage risks associated with uncertainties and assumptions. A number of tasks included in previous forward work plans, have been removed to allow Barton Gold to reassess and prioritise tasks based on mining and processing operations which will be better defined in the coming year. The forward work plan will be subject to ongoing discussion and agreement with DEM.

Table 30 Challenger forward work plan

Activity	Start Date	Completion Date	Planned Date for Submission	Justification of Timing for Works	Responsibility	Current Status
Undertake Autumn ecology monitoring survey	2021	2021	To be submitted in 2021 ACR	Change of ownership and high demand for ecological services during spring	General Manager	Scope developed and scheduled
Reinstate groundwater monitoring	2021	2021	To be submitted in the 2021 ACR	Reinstated monitoring program	General Manager	Not yet commenced
Continue ecosystem function analysis (EFA), or similar to determine success of rehabilitated sites and adjust rehabilitation activities as appropriate based on the results	2021	2021	Compliance report	Annual assessment, post-closure assessment to provide assessment statements for completion	General Manager	Scope developed and scheduled
Contaminated site assessment of post operational areas		post closure		For completion (required to be undertaken after decommissioning and remedial works)	General Manager	Not yet commenced
Legal asset transfer agreement to be compiled and agreed by all relevant parties, and as per Closure Outcome 1	prior to LOM			Completion requirement	General Manager	Not yet commenced
Finalisation of closure design and implementation of barriers	post LOM			For completion	General Manager	Not yet commenced

Activity	Start Date	Completion Date	Planned Date for Submission	Justification of Timing for Works	Responsibility	Current Status
Closure activities - signage and abandonment bund are in place	post closure			For completion	General Manager	Not yet commenced

12. Changes to mining operations and emerging environmental hazards

The Project was previously operated by Challenger Gold. Challenger Gold, as a subsidiary of WPG, went into voluntary administration on 30 July 2018, with Receivers appointed also. At that time DEM were advised, and the Project was guided to a state of care and maintenance by October 2018.

The tenement was acquired by Barton Gold in November 2019, as agreed by DEM, with the Project in a continuing state of care and maintenance.

No changes that required a Program Notification for mining operations occurred during the reporting period. Exploration details are summarised in Appendix A.

13. Technical reports

The tailings dam engineer was consulted regarding cracks identified in relation to the TSF 2 facility during routine inspections, and the dam engineer report was submitted to DEM in July 2019 (this was during the period that Challenger was under the care of appointed Receivers and Managers). No other technical studies or reports were completed relevant to the OMC during the reporting period. Groundwater standing water level monitoring details have been included in Appendix B.

14. Voluntary information

Reports were submitted under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act) for 2017-2018 and 2018-2019, that included Challenger Gold operations.

Barton Gold is actively building relationships with neighbouring stakeholders and regular communication is on-going. During the reporting period Barton Gold has engaged in regular dialogue with Commonwealth Hill Station regarding its operations and use of shared infrastructure (roads).

Appendix A Exploration on mining leases

14.1.1 B1 Exploration activities, exploration rehabilitation, exploration liabilities on the mining lease

Have any exploration activities been conducted during the current reporting period?	Yes	If yes, complete all sections of Appendix B
Have rehabilitation activities been undertaken during the reporting period?	Yes/ No	
Is there any outstanding rehabilitation from current or previous reporting periods to be undertaken?	Yes/ No	

If no to all of above, no further information on exploration activities is required.

Appendix B Groundwater summary

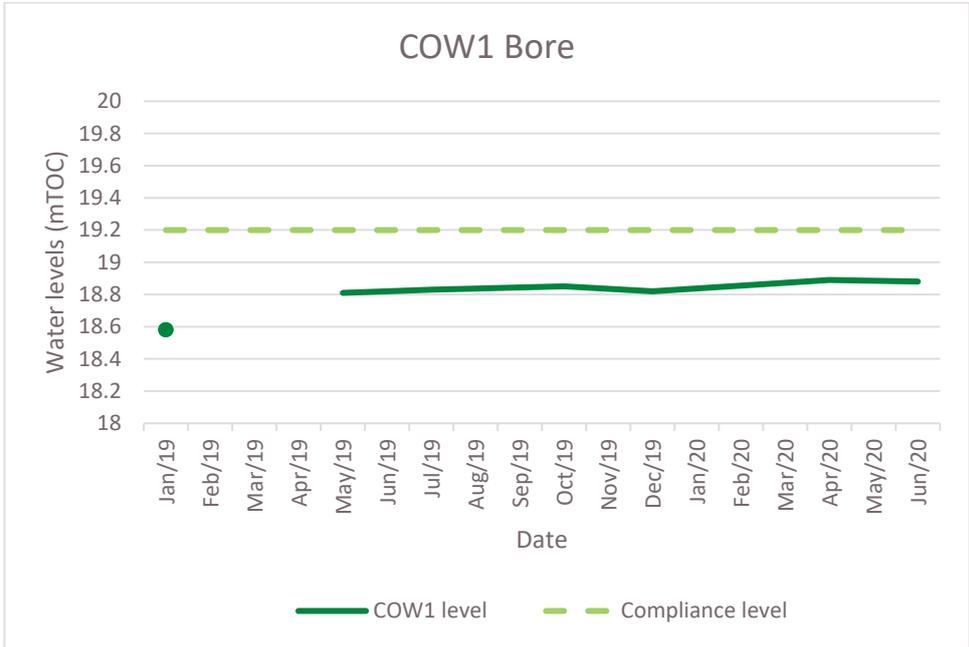


Figure 4: Challenger COW1 groundwater standing water level (mTOC)

