



# ESCARPMENT MINE

## ANNUAL WORK PLAN FOR CARE AND MAINTENANCE

1 July 2018 – 30 June 2019

Extended to 30 June 2020

Reviewed & Extended to 30 June 2021

Reviewed & Extended to 30 June 2022



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## 1.0 Introduction

The Escarpment Mine (EM) is an open cast mining operation located on the edge of the Denniston Plateau. Buller Coal Limited (BCL) is a wholly owned subsidiary of Bathurst Resources Limited (BRL). BCL is the holder of Mining Permit (MP) 51-279 as well as the permit operator and mine operator of the EM. The land is Crown-owned land that is administered by the Department of Conservation (DOC) within the Mount Rochfort Conservation Area and is held as a stewardship area.

Operations at the EM commenced in July 2014 with mine construction works that were scheduled for approximately the first two to three years and mining operations at scheduled production rates were planned to continue for 8 years. Due to the end of a short-term local market and the continuing downturn in international coking coal prices, the EM was placed in a care and maintenance regime on 1 July 2016. While planning work is being undertaken to restart the EM, this Annual Work Plan (AWP) originally covered Care and Maintenance for the period from 1 July 2018 to 30 June 2019, had been extended until 30 June 2020, then again until 30 June 2021, and subsequently a further 12 month period until 30 June 2022 as no changes are planned at the site for the forthcoming 12 months. Should BCL decide to recommence mining operations a new AWP will be submitted.

### 1.1 Bathurst Resources Limited

BRL through its wholly owned subsidiary companies has exploration and mining permits covering 10,000 hectares on the Buller Coalfield, near Westport as well as operations in Southland and Canterbury. It operates the Takitimu coal mine in Nightcaps, Southland, and the Canterbury Coal mine near Coalgate both producing thermal coal for the domestic industrial market. A coal distribution yard is located at Timaru. The Cascade Mine on the edge of the Denniston Plateau, which has a resource of more than 1.5 million tonnes of coal has also been placed on a care and maintenance regime.

BRL has recently completed a joint venture partnership transaction to purchase the Solid Energy assets on the Stockton Plateau in the Buller and the Rotowaro and Maramarua mines in the North Island. These acquisitions have no direct impact on the EM operations, although they create opportunities for BRL as a company and in the longer term are likely to provide options for sharing infrastructure in the Buller Region.

### 1.2 Statutory Approvals

The EM is being developed in accordance with the conditions imposed under MP, Resource Consent (RC 10193/1-16, RC 10/70A,-H, and RC13216/1, RC2014-0193-01,02,03) (RC), Access Arrangement (AA, MP 51 279)(AA), Whareatea Road

Concession (WRC, 34684-OTH) (WRC) and Wildlife Act Authority (36887-FAU) (WAA). A comprehensive list of the RC, AA, WRC and WAA conditions relevant to this AWP is presented in Appendix 1.

RC2014-0193 expired on 26 March 2018 and an application for renewal was applied for on 21 September 2017 which is within the 6-month statutory timeframe to enable BCL to continue operating while the application is being processed. As at the end of April 2018 the WCRC advised that this application was still being processed.

As per the RC and AA, an Annual Work Plan (AWP), any review of the management plans, review and evidence of lodgement of the bond quantum, evidence of insurances, and evidence of all other consents must all be submitted to all regulatory authorities each year for their approval. DOC approves these documents by issuing an Authority to Enter and Operate (AEO), whereas the Council's approval of the AWP and any material changes to the Management Plans is via a signed letter.

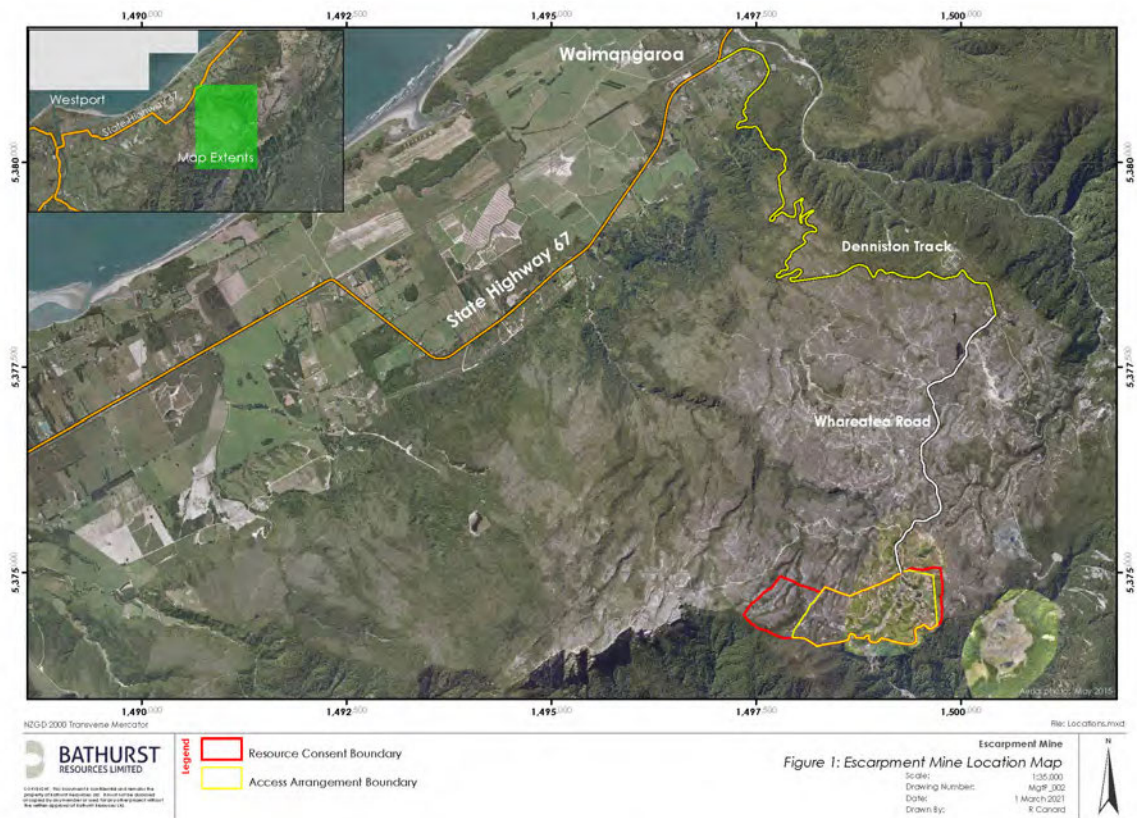


Figure 1: Escarpment Mine Location Map

### 1.3 Overview of Escarpment Mine Operations

The EM is located on the Denniston Plateau at a straight-line distance of approximately 13 km northeast of Westport within the Mount Rochfort Conservation Area. The EM consents cover approximately 152.5 hectares of land on the southern edge of the Denniston Plateau (the Plateau) (Figure 1).

The statutory RC, AA, WRC, WAA approvals, while all giving approval to the EM, authorise activities and impose conditions to overlapping, but not identical land areas (Figure 1). The EM will cover an area of 152.5 hectares (ha). The suite of resource consents approved under the Resource Management Act applies to all the 152.5 ha within the EM. However, the Access Arrangement (Stage 1) applies to only 106 ha of EM land (Figure 1). It is important to record that until a further Access Arrangement (Stage 2) is approved by DOC, mining activity is limited to the 106ha. The RC conditions, on their own, do not enable mining activity on the balance of 46.5 ha of land outside the AA (Stage 1) boundary.

Furthermore, BCL is not currently proposing to install and commission the infrastructure described in its original resource consent application for the Denniston Plateau Coal Processing Plant (CPP) (including the pump station, freshwater pipeline and the Whareatea mine coal haul road) or the Fairdown Coal Handling Facility (including the coal stockpiling and dispatch facilities or the adjoining coal slurry pipeline). Therefore, the RC conditions in Sections 3 & 4 of the RC are not being specifically addressed in this AWP. However, conditions in those sections that may be more generally applicable (e.g. speed limits along Whareatea Road) as a matter of best practice are being incorporated. Any proposal to establish the Denniston Plateau Coal Processing Plant and the associated infrastructure will require further authorisation from DOC.

A full description of the location and ecology of the Denniston Plateau and general mining operations can be found in the Mine Operations Management Plan (MOMP) overview document and Ecology and Heritage Management Plan (EHMP) overview document.

The activities to be undertaken in this AWP period while under care and maintenance are detailed in Section 5. These works include;

- Maintenance of the clean water diversions, and treatment of construction and mine influenced water;
- Infrastructure maintenance;
- Rehabilitation materials management; and
- Ongoing environmental mitigation including weed spraying, and monitoring.



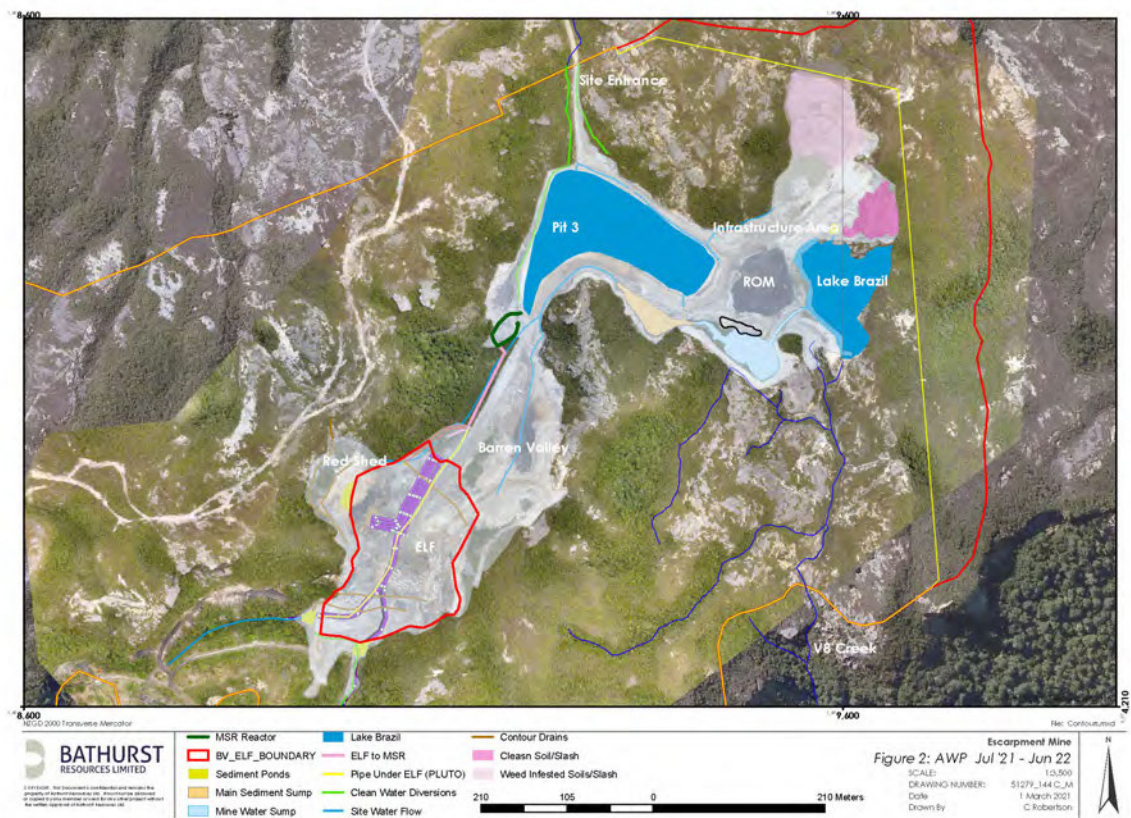


Figure 2: AWP Jul '18 to Jun '22



## 2.0 Purpose

The purpose of the AWP is to summarise the activities at the EM for the last 12 months, including variations that occurred, and to outline the care and maintenance activities planned over the next 12 months. This AWP period will run from 1 July 2021 to 30 June 2022.

## 3.0 Scope

The AWP is applicable to BCL's EM and all associated employees and contractors within development, construction, operations, decommissioning and closure phases.

A summary of the approvals held relating to MP 51-279 is provided below (Table 1). A detailed list of conditions with relevance to the AWP is presented in Appendix 1.

**Table 1: Approvals Applicable to EM**

Approvals	Summary
RC 01093/1-16 RC10/70A-H	Enables mining and associated land use disturbance activities associated with the Escarpment Mine Project.
RC 120063/B	Allows indigenous vegetation clearance and incidental earthworks over approximately 1-2 hectares (ha) associated with the up grading of the Whareatea Road to a haul road.
RC 13216/1	Allows discharge of contaminants to water for the purposes of feeding koura in the relocation ponds.
AA (MP 51 279)	Allows opencast coal mining and construction and use of the mine elements listed in Schedule 4 of the AA.
WRC (34684-OTH)	Allows use of the Easement Land for the upgrade, maintenance and use of Whareatea Road (3,625 m) for the purposes of access to and transport of coal from Escarpment Mine.
WAA (36887-FAU)	Allows certain activities and their effects on absolutely protected species
RC 2017-0112-01,02,03	Allows diversion and monitored discharge of water containing contaminants into the Cascade Creek and its tributaries, namely V8 Creek.

### 3.1 Summary of Management Plans

As part of the approval conditions, BCL is required to provide an Environmental Management Strategy (EMS) and management plans for the life of the EM. For ease of referencing, the MOMP and EHMP overview documents bring together several related topics as annexures which have been separated into individual management plans.

The latest variation to some of the AA conditions (29 October 2015) amended the naming provisions for the management plans to enable one set of names for all plans across all approvals. Some plans are not specifically required by a consent or AA condition, but matters specified in the condition framework can best be addressed through establishment of a specific management plan (i.e. Noise, Dust and Lighting).

A summary of each management plan is provided below. The management plans should be read in conjunction with this document and will be referenced throughout the AWP.

The management plan commitments have been reviewed while in Care and Maintenance. Appendix 2 includes a list of the commitments that will not be met in their entirety with a justification for the change. After completing a risk assessment for Care and Maintenance environmental effects during the AWP period, it was determined that the existing suite of management plans are adequate to manage the environmental risks on site. BCL is therefore not proposing to review the management plans until mining operations recommence and a new AWP is submitted. Monitoring will continue over the course of this AWP and the outputs from this work will be used to review the AMD, Water, ELF, and Construction and Earthworks Management Plans prior to mining recommencing.

#### **MOMP Appendix 1.A Mine Construction and Earthworks Management Plan (CEMP)**

This appendix describes the management controls to be followed by Buller Coal Limited (BCL) personnel and contractors during the construction and operational phases of the mine including major earthworks.

#### **MOMP Appendix 1.B Mine Environmental Emergency Response Management Plan (EERMP)**

This plan sets out the procedures BCL, and any parties under its control, will follow in the event of environmental emergencies that may pose a threat to the surrounding environment. These emergencies include hazardous substance and diesel spills, traffic emergencies on the Denniston or Whareatea Roads, fire threatening the natural and manmade receptors outside the EM, slope stability, earthquake and major flood events. Although these emergencies are described in the EERMP, details of emergency response in relation to these matters is contained within the Emergency Management Principal Hazard Management Plan in order to consolidate all emergency response considerations within the one plan and enable effective emergency management.

This plan also includes the provisions set out in the original fire management plan to ensure fire risks are managed and includes such areas as avoidance of open fire, smoking, fuel storage, electrical power supply, plant and vehicle operation, fire protection, and spontaneous combustion.

#### **MOMP Appendix 1.C Mine Hazardous Substance Management Plan (HSMP)**

This plan sets out the practices and procedures to be adopted to ensure that hazardous substances are managed so that their storage, use and transport is carried out safely and will not adversely affect the environment.

This plan also includes information previously contained in the Waste Management Plan. This includes the practices and procedures to be followed by employees and contractors to minimise the waste and litter generated during development of the EM, to maximise recycling and reuse opportunities, to avoid or minimise any pollution risk associated with waste generation and disposal at the development sites and to assist with pest control.

#### **MOMP Appendix 1.E Mine Traffic Management Plan (TMP)**

This plan sets out the practices and procedures to be followed by employees and contractors during the construction and operation of the mine with particular focus on the provisions set out in the Code of Practice Temporary Traffic Management and specific statutory requirements.

#### **MOMP Appendix 1.F Engineered Landform (ELF) Management Plan (ELFMP)**

This plan sets out the practices and procedures to ensure geotechnical stability of the ELF and the establishment of surface drainage and meso-topographic sculpturing to establish a final landform that integrates with surrounding natural landscape patterns.

#### **MOMP Appendix 1.G Mine Site Water Management Plan (WMP)**

This appendix sets out the stormwater, mine influenced water, and leachate collection, treatment and disposal practices and procedures to be adopted to ensure that compliance of resource consent conditions can be achieved.

#### **MOMP Appendix 1.I Landscape and Visual Amenity Management Plan (LVAMP)**

This plan sets out how the aspects of landscape and visual amenity management prior to, during and post life of mine, including specific performance standards required, are to be met.

#### **MOMP Appendix 1.J Noise, Dust and Lighting Management Plan (NDLMP)**

This plan sets out all aspects of noise, dust and lighting management prior to, during and post life of mine, including specific standards and any additional specific performance standards required to be met by BCL.

#### **MOMP Appendix 1.K Acid Mine Drainage Management Plan (AMDMP)**

This plan provides a summary of work undertaken by BCL to understand the geochemistry of the EM in regard to acid and metalliferous drainage (AMD) and sets out a framework for the management of potentially acid forming (PAF) overburden (OB) and any resultant AMD during the development and operational phases of the mine as well as during decommissioning and at closure of the EM. All items related to AMD including philosophy, background geology, water chemistry, historic mining

activities, geochemical modelling, geochemical characterisation studies, OB management and water management are detailed in the AMD MP.

### **EHMP Appendix 2.A Great Spotted Kiwi Management Plan (GSKMP)**

This Plan sets out the strategies, objectives and actions that BCL proposes to mitigate adverse effects on roroa (Great Spotted Kiwi, *Apteryx hasstii*) during the pre-mining, mining and post-mining phases of the EM.

### **EHMP Appendix 2.B *Powelliphantra patrickensis* Management Plan (PPMP)**

This plan sets out the actions to be followed by BCL to ensure that the management of the land snail *P. patrickensis* during the operation of the EM complies with the conditions of the RC and any potential adverse effects on this snail are appropriately avoided, remedied or mitigated.

### **EHMP Appendix 2.C Lizard Management Plan (LMP)**

This plan sets out describes the strategies, objectives and actions that BCL proposes to mitigate adverse effects on lizard species during the pre-mining, mining and post-mining phases of the EM.

### **EHMP Appendix 2.D Weeds and Animal Pest Management (WAPMP)**

This plan sets out the pest plant and animal pest management during the development, mining and rehabilitation phases of the EM. This plan outlines the purpose and outcome of the pest control plans at specific locations on the Denniston Plateau over which Buller Coal has a direct interest.

### **EHMP Appendix 2.E Other Fauna Management Plan (OFMP)**

This plan sets out the actions to be followed by BCL to ensure that the management of other species not covered in the above-mentioned management plans during the operation of the EM complies with the conditions of the RC and any potential adverse effects species are appropriately avoided, remedied or mitigated.

### **EHMP Appendix 2.F Aquatic Ecology Management Plan (AEMP)**

This plan sets out the strategies, objectives and actions that BCL proposes to mitigate adverse effects on aquatic ecology during the pre-mining, mining and post-mining phases of the EM.

### **EHMP Appendix 2.G Historic Heritage Management Plan (HHMP)**

This plan sets out the practices and procedures to be followed during construction of the coal processing and transport infrastructure, and during the construction and mining of the EM to avoid, remedy or mitigate any effects on heritage values. This plan focuses on values on the Denniston Plateau, as the remainder of the project footprint (at Fairdown) has already been disturbed or has no known heritage values.

### **EHMP Appendix 2.H Rehabilitation and Closure Management Plan (RCMP)**

This plan discusses the rehabilitation options and techniques that may be applied at the site and the overall decommissioning and closure strategy. This includes planning for decommissioning and managing any waste resulting from infrastructure demolition in creating a final compatible land use.

### 3.2 Other Information/Plans/Documents Required

Schedule 2, Condition 74(o) of the AA requires that the AWP must include any other information, plans or statutory documents required under the AA or any relevant documents required by any resource consent held by BCL relating to the mining permit.

Additional documents submitted with the AWP include:

- Bond Assessment and Insurance documents;
- Wildlife Act Authority;
- Resource Consents.





**Figure 3:** Barren Valley ELF, Access Track, Pit 4 NAF Stockpiles, Red Shed Cut and Mussel Shell Reactor, 17-02-17





**Figure 4:** Barren Valley ELF, Access Track, Pit 4 NAF Stockpiles, Red Shed Cut and Mussel Shell Reactor, 09-04-18



**Figure 5:** Pit 3, Sediment Sumps, Lake Brazil, ROM and infrastructure Area, 17-02-17





**Figure 6:** Pit 3, Sediment Sumps, Lake Brazil, ROM and Infrastructure Area, 09-04-18

## 4.0 Activities Undertaken in the Previous AWP Period

The summary of activities included in this AWP are for the previous AWP period (1 July 2020 – 30 June 2021) although given the timing for submission of this and previous AWP's the period covered is from the 1 April 2020 up until 31 March 2021. Results of all monitoring are presented and detailed in the Escarpment Mine Monitoring Report (ESC-ENV-RPT-002), (Monitoring Report) submitted with this AWP.

### 4.1 Activities undertaken from 1 January 2017 until 31 March 2021

At the commencement of care and maintenance (1 July 2016) the total AWP footprint was 24.3ha with a total disturbance of 15.3ha and this has not changed. During this AWP period, minimal activities have occurred at site, these have included:

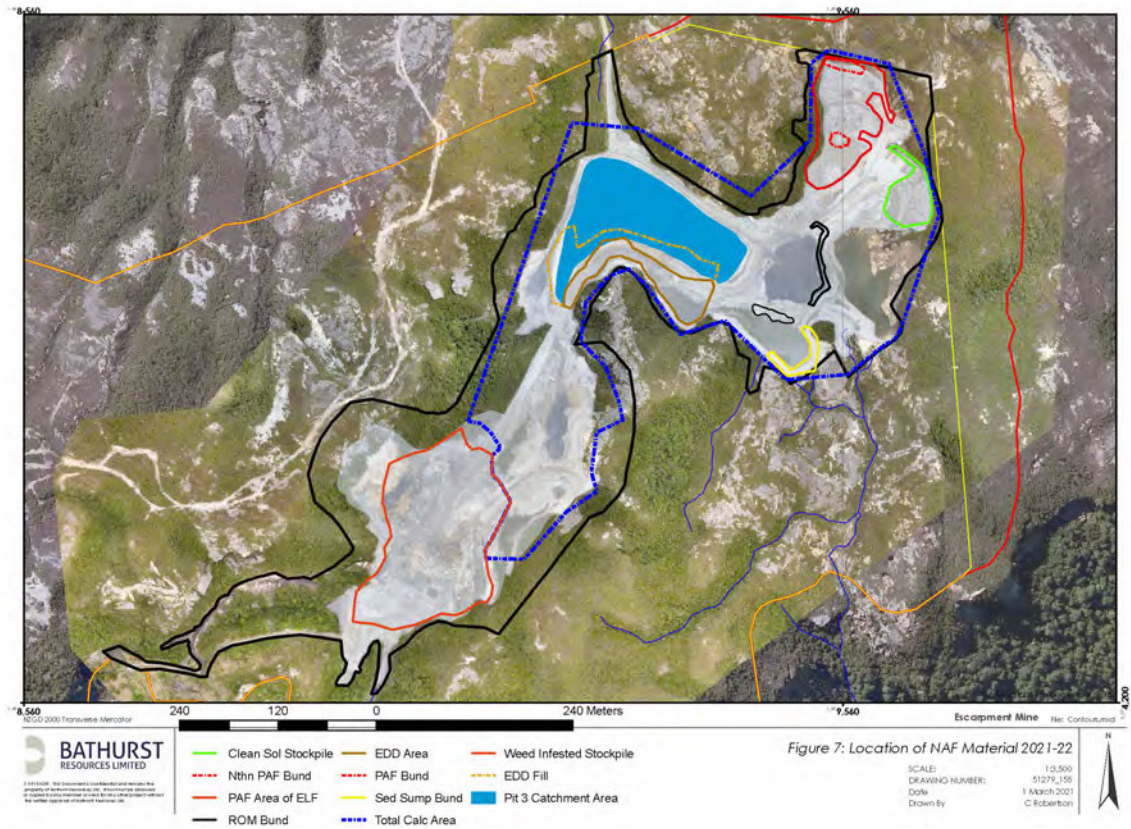
- Weed control;
- Site water monitoring;
- Sediment sump maintenance.

#### 4.1.1 Material Movement and Balances

There has been no material movement during the AWP period and the previous volume estimates for stored topsoil, and NAF material remain. The methods used to calculate the NAF volumes were discussed in the 2016-17 AWP. Figure 7 shows the location of the elements listed in Table 2 below.

Location	Area (m <sup>3</sup> )
Total Area of Mine Outside of BV ELF	191,538.2
Weed infested soil stockpile	-35,211.5
Clean soil stockpile	-3,455.8
ROM Bund	-2,471.2
Eastern Diversion Drain 10 road	-13,887.6
Southwest Corner of Pit 3 and EDD Road	-16,463
Mine Water Sump Bund	-722.1
PAF bunds	-736
<b>Net Total NAF Available</b>	<b>118,591</b>

**Table 2:** Available NAF volumes



**Figure 7:** Location of NAF material

#### 4.1.2 Mussel Shell Reactor

In December 2016, a mussel shell reactor was constructed the Barren Valley to take water from the ELF sump and treat it before discharge into Pit 3. The reactor was constructed as a trial to gather data on how the outflow from the Barren Valley Engineered Landform (BV ELF) can be effectively treated via a passive system. The results from this system are presented in the monitoring report and these show that this is very effective at treating the ELF leachate as well as neutralising and treating the water in Pit 3. The reactor is regularly inspected, and no significant maintenance has been required to date.

#### 4.1.3 Rehabilitation Completed

Within a very small disturbed area of the site adjacent to the soil stockpiles, 400 *Chionocloa juncea* (tussock) were planted during the 2016-17 AWP period. This was a small trial to determine survival and growth rates for this species. The planted area is 10m by 20m and was split into 4 sub-quadrants with slow release fertiliser tablets used in 2 of the four quadrants.

The plants have all shown good survival, but as expected, their growth rate is very slow. Further in-fill planting using other pakihi plants such as prostrate manuka, was undertaken in Autumn 2018.

#### 4.1.4 Site Security

A locked gate was installed at commencement of construction at the mine boundary. A radio operated boom gate on the Whareatea Road at the Mt Rochfort Road turnoff was also installed. The radio operated boom gate has subsequently been removed. The locked gate has been retained for the Care and Maintenance period. Signs are installed along the Whareatea Road, Denniston Track and at the mine perimeter, as well as around the boundary of the public conservation land closed area. A register of signs is maintained, and inspections undertaken. A three-wire fence was erected around the perimeter of Pit 3 with signs warning people of the deep water.

There were no recorded incidents of breaches of security during the 2020/21 AWP period.

### 4.2 Environmental Monitoring

Both the RC and AA require BCL to submit an annual monitoring report detailing and analysing the results of all monitoring undertaken within the previous AWP period. That report is provided separate to this AWP.



#### 4.2.1 Water Monitoring Results

Schedule 2, Condition 74 (n) of the AA requires that all AWP's include all water quality testing results obtained over the last 12 months in relation to, or as a consequence of, activities on the land. The full results and analysis of the water monitoring data is included in the Annual Monitoring Report. (Section 14). In summary, since the installation of the mussel shell reactor in December 2016, there has been a significant improvement in the quality of the water leaving the site, both in terms of reduced acidity, and dissolved metal concentrations. The site water discharge receiving environment (Cascade Creek) displays a consistently poorer water quality than the water leaving the site. This is a result of historic underground mine workings on the majority of the Denniston Plateau draining into the Cascade Creek upstream of the Cascade and Escarpment mines.

Table 3 below lists the location, parameters and frequency of water monitoring undertaken as part of this AWP. The Cascade monitoring sites (Upper and Lower) are required for the Cascade Mine resource consent conditions but have been included here. The information from these sites shows the poor condition of the receiving environment. Currently all discharges from site are directed via V8 Creek to Cascade Creek. Figure 8 and Figure 9 show the location of the water monitoring sites within the mine site and on the Plateau.

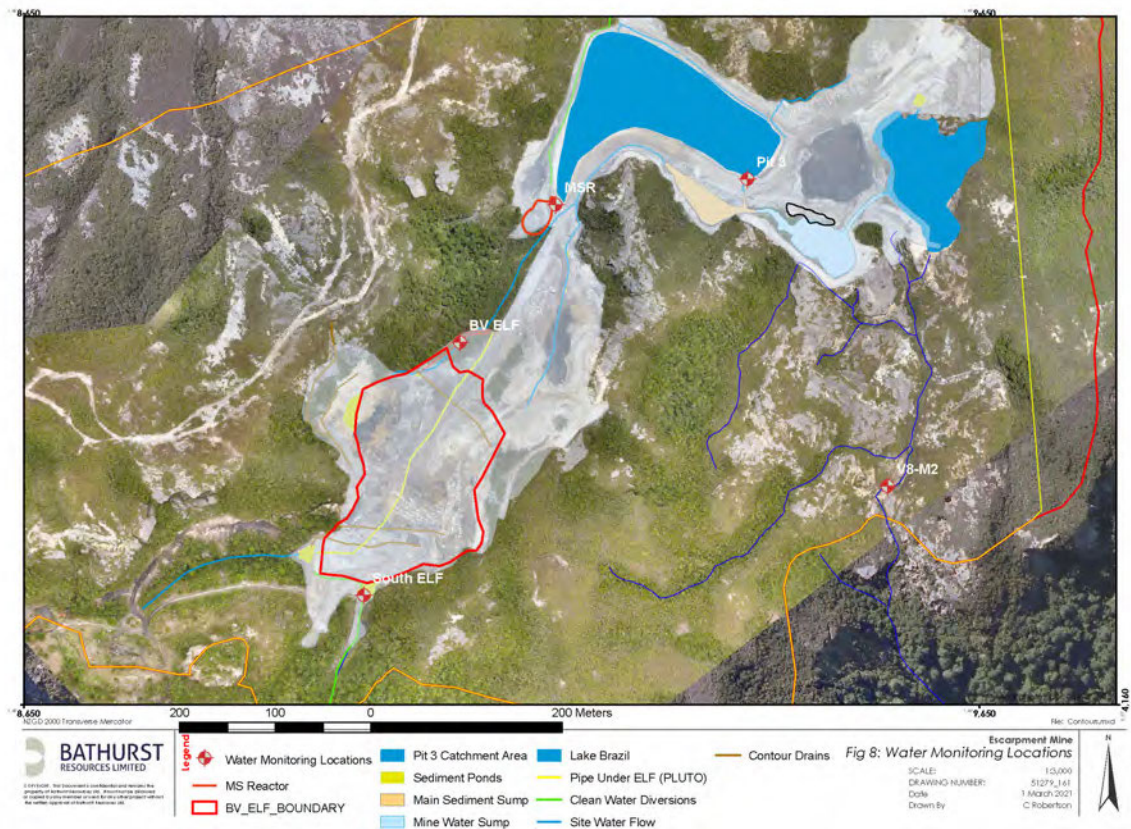
Given the consistency of the results, and the lack of activity at the site, BCL proposes to further reduce the frequency of water monitoring to monthly. The recently renewed Cascade consents only require water sampling as and when directed by the WCRC. BCL will continue to collect samples from the Cascade Creek, although less frequently. Unless the results are significantly different from the results taken to date.

The independent Peer Review Panel requested some monitoring of the run-off from the southern end of the ELF into V38 Creek to determine if there was any untreated AMD run-off from the ELF occurring. The results are included in the monitoring report (Section 14) and show that there was no AMD discharge.

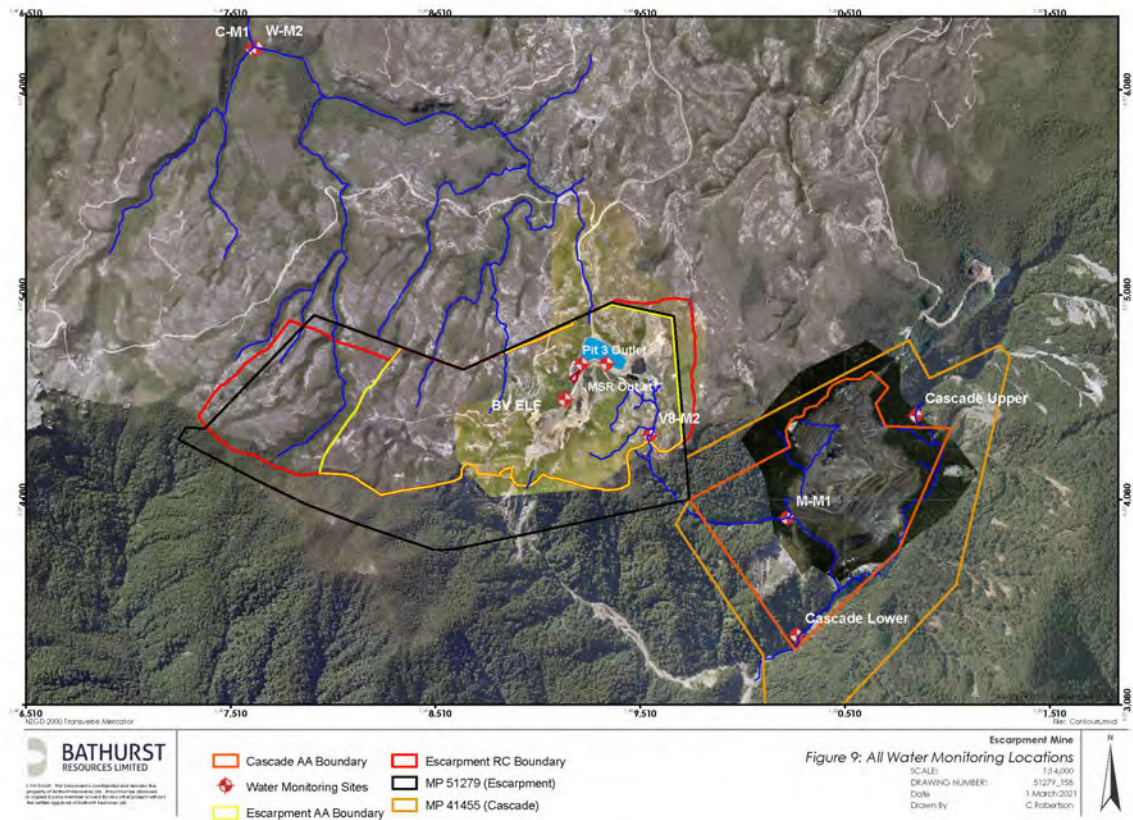
The Red Shed monitoring site was suspended in July 2017 as the results also indicated that there was no AMD run-off from the highwalls in this area.

	WM2 (Monthly)	CM1 (Monthly)	V8M2 (Monthly)	MM1 (Monthly)	BV-ELF (Monthly)	Pit 3 (Monthly)	MSR Outlet (Monthly)	Cascade Upper (As required)	Cascade Lower (As Required)
pH	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acidity (pH 8.3) g/m3 as CaCO3	✓	✓	✓	✓	✓	✓	✓	✓	✓
Turbidity NTU	✓	✓	✓	✓				✓	✓
Total Suspended Solids g/m3	✓	✓	✓	✓				✓	✓
Electrical Conductivity (EC) mS/m	✓	✓	✓	✓	✓	✓	✓	✓	✓
Diss. Calcium g/m3			✓	✓	✓	✓	✓	✓	✓
Diss. Iron g/m3			✓	✓	✓	✓	✓	✓	✓
Diss. Manganese g/m3			✓	✓	✓	✓	✓	✓	✓
Diss. Magnesium g/m3			✓	✓	✓	✓	✓	✓	✓
Diss. Aluminium g/m3			✓	✓	✓	✓	✓	✓	✓
Diss. Nickel g/m3					✓		✓		
Diss. Zinc g/m3					✓		✓		
Sulphates g/m3					✓		✓		
Alkalinity g CaCO3/m3						✓	✓		

**Table 3:** Water monitoring locations, parameters and frequency of monitoring



**Figure 8:** Water monitoring locations within the Escarpment Mine



**Figure 9: All Water Monitoring Locations**



## 4.3 Particular Issues That Have Arisen

RC Condition 107(f) requires all AWP's to identify any particular issues that have arisen or are expected to arise as a result of operations, geological conditions or monitoring results. There have been no operational or environmental issues reported during the AWP period.

### 4.3.1 Geotechnical Issues

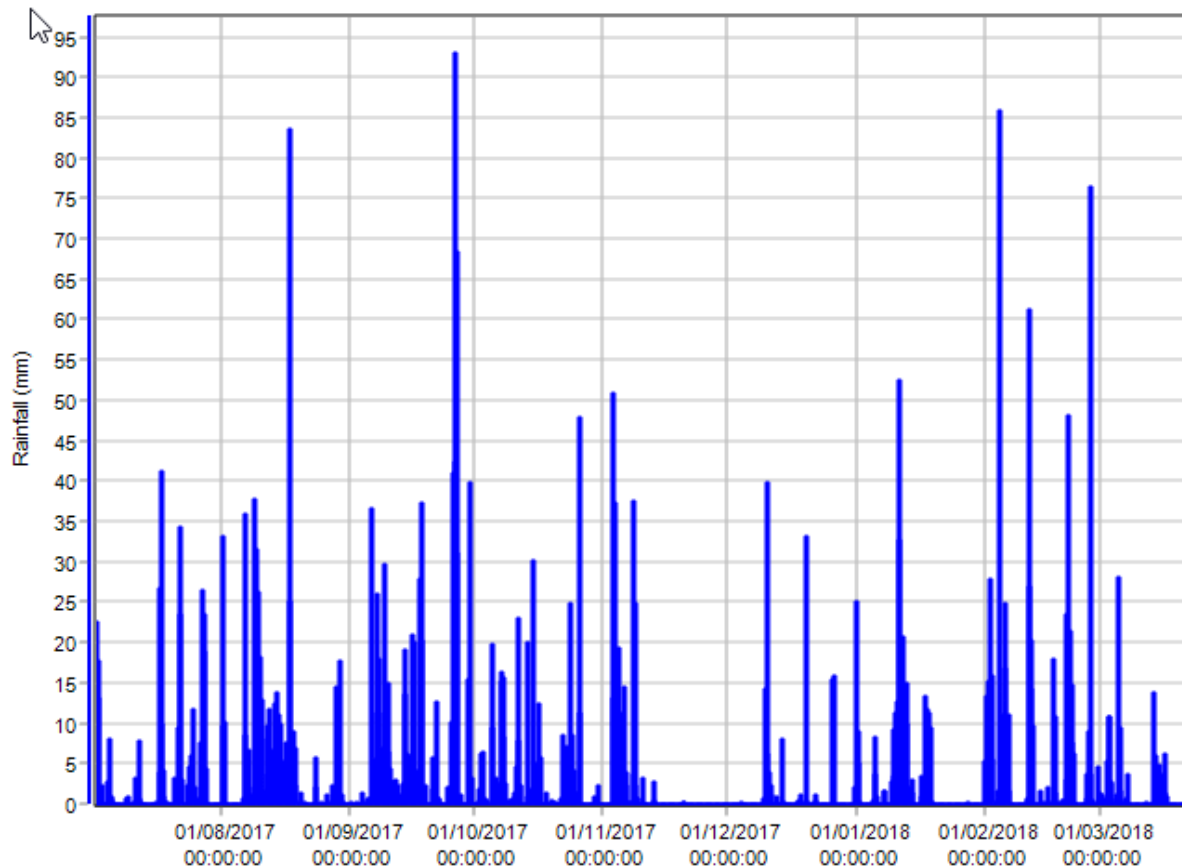
The area of disturbance is relatively small (15.3ha) and the ELF is in the early stages of construction, consequently, there have been few geotechnical issues encountered to date. Cracking is evident in places along the Pit 3 South-Western highwall and the Red-Shed Highwalls. These cracks are linked to historic underground workings in the area. These highwall hazards were expected and were identified in the Principal Hazard Management Plans. These areas have been isolated, and access is restricted. These areas were reported in the previous AWP and there has been no noticeable change during this AWP period. Risk assessments will need to be undertaken prior to any re-entry into these areas and appropriate controls established.

## 4.4 Issues Anticipated to Arise during the 2021-22 AWP

While the site is in care and maintenance there is very little activity planned for the site, beyond any potentially required excavation and cleaning of the sediment ponds, monitoring and some ecological work associated with weed control and other surveys. Consequently, no issues are anticipated during 2021-22.

If an issue were to arise, this is most likely to be associated with an extreme weather event. The mine planning toolboxes allow for such events through sizing of water management structures, dump areas, and sediment ponds. Regular (weekly, or post any significant weather event) maintenance and inspections also ensure that any failures are identified before the problem is exacerbated. An extreme weather event could occur at any time and could cause short term erosion issues at some locations around the site.

Figure 10 below shows the frequency and intensity of 6-hour rain events measured at Lake Brazil (located onsite) for the period 1 July 2017 to 21 March 2018. During this period, despite the number of heavy intensity rain events no significant damage was experienced at the site. This demonstrates that the site has been well designed and constructed and can cope with severe weather events. However, an exceptional event that exceeds modelled predictions is always possible.



**Figure 10:** 6-Hour Rainfall Events, Lake Brazil, Escarpment Mine, 01-07-17 to 21-03-18

#### 4.4.1 Weed Management

Field surveys have been undertaken to identify weed infested areas within the site. The main weed threats in this area of the Escarpment Mine are gorse and *Juncus squarosus*. The longevity of the seed and dispersal by water mean that both of these species are very difficult to control and map. Weed infestations in stream or catchment headwaters create challenges for determining if rehabilitation material is weed free. A much larger area than first anticipated may end up being weed-infested and require long-term weed control.

To date, this issue has been managed by careful allocation of soil and slash to the correct stockpile areas, regular monitoring of the stockpiles to ensure that weeds are not present, and control of weeds on both the weed infested and clean soil stockpiles.

Annual weed control is ongoing. The priority target area is the weed infested soil and slash stockpiles. During the 2020-2021 AWP period additional weed control work has also been carried out on the BV Elf dump area and surrounds to mitigate weed infestation at this location.



## 4.5 Complaints

AA condition 107(g) and RC condition 74(k) require the AWP to include a list of complaints received in the previous AWP period.

BCL has relevant contact details advertised on the BRL website:

<https://www.bathurst.co.nz/>

In addition, the Westport BRL office (272 Palmerston Street) is permanently manned Monday-Friday during business hours for any community complaints or enquiries.

No complaints were received in relation to the EM operations during the AWP period.

## 4.6 Variations

One variation to Resource Consent 10193 (WCRC), and Resource Consent 100070 (BDC) conditions 137(b) and 142 was sought during the 2020-2021 AWP period. A variation to remove the requirement to engage the Peer Review Panel annually 'when on care and maintenance' was submitted.

## 5.0 Activities to be Undertaken in this AWP Period.

This section provides detail regarding the activities planned to be undertaken while in care and maintenance. Figure 2 shows the current site, and there are no intentions to undertake any physical works that would result in a modification to the existing plan.

The following activities are planned:

- maintain clean water diversions to the Whareatea River and Cascade Creek;
- maintain a mine construction influenced water treatment system including: drains, dams, sediment sumps and if necessary, a water dosing system. All construction influenced water will continue to be discharged into the Cascade Creek catchment via the V8 Creek catchment;
- maintenance of the mine infrastructure area;
- exploration activities including trenching, drilling and outcrop sampling may be undertaken;
- Bulk coal sampling of up to 2000 tonnes for marketing purposes;
- weed and pest surveillance and control;
- removal of stockpiled coal from the ROM for sale; and
- baseline environmental surveys

### 5.1 Broad Brush Risk Assessment

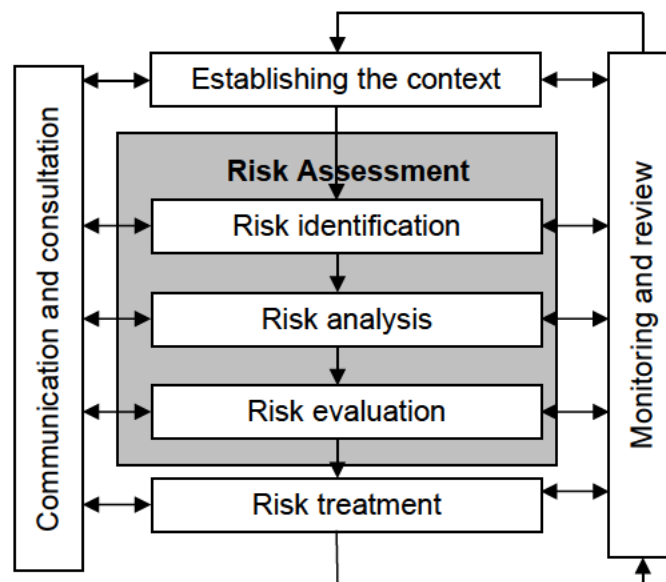
As part of the AWP development process, BCL undertakes an annual review of the Environmental Broad Brush Risk Assessment (BBRA) undertaken at the commencement of the Escarpment Mine project. Any significant environmental incident that occurs onsite will also trigger a review of this risk assessment. The BBRA follows the BRL Risk Management Standard (See Section 5.1.1 and Appendix 3). The review was undertaken in March 2020 with a cross section of relevant personnel. A summary of the key outcomes is included in Section 5.1.2.

#### 5.1.1 BRL Risk Management Standard

The BRL Risk Management Standard provides a methodology for the systematic and structured management of hazards and their effects (risk management) at all BRL operations. It outlines how risk assessments are to be conducted and how to correctly complete relevant documentation for consistency and communication in appropriate time frames to all stakeholders. Specifically, this Standard:

- Ensures hazard identification and risk assessments are conducted by appropriately trained and experienced persons using appropriate risk management tools and techniques;
- Identifies and defines a number of standard risk management tools that will be used at all BRL operations; and
- Encourages consistent quality output from all Risk Assessments conducted.

The management of risk, whilst a statutory requirement is an integral component of continuous improvement and effective workplace management practices. To ensure all hazards are identified and the risks are removed or reduced to an acceptable level, risk assessment is the responsibility of all personnel. The risk management process for BRL is outlined below (Figure 12). This process aligns with AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines.



**Figure 11:** Risk management process: AS/NZS ISO 31000:2009 Risk Management – principles and guidelines

The process for risk ranking is in accordance with the *BRL Risk Matrix* (Appendix 3). Risk ranking is measured in terms of likelihood and expected consequence. Where the identified hazard has more than one consequence, the highest consequence ranking shall apply.

### 5.1.2 Broad Brush Risk Assessment Outcomes

Whilst the site is in care and maintenance, and most activities have been suspended many of the risk rankings have been reduced or eliminated. When activities recommence the Environmental BBRA will be reviewed.

The majority (19 out of 25) of the risk ratings fell into the low risk (green) category. Of the remainder, 5 were medium risk and one received a high-risk rating.

The high-risk rating was for unworkable or unreasonable management plan commitments or approval conditions. Work is underway to review the existing conditions and management plan commitments to provide for operational improvements following the additional baseline and monitoring information obtained.

One of the medium risk elements is similar to that above but relates to an unaffordable bond quantum and the work mentioned also covers this risk.

Three of the other medium risks are associated with rehabilitation and mine closure planning and one with the threat from weed incursions affecting the ability to meet closure criteria. Controls are in place for these risks and some additional controls have also been proposed that may be implemented over the AWP period.

## 5.2 Barren Valley ELF Construction and Trials

There will be no further development or construction of the BV ELF, however some trials will be on-going during the period of this AWP period. The outcome from these trials will improve the construction sequencing and construction methodology. The intention is to demonstrate that an ELF dump containing acid forming material can be constructed so that acid production is minimised to such an extent that both a low permeability capping layer and active water treatment system are either not required, or the permeability specifications in the RC and AA conditions can be amended without any adverse effect on the environment.

In summary the following ELF construction and trial work is planned for this AWP period:

- Oxygen monitoring
- Lysimeter monitoring
- Mussel shell reactor monitoring
- Basal drainage monitoring

### 5.2.1 ELF Stability Assessments and Settlement Monitoring

As soon as contouring was completed, survey controls were established across the ELF to determine the amount of settlement. The frequency of monitoring will be determined by the extent of any movement of the ELF.

A stability assessment will also be undertaken as part of the requirement under the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016.

### 5.2.2 Oxygen Monitoring

Two oxygen probe sets were installed in the BV ELF during 2015/16. The data collected to date shows that oxygen levels have decreased significantly and are now less than

1%. Monitoring will continue as the 20m probes are showing elevated oxygen concentrations compared to the sites closer to the edge. This information is included in Section 16 of the Environmental monitoring report.

#### 5.2.3 Lysimeter Monitoring

Water quality lysimeters are co-located with the oxygen probes and these are sampled monthly. The set of lysimeters associated with the first set of oxygen probes do not appear to be producing any leachate. It is not possible to determine whether this is an installation fault or that there is no water present in that part of the dump. The results from the working set of lysimeters is reported and discussed in Section 16 of the monitoring report.

No further installation work will occur until ELF construction recommences.

#### 5.2.4 Mussel Shell Reactor Maintenance and Monitoring

Installation of the mussel shell reactor was completed in early December 2016. The monitoring data is showing clearly that this passive treatment system is effectively treating the ELF water discharge. Monitoring will continue although potentially at a reduced frequency (monthly) unless the results start to show a change.

#### 5.2.5 Basal Drainage Monitoring

Regular (fortnightly) sampling from the basal drain has been ongoing over the previous AWP period and this is planned to continue, on a monthly basis. The results from this monitoring is reported and analysed in the monitoring report (BV-ELF). This information has provided important inputs for the mussel shell reactor design and will be useful for re-calculating the site water model.

### 5.3 Rehabilitation Material Storage

As at the 30 June 2016 survey, 38,500 BCM of soil and slash material was stored at the Lake Brazil stockpile area for rehabilitation use. In the event of closure this would enable topsoil to be spread over the disturbed area at approximately 300mm thickness which is consistent with the rehabilitation and closure management plan. This calculation is based on the assumption that a maximum 13ha would need to be rehabilitated as water bodies and access roads would take up approximately 2.5ha.

While RC 229 requires stumps and logs to be separated from vegetation and soil, storing this material together creates more opportunities for natural regrowth. No beech vegetation will be chipped as again this is not practical and BCL understands that at other mine sites where it has been trialled it has not been successful.

The stockpiles will also be regularly surveyed for any weed incursions and these will be controlled as soon as they are identified.



The weed-infested soil and slash stockpiles are sprayed annually for both gorse and *Juncus*. Some recovery and regeneration of the slash is also evident, and this will be monitored and attempts to avoid this regeneration will be made when weed control is being carried out.

## 5.4 Site Water Management

The water management philosophy for the EM is to reduce the amount of Mine Influenced Water (MIW) to be managed by constructing clean water diversion drains that divert clean water around disturbed areas, minimising disturbance footprints, and employing best practicable AMD and sediment management techniques.

During the care and maintenance phase, activities are limited to infrastructure maintenance. Clean water drains have been established and the BV ELF and the infrastructure pads have been constructed in accordance with good industry practice. Consequently, monitoring results show that water leaving the site is better quality than the receiving environment in Cascade Creek.

As such, within this AWP period, maintenance of the following water management structures will be undertaken:

- *Pipe Line Under the ELF (PLUTO)* - A pipe line runs from the south-western end of the ELF alongside the underdrain under the ELF and beyond the sump at the northern end. This pipe takes clean water that collects at the southern base of the ELF and drains this water back into the site water management system. The only active maintenance of this structure is ensuring that the inlet and outlet remain open.
- *ELF Underdrain* – drains have been established under the BV ELF to collect any AMD leachate that is generated. These drains were built to the specifications in the Construction and Earthworks Management Plan toolkit and are sized to be large enough to convey water from the full 150ha final ELF. This leachate is directed through the Mussel Shell Reactor to Pit 3 and then the Mine Influenced Water Sedimentation Sump.

The ELF underdrain is completely buried under the ELF and therefore no maintenance is possible.

- *MIW collection drains* – surface drains collecting MIW and direct it to a series of sumps. From these small satellite sumps MIW is drained into the Lake Brazil Sump via the Construction WTP. Maintenance involves cleaning out excess sediment and fines and ensuring that any scouring is remedied as soon as possible after it has been recorded.
- *Pit 3* – the only water reporting to this area comes from the Mussel Shell Reactor. Monitoring has shown that since this discharge has commenced the water quality in Pit 3 has improved significantly (See Section 16 of the monitoring

report). Culverts are installed under the Barren Valley Access road to enable all water to flow from Pit 3 into the sedimentation sump and then eventually Lake Brazil and V8 Creek. An overflow swale is also cut into the road at this location in the event of an extreme weather event, water will continue to flow in the same direction. Maintenance involves ensuring that the outlet pipes remain open and flowing.

- *MIW Sedimentation Pond* – All mine influenced water and leachate drainage is directed to the MIW Sedimentation Pond then the Construction WTP. This sump may require cleaning to avoid excessive sediment build-up. Once dry, the fines are disposed in the NAF storage area in the northern part of Lake Brazil.
- *Construction WTP* (comprising a coagulant dosing system injecting coagulant into the inflows and flocculent blocks prior to feeding into Lake Brazil Sump). Lake Brazil acts as a sedimentation basin as well as attenuates the inflows.

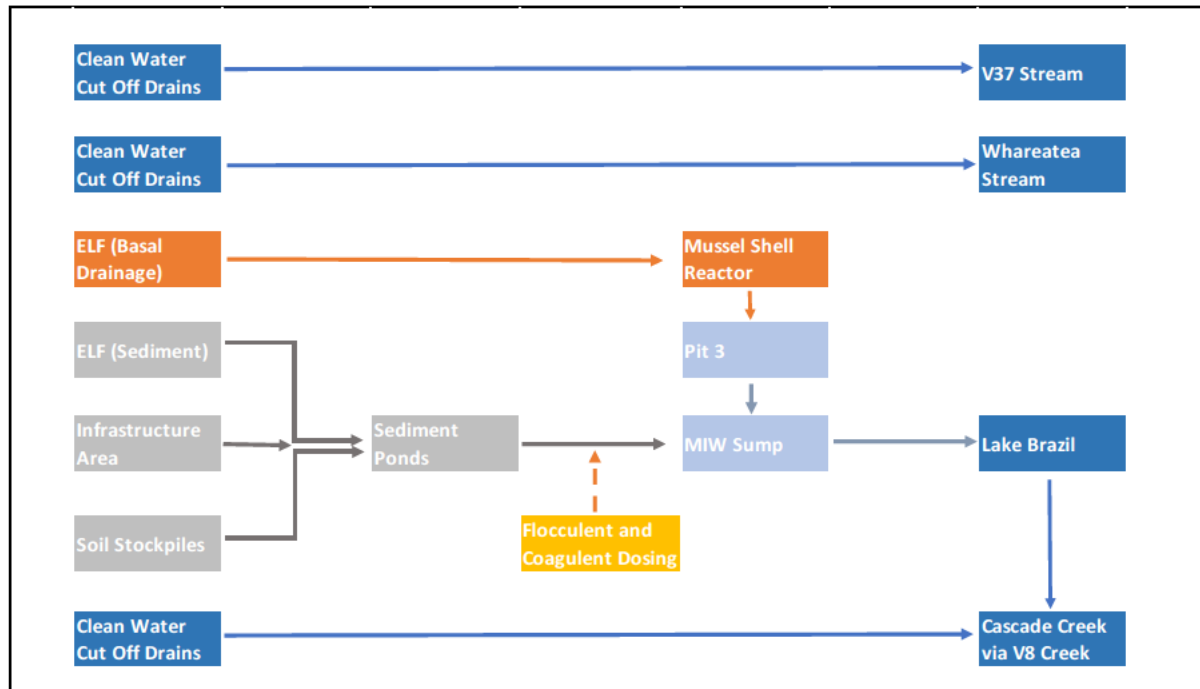
The floating decanter drains the treated water from Lake Brazil Sump to V8 Creek. This decanter is manually operated to minimise the amount of sediment laden water leaving Lake Brazil into V8 Creek. In prolonged wet events, water overtops a weir in the South-Eastern corner of Lake Brazil and flows into V8 Creek. A monitoring sonde at the Lake Brazil outlet weir records the main water quality parameters and the information is updated hourly and is accessible via an internet connection at any time. In addition, grab samples are also collected from this site.

This system will remain in place and ready to be activated if required, but active dosing is not anticipated.

- *Clean Run-off into V37 Stream* – Clean water running off from the southern end of the BV ELF and the adjacent natural forest will be collected and drain to a sediment sump before being directed out into the V37 Stream catchment. This water was sampled to determine quality and results included in the monitoring report show that there is no AMD run-off into this area.
- *Whareatea Diversion Drains* – Clean water diversion drains have been established around the western side of Pit 3 enabling clean water to be diverted into the Whareatea River and avoiding adding additional water volume to Pit 3 and the treatment system.

Design Toolkit C (Local Storm water) and Design Toolkit D (Channels and Conveyance) and the Sediment and Erosion Control Plan (Golder 2013) provided the design details for the various elements of storm water management during the construction phase. The toolkits have been designed with the objective of implementing best-practice water management at EM in line with the consideration of the RC and AA requirements, the major storm water management structures have been developed in accordance with these toolkits and plans.

In the unlikely event that significant AMD eventuates from the overburden dump structures, and the project does not progress further, the PAF overburden will be managed by the construction of an LPL and cover system over the ELF, and AMD impacted basal drainage will continue to be treated by the Mussel Shell Reactor.



**Figure 12:** Care and Maintenance – Conceptual Water Management

#### 5.4.1 Water Quality Monitoring

Prior to commencing any activities on site and during the construction period, BCL established and has since maintained permanent continuous water quality monitoring sites (Figure 9) on the Whareatea River at W-M2, and V8 Creek at V8-M2 and a control site on Conglomerate Stream at C-M1. These sites were installed to obtain baseline data and assist with early identification of any water quality issues. In addition, BCL has undertaken fortnightly field measurements of pH, EC, turbidity, and dissolved metals at these and also at 2 further sites in the Whareatea River and 2 sites in V8 Creek, as outlined in the WMP (Section 6.4). As outlined in the WMP TARP (Section 6.7), BCL has developed a series of response plans in the event the discharges from the site exceed predetermined thresholds. The responses vary from increased monitoring to reacting and mitigating the potential adverse effects of the discharge(s).

As a requirement of the Cascade Mine resource consents, water samples have been collected monthly from the Cascade Creek both upstream of the mine site and downstream of the V8 Creek discharge point. This data provides a useful reference for any discharges into the Cascade catchment via V8 Creek from both the Cascade and Escarpment mines.

While there are no mine influenced discharges into the Whareatea River, monthly samples from both W-M2 and C-M1 enable calibration of the sondes as required by RC 261.

As part of the 2016/17 AWP and while in care and maintenance BCL proposed to reduce the frequency of water monitoring at some sites, cease monitoring at others and reduce the number of parameters to be measured. Some sites are additional to those required by consent but are being monitored to increase the information and understanding for reviewing the site water model. BCL intends to continue monitoring although at a reduced frequency as shown in Table 3 (Section 4.2.1) of this AWP.

## 5.5 Site Access Roads

The only road access to EM is via the public Denniston and Whareatea Roads (Figure 1). The only BCL vehicles using this access road will be light vehicles and the occasional heavy vehicle eg. service vehicle, coal road truck. The remaining coal at the ROM may be removed from site during the AWP period.

A water cart will remain on site but will not be used to suppress dust along the Whareatea Road as the level of activity along this road will be no more than any other concessionaire or recreational user. A speed limit of 40 km/hour has been imposed on the DOC administered Whareatea Road from where it leaves the sealed Council administered road.

## 5.6 Temporary Infrastructure Area

The Temporary Infrastructure Area houses the site office, smoko room/crib hut, first-aid room, toilet facility, hazardous and dangerous goods storage and storage shed.

The hazardous and dangerous goods storage is HSNO compliant and consists of a sealed and bunded shipping container with signs and has sufficient bund height to contain all material stored in the containers.

## 5.7 Fuel Storage

No bulk fuel will be stored on-site. Machinery refuelling will ordinarily occur on an as required basis from a small (500l approx) mobile fuel tank fitted on either a trailer or Ute. This tank will be filled by taking it off site.

No refuelling of machinery occurs within 10m of any waterway or waterbody and spill kits always remain on site. A spill kit will always be immediately accessible to any refuelling activities. The full details of spill management and monitoring are outlined in the Environmental Emergency Response Management Plan (EERMP). All inductions include training on these commitments including spill and response information. Currently there are no fuels stored on site within the HSNO storage container.



## 5.8 ROM Pad

Remaining coal may be gradually removed from the ROM pad during the period of the AWP. The site will be cleaned and maintained in a suitable state for future use. All water run-off from this area is directed through the water management system.

## 5.9 Site Security

RC 107 a)i) notes that areas to be protected from disturbance may be fenced. While in C&M the preference is not to undertake fencing to minimise the construction disturbance and costs. Additionally, there will be no new earthworks on site that could impact on rehabilitated areas. As discussed in Section 4.1.3, gates and signs have been established around the site and these will be maintained. A three-wire fence has been installed around the perimeter of Pit 3.

An approval to close public conservation land has been granted pursuant to s13(1)(c) of the Conservation Act 1987. This is reviewed and renewed annually and will need to be maintained during the period of the AWP. Another application will be made prior to the current one expiring in July 2020. This closure does not affect the Mt Rochfort Road.

## 5.10 Blasting

No blasting is planned to occur during this AWP period.

## 5.11 Flora and Fauna Management

### 5.11.1 Species of significance management

Given that there will be no final landforms completed within this AWP, all plants previously recovered are now being held at the Bathurst Resources Ltd Fairdown Nursery.

There may be an opportunity to trial reintroduction of some SOS plants back into some small areas on the EM where further mining is extremely unlikely to occur. If this does occur, a translocation plan will be developed outlining the monitoring activities.

### 5.11.2 Soil hydrological investigations

In order to recreate similar hydrological conditions that currently determine the distribution of pakihi, and obligate and facultative wetland species, the current soil hydrological investigation (two sites) will continue to be monitored during this AWP period. This information is being gathered to record soil hydrological conditions and correlate these with climate conditions and is included in the monitoring report.

### 5.11.3 Fauna recovery

There will be no fauna recovery occurring during this AWP period.

## 5.12 Exploration and Drilling

Drilling may be undertaken within the AWP footprint to obtain a better understanding of the coal resource and overburden lithology and chemistry. Where possible, track mounted drill rigs will be used, as these are more cost efficient than installing roads for 2WD drill rigs. If sampling is required from less accessible sites within the AWP boundary, a helicopter located rig may be used.

If a track mounted drill is to be used in areas with higher value rehabilitation material, that can be recovered, this material will be removed prior to tracking through the area. A Ground Disturbance Permit will be completed prior to any drilling activities in undisturbed areas within the AWP boundary.

If exploration drilling is to be undertaken within the AA footprint but outside of the existing AWP boundary, an addendum will be supplied to DOC for approval. If the drilling is outside of the AA boundary a new AA will be sought.

Other exploration techniques such as trenching, test-pitting, outcrop clean up coal mining, or bulk coal sampling may also be undertaken to get a better understanding of the coal and overburden characteristics. This AWP authorises these activities within the AWP footprint.

## 5.13 Environmental Monitoring

Monitoring planned to be undertaken in the next AWP is detailed below. All monitoring that has been suspended or changed is also referenced in Appendix 2.

### 5.13.1 Koura

The relocated koura (Gate Pond) will be monitored annually for condition.

### 5.13.2 Birds

Five minute bird count monitoring was undertaken in November – December 2016 and also November - December 2018. This is also planned to be undertaken in November – December 2021.

### 5.13.3 Weka/Kiwi

Weka and Kiwi surveys are planned to be undertaken in May 2021. Reports for the May 2015, 2017 and 2019 surveys have previously been made available. The 2019 survey was included in the 2019-2020 Environmental Monitoring.

#### 5.13.4 Landscape Photo-point Monitoring

Photo points will be repeated now that the ELF contouring has been completed. No further surveys will then be undertaken until mining operations recommence.

#### 5.13.5 Weeds

Surveillance and weed control will be ongoing. Weed control around the site and along the Whareatea and Cascade Roads is once again planned for early Spring 2021 and surveillance will be ongoing. The main target area within the mine site are the weed infested stockpiles. Gorse and *Juncus squarrosus* are the main target species, but if any other weed infestations are identified, they will also be controlled.

### 5.14 Rehabilitation

As this AWP period covers care and maintenance activities only, rehabilitation activity is unlikely to be undertaken during this period.

Based on records for soil and slash volumes and the total area disturbed, more than sufficient material has been collected to enable rehabilitation of the site in the event of unforeseen closure. Currently there is sufficient material available to spread soil over the whole site at least 300mm deep (Section 4.1.1). The average soils depth over the Denniston Plateau generally ranges from 100 to 300mm depending on the vegetation type. These calculations assume planting over the whole site and excludes the creation of any permanent access tracks or boulder fields.

#### 5.14.1 VDT and VIT

There will be no movement of any material including vegetation direct transfer (VDT) or vegetation indirect transfer (VIT).

*Chionocloa juncea* and other plant seeds and seedlings are being collected from around the Escarpment Mine. These plants are propagated at the BCL Fairdown Nursery. Trials will be undertaken to determine the best propagation techniques and once final rehabilitation surfaces have been identified, plants will be transferred to the Denniston Plateau for planting.

## 6.0 Activities Beyond this AWP Term

RC Condition 107(c) requires AWP's to include long-term projections and intentions for mining operations. The mine has been placed in a care and maintenance regime until there is a sustained improvement in international coking coal price and the coal can be mined economically. When this occurs, a new AWP will be submitted with a mine plan that reflects the scale of the new market. Based on existing approvals, the next planned area is to the West of the Red Shed Block 3 (Figure 13).

Once fully operational, BCL proposes to extract coal at up to 1.5 million run-of-mine (ROM) tonnes per year via opencast mining for a period of up to 6-7 years. From the AA Stage 2 area (west of Trent Stream), for which an application is currently being prepared, BCL propose to extract approximately a further 2 million tonnes of coal over a 2 – 3 year period. The coal product is a high value coking coal intended for export to Asian steel mills.

BCL intend to develop the mine in accordance with the RC, AA (for Stage 1), and as outlined in the MOMP, EHMP and other associated management plans. These figures for coal extraction are ROM coal figures based on the latest geological model.

## 7.0 Mine Closure, Bonds, Insurance and Guarantees

As a condition of the consents, BCL has put in place a bond to cover the costs associated with mine closure and rehabilitation. The bond acts as insurance against the unlikely event that BCL is unwilling or unable to execute mine closure and rehabilitation as agreed to and it covers the approximate period for the AWP. The bond quantum process and calculation are described in detail in the 2017-18 Escarpment Mine Bond Assessment Report which also includes the bond risk assessment as required by AA condition 74(g). For the 2018-19 AWP period the bond report was recalculated to account for inflation adjustments only. For the 2019-2020 AWP period the bond report letter will cover the period from 1 May 2020 to 30 April 2021 and will also be recalculated to account for inflation adjustments only. For the 2020-2021 AWP period the bond report letter will cover the period from 1 May 2021 to 30 April 2022 and will also be recalculated to account for inflation adjustments only.

While a requirement of AA condition 74(f), evidence of insurances is provided separately to this AWP.

## 8.0 Post Closure

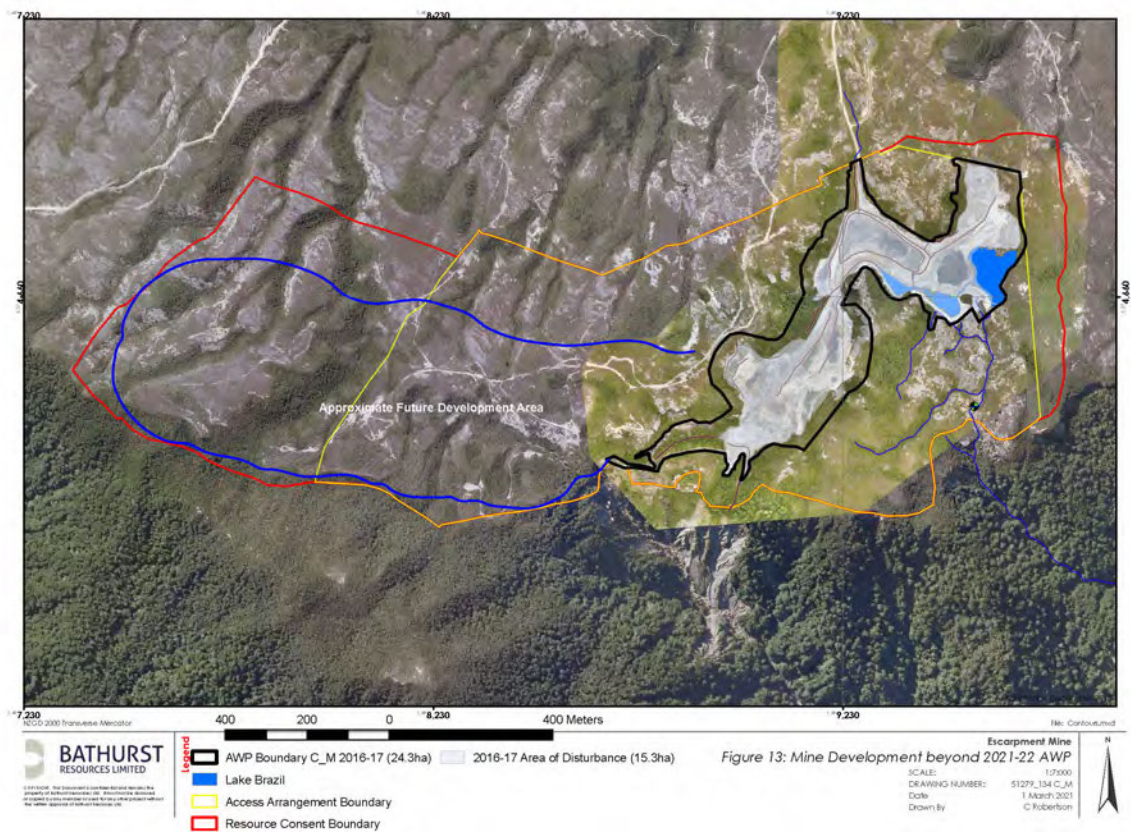
In accordance with RC Condition 113(d), this AWP is required to list the structures that will remain on the EM site following mine closure. All buildings are portable and will be removed unless there is a future landholder who is prepared to accept the on-going liability of a structure that they may wish to use. Opportunities for the sale and/or re-use of assets and recycling of scrap steel will be maximised where possible.

There are no pads on site and the concrete footings have been constructed to be removed with the temporary buildings. If re-use or recycling opportunities are not available or viable, all “non-contaminated” waste material will be disposed of in a suitable location on site or taken off site to an approved waste management facility.



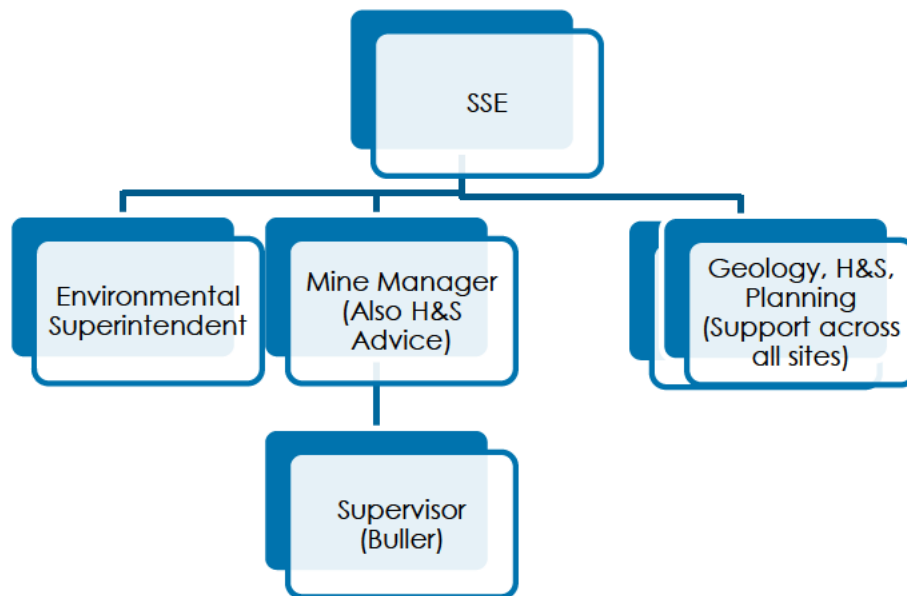
**Figure 13: Mine development beyond the 2020-21 AWP**

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## 9.0 Roles and Responsibilities

An organisation chart for the EM has been included in accordance with RC Condition 113(f). Additionally, Table 5 outlines the roles and responsibilities for staff on site and those required to implement mine closure. Given the reduced scale of operations at the EM, so of the technical roles are shared across all of the BRL sites.



**Figure 14:** BCL Organisational Chart for the Escarpment Mine

Position	Mine Closure Responsibility
SSE	Provide adequate resources for the implementation of this AWP. Ensure that this AWP is followed regarding all activities undertaken at the EM.
Environmental Superintendent	Be responsible for supporting the implementation of the requirements of this AWP. Undertake periodic inspections of EM operations to assess compliance against this AWP. Coordinate and participate in the annual review of the AWP. Maintain on-going communication with regulatory authorities. Coordinate environmental incident and complaint investigations. Responsible for coordinating the training of employees and contractors with regards to their responsibilities under this AWP.
Mine Manager and Supervisors	Responsible for coordinating the training of employees and contractors with regards to their responsibilities under this AWP. Responsible for ensuring the instruction of workers, implementation and overseeing of the requirements of this AWP. Undertaking work practices that comply with this AWP. Report any incidents as soon as possible to the Environment Manager.

**Table 4:** Escarpment Mine, Care and Maintenance Roles and Responsibilities

# Appendix 1: Relevant Approval Conditions

## Summary of the resource consent conditions relating to the AWP

Condition Number	Consent Condition Requirement	Section Addressed
104	Prior to undertaking any activities authorised by these consents, and annually thereafter (two months prior to each annual anniversary of the last Annual Work Plan) the Consent Holder shall provide to the Consent Authorities for certification, an Annual Work Plan. This Plan must be consistent with any certified Management Plan.	This Document
105	Activities outlined in the Annual Work Plan shall not commence until the Annual Work Plan has been certified by the Consent Authorities.	Section 1.2
106	Should the Consent Authorities refuse to certify the Annual Work Plan in accordance with Condition 100, the Consent Holder shall submit a revised Annual Work Plan to the Consent Authorities for certification as soon as is practicable.	N/A
107	<p>Subject to condition 109 each Annual Work Plan shall include:</p> <p>a) A detailed description of all likely construction and mining operations, mitigation measures and rehabilitation, to be carried out in the next 12 months, including:</p> <ul style="list-style-type: none"> <li>i. Areas that are to be protected from disturbance by fencing or other suitable methods;</li> <li>ii. Areas that are to be rehabilitated identified by rehabilitation method;</li> <li>iii. VDT source and destination areas for the forthcoming years activities shall be identified and mapped and methods to protect them identified;</li> <li>iv. VIT relocation zones shall be identified and mapped and methods to protect them identified;</li> <li>v. Koura, lizards, snails (incidental discovery), and kiwi relocation zones shall be identified and mapped and methods to protect them identified;</li> <li>vi. A contour plan at 10 metre intervals showing the new mine footprint;</li> <li>vii. Areas of overburden removal, ELFs (backfill) and pit floor by the end of the next 12 month period, with an approximate timetable of events;</li> <li>viii. An annual estimate of the soil balance and VIT, VDT and planting projected for the year and how updated results from the soil model affect whole-project rehabilitation including ability to meet rehabilitation targets and closure criteria;</li> </ul> <p>b) A description of all likely construction and mining operations, mitigation measures, and rehabilitation, carried out in the last 12 months (except for the inaugural Annual Work Plan where none will apply), including a contour plan at 10 metre intervals showing the mine footprint, areas of overburden removal, ELFs (backfill) and pit floor of the mine at the end of the last 12 month period;</p>	<p>Section 5.0</p> <p>Section 5.9</p> <p>Section 5.14</p> <p>Section 5.14.1</p> <p>Section 5.14.1</p> <p>Refer specific management plans</p> <p>Figure 2</p> <p>Figure 2</p> <p>Section 5.3</p> <p>Section 4.0 and Monitoring Report</p>

Condition Number	Consent Condition Requirement	Section Addressed
	c) Long-term projections and intentions for mining operations in relation to the future exercise of these consents; d) An explanation of any intended departure from any previous Annual Work Plan in the next 12 months; e) A description and analysis of any unexpected adverse effect on the environment that has arisen as a result of the exercise of the consents in the last 12 months and the steps taken to rectify it, and the results of those steps; f) Identification of any particular issues that have arisen or are expected to arise as a result of operations, geological conditions or monitoring results; g) A summary of any complaints received, responses and the mitigation measures adopted; h) A mine closure section shall be provided as outlined in Condition 107; and i) Report on compliance with the management plans prepared under Condition 31.	Section 6.0 Section 4.3 Section 4.3 Section 4.4 Section 4.5 Section 7.0 Monitoring Report
108	The Consent Holder, in consultation with the Department of Conservation, may determine that an Annual Work Plan be prepared for a period less than 12 months. If an Annual Work Plan is prepared for a period of less than 12 months, then condition 102 shall apply with all necessary modifications to that lesser period.	This Document
109	The Consent Holder shall provide the Consent Authorities with any further information, or report, which the Consent Authorities may reasonably request after considering any Annual Work Plan. This information or report shall be provided in the time and manner required by the Consent Authorities on a reasonable request basis.	N/A
110	The Annual Work Plan shall comply with all other conditions of the consents and the Consent Holder shall exercise the consents in accordance with the Annual Work Plan.	Appendix 1
111	The Consent Holder may, at any time, amend and resubmit an Annual Work Plan to the Consent Authorities provided it complies with all other conditions of the consents.	N/A
112	<b>Mine Closure</b> The Consent Holder shall annually prepare a Mine Closure section within the Annual Work Plan consistent with Appendix 4, that sets out the practices and procedures to be adopted to ensure that closure of the site can be achieved in accordance with the conditions of these consents, including the stated targets in Condition 26a) to h).	Section 7.0



Condition Number	Consent Condition Requirement	Section Addressed
113	<p>The Mine Closure section shall address:</p> <ul style="list-style-type: none"> <li>a) The design and development of a new drainage system including passive treatment for the ELF directing clean runoff to the Whareatea River and its existing tributaries and to V8 and V37 Creeks;</li> <li>b) The activities required to dis-establish those diversion drains, culverts and structures that will not remain as permanent watercourses after mine closure;</li> <li>c) The water management steps required at mine closure to address acid mine drainage;</li> <li>d) The structures (including ELFs) that will remain after mine closure;</li> <li>e) Any continued rehabilitation, monitoring, and weed, pest and fire control required post mine closure; and</li> <li>f) An organisation chart showing the positions responsible for plan implementation, including a brief summary of responsibilities relevant to the plan, such that the provisions of the plan can be implemented at all times.</li> </ul>	Section 7.0
142	<p>The Consent Holder shall provide the Peer Review Panel with all of its Management Plans, Annual Work Plan, Baseline Monitoring Report, Annual Monitoring Report and any other relevant information, that the Panel requests, and shall afford the Panel full access to the site at all reasonable times.</p>	This Document

**Summary of Access Arrangement (MP 51 279) Conditions relating to this AWP**

Condition Number	Condition requirement	Section Addressed
7	<p>The Permit holder will not enter in or on to the Land for the purpose of commencing Mining and Mining Operations until:</p> <p>b) The Permit holder has submitted to the Manager an Annual Work Plan in accordance with Condition 15, and the Environmental Management Strategy and management plans described in the 2<sup>nd</sup>, 3<sup>rd</sup> and 6<sup>th</sup> schedules; and</p>	This Document
11	<p>a) The Work Plan submitted to the Manager for approval must address each element of the proposed mine, and must include all relevant information.</p> <p>b) The Manager may request such information as may be reasonable to enable him/her to make an informed decision regarding approval or non-approval of the Work Plan.</p> <p>c) The elements of the Mining and Mining Operations are listed in the Fourth Schedule.</p> <p>d) The Manager must not approve any Work Plan that is not in substantial conformity with the description of the Work Plan elements set out in the Fourth Schedule.</p>	This document
12	The Manager may require the Permit holder to vary the proposed Annual Work Plan to ensure the Mining and Mining Operations comply with the conditions of this Access Arrangement. Where required by the Manager the Permit holder will amend the proposed Annual Work Plan accordingly.	N/A
15	Prior to the commencement of mining and then prior to the expiry of any subsequent Authority to Enter and Operate thereafter, the Permit holder will submit to the Manager for approval a further Annual Work Plan and any other plans or amended plans as required by Condition 7(b) and Special Condition 69 of the Second Schedule, and any other requirements of this Access Arrangement and in particular Conditions 7, 12, and 13, for the succeeding 12 month period (or a lesser period if considered appropriate by the Permit holder).	Section 1.2
45	a) If the Permit holder is in breach, or fails to observe any of the conditions contained herein or any approved Work Plan the Minister must give written notice to the permit holder specifying the default and requiring it to be remedied as soon as practicable but no greater than 40 working days. If the Permit holder fails to comply with such notice, then the Minister may by notice in writing suspend or terminate this Access Arrangement.	N/A
52	a) The Minister may vary this Access Arrangement or the Work Plan if he or she considers any variation to the mining permit makes it necessary to do so.	N/A

Condition Number	Condition requirement	Section Addressed
57	The Permit holder will at all times comply with this Access Arrangement, including all schedules and special conditions, any approved and current Annual Work Plan and Authority to Enter and Operate, and all approved current environmental management strategy, management plan or sub-plan. A breach of any such document shall be deemed to be a breach of this Access Arrangement and entitle the Minister or Manager to exercise any rights or powers which arise from a breach or failure to comply with the terms of this Access Arrangement.	N/A
62	The Permit holder will not use any Land subject to this Access Arrangement for any purposes other than those specified in this Access Arrangement. Unless otherwise authorised by this Access Arrangement, or otherwise approved by the Manager, the Permit holder will not erect, install or operate anything on the Land other than that described in the approved Annual Work Plan or any other approved plans submitted in accordance with Condition 7(b).	This document
69	Notwithstanding any other provision, any requirement under this Access Arrangement for a matter or thing to be accepted, agreed, approved, consented to, decided, determined by, or subject to the permission or satisfaction of, the Manager is met if the matter or thing is expressly provided for in a Work Plan approved by the Manager.	This document and submitted management plans
S2 c74	<p>The Annual Work Plan must include:</p> <ul style="list-style-type: none"> <li>a) A description of all Mining and Mining Operations carried out in the previous twelve months, including a contour plan showing the areas of overburden removal, Engineered Land Form and pit floor of the mine.</li> <li>b) Detailed site plans showing the Mining permit boundary, Access Arrangement boundary (being the boundary of the Land), conservation land boundary and the location of existing and proposed Mining and Mining Operations for the next 12 months.</li> <li>c) A detailed description of all Mining and Mining Operations proposed for the next twelve months, including an approximate timetable of events.</li> <li>d) A detailed plan and a recent high definition aerial photograph showing the areas of existing disturbance, areas of rehabilitation and areas of proposed further disturbance.</li> <li>e) An inventory of current non-acid forming (NAF) capping material availability, top soil availability, areas to be rehabilitated, and areas available for vegetation direct transfer (VDT) and an annual estimate (detailed on a quarterly basis) of the soil balance and VDT/planting projected for the following twelve months and how updated results from the soil model affect whole-project rehabilitation including ability to meet rehabilitation targets and closure criteria.</li> <li>f) A detailed calculation of the amount of the insurances and guarantees, bonds or grants required by Conditions 25, 27, 28 and 31.</li> <li>g) A risk assessment and risk assessment reviews of the Permit holder's Mining and Mining Operations on the Land required by Conditions 7(e), and 9.</li> </ul>	<p>Section 4.0</p> <p>Figure 2</p> <p>Section 5</p> <p>Figure 2</p> <p>Section 4.1.1</p> <p>Section 7.0</p> <p>Section 7.0 and Section 5.1</p>

Condition Number	Condition requirement	Section Addressed
	<p>h) Copies of the Environmental Management Strategy required under the Third Schedule and the management plan framework that addresses through management plans developed under that framework the following issues as required by the Sixth Schedule:</p> <ul style="list-style-type: none"> <li>i. Closure and Rehabilitation</li> <li>ii. Flora and Fauna Management</li> <li>iii. Landscape and Visual Amenity Management</li> <li>iv. Noise, Dust and Lighting Management</li> <li>v. Emergency Response Management</li> <li>vi. Water Management</li> <li>vii. Engineered Landform Management</li> <li>viii. Hazardous Substance Management</li> <li>ix. Historic Heritage Management</li> </ul> <p>The Management Plan Framework must be updated annually, or when proposed Mining or Mining Operations requires a variation to the Management Plan Framework or its contents, or where required by Condition 4 of the Third Schedule of the Access Arrangement, and submitted to the Manager for approval. The Manager may vary the limits and requirements specified in any management plan under the Management Plan Framework if, in his or her opinion Mining and Mining Operations are having or are likely to have an adverse effect on the Land, and the permit holder will be bound by any such variation;</p>	Submitted with the AWP (Section 3.1)
	i) Review of the environmental performance of the Mining Operations in accordance with Condition 3 of the Third Schedule.	Section 4.0
	j) An explanation of any departure in the last twelve months from the previous Annual Work Plan.	Section 4.3
	k) a summary of any complaints received and the corrective actions taken	Section 4.5
	k) A list of hazardous substances/ potentially contaminating materials to be stored or used on the Land including details of maximum volumes and secondary containment.	Appendix 4
	l) The volumes of sludge and waste reject material disposed of in the last 12 months in accordance with special Condition 82.	Section 4.1.1
	m) A copy of all resource consents held under the Resource Management Act 1991 relating to the mining permit.	Supplied with this document
	n) All water quality testing results obtained over the last 12 months in relation to, or as a consequence of, activities on the Land.	Monitoring Report
	o) Any other information, plans or statutory documents required by other conditions of this Access Arrangement and any relevant documents required by any resource consent held by the Permit holder relating to the mining permit.	Supplied with this document
S2 c75	The Permit holder will undertake all work in accordance with the approved Annual Work Plan.	Section 1.2
S2 c76	The Permit holder may, at any time, submit to the Manager for approval an amended Annual Work Plan.	N/A



Condition Number	Condition requirement	Section Addressed
S2 c77	The Permit holder notes and agrees that before granting any Authority to Enter and Operate in respect of any Work Plan the Manager shall be clearly advised and provided with detailed descriptions of the nature of work and its location.	This Document
S2 c78	If requested by the Manager the Permit holder must establish in the Annual Work Plan that any proposed Mining Operation is necessary to accomplish the purpose or desired outcome of the Project.	This Document
S2 c79	Where any party is required to take any steps in relation to a proposed or approved Annual Work Plan they shall endeavour to do so without unreasonable delay.	N/A
S2 c 80	The Permit holder must avoid causing, directly or indirectly, any adverse impact to the Land which is not identified in the Work Plan as being necessary for the Permit holder's Mining Operations, and approved in any Authority to Enter and Operate.	N/A
S2 c82	<p>Subject to these special conditions and approval of the current Work Plan the Permit holder may, with the prior written approval of the Manager:</p> <ul style="list-style-type: none"> <li>a) use explosives</li> <li>b) construct, upgrade or maintain any road on the Land.</li> <li>c) conduct vegetation cutting, removal and overburden stripping on the Land.</li> <li>d) conduct drilling operations (including drilling required for blasting) within the Land;</li> <li>e) dispose of reject material from Mining, or from the coal processing plant on or to the Land;</li> <li>f) dispose of sludge from Mining or from the coal processing plant water treatment plant, mine influenced water treatment plant, surface water treatment plant and recycle dam, on or to the Land;</li> <li>g) having regard to any exclusion conditions, the Historic Heritage Management Plan, and any requisite Heritage New Zealand Pouhere Taonga authorisation destroy surface or underground historical and archaeological sites;</li> <li>h) erect/place any building, equipment and plant and structures for processing of coal and other material, loading and conveyance of coal and other material, sheds, containers or similar structures on the Land; and</li> <li>i) conduct onsite processing of coal and other material including the use of any chemicals.</li> </ul>	Section 5

Condition Number	Condition requirement	Section Addressed
S3 c3	<p>Twelve months after the granting of the first Authority to Enter and Operate, and annually thereafter, the Permit holder shall review and report on the environmental performance of the Mining and Mining Operations to the satisfaction of the Manager. This review must:</p> <ul style="list-style-type: none"> <li>a) describe the works (including any rehabilitation) that were carried out in the past year, and the works that are proposed to be carried out over the next year;</li> <li>b) include a comprehensive review of the monitoring results and complaints records over the past year; which includes a comparison of these results against the:               <ul style="list-style-type: none"> <li>i. limits or conditions of the Access Arrangement and Resource Consents relating to the mining permit;</li> <li>ii. monitoring results of previous years; and</li> </ul> </li> <li>c) a description and analysis including any root cause of any incidents that have arisen within the last 12 months; the steps taken to mitigate or remedy any material harm; and actions to prevent a reoccurrence of events which caused material harm.</li> <li>d) identify any trends in the monitoring data of the Access Arrangement and resource consents relating to the mining permit over the life of the Mining Operations;</li> <li>e) identify any discrepancies between the predicted and actual impacts of the Mining and Mining Operations, and analyse the potential cause of any significant discrepancies; and</li> <li>f) describe what measures will be implemented over the next year to improve the environmental performance of the Mining and Mining Operations.</li> </ul>	<p>Section 4.0 and 5.0</p> <p>Section 4.2 and Monitoring Report</p> <p>Section 4.3</p> <p>See Monitoring Report</p> <p>Section 4.0</p> <p>Section 5.0</p>
S4 c1	<p>The key mine elements (including all key infrastructure and constructed land forms) are:</p> <ul style="list-style-type: none"> <li>a) Open cast pit or pits</li> <li>b) Coal haul roads</li> <li>c) MIW WTP (Mine influenced water Water Treatment Plant)</li> <li>d) Surge pond</li> <li>e) Flood channel</li> <li>f) Infrastructure area, including:               <ul style="list-style-type: none"> <li>i. Workshop</li> <li>ii. Wash pad</li> <li>iii. Fuel farm</li> <li>iv. Site offices</li> <li>v. Tyre fitting area</li> <li>vi. Seed/plant storage shed</li> </ul> </li> <li>g) ROM Pad/ crusher</li> <li>h) Haul road</li> <li>i) Overburden Engineered Landform, including Low Permeability Layer and sludge cells</li> <li>j) Topsoil stockpile</li> <li>k) Coal processing plant</li> <li>l) building, equipment and plant and structures for processing, loading and conveyance of material</li> <li>g) Maximum disturbance area shall be 106 hectares.</li> </ul>	<p>Section 5.0</p>

Condition Number	Condition requirement	Section Addressed
S6 c1	The permit holder will supply the Department with up to date copies of the management plans developed under the Management Plan Framework described in this schedule as part of the process of seeking the Manager's approval of the Annual Work Plan.	Section 3.3
S6 c2	Following the approval of the first Annual Work Plan the permit holder shall submit revised and up to date copies of the Management Plan Framework (including all management plans) to the Department at least two months prior to the expiry of that Annual Work Plan, where the Permit holder is seeking approval of a new Annual Work Plan.	Section 1.2

## Appendix 2: Conditions and Management Plan Commitments not being fully addressed in 2020/21 Care and Maintenance AWP (unchanged)

Management Plan Commitment Reference	Description	Activity	Action	Justification
002-10	The Concessionaire must conduct intercept surveys to assess effects of the Concession Activity on visitors to Denniston Plateau and provide the results to the Grantor. The details of the survey and its timing must be approved by the Grantor.	Social Impact Monitoring	Suspend	Delay surveys until BCL mining operations recommence and BCL is transporting coal from the Plateau via the Denniston Track.
002-12	The Concessionaire must place a culvert at the end of the Aerial Track. The culvert must be installed at the expense of the Concessionaire to a design and standard approved by the Grantor prior to coal truck and trailer units using the Easement Land. The culvert must be inspected, managed and maintained in accordance with the Department of Conservation service standards at the expense of the Concessionaire for the duration of the Easement.	Concession compensation	Suspend	There is little or no evidence to suggest that further investment in infrastructure at this site is required. The condition itself is in BCL's view ultra vires as the location is on road reserve and would require approval from BDC.  This work was undertaken by Buller Electricity as part of the upgrade to the power lines
005-31, 005-32, 005-33	BCL Management will undertake annual internal audits of the EHMP., and independent external audits	Audit	Suspend until operations recommence	Not necessary while in care and maintenance.

Management Plan Commitment Reference	Description	Activity	Action	Justification
006-1, 006-2, 006-43, 010-1, 010-2, 010-4, 010-21	BCL will undertake annual call count and location monitoring within the EMP, DPPA and adjacent areas as carried out in May-June 2013 (Powlesland et al. 2013), to detect any changes in roroa abundance as a result of predator control and mining activities.	Kiwi and weka call counts within mine and across DPPA	Reduce frequency to biennial monitoring	Already obtained baseline data and no further effects are anticipated until mining recommences. Reduce to biennial monitoring to monitor effects of DPPA management on populations. Monitoring undertaken in May 2015 and planned to be repeated in May 2017.
006-3, 006-4, 006-16	Once territories and roost sites have been determined, any transmitters fitted to roroa will continue to be monitored and maintained so as to remain up-to-date on the location of individual birds relative to mine development, and where necessary, to determine breeding state.	Kiwi territory mapping	Suspend	One pair of kiwi had their territory mapped, and the transmitters were removed in May 2016. Their territory is outside of any area that is likely to be developed in the foreseeable future.  Not required until activities recommence. If no mining for more than two years, then may resurvey all areas in case birds have established territories adjacent to or within the existing disturbed area prior to commencement of mining.
009-4, 013-13, 013-124, 013-125	BCL will monitor for any Indirect Vegetation Effects along Whareatea Road. This will include photopoints, and baseline surveys of vegetation at ten sites along Whareatea Road, including all key indigenous	Whareatea Rd. 30m vege. transects.	Report recommends suspending monitoring until better survey designs are	Suspend until mining and trucking operations recommence. Result and method analysis suggest that this technique is not effective at detecting change in weed distribution or vegetation



Management Plan Commitment Reference	Description	Activity	Action	Justification
	ecosystems, areas of modified vegetation and the four sensitive areas noted by DOC		implemented. Continue with weed control but suspend monitoring until survey designs are reconsidered.	composition. Therefore a review of the survey design is recommended and will be undertaken.
009-11, 009-43, 009-5, 010-17, 010-26	Annual monitoring of wasp populations on the Plateau will be undertaken and a control programme will be triggered should the wasp population reach ecologically damaging levels.	Wasp Population Monitoring	Suspend	No wasps found in first year of monitoring and anecdotal observations of no wasps at the Escarpment Mine. Intend to suspend this monitoring until mining operations recommence.
009-52	Biosecurity monitoring of plant nurseries used by BRL for plant propagation for rehabilitation use on the EM site, including two inspections per year of any nurseries (and their plants) to detect (and control, where needed) invasive invertebrates (such as ants, slugs, snails, centipedes, millipedes and worms) and prevent importation to the EM site. One inspection will be taken in summer, and the other immediately prior to the first major shipments of plants to Plateau each year.	Monitor nursery for invasive pests	Reduce frequency to annual	Review the frequency and results of the monitoring prior to commencing rehabilitation planting at Escarpment.
010-3, 010-4, 010-5, 010-7, 010-22	in November of each year, 5MBCs (an index of abundance based on conspicuousness) at 60 sites through	Five Minute Bird Count	Reduce to biennial	Baseline data has been collected. No further disturbance at the Escarpment Mine. Monitored in Dec

Management Plan Commitment Reference	Description	Activity	Action	Justification
	the EM and 60 in the DPPA will be carried out to provide comparative information for pipit, fernbird and rifleman populations	Monitoring (5MBC)		2016 & 2018 and reduce frequency to biennial to monitor any changes across the DPPA. Next planned monitoring is November 2020.
011-33	Bryophytes and periphyton will be monitored annually (probably between February & April) using visual inspections, photography and, where possible, determining their percentage cover, using a modification of the RAM-2 method described by Biggs and Kilroy (2000).	Aquatic bryophyte, and macroinvertebrate monitoring	Suspend until mining operations recommence in the headwater catchments of these tributaries	No mining activities in the headwaters of these catchments, and therefore no impacts to monitor. Have sufficient baseline information.
011-1, 011-2, 011-34, 011-35, 011-36	Macroinvertebrates will be sampled at each biomonitoring site (between February and April).	Aquatic bryophyte, and macroinvertebrate monitoring	Suspend until mining operations recommence in the headwater catchments of these tributaries	No mining activities in the headwaters of these catchments, and therefore no impacts to monitor. Have sufficient baseline information.
011-4, 011-37, 011-38	Koura will be monitored annually within the seven biomonitoring sites, in accordance with the conditions imposed by the various statutory approvals. Monitoring will be carried out by a suitably qualified and experienced freshwater biologist	Koura	Suspend until mining operations recommence in the headwater catchments of these tributaries	No mining activities in the headwaters of these catchments, and therefore no impacts to monitor. Have sufficient baseline information.
011-7	Water quality monitoring in gate pond while supplementary feeding of koura	Gate Pond Water quality monitoring	Suspend	See explanation and analysis below. There has been very little variation in

Management Plan Commitment Reference	Description	Activity	Action	Justification
				the water quality parameters since monitoring began.
012-2, 012-10	BCL will prepare a works programme (up to the value of \$5000) in consultation with DOC for concrete and brick preservation at the Whareatea Mine	Historic Compensation	Suspend	Propose to renegotiate this condition with DOC and link the work to the Escarpment compensation package. Very little use of this area by visitors, so needs a holistic visitor strategy for this site.
012-11, 012-4	Historic heritage interpretation panels will be erected at the Whareatea mine (where more than one panel may be required) and as close as possible to the sites of the Birchalls Cooperative Party mine, the Plateau mine and the historic Escarpment mine.	Historic Compensation	Suspend	Propose to renegotiate this condition with DOC and link the work to the Escarpment compensation package. Very little use of this area by visitors, so needs a holistic visitor strategy for this site.
013-5, 013-18, 013-32	To expand the hydrological monitoring programme within the EMP site in January 2014 to include three replicates in each of the four vegetation types (forest, scrub, pakihi and pink pine forest) and one replicate in each of these vegetation types outside the EMP site (i.e. as controls).	Soil hydrological monitoring	Maintain existing sites, but delay installation of further sites while on C&M	Review once life of mine plans have been reviewed and agreed to. This will ensure that instrumentation is installed in the most representative sites and parameters being measured will obtain required results.
013-65	Stumps and logs shall be stored separately from vegetation and soil materials and any woody beech	Soil and slash management	Suspend	This condition (RC 229) is neither practicable nor possible. In addition, slash material is useful in the soil

Management Plan Commitment Reference	Description	Activity	Action	Justification
	vegetation that is not used for VDT shall be chipped or used as slash.			stockpiles to provide vegetative matter to maintain invertebrate and microbial activity.
021-10, 021-11, 021-18, 021-19, 021-20,	BCL will monitor and report the following parameters at the respective sites. Refer to Table 1.G.13, 1.G.14 and 1.G.15 (WMP).	Water monitoring	See below, reduce frequency of some monitoring and parameters to be monitored at other sites.	There are no discharges into the Whareatea catchment and the continuous sondes at W-M2 and C-M1 will pick up any changes in water quality.  Baseline and operational monitoring over 5-6 years of monitoring shows that some parameters have not changed during this time and given that some monitoring is planned to continue, these sites will not change.
023-11, 023-12, 023-1	Photo monitoring will then be conducted six-monthly (in conjunction with LiDAR monitoring) to provide a depiction of progressive change in the appearance of the landscape over the life of the project.	Photo point monitoring	Undertake one further round of monitoring once care and maintenance commences and then suspend until mining operations recommence.	There are no further landscape changes anticipated once care and maintenance has started.
024-2, 024-8	Collection of total dust deposited at four representative sites. Sample collection every 15 days.	Dust Monitoring	Suspend until trucking and mining operations recommence.	Suspend until mining and trucking operations recommence as there will be no dust generation while in care and maintenance. No activities generating dust.

Management Plan Commitment Reference	Description	Activity	Action	Justification
025-48, 025-49, 025-50, 025-53	A series of piezometers are planned. An analysis of the groundwater pressure data obtained from these piezometers will be used to estimate the potential groundwater inflow rates to the proposed mine pits and assess the risk posed to the mining operations.	Groundwater hydrogeology	Suspend	Undertake further review of the AMD and groundwater hydrogeology report and recommendations. Implement holistically based on data and recommendations of these reports in time to gather sufficient baseline data for review of the RC conditions.



## Appendix 3: Bathurst Resources Limited Risk Matrix Tool (BRL-HST-STD-001.04)

RATING	Primary Consideration				Secondary Consideration Note: will have been triggered by Health & Safety or Environmental considerations first	
	FINANCIAL IMPACT (\$)	HEALTH & SAFETY	ENVIRONMENT	COMMUNITY / REPUTATION	LEGAL & COMPLIANCE	MANAGEMENT IMPACT
1	>\$5M loss or gain	Multiple fatalities; or Significant irreversible effects to 10's of people	An incident that has caused disastrous environmental impact with long term effect requiring major remediation	Prominent negative international media coverage over several days Significant negative impact on share price for months	Major litigation or prosecution with damages of \$5M+ significant costs Custodial sentence for company executive Prolonged closure of operations by authorities	Critical event or disaster with significant impact on a business unit that requires considerable senior executive time to handle over several months Full implementation of a business unit crisis management plan
2	\$1M - \$5M loss or gain	Single fatality; and/or Severe irreversible disability to one or more persons	An incident that has caused serious environmental impact with medium term effect requiring significant remediation	National media coverage over several days Significant negative impact on share price for weeks Community / NGO legal actions Impact on local economy	Major litigation costing \$1M+ Investigation by regulatory body resulting in long term interruption to operations Possibility of custodial sentence	Major event that requires the implementation of crisis contingency plans at a site level
3	\$50K - \$1M loss or gain	Extensive injuries or irreversible disability or impairment to one or more persons Lost time	An incident that has caused moderate reversible environment impact with short term effect requiring moderate remediation	Local media coverage over several days Negative impact on local economy Persistent community complaints	Major breach of regulation with punitive fine Significant litigation involving many weeks of senior management time	Significant event that can be managed with careful attention – will take some site-level management time over several days
4	\$10k - \$50K loss or gain	Medical treatment	An incident that has caused minor reversible environmental impact requiring minor remediation	Local media coverage Complaint to site and/or regulator	Breach of regulation with investigation or report to authority with and moderate fine possible	Local operation of contingency plan Will require some local management attention over several days
5	<\$10K loss or gain	First aid treatment	An incident that has caused negligible reversible environmental impact requiring very minor or no remediation	No media coverage No community complaints	Minor legal issues, non-compliances and breaches of regulation where the effects are contained onsite	No real action outside reporting and local investigation required

### Likelihood Category and Related Criteria

CATEGORY	CRITERIA
A	<ul style="list-style-type: none"> <li>99% probability; or</li> <li>Impact is occurring now; or</li> <li>Could occur within "days to weeks"</li> </ul>
B	<ul style="list-style-type: none"> <li>&gt;50% and &lt;99% probability; or</li> <li>Balance of probability will occur; or</li> <li>Could occur within "weeks to months"</li> </ul>
C	<ul style="list-style-type: none"> <li>&gt;20% and &lt;50% probability; or</li> <li>May occur shortly but a distinct probability it won't; or</li> <li>Could occur in "months to <u>years</u>"</li> </ul>
D	<ul style="list-style-type: none"> <li>&gt;1% and &lt;20% probability; or</li> <li>May occur but not anticipated; or</li> <li>Could occur in "years to decades"</li> </ul>
E	<ul style="list-style-type: none"> <li>&lt;1% probability; or</li> <li>Occurrence requires exceptional circumstances; or</li> <li>Exceptionally unlikely, even in the long term future; or</li> <li>Only occur as a "100 year event"</li> </ul>

### Risk Rating Matrix

LIKELIHOOD RATING	A	15	10	6	3	1
	B	19	14	9	5	2
	C	22	18	13	8	4
	D	24	21	17	12	7
	E	25	23	20	16	11
		5	4	3	2	1
CONSEQUENCE RATING						

### Risk Control Effectiveness Criteria

CATEGORY	CRITERIA
Satisfactory	<ul style="list-style-type: none"> <li>Nothing more to be done except review and monitor the existing controls;</li> <li>Controls are well designed for the risk, are largely preventative and address the root causes;</li> <li>Management believes that they are effective and reliable at all times; and</li> <li>Reactive controls only support preventative controls.</li> </ul>
Require Improvement	<ul style="list-style-type: none"> <li>Most controls are designed correctly and are in place and effective;</li> <li>Some more work is required to improve operating effectiveness;</li> <li>Controls may only treat some of the root causes of the risk, and/or are not currently effective and/or there may be an over-reliance on "reactive" controls; and</li> <li>Management has doubts about operational effectiveness and reliability.</li> </ul>
Poor or No Existing	<ul style="list-style-type: none"> <li>Significant control gaps or no credible control. If controls exist they are generally reactive;</li> <li>Either controls do not treat root causes, are non-existent, or if they do exist, they do not operate at all effectively;</li> <li>Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness;</li> <li>Very limited or no operational effectiveness;</li> <li>While the design of controls may be largely correct in that they treat most of the root causes of the risk, they are not currently very effective; and</li> <li>There may be an over-reliance on reactive controls or some of the controls do not seem correctly designed in that they do not treat root causes, those that are correctly designed are operating effectively.</li> </ul>

### CLASSIFICATION

High Risk	
Medium Risk	
Low Risk	

## Appendix 4: Hazardous Substances Stored at the Escarpment Mine

PRODUCT NAME	MAX. QTY	HSNO CATEGORY	ONSITE LOCATION	SDS REFERENCE	TRANSPORT METHOD	COMMENTS
<b>FUELS</b>						
Diesel	500 L	3.1D, 6.1E, 6.3B, 6.7B, 9.1B	HSNO Container			Brought to site in tank on trailer or ute if required. Not stored on site.