

8 February 2018

Campbell Robertson,  
Environmental Manager,  
Bathurst Resources Limited,  
272 Palmerston Street,  
Westport 7825

## RC185622/RC185640 – CANTERBURY COAL MINE EXPANSION

Dear Campbell,

Further to the letter dated 13 December 2018 to Bathurst Coal Ltd, I am writing to supply additional information relating to archaeological matters that have been requested for the Canterbury Coal Mine Expansion Resource Consent Application (RC185622/RC185640). Specifically, the additional information relates to points/topics 10 and 11 included in the request for further information. To best address the clarifications that have been requested, I have organised this letter according to the following sections:

- Archaeological Values
- Mitigation
- Archaeological Management Plan
- Recording of Archaeological Features

### Archaeological Values

Heritage New Zealand Pouhere Taonga (HNZPT) provides guidelines setting out criteria that are specific to assessing the values of archaeological sites (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2006: 9-10). This criteria set was used in the archaeological assessment to evaluate the value and significance of the archaeological resource that will be impacted by the proposed mine expansion. This includes potential sites of Māori origin and the 19<sup>th</sup> century Homebush Mine.

The archaeological values of the project area are re-presented here with additional comment clarifying if overall archaeological values are None, Low, Medium, or High. The significance of the impact or effects of the proposal on the archaeological values is now also explicitly assessed using an adaption of the ranking scale proposed in the Ministry of the Environment's guide to preparing assessments of environmental effects (2006). That ranking scale uses four categories, whilst for the purposes of the current assessment a fifth ranking of 'moderate effect' has been added. The ratings used in this letter are therefore assigned as follows:

1. No effect
2. Minor effect
3. Moderate effect
4. Major or significant effect
5. Critical effect

Table 1. Archaeological Values of Project Area – Potential Sites of Māori Origin

Sites Type	Value	Assessment	Effects on Archaeological Values
Potential Sites of Māori origin	Condition	No archaeological sites of Māori origin were observed during the site survey. Given the extent of historic and recent mining activity, and the level of intensive commercial forestry within the mine Operation Area, the risk of Māori archaeological remains surviving within the operations area is low. However, it is likely that if any surviving archaeological remains are present that they will be in poor condition given the extent of mining activities in the 19 <sup>th</sup> and 20 <sup>th</sup> centuries, and forestry in the 20 <sup>th</sup> and 21 <sup>st</sup> centuries. As such any surviving archaeological remains are considered to have <b>low archaeological value</b> regarding condition criteria.	The overall archaeological value of potential sites of Māori origin within the project area is low. This derives from weighing up the significance values of each of the six value categories. The <b>overall effect on archaeological values of proposal is therefore considered to be minor</b> . It is unlikely that such archaeological remains survive. If they do, it is likely they are in poor condition. Such remains would make only a small contribution to the wider archaeological landscape, and effects on the wider archaeological landscape will therefore also be minor.
	Rarity/ Uniqueness	Māori archaeology sites in the region are not particularly rare. For example, three archaeological sites, all of which are Māori rim ovens, are recorded c. 300 m south of the Mine Operation Area. If similar, or other archaeology sites of Māori origin survive within the proposed mine operation area it is considered that <b>low archaeological values</b> will likely arise because of rarity/uniqueness.	
	Contextual Value	Individual archaeological sites need to be considered not as isolated individual entities but as part of a much wider archaeological and cultural landscape. Any Māori archaeology that survives in the project area will have contextual value with other similar archaeological sites in the area. However, such sites will form part of a much larger archaeological landscape and as such it is considered that such potential remains will have <b>low contextual values</b> .	
	Information Potential	Any Māori remains that exist within the project area are a record of occupation, and potentially contribute to our understanding of settlement patterns in Canterbury. However, given the likely poor condition of any surviving archaeological remains, it is considered that <b>low archaeological values</b> arise regarding the information potential of such remains.	
	Amenity Value	Any subsurface archaeological features or deposits within the project area currently have <b>no amenity values</b> given their likely sub-surface nature. Furthermore, their location at/close to an open cast mine means that access is not possible for the public.	
	Cultural Associations	South Island Māori.	

Table 2. Archaeological Values of Project Area – Homebush Mine

Site Type	Value	Assessment	Effects on Archaeological Values
Coal and Clay Mine including features identified during recent site survey	Condition	<p>The only historic mine working within the project area that possess archaeological values are those associated with the “Big Mine”. This mine was worked in both the 19th and 20th century. The northern third of the “Big Mine” footprint has already been destroyed and the extensive 20th century mine working have likely had some negative impact upon the condition of the 19th century archaeological workings. The current proposal will physically impact the middle third of the “Big Mine” footprint.</p> <p>It is considered likely that during proposed mining activities that intact features associated with the historic workings will be uncovered including old tunnels, pit openings and shafts. However, given that the “Big Mine” was worked in both the 19<sup>th</sup> and 20<sup>th</sup> centuries, there is inherent difficulty in the positive identification of such features as archaeological as the Homebush Mine spans the 1900 threshold for legally protected archaeological sites. While archaeological underground workings associated with Homebush Mine are likely to be in moderate condition it is noted that some damage to these features will occur upon their ‘discovery’ given the nature of current open cast mining methods.</p> <p>The archaeological status of two surface depressions identified close to the large fill embankment are uncertain, as are the two potential features observed in the harvested section of the Coalgate Forest. If the surface depressions are archaeological in nature, any underlying archaeological material associated with them is likely to be in relatively good condition, given that modern mining or forestry activities have not occurred here. The large and medium sized pits found within the footprint of the “Big Mine” in the Coalgate Forest appeared to be in moderate condition despite recent impacts from tree harvesting activities.</p> <p>It is considered that any surface features associated with historic mining that were not identified during the recent survey will be in poor condition given the extent of mining and forestry activities in the 20th and 21st centuries.</p> <p>On balance, it is considered that <b>low to moderate values</b> arise regarding condition criteria of archaeological remains.</p>	<p>The overall archaeological value of Homebush Mine is low to moderate. This derives from weighing up the significance values of each of the six value categories. The <b>overall effects on archaeological values of the proposal is therefore considered to be minor to moderate.</b></p> <p>While the Homebush Mine likely possesses high contextual values, the overall information potential of archaeological features is low. There is likely little archaeological information to be gained regarding expected mine workings beyond information contained in documentary records including mine plans. It is considered low to moderate values arise because of condition status whilst no archaeological values arise as a result of any rare or unusual archaeological evidence or amenity value.</p>
	Rarity/ Uniqueness	<p>Potential archaeological features that can be expected to be present within the project area include old tunnels, pit openings and shafts. Such features are common to underground coal mining and clay mining operations of the 19th and early 20th</p>	

Site Type	Value	Assessment	Effects on Archaeological Values
		<p>century and are depicted in the detailed historic plans of the Homebush Mine that are included in the archaeological assessment.</p> <p>As such, <b>no archaeological values</b> arise as a result of any rare or unusual archaeological evidence that is expected to be present within the project area.</p>	
	Contextual Value	<p>As with many sites of this nature, individually all potential historic features identified during the survey, and other potential archaeological remains to be uncovered are of limited value, and archaeological status is/will be uncertain. However, as a collective group, the potential archaeological remains in the mine area represent a picture of mining operations in the late 19th century and early 20th century, resulting in an <b>overall high contextual value</b>. In a regional context these sites can be compared with other historic mining landscapes nationally.</p>	
	Information Potential	<p>Despite the high contextual values of all the potential archaeological remains associated with the Hoembush Mine, the overall information potential of these features is low. The likely absence of any recorded artefacts will make it difficult to establish the timing of activities or gain further contextual information through investigation by archaeological methods. While it is likely that some underground features are in good condition, they are likely to have limited information potential given the inherent difficulties in investigating such features in a safe manner. This is particularly apparent in the vicinity of active mining operations. Furthermore, the status of potential features will be uncertain i.e. it will not be possible to be sure if the features are archaeological or 20<sup>th</sup> century in date.</p> <p>Given these factors, it is considered there is little archaeological benefit to be gained regarding the expected mine workings beyond the existing information contained in documentary records including the detailed mine plans. It is therefore considered that <b>low archaeological values</b> arise with regard to the information potential.</p>	
	Amenity Value	<p>Identified or potential sites located within the Mine Operation Area are close to, or within an area of active mining, and are not accessible to the public. Furthermore, given underground status of potential remains they pose health and safety issues that do not favour amenity value. As such, <b>no amenity values</b> arise in terms of archaeological remains being accessible to the public.</p>	
	Cultural Associations	Colonial European.	

## Mitigation

Archaeological sites are a non-renewable resource and in all cases it is best to avoid disturbance or destruction of these sites as part of any proposal. The actual and potential adverse effects on archaeology that will result from the proposed Canterbury Coal Mine Expansion works have been evaluated as minor to moderate, rather than major; and therefore, are not considered to be significant enough to constrain the proposal on archaeological grounds. However, mitigation will be required to reduce the adverse effects wherever possible.

The archaeological assessment indicated that the project effects can be appropriately mitigated under the archaeological provisions of the HNZPTA and that an Archaeological Authority should be sought prior to the start of any works. In addition, and in part linked to this legal requirement, the following mitigation measures are proposed:

- An Archaeological Management Plan (see below) should be prepared to manage the archaeological response throughout the project
- Under any granted archaeological authority, the potential features identified during the recent site survey should be archaeologically investigated and recorded.
- Under any granted archaeological authority, an on-call procedure will be detailed in the Archaeological Management Plan to cover the event that significant archaeological remains are uncovered during mining operations. Relevant mine workers should be briefed by an archaeologist regarding the on-call procedure.
- It is proposed that any archaeological artefacts, implements or machinery that are uncovered are collected for more detailed analysis to provide more information with regard the dating and operation of mining activities. Further, removed material should be catalogued and kept together as one collection. The material could then be assessed by a heritage professional and recommendations for long term management made.
- Upon completion of works associated with the current proposal, an Archaeological Report must be prepared including the gathered background information of the Homebush Mine and detailing any new archaeological findings that have arisen as a result of archaeological work. This assembled historic record must be archived by Bathurst Mining, HNZPT and other suitable organisations.
- It is proposed that upon completion of the archaeological report and, depending on the nature of artefacts and information found, that interpretation of the Homebush Mine be provided at the Glentunnel Museum.

## Archaeological Management Plan

Linked with any archaeological authority that may be granted by Heritage New Zealand Pouhere Taonga, and in accordance with accepted archaeological best practice, a project specific Archaeological Management Plan (AMP) will be developed. Such a plan is considered an appropriate method of managing mitigation for the archaeological effects of proposed mine expansion. This plan will outline archaeological investigation and monitoring requirements, agreed cultural protocols, identify areas where work is to be carried out in accordance with an on-call procedure, and outline the steps and responsibilities that form any protocols developed for the Project.

The Archaeological Management Plan cannot be finalised until consultation has been undertaken with Heritage New Zealand Pouhere Taonga and both Te Taumutu Rūnanga and Tūāhuriri Rūnanga. This is to ensure that project process detailed in the plan adheres to parties' expectations and is aligned with legal requirements. Once the plan has been approved and finalised it will be lodged with Selwyn District Council.

## Archaeological Features

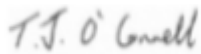
The assessment recommends that some underground archaeological features will not require recording prior to being destroyed but that significant features will require some form of recording. The assessment lists old tunnels, pit openings and shafts as archaeological features that can be expected to be uncovered during mining operations and which will not require recording. Such features are typical of historic mining sites and are depicted in the detailed historic plans that are included in the archaeological assessment.

The assessment notes that if significant archaeological features are uncovered, that these should be recorded as far as it is safe and practicable to do so. The reference to significant archaeological features relates to any feature types that are not detailed in the historic mining plans namely the old tunnels, pit openings, and shafts. Significant features could include, but are not limited to, underground tramway tunnels including locomotive machinery. This significance level criteria will be expanded upon in the Archaeological Management Plan prepared for the project.

## Conclusions

The archaeological assessment identified the proposed mine expansion will have a physical effect on the archaeological resource. While archaeological features will be destroyed as a result of the proposal, this loss can be balanced against the mitigation proposals included in this addendum letter.

Regards



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Senior Archaeologist