

Before the Independent Hearing  
Commissioners

Under the Resource Management Act 1991

In the matter of A hearing on submissions on the proposed Te Tai o Poutini  
Plan

Hearing Topic 10: Natural Features and Landscapes

**Submitter:**

**Karamea Lime Co Ltd (Submitter 614)**

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**Statement of Evidence of Leicester Murray**

12 February 2024

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## **1. Introduction**

- 1.1** My full name is Alexander Leciester Tom Murray. (Known as Leicester.)
- 1.2** I have undergraduate and postgraduate degrees in Landscape Architecture from Lincoln University. I am a registered landscape architect and a current member of the New Zealand Institute of Landscape Architects.
- 1.3** I am self employed as a landscape architect.
- 1.4** I have experience in preparing Landscape Assessment documentation across the South Island of New Zealand. All attached images to this report were taken by me during a site visit on Friday January 26th, 2024, or are otherwise stated.
- 1.5** This evidence is provided in support of the submission by Karamea Lime Co Ltd (KLC) in relation to the landscape overlays that may apply to their lime quarry at Fenian Road, Karamea.
- 1.6** In preparing this statement of evidence I have considered the following documents:
- A. Section 42A report on Topic 10: Natural Features and Landsapces prepared by Lois Easton;
  - B. Addendum to s42a to Natural Features and Landscapes by Bridget Gilbert.
  - C. The New Zealand Institute of Landscape Architect, Outstanding Natural Landscape assessment guidelines.

## **2. Code of Conduct for Expert Witnesses**

**2.1** While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

## **3. Scope of evidence**

I have prepared evidence in relation to the landscape elements of the KLC site, most notably whether or not there are natural features or landscapes associated with the site, and whether it sits within the coastal environment as defined by the New Zealand Coastal Policy Statement.

#### 4. Executive Summary

The Karamea Lime Co Ltd has been extracting lime-stone and operating their crushing plant for many decades, providing a valuable resource to the Karamea agricultural area. Presently the quarry site is shown as being within the coastal environment (see figure 10). In preparing this document the landscape has been assessed in three categories, the broad, intermediate and immediate scales, the visual assessment was carried out while visiting the site and area on January 26th 2024. I do not consider the site should fall within the coastal environment. A further assessment has been carried out to identify if the Karamea Lime Quarry should fit the criteria of an Outstanding Natural Landscape, which it does not.



**Figure 1.** Map of the Karamea district showing the location of the Karamea Lime Works. (topomap.co.nz)

#### 5. Background

**5.1** The Karamea district covers an area of approximately 31,000 hectares. It is the northern most farming district and settlement on the West Coast of the South Island and is approximately 100km north of Westport. The cleared flat-to-undulating foreground coastal landscape is dominated by the background of contiguous forest covered hills of the surrounding Kahurangi National Park. The Karamea and Oparara Rivers traverse across the landscape and both have large estuary areas before flowing into the Tasman Sea. Upstream, on the

Karamea River, are the two farming communities of Arapito, on the south bank, and Umere on the north. The pastoral grazing land is dominated by dairy herds and their associated infrastructure.

- 5.2** Karamea is considered a gateway to the Kahurangi National Park, and provides a base for visitors coming to walk or mountain bike the Heaphy Track. Other local attractions such as the Ōpārara Basin, Ōpārara Arches, the Fenian Track and caves, the Big Rimu Walk and the coastal scenery north of Kōhahai on the Heaphy Track are frequented by visitors and locals alike.
- 5.3** There are approximately 50 functioning dairy farms in the district which contribute significantly to employment and the economy. Agriculture was largely at subsistence level until the road to Westport was opened in 1916. The first cooperative butter factory was opened in 1911. The dairy industry gradually expanded, and the manufacture of milk powder started in the 1970s. Milk is now collected daily from farms by tanker and transported to Hokitika for processing.
- 5.4** Karamea soils are deep (>90cm) and generally well drained. The topsoil is moderately deep, dark yellowish brown silt loam (average 22.5cm) and overlies a pale subsoil (30cm light olive brown) which is friable with weakly developed structure. Below this, is predominantly unweathered loose fine to coarse sand.  
<https://iris.scinfo.org.nz/layer/48128-soils-of-karamea/>
- 5.5** Despite being deficient in lime, these Karamea soils have high natural fertility, although continued fertiliser & lime application is required for successful agricultural production.
- 5.6** The pastoral landscape is dominated by paddocks that have been modified by “Humping and Hollowing”, a technique involving re-contouring the land into a wide corrugated surface to stop soil saturation and reduce the risk of soil pugging.
- 5.7** Karamea soils are moderately acidic and can be naturally as low as 4 - 4.5pH.  
<https://digitallibrary.landcareresearch.co.nz/digital/collection/p20022coll7/id/105/>
- 5.8** Karamea's climate is classified as warm and temperate with an average annual rainfall of 2650mm. <https://en.climate-data.org/oceania/new-zealand/west-coast/karamea-274557/>
- 5.9** Lime is a soil conditioner, when applied to pastoral land it lifts soil acidity (pH). By increasing soil pH the soil becomes more active and optimises the availability of other important nutrients, increases in earthworm activity, improves soil

structure, and grass is more palatable to livestock. <https://ioqnz.co.nz/uploads/Lime%20%20The%20Essential%20Element%20Book.pdf>



**Figure 2.** *Karamea agricultural land with KLW quarry in the distance.*

**5.10** Some plants simply do not grow well with a low pH, they are not adapted to grow with low calcium and or high aluminium (present in low pH soils) which in high concentrations prevents root elongation. Low pH soils also reduces soil organisms that activates nitrogen fixating bacteria, bacteria that converts ammonium to nitrate and organisms that break down organic matter.

**5.11** Lime from the Karamea Lime Works (KLW) has been tested to be particularly pure with its calcium carbonate content measured to be 89.6%. Lime application rates are conventionally 1 tonne per 1 hectare which will lift soil pH by .1 unit.



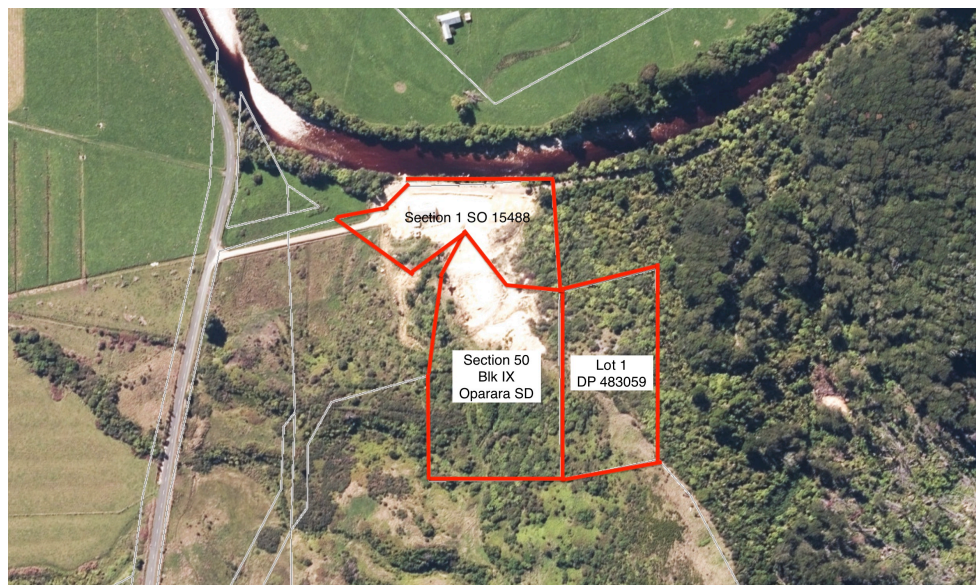
**Figure 3.** Karamea agricultural land with Kahurangi National Park in the background.

## 6. Description of the site and locality

**6.1** The Karamea Lime Works on Fenian Road is clearly identifiable with a terraced whitish cream cut steep slope facing north. The foot of the slope is approximately 20m asl (above sea level) and it is approximately 100m asl at the top. At the foot of the slope there is the working infrastructure of the lime works, including the crushing plant, storage shed and site office. There are numerous piles of crushed limestone surrounding the plant in preparation for further processing. The cut face has been terraced so as to access the different levels of the quarry. The quarry is surrounded by regenerating vegetation, predominantly native on the east side and gorse on the west. The area does not appear to be grazed.

**6.2** The Karamea Lime Co Ltd have ownership of and are responsible for three separate titles of land (see figure 4.)

1. Section 1 SO 15488 consists of 0.7840 hectares is presently zoned Mineral Extraction Zone in the proposed TTPP. It is predominantly the foot of the slope and accommodates the working infrastructure of the lime works including the crushing plant loading facility, the crushed material storage shed, the site office and numerous piles of crushed lime throughout the area. There is minimal vegetation within this section except for some regenerating plant species on the east and west fringes. The northern boundary appears to be along the southern bank of the Oparara River. Therefore Fenian Road, public access, presumably transects the section.



**Figure 4.** Aerial view of the 3 land titles owned by the Karamea Lime C Ltd.  
([gis.westcoast.govt.nz](http://gis.westcoast.govt.nz))

2. Section 50 Blk IX Oparara SD consists of 1.5302 hectares is Quarry Reserve NZGZ 1892 p625 (SO 4583) and is presently zoned Mineral Extraction Zone in the proposed TTPP. Approximately 1/3 of this title is the north facing cut face of the quarry. The remaining area consists of access tracks to the six, or so, cut terraces of the quarry face. The area within Section 50 is dominated by regenerating vegetation, including gorse, and rank grass. The area does not appear to be grazed.
  3. Lot1 DP 483059 consists of 1.0822 hectares and is presently zoned General Rural Zone in the proposed TTPP. This title area remains undisturbed by quarrying activities and is covered with regenerating native plant species. The ridge-line above the cut quarry face continues above and appears to be the dividing line from more recently cleared (the western slope) and less recently the eastern slope of native vegetation. The ridge-line itself does not contain much tree or shrub vegetation, possibly because of the lack of topsoil, and the western slope has regenerating native coming through the gorse and other weed species. The eastern slope is more densely covered in native regenerating plant species and would appear to have been less recently cleared and or logged.
- 6.3** Presently the lime works operates for 8 months of the year generally the months that coincide with on-farm cultivation work in preparation for the following seasons feed crops or pasture renewal. Then in the other 4 months when required. The quarry does not commence crushing proceedings until after 7:00am for audible consideration of neighbouring or nearby residents.

## **7. Methodology**

**7.1** I have assessed the site with reference to the Te Tangi a Te Manu - Aotearoa New Zealand Landscape Assessment Guidelines document prepared and published by the New Zealand Institute of Landscape Architects. However, this is not a landscape assessment for a resource consent application, it is a characterization of the site for the purpose of determining which landscape overlays should apply to the site within the proposed Te Tai o Poutini Plan.

**7.2** An Outstanding Natural Landscape (ONL), as defined by the NZILA Practice Guidelines, is 'a natural landscape that is particularly notable at a local, district, regional or national scale'. The NZILA Best Practice Guidance Note groups these assessment criteria into three landscape attributes:

- Biophysical elements, patterns and processes.
- Sensory or perceptual qualities
- Associative meanings and values (including spiritual, cultural or social associations)

A landscape will be considered outstanding if it is “conspicuous, eminent, remarkable or iconic” within the context of the area concerned.

## **8. Assessing the Landscape’s Character and Values**

**8.1** Landscape character is an expression of the landscape’s collective attributes and values and are the reason a landscape is valued and embodied in attributes. Effects are the consequences for a landscape’s values of changes to those attributes on which the values depend. Landscape values are managed through management of such attributes.

**8.2** Landscape character is more than purely physical elements but is additionally associative and perceptual dimensions.

**8.3** Landscape values are the reason a landscape is valued, the aspects that are important, special, or meaningful. They could relate to the physical condition of the landscape and the meanings associated with certain physical attributes and their aesthetic attributes. Every landscape has values and those values will depend on who lives within, and or, visits them. Landscape values include potential values as landscape management is not limited to the status quo but includes the realisation of potential values from the restoration of degraded landscapes.

### **8.3.1 The broad scale landscape**



**8.3.1.1.** The coastal landscape of the Karamea district is a gradual undulating plain with contiguous forest covered hills in the background, those of the Kahurangi National Park. The broad sandy beach is accessible in places, fishing by surfcasting and the occasional surfer are activities seen on the open, exposed Tasman Sea coast.

**8.3.1.2.** Large shell middens have been found on the coastal fringes, possibly dating from the 1400 -1600's. The evidence suggests that the area was visited by Maori as a temporary stopping place en route down the coast to collect pounamu. There is no evidence to suggest Maori permanently occupied the area.

**8.3.1.3.** Permanent European settlement occurred in the 1870's following gold mining in the area a decade earlier by transient Europeans and Chinese. The settlers first task was to clear the boggy, waterlogged, infertile land which they had been allotted by the Special Settlement Area scheme administered by the Nelson Provincial Government.

**8.3.1.4.** There was a working port at the mouth of the Karamea River where logs, and later dairy produce, left from. This became non-functioning as a consequence of the 1929 Murchison Earthquake which significantly altered the mouth of the river as well as damaging the wharf and wharf sheds.

**8.3.1.5.** The land towards the hills is dominated by pastoral managed grassland with groupings of trees. Some of these woodlands appear to be pockets of remnant native forest as well as introduced species providing livestock shelter and shade. Much of the pastoral land has been modified by "Humping and Hollowing", where the land has been re-contoured into a giant corrugated-iron pattern. This allows for surface run-off, during rain events when water drains away more quickly and prevents 'pugging', the heavy trampling of the soil and pasture by grazing livestock. Dairy farming and the structures associated with this land-use are evident from the coast to the foothills. These include houses, dairy milking sheds, feed storage facilities and ancillary buildings.

**8.3.1.6.** The Oparara and Karamea Rivers collect water from various smaller streams as they meander across the Karamea Plain. They both feed large tidal estuary areas before flowing into the Tasman Sea.

**8.3.1.7.** There is evidence of small areas of market gardening although high transport costs make this commercial activity difficult. Tomatoes and tamarillos are grown commercially, a reflection of the mild and frost free climate.

**8.3.1.8.** Although agriculture, predominantly dairy farming, is the main use of the land, there is an increase in people who have come to the Karamea area for

lifestyle reasons. There appears to be a growing number of recent (past 20 years) migrant people who have chosen to settled for climatic, freedom, access to outdoor activities, and isolation choices.

**8.3.1.9.** It is 3.5km from the coast to the Karamea Lime Quarry. The cut hillside is not visible from the coast as it is screened by the ridge on the northeast corner of the quarry. The cut access tracks on the west facing quarry slope are barely visible because of the distance away and trees. They become more obvious at closer distances although are obscured by regenerating vegetation.

**8.3.1.10.** Overall the scene is one of pleasantness, the agricultural land appears well cared for by those who are responsible for its stewardship.

**8.3.1.11.** The Karamea Lime Quarry with reference to the broad landscape's biophysical elements, patterns and processes, sensory and or perceptual qualities as well as associative meaning do not validate Outstanding Natural Landscape (ONL) categorization.



**Figure 5.** Image indicative of the broad scale landscape.

### **8.3.2 The intermediate landscape**

**8.3.2.1.** The intermediate landscape is that assessed within a 1km radius of the Karamea Lime Works.

**8.3.2.2.** The flat land area is dominated by managed pastoral grassland that is fenced into grazing paddocks modified by contouring “Humped & Hollowed” as described above.

**8.3.2.3.** The steep hillsides are ungrazed, and are native forest covered. It appears this is regenerating native and was once perhaps logged or burned for the intent of grazing.

**8.3.2.4.** The Oparara River meanders through the landscape and is fenced from livestock access. The riparian edges are heavily vegetated and the tea coloured river water is from naturally occurring tannins coming out of upstream plants and plant debris .

**8.3.2.5.** There are numerous dwellings, (approximately 10) within this area that are surrounded by shelter and amenity plantings and are accessed from Oparara Road.

**8.3.2.6.** The sealed but narrow roadsides are covered with thick vegetation, bracken fern, regenerating native broadleaf species and the bright orange flowering *Crocasmia* / Falling Stars.

**8.3.2.7.** The quarry face comes into view travelling east on Oparara Road and when the crushing plant is operating dust is visual.

**8.3.2.8.** The Karamea Lime Quarry with reference to the intermediate landscape's biophysical elements, patterns and processes, sensory and or perceptual qualities as well as associative meaning do not validate Outstanding Natural Landscape (ONL) categorization.



**Figure 6 & 7.** Images indicative of the intermediate scale landscape.

### **8.3.3 The immediate landscape**

**8.3.3.1.** The immediate landscape is that within a 150m radius of the quarry site.

**8.3.3.2.** Visually the scene is dominated by the cut face of the lime quarry and the structures associated with the processing of the raw material to fine, spreadable lime. There are no residential dwellings within this area.

**8.3.3.3.** Vehicular access into and out of the site is off Fenian Road. Fenian Road is unsealed and passes immediately adjacent to the site on the north side, on the south bank of the Oparara River.

**8.3.3.4.** There is regenerating vegetation on each side of the cut face. On the east side it is predominantly native and / or native growing through gorse. On the west side it is gorse and grass. The access tracks that cut across the northwest slope provide access to the various level platforms within the quarry.

**8.3.3.5.** The cut face of the quarry is to the north. The cream - light tawny colour of the cut face is a contrast to the surrounding, various shades of green, vegetation.

**8.3.3.6.** The Karamea Lime Quarry with reference to the immediate landscape's biophysical elements, patterns and processes, sensory and or perceptual qualities as well as associative meaning do not validate Outstanding Natural Landscape (ONL) categorization.

**8.3.3.7.** The Te Tai o Poutini Plan - Landscape Report by Bridget Gilbert - Jan 2024 has been reviewed while compiling this report as has the NZILA Best Practice Guidance. I have assessed the landscape of the Karamea Lime Works and find I am in agreement with the Bridget's findings and that the land should not be categorised as an Outstanding Landscape (ONL).



**Figure 8 & 9.** *Images indicative of the immediate scale landscape.*

## **9. Responding to Statutory Requirements - New Zealand Coastal Policy Statement**

### **9.1 Policy 1: Extent and characteristics of the coastal environment**

**9.1.1.** I recognise that the extent and characteristics of coastal environments vary from region to region and locality to locality, and the issues that may arise may also have different effects in different locations.

**9.1.2.** It is questionable that the Karamea Lime Quarry be categorised within the NZ Coastal environment as currently identified in the Te Tai o Poutini Proposed Plan. I suspect that the mapping documentation has been prepared at a macro scale and therefore further assessment at a micro scale is deemed necessary.

**9.1.3.** The quarry is not in a coastal marine area or where coastal processes influence or qualities are significant. The quarry is not at risk from coastal hazards and coastal vegetation or the habitat of indigenous coastal species including migratory birds.

**9.1.4.** Elements and features of the quarry that contribute to the natural character, landscape visual qualities or amenity values cannot be described as coastal. Likewise, items of cultural and heritage in the coastal marine area or on the coast seem valid to this specific location. Inter-related coastal marine and terrestrial systems, including the intertidal zone and / or physical resources and built facilities, including infrastructure that have modified the coastal environment additionally do not seem valid reasons for the quarry to be mapped within the coastal environment area as shown on Map 7 of the Te Tai o Poutini Proposed Plan, see below Figure 10.

**9.1.5.** As I have noted above, the quarry and its immediate surroundings do not meet the requirements of High Natural Character, Outstanding Natural Character or an Outstanding Natural Landscape as is shown on Map 7 of the Te Tai o Poutini Proposed Plan.

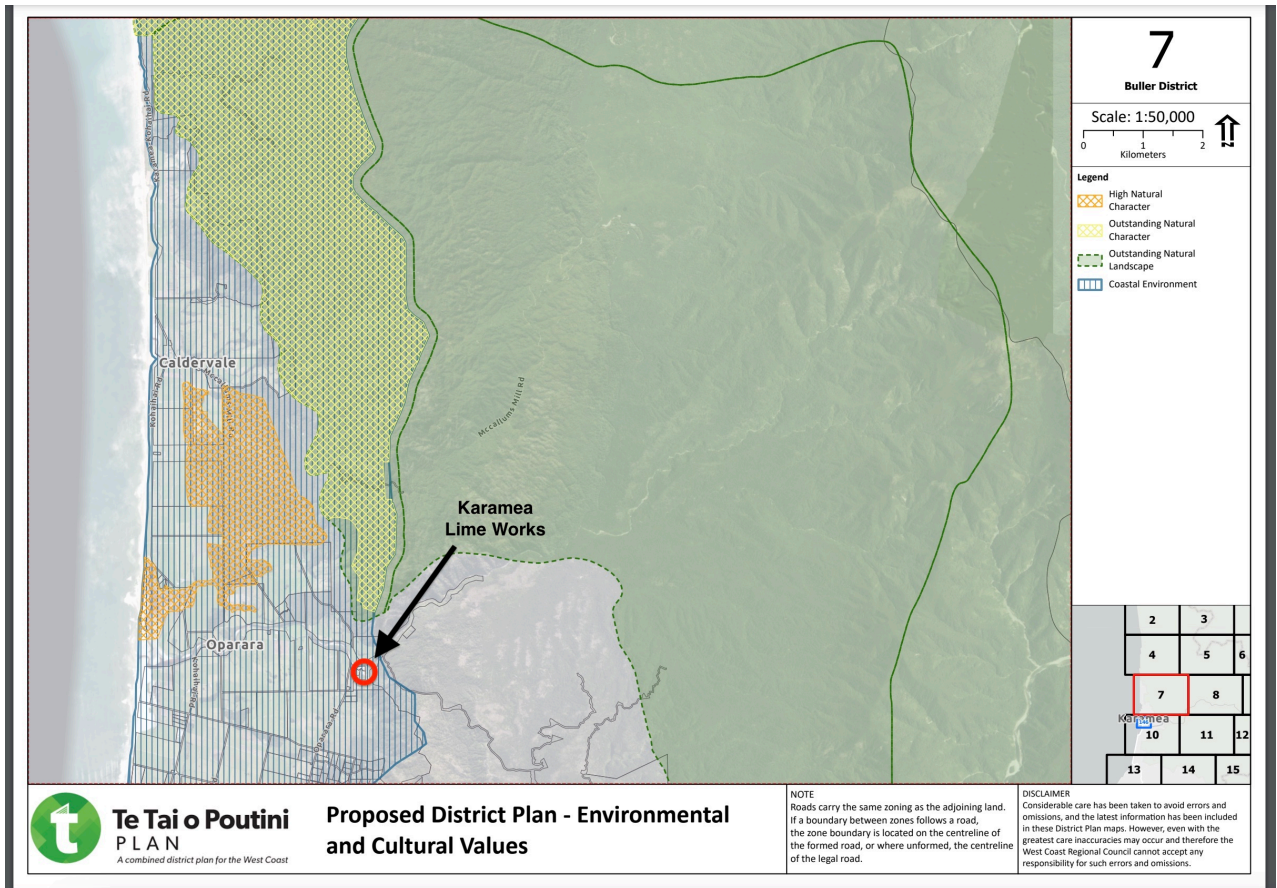


Figure 10. Map 7 showing location of Karamea Lime Works. <https://tpp.nz/wp-content/uploads/maps>

## 10. Conclusion

**10.1** I was engaged by Karamea Lime Company to assess the site in terms of the proposed Te Tai o Poutini Plan overlays that may apply to the site in light of submissions made seeking an ONL overlay being applied, and Karamea Lime Company's concerns about the extent of the coastal environment overlay.

**10.2** It is my professional opinion that the Karamea Lime Works is not in the coastal environment and therefore the current proposed TTPP map should be amended to show otherwise.

**10.3** It is also my opinion that the Karamea Lime Works area is not an ONL, and the ONL overlay should not apply to this site.

**Leicester Murray**

Dated this 12th day of February 2024