

Archaeological Assessment of Effects: Ōhou/Ōhau River, Twizel, South Canterbury

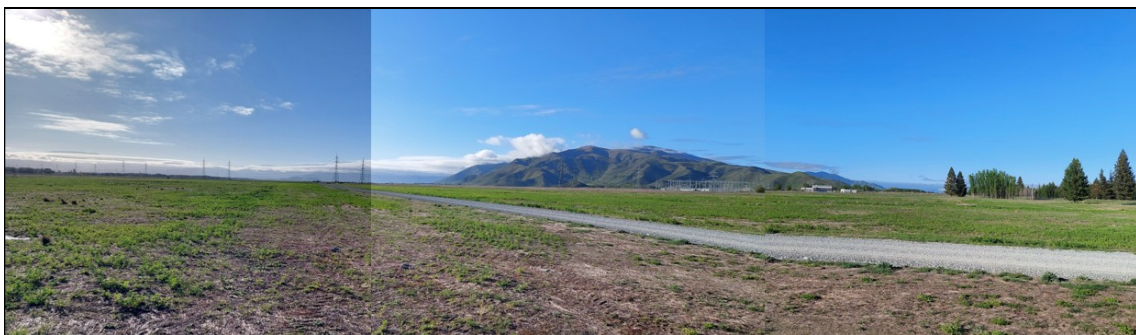
NOVA Solar Plant Project

Commissioned by BTW Company

Prepared by Shar Briden

Absolute Archaeology Ltd

11 December 2024
Revised 30 April 2026



View south-east (left) to south-west of the upper terrace true left Ōhou/Ōhau River for the proposed NOVA Solar Plant, Twizel, Te Manuhuna MacKenzie Basin (Shar Briden)

Basis of the report

This report has been prepared for Nova Energy Limited in respect of its application for all approvals under the Fast-track Approvals Act 2024 for the Twizel Solar Plant. The Panel appointed to consider the application for the Twizel Solar Plant may rely on this report for the purpose of making its decision under the Fast-track Approvals Act 2024.

The author has read the Expert Witness Code of Conduct set out in the Environment Court Practice Note 2023. The author has complied with the Code of Conduct in preparing this report. The content of the report is within the authors area of expertise and the author has not omitted to consider material facts known to them that might alter or detract from the opinions expressed in the report.

Executive Summary

NOVA propose to install a Solar Plant on the true left (north bank) of Ōhou/Ōhau River, Twizel, Te Manuhuna MacKenzie Basin (cover page). Figure 1 shows the boundary of the proposed solar plant c. 1.2km south-east of Twizel. The land parcel under consideration lies within the rohe (work area) of three Papatipu Rūnanga: Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki.

Summary of results

Areas within the land parcel proposed for the NOVA Solar Plant considered to be of interest (most likely places to hold sites) by the Project Archaeologist (Shar Briden, Absolute Archaeologist) and rūnanga representatives (Table 1: Appendix 1) were surveyed, photographed and mapped by the project archaeologist.

Although the wider area has a known history of cultural and historic use throughout the 19 – 21st Centuries no cultural, archaeological or historic sites were identified on the land block during the site survey.

Summary of recommendations

As there are no cultural or historic sites recorded on this land parcel or within 100m of the proposed earthworks it is recommended the NOVA Solar Plant Project operate under an Archaeological Management Plan (AMP) with a process laid out for any features or finds that may become apparent during the works.

It is recommended that the Project Archaeologist carry out an induction of contractors and supervisors that includes a presentation with hands on materials to help with recognition and identification of cultural and historic features, taonga/artefacts and faunal remains that may become uncovered during the proposed works.

The Archaeological Management Plan (AMP) is provided as Attachment A along with the necessary agency contact details in the event cultural or historic sites, features or material is uncovered during the works.

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1 Introduction

The purpose of this report is to assess cultural and heritage values that may be present on the land parcel proposed for installation of a solar plant by NOVA. This report provides a brief history of the area and an assessment of effects for the proposed NOVA Solar Plant along the true left of Ōhou/Ōhau River at Twizel, Te Manuhuna Mackenzie Basin, South Canterbury.

The Archaeological Management Plan (AMP) is included in Attachment A outlining site management around earthmoving activities and the process to follow if historic and/or cultural material or features are uncovered during the works.

1.1 Location and scope of work

Figures 1 - 2 show the location of the project site that extends south-east from the main highway (Tekapo Twizel State Highway) for c.8km to the confluence of Ōhou/Ōhau River and Wakatipu Twizel River. The parcel area is c.1.4km wide covering just over 868ha that lies c.1.4km south-west of Twizel in Te Manuhuna Mackenzie Basin.

Table 2 (Appendix 2) provides GPS coordinates to locate areas surveyed by the mapped GPS Identifier for the proposed NOVA Solar Plant.



Figure 1. Location of the proposed NOVA Solar Plant (red circle), Ōhou/Ōhau River, Twizel, Te Manuhuna Mackenzie Basin (Toitū Te Whenua/LINZ)

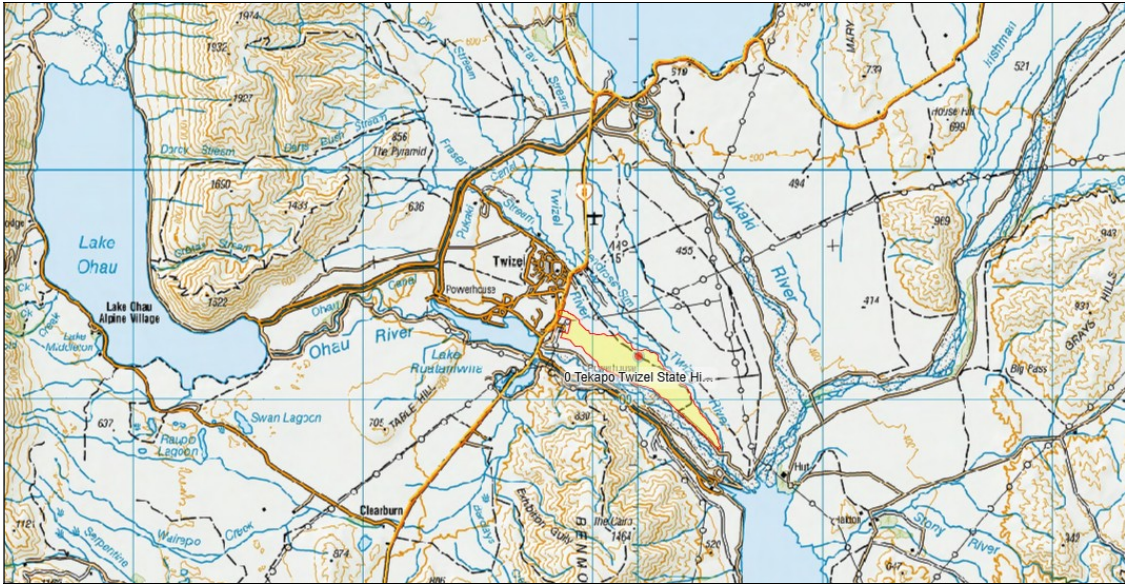


Figure 2. Location and boundaries of the land parcel (yellow block bounded in red), Lot 3 Deposited Plan 422901 (Land Title Identifier 489342: Prover)

1.2 Legal description

The legal details of the land parcel under consideration: Lot 3 Deposited Plan 422901 (Land Title Identifier 489342: Prover), Canterbury (Figure 3). The land lies within the boundaries of Mackenzie District Council and Environment Canterbury Regional Council.

The current owners are listed as TGL Farms Limited which is a subsidiary of Todd Corporation as is NOVA. The land is currently managed under a farm lease arrangement with a third party (TODD 2024: 7).

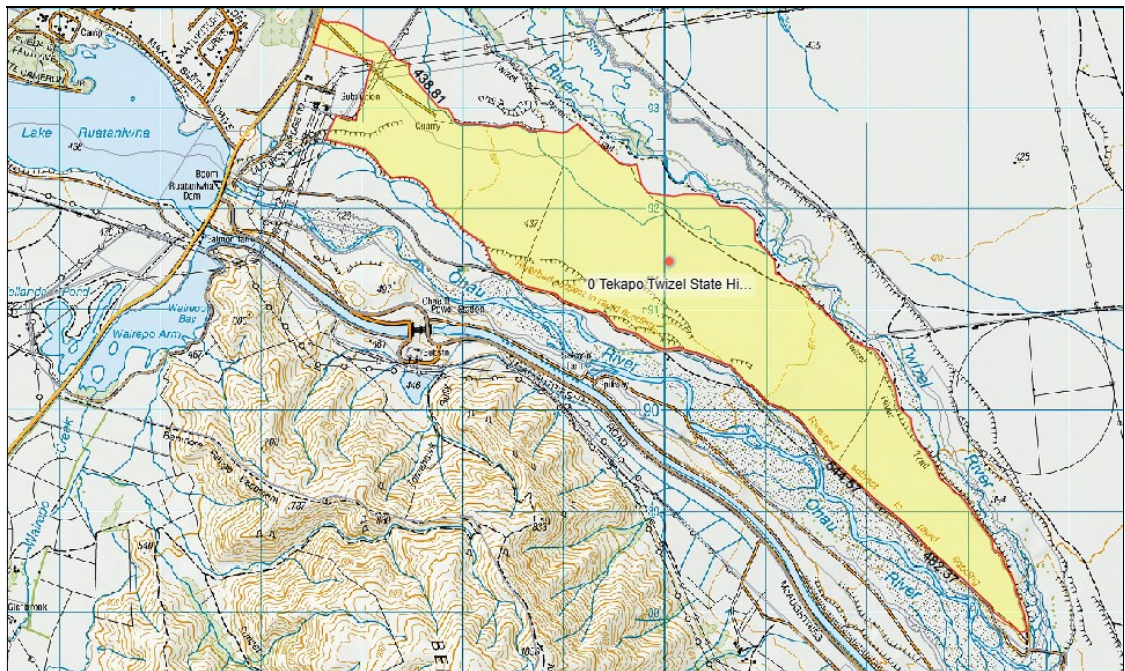


Figure 3. Land parcel proposed for the NOVA Solar Plant: Lot 3 Deposited Plan 422901 (Land Title Identifier 489342: Prover), Canterbury

2 Statutory Requirements

There are two main pieces of legislation in New Zealand that control work affecting archaeological sites. These are the *Heritage New Zealand Pouhere Taonga Act 2014* (HNZPTA) and the *Resource Management Act 1991* (RMA)

Heritage New Zealand administers the HNZPTA. It contains a consent (authority) process for any work affecting archaeological sites, where an archaeological site is defined as:

Any place in New Zealand, including any building or structure (or part of a building or structure), that -

- a. Was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
- b. Provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
- c. Includes a site for which a declaration is made under section 43(1)

Any person who intends carrying out work that may modify or destroy an archaeological site, must first obtain an authority from Heritage New Zealand. The process applies to sites on land of all tenure including public, private and designated land. The HNZPTA contains penalties for unauthorised site damage or destruction.

The archaeological authority process applies to all archaeological sites, regardless of whether:

- The site is recorded in the NZ Archaeological Association Site Recording Scheme or included in the Heritage New Zealand List,
- The site only becomes known about as a result of ground disturbance, and/ or
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted

Heritage New Zealand also maintains the New Zealand Heritage List/ Rarangi Korero of Historic Places, Historic Areas, Wahi Tupuna, Wahi Tapu and Wahi Tapu Areas. The List can include archaeological sites. Its purpose is to inform members of the public about such places.

The RMA requires City, District and Regional Councils to manage the use, development, and protection of natural and physical resources in a way that provides for the wellbeing of today's communities while safeguarding the options of future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (section 6f).

Historic heritage is defined as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities.

Historic heritage includes:

- historic sites, structures, places, and areas
- archaeological sites;
- sites of significance to Maori, including wahi tapu;
- surroundings associated with the natural and physical resources (RMA section 2).

These categories are not mutually exclusive and some archaeological sites may include above ground structures or may also be places that are of significance to Maori.

Where resource consent is required for any activity the assessment of effects is required to address cultural and historic heritage matters (RMA 4th Schedule and the district plan assessment criteria).

3 Methodology

This archaeological assessment involves both desktop research and a site survey carried out 6 November 2024 by the author Shar Briden (Archaeologist, Absolute Archaeology Ltd) accompanied by [REDACTED] who described the proposed mahi/work.

Six Papatipu Rūnanga representatives attended the site survey: Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki along with two representatives from Aukaha (Dunedin) who look after rūnanga interests in Otago. Further representatives from NOVA and BTW Company Ltd were also on site during the survey. Those representatives are listed in Table 1 (Appendix 1).

Areas considered more likely to hold cultural sites within the bounds of the solar plant that were proposed for modification were walked over. These areas included the base of the slopes of the upper terraces (north and south), the most southern area of the terrace at the confluence of the Ōhou Ōhau River and Wakatipu Twizel River, and alongside the wetland areas on the north boundary. Figure 4 shows GPS identifiers for locations of features of interest.

Desktop research has provided some of the history of Ōhou/Ōhau River and the surrounding area within Te Manuhuna Mackenzie Basin. The types of sources searched included: Property land title (Prover: Custom Software Ltd), Kā Huru Manu Mapping, Archives NZ, Heritage NZ, NZAA Site Recording Scheme (ArchSite), published books, archaeological reports and a geotechnical report on the land parcel.

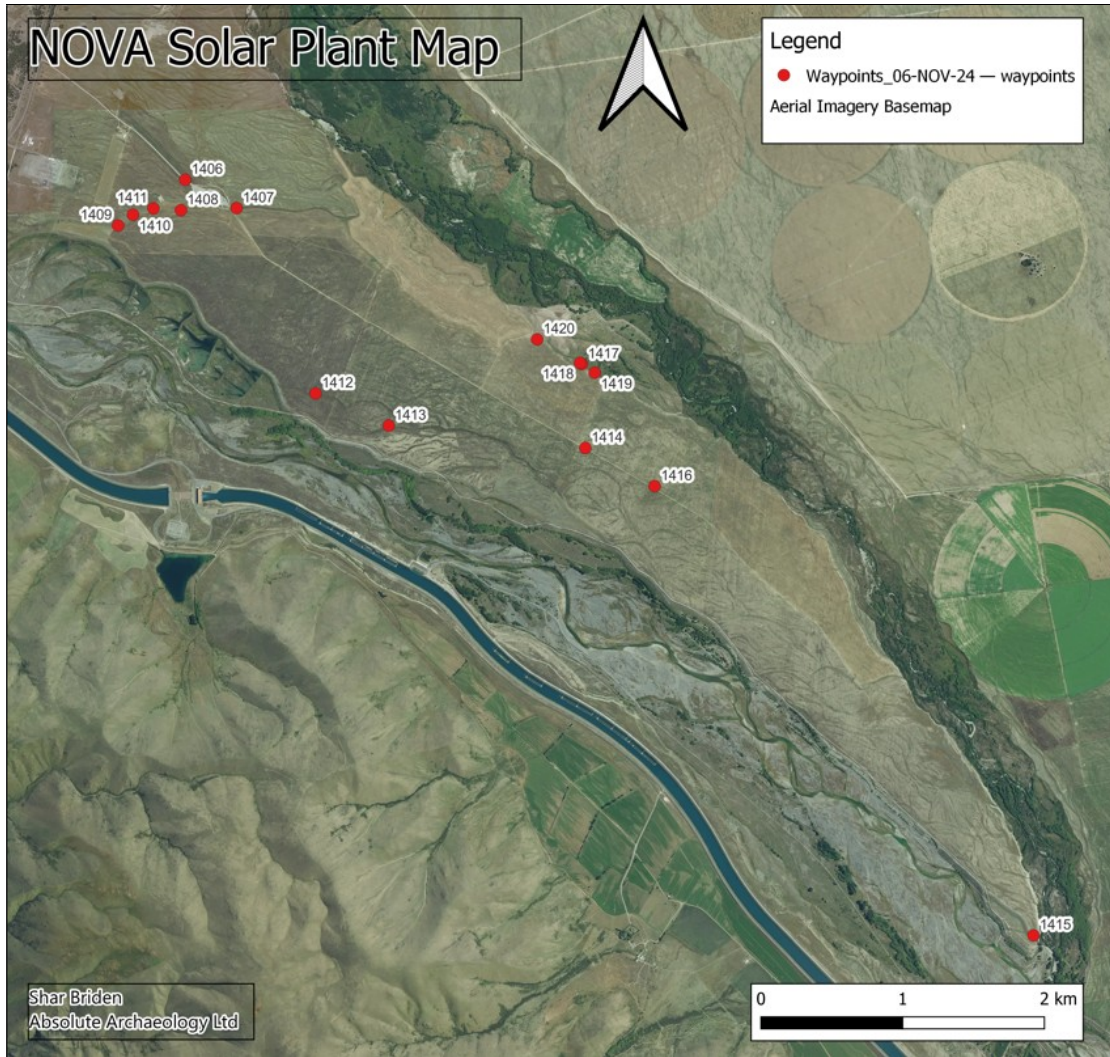


Figure 4. GPS identifiers for features of interest

4 Physical Environment or Setting

The work envelope for the NOVA Solar Plant is located on river terraces on the true left bank of Ōhou/Ōhau River south-east of the main highway (Tekapo Twizel State Highway – State Highway 8). The land is bounded by Crown land on the north (Wakatipu Twizel River) and on the south by Ōhou/Ōhau River and Meridian Energy Limited Hyrdo-electricity scheme. The topography of the terraces is extremely flat ground sloping more steeply on the south side towards the Ōhou/Ōhau River (Plate 1). Plate 2 shows the topography of the upper terrace viewed north towards the main highway. Wetland areas lie along the north boundary of the land block true right bank of Wakatipu/Twizel River (Plate 3).



Plate 1. Pan view south-east (left) to west over lower terrace true left of Ōhou/Ōhau River. Upper terrace to right out of view looking north-west towards the main highway (Tekapo Twizel State Highway).



Plate 2. View north-west (left) to north of upper terrace topography towards the main highway. Ōhou/Ōhau River to far left



Plate 3. Pan view north-west (left) to east over wetland area true right of Wakatipu Twizel River. Upper terrace to left (west) looking north-west towards the main highway.

EDC (Engineering Design Consultants Ltd) were commissioned to provide a Geotechnical report by Todd Corporation for the NOVA Solar Plant dated 2021. The underlying geology of the terraces is described in the EDC report (pages 5-8) as Mount John outwash gravel (Q2a) being comprised of sandy fine to coarse gravel with rare cobbles and silt/clay.

The predominant wind is north-west that blows down from Lake Ōhou /Ōhau (TODD 2024: 11). The vegetation originally held within this land block was more than likely tussock grassland. The leases of the Ben Ōhau run, [REDACTED] did not routinely burn off their tussock grassland which saw a severe electrical storm fire in February 1904 that swept unchecked down to the point where the Ōhau River and Wakatipu Twizel River meet (McMillan 2012: 235).

Land use from 1857 was as a pastoral sheep and cattle station as part of the Ben Ōhau run. Barley was grown in the early days by the Frasers who made their own whiskey (Pinney 1971: 53). Oats may have been grown on this land block as [REDACTED] remembers oats being grown on Omahau to be sliced up for chaff for the horses that were the principal farm power into the 1960's. It is not confirmed if lucerne was grown on this block. High Country Rosehip Orchards Limited took over the land block in 2014 (McMillan 2012: 253-256, 260).

The land is currently an operational dry stock farm under a lease arrangement (TODD 2024: 7) that has recently been drilled with grass seed. It is not clear what changes have occurred to the terraces across this land block throughout the past 150 years nor is it known if any buildings were ever constructed within this land block.

The 1991 Ōhau Topographic Map sheet (H38 NZMS260: LINZ/Lands and Survey) shows a small airstrip at the north end of the block. The airstrip does not appear to be still in operation. A drainage channel from oxidation ponds is evident running south-west across the land block towards the quarry on the upper terrace (retrolens aerial SN5225 dated 17 February 1978). This feature is no longer evident and would appear to have been filled in.

The EDC Geotechnical report mentions there could be unrecorded rubbish pits on the land block (page 11).

5 Historical Background

The block of land under assessment lies alongside the true left bank of Ōhou/Ōhau River, Twizel, south of the main highway (SH8) where it crosses Ōhou Ōhau River down to the confluence with Wakatipu Creek Twizel River. The area has a well-known history of Māori use of the land and its resources with the rivers and terraces well-travelled tracks into the mountains and lakes and by the occupation/camping sites and rock shelters containing rock art recorded along this river. Taylor (2001: 94) notes that Tamatea the explorer of six centuries ago travelled to the West Coast from Lake Ōhou/Ōhau via the Hopkins and Huxley Rivers.

Lake Ōhou/Ōhau is noted by Taylor (2001: 93-94) as meaning *place of wind* (Excerpt 1) where a Ngāti/Kāti Mamoe pa was located on the shores c.1750. The excerpt below describes an attack on this settlement by Ngāi Tahu Chiefs and retaliation by the Ngāti/Kāti Mamoe occupants.

At Lake Ohau (*place of wind*) about 1750 A.D. stood a Ngati Mamoe Pa. This settlement was attacked by a section of the Ngai Tahu Tribe led by chiefs Te Kaimutu and Tawhiri ruru. They managed to kill Pohowera and others. Te Rakitauhopo the son of Pohowera gathered together his friends and they slew both Te Kaimutu and Tawhiri ruru. The Ngai Tahu decided to even up matters, and a taua was sent to Ohau, which proved successful. Te Rakitauhopo was slain by a spear thrown by a Ngai Tahu lad named Kaunia, just as the Ngati Mamoe chief was escaping. Mr Herries Beattie

informed me that the lad's reward was permission to marry Te Hau Maiia, the grand-daughter of Kaweriri (*this chief was slain in battle in Southland by the Ngati Mamoe chief Tutemakohu*). The traditional wanderings of Tamatea the explorer of six centuries ago included a trip to the West Coast from Lake Ohau—the route being from Lake Ohau via the Hopkins River, Huxley River, over the pass, down to the Otoko River and on to its junction with the Paringa River, following that stream to the coast. Opokia was an old time kainga at the south eastern shores of Lake Ohau, Te Wakapapa was another village in the same locality, and Rua taniwha is Ben Ohau.

Excerpt 1. Attack on the Ngāti/Kāti Mamoe pa site at Lake Ōhou /Ōhau (Taylor 2001: 93-94)

Takerei Norton (2003: 3) provides information on cultural values of the Ōhou/Ōhau area in the Bendrose Pastoral Lease Tenure Review Property Report. Ōhou/Ōhau was traditionally occupied by descendants of Te Rakitauhope and was the site of several battles between Ngāi Tahu and Ngāti Mamoe. There are pā sites and eel weirs at the neck on the north side of Lake Ōhou /Ōhau with posts still visible in the lake late 1880's (Norton 2003: 4).

Taylor (2001: 94) mentions that Opokia Opakia was an old time kainga (settlement) on the south-east shores of Lake Ōhou Ōhau with another village in the same locality, Te Wakapapa Whakapapa. Lake Ōhou Ōhau was a known mahinga kai area and part of the Kai Tahu seasonal food gathering patterns renowned for tuna (eels) and weka that were preserved for the winter months (Ngāi Tahu Kā Huru Manu Atlas 2023, Norton 2003: 3-4). Whānau from Arowhenua travelled to Lake Ōhou Ōhau as late as the Second World War to gather and preserve tuna/eels to send to their men in the 28th battalion. They camped on the northside under the shadow of Te Maiharoa's mountain, Ben Ōhou Ōhau. There were once large areas of wetlands present around the lake and streams that provided optimal habitat for wading fowl and water birds including whio/blue duck.

Lake Ōhou /Ōhau supported Te Maiharoa and his followers in the 1870's when they took occupation of land in the interior in protest against the Crown's failure to honour the 1848 Canterbury Purchase (Norton 2003: 6).

Lake Ōhou /Ōhau is recognised as a Statutory Acknowledgment Area (Schedule 32) under the Ngāi Tahu Claims Settlement Act 1998 (Ngāi Tahu 1999: 19-20).

Rua taniwha/Ruataniwha is Ben Ōhau located on the south-west shore of Lake Ōhou/Ōhau. ██████ ██████ sketched the village of Te Ruataniwha in 1848 (Figure 5) during ██████ survey to set aside native reserves throughout the Canterbury block. Another village called Rauru (rustling leaves) was located on the east bank of Pukaki River near its juncture with Tekapo River (Taylor 2001: 99).



Figure 5. Drawing of Te Ruataniwha by ██████ dated 1848 (Walter Baldock Durrant Mantell [Hon] 1820-1895; ██████ active 1842-1852). Ref E-334-051: Alexander Turnbull Library (</records/23111853>)

Te Pā-o-Kāti-Kurī Mount Maggie located on the north-east shore of Te Ao Mārama Lake Benmore is considered by local iwi to be a significant kāinga mahinga kai/food gathering place where weka, tuna/eels and kōareare/edible rhizome of raupo were gathered (Ngāi Tahu Kā Huru Manu Atlas 2023).

Taylor (2001: 98) notes rock art present at Te Pire a whakataka kura Goose Neck and at Pari karangaranga Sheppard's Creek. Further records of rock art in the area are noted below in the Previous Archaeological Work section (Section 6).

The Application for Depasturing License for Run 179 Ben Ōhau (Figure 6), Class III, of 20,000 acres is in ██████ name dated 28 April 1857 (Applications under Canterbury Waste Lands Regulations for depasturing Licences PL1-199: CAAR CH290 12555 [R21008506]). ██████ are the first lessees on record in the Lake Ōhou/Ōhau area (McMillan 2012: 230).



Figure 6. Tracing showing Run 179 and Ferry Reserves, Ōhou/Ōhau River and Pukaki River dated 4 September 1878 (Pukaki ferry and bridge: CAAR CH287 19946 [R8420879])

The Ben Ōhau run was sold to [REDACTED] in 1867 and in 1868 [REDACTED] of Melbourne. [REDACTED] joined them in 1870 (Register of exchange of original licenses under Canterbury Association Regulations for license under 1856 Regulations Class III PL1-360 – CAAR CH290 12554 [R21008502]). [REDACTED] bought out his partners for Ben Ōhau in 1874.

Through the 1870's – 1880's a wire and cage was strung across the Ōhou/Ōhau River to gain access across the dangerous river. A sketch of the wire and cage (flying fox) by an unknown artist is shown in [REDACTED] *Frugal Country and hard on the boots* (2012: 19) that has been reproduced courtesy of the William Vance Estate (Figure 7). A bridge was later constructed across the river known as the Ōhau River Bridge completed in 1890 and accessed via Old Iron Bridge Road. A stock reserve was set aside by the bridge but the date is not confirmed.



Figure 7. Sketch of the wire strung across Ōhou/Ōhau River in the 19th Century ([REDACTED] *Frugal Country and hard on the boots* (2012: 19). Reproduced courtesy of the William Vance Estate

Various tragedies occurred as people tried to cross the Ōhou/Ōhau River. [REDACTED] was found dead one morning in his bed after internal bleeding from manhandling a wool bale that was threatening to fall from the wire's cage into the river in May 1879. [REDACTED] was only 45 years old and was a well-respected man in the area with various landmarks named after him: [REDACTED]. Further tragedy again occurred in September 1879 when the Ben Ōhau Manager [REDACTED] was attempting to cross the river in a wagon with [REDACTED] and their two daughters. The vehicle sank into a deep hole, the horses tried to bolt and the wagon capsized. [REDACTED] who was only 28 years old and the eldest daughter were swept downriver and drowned. They were buried by the Ruataniwha Rowing Course where a headstone was placed (Hobbs 2015: 128-131, Wilson 1950: 24, 29).

In 1891 Ben Ōhau was sold to [REDACTED] who had married [REDACTED] in 1889. The License to occupy in October 1892 transferred Run 87 from R. [REDACTED]. [REDACTED] nephew [REDACTED] took over the lease in 1897 (Figure 8 and Appendix 3: PR 426 dated 1892-1919 - CAAY CH134 2949 [R20019312]). The homestead block was still held by J. [REDACTED] in 1969 following the division of Ben Ohau. The remainder of the run is now within Bendrose, Omahau and Ruataniwha (McMillan 2012: 234, MacPherson 2005: 60, Pinney 1971: 50-57, 61).

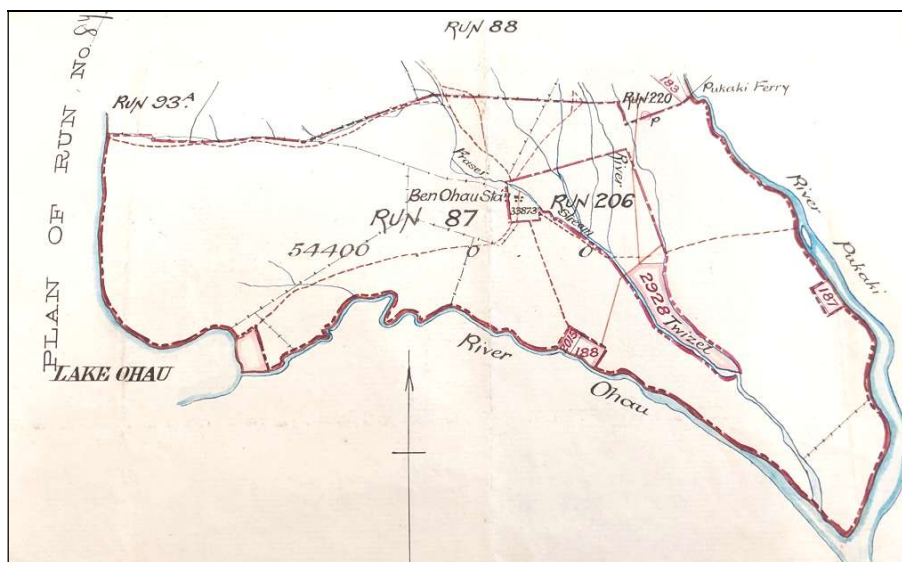


Figure 8. [REDACTED] License to occupy Crown Lands for Pastoral Purposes, Run 87 Ben Ōhau Station dated 1 March 1897 (PR 426 dated 1892-1919 - CAAY CH134 2949 [R20019312]: Archives NZ Christchurch Office)

The Ben Ōhau pastoral lease was subdivided in 1920 with small grazing runs opened up for soldier settlement (P.R. 426 Folio 194 Archives NZ Christchurch Office). The land block under this proposal coincides with Omahau (Section 36868) shown in Figure 9 (CH158/85 Box 3 [R17916164]) and SO 5619 (Appendix 4) drawn by [REDACTED] of Peel Forest in 1920 and later sold to [REDACTED] in 1930 a former manager of Ben Ōhau (Hosken 1964: 98, McMillan 2012: 255-257, Field book [16] page 99: CAAY CH158 [R17916398]).

Land was taken by the Crown from Part Run 292 for a Control Station in 1970 (SO 11398) for Electricity Works at the north end between this property and the main highway.

██████████ daughter ██████████ married ██████████ who took over management of the Omahau Station in 1975. ██████████ went into partnership with ██████████ and her parents 1978. The names of ██████████ are annotated on this block (Pt Run 292 in 'Omahau') on Survey Office Plan (SO) 16914 dated 1987 (Prover: Appendix 5).

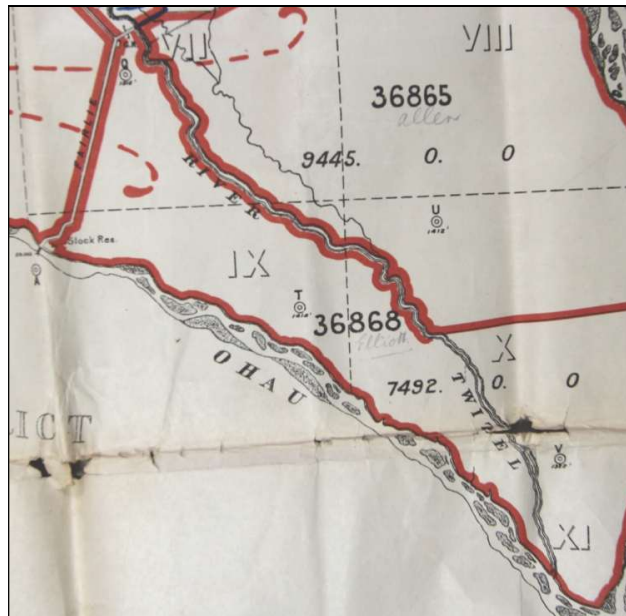


Figure 9. Cropped map of the Ben Ōhau subdivision dated 1919-1920 showing Section 36868 with the name of ██████████ pencilled in (Small Grazing Runs Lease: CH158/85 Box 3 [R17916164]: Archives NZ)

██████████ (2012: 259-260) notes that ██████████ bought Section 36868 and named their property High Country Rosehip Orchards Limited (registered 31 October 1997 and dissolved 1 October 2020). They tried to establish sweetbriar (rosehips) by bringing rootstock from the Omarama area. They transplanted c.115,000 roots to create formalised rose briar orchards which were not a success. An application to Canterbury Regional Council by High Country Rosehip Orchards Limited filed under CRC072233 for a water permit to take and use surface water from the Ohau B Canal near State Highway 8, Twizel, was declined 22 November 2011. The application was to use pivot irrigators in the central part of the land block for rosehips, crops and pasture for sheep and cattle.

The land block was transferred to ██████████ 15 December 2014 (Title 489342). The land was transferred to TGL Farms Limited 4 February 2022 (subsidiary of Todd Corporation).

There is potential for cultural sites to be present in the work envelope. It would be assumed a good camping spot would be on the lower terrace at the base of the slope out of the wind blowing off Lake Ōhou/Ōhau alongside Ōhou/Ōhau River.

6 Previous Archaeological Work

There are no records of archaeological sites held with ArchSite for this land block under this proposal nor any known surveys carried out by archaeologists to record cultural, archaeological or historic sites. There are 5 recorded archaeological sites located within 3.5km of this land block under consideration. Table 3 (Appendix 6) lists these sites and Figure 11 shows their approximate location.

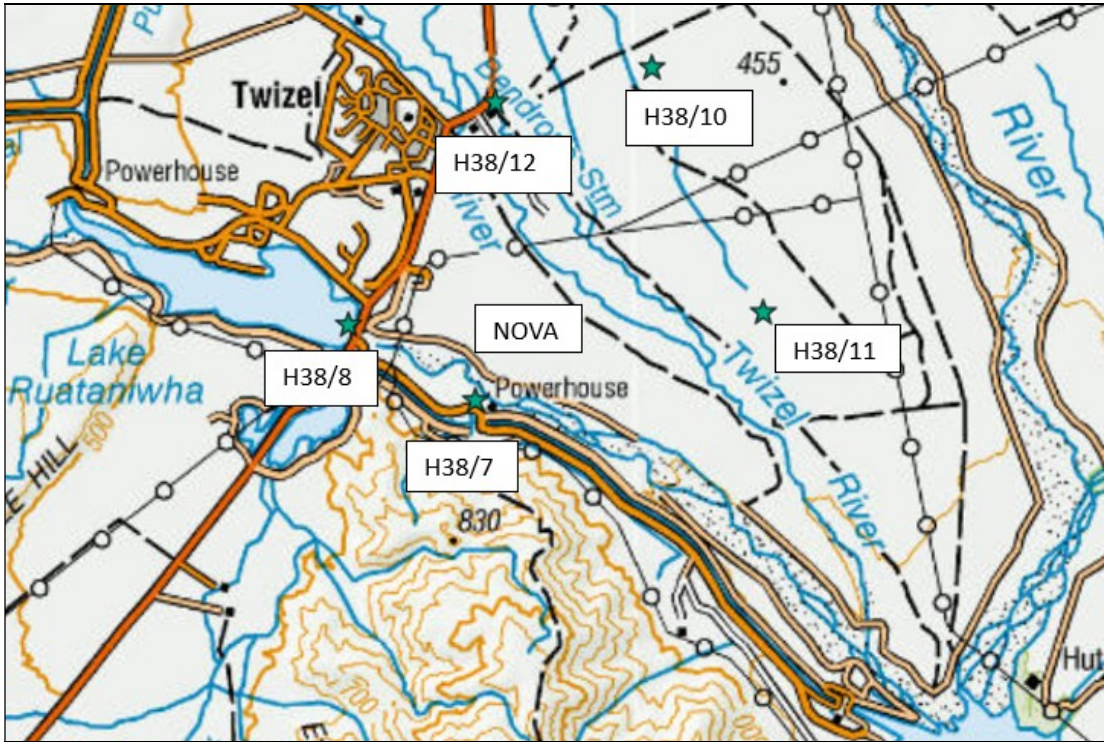


Figure 10. Approximate location of the recorded archaeological sites (green stars) within 3.5km of the proposed NOVA Solar Plant (ArchSite)

A total of 49 recorded archaeological sites are located within 25km of the land block under this proposal (Figure 11). Over half of these sites (55.1%, 27 sites) are related to Māori use/occupation (working area, stone quarry, ovens, rock shelters and rock art) and 44.9% (22 sites) are European sites such as pastoral station buildings/features, fences, roads/tracks, trig stations and an Accommodation House.

Only two of these recorded site records located in close proximity (up to 1.5km) to the NOVA Solar Plant project are included in Appendix 7 (H38/7, H38/8). The closest archaeological site (H38/7) to the land block under consideration is a Māori cultural site located on the opposite bank (true right) of Ōhou/Ōhau River c.80m to the west. This site (H38/7) was first recorded as a working area in January 1969 by Canterbury Museum during the Pukaki Expedition where the river flat narrows and terminates against a higher river bank. The site consisted of various flakes: 17 orthoquartzite, 3 yellow chert and 3 purple grey chert including 2 pieces of a broken slate knife and flakes of red jasper related to an iwi presence on Ōhou/Ōhau River.

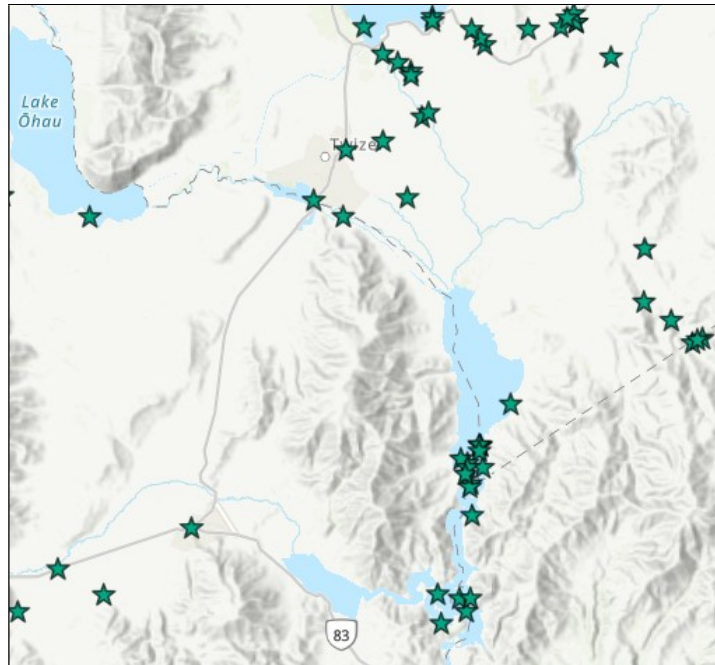


Figure 11. Other recorded archaeological sites located c.25km from the proposed NOVA Solar Plant (ArchSite)

A second Māori site (H38/8) was recorded c.1.5km west just above the main road bridge across Ōhou/Ōhau River at the downstream end of a river before it enters a rocky gorge. This site was partially excavated in 1968 by the Otago Anthropological Society. Mainly small flakes, a broken slate knife and a small amount of shell and charcoal was collected. It is not recorded if the shell was marine shell brought to the site or local freshwater mussel. Both the above sites were reported by [REDACTED] as having been totally obliterated by hydro construction work in February 1982. There are a number of sites of iwi origin around Pukaki and quite a number of rock art sites and rock shelters at Lake Benmore recorded prior to the flooding of the area for the Benmore hydro-electricity project in 1964.

Two trig stations (H38/10 – H38/11) originally constructed in the 1880's are located on Bendrose Station although only one was relocated during the Tenure Review survey by [REDACTED] in 2008 on behalf of the Department of Conservation (DOC). A track/road (H38/12) was also recorded at this time.

There is no record of Heritage NZ having granted any Authorities over this block of land.

7 Research Results

It is not known what modification has occurred to the land during the early pastoral use of the land or by later use by High Country Rosehip Orchards Limited. The land has been run as a sheep farm and Pinney (1971: 54) notes the early Ben Ōhau run was probably stocked with Shorthorn cattle used for pulling the waggons. Ben Ōhau was stocked with 2,600 sheep as at November 1860 (Andersen 1916: 85).

No cultural, archaeological or heritage sites are known on the block of land under consideration in this assessment. There could be sub-surface features or sites present that are not visible above the ground. Areas considered mostly likely to contain cultural sites was walked over by the author and iwi representatives. The only features evident were small round pits but it is not known what or who created these pits. They could have occurred from the removal of shrubs, trees or rosehip (briar) bushes by the previous landowners (GPS 1416, Plate 4).

Small shallow round pits were located on the east side of the land block: one on the upper terrace (GPS 1420: Plate 5) and three on the edge of the upper terrace bordering the wetland areas (GPS 1417 – 1419: Plates 6 - 7). It is possible these pits could be ovens related to Māori use although they could also be the result of shrub or tree removal as piles of woody material is evident across the wetland area following vegetation clearance. None of the pits mentioned above exhibited raised rims as usually seen with ovens but these features could be the base remains of pits after repeated ploughing. It is not confirmed if any of the pits are ovens related to Māori use of the land.

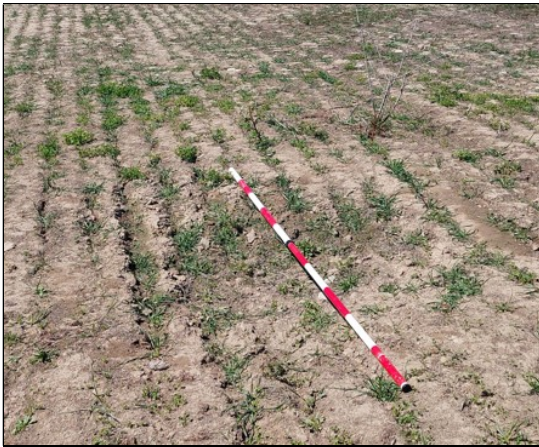


Plate 4. View south to small shallow round pit on upper terrace (GPS 1416). Access track to right out of view.



Plate 5. View north-east to one of two small round pits on the terrace (GPS 1420) above the wetland area (background) on the east boundary.

Small half round pits recorded at the base of the slope below the upper terrace appear to be eroded slumped wet areas as the grass is quite lush on the lower side of the pits (GPS 1409 and 1411: Plates 8 - 9). This area below the lip of the terrace is the ideal place for locating ovens being out of the predominant wind.

One further small round pit was recorded on the lower terrace to the west (GPS 1408: Plates 10 and 12) where a laydown area has been identified (Laydown area B: Plate 12).

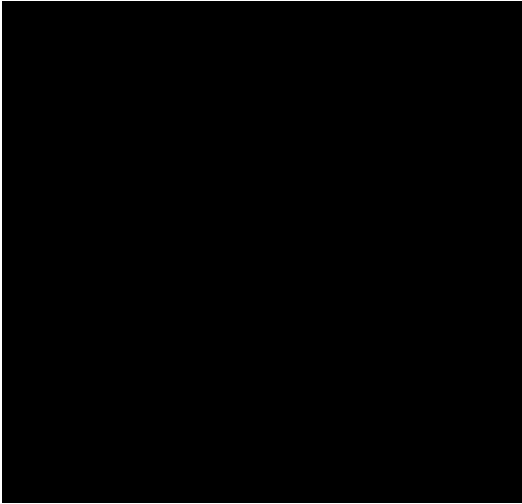


Plate 6. View south-west to small round pit on edge of wetland area (GPS 1418).



Plate 7. View north-west to small round pit within the wetland area (GPS 1419).



Plate 8. View north to shallow pit at base of slope (GPS 1409).



Plate 9. View north to shallow pit at base of slope (GPS 1411).

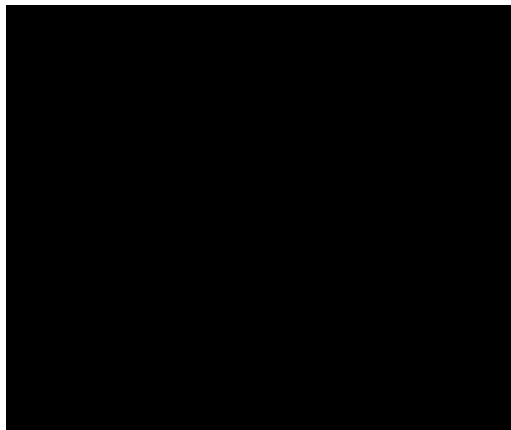


Plate 10. View north to small pit on lower terrace (GPS 1408) and [REDACTED] (BTW Company).

Three laydown areas (A – C) for storage of site materials (solar panels etc) were identified by [REDACTED]

- Laydown area A: top end of site immediately north-west of the SOL Quarries Quarry

operations (GPS 1406: Plate 11)

- Laydown area B: extending along the base of the terrace between GPS 1408 and 1409 (Plate 12)
- Laydown area C: half way south-east along site (GPS 1414: Plate 13).



Plate 11. View south-west (left) to west to Laydown area A (GPS 1406) immediately north-west of the SOL Quarries Quarry operations (far left).



Plate 12. View west to Laydown area B (GPS 1409) at foot of upper terrace. Shallow pit in foreground to left (GPS 1408).



Plate 13. Pan view of Laydown area C halfway along the site (GPS 1414). View east (left) to south-east (access track to right).

1280 shipping containers of plant infrastructure will be transported to the site to the specified laydown areas (NOVA Project Description for the Twizel Solar Plant DRAFT 5 June 2024: 62).

The slope below the upper terrace (between GPS 1412 and 1413: Plates 14 - 15) is proposed to be re-contoured by cut and fill to allow a less steep gradient for installation of solar panels.



Plate 14. View north-west to slope that may be re-contoured by cut and fill (GPS 1412 - 1413).

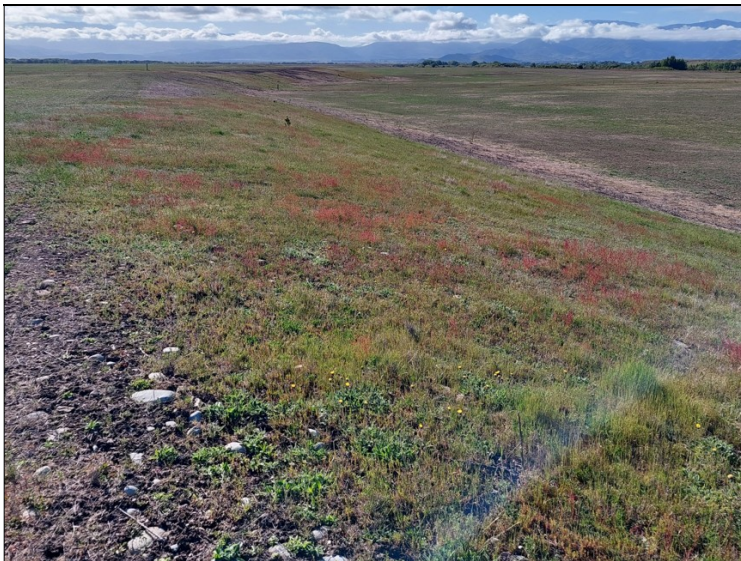


Plate 15. View south-east to slope that may be re-contoured by cut and fill (GPS 1412 - 1413).

GPS 1415 refers to a fish tin and fragments of a brown glass bottle lying on the ground surface at the south extent of the land parcel (confluence of Ōhou/Ōhau River and Wakatipu Twizel River). These items may be from past contractors installing fences or from hikers walking the Twizel River Trail. The trail passes alongside the south-east boundary of this block. There appears to have been a ford crossing the Wakatipu Twizel River below the terrace as concrete slabs and metal components were noted lying on the river bank below the high terrace (east of GPS 1415). One metal pole is still evident sticking up in the river.

Early maps show one trig station recorded on the property: Trig T (Strachey SD) located in the central part of the land block. The mark diagram on the LINZ Geodetic database states the trig was established by [REDACTED] 1884. The mark (Code 4078) was a 2 inch iron tube located on the south-west edge of the terrace. The beacon was removed 2018 and a stainless steel pin inserted and a concrete pad with an ID plaque was constructed 2003.

8 Constraints and Limitations

Cultural layers may be present beneath the ground surface in areas where works are proposed that may only become visible upon earthmoving disturbance.

Māori cultural values may be held in this land block although there is no written record found to date. Iwi representatives from three Papatipu Rūnanga attended the site survey (Table 1: Appendix 1) who will assess and report on cultural values.

9 Archaeological and Other Values

9.1 Archaeological Values

Table 4. Potential Māori archaeological values:

Site	Value	Assessment
Potential for sub-surface archaeological features/taonga to be encountered during the proposed earthworks for construction of the NOVA Solar Plant	Condition	Unknown condition. <i>In-situ</i> lenses may still be extant.
	Rarity/ Uniqueness	Not rare site types although little is known of Māori sites along Ōhou/Ōhau River in Te Manuhuna Mackenzie Basin.
	Contextual Value	Sites may have contextual value as elements of early Māori occupation in South Canterbury.
	Information Potential	There is potential for information to be recovered by archaeological means.
	Amenity Value	Sites would have value for educational and interpretative purposes.
	Cultural Associations	Early Māori.

The wider area is known as a cultural landscape as evidenced by the records of Māori villages, mahinga kai and rock art/rock shelter sites along Ōhou/Ōhau River and around the lakes: Ruataniwha and Lake Ōhou /Ōhau. There is a likelihood that Māori sites or Taonga may be present in the working envelope of the proposed NOVA Solar Plant Project.

Table 5. Potential Historic value:

Site	Value	Assessment
Hypothetical pastoral features/materials may be encountered during works	Condition	No archaeological sites have currently been identified but sites/features may exist sub-surface.
	Rarity/ Uniqueness	Sites/features if identified during works will likely share characteristics with similar sites found elsewhere in the district.
	Contextual Value	Has contextual value as an element of early farming infrastructure in the district.
	Information Potential	There is potential for scientific information on 19-20 th Century farming to be recovered by archaeological means.
	Amenity Value	No amenity value. Any sites/features identified will be sub-surface and likely destroyed or re-buried.
	Cultural Associations	Colonial European.

It is not considered likely that pastoral features will be uncovered during the works.

9.2 Other Values

Māori cultural values may be affected by this proposal which will be addressed by iwi in their cultural assessment report.

Other values may include landscape and visual impacts from the proposed solar panel plant but as no archaeological sites have been identified on the property it is not within the scope of this assessment to address these issues.

10 Assessment of Effects

10.1 Description of proposed works

The proposed NOVA Solar Panel Plant will cover an area approximately 565ha of the 868ha site. The NOVA Project Description for the Twizel Solar Plant (DRAFT 5 June 2024: TODD) provides details of the project along with concept design plans (Solar Farm - Lot 3 DP 422901 Concept Design Drawings NOVA Ltd, Drawing No 210982-02 Revision WD1: BTW Company 2024). Details below were confirmed by [REDACTED] (emails 6 March 2025). Revised Concept Design Drawings (Issued for Consent) date 19 February 2026.

The indicative table of proposed system components lists a total of 495,465 ground mount direct current solar panels with 29 panels per string with 17,085 strings. There are 74 inverters planned (Table 2: TODD 2024 page 21).

The Concept Design Drawings show a new access road up to 6m width will be scraped and formed along the land parcel (BTW Company 2024: Sheets GD2 and ES2) 1) with sections of the existing access track utilised. Sheet RD1 shows the changes to site access from the main highway. A new road section will veer south-west from the existing track to the Warehouse/workshop and Laydown Area A on the north-west side of the SOL Quarries Quarry operations (Sheets GD1 – GD2). The new road will drop from the upper terrace to the lower terrace (Sheets GD2 - GD3) then connect with the existing track south-east beyond the quarry. Two branch roads will lead to the Operations and Maintenance building. The ground surface/topsoil will be scraped back to a depth 10cm (where required) then laid with gravel. The service roads between solar panels will remain unformed to a minimum of 4m width providing access to central inverters and switchyards.

Panel cabling requires the interconnection of rows with DC cables buried in trenches approximately 60cm deep and 40cm wide. The number of trenches and the total length will vary according to the final design and optimised cable routes.

A single-pile foundation will hold the mounting system for the string of solar panels. The pile holes will be either rammed into the ground or screw piles 2 – 4 metres in depth (pages 21 and 42).

Inverters will be mounted on driven piles – it is expected that 8 piles will be required per inverter at a depth of 2 - 4 metres (page 26).

21 sub-circuits to connect inverters will be buried in trenches approximately 1m deep x 1m wide. The number of trenches and total length will vary depending on the final design and optimised cable routes (page 27).

Concrete pre-cast transmission poles (298 x 1.9m deep x 0.6m diameter hole and 28 at 3.3m deep x 0.75m diameter hole) will be installed for overhead transmission lines will run near the centre of the site from the east of the site to the Transpower Twizel substation at the west side of the site (page 28).

Directly buried bare copper earth conductors will be required between electrical equipment and metallic structures to ensure personnel safety as well as effective electrical protection system operation. The trench requirements for earthing conductors are likely to be 0.6m deep and up to

0.2m wide. Total trench length for earthing conductors will be determined in the detailed design phase (pages 29-30).

Electrical equipment fencing within the solar plant is expected to be minimal as the main power transformers and high voltage switching equipment will be located in the Transpower substation. Where electrical equipment fencing is required in the solar plant area post holes will typically be 0.6m deep (page 36).

The slope below the upper terrace (between GPS 1412 and 1413: Plates 14 – 15, Sheets EW1 and ES1) is proposed to be re-contoured by cut and fill requiring a quantity of earthworks, as outlined in the Civil Engineering plans for submission with the consent application.

Swale drains, culverts under tracks/roads if required will be small culverts or novaflow pipes (if required) to convey existing stormwater flows under existing tracks. Excavations may be c.1m deep and c.6m long (page 39).

Minimal earthworks such as minor scraping may be required to prepare the existing ground for installation of the following infrastructure: toilets, waste storage tanks, temporary power supply, signage, temporary security fencing (page 45), office, kitchen, storeroom (page 49).

Two sediment retention ponds will be constructed. Detail for these will be developed through the detailed design phase (see Sheet ES3 of the engineering drawings for a schematic). The approximate location is shown on Sheet ES1 (the erosion sediment control areas [red hatched areas] roughly south-west area of the site on the east side of the land parcel). The location, width and depth are to be confirmed. The Draft Erosion and Sediment Plan (2025: 14 – Attachment C) provides some of the details of the proposed earthworks associated with these retention ponds.

Three further structures have been proposed for construction (██████████ email 26 March 2026) which have now been included in this revision of the archaeological assessment (22 April 2026). The location of these structures is provided in revised plans dated 19 February 2026 (see Attachment B: BTW Company, NOVA Energy Ltd Solar Farm - Plan 210982-02 Sheets GD1 - GD3, GD12, GD13, EW1, ES1 and ES2). The Draft Erosion and Sediment Plan (2025: 11) provides details of the proposed earthworks associated with these new structures.

The structures are:

- switchyard close to the boundary of the Meridian land (Plan 210982-02 Sheets GD1, GD2, EW1, ES1 and ES2)
- permanent Construction office/laydown area (Plan 210982-02 Sheets GD1, GD3, GD12, GD13, EW1, ES1 and ES2)
- operations and maintenance building (Plan 210982-02 Sheets GD1, GD3, GD12, GD13, EW1, ES1 and ES2).

10.2 Assessment of potential effects

If cultural or historic sites are present across the work envelope they could be impacted by the earthworks proposed for installation of the NOVA Solar Plant and associated infrastructure and activities. Earthworks that could impact sites include:

- access road up to 6m in width and depth up to 10cm with swale drains and culverts installed for drainage (c.1m deep x c.6m long)
- ramming or screwing of piles to a depth 2 – 4m for solar panel mounting framework
- trenching for panel cabling (60cm deep and 40cm wide)
- driven piles for mounting inverters (depth 2 – 4m)
- sub-circuits to connect inverters in trenches (1m deep x 1m wide)
- concrete pre-cast transmission poles (298 x 1.9m deep x 0.6m diameter hole and 28 at 3.3m deep x 0.75m diameter hole)
- buried earth conductors (0.6m deep and up to 0.2m wide. Total length to be determined)
- fence post holes (depths up to 0.6m)
- sediment retention ponds (location, width and depth to be determined)
- re-contouring of the terrace slope (see Sheet 13 of the engineering drawings)
- earthworks for toilets and other infrastructure (minor scraping of ground surface only)
- switchyard (minor scraping of ground surface and concrete pad laid)
- construction office/laydown area (minor scraping of ground surface and concrete pad laid, water tank placement and trenches for water supply, stormwater and wastewater treatment and disposal field)
- operations and maintenance building (minor scraping of ground surface and concrete pad laid).

The level of potential effects to cultural or archaeological sites is unknown but earthworks described above would destroy fabric of sites if present in areas of disturbance. Ramming or screwing of piles for mounting does not allow a view of the sub-surface or possible sites that may be present.

11 Further Considerations

11.1 Site Management

As little modification as possible is to occur to cultural layers or archaeological/historic fabric during this project to align with the principles and guidelines of the NZ ICOMOS Charter 2010:

‘Any change should be the minimum necessary, should be substantially reversible, and should have little or no adverse effect on the cultural heritage value of the place’ (ICOMOS NZ Charter 2010: 7).

An Archaeological Management Plan (AMP: Attachment A) outlines the process to follow if cultural or historic material is uncovered during the project. The AMP outlines the process to follow if Kōiwi tangata/human bone becomes uncovered as per the Te Rūnanga o Ngāi Tahu Kōiwi tangata Policy (2019).

11.2 Analysis, Collections Management and Report Writing

The archaeologist is to register recovered Taonga tūturu with Ministry for Culture and Heritage (New Zealand Legislation Parliamentary Counsel Office/Te Tari Tohutohu Pāremata:) who will determine ownership. Archaeological artefacts/taonga tūturu retrieved by the Project Archaeologist will be held by the archaeologist in the interim before delivering to an archaeological laboratory for washing and analysis unless directed otherwise by the three Papatipu Rūnanga, MCH and/or HNZPT. Archaeology students from Southern Pacific Archaeological Research (SPAR) may be sub-contracted to undertake washing of the cultural assemblage along with re-bagging, identification and sorting of faunal elements, with a full inventory of recovered items entered into a database to be passed to the Project Archaeologist. Assemblages will be quantified by the Project Archaeologist.

Taonga tūturu, and cultural material after laboratory analysis, will be lodged with South Canterbury Museum until decisions are made by the Māori Land court as to ownership of any items (as per the *Protected Objects Act 1975* Sections 11-12: New Zealand Legislation Parliamentary Counsel Office/Te Tari Tohutohu Pāremata).

Kōiwi tangata will be deposited in the Kōiwi facility at the School of Biomedical Sciences, University of Otago, Dunedin, by iwi representatives or the Project Archaeologist until decisions are made regarding future research followed by transfer to South Canterbury Museum, Timaru. The three Papatipu Rūnanga will decide on a place for re-internment.

12 Conclusion and Recommendations

12.1 Conclusion

The purpose of this archaeological assessment is to ascertain if cultural or historic sites are located within the proposed work envelope and what impacts/effects could occur to sites by the proposed installation of the NOVA solar plant on the true left bank of Ōhou/Ōhau River at Twizel, Te Manuhuna MacKenzie Basin.

The number of and significance of cultural sites in the Ōhou/Ōhau area of Mackenzie Basin suggest there is a possibility that cultural sites or material may be present on the land block proposed for installation of the NOVA Solar Plant on the east bank of the Ōhou/Ōhau River.

12.2 Recommendations

As no cultural or archaeological sites have been identified within the bounds of the land under consideration for the NOVA Solar Plant it is considered not necessary to gain a Heritage NZ Pouhere Taonga Authority to carry out the proposed works. The author Shar Briden emailed a DRAFT archaeological assessment to the Heritage NZ Regional Archaeologist, [REDACTED] of the Christchurch Office, to view the proposal 2 December 2024 to confirm recommendations that a Heritage NZ Pouhere Taonga Authority is not required.

Concept Design Plans were forwarded to [REDACTED] 11 December 2024. An email from [REDACTED] (12 December 2024) referred the author to follow the Heritage NZ Pouhere Taonga ADP document in the event of sites or features becoming apparent during the works. The author replied (13 December 2024) that the project will follow processes set out in the Archaeological Management Plan (AMP) with notification to Heritage NZ in the event of any finds.

Due primarily to the significance of cultural sites of interest to iwi in the Ōhou/Ōhau area the following recommendations apply during the works:

- an archaeologist present an induction to earthmoving contractors and supervisors to aid in recognition of cultural material and/or sites that may be uncovered during the works
- a cultural monitor or an archaeologist be on site to monitor representative areas only of the following earthworks:
 - scraping of the new sections of the access track from the main highway and branch tracks to the new building structures
 - trenching for cabling
 - spoil from transmission pole and fence post holes to be checked
 - sediment retention ponds - location to be confirmed
 - re-contouring the terrace slope
 - scraping platform for switchyard
 - scraping platform for new Construction office/laydown area, earthworks for water tank placement and trenches for water supply, stormwater and wastewater treatment and disposal field)
 - scraping platform for new Operation and Maintenance building.

A map outlining areas requiring archaeological monitoring is provided on the last page of the AMP (Attachment A). The latest Civil Design plans (BTW Company revised 19 February 2026) are provided

in Attachment B and the Erosion and Sediment Control Plan (BTW Company 2025) is provided in Attachment C.

An archaeologist or cultural monitor could be present when test piling work or specific geotechnical investigations are carried out for building foundations to check the sub-surface ground for evidence of sites/features (EDC 2021 Report page 15).

An Archaeological Management Plan (AMP: Attachment A) will guide the works with processes in place to be followed in the event cultural material/Taonga tūturu/Kōiwi tangata or archaeological/historic features or artefacts become apparent during the project. Care and management on the recovery of Kōiwi tangata is to follow the Te Rūnanga o Ngāi Tahu Kōiwi tangata Policy (2019).

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- Field book [16]: CAAY CH158 [R17916398]
- File regarding Pukaki ferry and bridge dated 4 September 1878: CAAR CH287 19946 [R8420879]
- [REDACTED] License to occupy Crown Lands for Pastoral Purposes dated 19 September 1897 – Ben Ohau Run 87 (PR 426 dated 1892-1919 - CAAY CH134 2949 [R20019312])

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Appendices


Appendix 1 Table 1. Representatives attending the site survey 6 November 2024:

NOVA Limited	[REDACTED]
	[REDACTED]
	[REDACTED]
BTW Company Ltd	[REDACTED]
	[REDACTED]
	[REDACTED]
Papatipu Rūnanga	
<i>Te Rūnanga o Arowhenua</i>	[REDACTED]
	[REDACTED]
	[REDACTED]
<i>Te Rūnanga o Waihao</i>	[REDACTED]
	[REDACTED]
<i>Te Rūnanga o Moeraki</i>	[REDACTED]
<i>Aukaha</i>	[REDACTED]
	[REDACTED]

Appendix 2 Table 2. GPS coordinates of features recorded during the survey for proposed NOVA Solar Plant

GPS ID	Easting (NZTM)	Northing (NZTM)	Elevation (m)	Comments
1406	170.112471	-44.279509	393	north end of laydown area
1408	170.111998	-44.281433	400	small pit
1409	170.106392	-44.282265	413	laydown area and small semi-circular pits
1410	170.107749	-44.281613	416	native broom along this slope
1411	170.109574	-44.281258	415	larger half pit (lush grass below)
1412	170.123323	-44.293354	414	slope may be recontoured
1413	170.129687	-44.295552	413	slope may be recontoured
1414	170.146988	-44.297402	410	laydown area
1415	170.18511	-44.329296	388	fish tin south end of land block
				east flat area below top terrace
1416	170.152999	-44.299977	419	round pit beside track upper terrace
1417	170.146938	-44.29208	424	small pits beside wetland area (GPS 1416-1419)
1418	170.146781	-44.291995	423	
1419	170.148053	-44.292655	422	
1420	170.143068	-44.290415	427	two shallow pits

Aug. 25/2/97.
Crown Lands Form No. 28.


NEW ZEALAND.

License to occupy Crown Lands for Pastoral Purposes.

84
 Lic. No. 139.

Whereas John Edward Preston Cameron
 Shepherd of Ben Ohau Station

has purchased at auction, under the provisions of "The Land Act, 1892," a License to occupy for Pastoral Purposes
 all that area of Crown Lands containing by estimation Fifty-four thousand four hundred (54,400)
 acres, more or less, and being the number Eighty-seven (87), classed as

Mackenzie County of Canterbury in the Provincial District of Christchurch, New Zealand,
 as the same is delineated on the plan in the Crown Lands Office, and has paid the sum of One hundred pounds stg.
 (£ 100 : 0 : 0), being the first half-year's rent in advance for such land. The said John Edward Preston
Cameron is hereby licensed to occupy the said land for

pastoral purposes for the term of Twenty-one (21) years, to be completed from the first day of March, 1894, subject
 to all the provisions and conditions of "The Land Act, 1892," and subject also to the payment of an annual rent of
Two hundred pounds stg. (£ 200 : 0 : 0), in equal parts, half-yearly, in advance, on the first day of March and the first day of September in each and every year,
 payment for the first half-year's rent having already been made, and the rest of such half-yearly payments, became due
 first day of September, 1894.

Subject also to the conditions following, viz. :-
 (1.) That if the licensee or any person claiming an interest through or under him shall make or cause to be made
 any agreement or contract, or shall give or cause to be given or taken any negotiable security for the
 purpose of defeating or evading the provisions of, or shall in any way whatsoever directly or indirectly commit
 or be privy to a fraud upon, "The Land Act, 1892," this license shall be liable to be forfeited and revoked;
 (2.) That the licensee shall prevent the destruction or burning of timber or bush on the land comprised in this
 license;
 (3.) That the licensee shall prevent the growth or spread of gorse, broom, and sweet-briar on the land comprised in
 this license, and shall with all reasonable speed remove or cause to be removed all gorse, sweet-briar, broom,
 or other noxious weeds or plants, as may be directed by the Commissioner; ~~and~~
 (4.) That the licensee shall destroy all rabbits on the land comprised in this license, and shall prevent their increase
 or spread, to the satisfaction of the Commissioner or an officer appointed by him to inspect the ground, ~~and~~
 (5.)

And it is hereby declared that these presents are intended to take effect as a pasturage license only under "The Land
 Act, 1892," and the provisions of that Act applicable to such licenses shall apply hereto as fully and effectually as if the same
 had been set out herein at length.

In Witness whereof the Commissioner of Crown Lands, on behalf of the Land Board of the Canterbury
 Land District, hath herunto set his hand this 19th day of September, 1897

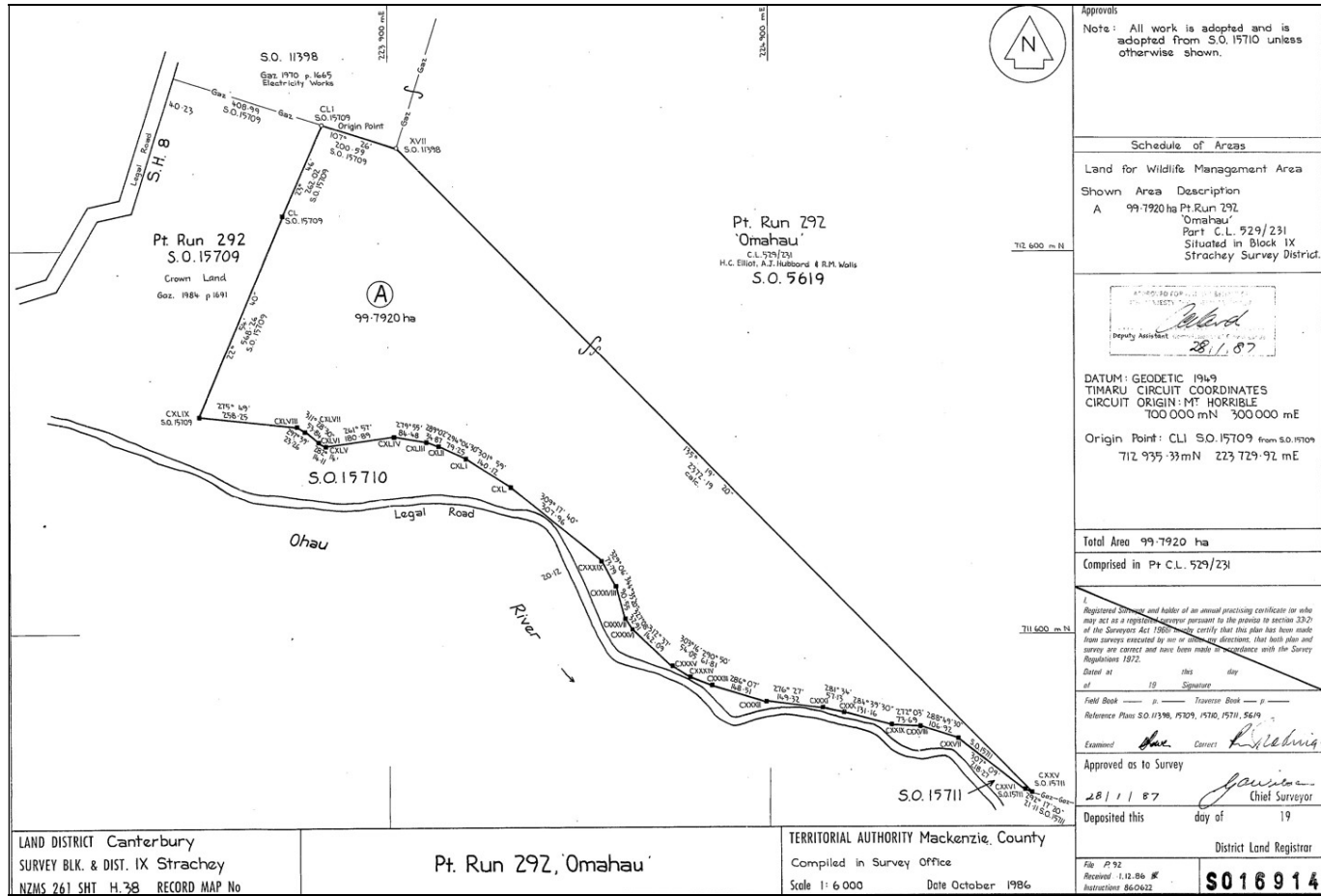
Sidney Wootton
 Commissioner of Crown Lands.

I certify that the licensee shall not burn the grass on the run herein
 specified during the months of December to June, or during such other months
 as may be determined by the Commissioner of Crown Lands, in any one year, as the
 Commissioner of Crown Lands shall from time to time determine.

Appendix 4 Section 36868 from Ben Ohau subdivision (cropped SO 5619 dated 1919: Prover)



Appendix 5 Pt Run 292 'Omahau' (SO 16914 Prover):



<p>Approvals</p> <p>Note: All work is adopted and is adopted from S.O. 15710 unless otherwise shown.</p>
<p>Schedule of Areas</p> <p>Land for Wildlife Management Area</p> <p>Shown Area Description</p> <p>A 99.7920 ha Pt Run 292 'Omahau' Part C.L. 529/231 Situated in Block IX Strachey Survey District.</p>
<p>AT 10:30 FOR THE DEPUTY ASSISTANT CHIEF SURVEYOR</p> <p>Deputy Assistant</p> <p>28/11/87</p> <p>DATUM: GEODETIC 1949 TIMARU CIRCUIT COORDINATES CIRCUIT ORIGIN: MT HORRIBLE 700 000 mN 300 000 mE</p> <p>Origin Point: CL1 S.O. 15709 from S.O. 15709 712 935.33mN 223 729.92 mE</p>
<p>Total Area 99.7920 ha</p> <p>Comprised in Pt C.L. 529/231</p>
<p>I, Registered Surveyor and holder of an annual practicing certificate in who may act as a registered surveyor pursuant to the proviso to section 23(2) of the Surveyors Act 1960, do hereby certify that this plan has been made from surveys executed by me or some one directed, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972.</p> <p>Dated at _____ this _____ day of _____ 19 _____</p> <p>Field Book _____ p. _____ Traverse Book _____ p. _____</p> <p>Reference Plans S.O. 15398, 15709, 15710, 15711, 5619</p> <p>Examined <i>Joe Carter</i> Correct <i>Lyle Lewis</i></p> <p>Approved as to Survey</p> <p>28/11/87 <i>Joe Carter</i> Chief Surveyor</p> <p>Deposited this _____ day of _____ 19 _____</p> <p>District Land Registrar</p>
<p>LAND DISTRICT Canterbury</p> <p>SURVEY BLK. & DIST. IX Strachey</p> <p>NZMS 261 SHT H.38 RECORD MAP No</p>
<p>Pt. Run 292, 'Omahau'</p>
<p>TERRITORIAL AUTHORITY Mackenzie, County</p> <p>Compiled in Survey Office</p> <p>Scale 1:6000 Date October 1986</p>
<p>File P.92</p> <p>Received 1.12.86</p> <p>Instructions: 86/0422</p> <p>S016914</p>

Appendix 6 Table 3. Recorded archaeological sites (ArchSite) located within 25km of the land under consideration:

NZAA Site Record	Description	Location	Easting (NZTM)	Northing (NZTM)	Old NZAA Site Record	Distance from land block	Māori sites	European
H38/7	Working area	True right Ōhou/Ōhau River	1369438	5091151	S109/14	c.80m south-west	1	
H38/8	Midden/oven	Just above main highway Ōhou/Ōhau River	1367437	5092351	S109/15	c.1.5km west	1	
H38/10	Trig R	Bendrose Station	2282267	5658085		c.3.4km north-east		1
H38/11	Trig U	Bendrose Station	2284013	5654207		c.1.65km north-east		1
H38/12	Track/road	Bendrose Station	2279779	5657549		c.1.7km north		1
H38/1	Moa hunter site	Pukaki River	1372335	5102556	S100/1	c.9.6km north	1	
H38/2	Rock shelter	Lake Pukaki	1371034	5104456	S100/2	c.11.2km north	1	
H38/3	Ovens	Lake Pukaki	1375835	5105158	S100/3	c.13.4km north-east	1	
H38/5	Artefacts	Pukaki River	1375137	5098156	S100/6	c.6.7km north-east	1	
H38/6	Adze find	Lake Pukaki	1375935	5104858	S100/9	c.13km north-east	1	
H38/9	Accommodation House	Pukaki River	1375537	5098456		c.7.4km north-east		1
H38/13	Rabbit fence	Pukaki	1373486	5101949		c.9.3km north-east		1
H38/14	Boundary fence	Glentanner PL	1374331	5101479		c.9.1km north-east		1
H38/15	Boundary fence	Glentanner PL	1374327	5101136		c.8.85km north-east		1
H38/16	19th Century fence	Maryburn PL	1379586	5103231		c.13.6km north-east		1
H38/17	19th Century boundary fence	Maryburn PL	1379295	5103633		c.13.8km north-east		1
H38/18	19-20th Century road	Maryburn PL	1378674	5104260		c.14km north-east		1


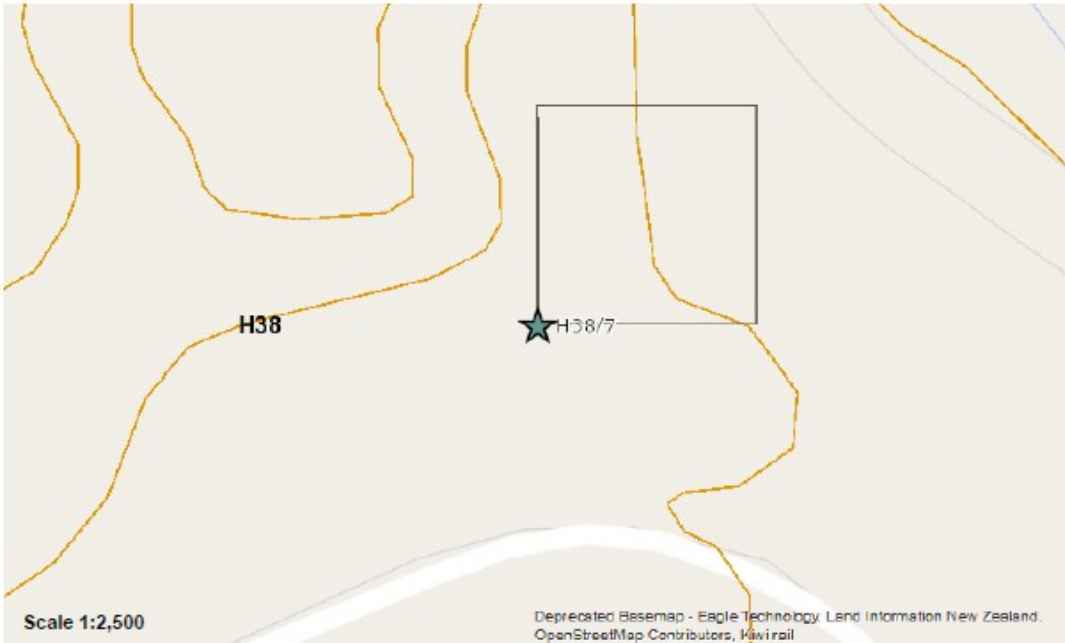
H38/19	Otago-Canterbury provincial boundary	Spade line, Lake Ōhou/Ōhau	1351691	5091332		c.17km west		1
H39/1	Occupation site	Lake Benmore	1377649	5074250	S109/4	c.13.9km south	1	
H39/3	Rock shelter	Lake Benmore	1379049	5075051	S109/6	c.13.4km south-east	1	
H39/4	Rock shelter	Lake Benmore	1379149	5075051	S109/7	c.13.4km south-east	1	
H39/5	Rock shelter	Lake Benmore	1379249	5073550	S109/8	c.14.7km south-east	1	
H39/6	Rock shelter	Lake Benmore	1378949	5074650	S109/9	c.14.6km south	1	
H39/7	Rock art	Lake Benmore	1378949	5075150	S109/10	c.13km south-east	1	
H39/8	Findspot	Lake Benmore	1377949	5073149	S109/11	c.15km south	1	
H39/9	Rock shelter	Lake Benmore	1378949	5074650	S109/12	c.13.7km south-east	1	
H39/12	Rock shelter	Lake Benmore	1378949	5074650	S117/4	c.23.4km south	1	
H39/13	Rock shelter	Lake Benmore	1377554	5064347	S117/5	c.24km south	1	
H39/14	Moa hunter camp	Lake Benmore	1377955	5063546	S117/6	c.24.7km south	1	
H39/15	Rock shelter	Lake Benmore	1376155	5062645	S117/7	c.25km south-east	1	
H39/16	Rock shelter	Lake Benmore	1378451	5070149	S117/8	c.18km south	1	
H39/17	Rock shelter	Lake Benmore	1378254	5064447	S117/13	c.24km south	1	
H39/18	Rock shelter	Lake Benmore	1378149	5073850	S109/5	c.14.4km south	1	
H39/20	Rock shelter	Lake Benmore	1378350	5072349		c.15.5km south	1	
H39/21	Rock shelter	Lake Benmore	1378250	5072249	S109/16	c.15.8km south	1	
I38/1	Quarry	Gray Hills	1390645	5088860	S109/1	c.15km east	1	
I38/66	19th Century track	Maryburn PL	1388367	5102311		c.19km north-east		1
I38/67	19-20th Century fence	Maryburn PL	1384894	5104449		c.18.3km north-east		1
I38/68	Homestead	Maryburn PL	1385899	5104839		c.18km north-east		1
I38/69	Farm shed	Maryburn PL	1385941	5104793		c.19km north-east		1
I38/70	Woolshed	Maryburn PL	1385727	5105443		c.19km north-east		1
I38/74	Rabbitier's Hut	Maryburn PL	1382510	5104337		c.16km north-east		1
I39/1	Quarry	Gray Hills	1390547	5085059	S109/2	c.15.3km east	1	

I39/2	Oven	Lake Benmore	1381148	5078052	S109/3	c.11.2km south-east	1		
I39/8	Hut site	Stony Creek	1394410	5082390		c.19.7km south-east		1	
I39/9	Rabbit fence	Stony Creek	1392468	5083798		c.17.3km south-east		1	
I39/10	Water race	Balloon Creek, Stony Creek	1394824	5082623		c.19.2km south-east		1	
I39/11	Woolshed	Stoney Creek	1394193	5082266		c.19.5km south-east		1	
I39/12	Camp site	Stoney Creek	1397149	5078703		c.23km south-east		1	
TOTALS							27	22	49
%							55.1%	44.9%	

Appendix 7 NZAA Site Records

NZAA Site Record H38/7 (previously S109/14)

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>Site Record Form</p>	<p>NZAA SITE NUMBER: H38/7</p> <p>SITE TYPE: Working area</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1369438 Northing: 5091151 Source: CINZAS</p>	
<p>IMPERIAL SITE NUMBER: S109/14 METRIC SITE NUMBER: H38/7</p>	
 <p>Scale 1:2,500</p> <p>Deprecated Basemap - Eagle Technology, Land Information New Zealand, OpenStreetMap Contributors, Kāvirail</p>	
<p>Finding aids to the location of the site On the west bank of the Ohau River, where the river flat narrows and terminates against a higher river bank.</p>	
<p>Brief description Maori camp site. Findspot for 17 flakes of orthoquartzite, 3 of yellow chert and 3 of purple-grey chert, 2 pieces of a broken slate knife and flakes of red jasper.</p>	
<p>Recorded features Artefact, Artefact - chert, Artefact - stone flakes</p>	
<p>Other sites associated with this site</p>	

SITE RECORD INVENTORY	NZAA SITE NUMBER: H38/7
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Supporting documentation held in ArchSite


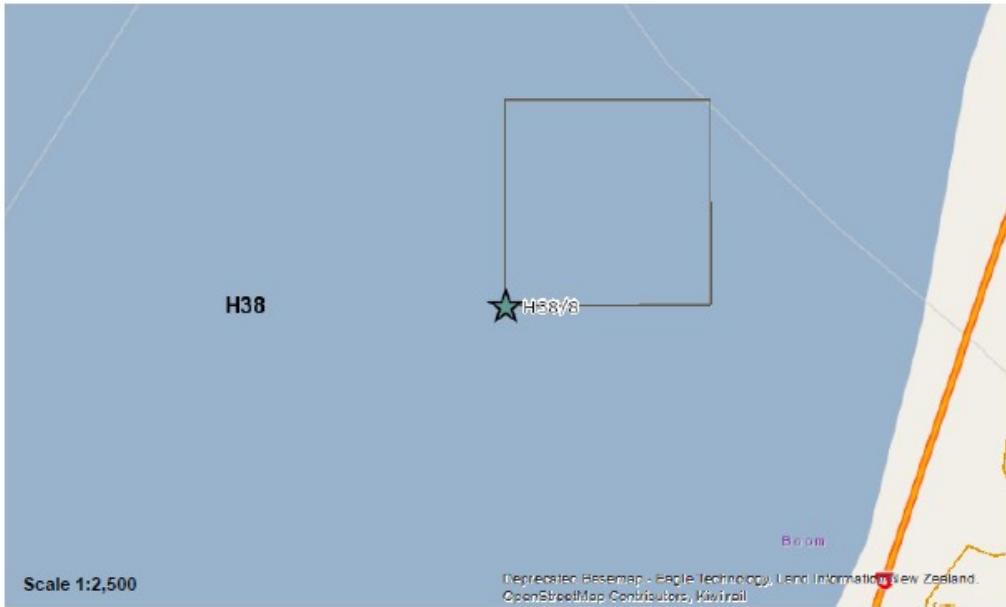


AX AF -- CA AA IN

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM		SITE NUMBER S.109/14
Map number S.109 Map name BENMORE Map edition 1967 Grid Reference 788 628		SITE NAME: MAORI OTHER
1. Aids to relocation of site (locality plan with S.100/1) on the west bank of the Ohau River. As with S.100/1 and S.100/6 it is where one might expect a site to be, where the river flat narrows and terminates against a higher river bank.		E 378800 N462800
2. State of site; possibility of damage or destruction Disturbed.		
3. Description of site <i>(NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.)</i> Found on the surface 17 flakes of orthoquartzite, 3 of yellow chert, and 3 of purple-grey chert (chert cf. porcellanite), 2 pieces of a broken slate knife and flakes of red jasper. 2 February 1982. Report from Neville Ritchie "Site now totally obliterated because of the hydro construction work."		
4. Owner Address	Tenant/Manager Address	Attitude
5. Methods and equipment used Photographs taken: Yes/No (Describe on Photograph Record Form) Date recorded 15-22 January 1969		
6. Aerial photograph or mosaic No.		Site shows: Clearly/badly/not at all
7. Reported by Canterbury Museum Address Pukaki Expedition		Filekeeper [REDACTED]
Date 15-22 January 1969		Date 12 August 1969

NZAA Site Record H38/8 (previously S109/15)

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>Site Record Form</p>	<p>NZAA SITE NUMBER: H38/8</p> <p>SITE TYPE: Midden/Oven</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1367437 Northing: 5092351 Source: CINZAS</p>	
<p>IMPERIAL SITE NUMBER: S109/15 METRIC SITE NUMBER: H38/8</p>	
	
<p>Finding aids to the location of the site Just above the main road bridge across the Ohau River at the downstream end of a river before it enters a rocky 'gorge'.</p>	
<p>Brief description Midden. Some excavating done here, 1968. The material gathered was small flakes, a broken slate knife and a small amount of shell & charcoal.</p>	
<p>Recorded features Artefact, Midden, Artefact - stone flakes</p>	
<p>Other sites associated with this site</p>	

SITE RECORD INVENTORY	NZAA SITE NUMBER: H38/8
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Supporting documentation held in ArchSite

AJ AK -- CA AA IN

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM		SITE NUMBER S.109/15
Map number S.109	Map name BENMORE	SITE NAME: MAORI OTHER
Map edition 1967	Grid Reference 766 640	SITE TYPE Camp
<p>1. Aids to relocation of site Just above the main road bridge across the Ohau river at the down stream end of a river before it enters a rocky "gorge". <i>E 376600 N 464000</i> Locality plan with S.100/1.</p>		
<p>2. State of site; possibility of damage or destruction Mostly disturbed</p>		
<p>3. Description of site (NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.) Reported by Otago team (1968) who also did some excavating. The material gathered was mainly small flakes, a broken slate knife and a very small amount of shell and charcoal. 2 February 1982. Report from Neville Ritchie "Site now totally obliterated because of the hydro construction work".</p>		
4. Owner Address	Tenant/Manager Address	
Attitude	Attitude	
<p>5. Methods and equipment used Photographs taken: Yes/No (Describe on Photograph Record Form) Date recorded 1968</p>		
6. Aerial photograph or mosaic No.		Site shows: Clearly/badly/not at all
7. Reported by Otago Anthropological Society to North Otago Scientific & Historical Society Date 1968-1969		Filekeeper [REDACTED] Date 12 August 1969

Site sketch map not included as it does not show location of this site.