

# MP 53355, MCLEODS ROAD, MIKONUI: AN ARCHAEOLOGICAL ASSESSMENT

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## INTRODUCTION

Southwest Energy are proposing to mine a block of privately-owned land to the west of McLeod Road, south of Ross (Figure 1 and Figure 2). Resource Solutions West Coast commissioned this archaeological assessment as they are proposing to reuse the Prince of Wales water race as a clean water cut-off drain. The Prince of Wales water race is a recorded archaeological site (I33/14) and was formed prior to 1900. As such, the race is subject to the provisions of the Heritage New Zealand Pouhere Taonga Act 2014. Two other potential pre-1900 archaeological sites were identified within the immediate vicinity of the area that will be mined, a hydraulic sluicing claim on Thistle Creek and a road. Resource Solutions West Coast commissioned Underground Overground Archaeology Ltd to assess the impacts of the proposal on the archaeological values of the site.

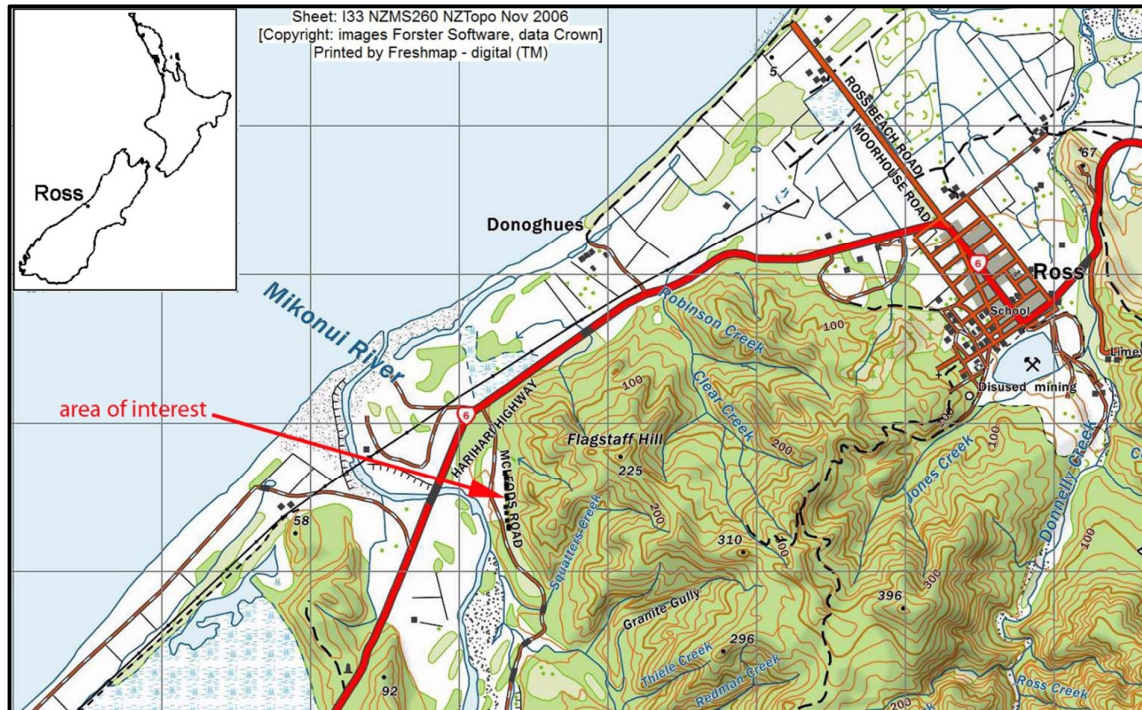


Figure 1. The Ross area, showing the location of the area that will be mined. Image: Freshmap.

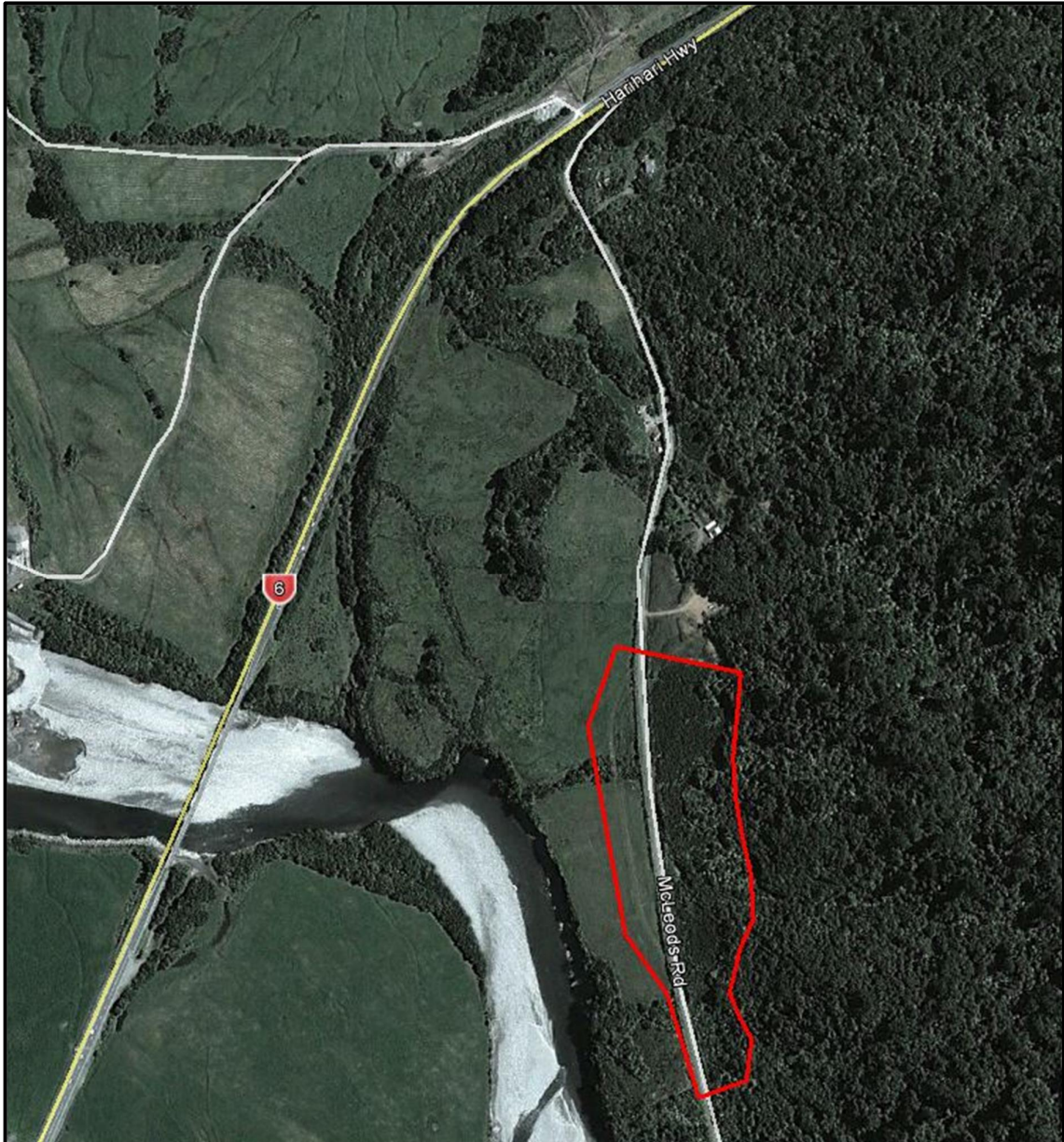


Figure 2. The area it is proposed to mine. Image: Google Earth.

### Project outline

#### *Prince of Wales water race*

The following works will be carried out on a 370 m long section of the Prince of Wales water race, to enable it to be used as a clean water cut-off drain above the mine footprint:

- patching any degraded walls of the water race;
- cleaning out the debris in the base of the water race; and
- ongoing maintenance of the race during the working life of the mine (the current mine plan is for five years).

A mechanical digger will be used to carry out the work, and will track along the existing race berm. There will be a 1 m wide buffer zone between the outside edge (i.e. the west edge) the water race berm and the area that will be mined.

### *Mining*

The area below the water race will be mined, including McLeods Road, which will be reformed (within the road reserve) to the west.

## **LEGISLATION**

The Heritage New Zealand Pouhere Taonga Act 2014 provides protection for archaeological sites and is administered by Heritage New Zealand. Under the Act an archaeological site is defined as any place in New Zealand (including buildings, structures or shipwrecks) that was associated with pre-1900 human activity, where there is evidence relating to the history of New Zealand that can be investigated using archaeological methods (Heritage New Zealand 2014a).

Under the Heritage New Zealand Pouhere Taonga Act, anyone who wishes to destroy or damage an archaeological site requires an authority to do so. It is illegal to destroy or damage an archaeological site without an authority from Heritage New Zealand. The Act allows up to **40 days** for a decision to be made on the authority after the authority application has been lodged. An authority may be granted with conditions, such as archaeological survey, monitoring and/or excavation. Any archaeologist carrying out work as a condition of the authority must be approved by Heritage New Zealand under the Heritage New Zealand Pouhere Taonga Act. Once the authority has been granted, there is a statutory **15 working day** stand-down period before earthworks can begin.

### **Summary of the timeframes associated with applying for an archaeological authority:**

- Within five working days of receiving the application, Heritage New Zealand will advise whether or not the application has been accepted (this is dependent on whether or not sufficient information has been supplied with the application).
- Once accepted, Heritage New Zealand has 20 to 40 working days to process the application.
- After the authority has been granted, there is a 15 working day stand-down period before earthworks can begin.

## **METHODS**

The history of the Prince of Wales water ace and associated mine has been researched previously for another archaeological assessment. As such, little additional historical research was carried out on this archaeological site for this assessment. Nineteenth century newspapers, *Appendix to the Journals of the House of Representatives* and survey plans were consulted for information about the 19<sup>th</sup> century road alignment and other activity in the area. John Dunbier generously supplied useful information about the Redmans Road rush.

The affected area of the permit was surveyed with Matt Dove on 14 January 2015. Archaeological features were recorded using a hand-held GPS (a Garmin GPSmap 60CSx), and photographs of the site were taken as necessary.

## **PHYSICAL ENVIRONMENT**

Mining Permit 53355 lies to the southwest of Flagstaff Hill, south of Ross, between areas known as Donoghues (to the northwest) and Redmans (to the southeast). The affected area of the permit is flat and currently in pasture and low-growing scrub (Figure 3). This paddock has most recently been farmed, and no evidence of mining activity or other potential archaeological features was seen here. McLeods Road runs along the west side of the area it is proposed to mine, and is 6 m wide and

metalled. The old Prince of Wales water race (archaeological site I33/14) runs along the toe of the hill and is in regenerating bush.



Figure 3. Looking south over the affected area of the permit, with the water race at left and the area to be mined at right.

## HISTORICAL BACKGROUND

Ross was settled from 1865 following the discovery of payable gold in the Totara River and Jones Creek (*Cyclopedia* 1906: 531-2). The goldfields in the Ross area were among the most productive in New Zealand (May 1970: 41). The ground between the Totara and Mikonui rivers experienced phased development over five decades during which time new mining technologies were employed to work gold leads at progressively greater depths.

### The Prince of Wales claim<sup>1</sup>

The first iteration of the Prince of Wales Gold Mining Company was founded at Ross in 1866 (*WCT* 16/6/1866). After the shallow ground at Ross and Donoghues had been worked by alluvial mining, the second phase of mining began, as sluicing companies were formed to work the deeper ground. Shafts were dug to access deeper leads with horse whims and waterwheels used to pump out water and raise loads (May 1970: 37). The Prince of Wales followed the initiative of another company, the Scandinavian, and utilise steam-powered engines to pump out the abundant underground water, allowing the extraction of gold at greater depth (*WCT* 13/8/1866, 15/10/1866). While this method proved payable in the short term it was soon abandoned due to the cost of fuel. For the Prince of Wales, however, success was short-lived as the company was forced to fold due to lack of capital. Its claim and assets, including the steam engine, were taken over by the Band of Hope Company (*WCT* 2/8/1867, 1/10/1867).

The third epoch of gold mining at Ross commenced in the mid-1880s, heralded by the advent of hydraulic sluicing (*ODT* 23/2/1884). In 1883, another company trading as the Prince of Wales Gold

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<sup>1</sup> This is from Watson 2011.

Mining Company (and working to the north of the area that is the subject of this assessment) invited tenders for tunnelling work, the construction of a head race and excavations for elevators at the company's Donoghues claim (*WCT* 19/2/1883, 22/6/1883, 20/7/1883). The company directors included Patrick Comiskey and Camille Malfroy, both of whom were also directors of the Ross United Gold Mining Company, a conglomerate operating a similar venture over a 100 acre claim at Ross Flat (May 1970: 61). The elevator plants for both companies were also constructed under the same management. By the beginning of 1884 the head race for the Prince of Wales claim was completed and the elevator erected, with machinery manufactured by Kincaid and McQueen of Dunedin (*AJHR* 1884 H-9: 5-6; *ODT* 23/2/1884; *WCT* 18/1/1884, 16/2/1884).

The Prince of Wales elevator was trialled on 6 March 1884. The elevator was of the bucket type, favoured by the supervising engineer, W. Wylie, for the comparatively low level of water required for the system to operate and the ability of the buckets to lift larger boulders (*ODT* 18/12/1890). The company's claim covered an area of 60 acres and included a head race fed by streams on the western side of Greenland Range (*AJHR* 1884 H-9: 36). This is the water race it is proposed to re-use as part of the current application. The elevator mechanism was laid against a sloping bank at an angle of 45 degrees and descended 80 feet (24 m) to the elevator shaft below ground. Four heads of water were driven into the shaft where a high pressure nozzle worked the face. A 30 horsepower turbine raised the elevator buckets, each with a capacity of five cubic feet, and tipped the washdirt into a sluice box where it was sluiced to Donoghues Flat. The water for sluicing was supplied by the waste water from the elevator shaft, carried to the sluice by a 33 chain (664 m) long adit.<sup>2</sup>

The Prince of Wales claim met with initial success, aided by considerable rainfall soon after its launch, and operated at its capacity of 120 loads per hour. However, the Prince of Wales Gold Mining Company was established with insufficient capital and was unable to meet its mortgage arrangements.<sup>3</sup> The company was offered for tender by the mortgagee in March 1885 and was purchased by the Ross United Gold Mining Company for the sum of £4,700 (*WCT* 26/3/1885, 20/10/1885). The elevator was beset by further difficulties due to insufficient water supply in dry weather, and it was proposed to extend the water race to the Mikonui River at an estimated cost of £4,000 (*AJHR* 1886 C-4a: 31-32). Despite continued problems with intermittent water supply, the Prince of Wales claim remained operational and, for a time, profitable (*WCT* 13/5/1886, 4/12/1886).

The Ross United Gold Mining Company was itself placed in liquidation in May 1898 and both the Prince of Wales and Ross United elevators were being worked on tribute at around this time (*AJHR* 1899 C-3A: 25). Both companies and their assets were offered for sale, first together and later as separate properties (*WCT* 21/5/1898 and 28/7/1898). The Prince of Wales claim was purchased by a group of private investors registered in 1899 as the Prince of Wales Dredging Company (*WCT* 20/10/1899; *Star* 26/4/1900). The Prince of Wales elevator ceased operating at this point, pending the installation of the new company's dredge to work the ground (*AJHR* 1900 C-3: 99).

Unlike the successful gold dredging operations in Central Otago, dredging was difficult on the West Coast, for a number of reasons. In 1899 only one dredge was operational at Ross, belonging to the Totara Dredging Company at Totara Lagoon (*AJHR* 1899 C-3A: 135; May 1970: 71). In January 1901 the Prince of Wales Dredging Company ordered a steel dredge from Renshaw and Sons of Stoke-on-

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<sup>2</sup> The description of the Prince of Wales elevator machinery is derived from a report delivered by W. Wylie to the Chamber of Mines in 1890 (*ODT* 18/12/1890), a report on the launch of the mine in 1884 (*WCT* 11/3/1884), and descriptions in the Goldfields and Wardens Reports contained in the *AJHRs* (1884 H-9: 5-6 and 36; 1886 C-4a: 31-32).

<sup>3</sup> The Ross correspondent to the *ODT* (defending himself in the *WCT*) speculated in 1884 that the mortgagee and company promoters were one and the same, calling into suspicion the legitimacy of the company (*WCT* 6/9/1884 and 16/9/1884).

Trent for £5,000 with delivery estimated October 1901 (*Tuapeka Times* 9/1/1901). Work commenced on preparing the claim, including repairs to the head race and tunnels, erection of pontoons and the removal of two houses encroaching on the operational area (*WCT* 15/4/1901). Machinery was eventually delivered in March 1902 and the dredge was erected and operational by the end of that year (*WCT* 29/12/1902). The Prince of Wales dredge was reported in good working order with high yields for the following year (*AJHR* 1903 C-3: 106), but by 1904 was worked by tributers (*WCT* 28/1/1904; *AJHR* 1905 C-3: 54). Gold yields from dredging continued to decline in the Ross goldfield and by 1909 the Prince of Wales dredge was idle, awaiting relocation (*AJHR* 1910 C-3: 32).

### Redmans Road rush

The so-called Redmans Road rush began in the spring of 1875 – the road referred to is the road now known as McLeods Road, and known more commonly at the time as the Bowen and Donoghues Road, a reference to the two areas it linked. Redmans was the gold field at Bowen, located on the modern Black Creek (and to the south of the application area). Bowen was the settlement where Black Creek now meets the Mikonui.

‘Rush’ was something of a misnomer. At the time it was reported in the newspapers – October 1875 – there were three parties working in the area, along with two other claims that had been taken up but not worked, all clustered at the northern end of what is now McLeods Road. The main claim was operated by Eunson and Brown, who had undertaken significantly more work in their claim than the other parties working in the area. The other two working claims were to the north and east of Eunson’s claim (*WCT* 7/10/1875: 2; Figure 4). Less than a year after this newspaper report, however, Eunson’s claim had been sold “under distress warrant” (*WCT* 16/6/1876: 2). No information was found to suggest that the purchaser – Joseph Grimmond – worked the claim.

While the claims mentioned in the 1875 news report were clustered at the north end of McLeods Road, four extended claims were taken up to the south of this in the 1870s, along the line of McLeods Road, including three within the area that is the subject of this assessment. These were T633 (taken up by Dunlop), T632 (taken up by Woolhouse) and T629 (taken up by A. C Landers and party; Figure 5). No evidence could be found to indicate whether or not these claims were ever worked (it was not uncommon for a claim to be taken up but never mined). Evidence was certainly found to indicate that the relevant men were mining in the Redmans-Donoghues area, but the exact location of their claims could not be established.

A 1917 survey plan also shows a gold mining claim within the application area (LINZ 1917; Figure 6). This was on Thistle Creek, below the Prince of Wales water race, which is described on the plan as “old water race”. It is possible that this area was worked in the 1870s (it was within the boundaries of T632, taken up by Woolhouse), but it has not been possible to prove this.

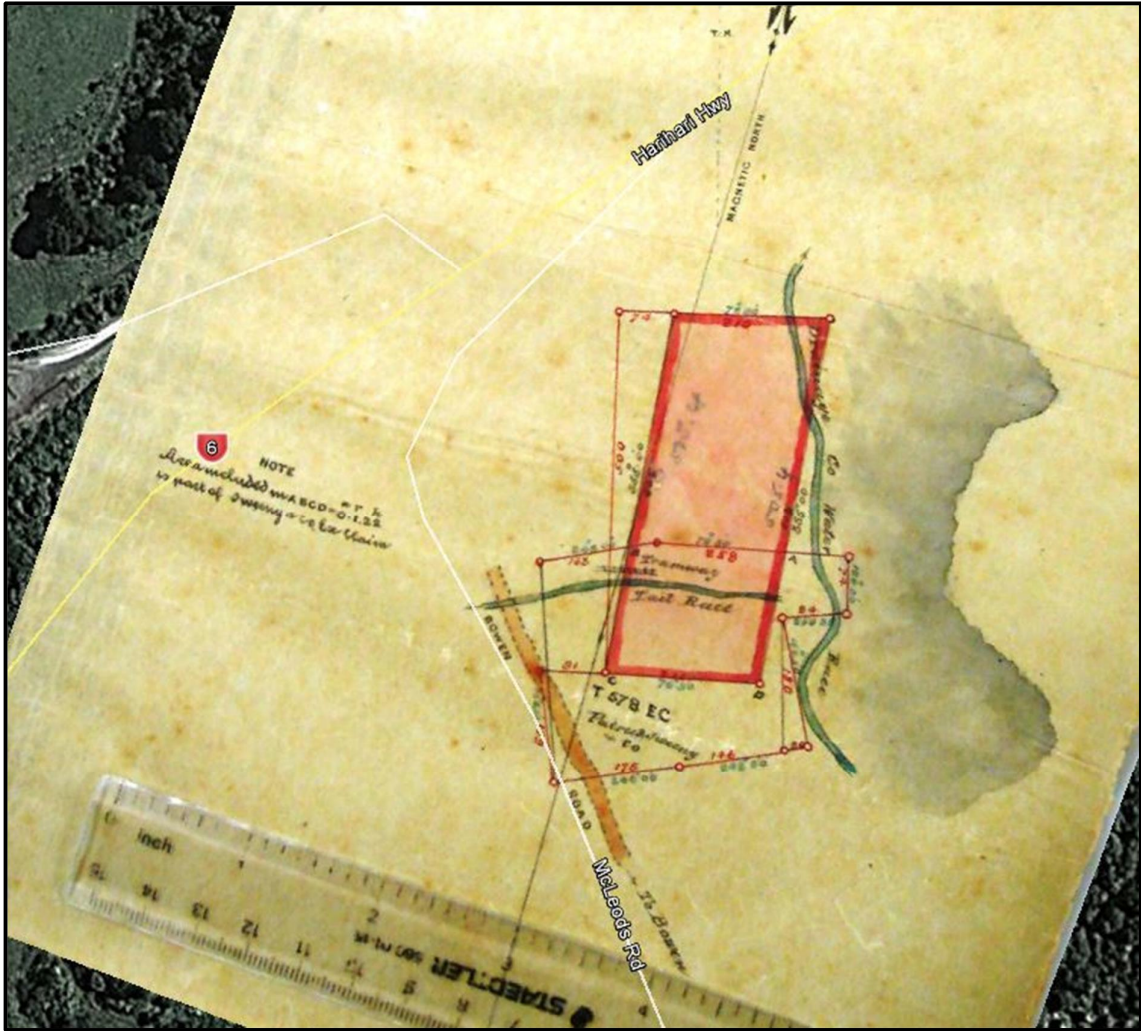


Figure 4. The claim worked by Eunson, the miner responsible for the Redmans road rush. Image created in Google Earth and supplied by John Dunbier. The area that is the subject to this assessment is 400 m south of this.

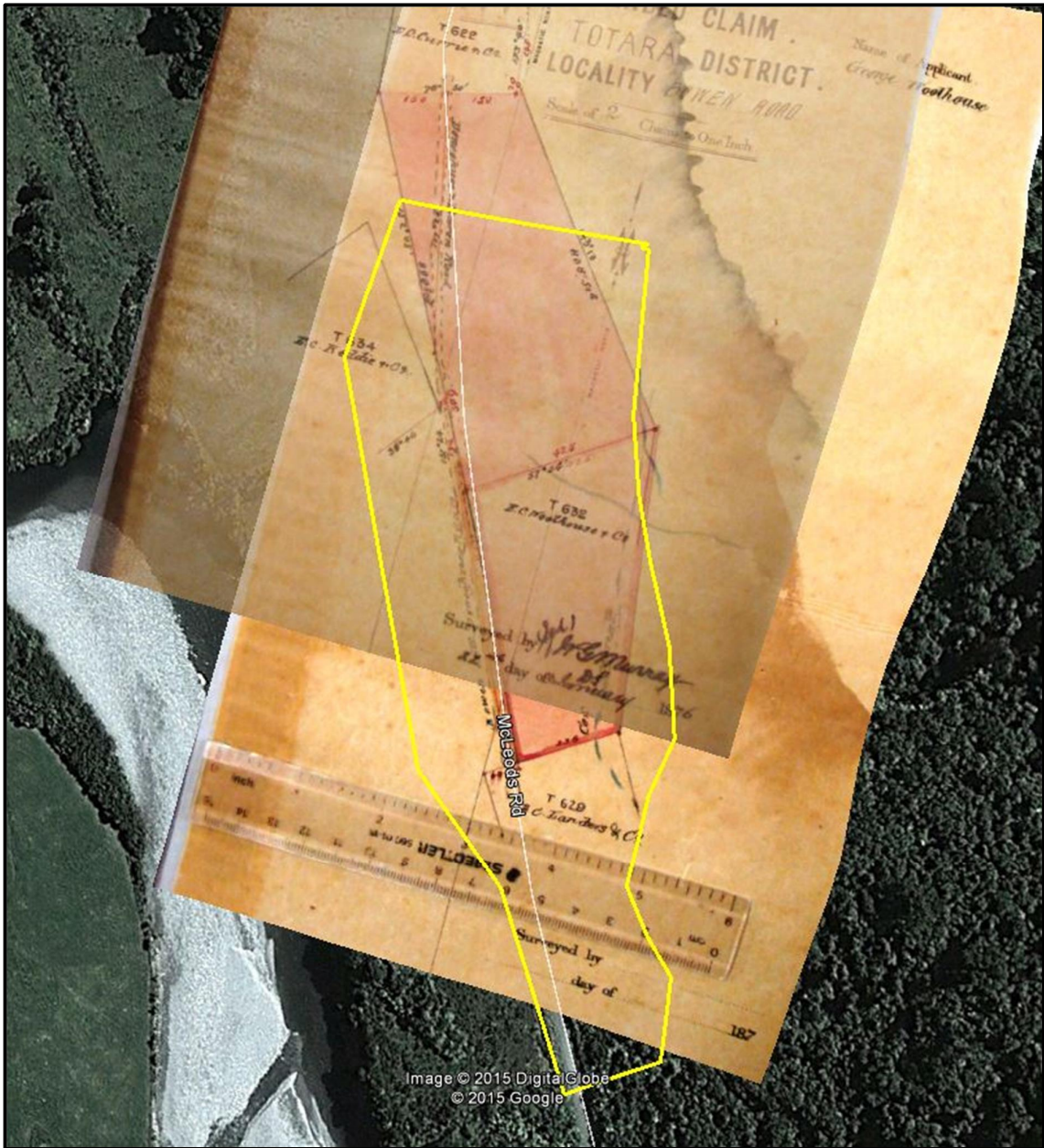


Figure 5. The boundaries of the current application (in yellow) overlaid with two extended claim plans, T633 (in the north) and T632 (in the south). Image created in Google Earth and supplied by John Dunbier.

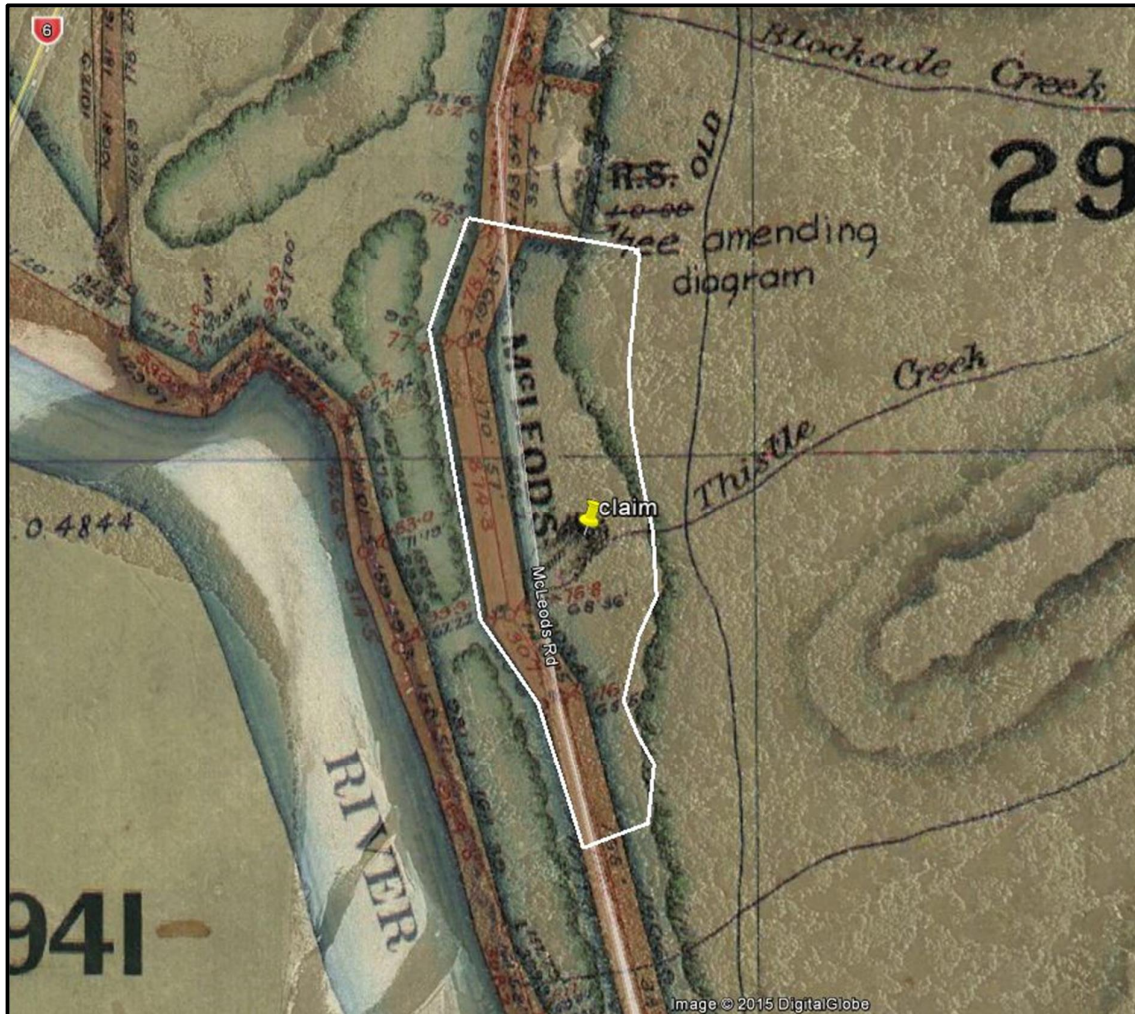
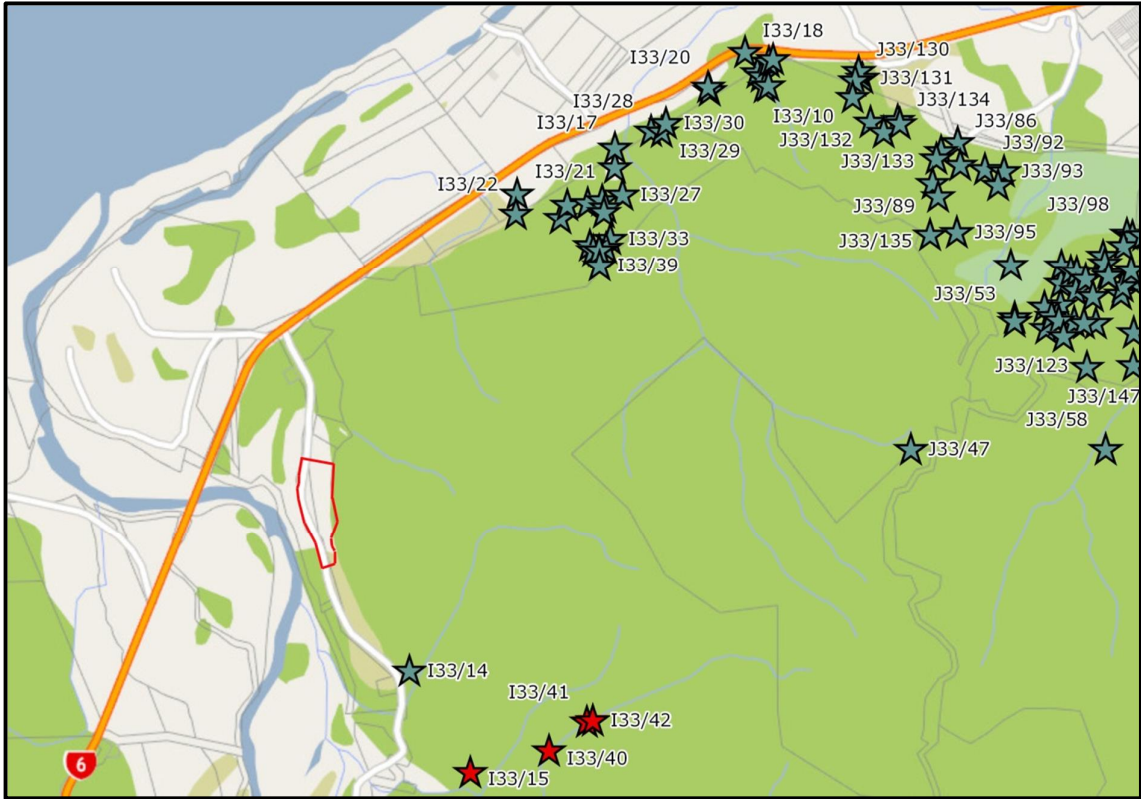


Figure 6. The claim on Thistle Creek, 1917, in relation to the boundaries of the current application area. Image: Google Earth and LINZ 1917.

### PREVIOUS ARCHAEOLOGICAL WORK

Prior to the survey for this archaeological assessment, no archaeological work had been carried out in this specific area of Donoghues-Mikonui (Figure 7). There has, however, been a considerable amount of archaeological survey work undertaken in the surrounding area, resulting in a number of archaeological sites being recorded, including the Prince of Wales water race (I33/14). All the other recorded archaeological sites in the area are associated with gold mining, and reflect the importance of that industry to the area (both in the past and now).

The Prince of Wales water race is recorded as archaeological site I33/14, as a result of an archaeological survey carried out by Les Wright in 2009. The site record form records few details of the water race (ArchSite 2010). The report that led to the site being recorded, however, provides more information. This report outlined the results of an archaeological survey of part of Squatters Creek, to the south of the area that the current assessment discusses. Wright (2009: 10) noted that part of the race had been destroyed in the 1990s, although sections of the race to the north of Squatters Creek remained intact, and a local resident reported that the tunnel shown on an 1897 map remained in good condition.



**Figure 7. The recorded archaeological sites near the area that is the subject of this assessment (approximate area outlined in red). Image: ArchSite.**

A more recent archaeological survey (carried out in January 2015, as part of an application to mine land to the south of the area that is the subject of the current assessment) found no evidence of the race south of Black Creek. This appeared to be a result of three factors: the race is likely to have been flumed across the gullies; some sections of the race would have been destroyed during mining in the 1990s; and the race was not extended south of Black Creek (Watson 2015).

In addition, the 400 m long section of the Prince of Wales water race immediately south of the section that is the subject of this assessment was walked by this author in October 2013. At the time, that section of race was in good condition and easily followed. This section of race remains intact today.

Although not recorded as an archaeological site, the remains of the Prince of Wales claim are discussed in Watson (2011).

As a result of this assessment, the site record form for the Prince of Wales water race has been updated and the Thistle Creek claim and McLeods Road have been recorded as archaeological sites I33/51 and I33/52 respectively.

## RESEARCH RESULTS

### Prince of Wales water race (I33/14)

#### *History<sup>4</sup>*

As noted above, the Prince of Wales claim included a head race fed by streams on the western side of the Greenland range (*AJHR* 1884 H9: 36). This race was built in 1883-1884 and powered the original claim. One of the difficulties that the claim faced, however, was insufficient water supply in dry weather. As such, the company proposed to extend the water race from Blacks Creek to the Mikonui River (near Campbells Creek) at an estimated cost of £4,000 (*AJHR* 1886 C4a: 31-32). In 1891, the race had not reached the Mikonui (Wright 2009: 7). Although an undated survey plan shows the line of the race between Black Creek and the Mikonui River (LINZ n.d.)<sup>5</sup>, no other historical evidence (such as newspapers or the *AJHRs*) has been found to suggest that the race was ever extended to the Mikonui River.

#### *Archaeology*

The section of water race it is proposed to reuse was surveyed from south to north, the direction in which the water would have flowed when the race was in use (Table 1 and Figure 8). This section of the Prince of Wales water race is 370 m long and in relatively good condition, although one section has been lost in slumping (waypoint 143). The race is intact for another 400 m to the south of this (this section of the race is outside the application area) but the race has been filled in at the northern end (waypoint 156) of the section surveyed for this assessment, where it runs across farmland (this section of race is outside the application area).

**Table 1. The waypoints recorded during the archaeological survey.**

<b>Waypoint</b>	<b>Description</b>
140	On the race, heading north.
141	1200 mm wide, 500 mm deep.
142	Possible bywash/overflow channel on the outside edge of the race. Berm is 1 m wide.
143	Race lost in slumping.
144	A gully (Thistle Creek) that the race would have been flumed across. There is pipe (340 mm diameter) lying here, which could be related to the race or to hydraulic sluicing activity.
149	A small feeder runs in here, on the uphill side of the race. Approximately 5 m long (would not have captured much water). It runs northwest. 800 mm wide, 400 mm deep. The Prince of Wales race is 1000 mm wide, 1400 deep on outside edge, 1000 deep on inside edge.
150	Water race.
151	A possible bywash/moderate slumping - 1200 mm wide, 300 mm deep.
152	Water race.
153	The outside edge of the race has slumped.
154	Water race.
155	Water race.
156	This is the point where the race headed out across the flat, over what is now paddock. The race has been filled in where it ran through the paddock.

<sup>4</sup> Adapted from Watson 2015.

<sup>5</sup> No image of this is included as it is not possible to reproduce it at a size that would be legible.



**Figure 8. The waypoints recorded during the archaeological survey. Image: Google Earth.**

The race ranges in width from 1000-1200 mm wide, and in depth from 500-1000 mm (Figure 9). This variation in depth can be explained by the amount of debris that has fallen into the race. The berm on the outside edge of the water race is 1000 mm wide (Figure 10). This would have provided a surface for the water race man to walk along (during routine maintenance and inspections of the race), as well as a useful track for others travelling through the area.



Figure 9. Looking north along the line of the water race, waypoint 149.



**Figure 10. The water race berm, looking south, waypoint 142.**

Several features were recorded along the race, the most prominent of which was a large gully (known as Thistle Creek; see below) that the race crossed (Figure 11). The race would have been flumed across the creek, and a piece of pipe remains here (Figure 12). This pipe is 340 mm (approximately 13 inches) in diameter and it is possible it was used to flume the water race (alternatively, it may have been used for hydraulic sluicing). The other features were two possible bywashes/overflow channels (waypoints 142 and 151) and a small feeder race (waypoint 149). This was above the Prince of Wales water race and was approximately 5 m long, 800 mm wide and 400 mm deep (Figure 13). The small size of the race indicates that it would not have collected much water.



**Figure 11. Looking northwest across Thistle Creek to the sluice faces on the true right of the creek, waypoint 144.**



**Figure 12. The pipe, waypoint 144.**



**Figure 13. Looking northwest along the feeder race, from its head, waypoint 149.**

### Redmans road rush

#### *Archaeology*

No archaeological evidence of mining activity was seen on the flats below the Prince of Wales water race. While it is possible that this area was worked in the 1870s, the historical evidence is not compelling. In addition, this area has been cleared of bush and farmed. If there were any 19<sup>th</sup> century mining remains in the area, it is likely that these later activities have led to the destruction of the mining remains.

## Thistle Creek claim (I33/51)

### *History*

Little historical evidence could be located about this claim. It is shown on 1917 and 1966 plans, but is not shown on an 1896 plan of the area<sup>6</sup> and land transaction records did not reveal any relevant information (LINZ 1896, 1917 and 1966). Searches of West Coast newspapers yielded no references to “Thistle Creek” (or other similar search terms/phrases), and a search of the *Appendix to the Journals of the House of Representatives* yielded one irrelevant result (AJHR 1931 B7a: 59). The 1896 plan shows a special claim taken up by E. Harris in 1896, referred to as the ‘Star of the South’ – although not shown on this plan, Thistle Creek (and the 1917 claim) was within the claim boundaries (Figure 14). Newspaper references confirm that a G. Harris was granted a special claim at Redmans in September 1896, but no references were found to this claim being worked (*West Coast Times* 15/11/1896: 4).

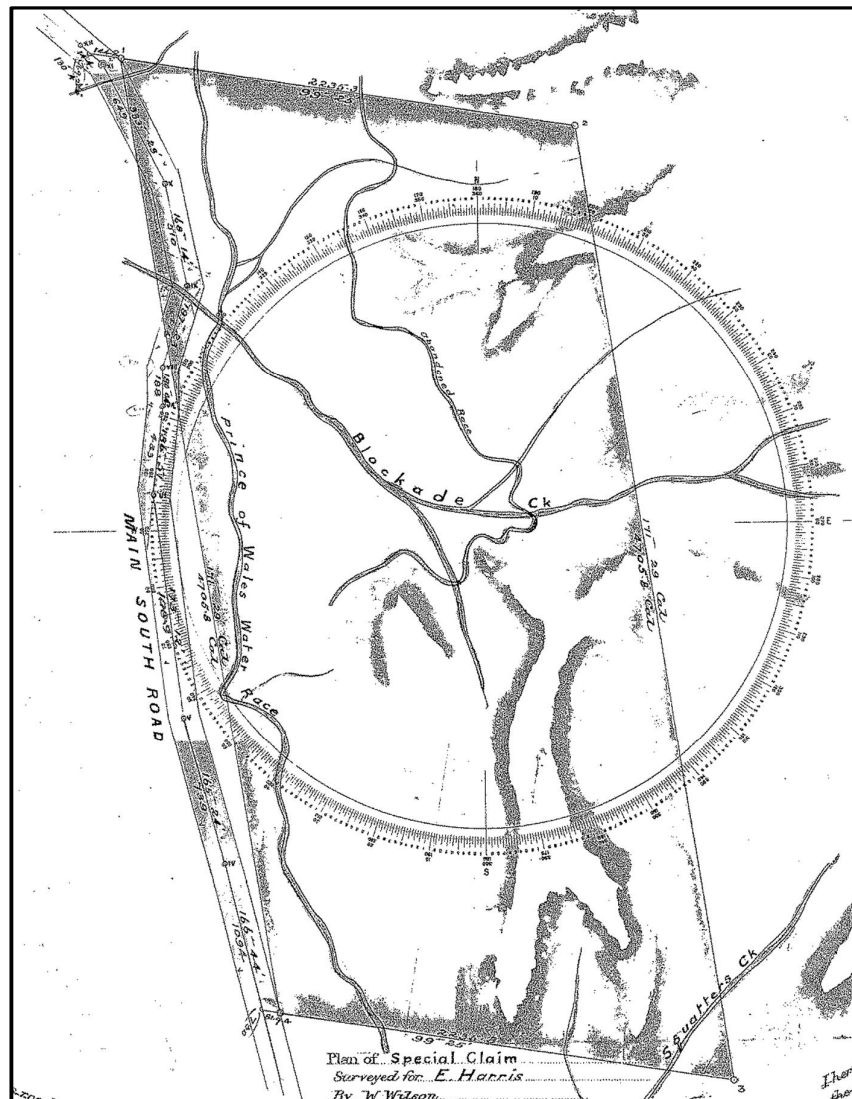


Figure 14. The special claim taken up by E. Harris in 1896. This claim included a large portion of the area between Blockade and Squatters creeks, including Thistle Creek (although this creek is not shown on the plan). Image: LINZ 1896.

<sup>6</sup> Plans do not necessarily show extant workings and the absence of the workings from this plan cannot be interpreted to mean that the workings were not extant at that time.

It is possible that, because the 1917 plan refers to the Prince of Wales water race as an 'old water race' and the claim simply as a 'claim' (rather than in the past tense or in a manner suggesting the claim was old), the claim was being worked in 1917, but this hypothesis cannot be proven. It has not been possible to establish when the claim was worked. It seems likely, however, that it was worked either before the Prince of Wales water race was built (perhaps during the 1870s Redmans Road rush) or after it was abandoned (c.1909), rather than while the race was in use – sluicing underneath an extant water race would be perilous to the survival of that race, even with fluming in place. It is not possible to state with any certainty whether or not this claim was worked prior to or after 1900.

While the 1917 plan shows the claim below the Prince of Wales water race, the 1966 shows it above and cutting through the water race (Figure 6 and Figure 15). The 1966 plan more accurately reflects what was seen during the archaeological survey.

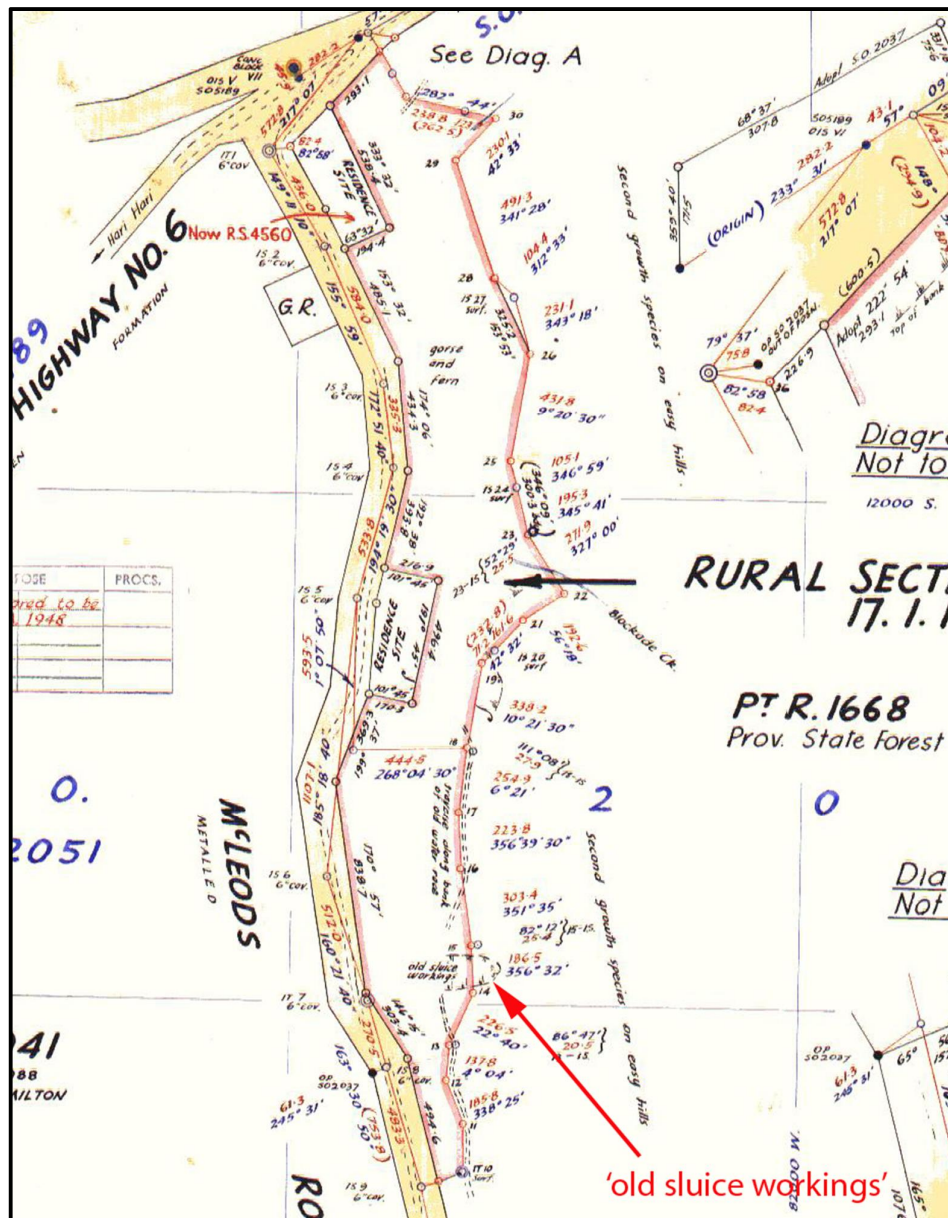


Figure 15. The location of the Thistle Creek claim, 1966. Image: LINZ 1966.

### *Archaeology*

Hydraulic sluicing had widened Thistle Creek to approximately 10 m wide and had no doubt also deepened it, to its current depth of approximately 10 m (Figure 11). The faces were approximately 15 m long. These measurements were recorded where the Prince of Wales water race meets the creek. No evidence of any tailings was seen and it is likely that these were washed down the creek to the Mikonui River.

### McLeods Road (I33/52)

#### *History*

McLeods Road began life, as it were, as part of the road from Ross to Bowen. Bowen was a small township on the river flats where Black Creek meets the Mikonui River (i.e. south of the area that is the subject of this assessment), and was the key settlement for the Redmans gold field. Tenders for the construction of a dray road to link the two settlements were called for in 1868 (*West Coast Times* 22/12/1868: 2). Exactly when the road was constructed was not identified but it was extant by c.1874, when construction extending the road from Bowen south to Okarito began (*WCT* 26/11/1874: 1). The road from Ross to Okarito was completed in 1879 (*WCT* 18/6/1879: 1). By 1886, the road from Ross to Okarito, via Bowen and using part of what is now McLeods Road (including that part that will be affected by the current proposal), was known as the Main South Road (Clifford and Watson 2014: 10).

While no historic maps or plans have been found that show the relevant section of McLeods Road labelled either Ross-Okarito Road or Main South Road, Figure 16 shows part of McLeods Road south of the area of interest (at Redmans Creek – now known as Black Creek) labelled thus.

#### *Archaeology*

Today, McLeods Road is a 6 metre-wide metalled road. No evidence of the 19<sup>th</sup> century road survives on either side of the road, whether because it is under the current road or because it was destroyed by other activity (e.g. farming). If the modern road follows the same alignment as the 19<sup>th</sup> century road, it is unlikely that any physical evidence of the 19<sup>th</sup> century road survives, as ongoing road maintenance – and 20<sup>th</sup> century road formation techniques – will have destroyed any such fabric.

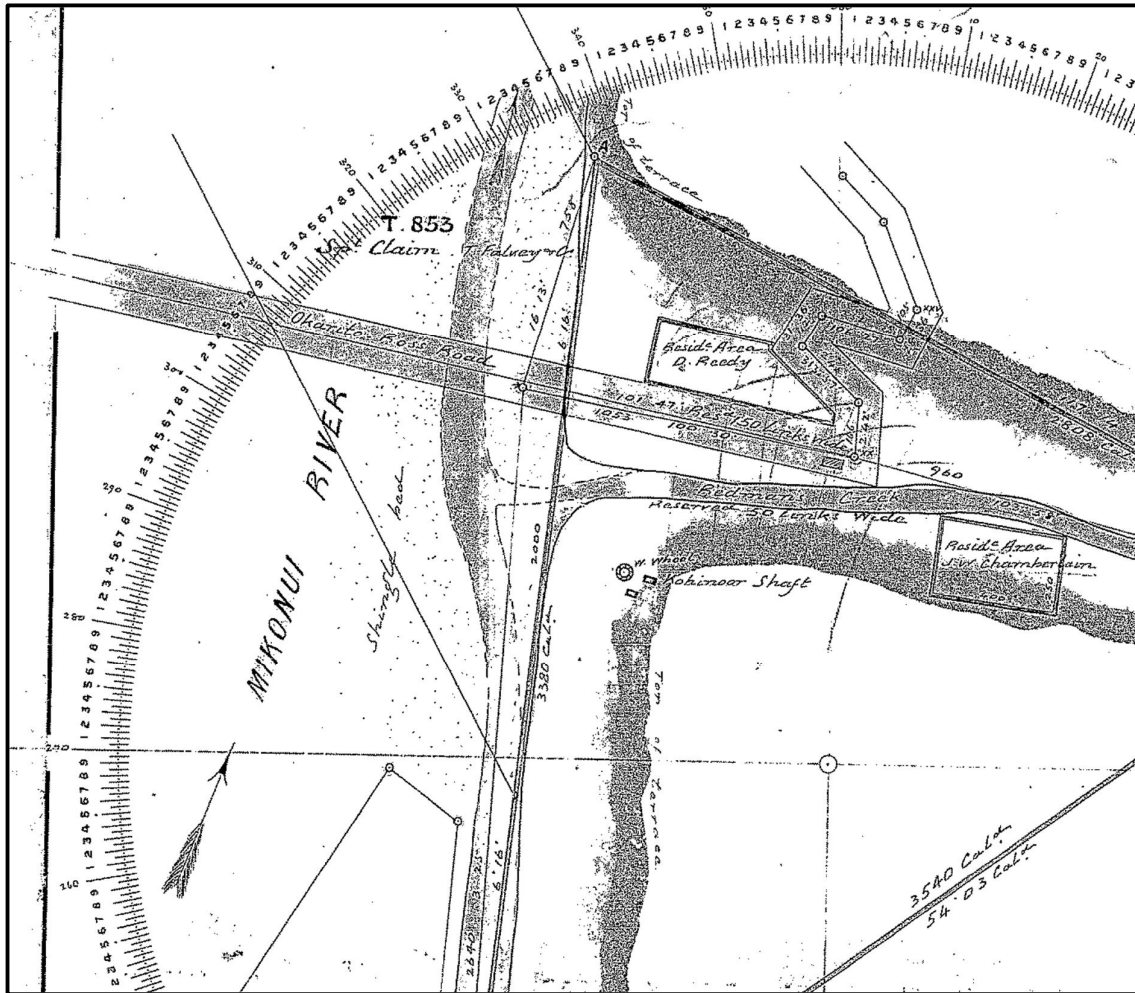


Figure 16. An 1888 survey plan showing part of McLeods Road (at Redmans Creek – now known as Black Creek) labelled 'Okarito Ross Road'. Image: LINZ 1888.

## ASSESSMENT OF ARCHAEOLOGICAL VALUES

HNZPT recommend using the following criteria to assess the values of an archaeological site:

- The **condition** of the site.
- Does the site possess **contextual value**?
- Is the site **unusual, rare or unique**, or notable in any other way in comparison to other sites of its kind?
- **Information potential**.
- Does the site have any special **cultural associations** for any particular communities or groups, e.g. Maori, European, Chinese.
- **Amenity value** (e.g. educational, visual, landscape). Does the site have potential for public interpretation and education?
- Other values (e.g. historical, architectural, technological, cultural, aesthetic, scientific, social, spiritual, traditional, other).

Values have been assessed as being low, moderate or high. The archaeological sites being assessed are the Prince of Wales water race (I33/14) and the Thistle Creek claim (I33/51). The values of the 19<sup>th</sup> century road are not assessed, as this has been destroyed in the affected area.

### Prince of Wales water race (I33/14)

While this particular section of the Prince of Wales is in good **condition**, several sections of the race have been destroyed by 20<sup>th</sup> century mining and, overall, the race is in a low condition, as it is no longer a contiguous feature.

The **context** of the race is low, as the workings the race fed have been destroyed by later gold mining.

As a gold mining-related water race, the Prince of Wales water race is a **common** archaeological site. This race is somewhat distinguished from other water races because it has a known history (it would be fair to say that, for the majority of gold mining water races recorded as archaeological sites on the West Coast, the history of the race is not known) and a known date of construction.

The **information potential** of the race is low. Further archaeological recording could reveal how much of the water race survives, the exact route the race follows and could shed some light on how much water the race carried.

The site has no known **cultural associations**.

The water race has low **amenity values**. It demonstrates the importance of water on the gold fields and serves as a reminder of the several ill-fated Prince of Wales companies, which in turn tells the story many gold-mining companies. The condition of the race, however, and lack of context mean that there are other archaeological sites that tell this story better.

The Prince of Wales water race has low historical values, through its association with the Ross gold field, an important field on the West Coast. It also has some low technological values, through its association with the different technologies employed on the associated claim.

Overall, the Prince of Wales water race is of low archaeological value.

### Thistle Creek claim (I33/51)

The surviving faces appear to be in moderate **condition**.

The **context** of the claim is low, as none of the associated tailings remain in situ and the race that supplied the claim does not appear to survive.

As an hydraulic sluicing site, this archaeological site is a **common** site type, with numerous other similar sites recorded at Jones Creek (to the west).

The **information potential** of the site is low. The site tells us that this area was worked by hydraulic sluicing but little else.

The site has no known **cultural associations**.

The site has low **amenity values**. While the site demonstrates the presence of hydraulic sluicing in this particular area (and thus provides an interesting contrast to the ground sluicing observed further up Thistle Creek – and outside the area that is the subject of the current assessment), the absence of the associated features mean that there is little to distinguish it from other similar sites.

The site has no other values.

Overall, the Thistle Creek claim is of low archaeological value.

## **ASSESSMENT OF EFFECTS**

In considering the effects of the proposal on the archaeological sites described above, the following questions were considered:

- How much of the site will be affected and to what degree? What are the **effects on the values** of the archaeological sites?
- Will the proposal increase the **risk of future damage** to the site?
- Would a **redesign** of the proposal avoid the effects?
- What are the possible methods to **avoid, minimise and/or mitigate** the adverse effects of the proposal?

### Prince of Wales water race (I33/14)

#### *Extent of effects*

As outlined above, the proposal is to patch any degraded walls on the water race and clean out the debris in the base of the race. This will affect only a small proportion of the water race and to a small degree. The proposed work will not have any impact on the values of the archaeological site.

#### *Risk of future damage*

It is possible that having water in the race again may have some detrimental effect on the physical fabric of the race.

#### *Redesign*

The mining project could be designed to avoid impacting the water race.

#### *Avoid, minimise and/or mitigate*

It is not possible to avoid damaging the site. Damage to the site will be minimised by only disturbing those parts of the site that it is necessary to disturb for the project.

With regard to the possible methods to avoid, minimise and/or mitigate the adverse effects of the proposal, it should be noted that “the recovery of information is a method of mitigating the loss of archaeological information, not for the loss of the site itself” (NZHPT 2006: 9). It is proposed to mitigate the potential loss of archaeological information by recording the cross-section of the race, including the race berm, prior to works on the race commencing.

### Thistle Creek claim (I33/51)

#### *Extent of effects*

As noted above, a 1 m wide buffer zone will be established from the west edge of the water race berm. This will protect most of the faces associated with the sluice claim, but not all, as the very western end of the faces will be destroyed. This will reduce the condition of the archaeological site from moderate to low-moderate, but will not affect the overall archaeological values of the site.

### *Risk of future damage*

The proposed works may lead to the destabilisation of the faces.

### *Redesign*

The mining project could be designed to avoid impacting the sluice faces.

### *Avoid, minimise and/or mitigate*

It is not possible to avoid damaging the site. Damage to the site will be minimised by only disturbing those parts of the site that it is necessary to disturb for the project.

With regard to the possible methods to avoid, minimise and/or mitigate the adverse effects of the proposal, it should be noted that “the recovery of information is a method of mitigating the loss of archaeological information, not for the loss of the site itself” (NZHPT 2006: 9). It is proposed to mitigate the loss of archaeological information by accurately plotting the location of the sluice faces.

## **DISCUSSION AND RECOMMENDATIONS**

Southwest Energy Ltd are proposing to mine an area of land on McLeods Road that is part of MP 53355. As part of this project, Southwest Energy Ltd are proposing to repair and reuse the Prince of Wales water race (recorded as archaeological site I33/14; to mine through McLeods Road (I33/52); and to damage some sluice faces (I33/52). This assessment has determined that it is highly unlikely that any physical fabric associated with the 19<sup>th</sup> century iteration of McLeods Road survives intact. It has further determined that both the Prince of Wales water race and the sluice faces are low value archaeological sites. The proposed works will not impact the overall archaeological values of either site, but will reduce the condition of the sluice faces from moderate to low-moderate.

The following recommendations are made:

- Southwest Energy Ltd should apply for an authority to damage an archaeological site.
- All archaeological work should be undertaken in compliance with the archaeological site instruction prepared for this authority application.
- Prior to the repairs on the water race commencing, a cross-section of the water race should be drawn, at waypoint 149.
- The features associated with the Thistle Creek claim (I33/51) that will be affected by the proposed works should first be mapped with a total station (or similar).
- All archaeological work must be undertaken by an archaeologist approved under section 45 of the Heritage New Zealand Pouhere Taonga Act.

## REFERENCES

### Abbreviations

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NZT *New Zealand Tablet*  
ODT *Otago Daily Times*  
WCT *West Coast Times*

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