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HISTORIC SITES ARE TOO BIG

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Twelve years ago I started complaining to my colleagues that the way in which gold mining sites were recorded in the site record files was inefficient, mostly because the methods used made it very difficult to relocate many of the sites. Since then I have proved the point painfully to myself at such places as Bendigo, Waipori and Gabriel's Gully. The students recording the sites twenty years ago on these gold fields were told to make out a form for each site, such as a hut, race, sluice face, pit or stone wall. Some even made separate forms for each length of pipe lying in a heap of scrap near sluice pits, along with a neat drawing! Aids to relocation were often very general, and there was little encouragement to compile overall maps relating the sites to one another and to general topography. A brilliant exception was a diagram for the sites around the Come-in-time Battery at Bendigo, compiled by Chris Jacomb and Sheridan Easedale. With the advent of GPS recording, you might think the problem is solved, but life is never that easy.

Clustering of related sites on to one form is not a trivial exercise. It takes more time and mental effort than filling in separate forms, but there are sound anthropological reasons for doing the extra field work. Consider the fact that it was usually a group of men who trusted each other - a 'party' to use the gold field's term - who dug a head race, washed out some ground, got rid of the water and gravel through a tail race and lived in a hut nearby. They took out mining licenses for their claim, races, reservoirs and even residence licenses for their huts. They cooperated as a group to produce a working system, using water as their external energy source. As anthropologists, it is such systems which we should be investigating. Gestalt archaeology encourages us to see the whole as greater than the sum of the parts after all. Also once you know that

race A flows from Deep Creek to reservoir B which feeds sluice face C, you have a much better chance of relocating all three sites on the ground. Having found one, it leads you to the others.

If we are to record as a group the sites which a given party of miners created, theoretically we should search the old mining records for their mining permits. There are two reasons for NOT starting with the permits. They are very poorly archived and, even if you know in which year the group was working, it can take weeks of searching to find their permits (if the records still exist). Secondly very few claims, especially in the early decades of the gold workings, were formally surveyed on cadastral maps. They were described in general terms, often relative to some previously granted claim.

The first time that I had to describe a large gold field was at Naseby, where parallel creeks, running down gently sloping terraces, were worked mostly by ground sluicing and hydraulic nozzles. It was all alluvial working. I had taken a brief look at the Mines Department records and been appalled by the complexity of the material describing claims in gullies for which the local names had been largely lost. I had one factor on my side. Thankfully water flows downhill, and this profound insight meant that I could tell my two field workers to go out and record sites by catchment. Since water was an expensive resource, every miner would be very fussy about receiving the amount he had paid for, and the way to do that was to create a separate mini-catchment into which his water was fed, did its work and was shot out of. Each set of sluice faces which formed an hydraulically-linked unit would have a reservoir and appropriate head races *above* it. The only glitch in this reasoning was at sites where siphons had been used, but since these were expensive and prone to leaking they were not common.

The place to work out those systems was in the field *as we were recording them.* This was relatively easy for alluvial sites, given the effect of gravity on water. (Hard rock gold mining was trickier, but dray roads and ore passes generally link mine shafts to battery platforms). Very slight height differences could make all the difference between getting water to one sluice face and not to another. No amount of care or accuracy in GPS recordings in the field can substitute for using our feet to check on heights. Even in the field it can be tricky to work out which way a race flows, and I have had some vigorous arguments with field workers who have drawn races as running *from* sluice faces *to* creeks instead of the other way round. When faced by a hillside covered with a jumble of sluiced gullies, mounds of tailings, reservoirs in

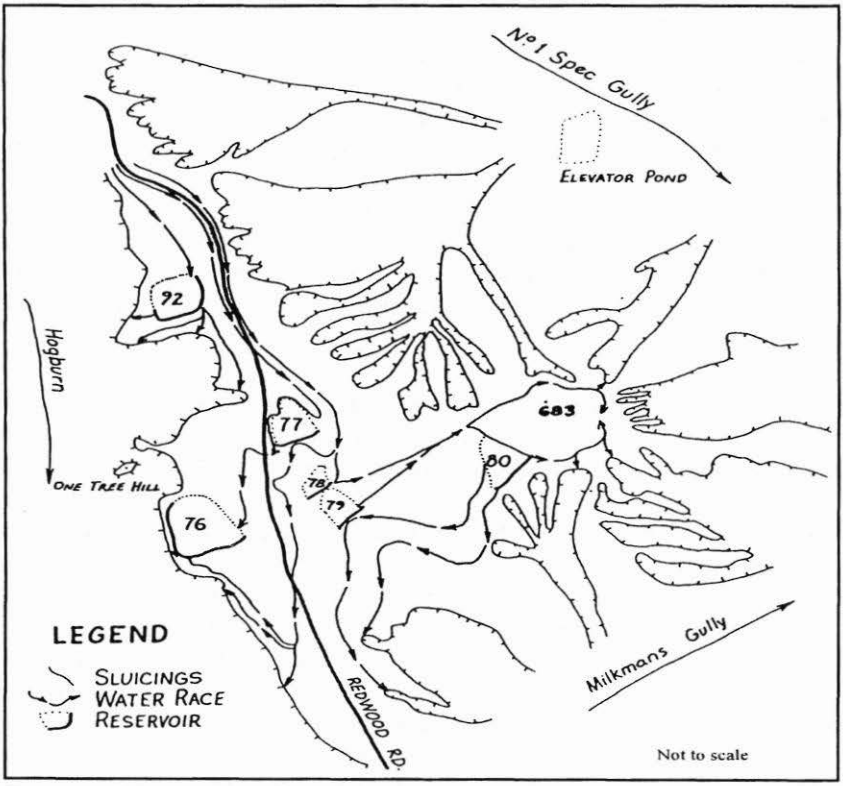

Figure 1. Water races and reservoirs on Surface hill, Naseby. The numbers are Site Record Form numbers with the map no. S135 omitted. The group of three races coming in at the high right along Redwood Rd were branches of the Undaunted West Race (S135/93) from the eastern slopes of the Mt Ida Range (Hamel 1985: fig.7.3).

unlikely places and a spaghetti of races, go uphill and become a water engineer. When you look down such a hillside, it is much easier to see where water can run to and where it cannot. Also it is much easier to draw sketch plans of workings if you are on an outside edge of a group of sites, rather than standing in the middle. But "any sketch showing the relation of site elements is better than none" (Prickett 1999: 88).

Though I was dismissive above of archival material, the paper records are essential to an understanding of gold mining sites. After all, in regarding a complex sluice hollow to be the work of one social entity, i.e. a party of miners working one claim, we are guessing to some degree. Perusal of the annual reports of the Mines Department and of the wide range of maps available in the National Archives and the Land Registry offices can provide likely dates of workings, the presence of hydraulic elevating or dredging ponds, the sluicing methods used and the major parties on the field. If activity on the field dates from after about 1880, there *are* likely to be cadastral maps of the major claims. These enable the recorder to integrate the field evidence with the names of given parties of miners.

Examples of how I have used this system of integrated recording on historic sites, mostly goldfields and nineteenth century farmsteads, can be found in about 50 reports that I have written, mostly for the Department of Conservation, over the past 15 years. My first effort at Naseby was for N Z Forest Service (Hamel 1985). An area north-east of Naseby township, called Surface Hill, carried a complex of races and reservoirs feeding small head races into the tops of ground sluicings for which I drew my first integrated sketch (Fig.1). A major race, the Undaunted West, from the eastern slopes of the Mt Ida Range ran on to the spur leading down to Surface Hill. The records indicated that the Undaunted was built by a race company which sold water to the miners. The race company is a social entity and hence the race deserves its own form (SRF S135/93, though see below). The reservoirs formed a complex group, distributed over a distance of about 2 kilometres from north to south, and did not sort themselves out, one for each sluice pit. So we mapped Surface Hill as a whole and showed the head races (where we could find them) running from each reservoir to the head of each sluice pit and around a knoll labelled spot height 683. Some of the missing links to the fingers of each sluice pit would have been filled in with canvas pipelines according to the wardens, who grumbled about the use of such inadequate technology. But you can see that we sorted out which reservoir fed which pit and how some of the pits may have been linked as the work of one party. The elevator pond would have been worked by a metal pipeline from reservoir S135/92. Even when the pipes have been removed, such a site is often marked by the vertical scour created by leaks from the pipeline.

The site record forms created for this group comprised eight forms for the seven major sluice pits and a hut site, six for the reservoirs and one for the Undaunted West Race, a fairly large group of records which would have been awkward to

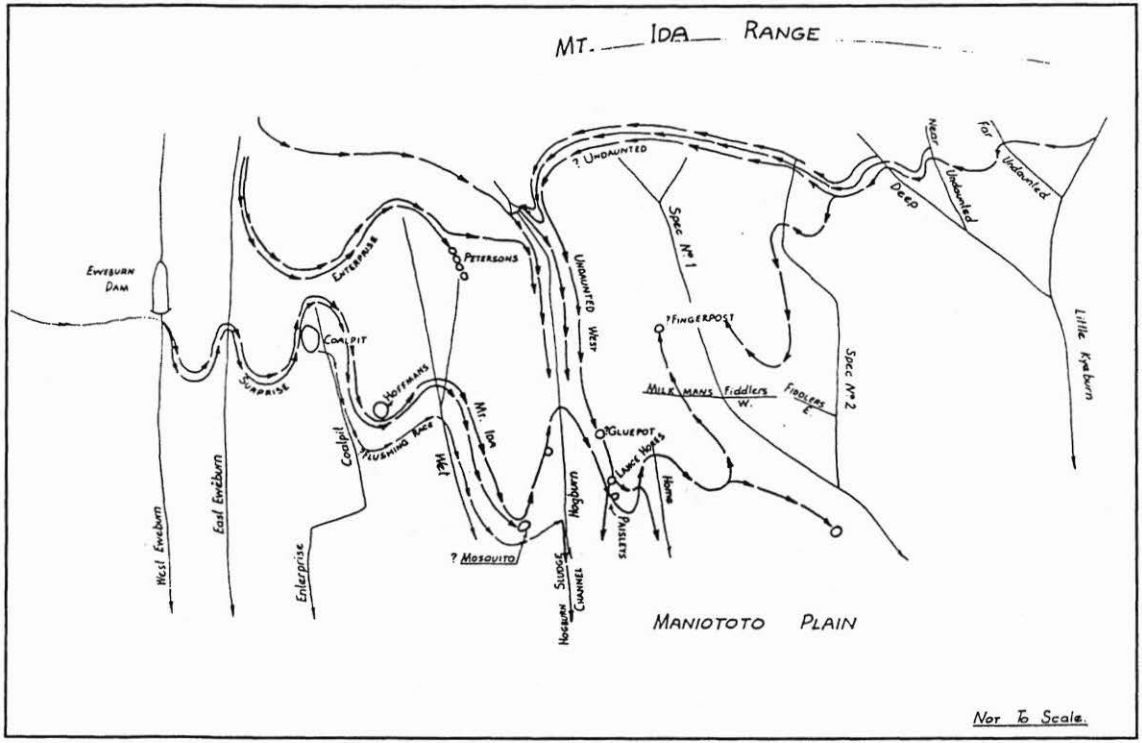

Figure 2. Diagram showing the relative positions of water races, reservoirs and gullies on the Naseby goldfield. The Mt Ida Race enters from the western margin and runs just below the Eweburn Dam (Hamel 1985:fig.7.1)

understand without the integrating map. The sizes of the head races were described where they came in above the sluice pits but no separate forms were created for them. There would have been about 18 more forms if we had done so. Looking through the forms, I notice some "sins of omission". On every site record form, I should have cited the Forest Service publication that I wrote up for the gold field (Hamel 1985), especially the aerial photograph with contours and site numbers superimposed.

An integrated or even a diagrammatic sketch showing how linked sites relate to each other in a landscape is useful for recording phantom, mystery and problem sites. Phantom sites are those which are clearly recorded in the literature but invisible in the landscape. Water races within which two water rights are carried are examples of phantom sites, the Carrick Race being a prime example. During the Naseby survey, we searched for the Surprise Race which was meant to rise in the West Eweburn and run immediately below the Mt Ida Race. It still exists as a legal entity on cadastral and NZMS 1 maps, but we could find no trace of it on the ground. It is fairly evident that the miners quietly arranged between themselves for the Surprise water right to be run into the Mt Ida race where it crossed the West Eweburn and to be taken out at as required on the field.

The Mt Ida Race, coming in from the west and about 112 kilometres long, was built by the Crown in 1877 as a flushing race (Fig.2). It came in low on to the Naseby field to flush waste gravel down the gentle slopes of the Hogburn. The wardens clearly describe the Flushing Race (with capital letters) running from the Coalpit Dam and into the Hogburn, but being used en route for effective working in Coalpit and Hogburn gullies. When levels and actual races were examined on the ground, there was no sign of a race coming out of the dam itself and no way that such a race could have been effectively used for mining the side of either gully. Instead the present Mt Ida Race runs high around the back of the dam, and maintains sufficient height to work considerable areas of ground, not only in Coalpit, Wet and Hogburn gullies, but also further east in Spec No. 1. Gully. It has to cross the Hogburn in a siphon to avoid broken and worked ground. The wardens make no mention whatsoever of the re-alignment of the race. The mystery is easily included in an integrated diagram, even though no site record form has been made out for the mysterious Flushing Race.

Unlike the Surprise Race, there were three large races fully visible on the face of the Mt Ida Range, comprising the Dead Level, the Undaunted and the Hit and Miss races. They were built by major race companies and are well documented.

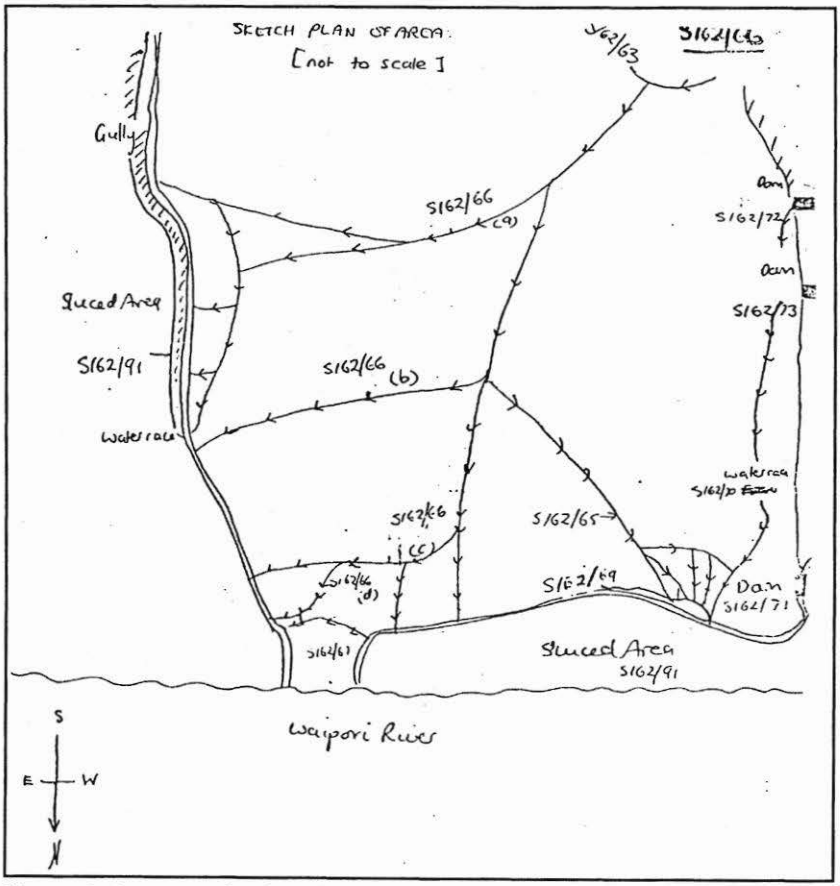

Figure 3. Diagram showing the links between sites on the Waipori goldfield associated with site S162/66 (Vincent 1979: 96).

In 1985 there were several local people whose fathers had worked on the races, but nobody could tell me which name applied to which race on the hillside. I was confined during the project to working within the bounds of the Naseby State Forest and could not include the two days of rather arduous walking required to solve the problem. All three races are mentioned on the record form S135/93, which also has filed with it the diagram (Fig.2) which highlights my problem and shows my best guess. Some day someone will do the walking needed and sort this one out.

The Enterprise Race was the first race to bring water from a distant creek on to the Naseby field. It was built in 1863, the first year of the workings, to bring water from the East Eweburn. Its line and profile were presumably built by miners who had learnt their skills elsewhere and would have influenced the construction of later races. It has to follow quite a complex route round Quartz Hill to get into the head of the Hogburn (Fig.2), and shows the unwillingness of miners to tackle rough hillsides higher up the East Eweburn. If they had started higher they could have taken a much shorter route over a saddle, a route which was followed later by another company. This early race shows a preference for a longer route on easy ground to a shorter route on difficult ground. It is, therefore, a relatively important race historically and technically.

A second race was built to take water from lower down in the East Eweburn and was also brought round Quartz Hill parallel to the Enterprise Race. In 1879 Matthew Young renewed the license for a race out of the East Eweburn, and we decided that the upper of the two races was Young's Race. At the time of the survey in 1985 we could not trace this race through dense broom in the East Eweburn nor find any information about it. We also failed to locate a past owner of the Enterprise Race water right. Two years ago I had the opportunity to make a more intensive study of the Enterprise Race (Hamel 1999) and my error became clear. The upper race is the Enterprise. Because my mistake was recorded on the integrated map in the published account, local people noticed the mistake, and brought it to my attention. I was provided with information by both people who had walked the length of Young's Race when the broom had been cleared and by a local man who had been shown the intake for the Enterprise Race by the last holder of the water right. Maps such as these are clear and strong conveyors of information.

The Waipori gold field has about 900 sites recorded in 1977-79 by relatively inexperienced students. Many of these sites will have been destroyed by farm development, but the rest will have to be relocated using NZMS 1 maps which are no longer readily available and from grid references which were known at the time of the survey to be dubious. The landscape is very repetitious, and it was often difficult for the field workers to locate themselves. The use of GPS in this wide-open grass landscape will be a godsend. There are some drawings showing how sites are linked (Vincent 1979: 96), but they tend to be limited to the grid squares that each recorder was given to work in, instead of showing whole systems (Fig.3). This particular group also shows another problem with grid references - all the site record forms listed on this diagram have the same grid reference, even though one of the sluiced areas alone is described as 250 m

long. The choice of which sites to link in a diagram seems to have been rather haphazard. When it comes to upgrading these records (which are in Clutha District and not yet even a twinkle in Lynda Bower's eye), we may have to establish a priority system of concentrating first on sites for which there are integrating drawings, and pulling together linked working systems of race, reservoirs and sluicings from these.

When Department of Conservation staff took me in to Brackens Gully behind Arrowtown in 1996, we made good use of the known abilities of each team member and the large scale maps which form the basis of the NZMS 260 series. Figure 4 shows the work of two people (myself and Mike Clare) over only 5 hours (Hamel 1996: fig.25). Mike *liked* walking races, which he marked on to the large scale maps, while I recorded the details of the more complex sites along the main valley floors. I drew up five maps to show more details of some of the workings, lying within the network of races and sluicings on the main map, the latter covering about 2 square kilometres of rugged hillsides (Fig.4). We made sure before we left the valley that the races, reservoirs and sluicings that we had each recorded were linked into hydraulically valid systems, especially where they flowed south into New Chums Gully where we would be working the following day.

How does one divide up a complex landscape like this on to meaningful record forms? Initially I filled out 10 site record forms for all the sites shown in Figure 4, using criteria of catchment and age. The sluicing catchments comprised four sites on the north-west side of the valley (Northern Spur, Middle Spur, Southern Spur and Meander Site), one in the south east corner, as well as a site on the true right of New Chums Gully, of which only the race to the head of the sluicings is shown. A single form was compiled for all the mound-and-hollow tailings running from the saddle with New Chums Gully north west down Brackens Gully to the hut north of the rock rib. A separate form was compiled for the mound-and-hollow tailings in the head of New Chums Gully running from near the blacksmith's house to below the stable. Both of the latter were considered to be gold rush workings of the mid 1860s. This criterion is based on the technology used, which is considered to be an indication of age. The hamlet of trees and huts between the blacksmiths and the stable on New Chums Saddle was given its own form, because it was a landscape node of track junctions and residence sites. The live race from a tributary of Brackens Gully was also recorded separately, because there was a linked group of licenses associated with it, as well as the fact that it flowed out of both Brackens and New Chums Gullies to work sites on the Crown Terrace and near Arrowtown.

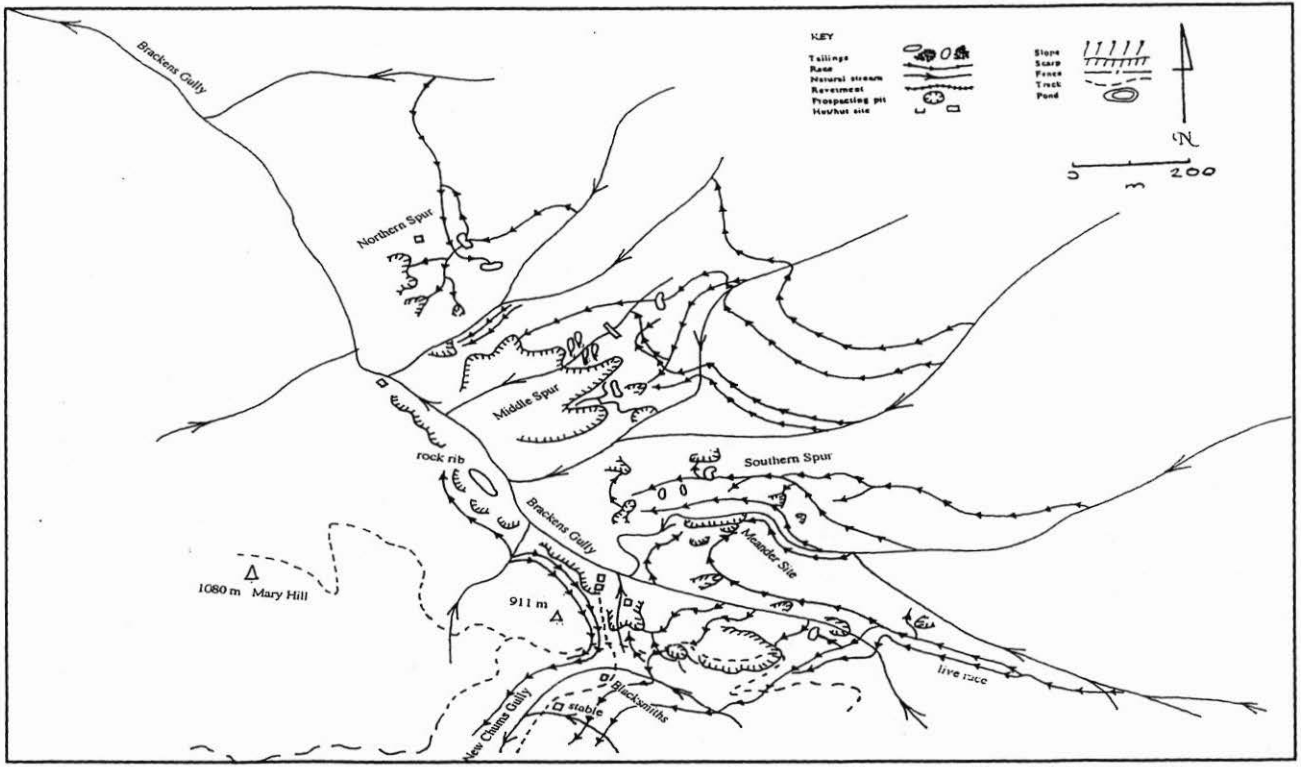

Figure 4. Workings and races in Brackens Gully covering an area of 2 square kilometres (Hamel 1996: fig. 25).

These ten forms are sufficient to base protection measures on. They make it easier to locate the sites on the ground and show the extent of the area over which protection measures, such as reserves, could be placed. They are not adequate for analysis of site types, using the site type entry on the record form. Ideally I should at least quadruple the number of forms by making out a form for each site type within each sluicings, i.e. for races, reservoirs, dams and huts, or even make up a form for each reservoir, dam or hut. Since the most commonly analysed goldfields' site type is huts, I have compromised and created separate forms for each group of huts, which are also described on the forms for the workings within which they lie. This added another six forms for the area, but these forms did not increase the information content per se of the file.

I have been privileged to record many nineteenth century farmsteads in Otago, such as Blackstone Hills in the Manuherikia Valley (Hamel 2001a: 119ff). These old farmsteads are a mix of ruins, buildings in use and falling out of use, and associated yards and tracks. The buildings still in use do not constitute archaeological sites, legally or informally. But the ruined buildings, as archaeological sites, are almost meaningless unless they are linked to the whole farmstead and its position in both the natural and cultural landscapes. Drawing plans of all the buildings in a farmstead and then locating the farmstead and outlying buildings on the early maps of the province has been a revealing exercise, especially in relation to the prevailing north west winds.

Urban sites present fewer problems, in part because they generally cover smaller areas than goldfields sites and are confined to legally-defined sections. In Dunedin Peter Douglas produced 80 site record forms for historic foundations in a relatively small area of historic Dunedin, but each form had a social basis. It recorded the foundation of a social entity, a building with a definable owner. Excavating nearly two acres of the old part of Queenstown, though, has raised definite problems for me. I have yet to write up the site record forms for the excavations shown in Figure 5 (Hamel 2001b: fig.5b). They represent 180 pits which were created over a period from 1864 to about 1950, and range from the holes for the piles of the first Catholic Church to a sump for gray water from Eichardts Hotel laundry in the 1940s. Only a few contained glass and ceramics that provide some sort of a date, but the majority are just basin-shaped pits dug into the clean lake gravels and back-filled with blackened peaty gravel. Contemporaneity is awfully hard to assess. Any suggestions for a meaningful site record form(s) will be gratefully received.

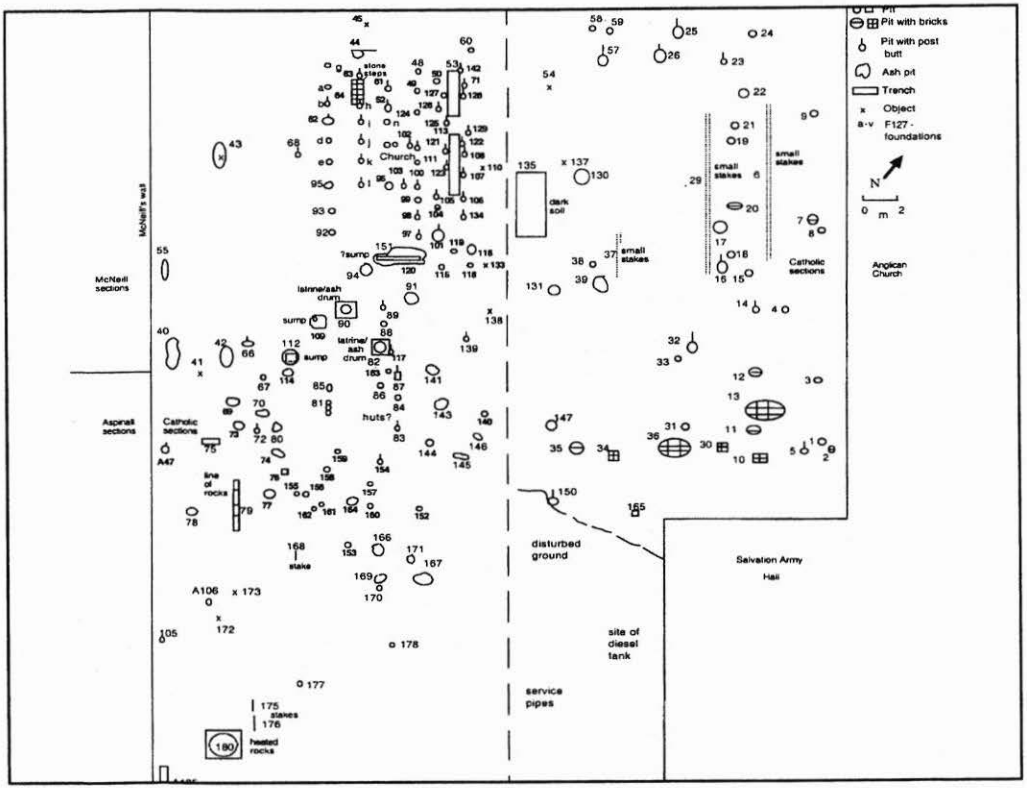

Figure 5. Map of the features excavated on a site originally occupied by the first Catholic church in Queenstown and later by Eichardts Hotel laundrey (Hamel 2001b: 5b)

With any luck, a site upgrade of Central Otago will be carried out within a year or so. We are going to have to tackle the problem of relatively trivial sites which cannot be re-located and large sites that have been inadequately recorded. There are relatively few integrating drawings in the material gathered by Neville Ritchie's students. Given how useful these have proved to be at other sites, it would seem sensible to create them wherever possible, rather than just tick off each site that can be located. On the Kawarau River near Bannockburn, I came across a set of now-rare river-edge tailings which had a single line of text to describe them on a form which gave detailed measurements and a drawing of a sod-ruin on a nearby field. The sod foundations had been ploughed out long since, but technically this site record form, Site Type 'hut', belongs to the tailings which stretched for about a kilometre along the bank of the river. Obviously the weary and heat-stricken recorder had looked at the tailings stretching off into the distance, cried "They're too big", and settled down to pacing round the little hut, which he/she could encompass. These tailings, which are relatively early, should be mapped in relation to the river and old local roads, along with any surviving reservoirs and races, especially since sites in this area are increasingly under threat from vine yard development.

NZAA has no policy on the criteria for dividing up sites which spread out over a landscape. The two poles of lumping and splitting suit gestalt studies and typological studies respectively. Lumping, in the form of integrated sketches, also suits the goals of land managers and protection authorities. By recording a selection of features within each site on separate forms as well, the typologist can be pacified. Criteria for deciding how to select these features is badly needed. The problem occurs with large scale Maori sites, such as terrace complexes and pa sites, according to Lynda. The site upgrade has been progressing in other districts, and it would be interesting to hear how this problem is being tackled elsewhere by field workers. I read some papers over 30 years ago about splitting and lumping in bird taxonomy - one large species versus several species versus lots of subspecies. An exasperated taxonomist declared at one point in the discussion that "a valid bird species is what an experienced taxonomist says is valid". Perhaps in some cases an adequate site record form will be one that an experienced recorder says is OK.

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