

“A result in excess of expectations”? The Norwegian Mining Party of Waitahuna Gully, Otago, New Zealand

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In New Zealand the historical record on gold mining tends to focus upon individuals, yet many miners worked in groups and formed lasting partnerships. This paper addresses the activities of one mining partnership, the ‘Norwegian Party’, as they came to be known, who mined at Waitahuna Gully in the province of Otago for 46 years (1869-1915).¹ The paper raises the question of how did an inexperienced group of miners become the largest gold producer on the Tuapeka Goldfield, and what factors contributed to a result which a local newspaper described as ‘in excess of expectations’?²

Much has been written on how the nineteenth century gold rushes were important in nation building and the technological, environmental, economic and social changes associated with them.³ However, in New Zealand the gold rushes have not received the level of academic scrutiny and analysis accorded to similar events in Australia.⁴ Consequently with few exceptions,⁵ most accounts have tended to be descriptive historical narratives rather than providing an in-depth examination of the economic and cultural-historical aspects of the goldfields. Indeed only recently have more nuanced interpretations of technological change,⁶ labour relations,⁷ investment decisions⁸ and social history⁹ started to appear. But even so there are still many gaps, especially regarding the story of women and ethnic minorities, two groups which have been sorely neglected.

While many New Zealand authors have examined the imprint of famous prospectors such as Gabriel Read or Hartley and Reilly on the early gold rushes, there have been few attempts to explore the diversity of miners who came to New Zealand, and how this diversity was reflected in activity on the goldfields.¹⁰ This is not surprising. Most of the miners on the Californian and Australian goldfields from the 1850s onwards spoke English, and it was the Anglophone countries which produced the bulk (80 per cent) of the world's gold in the 1850s and up to 1900.¹¹ In Victoria, for example, only 8 per cent of the 572,000 people who entered the state in the decade after 1851 were not British or Australasian in origin, with Americans, Germans and the Chinese comprising the largest of those groups.¹²

However, recent writers, compensating for a century of neglect, have begun to emphasise the experiences of non-Anglo groups, including indigenous peoples, in the gold rushes. In the United States, for example, some migrants were treated differently, especially the Chinese and certain foreign-born workers.¹³ In Australia more attention has recently been paid to the different ethnic origins of miners and how nationalities such as the Chinese and some European groups thought to be ‘alien’, were treated in the

mines, and affected by mining and other legislation.¹⁴ However, for many other groups the record is largely silent and this is also true in New Zealand.

While much has been written about Scandinavian emigration, particularly to the United States, little attention has been devoted to those emigrants who came to New Zealand, and their role in mining activities. Most of the Scandinavian emigrants who came to Otago only remained a short time. However, others, such as the Norwegians who developed the Scandinavian Reef at Bullendale,¹⁵ or the Swedish Rise and Shine Syndicate at Bendigo near Cromwell,¹⁶ made more long standing contributions, as did the Danish brothers, Andreas and Christian Iversen, who became leading advocates for miners in the Wardens' courts.¹⁷ In a similar vein, because of their longevity, the mining experience of the Norwegian Party deserves greater attention.

In assessing the mining experience of the Norwegian Party I argue that there is a place for more local research which highlights the importance of different individuals or groups, and their role in the economic and social changes that took place in the goldfields in the nineteenth century.¹⁸ While there are common themes in the history of gold mining, the experience in each locality, given different environmental conditions, different personalities and different cultural groups, is not the same. Therefore it is important to understand not only broad social trends, but also how different groups viewed the environment and its constraints in different places, and responded to the opportunities they perceived.

As no personal records of the Party survive, extensive use was made of the *Papers Past* electronic newspaper database.¹⁹ Searches of the *Tuapeka Times* and other Otago newspapers using a variety of search terms yielded a rich resource of information on the Norwegian Party and their mining activities. This information, along with a variety of documentary evidence from Archives New Zealand and the archives of local museums, provided the opportunity to view official documents and to cross check the accuracy of locations and dates mentioned in newspaper reports. In addition, a considerable amount of fieldwork was undertaken in the study area. While one of the Party kept a notebook, this consisted mainly of poetry written on board ship, and unfortunately contained no details of their later mining activities.

In assessing the activities of the Norwegian Party, the paper is organised as follows. First, a brief description of their migration to Otago and the outcome of their mining activities up to 1915 is given. The remainder of the paper then focuses on the key question of how did this small group of relatively inexperienced miners become the major gold producer in the Waitahuna district? To answer this question requires an understanding of four things: the favourable institutional climate in which they worked, their ability to secure a regular supply of capital in order to develop the necessary infrastructure to support a long-term mining operation, the nature of the gold deposit and how they mined it profitably, and the versatile nature of their mining partnership.

Migration of the Norwegian Party to Otago

The 'Norwegian Party' consisted initially of seven individuals who, came to Otago, via Victoria, in various stages during the years 1864-66.²⁰ However, only five of the Party

(Charles Thompson, Niels Naas, Ole Hansen Bjorngaard, Peder Fuldseth and John Moen) remained in New Zealand. With one exception (Charles Thomson), all were relatives and all but one came from the same municipality (Størdal near Trondheim) in Norway.²¹ They preceded the first big wave of emigration (1866-73) when 110,000 people left Norway, mainly from more the remote farming areas.²² Since most of the Party came from a farming background, the most likely factor compelling them to leave Norway was the single heir inheritance system governing farm ownership, which led to the formation of a large group of tenant farmers (cotters) and landless rural labourers. In addition, from the 1860s onwards the transition from a traditional peasant society to a more open market-based economy meant that making a living from agriculture was now much more difficult.²³ Most Norwegians who left emigrated to the United States where land and employment opportunities and the ability to return home easily were important factors encouraging this choice of destination.²⁴ However, during the Civil War the US became a much less attractive destination. On the other hand, due to better communications and increased knowledge of Australia following the 1850s gold rushes, migration to Australia and New Zealand seemed much less daunting than before.²⁵ Consequently the early 1860s saw increased Norwegian migration to Australasia, many of the migrants, including the Norwegian Party, coming from rural areas surrounding Trondheim.²⁶

Although the Party initially migrated to Victoria they did not stay long. Soon after arriving in Melbourne in August 1864, four members of the Party immediately left for Otago, the rest following two years later.²⁷ This separation of prospecting activities in two countries seems to have been a deliberate strategy on the part of this group of inexperienced miners. It may also have been a result of the perceived lack of mining opportunities in Victoria, and a desire ‘not to put all their eggs in one basket’ that saw them separate into two groups to increase their chances of finding mineable ground.

Mining activities in Otago 1866-1915

The Norwegian Party was part of a second wave of immigrants who came to Otago following the initial 1861 gold rushes. Being part of this second wave meant that while mining opportunities were still present, they were different. The diggers of the early 1860s had mined much of the more accessible gold, so the Norwegians were faced with developing other harder-to-reach deposits and, like the Chinese miners, re-working already mined ground. But unlike the Chinese miners, who laboriously re-processed old workings, the Norwegian Party eventually realised that in order to prosper, so they could return home,²⁸ they needed to start working lower grade gold deposits. While these were present in Waitahuna Gully, in the form of the ‘Blue Spur Conglomerate’, it took some time before the Norwegians decided to start mining this resource. The Waitahuna Gully goldfield, the second most important mining area in the Tuapeka (Fig. 1), was discovered by Gabriel Read²⁹ immediately following his initial strike at Gabriel’s Gully near Lawrence in 1861 (Fig. 2).

When the first four members of their Party arrived in New Zealand in 1864, two soon left but the remaining two, Charles Thompson and Neils Nass, shortly after started alluvial mining at the entrance to Waitahuna Gully and placed three claims over part of

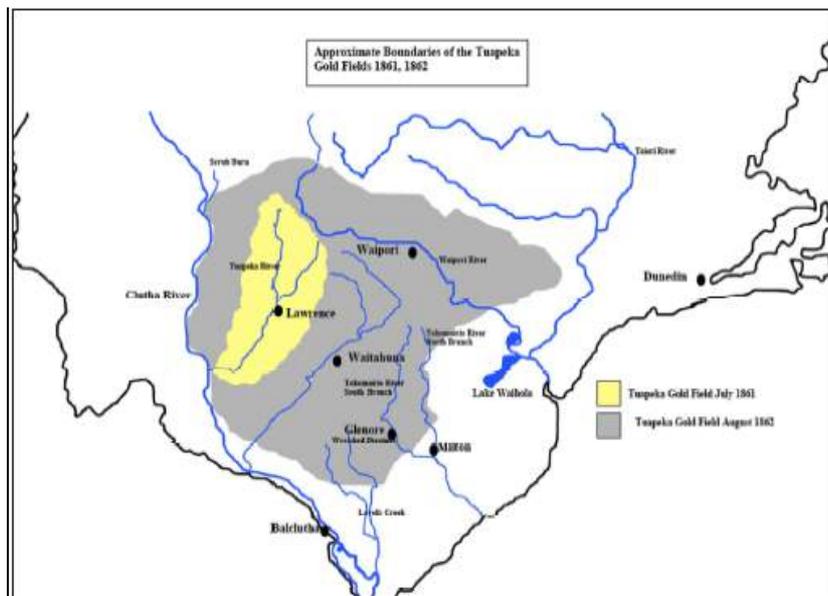
the riverbed and surrounding terraces.³⁰ In 1867, by which time their three remaining partners (Ole Hansen Bjorngaard, Peder Fuldseth and John Moen) who had remained in Australia had joined them, the names of all five members of the Party featured on an application to divert the Waitahuna River (Fig. 3).³¹ Given that their claim site was at the termination of Waitahuna Gully, where the valley stream runs into the Waitahuna River (Fig. 4), it appears that this initial alluvial mining operation was reasonably profitable and provided them with enough capital to fund further prospecting.

Figure 1: *Waitahuna Gully in 1861* (The valley bottom has been extensively worked. Most of the alluvial gold was derived from the conglomerate deposits in the hills to the right).



Source: Joseph Perry Collection, P1992-010/1-2, Hocken Library, Dunedin

Figure 2: *Location of Waitahuna and approximate boundaries of the Tuapeka Goldfield, 1861 and 1862.*



Source: A. Williams, 'The Woolshed Diggings, Glenore', *New Zealand Goldrush Journal*, 2009. <http://www.kaelewis.com/woolshed/woolshed.htm>

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Figure 3: Application by the Norwegian Party to divert the course of the Waitahuna River opposite the termination of Waitahuna Gully, December 13, 1867.

No. _____ District of Waitahuna
December 13th 1867

We hereby give Notice that we intend to divert and work the bed of the Waitahuna River and to form a new channel therefor, commencing at a point situate opposite the termination of the Waitahuna gully.

and terminating at a point 150 yards below the said point.

NAME (IN FULL)	Number of Miners' Right.	Date of Miner's Right.	RESIDENCE.
Christie Thomson	147	22/3 67	Waitahuna.
Niels Ingstadness	146	22/3 67	
Olav Bjirngard	113	22/2 67	
Tran Faldseth	114	22/2 67	
John Maen	118	22/2 67	

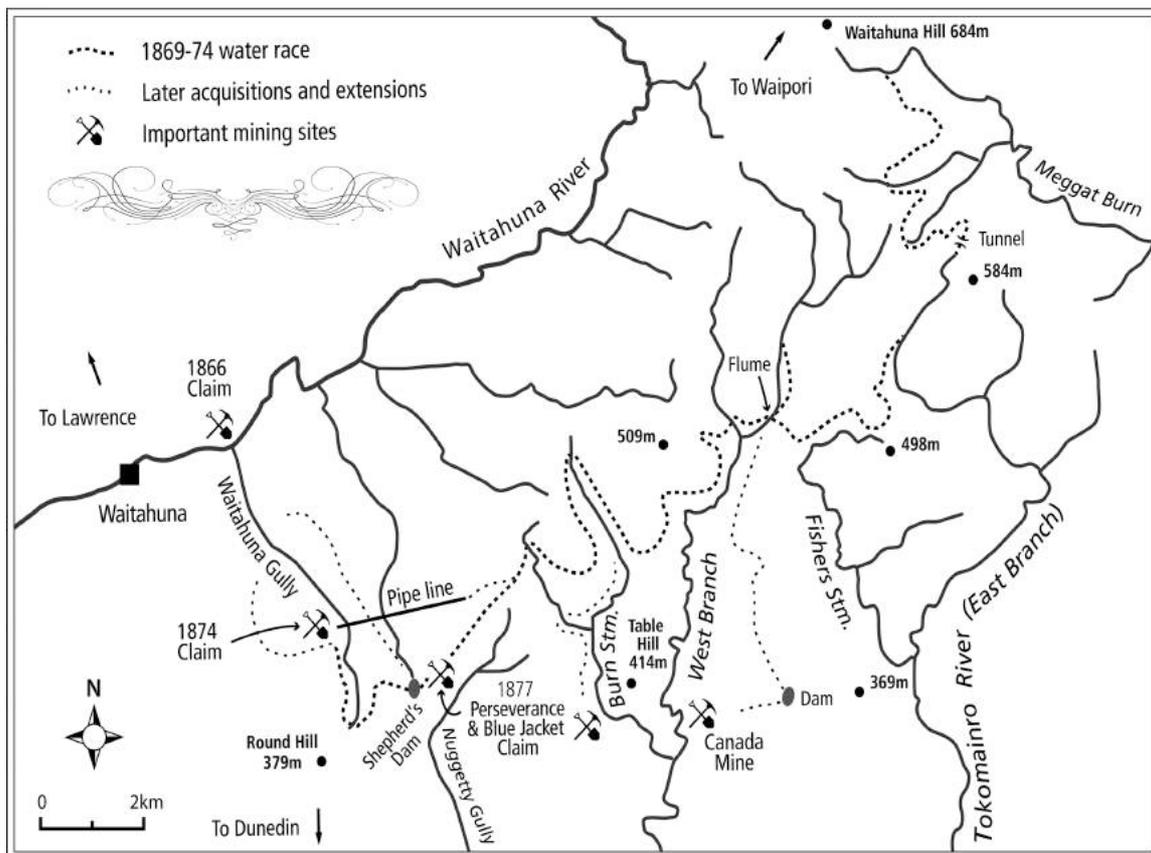
Source: Lawrence Warden's Court Dams Applications – 1867. Reference: R16567013 AENX D583 Box 59/g, Dunedin Regional Office, Archives New Zealand.

However, despite these initial activities, the results must have been such that the Norwegians did not see the limited alluvial resources of this locality as sustaining a long-term mining operation. So over the next year the Party explored a number of other mining possibilities in Otago.³² These proved unsuitable and so by 1868 the Norwegians had returned to the Gully to start mining in earnest, but not in the area where they first started. During these first years in Otago the Norwegians must have quickly understood three things: (i) that re-working old alluvial deposits, or even finding new ones, was not going to earn them their fortunes. Most miners of the early 1860s had only achieved meagre returns and by the time the Norwegians arrived in 1864 there was a net migration loss between Otago and Australia;³³ (ii) the fact that most of the rich alluvial gold found at Waitahuna had been liberated from the Blue Spur Conglomerate, and this generally low grade deposit should be the focus of future mining operations; and (iii) the realization of the need for a regular water supply in order to undertake sluicing operations.

In assessing the last two factors, the Norwegians gave priority to obtaining water rights and building their network of dams and water races. So in July 1869, just three years after the Party was re-united, they applied to the Lawrence Warden's Court to

build their water race (Fig. 5), a major project 77km in length, whose completion took five years (1869-1874).³⁴ The water came from an untapped source, the Tokomairiro River. Both east and western branches of the river were tapped, and water was also diverted through a small tunnel from the Meggat Burn catchment into the East Branch of the Tokomairiro River (Fig. 4).

Figure 4: Location of the original (1869-74) Norwegian water race from the upper Tokomairiro River catchment to Waitahuna Gully. The pipeline constructed by the Sailor's Gully Company, after they bought the Norwegian Company in 1915, is also shown. The pipeline, which bypassed Shepherd's Dam, gave a greater fall and enabled a deeper working of the conglomerates than before.



Source: Cartography by Marney Brosnan, Graphic Solutions.

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Not being part of the first rush of diggers to the Tuapeka meant that the opportunities which opened up to the Norwegians may not have existed in 1861. By the time they arrived in Waitahuna Gully the goldfield was relatively deserted and, given

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official encouragement to encourage mining via the amalgamation of existing claims, more opportunities presented themselves for larger scale sluicing operations than before. However, given the capital requirements of building the water race, their first serious attempt to sluice the conglomerates did not occur until 1874 when they secured a small claim of 10 acres close by the original discovery site,³⁵ marked today by a miners’ monument at the head of Waitahuna Gully. This area was nicknamed ‘the jewellers shop’ indicating the prodigious amount of gold produced following Read’s discovery. Some idea of the richness of this alluvial ground was obtained in the 1920s, when the store site (owned by the author’s great uncle’s sister), which had never been worked, was sluiced for a return of over 300oz of gold.³⁶

Figure 5: *Remains of the Norwegian water race east of Waitahuna Gully. In the foreground the line of the water race is clearly marked by the cutting and change in vegetation.*



Source: Author’s photograph, 2015

Over the next 41 years the Norwegians mined the length of Waitahuna Gully and became the main gold producer at Waitahuna, if not in the Tuapeka Goldfield.³⁷ Even the fabled Blue Spur and Gabriel’s Gully Consolidated Company, which employed up to 40 men, and which operated for 30 years (1881-1911) in Gabriel’s Gully, did not achieve the same gold output.³⁸ Although the exact amount of gold the Norwegians produced is not known, their gold production, estimated at over 80,000oz between 1876-96 and 100,000oz up to 1915, when they sold out to the Sailors’ Gully Company, appears to have been substantial.³⁹ In view of their contribution the remainder of the paper examines four factors, notably the institutional climate, their

water race infrastructure, mining methods and versatile partnership, which contributed to their success.

A favourable institutional climate

Above all the Norwegians were aided by the institutional climate of the time. When they started mining in Otago near the end of the Provincial Government period, competition between mining and agricultural interests for land and water resources had not yet intensified. Initially the Otago Provincial Council was against land sales and preferred agricultural leasing, but in the 1870s, as gold revenues started to decline and demand for public expenditure increased, progressive governments enacted various measures intended to promote land sales and settlement. Extensive use was made of leasehold tenures to allow the settlement of lands formerly part of the pastoral runs and of land reserved for mining purposes.⁴⁰ Thus it was inevitable that conflicts between mining and landed interests would occur over the best uses of land and the rights to work it. These conflicts were minimised as long as land proclaimed 'mining districts' remained Crown land, but became more complicated with the increased freeholding of land and demands for compensation.

It appears that the Norwegians were not severely affected by such conflicts. Their water race and initial claim in Waitahuna Gully were located largely within the borders of the original Tuapeka Goldfield, proclaimed in 1861, and for which compensation had been paid to the pastoral run holders within its boundaries.⁴¹ Overall provincial governments were initially more responsive to the demands of the mining industry, with farming development confined to small blocks of land, generally in the most favourable locations. Only after the abolition of the Provincial Government system in 1876 did many pastoral leases expire, giving Central Government the opportunity to subdivide the runs. This began in earnest in the mid-1880s, and encouraged more intensive farm development.⁴² While the first serious challenges to the Norwegian Party's water rights began in 1879, it was not until the early twentieth century that the local county council started to question water allocation practices, and claims for compensation became more common from farmers affected by the location of water races. While environmental concerns had been raised in the 1870s, these came to nought and it was not until the late nineteenth century that the Norwegians appear to have been forced to withdraw their application to take extra water from the Tokomairiro River.⁴³ Thus, like so many other mining companies at the time, the Norwegians' activities were shaped by the current legal and institutional practices, including, initially, the laissez faire nature of mining law in the mid-nineteenth century.⁴⁴ While the institutional climate, in itself, does not explain the Norwegian's success it obviously had some impact on their long-term investment decisions and the profitability of their mining operations.

Securing capital and development of the water race: The basis of their prosperity

From when they first started mining at Waitahuna Gully the Norwegians paid attention to the water infrastructure needed to support their mining operations. Perhaps this reflects the fact that they came from an environment where large quantities of running

water were abundantly available. Visiting Australia may have changed their perceptions regarding the availability of water and the importance of controlling its allocation.⁴⁵ These perceptions would have been reinforced once they arrived at Waitahuna, where water shortages had been of longstanding concern, as they seriously curtailed the activities of existing mining operations and adversely affected their profitability.⁴⁶

For a party of five young men without much mining experience the construction of their water race was a notable achievement. Despite a number of challenges, they maintained control of their water supply with their licence of 1869, which awarded them prior water rights, and served them well over the next 46 years.⁴⁷ Interestingly these rights had been granted by the Lawrence Warden without any public notification, which drew the ire of business owners and settlers in the Tokomairiro district who were also dependent on the Tokomairiro River for their water. Challenges from other mining parties to their dominance in the Gully were not successful. Perhaps the main reason for this was that the Norwegians increased their rate of mining from the 1880s onwards and were the largest employers in the Waitahuna Goldfield.⁴⁸ This came about through their pre-eminent water rights and sales of surplus water to other parties, who were unable to engage in the high levels of capital expenditure necessary to develop their own water race infrastructure.

The development of the water race was not undertaken lightly. In embarking upon such a venture the Norwegians took a calculated risk that they would be able to complete the race and that any eventual mining would be profitable. Financing new water races was always problematic and a number of possible sources of funds were available to any mining enterprise. First, mining parties could obtain credit from local merchants while they built their races, but this was a short-term measure and one only available to a limited number of parties. Alternatively miners could seek the help of ‘sleeper’ investing shareholders and form their own water race company to see the project through. However, while this process was used in different parts of Otago,⁴⁹ it meant a certain loss of control by the mining enterprise. Third, if a race already existed then miners could purchase water from existing companies, but this was not an option for the Norwegians. If it had been then there was always the potential problem of the water charges being too high, leading to disputes between miners and water race companies, as at the Hogburn in 1870.⁵⁰ Fourth, miners with sufficient financial reserves could employ labourers to construct their own water race. The main problem with this approach was that sufficient financial reserves were needed before race construction. Of these four financing strategies, the Norwegians used the first and last, with the race initially being partly financed by a loan from local storekeeper, Francis Oudaille, and partly from capital already raised by their mining operations. But it must have been the rapid growth in income from water sales to other mining parties⁵¹ within two years of the beginning of race construction that enabled them to undertake, and complete, this large construction project. Water sales began quickly as soon as Burn Stream (see Fig. 4) was tapped in the early 1870s, and by 1878, for example, one mining party was paying the Norwegians over £300 per year.⁵²

Despite this and the loan from Francis Oudaille, the financial risk was still considerable, and there was no guarantee that the gold returns would be enough to repay

this loan and other investments in race construction. During the five years of race construction (1869-1875) the Norwegians spent £3,000 (approximately NZ\$ 0.5 - 0.6M in 2017) to accomplish their task.⁵³ Francis Oudaille is often credited with financing their water race, yet his loan, estimated to have been £600 in 1870,⁵⁴ was just a small proportion of total costs. This left a large deficit which the Norwegians must have financed during the early years of race construction (1870-72) when they employed a significant number of local people and before the first financial returns from water sales took place.

The Party took a calculated risk that the subsequent gold returns would be sufficient to finance their capital needs during this initial period. Although no records survive, the fact that the Party did survive and prosper financially indicates that their assessment of the likely success of their mining venture was correct. For five young men without much mining experience this was a major achievement and contrasts with the financial failures which characterised so many other gold mining ventures in Otago at that time.⁵⁵

Research has shown that investors who accept a greater degree of financial risk expect to benefit from higher returns and greater wealth over time, and that there are social and cultural differences in risk perception. It is sometimes argued that risk perception and concern about risks are based in social and cultural factors.⁵⁶ This means that the basic values permeating certain contexts shape individual risk perceptions. For the Norwegians the poor economic context of Norway, which they left behind, must have affected their view of life in New Zealand, and what they needed to do to improve their economic and social situation. While immigrant groups often work hard to improve their social well-being, not all are risk takers and, as Bodnar⁵⁷ showed, with respect to nineteenth century immigrants in Pittsburgh, significant cultural differences existed between more risk-averse Poles compared with Italians who were prepared to be more flexible and adventurous in the economic decisions they made. With respect to the Norwegian Party, as no personal letters survive which record the circumstances which led to their investment decisions, we can only speculate on the events that took place. Youth was on their side, they had a range of different skills and by 1869, when they started to build the water race, they would have gained valuable experience after five years of mining in different environments, both in Australia and New Zealand. They obviously wanted to return home,⁵⁸ but returning home without their 'fortune' was not an option for this group of miners.

Understanding a unique gold deposit

At a more local level, much of the Norwegians' success arose from their understanding of the nature of the gold resource they were mining and the methods needed to ensure the continued profitability of their company. Unlike most other alluvial operations in Otago they worked a unique gold deposit, the Blue Spur Conglomerate (Fig. 6). Of late Cretaceous age, this is the oldest sedimentary gold-bearing unit in the Otago goldfield⁵⁹ and was the major source of the alluvial gold worked by the first miners. Once part of

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the more extensive Taratu formation, only limited amounts of conglomerate survive as infaulted remnants along the Tuapeka Fault (Fig. 7).⁶⁰

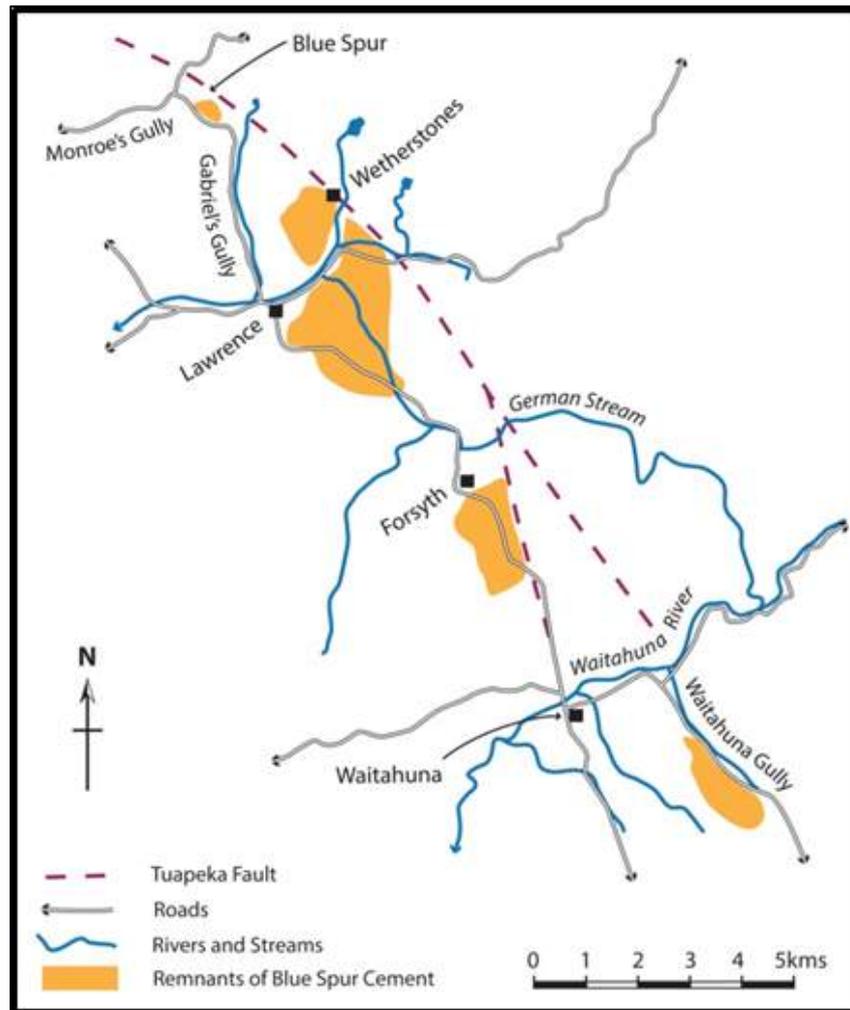
Figure 6: 1860s Blue Spur workings of the conglomerate. Although no photographs survive of the early Norwegian Party workings at the head of Waitahuna Gully, this image provides an impression of what their initial (1874) claim, which involved ground sluicing, as depicted here, would have looked like.



Source: Ron Murray Collection, Cromwell Museum.

As the Norwegians were soon to discover, the conglomerate, or ‘cement’ as it was commonly called, was a difficult deposit to work due to a number of reasons. First, although most of the conglomerate is gold bearing the deposit is relatively low grade and, as many later miners were to discover, the gold values are uneven.⁶¹ Second, because the deposit was cemented by a number of clay minerals, as elsewhere on the Tuapeka, parts of it were extremely hard and needed blasting and crushing to aid gold recovery.⁶² Third, because gold particles, especially in the more weathered sections of the deposit, were often coated by secondary minerals, a problem first noted by James McKay in 1897,⁶³ liberation of this gold proved difficult. Composite particles of gold have lower density than gold particles alone and the mineral coatings (for example, by Calcite or Manganese or Iron oxides) meant that it was more difficult to separate the gold using mercury amalgamation. Finally, the suspended clays increased the density of the processing water which further inhibited the efficiency of gravity separation of gold.⁶⁴ As a result of these problems gold loss proved to be a constant problem facing the Norwegians.

Figure 7: Occurrences of auriferous Blue Spur conglomerate in the Tuapeka Goldfield.



Source: Ross Barnett, *Goldfield Entrepreneurs: The Norwegian Party of Waitahuna Gully, Otago*, Lawrence Athenaeum and Mining Institute, Lawrence, 2016, p. 73. Cartography by Marney Brosnan, Graphic Solutions.

Profitably mining the conglomerate

The Norwegians profitably mined the cement by developing a highly efficient mining operation, evident in a number of ways. In contrast to most other mining parties, the Norwegians spent much time in developing their water race infrastructure despite the financial risks which this entailed. These developments provided them with an almost continuous supply of water and enabled them to adopt industrial methods of gold production, involving an increased throughput of material. From the early 1880s they began mining 16 hours a day in two 8 hour shifts, and soon the efficiency of their operation was further improved by the installation of electric lighting,⁶⁵ which made night work easier and safer and helped avoid the sluicing of waste material.

Second, the special characteristics of the cement meant that, while normal alluvial mining, via ground sluicing and hydraulic elevating was possible, other methods, such as quarrying, blasting, and quartz milling technologies, also had to be used (Table 1).

Table 1: *Chronology of key mining technologies used by the Norwegian Party 1864- 1915.*

Mining technology	Years	Expanded Partnership*	Name
Panning	1864-66	No	
Ground sluicing	1867-76	No	
Quartz reef exploration		Yes	Perseverance and Blue Jacket Mining Co.
Blasting and crushing	1877-80	Yes	Extended Gold Mining Co.
Hydraulic sluicing	1876-95	No	
Hydraulic elevating	1896-1915	No	
Use of electric lighting	1897-1905	No	

* Other company shareholders involved in addition to the Norwegian Party

While these technologies were not new, the success of the Norwegians lay in their versatility – their ability to try alternative mining methods and to quickly discard them if they were not profitable. Of these technologies underground mining, blasting and crushing the cement were the least favoured alternatives mainly because the gold content of the accessible remaining conglomerate deposits was usually too low to profitably mine using these methods.⁶⁶ When more capital was needed, certain members of the group, always including Charles Thomson, would form partnerships with others. This pattern was evident in the formation of the Extended Gold Mining Company and its attempts at underground mining and use of stamper batteries to crush the conglomerate.⁶⁷ When these initiatives failed, other mining methods were tried., and key among these was their introduction of hydraulic elevating into Waitahuna Gully.⁶⁸ While this technology was not new and was used elsewhere in the Tuapeka, it was only the Norwegians who quickly adopted it at Waitahuna (Fig. 8). In contrast to ground sluicing, hydraulic elevating made it possible to work deeper ground, but to be successful it needed a reliable source of water and a large enough fall to ‘suck up’ the auriferous wash into the sluice boxes. Having a regular supply of water and the largest storage dam (Shepherd’s Dam) (see Fig. 4) in the district enabled the quick adoption of elevating and by the early 1890s the Norwegians had two elevators in operation, covering much of the Gully.

Third, like many modern miners, they adopted a regular schedule of mining. While mining one area the Norwegians were always preparing to mine the next. This system provided regular employment to a number of men who would otherwise have had to go further afield to find work, and also left ample room for them to deposit their tailings. Despite being a small private company they were nevertheless the biggest employer in the Gully, and over the years consolidated their position by buying other claims so they did not run out of mineable ground. From their first arrival in Australia and the beginning of their mining activities in New Zealand, the Norwegians were constantly involved in active exploration. This was evident in their initial decision to split up, from their first prospecting activities in different Otago goldfields to their later efforts to sample the cement, and to find the sources of its gold through the formation of

the Perseverance and Blue Jacket Mining Company in 1877. It was not until later years that their gold returns started to fall off, suggesting that their early prospecting activities had been productive in helping identify a mineable resource which produced regular gold returns.

Figure 8: *Norwegian Party elevating claim in Lower Waitahuna Gully, circa 1900. Showing left to right: Charles Thompson, Peder Fuldseth, Ole Bjorngaard and John Moen.*



Source: Hocken Library copy negative Number c/n Sheet58/3/b. Provenance: Original lent by M.B. McCorkindale, Waitahuna, per K. M. Evans, Lawrence, 1973.

Fourth, since gold loss was always an issue, they continued to experiment with different ways of blasting, crushing and sluicing the cement. For example, in the 1890s they improved their gold recovery by installing new, longer, boxes.⁶⁹ Similarly, after abandoning crushing in the early 1880s they reverted to using dynamite to help fracture the conglomerate into smaller pieces before sluicing to improve their gold recovery. By increasing the efficiency of gravity separation these methods helped improve the recovery of the finer gold. Although no records survive, it is likely that to increase their gold recovery, the Norwegians also experimented with mercury amalgamation.

Much has been written about the movement of miners as skilled migrants and the subsequent transfer of technologies.⁷⁰ While simple mining methods, such as gold panning could be learned quite quickly, ground sluicing and hydraulic elevating were much more complex to master. Recently, in Australia, it has been argued that;

the early appearance of sluicing after the discovery of gold and the speed of its spread suggests the movement of experts, migrants who already had knowledge of the required processes and how to apply them, rather than local invention and diffusion to novices.⁷¹

But initially the Norwegians were novices! Apart from what they would have learned during their brief sojourn in Australia, they had no real experience with either form of technology. It is highly likely that they also received help from John Edie, an experienced sluicer from Victoria, who was mining an adjacent claim at the time.⁷² Similarly, in 1876 the leader of the Party, Charles Thomson, gained knowledge of hydraulic elevating by visiting other claims in Otago employing this technology. But gaining knowledge was one thing; using it to produce a working mine was another matter.

A versatile partnership

While many Scandinavians featured in the 1860s gold rushes, most were individual diggers and not organised groups. The Norwegian Party was the most prominent group of Scandinavian miners in Otago and one of the few groups of Norwegians present. While they formed a registered company and were its main shareholders, what stands out is that they worked as a tight-knit group of miners with this co-operation contributing to their success.

Hearn⁷³ has examined structural change in the Otago gold mining industry and, based upon other observations in Victoria and California, has suggested that there were possibly three distinct phases in the evolution of the Otago gold mining industry. The first, or pre-capitalist phase, involved individual miners and the application of limited technology. The second or associative phase occurred where partnerships predominated. The third or corporate phase tended to be capital intensive, using advanced and complex technology, wage labour and the use of non-local financing involving public shareholders. Management and control of mining operations also tended to be externally based leading to a loss of local control. In his study of structural change in the Matakau Goldfield between 1861-1923, Hearn found it difficult to identify three distinct phases and concluded that the associative phase persisted into the twentieth century.⁷⁴ The evidence strongly suggested that there was a greater degree of continuity between the associative and corporate phases than previously has been recognised; that most of the companies were small scale enterprises but employing advanced technology (hydraulic elevators) involving substantial capital investment; that capital was largely supplied from within a venture's own resources; that labour was similarly supplied by the partners; and that ownership and management remained vested firmly in the hand of resident miners and members of the local community.⁷⁵

This latter description fits the Norwegian Party. Although its membership changed slightly over the years, the Norwegians retained tight control over their company operations. From the outset water sales provided valuable capital which was then re-invested in the mining enterprise and enabled repayment of the debt to Francis Oudaille until gold production came on-stream. Consequently there was no need to form

a publicly listed company with shareholders, since most of the capital was supplied internally. In the end this partnership served them well, as it enabled all the members of the Party to concentrate on the task at hand, which was the successful mining of the conglomerate.

Conclusion

This paper has argued that greater recognition is needed of the cultural mix that typified nineteenth century goldfields. To date the stereotype in the literature has been of the rootless, single, 'digger' of the early 1860s who seldom was successful,⁷⁶ and who quickly moved from place to place. In New Zealand much of the historical record on gold mining tends to focus on individuals, yet many miners worked in groups and formed long lasting partnerships. These were often forged because of economic necessity and common cultural bonds, and the Norwegian Party was such a partnership. Being part of a group meant more than just overcoming language problems and ensuring security. Group membership also provided an important resource as people had different skills. Also the 'social glue' provided by being part of a cohesive unit meant that issues such as homesickness were less of a problem, in a community which, for New Zealand as a whole, remained very small.⁷⁷ Moreover partnerships enabled risks to be shared and enhanced the ability of parties to undertake larger mining projects.

The Norwegians became the largest gold producer in the Waitahuna goldfield. It could be argued that this was just luck but it seems that the decisions they made over their mining career were quite strategic. Coming from Norway, where there was an ample supply of water, to the Tuapeka where there was not, seems to have been an important factor in their decision to immediately secure a regular supply of water by constructing the longest race on the Waitahuna Goldfield. Since water was not available from the Waitahuna River catchment the Norwegians were forced to look to a more distant untapped source, the Tokomairiro River. But this required major investment and carried serious financial risks, which they had to assess against possible future gold returns. Here it seems that their past environmental experiences were important in their assessment and decision to build the water race, as was their knowledge of the gold resource they planned to mine. Being a relatively low grade deposit, the Blue Spur Cement could not be profitably mined without the guarantees of secure (prior) water rights and the availability of a regular supply of water. When they eventually started serious mining of the conglomerate in 1874, this was a very cautious beginning as not all of the Party were involved in mining, with the rest most likely being engaged in further prospecting activities. It appears that water sales were a very important source of revenue in these early years before their mining operations were developed on a larger scale.

It was possible that the Party had discussed just being a water supply company but this seems unlikely. As early as 1877 Charles Thompson, the leader of the Party, had encouraged further prospecting of the conglomerate, which in the end provided them with a long-term mining operation. Ironically, this was not their initial goal as, from Peder Fuldseth's obituary, it is evident that they had hoped to return to Norway

once they had made their fortune. It seems that once the realities of mining in Waitahuna Gully became clear, the Party gave up on this goal and became resigned to the fact that the ‘quick’ gold had gone and that, while money could still be made, this was not going to happen in the short-term. Consequently, as time progressed the goal of returning home receded. Thus by 1884 four of the five members had become naturalised New Zealand citizens and by 1889 all members of the Party had married. Four of the Party married local women with only Charles Thompson returning home briefly to secure his bride.

Despite losing their national identity and becoming assimilated into Otago society, their close-knit partnership, born of kinship and a common national identity, served them well. We can only speculate on the dynamics of the partnership but all members were equal shareholders and some members, most notably Charles Thompson, were involved in other ventures. Clearly Thompson was the leader of the Party; it was his surveying skills that enabled the construction of the water race and his leadership and technical skills helped in the assessment and selection of various mining technologies. But in the end all members of the Party contributed in various ways to their success, which was lauded in local newspapers at the time.⁷⁸ Given the poor experience of so many other miners in Otago this indeed was a result in ‘excess of expectations’.

Key historical events, such as the Otago gold rushes, featured a large number of different groups of which the Norwegian Party was one. By examining the decisions which different parties made in particular environments, helps provide a more nuanced interpretation of the nineteenth century goldrushes and the contribution of particular national groups to the changes that occurred.

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