THE PIONEER LAND SURVEYORS OF NEW ZEALAND

C. A. LAWN, F. N. Z. I. S.

This manuscript is the result of an immense task undertaken by Mr. C. A. Lawn F. N. Z. I. S., of Auckland at the request of the New Zealand Institute of Surveyors. Mr. Lawn retired as Chief Surveyor, Auckland after a distinguished career in the Lands and Survey Department in 1963 and has devoted much of his time since to this work.

Concerned that the early pioneers had passed and that those who had known and worked with them were also passing, Mr. Lawn has spent many years in painstaking research of records and in compiling recollections regarding these men and their work.

This manuscript is made available in this original form for the benefit of researchers, historians and students, pending editing and publication. The manuscript has been gifted by Mr. Lawn to the New Zealand institute of Surveyors who reserve the copyright and rights of publication.

The Institute acknowledges a debt of sincere gratitude to Mr. Lawn for his work and as a measure in small part in 1979 awarded him the highest honour available to this Institute that of the Fulton Gold Medallion Class A1.

This copy of Mr Lawn's work comes from a scan of the New Zealand Institute of Surveyors copy of the manuscript converted into a Microsoft Word document.

It is in two Word document files – The first-- Parts I. to III which covers the pioneer period from 1840 to c1900 the second-- Part IV Brief Biographies of 450 Early New Zealand Surveyors

A far as possible it imitates the type written original as to set out and has been checked for agreement with the spelling of names. A few words are in red where modern spell checking has not agreed with the Author.

I have no doubt other errors may be found as this is a very large document to be read literally word by word. Please forward these to the Institute and or to myself so the master copy can be updated.

Derek Brown

M. N. Z .I. S. Retired

Thursday, 24 February 2005

Email Dereke@xtra.co.nz

Phone (03)352-4472

Fax (03)352-5563

Cellular (0274) 510-118

THE PIONEER LAND SURVEYORS OF NEW ZEALAND

Acknowledgments

The compilation of this history which embraces the work of the early surveyors for a period of Sixty or more years commencing in 1840, and the production of biographical sketches of the men concerned, has required the cooperation of a number of contributors. The task has been performed on a voluntary basis and the contributors have given their services gratis.

The project was first mooted by the New Zealand Institute of Surveyors in 1945 when it was proposed to collect as much information as possible from available sources so that an authentic history of the surveying profession in New Zealand could be produced. The membership of the Institute, which was founded in 1888, comprised professional men whose qualifications had been recognized by various Governmental authorities and who had been licensed to undertake surveys for various purposes.

Consequently, records of service were to be found in several separate repositories such as the archives of the New Zealand Company and of various Government agencies, such as the general Government Survey Department, the Native Land Purchase Department, the several Provincial Survey Departments and the Public Works Department.

With the dissolution of the Provincial Survey Departments in 1876 much of these earlier survey records was retained in the local offices. Unfortunately some of these offices were destroyed by fire and some of the records were lost. Some important records were lost with the wreck of S.S. White Swan at Castlepoint in June 1862, when being transported from Auckland to Wellington owing to the change the seat of Government. Many of the records of Hawkes Bay were lost when the Survey office at Napier was destroyed by fire following the earthquake in February 1931.

The task of compiling this history presented a very difficult proposition for a single researcher and inevitably the cooperation of a number of people was necessary. The task of collating the material they collected devolved on me and the assistance and cooperation I received is gratefully acknowledged. Unfortunately some of the older enthusiastic contributors have not survived to see the conclusion of their work. Among the latter were Messrs E. W .M. Lysons, Courtenay Kenny, J. S. Strawbridge, R. P. Fletcher, W. H. B. Buckhurst, A. H. Bogle, J .A .H .Vivian, H. Vivian and F. L. Davie.

Present members of the Institute of Surveyors who have contributed material are Messrs W. Traill, C. Allen, R. S. Fletcher, L. P. Lee, J. R. P. Lee, J. A. Parry, N. J. Gardiner, B. N. Alexander and L. E. Thompson.

The Lands and Survey Department has generously assisted by supplying from its records, information about the early surveyors and their work. The Ministry of Works and Development has been no less generous in researching its records and supplying information about the early surveyors who were

engaged on public works. From time to time individual correspondents have contributed items of interest that have been helpful and have been gratefully appreciated.

In particular our thanks are due to Professor Joan Stevens of Victoria University; Mrs. Lesley Young; Mr. J. B. Haigh, Lands and Survey Department; Mr. J. H. Christie, Ministry of Works; Mrs. R. G. Symonds; Mrs. R. Blumont.

Inevitably, because some of the early surveyors in this country were also civil engineers, the short biographies of their careers are included in the late F. W. Furkert's EARLY NEW ZEALAND ENGINEERS and are also to a great extent duplicated in the present work. The earlier researches of Mr. Furkert and his colleagues have been very helpful.

The NEW ZEALAND SURVEYOR, which commenced publication in 1889, has been a fruitful source of information about the early surveyors as has also the journal of the New Zealand Society of Civil Engineers which commenced publication in 1914.

Our thanks are due to Mr. M. G. Easton, a former President of the Institute, for arranging for the typing of the fair copies which were efficiently produced by Mrs. W. G. Nash and Miss M. Scanlen.

The financial support of the New Zealand Institute of Surveyors in defraying costs of stationery, postages and the production of the typescript is gratefully acknowledged.

Auckland. 14 October 1977. C. A. L.

THE PIONEER LAND SURVEYORS OF NEW ZEALAND

Part I

Under The Colonial Government and the New Zealand Company

1840 to 1853.

Compiled by C. A. Lawn. F. N. Z. I. S.

THE PIONEER LAND SURVEYORS OF NEW ZEALAND

Part I

Under the Colonial Government and the New Zealand Company

1840 to 1853

CHAPTER 1 GENESIS

References to the work of the pioneer surveyors of New Zealand can be found scattered through the numerous published histories, both local and national, in which the surveyors are named among the vanguard of European settlers in New Zealand. The need for the compilation of a comprehensive historical record devoted mainly to the superb contribution towards the development of this country by a small section of the community, comprising professional men and their loyal field and office assistants, has frequently been expressed by members of the profession and the New Zealand Institute of Surveyors. The production of this historical record serves as an acknowledgement of indebtedness to the pioneers who overcame not only the natural obstacles of their physical environment, but also surmounted the difficulties confronting them in the technical and political fields, as they laid the foundations of the highly efficient and economical system of land survey and title records that the nation enjoys today.

A shortcoming of some of the abovementioned local histories is that the narrative generally commences with the description of the arrival of the first body of settlers on the ground. In such cases there is little, if any, cognisance of the antecedent exploration, negotiation with the former Maori owners, the surveying of the boundaries following the purchase by the Crown, and the subdivisional surveys to make the land available to the settlers. It would be impracticable to include in the present work detailed information on such matters but available sources of the records of' the Land Claims Commission, i.e. the “Old land Claim”'; the prodigious compendium of “Maori Deeds and Purchases” compiled by H. H. Turton and first published in 1877 and generally referred to as “Turton’s Deeds”; but mainly the Crown Grant Records of the Lands and Survey Department and of the Land and Deeds Department.

In the following pages the processes by which the land was acquired by the Crown and surveyed and prepared for settlement, (proceedings in which the pioneer surveyors were deeply involved) are depicted in general terms.

In appraising the work of the early surveyors the historians have spoken in the highest terms. The following typical excerpts summarise this evaluation.

“To blaze the trail for the farmer and the settler was a task that always involved difficulty and hardship and frequently danger. In the North Island the explorer and surveyor faced not only the difficulties presented by almost impenetrable forests, by swamps and rugged mountain ranges, but also by the danger from hostile natives. In the South the natural obstacles were even greater. The high alpine chain, that forms the backbone of the island, presented a formidable barrier to him who sought to cross from east to west. The search for low passes over which a road-line might be carried, involved long journeys into high difficult country where the bed of the mountain torrent usually presented the only practicable route.”

"The ever present danger was that the creek or river which presented no obstacle and was easily forded today, might tomorrow, owing to sudden rains or the melting of the snows on the great divide, become a deep-rushing torrent, impassable to man or beast."

"Cut off from supplies amid the desolate mountains, the surveyors were often called on to face starvation. Death by drowning was the fate of many who risked the danger of swollen rivers in the endeavour to return to base for supplies. The pioneer surveyors of the New Zealand Government were endowed with the true instinct of the explorer, and faced year by year an arduous task without hope of honour or reward. The dangerous nature of their work and its extreme value to the Dominion were never adequately recognised, but it is certain that these men are not among the least of those who have built up a tradition which should summon the youth of New Zealand to high endeavour and cheerful self-sacrifice on behalf of the State….

It is well, nevertheless, that men should not forget the perils undertaken by the man who blazed the trail along which others marched to fortune. The roll of Pioneers of Empire is a long one, but on that scroll of fame the officers of the New Zealand Survey Department take a place not least in honour." [1]

The same high attributes were possessed by the surveyors of the New Zealand Company of whom the Surveyor General to the Company, Captain William Mein Smith in his first report to the Court of Directors in December 1840 said "but I cannot conclude my dispatch without stating that I am much indebted to the Gentlemen of my Staff for the great exertions they have always made to forward my wishes. I have never once heard a murmur from them tho' they have been constantly exposed to wet for weeks together and for many nights at a time have been obliged to sleep in the bush without any other cover than a blanket." [2]

Another historian says - "all over New Zealand these men were the true pioneers, not excepting even the gold prospectors, and how they accomplished the accurate work that they did under the prevailing conditions is a matter for wonder even to those who remember something of what those conditions were like and how people adjusted themselves to contend with them. That their work was accurate was proved by the result of later surveys made in connection with subdivisions and roading after the bush cover was gone and access was much easier. All honour to their memory. It is noteworthy that the average age of the first groups of surveyors, on their arrival in New Zealand, was in the early twenties, that few were more than thirty years of age, and only two or three of the senior officials had attained forty years. The survey cadets and "Improver" as some of them were called, were from seventeen to twenty years of age and fresh from the public schools and universities of Great Britain and they learned their profession from their seniors and from practical experience.

They were fortunate, as indeed was their adopted country, in the very able men who had been chosen as their leaders. Some were notable as artists, especially in the field of landscape painting, while others took an active part in the promotion of general education and helped to found and endow secondary schools and the University of New Zealand and to provide scholarships. Some were prominent in the promotion of scientific research and assisted in the

founding of the institutions for the dissemination of the knowledge of scientific subjects.

In the course of time a number of them took part in public affairs and served on the Provincial Councils and the House of Representatives. Of necessity, during the New Zealand Wars, many of them served in the armed forces, some with marked distinction, as witness the sole Victoria Cross awarded to a member of the Colonial Forces and the New Zealand Crosses, equivalent of the Victoria Cross, of which four out of a total of twenty three were awarded to young surveyors, of whom three had been born and trained in New Zealand.

The greatest achievements of the surveyors however were in the fields of exploration, mapping, detailed surveying and development of the land. No undeveloped country of comparable size, it confidently can be asserted, has been as energetically and rapidly developed as New Zealand. This is a bold assertion, but on the evidence it appears irrefutable, and in every stage development the surveyors played a worthy part.

In the early part of the nineteenth century these fortunate Islands remained almost the last totally undeveloped country that climatically, and in other respects, was eminently suitable for settlement by Europeans at a time when, for various reasons, there was a strong desire on the part of many people in Great Britain and other European countries, to emigrate, and also at a time when science, technology and industry were beginning to surge forward in the development of the natural resources of the world.

This was a land with a vast potential, practically untouched by the hand of man, and very sparsely inhabited by the Maori people who, prior to the advent of the Europeans, enjoyed I a culture that was comparable only with that of the Stone Age.

Their tools and. weapons were of wood, stone, or bone. Agriculture was limited to the cultivation of only a few species of plants, and the land under cultivation was insignificant in comparison with the vast areas that were suitable for agriculture. Means of communication were very primitive, there were no formed roads, and, as one writer says – “even a regularly used highway, if we may use the term, in the Maori period was not a made path - way but was just the line of least resistance through the natural cover more or less dictated by the contour of the ground but subject to constant changes of a minor nature as growth encroached or fire cleared an alternative route. [3] Transport depended on the strong backs of the individual men and women, or on the dug canoes on rivers, lakes and sea. Architecture was limited to the construction of the mono-typical whare or Maori hut.

The greater part of the country was clothed in dense primeval rain forest or in almost impenetrable scrub, and there were numerous extensive swamps. Of animal life, mammals were almost nonexistent, there being no indigenous domestic animals, and no exotic ones with the exception of the rare Kuri or native dog introduced at the time of the Maori immigration and the pig introduced after 1769 during the visits of Captain Cook. Bird life was prolific, providing one of the mainstays in supplying the Maoris With the means of sustenance. Eels were plentiful and other types of fish and crustacea were to be

found in the rivers and lakes, while on many parts of the coast sea foods were to be had in abundance.

Estimates of the Maori population in the year 1840 vary, as their settlements were scattered, mainly throughout the North Island, there being comparatively few in the South Island. Some estimates were as high as two hundred thousand, but W. Pember Reeves, in 1898, stated that during the period between 1820 and 1840, owing to the first contact with Europeans, about a quarter of the population had been wiped out by disease and inter-tribal warfare, and that in his opinion, at no time had the Maori population exceeded hundred and fifty thousands. [4] On these figures the density of population was less than one to the square mile.

Trading activities had commenced in 1792 when Captain Ebor Bunker in the whaling ship William and Ann visited Doubtless Bay. In 1794 Captain Brampton visited the Firth of Thames and Coromandel Peninsula and timber trading commenced. The sealing ships began to visit the shores of the South and Stewart Islands in 1792 and trading in flax commenced with the arrival of the brig Perseverance on the southern shores of the South Island in 1813.

Most of these activities were controlled by companies based in Australia and Great Britain, but there were numerous whaling ships from Nantucket in the United States of America and some from other nations.

Shore stations for whaling and trading were established, most of them small and transitory, and a number of them were abandoned when the industry they served declined. Kororareka was by far the most populous and James Busby, who had been appointed British Resident and stationed at Waitangi in 1833, reported that 150 vessels had visited New Zealand in 1839 and the value of the exports was estimated at £4,000,000 sterling.

Archdeacon Henry Williams estimated the European population in the North Island to be about 1,300 in 1839 and there were several hundreds in the rest of New Zealand.

Into this land of wilderness and solitude in the year 1840, when the British Government had decided, very reluctantly, to accept responsibility for colonisation, there began a flow of immigration, at first a mere trickle, but soon a steady stream that has continued to the present day. In the vanguard of the settlers and always on the frontiers of civilisation as the wilderness was gradually transformed, moved the surveyors. Entering the wilderness in advance of the amenities of civilisation they sometimes suffered severe privations when cut off from their sources of supplies by flooded rivers, dense forests or steep mountain ranges. The fate of some was death by drowning; some were killed by hostile Maoris; some suffered permanently impaired health from the privations they had endured. Their material rewards were often meagre, yet, as already has been stated, there existed among the surveyors and the members of their survey parties, some of the latter being Maoris, a sense of duty and abnegation of self that was amply demonstrated on many occasions.

The urgent need of the services of professional land surveyors was felt with the first impact of European settlement. Security of title and facility of land transactions were to depend on accurate surveys and well demarcated

boundaries. Sovereignty and land ownership were the two fundamental matters established by the Treaty of Waitangi under which New Zealand became a British Colony. The Treaty consists of three Articles, of which the second confirms and guarantees to the Maori people “the full exclusive and undisturbed possession of their lands and estates, forests, fisheries and other properties which they may collectively or individually possess, so long as it is their wish and desire to retain the sane in their possession; but the Chiefs yield to Her Majesty the exclusive right of pre-emption over such lands as the proprietors thereof may be disposed to alienate, at such prices as may be agreed upon between the respective proprietors and persons appointed by Her Majesty to treat with them in that behalf.”

By this Treaty New Zealand became an adjunct of the Colony of New South Wales with Captain Hobson as Lieutenant Governor. One of the first Ordinances to be passed by the New South Wales legislature, concerning New Zealand, established the pre-emptive rights of the Crown in the purchase of Maori lands and prohibited the purchase by private negotiation; henceforth all acquisition of land was to be through the Crown. The Ordinance also nullified all previous private purchases unless the purchasers could satisfy a statutory tribunal, known as the Land Claims Commission, as to the authenticity of the purchase. The Ordinance also limited the Crown Grant, issued pursuant to a successful claim, to a maximum of 2,560 acres and stipulated that, in the case of a successful claim to an area in excess of that, the excess area reverted to the Crown not to the original Maori owners. This latter provision was a prolific cause of dispute in the following years. A further provision of the Ordinance required that a plan of survey be submitted with the statement of claim. As there were very few surveyors available the work of the Commission dragged on for many years, much to the frustration of many genuine settlers. The purchases of the New Zealand Company came within the scope of this legislation and because of this there was much friction between the Company and the New Zealand Government.

The first surveyors commenced their work in what was virtually a primeval wilderness. In 1769, when Captain James Cook British expedition and the French under de Surville were the first Europeans to set foot in New Zealand, they confined their exploration to the coastal fringes. They found the country sparsely settled by Maori tribal communities living in kaingas, or small villages, containing at the most a few hundred inhabitants.

The habitations were primitive as were also the stone or bone tools and artefacts. Agriculture was confined to the cultivation of a few vegetables such as kumara and taro, and there were no domestic animals. There were no roads and the rivers were unbridged. There was no written language and the codes or usages by which the tribes were governed were little better than “jungle law”. Ownership of land was vested in the tribe and not in individual members. Intertribal warfare was frequent and cannibalism was practised. The Maoris were a militant people quick to avenge any real or imagined slight to personal mana or any breach of tapu.

Some land had been cleared and cultivated which, in the aggregate, amounted to an infinitesimal acreage in comparison with the size of the country. Fro time to time some thousands of acres of forest and scrub land had been

devastated by fire, accidentally on most occasions but sometimes intentionally. There were some vast swamps and areas of barren mountain tops, but for the most part the land was covered by dense rain forest and scrub. Even the extensive plains, such as in Canterbury, were clothed with tall scrub, flax and tussocks, including the thorny and impenetrable “Wild Irishman” (Discaria Toumatou) and the “Spear Grass” or “Spanish Bayonet” (‘Aciphylla Squarrosa). The unbridged rivers were often swift and treacherous and so many of the early settlers were drowned in attempting to cross them when in flood that death by drowning was regarded officially, for many years, as death from natural causes.

Such was the state of the country in 1840 when the Treaty of Waitangi was signed. Before that time the only survey work that had been accomplished was the charting o a few of the harbours and parts of the coast line from hydrographical surveys made by officers of visiting ships. The charts of Captain James Cook end other British Naval officers and officers of mercantile ships, and those of French expeditions, were available through the British Admiralty.

Based on these early charts and rough maps made in the course of their travels by Samuel Marsden and his missionary colleagues, a map of the northern part of the North Auckland peninsula was compiled and published in the Church Missionary Register in 1822. Thomas Macdonnell, a retired naval officer who had settled at Hokianga and who had been appointed a British Resident in 1834, was responsible for the production of a compiled map of New Zealand, erroneous in several respects, which was published by Wyld of Charing Cross, Landon, in 1834. At that time professional land surveyors began to practise in New Zealand. Probably the first to arrive was Thomas Florance who came to the Bay of Islands in 1834 and was responsible for several isolated surveys of small blocks that had been privately purchased from the Maoris. His survey plans appeared in due course in support of the relevant Land Claims.

It was because of the speculation in land that had commenced in New Zealand and the consequent dealings in Sydney and also the operations of the New Zealand Company which was selling land scrip in England for land in New Zealand which as yet the Company did not own, that the British Government was moved to take the steps towards colonisation that have already been recounted. The outcome was that for a number of years there existed in the young Colony two distinct survey authorities; in the north the Government was responsible for surveys while in the Company settlements the Company had its own survey staff. As a consequence it will be necessary to deal with the history of each of these authorities separately.

The work of the early hydrographical surveyors on the New Zealand coast has been adequately outlined by Rear Admiral J. 0’C. Ross, C. B., C. B. E. in his work — This Stern Coast

CHAPTER 2

FIRST SURVEY REGULATIONS, ORGANISATION AND METHODS.

When it became clear that the status of New Zealand was to be raised to that of a separate colony, with a measure of Self Government, steps were taken to frame a suitable constitution and to set up the necessary civil establishments. The Royal Charter and its incorporated Instructions was promulgated on 5 December 1840 and forwarded by the Marquis of Normanby, Secretary of State for War and the Colonies, to Captain Hobson, the Governor Designate. In the Instructions, Article 37 had to do with the management of the Waste Lands and with surveying and was as follows –

> "37. And whereas by the said recited Charter, we have given and granted to the Governor of our said colony of New Zealand for the tine being, full power and authority, with the advice and consent of the executive council of our said colony (but subject nevertheless to such provisions as should be in that respect contained in any instructions which might from time to time be addressed to him in that behalf), by any proclamation or proclamations, to divide our said colony into districts, counties, hundreds, towns, townships and parishes, and to appoint the limits thereof respectively, and on our behalf under the public seal of our said colony, grants of waste lands to us belonging within the same, to private persons for their own use and benefit, or to any persons, bodies, politic or corporate, in trust for the public uses of our subjects there resident, or any of them; that nothing in the said charter contained shall effect or be construed to effect the rights of any aboriginal native of the colony to the actual occupation or enjoyment in their own persons or in the persons of their descendants, or any lands in the said colony then actually occupied or enjoyed by the said natives. Now we do hereby authorise and require you to cause a survey to be made, in the manner hereinafter mentioned of all lands within our said colony; and you are for this purpose from time to time to issue instructions to the Surveyor General f the time being of our said colony, and to divide and apportion the whole of the said colony into counties, each of which shall contain, as near as may be, 40 miles square, and to apportion each county into hundreds, of which each hundred shall, as near as may be, comprise one hundred (100) square miles, and again to subdivide each hundred into parishes of which each parish shall, as nearly as may be, comprise an area of 25 square miles, and you are to instruct the said Surveyor General that in making the division aforesaid of our said colony into counties, hundreds and parishes, he do have regard to all a natural divisions thereof as may be formed by rivers, streams, highlands or otherwise, and that whenever in order to obtain a clear and well defined natural boundary of any county, parish or hundred, it shall be lawful and necessary to include therein a greater or smaller quantity of land than is hereinbefore mentioned, he the said Surveyor General do make such deviations from the prescribed dimensions of such county, hundred, or parish as may be necessary for obtaining such natural boundary, provided that no such county, hundred or parish, shall in any case exceed or fall short of the dimensions before prescribed, to the extent of re than one third part of such dimensions. "

For obvious reasons many years were to elapse before any Surveyor General found it possible to fully implement these Instructions. In the interim the Surveyor General at Auckland instituted a system of survey and registration for the Waste Lands other than the blocks belonging to the New Zealand Land Company, while the Company, in its settlements situated some hundreds of miles from Auckland, having its own survey staff, instituted its own system of survey and land title records for it settlements at Wellington, Wanganui, Nelson and New Plymouth

It was not feasible, nor was it financially possible, to make a comprehensive triangulation survey embracing the whole of the Colony so as to control the cadastral surveys efficiently. Other methods had to be adopted. On 22 December 1840 Captain Robert Kearsley Dawson, R. E. who was regarded as an authority on surveying under Colonial conditions, reported to the Right Honourable Lord John Russell his ideas on the economical mode of effecting the survey of New Zealand with general correctness but without minute accuracy. A few years later these ideas were incorporated in A Treatise on Practical Surveying , by Arthur Whitehead, a New Zealand Company surveyor, when he returned to England in 1845 after serving in New Zealand and New South Wales. He quotes Lieutenant Edward Frome, R. E., a former Surveyor General of South Australia, as saying “In an un-cleared country it would be useless to attempt a system of triangulation and in such cases the only mode of ensuring accuracy in extensive surveys is that which has been generally adopted in the construction of geographical maps. The latitude and longitude of a number of the principal stations are determined by astronomical observations. In surveying any extended line, in cases where the interior is not triangulated, no other method presents itself and Knowledge of practical astronomy therefore becomes indispensable in this as in all geodesical operations.”

While the surveys at Auckland and at Wellington were based on the astronomical determination of the latitude, longitude and true meridian of one station within the framework of the triangulation, and while at New Plymouth bearings were laid off, using a theodolite, from a “false meridian” (the Devon Line), to which subsequent surveys were correlated, and at Nelson a somewhat similar system was adopted, nevertheless, most of the early surveys of the isolated blocks throughout the Colony were based on a local magnetic meridian and were merely compass surveys. In the latter case, since the latitude and longitude had not been determined, it was impossible to correlate those surveys. As a consequence the efficient demarcation of survey boundaries by placing permanent survey monuments became of paramount importance because, in the event of differences in bearings and distances being disclosed by subsequent surveys, or re - surveys, only the original monuments could be given legal recognition.

The methods to be adopted to ensure that survey monuments would be reasonably durable were set out in the first regulations issued for the conducting of surveys. These had special reference to contract surveyors engaged on Land Claims surveys and were published in the New Zealand Gazette on 28 September 1842. The following extracts are given because the methods then adopted were to become standard practice in New Zealand.

“Terms and Conditions of Contract Surveys.

Any person desirous of contracting for surveys, will make application to the Surveyor General, who, after informing himself as to the qualifications of the applicant, will grant him a Licence.

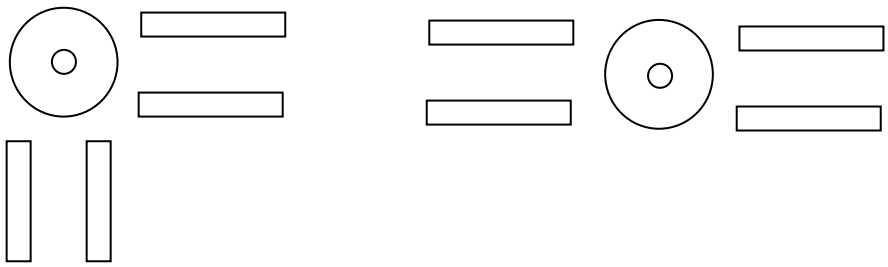
when such Licensed. Surveyor is about to undertake a Survey his Licence will be deposited with the Surveyor General and will not be returned to him should his survey be found incorrect or defective.

The following clause of the ‘Land Claims Ordinance’ Session 11, No. 14, clause 5, will regulate the figure of the Block of Lands:-

5. The Land, to be granted at the recommendation of the Commissioners, may be selected by the person entitled to such grant out of the Land claimed by him; Provided the Land so selected shall be in one Block, to be as nearly as possible a rectangular figure, the breadth of which shall not be more than half its length; Provided also, that when the Block so granted shall be bounded by the sea, or a river, the rectangle aforesaid shall be so placed that the narrow side, or breadth shall be bounded by the sea, or any such river, as near as possible at right angles to their general direction.

The Land, selected by the claimant, is to be surrounded by a line cut through the existing fern, tea - tree, or tupaki, or other shrubs, as well as through woods, and not to be less than four feet wide; at every twenty chains upon such line a hole is to be dug, three feet deep and three feet in diameter: In the centre of such hole a picket is to be driven, and of such a height that its top shall be on a level with the surrounding ground. In fern land, a stake will have to be placed close beside the - picket, and of such a height that it shall be two feet, at least, above the fern on either side - the top to be painted white to the depth of two feet.

Diverging from such holes in the direction of the boundary lines, two trenches will have to be dug, three feet long, eighteen inches deep, and eighteen inches in breadth, so as to point out the course of the boundaries, thus –



When stones are conveniently to be procured, a heap of them will have to be placed over such holes, trenches, and pickets, at corners of the Blocks surveyed, so as to point them out, and preserve these land-marks from destruction.

Plan Scales: The surveys to be laid down on the following

scales according to their extent

Under 100 acres, 2 chains to the inch.

From 100 acres to 1,000, 5 chains to the inch.

From 1,000 upwards, 10 chains to the inch.

Except in cases especially excepted by the Surveyor General, the Contracting Surveyor will be required to perambulate and describe the boundaries of the entire quantity of land proved before the Commissioner to have been purchased from the natives, such. description to be accompanied by a sketch, shewing the principal natural features of the country, in such a manner, that they may in future be recognised by the Government Surveyors, and also the position of the Block selected by the claimant.

The description of the Boundaries and Sketch of the Land surveyed, with Notice of the Nature of the Marks, duly declared to by the Surveyor, will be required to be lodged in the office of the Surveyor General as a Public Record."

Incorporated in these regulations was a schedule shewing the cost per

per acre for different sized blocks, averaging the cutting and surveying of one linear mile at three pounds (£3). The schedule ranged from £2-5-0 for 20 acres at 2/0 per acre, to £126 for 62,720 acres at about a farthing an acre.

From the beginning of organised settlement in 1840, the lack of harmony and the growing antagonism between the New Zealand Company's officials and the Colonial Government mainly on account of land policy, and also the constant importunities of the Company's settlers, who were forced to wait many months after their arrival in this country while the land for which they had paid before leaving Great Britain was being surveyed, all added to the difficulties of the surveyors who were too few and already were hard pressed and extended to the limits of their capacity.

The revenue from land. sales and from other sources fell short of expectations and the Colonial Government was soon in financial difficulties and not in a position to increase its survey establishment. The Company was in a similar plight b managed to bring out reinforcements for its survey staff. The Colonial Government had to depend on local recruitment and began to appoint trainees from among the local youths. Some of these were sons of missionaries and traders who had been educated in the Mission schools and who could understand and could speak the Maori language. They became of great assistance in negotiating the purchase of native lands.

The efforts of Governor Fitzroy to accelerate the purchase by suspending the pre-emptive rights of the Crown and in other ways to increase the revenue were disapproved and invalidated by the Imperial Government. The allegations by the Company of neglect of the interests of its settlers by the Colonial Government increased the acrimony between Company and Government. Fitzroy had refused to side with the Company in the disputes with the Maoris that had arisen in each of the Company settlements, at Wellington, Wanganui, New Plymouth and Nelson.

Many of the leading Maoris began to repudiate sales, or alleged sales, of land to the Company. They were also cognisant of the difference between the

price they had received from the Company and the Government and the price being charged to the settlers for the same land. A crisis was looming and a clash was inevitable.

Among the Maoris the ownership of land was communal and the private, individual, and e ownership, as practiced by Europeans, was to them a new concept. They began to realise that the extension of the surveyed boundaries into hitherto wilderness land was gradually diminishing tribal dominion and having an erosive effect on the mana of chiefs and tohungas. This loss of prestige was symbolised by the survey monuments and the cut boundary lines. The surveyor and his theodolite and chain were the demons who were the agents of this deprivation. The presence of the survey party on the ground portended a change of ownership and trouble began when the surveyors, in their ignorance of tribal customs and history, began to encroach on urupas and other hallowed land. In protest those Maoris who felt they had been unjustly treated and who denied the sale of their land, attempted to disrupt the work of the surveyors or to prevent the surveys. At night they would remove the survey pegs and in other ways try to obliterate the surveyor's previous days work.

Recognising the necessity to protect the rights of the natives over certain occupied land and to respect urupas and other sacred places, as stipulated in Clause 37 of the Charter Instructions, appropriate clauses were included in the survey regulations, making it imperative that the surveyors should ascertain the existence and position of all such places which were to be excluded from alienation and become Native Reserves.

Officers designated Protector of Aboriginals whose controlling officer was the Colonial Secretary, were appointed to assist in the work of the Land Claims Commission and in the dealings with the natives such as the work of the Land Purchase Commissioners. Later a Land Purchase Department was established, firstly under the Colonial Secretary (Dr. Andrew Sinclair) and subsequently under a Chief Commissioner (Mr. Donald McLean). A number of Assistant Commissioners, most of whom were surveyors, were appointed to operate in specified districts, and the department controlled its own survey work.

The New Zealand Government Act passed by the Imperial Government in 1846, produced a new Charter of which Chapter XIII incorporated all of the provisions of section 37 of the 1840 Charter relating to the settlement of waste lands and for surveying. Also provision was made for the establishment of a Land Registry for the purpose of registering title and for a Land Court to investigate titles to land. Provision was made for the regulating of land surveys; for the registration of land transactions and for the disposal of Crown Lands.

The Act provided for the division of the colony into provinces, each to have a measure of Self Government. By Proclamation dated 10 April 1848, two provinces were established. [6] Pursuant to New Zealand Government Act 1846, Clause 3 The boundary between the northern province, New Ulster, and the southern, New Munster, was a line – "commencing at the centre of the mouth of the River Patea where it joins the sea, and running thence due east until it reaches the East Coast of the said Island..." Although there were two provinces, ostensibly Self Governing, the authority for surveying and for the disposal of Crown Lands remained with the General Government under the Governor-in-Chief, and was exercised by the Surveyor General through the

Waste Lands and Land Purchase Depart over all land except such as had been vested in the Company by the New Zealand Company's Colonisation Act, 1847, where the Company conducted its own survey operations.

In 1853, pursuant to the New Zealand Constitution Act of 1852, the colony was divided into the provinces of Auckland, New Plymouth, Wellington, Nelson, Canterbury and Otago. Each Provincial Council was empowered to establish its own Waste Lands Department and Survey Department. This Provincial control remained until the dissolution of Provincial Government in 1876 when the General Government established the Lands and Survey Department. The office of Surveyor General of New Zealand was held by Charles Whybrow Ligar until 1857 when he went to Melbourne to become Surveyor General of the State of Victoria. The office was not again filled until John Turnbull Thomson was appointed to organise the Lands and Survey Department, but Theophilus Heale, Inspector of Surveys, who was stationed at Auckland, was adviser to the Government on survey matters from 1867 to 1875.

CHAPTER 3.

THE NORTHERN SETTLEMENTS AND AUCKLAND.

Captain William Hobson, R. N, on being appointed Consul at New Zealand, chose the Bay of Islands as his base of operations and there on 29 January 1840 he took office, relieving James Busby, the British Resident, who was stationed at Waitangi. Hobson choice was dictated by the fact that Kororareka was the largest settlement of Europeans in the country and that the Residency at Waitangi and the Church Mission establishments at Paihia and Kerikeri were within easy reach. Also it was the northern Maori chiefs who had been foremost in requesting the protection of the British Government against the possibility of hostile foreign domination. Hobson was also familiar with the environments and some of the residents, having called there in his ship H.M.S. Rattlesnake in 1837, at the request of the British Government, to investigate and report on the state of affairs in New Zealand.

On his appointment his instructions from the Secretary of State for the Colonies, dated 14 August 1839, included the following: “the selection of the individuals, by whom such offices are to be borne, must be made by yourself, from the colonists either of New South Wales or New Zealand., but upon the full and distinct understanding that their tenure of office, and even the existence of the offices they are to hold, must be provisional, and dependent on the future pleasure of the Crown. Amongst the officers thus to be created, the most evidently indispensable are those of a judge, a public prosecutor, a protector of Aborigines, a colonial secretary, a treasurer, a surveyor-general of lands, and a superintendent of police….”

“The system at present established in New South Wales regarding land will be applied to all the waste lands which may be acquired by the Crown in New Zealand. Separate accounts must be kept of the land revenue, subject to the necessary deductions for the expense of surveys and management, and for the improvement, by roads and otherwise, of the unsold territory; and, subject to any deductions which may be required to meet the indispensable exigencies of the local government, the surplus of this revenue will be applicable, as in New South Wales, to the charge of removing emigrants from this kingdom to the new colony.” [7]

The principle of using land revenue for building roads and public works and to assist immigration was thus established and the administration of the Waste Lands Department and the Immigration Department were closely linked.

Felton Mathew, who was chosen by Governor Gipps and Captain Hobson to be Acting Surveyor General for New Zealand, had been trained in England as a surveyor and had had ten years of colonial experience in Australia and in 1839 was Town Surveyor of Sydney. He sailed with Hobson and was accompanied by only one Assistant Surveyor, J. J. Galloway, who, owing to ill health, returned after a few months to Sydney, One of Galloway’s tasks was the erection of a flagstaff near Kororareka and it is probable that this was the first of the flag staffs that figured so prominently in colonial history a few years later when they were destroyed by Hone Heke and his followers.

Mathew had to depend on engaging such surveyors as were already in the country, and there were very few available. Several were acting as agents for absentee owners or were themselves engaged in land speculation. Among them were two young French surveyors who were watching French interests. They were Jean (John) du Moulin, who subsequently joined Mathew's survey staff, and J. A. Duvauchelle who later joined his compatriots at Akaroa.

Captain William Cornwallis Symonds, 96 Regt, was the representative of the New Zealand, Manukau and Waitemata Land Company that was interested in land at the Auckland isthmus. Hobson appointed Symonds to be Assistant Surveyor General and Chief Police Magistrate.

Another surveyor, Horatio Nelson Warner, after fulfilling some private engagements, joined Mathew's staff. Some years later he became Deputy Commissioner of Waste Lands.

Other surveyors employed on a contract basis from time to time and noted in Mathew' s journals were Thomas Florance, John Campbell, J. Haile, Stuart, Brydon, Hall and Hughes. Little is known today of some of them except that plans of surveys executed by them were presented to the Land Claims Commission in support of various claims.

The first signatures of Maori Chiefs to the Treaty of Waitangi were obtained at the meeting at Waitangi on 6 February 1840. Hobson then went to Hokianga where further signatures were affixed. He then commissioned Captain Symonds and several of the leading members among the missionaries of the Church Missionary Society to visit the Maori kaingas in the North Island to negotiate with the chiefs. Most of the tribal chiefs signed the Treaty but a few who were invited refrained.

Major Bunbury, 80 Regt, was despatched in H.M.S. Hazard (Capt Nias) on a similar mission to South ad Stewart Islands.

Sovereignty by right of discovery was proclaimed over Stewart Island on 5 June, and over the South Island on 7 June.

In anticipation of the successful conclusion of these missions, Hobson, on 21 May, had proclaimed "the full sovereignty of the Islands of New Zealand, extending from 34 degrees 30 minutes North. South to 47 degrees 10 minutes South latitude, and between 166 degrees 5 minutes to 179 degrees of East longitude, vests in Her Majesty Queen Victoria, her heirs and successors, for ever."

The first task for the Surveyor General was the selection of a suitable site for a town to be the seat of Government of the new colony. A temporary capital had been established at the Bay of islands where the trading station of Captain James Reddy Clendon at Okiato, a few miles south of Kororareka, was purchased and occupied by Governor Hobson and his staff. A township was laid out and named Russell. However, this site was abandoned after a few months when the Governor and his staff moved to the site chosen on the Auckland isthmus. The buildings at Russell were accidentally destroyed by fire and the name Russell was transferred to the township at Kororareka.

The shores of the Firth of Thames and Hauraki Gulf were explored by Mathew and ultimately a site on the Auckland isthmus was chosen which had all

of the physical and geographical attributes required of a great port and capital city. After successful negotiations with the Maori owners some 3,000 acres were purchased and the advance party of government officials and workmen took possession on 18 September 1840.

Surveys encompassing the isthmus and Waitemata Harbour were immediately commenced. The town, which is today the heart of Auckland City, was laid out and the first sections sold at a Public auction on 19 April 1841.

New Zealand had become a separate colony on 16 November 1840, by charter providing for its administration as such, as from 1 July 1841, and Hobson was appointed Governor with all necessary powers for the “regular conduct of affairs “ without reference to the Government of New South Wales.

The Charter authorised the establishment of Departments of State, including those necessary to administer the purchase of land by the Crown, the sale and leasing of Crown Lands, the management of reserved land, the collection and disbursal of land revenues, the recording of land titles and land transactions, and the surveying of Crown and Maori lands.

The Ordinances of the New South Wales legislature affecting New Zealand, including those concerning the right of pre-emption over Maori land and the establishment of a Land Claims Commission, were re-enacted by Governor Hobson. The Colonial Office appointed William Spain to be the first Commissioner and he was despatched to New Zealand where he arrived in December 1841.

It was immediately evident that there were too few surveyors available to cope with the work necessary to satisfy the requirements of the Land Claims Commission, the subdivision of Crown Lands for sale to the settlers and the peripheral surveys of the sizable blocks of Maori lands that were being purchased. The services of contract surveyors were not always readily available and sometimes Mathew had to carry on almost single-handed. Appealing to Governor Hobson for more field staff he was critical of colonisation without due preparation and preliminary surveys, and on 5 October 1840, he wrote, “in a country such as this where the demands for land are likely to be numerous and extensive, and where the local difficulties are of a nature so trying and severe, it is not to be expected that the labours of a solitary individual, however well directed his efforts, or however sustained his exertions, can be attended with important results or in any degree keep pace with the wants of a daily increasing community. . . . “ “I would submit that the immediate employment of a numerous and efficient field survey force is an object of primary importance first as providing the means of instant occupation for the Emigrants (sic), and secondly, as producing an immediate extensive source of revenue. . . . “ “I am of opinion that ample and most useful employment may be found for a dozen efficient surveyors, and although such a force may be supposed to entail on a young colony an expense it is scarcely calculated to support, yet I am satisfied that an immediate outlay of that description would speedily afford the means of filling the coffers of the Treasury, and would be found essentially the most economical measure that could be adopted. “ [8]

The colony however, was in financial straits and the income from land sales and from customs duties was insufficient to defray administration

expenses and provide a surplus for the purchase of more land for settlement. In 1841 an additional 13.000 acres surrounding the original purchase at Auckland had been acquired and settlement was expanding into what are today the older suburbs of the City.

At this time little was known of the interior of the North Island. Few Europeans, and those mainly Anglican and Wesleyan missionaries, had traversed it. Much of it remained terra incognita except to the resident Maoris.

In October 1831 the missionaries Henry Williams and Thomas Chapman with Philip Tapsell, a trader resident at Maketu had left that place and visited the Maori kaingas at Ohinemutu and at Mokoia Island in Lake Rotorua and returned to Tauranga the following month. In 1833 traders and missionaries had ventured up the Waihou River as far as Matamata. In February 1834 the missionaries A. N. Brown and James Hamlin set out from the Bay of Islands on a journey of almost five months. Travelling mainly by Maori canoe they went via the Kaipara and Manukau harbours and thence to the Waikato River and on to Ngaruawahia. They returned to the coast at Whaingaroa and went on to Kawhia. Next they went inland as far as Mount Kakepuku which they climbed. From there they went down the Waipa river to Ngaruawahia and travelling down the Waikato to the junction with the Maramarua they went up that river and then crossed over to Whakatiwai on the Firth of Thames and on to the Mission Station at Pururi.

Between 1835 and 1838 a number of mission stations, both Anglican and Wesleyan, had been established in the localities they had visited. However there was still a great deal of unrest and intertribal warfare which was discouraging to any thought of European settlement.

Early in 1839 a Sydney merchant J.C. Bidwill, who was interested in. botanical exploration, visited the Bay of Islands and, having heard of the complex of volcanic mountains in the centre of North Island decided to explore them. At the mission station at Tauranga, with the help of the missionaries, he organised an expedition and set out on 17 February, going first to Rotorua and thence to Lake Taupo and on to Lake Roto Aira. On 3 March he ascended Mount Ngaruahoe despite the fact that to do so was a serious breach of tapu. The mountain was a sacred burial ground of the great chiefs and Bidwill and his companions were fortunate to escape with their lives when the paramount chief, Te Heu Heu let them off with a fine and a severe caution.

The New Zealand Company’s ship Tory with the Company’s officials sent out to establish its first settlement in New Zealand sailed into Port Nicholson on 20 September 1839. Two months later Henry Williams arrived there in the Church Mission’s vessel with the object of establishing a mission station somewhere in the vicinity. Otaki was chosen as the site for the mission and Octavius Hadfield was left to set up the station. Williams decided to return overland to Tauranga on his way to the Bay of Islands. Setting out on the 5 December he travelled to the mouth of the Wanganui River. Ascending the river to Pipiriki be passed around the eastern side of what is today the Tongariro National Park, and arrived at the eastern shore of Lake Taupo. He went on via Rotorua to Tauranga where be shipped for the Bay of Islands.

Simultaneously with Henry William's journey James Buller of the Wesleyan mission had travelled from Kaipara to Port Nicholson. From Kaipara he went overland via Manukau. Harbour to Kawhia. Crossing to the Waipa river he then followed a native track to Lake Taupo where he arrived on the northern shore on New Year's Day 1840, the day on which Williams had reached the eastern shore, but neither was aware of the presence of the other. After crossing the lake Buller traversed much the same ground as Williams had done as far as Pipiriki and he then canoed down the Wanganui and followed the coast to Port Nicholson.

An expedition for the purpose of assessing the prospects for future settlement left Auckland on 1 April 1841, under the leadership of Captain W. C. Symonds, Chief Police Magistrate and Assistant Surveyor General. Other members of the party were Dr Ernst Dieffenbach, a German trained surgeon and naturalist who had come to New Zealand with officials of the New Zealand Company in the Tory in 1839, Lieutenant Abel Best, 80 Regiment, a corporal and a private of the Mounted Police, and a number of Maori guides and bearers.

The party travelled to Kawhia, crossing Manukau Harbour and the Waikato river en route. From Kawhia they went inland to Te Rore and Otawhao via Mount Pirongia which was climbed by Dieffenbach and Best. Next they crossed overland to Mount Maungatautari whence they followed the course of the Waikato river to Lake Taupo. On 17 May, Lieutenant Best, whose leave had expired, left the party to return to Auckland. He went down the Waikato until he reached the vicinity of Maungatautari where he crossed overland to Matamata and went down the Waihou river to Kauaeranga (Thames) and on to Auckland. Symonds and Dieffenbach went from Taupo to Rotorua and then to the mission station at Tauranga. They then went overland to Matamata and following the same route as Best, arrived back at Auckland on 8 June. During the expedition Symonds had visited numerous Maori communities and had discussed with the chiefs the implications of the introduction of British law. [9]

C. W. Ligar, of the British Ordnance Survey Department, was appointed Surveyor General of New Zealand by Lord John Russell of the Colonial Office on 5 February 1841. With his survey staff, including Thomas Cass and Samuel Hewlings, he arrived at Wellington in the brig Antilla, on 8 December after an eventful voyage. The Land Claims Commissioner William Spain was a fellow passenger. They had left Portsmouth on 21 April in the New Zealand Company's ship Prince Rupert. On 4 September this ship was driven ashore and wrecked on the rocks at Mouille Point, near Capetown, with the loss of one life. Those of the survivors who were bound for New Zealand were brought on by the Antilla.

Felton Mathew, having been superseded, was appointed Police Magistrate and subsequently, Deputy Postmaster General. In failing health he left New Zealand in 1847 to return to England via the Panama Isthmus. He had hoped to view the terrain of the Isthmus to gain some impression of the prospects of cutting a canal. However, when his ship called at Lima in Peru, Mathew was seriously ill and he died there on 26 November 1847.

During 1841 the population of Auckland had grown to several hundreds, most of whom had come from Australia. The triangulation survey of the

Waitemata Harbour and the isthmus had been completed and the subdivisional surveys of the town and of the suburban and rural sections were proceeding.

The barque " Brilliant" bringing the first settlers of the New Zealand Manukau and Waitemata Land Company (hereafter called the Manukau Company) arrived at Puponga Point on the Manukau harbour on 29 October 1841 after a voyage of ten months from the Clyde. Many of the intended settlers had left the ship at ports of call en route because they feared the un-seaworthy state of the ship. Only 27 passengers, several of them children, arrived in New Zealand.

The Manukau Company's prospectus was similar to that of its contemporary, the New Zealand Company. Land was to be divided into 100 acre sections and in addition each purchaser was to get one town lot for each rural lot he purchased; the price paid being £101 for each rural plus town lot. An elaborate scheme plan for a town to be called Cornwallis (after Lord Cornwallis of Indian fame) had been drawn up but no survey had been made at that time. In fact the site for the town was rugged and clothed with kauri forest. It was intended that initially the settlement was to be sustained by the timber trade and it was considered that Manukau harbour was favourably situated for trading with the Australian market.

On arrival the colonists found that the town had not been laid out, but a few Maori whares had been built to shelter them. There was no road, nor even a pack track to the nearest township, Auckland, many miles distant. To make matters worse the Company's Agent, Captain W. C. Symonds, was drowned on 26 November when attempting to cross the harbour to Orua on an errand of mercy. [10] Soon after this tragedy the two other ships sent out by the Manukau Company arrived in New Zealand; the "Osprey" which brought out the steam saw-milling equipment and the mechanics to install and operate it, and the "Louisa Campbell "with further immigrants.

Captain Theophilus Heale, who had been master of the "Aurora" the first of the New Zealand Company's ships to land immigrants at Port Nicholson in 1840, was appointed Agent for the Manukau Company in New Zealand. Subsequently he was to take a prominent part in the surveying profession in New Zealand and for a while during the Provincial era he was virtually Surveyor General.

The Manukau Company's officials were tardy in presenting claims before the Land Claims Commission and although more than 19,000 acres were claimed only 1927 acres were awarded. Not one of the settlers occupied the sections awarded to them. The prospects were fairly hopeless; rugged forest clad terrain, no available markets, no roads or other amenities.

Although the Manukau Company's settlers had no claim on the Government they received generous treatment under its settlement scheme. Briefly, for every £1 the settlers had paid the Company for their Land Orders, each of them who remained in New Zealand was able to obtain from the Treasury £4 of scrip credit which entitled him to purchase without any cost, land to the value of the credit at special rates advertised from time to time for land claimants.

The first organised party of immigrants for Auckland arrived in the ships Duchess of Argyle and the Jane Gifford on 10 October 1842. There were upwards of 600 prospective settlers needing building sites and land.

The first sale of town allotments, held on 19 April 1841, had given Auckland a propitious start. A total of 116 lots covering forty four acres had realised £21,000. The sale of suburban allotments, held on 1 September, proved equally lucrative. For totally undeveloped land the prices were fantastic and undoubtedly were induced by the operations of land speculators. As a consequence the Government, for a brief period, was able to expand its land purchasing programme, but the boom was short lived and before long there was insufficient revenue to maintain the essential development activities. There was insufficient population to sustain a buoyant local market; the labour force was inadequate for the great demands on its services; there was insufficient capital or ready cash available in the community. Relations with the Maoris, who numerically formed the predominant section of the community, were deteriorating.

After the removal of the seat of government to Auckland there was trouble in the Bay of Islands, mainly due to the Customs Ordinance, the effects of which fell more heavily on the residents of Russell (Kororareka) and particularly on the Maori population. As a consequence there followed the flagstaff incidents and the insurrection led by Hone Heke. In an attempt to mollify them Governor Fitzroy repealed the Ordinance which he replaced by a rate on property. In March 1844 he waived the Crown's Pre-emptive rights over the purchase of Maori land but imposed a fee of ten shillings an acre on all purchases of Maori land. There was such strong objection to this measure that be reduced the fee to no more than a penny an acre. The British Government however, disallowed the Governor's measures and the Crown's pre-emptive rights were restored. All purchases that had taken place in the interim were subjected to the provisions of the Land Claims Ordinance.

The insurrection in the Bay of Islands in 1845 led to the evacuation to Auckland of the European settlers from Russell and Whangarei and the sacking of the former township. The immediate result was that British military and naval forces were brought to New Zealand to quell the revolt. The colonists realised the peril of a general uprising but there was great relief when many tribes remained loyal to the Crown and were prepared to protect the settlements. A force, 400 strong, comprising detachments of the 58 and 96 Regiments, was dispatched from Auckland to the Bay of Islands on 27 April 1845. Attached to this force was a company of forty Auckland Militia ((Volunteers) under Lieutenant Reader Gilson Wood, who in private life was an architect and surveyor practising in Auckland. This company acted as pioneers for the force and is reputed to have been the beginnings of New Zealand's Army, having by one day anticipated the coming into force of the New Zealand Militia Act of 1845. Lieutenant Wood was mentioned in dispatches and received the New Zealand War Medal. Another notable surveyor who received the medal was Thomas Cass who served during the campaign as Mate on the Government brig Victoria. The campaign concluded with the capture of Ruapekapeka pa by the British on 11 January 1846. The Government was magnanimous in its treatment of the rebel tribes and there has been little trouble in the country north of Auckland since that tine.

In 1846 the first step toward Self Government for the colony was taken by the division into the provinces of New Ulster and New Munster. The former embraced all of the North Island north of a line running due east from the mouth of the Patea River and consequently the New Zealand Company's New Plymouth Settlement was included. New Munster comprised the remainder of the North Island and the whole of the South Island and included the Company's settlements at Wellington, Wanganui and Nelson, and subsequently Otago and Canterbury.

The seat of Government of the Colony and New Ulster was Auckland and that of New Munster was Wellington.

Under the new administration the control of surveys remained virtually as before; the Surveyor General directed operations in the Colony and in New Ulster. The New Zealand Company continued to control surveys in its own settlements.

The Wairau incident of 1843 and the sacking of Russell in 1845 were followed by incidents in. the Wellington settlement and at Wanganui, which had to be quelled by military action. As a result there was a serious setback to colonisation and the Colonial Government was obliged to adopt a policy of holding out inducements to stimulate immigration.

In 1846 the Imperial Government, at the request of Governor Grey, arranged for the establishment, in the vicinity of Auckland, of several Military Pensioner Settlements as part of the Colonial defence system. The intention was that the Corps, designated New Zealand Fencibles, was to comprise six companies of about 500 men. Pensioners of good character and physically fit who were not more than 48 years of age, formed the main part of the corps but non-pensioners who had served not less than seven years in the military forces were specially selected and were in the ratio of one to every four pensioners. Enlistment was for a period of seven years and although the men would not be constantly on military duty, the corps was under military discipline and commanded by a staff of officers on permanent pay. The men were free to engage in civil employment provided they attended the prescribed number of parades per annum and maintained efficiency and were available for instant mobilisation in any emergency.

Each officer was to be provided rent free with a house and fifty acres of land of which ten acres was to be cleared and ready for cultivation. Of other ranks, each man was to be provided with a cottage and an acre of land, of which a quarter was cleared and ready for cultivation. At the expiration of seven years the houses, cottages and land, were to become the property of the occupants, provided each had fulfilled the terms of engagement.

Between 5 August 1847, and 15 December 1852, a total of 593 men, 518 women and about 1,000 children were brought to Auckland under this scheme. The Fencibles provided a welcome addition to the labour force at Auckland.

The strategically sited villages were selected and surveyed at Onehunga, Howick, Otahuhu and Panmure. In 1846 most of the district in which the villages were sited was owned by a few settlers who had ac the land during the period in which Governor Fitzroy had waived the Crown's right of pre-emption. Their claims were examined by the Land Claims Commission and subsequently

substantially reduced. The “surplus” land was taken for the pensioner settlements. One of these claimants was George Owen Ormsby, a surveyor who was the first European resident at Onehunga.

The site of the first village surveyed in 1846 was that part of the Borough of Onehunga bounded by Princes Street; Quadrant Road; Grey Street; Alfred Street and the shore line. As further detachments of Fencibles arrived the boundaries were extended. The surveys of the villages were superintended by Surveyor General Ligar and carried out by contract surveyors and members of the corps of Royal Engineers. Today little remains, either of working survey plans or official records, to identify the surveyors of the first pensioner settlement, but it is known that George Graham of the Royal Engineers was actively engaged in superintending military works at that time. The surveys for the extension of the Onehunga settlement were carried out by Sergeant William Blackburn, formerly of the Royal Engineers, who was a competent surveyor and a non-pensioner member of the Fencibles who arrived at Auckland on 16 June 1849, with the detachment aboard the Berhampore. Subsequently he became a Government staff surveyor. Another Fencible who was a surveyor was Patrick Joseph Hogan who arrived with the detachment aboard the Oriental Queen on 18 September 1849. He was an accomplished artist and much of his work which depicts scenes of early Auckland is today of great historical value. He also became a Government staff surveyor.

The Fencible scheme was extended in June 1849 to include a company of friendly Maori chiefs and warriors who had not taken part in the insurrection. A force of about seventy Maoris was supervised by British officers but otherwise served on the same terms as their British counterparts. This force was settled on land at Mangere, strategically situated on the southern side of the arm of the Manukau harbour that stretches from Onehunga to Otahuhu.

After the establishment of the Auckland province in February 1853, the administration and control of Waste Lands of the Crown was delegated to a Commissioner of Waste Lands who was directly responsible to the Superintendent of the province. The control of surveys remained with the Surveyor General, appointed by the General Government, until about 1857, after which a Provincial Surveyor was appointed from time to time to control the surveys of the province. This officer was the equivalent of our present Chief Surveyor.

CHAPTER 4.

THE FIRST SETTLEMENT OF THE NEW ZEALAND COMPANY, WELLINGTON.

The original Company organised in Great Britain for the purpose of colonising New Zealand was set up in 1825. The following year an expedition was despatched in the ship Rosanna commanded by Captain James Herd who already had had some experience of navigating in New Zealand waters where, as a competent hydrographical surveyor and master of the ship Providence, he had surveyed and charted Hokianga Harbour in 1822.

The Rosanna, accompanied by the cutter Lambton (Captain Thomas Barnett), brought out sixty prospective settlers and the first port of call in New Zealand was Port Pegasus in Stewart Island, which was an early haunt of the whaling fraternity. The expedition next spent a week at Otago harbour while Captain Herd made a rough chart, and then spent several weeks at Port Nicholson which was surveyed by Captains Herd and Barnett and given its name. They then went on to Hokianga, calling at Waiheke Island and the Bay of Islands en route. A small block of land was purchased for the Company at Herd's Point, near Rawene, but fierce intertribal warfare was raging in the vicinity at the time and most of the intended settlers had second thoughts about settling among such savage neighbours. A few remained in New Zealand but most went on, either to settle in Australia or return to Great Britain.

Thoughts of colonising New Zealand were revived in 1837 and eight of the directors of the original Company were on the directorate of the new one, founded in 1839, which acquired the assets of the original Company. One of the prime movers of the new Company was Edward Gibbon Wakefield who had been a companion of Lord Durham during the latter's brief sojourn as Governor of Canada. Wakefield had gained some knowledge of colonial conditions in Canada and Australia and became a strong advocate of organised colonisation, advocating a system that was to be radically different from the haphazard methods that had prevailed in the earlier British colonies.

Briefly, the system visualised and expounded by Wakefield was the purchase by the Company of large tracts of Maori land which were to be subdivided into rural sections, suburban allotments and town allotments and sold at a "sufficient price" high enough to discourage land aggregation by large capitalists, and also high enough to be beyond the means of the labourers to become land owners during their first years in New Zealand when their services would be required to develop the properties of the capitalists, some of whom would be absentee owners. The settlers were to be selected from applicants of good education and character. Each applicant was to subscribe for, and ultimately receive, at least one allotment. In the case of Wellington Settlement an allotment comprised a hundred acres of rural land and a town allotment of an acre. Part of the profits of the sale was to be used by the Company for the benefit of the settlers and for the promotion of further settlements. Worthy artisans and labourers who lacked sufficient capital, but whose services would be needed in the colony, were to be sponsored by the Company and granted a free passage to New Zealand. All professions and trades were to be represented and it was intended that each community would represent a typical cross-section of the British people and of British institutions.

Negotiations between the Company and the Imperial Government were protracted and the Government did not appear to be sympathetic towards the colonisation of New Zealand. In the end the Company, evidently fearing that further delay would jeopardise its prospects of obtaining cheaply from the Maoris the land it required, decided to dispatch its agents and surveyors without waiting for Government sanction.

At this stage all that the Company owned in New Zealand was the few hundred acres near Rawene purchased by Captain Herd, yet the Company sold in Great Britain land orders, or scrip, for many thousands of acres still to be acquired by the Company in New Zealand. It was imperative therefore, that sufficient land should be purchased, surveyed and subdivided before settlement commenced. The Company, however, made the same mistake in New Zealand as had been made by Wakefield and his associates in 1836 in connection with the settlement of South Australia; namely, the settlers arrived on the ground on the heels of the surveyors, long before the surveys were completed and before the Company was in a position to put them in secure possession of the land they had purchased. In New Zealand, to make matters worse, the native title to the land had not been satisfactorily extinguished before settlement commenced; the Company's title was not yet supported by the issuing of a Crown Grant. Because it failed in these respects the Company eventually faced insuperable difficulties and the New Zealand Government, in 1852, took over the responsibility of the Company with regard to providing a secure title to the land purchased from the Company by the settlers.

The Company's ship, Tory, commanded by Captain E. M. Chaffers, R. N. sailed from Plymouth in May 1839 and some accounts of the departure give the impression of urgency and stealth. The principal passengers were Colonel William Hayward Wakefield, aged 36, the Principal Agent; Edward Jerningham Wakefield, the 19 years old son of Edward Gibbon Wakefield, as Assistant Agent; Dr Ernst Dieffenbach, an expatriate German scientist; John Dorset, surgeon; Charles Heaphy, aged 19, .the official draughtsman and artist who was later to become a noted soldier and one of the foremost surveyors of the Colony.

The Tory arrived at Queen Charlotte Sound on 17 August and Colonel Wakefield immediately commenced making arrangements to purchase land. He was fortunate in securing the services of one of the whaling fraternity, one Richard (Dicky) Barrett, as interpreter and pilot. Barrett's wife was a high caste Maori, related to some of the leading chiefs in the vicinity of Cook Strait and on the west coast of North Island between Port Nicholson and Kawhia. After nearly a month in the Sound, during which he negotiated with the local chiefs the purchase of some thousands of acres of land on the south side of Cook Strait, Colonel Wakefield moved to Port Nicholson where the Tory arrived on 20 September. There he found several Maori pas with an aggregate of about 800 inhabitants. Alter spending several days inspecting the surroundings and travelling some distance up the Hutt River in a native canoe, he decided that the district was suitable for the proposed colonisation, and negotiated the purchase of a vast territory for which he bartered goods to the value of about £400. [12] One of the inducements held out to the chiefs was that eventually, when the land had been surveyed and subdivided into town and rural allotments, one tenth of the town lots and of the rural lots would be returned to the vendors

without cost. The Company plans included the elevation of the leading chiefs to the status of landlords and capitalists in common with their European counterparts.

Writing of these events Jerningham Wakefield said - “it was extremely difficult - nay almost impossible - to buy a large and distinct tract of land, with fixed boundaries, from any native or body of natives of this part of New Zealand, perfectly unused as they were to any dealing in land according to our notions. These people (the Port Nicholson Maoris)had no distinct boundaries marked when they received cession from the Ngatimutunga, and would have been puzzled to walk round or point out accurately any particular limit between the waste land under their jurisdiction and that at the disposal of another tribe. The Kawhia tribe (the Ngatitoa) indeed laid claim to this neighbourhood, also without exact boundaries. The Ngatiawa chiefs knew that they had a right to occupy any portion of the land near Port Nicholson, because Pomare had told them to do so, and because they maintained by their own gallantry and strength their rights to clear new patches where they pleased and to live un-rejected by their enemies. But they knew not of any further right to a district covered with primeval forest, far too vast for the use of any descendants of their tribe whom they could look forward to, and likely, as far as they thought, to remain both unvisited and Useless for ages to come. No hunting ever led to disputes concerning limits in the forest, there being no beasts to hunt; and the only disputes respecting land which had yet occurred between the natives themselves arose from the invasion of lands already clearly or likely to be wanted soon, or the taking of trees from a forest already marked out by another savage for a supply of canoes or house timber. The first clearer became the acknowledged owner of a tract of hitherto intact land; the first axe-men in a primeval forest laid claim to the surrounding trees. But a claim to waste land beyond this natural one of seizure and occupancy was us among them at this time” [13]

Colonel Wakefield, having now learned something of the intricacy of Maori land ownership, next decided to visit the Kaipara and Hokianga harbours and inspect the land owned by the Company. He sailed on the 11th November and called for a few days at Kapiti Island and at Ngamotu (the Sugar Loaf Islands) at Taranaki where he left Dicky Barrett to commence negotiations for the purchase of Taranaki land. Hokianga was reached on the 1st December and shortly afterwards Colonel Wakefield inspected the property at Herd’s Point purchased by the original Company in 1826.

The Tory left Hokianga on the 16th December for Kaipara and on the 18th went aground on the bar at the entrance to that harbour. It was obvious that the recovery and repair of the ship would take several weeks and Colonel Wakefield had to change his plans. The Cuba, with the Company’s survey staff, was expected to arrive at the appointed rendezvous, Port Hardy D’Urville Island) towards the end of December, so Colonel Wakefield in an endeavour to keep the appointment, took one of the Tory’s boats to the head of navigation of the Wairoa River and from there walked overland to the Bay of Islands where he had the good fortune to be able to charter a small brig, the Guide, in which he sailed to Port Hardy. Here on the 11th January he learned that the Cuba had already sailed for Port Nicholson. On arrival at Port Nicholson, Wakefield immediately dispatched the Guide to Kaipara with instructions for Dr Dorset and

Jerningham Wakefield to proceed in the Guide to Ngamotu to complete the purchase of the Taranaki land and to bring Dr Dieffenbach and Dicky Barrett back to Port Nicholson.

The Guide reached Ngamotu on the 1st February 1840, and on the 15th the land purchase was concluded with the Maori leaders who had assembled at Moturoa, on shore immediately opposite the Ngamotu anchorage. For the Company the signatory was Dr John Dorset and for the Maoris there were seventy six who signed or made their mark. There were two separate deeds for adjacent blocks of land. The first was signed by the resident Moturoa Maoris of whom forty seven signed. The second was for the land to the south of Ngamotu. According to Jerningham Wakefield — “the two purchases extended from a spot halfway between the mouth of the Mokau River and the Sugar Loaf Islands (Ngamotu), to the river called Wangatawa, south of Cape Egmont; and inland, to the summit of’ the Mountain Egmont and thence to a spot on the banks of the Wanganui River, high up its course-. [14] Only the coastal boundaries had been seen by the purchasers; the interior, most of which was heavily forested and practically uninhabited, was almost entirely unknown to them. The purchase price was goods to the value, at that time, of about £500. From the area described above, two small parcels of land were to be excluded; firstly a hundred acres at Moturoa which had been given by the local Maoris to the Wesleyan Maori Missions by an arrangement concluded on 13 January, for the purpose of establishing a mission station; secondly an area at Moturoa for Dicky Barrett and his wife and children in recognition of his claim in connection with his whaling operations. Both areas had yet to be defined by survey.

Chartered by the Company and commanded by Captain J. Newcombe, the Cuba with the survey staff left Plymouth on 9th August 1839 and made landfall near Kaipara on 23 December and went on to Port Hardy to look for Colonel Wakefield. There Captain Newcombe was directed to proceed to Kapiti Island and thence to Port Nicholson where the Cuba arrived on 4 January 1840. Awaiting the arrival was a whaler known as ‘Yankee’ Smith whom Colonel Wakefield had left at Port Nicholson in charge of the Company’s property and to hand on the Colonel’s instructions to the Company’s Surveyor General, Captain William Mein Smith, R. A.

His professional staff comprised Messrs Wellington Carrington aged 25, First Assistant Surveyor, who had visited the Bay of Islands in 1835; Robert Park aged 27, Assistant Surveyor; Robert Stokes aged 29, Assistant Surveyor: Also on board were R.D. Hanson, Company Agent, and twenty survey hands, all young men, some of whom were to do well in the new colony as founders of business enterprises.

Colonel Wakefield’s instructions as to the siting of the town were indefinite but it was thought he favoured the south west side of the harbour designated Lambton, where there were a few hundred acres of fairly level to easy undulating land. Most of this land however, was already occupied y several pas and native plantations. In the absence of the Principal Agent, and having in mind the many thousands of acres needed for the urban and rural allotments and for market places, industrial sites and adequate public reserves, and also the kind of town envisaged and described in the prospectus of the Company, Captain Smith decided to commence the laying out of the town on

the more extensive flat land at Petone lying between the Heretaunga (Hutt) River and the Waiwhetu River.

His instructions as to the size of the town and district to be surveyed were specific. The town was to consist of eleven hundred sections of an acre each, together with ample reserves for public purposes such as cemeteries, market places, public buildings, wharves etc, and such public amenities as parks, botanical gardens and broad “boulevards” etc. Surrounding the town, and served by roads radiating from the well planned centre, were to be a hundred and ten thousand acres of good agricultural land divided into hundred acre farms, and, intervening between town and farm land was to be a broad green belt of public domain. Such was the picture that had been given as an inducement to prospective settlers. Captain Smith soon realised that by no stretch of the imagination could he achieve the desired result on the site chosen at Port Nicholson.

He had been assured by some of the local Maoris that there was no great danger from river floods but, early in March, floods of alarming proportions had occurred in both rivers. To make matters worse, some hundreds of immigrants had already been landed, with their goods and chattels, on the Petone beach, where inadequate makeshift accommodation had been prepared for them.

Colonel Wakefield, after consulting Captain Smith, ordered the abandonment of the survey at the Hutt and that the town be laid out at Lambton despite the fact that much of the land there was occupied by Maori homes and plantations. A start was made on 9 April but before long, when the survey began to encroach on the pas and gardens, the Maoris began a forceful resistance on the grounds that this land had not been included in the original sale.

On 7 March, to celebrate the arrival of some hundreds of immigrants, Colonel Wakefield had awed the Maoris by a show of force when six large armed immigrant ships had paraded on the harbour letting off salvos and broadsides from time to time to impress the natives.

During the ensuing weeks, when the surveyors were threatened with physical violence, Colonel Wakefield armed the survey parties with pistols and swords and requested Captain Smith to proceed with the surveys “with as little collision as possible”. The Maoris whose homes and cultivations were being invaded continued to resist by all means short of actual warfare and did their utmost to prevent the completion of the surveys. In the end they realised the futility of their efforts and opposition ceased. Ultimately they received some sort of compensation when they were awarded a tenth part of the surveyed allotments although the ones they received were much inferior to the land they had given up.

To Captain Smith, however, the opposition of the Maoris was less frustrating than the presence of hundreds of immigrants clamouring to be put into possession of their land. He reported – “by this time a large body of settlers had arrived in the Aurora, Oriental, Bengal Merchant, Duke of Roxburg, Glenbervie and Adelaide. They had expected to find the Town ready for them on their arrival and I was urged towards giving out the Town Sections with more

speed than I thought prudent. I wished to have compared the plan with the ground, as some alterations might be found necessary; but this I had not time to do. [15] The survey was carried out expeditiously and the first plans were open for public inspection on 28 July, the order of choice having previously been determined by ballot in England.

It was soon realised that there was insufficient arable land in the surrounding district to satisfy the requirements for the rural sections. In August, Messrs Stokes and Park, accompanied by Charles Heaphy and William Deans and six survey hands, were sent on an expedition to explore the coastal 'region between Porirua Harbour and Ngamotu in Taranaki. They set out on foot, each man carrying a pack which at the outset weighed up to sixty pounds. Fording the smaller rivers and being ferried across the larger ones in Maori canoes, the party averaged about twenty miles a day and completed the journey of about 650 miles in eight weeks. Some of the party arrived back in Wellington in an exhausted condition.

Their report confirmed Jerningham Wakefield's appraisal of the Wanganui district as suitable for the agricultural allotments. In May he had been sent to Wanganui to negotiate the purchase of a block of land. His account of the proceedings indicates his lack of experience and underestimation of the acumen and of the sense of Justice of the untutored savages with whom he dealt. He disparaged the efforts of members of the Church Missionary Society and of Government officials who wished to ensure that the Maoris received a fair deal. Worst of all he failed to ensure that all of the rightful owners were among those who received payment for the land. These same rightful owners repudiated the sale and a few years later were in open conflict with the settlers.

On 9 December at a public meeting in Wellington, Colonel Wakefield announced his intention of opening the country in the neighbourhood of Wanganui for selection to holders of land orders in the Secondary List and of carrying on the survey conjointly with that of the preliminary Sections at Wellington. Mr Wellington Carrington was immediately sent to commence the surveys at Wanganui. At this time the first of the rural allotments in the Hutt Valley were made available for selection.

The frustration of the hundreds of settlers was no greater than that of the Surveyor General who was desperately short of survey staff. On his application for more staff he was permitted to recruit from among the settlers such as had some knowledge of surveying and in 1841 he appointed as Assistant Surveyors, Messrs R.J. Harrison, C. H. Kettle, A. Thomson, Captain 1. Thomas (ex 87 Regt.), W. Connell (who shortly afterwards was appointed Postmaster General of the Colony) and R. Nankeville. Messrs Mewburn McDonald and Copps were appointed as Surveyor - Engineers and a Mr Burt as Draughtsman - Clerk.

The inadequacy of the buildings supplied as the survey office was a serious cause of complaint. As was to be expected the first of these was a Maori built raupo whare which was most unsuitable for map work. The second was one of the temporary buildings erected to house immigrants. Of this Captain Smith complained "I have been long suffering much inconvenience and my business has been much delayed for want of proper offices and drawing room. I have not the means of protecting either my instruments or plans from

the wet or the dropping of pitch, with which the roof of the building I occupy is covered, in dry weather. If I am not speedily removed to some better house I feel that serious expense and great inconvenience will be entailed on the Company." [16]

Uncomfortable as was the office accommodation, the plight of the field parties was much worse. Forced to continue with field operations during that first severe winter, the men wore continually wet and cold and at night often had no cover from the weather except their blankets. Before long Captain Smith reported that a number of his men were incapacitated through illness. Soon however, the pioneer surveyors were adapting themselves and their methods to their new circumstances and developing ways and means of coming to terms with their environment. Succeeding generations of New Zealand surveyors were to benefit from their experiences.

When the surveys began to extend beyond the town and suburban sections the surveyors began to look for the best lines for the construction of roads towards Porirua and the Hutt Valley. Until these roads were available the Company could not readily fulfil its obligations to the settlers with regard to providing sections of good agricultural land.

In August, while the party under Park and Stokes was exploring the possibility of extending the Company's settlements along the west coast, the New South Wales legislature had enacted the New Zealand Bill which had the effect, much to the consternation of the Company and the settlers, of limiting the settlement to a compact block of 110,000 acres surrounding Port Nicholson, much of which was unsuitable for agricultural purposes.

A public protest meeting was held in Wellington and a deputation despatched to confer with Governor Gipps. A few months later, on 3 May 1341, New Zealand was proclaimed a separate colony and after a conference with Governor Hobson, Colonel Wakefield notified Captain Smith of the removal of the restrictions. To expedite the surveys at Wanganui, Captain Thomas was sent to assist Mr Wellington Carrington who was surveying the town and rural sections.

Carrington, who had been on a visit to Wellington, travelled up the coast with Captain Thomas, and on this journey they learned something of the practice of tapu by the Maoris. Captain Thomas was delayed at Otaki for three days during which a whaleboat had been upset and four Europeans and a high caste Maori had been drowned. In accordance with Maori custom, following a drowning fatality, a rahui (prohibition for a period of time) bad been placed on the coast between Otaki and Wanganui so that no one was permitted to pass. Before the expiration of the prescribed period however, the survey party sought permission to proceed but permission was granted only after the payment of a fine of 75 pounds of tobacco.

Carrington had reported that the Wanganui surveys were delayed because of the intervention of a large body of Taupo Maoris (Ngati Tuwharetoa) who insisted they owned the land being surveyed and for which they had not been paid. [17] Captain Smith visited Wanganui in September and at his request two members of the Church Missionary Society, Messrs Hadfield and Mason, spoke to the natives who agreed that the survey on the eastern side of the river

might proceed but protested against the permanent occupancy of the land until it was paid for. On 21 September Captain Thomas crossed the river for the purpose of surveying near St Mary Lake (Kaitoki) but a body of natives would not permit him to proceed, claiming that the land had not been sold. This was the beginning of trouble that was to afflict the Wanganui settlement for several years and which was not settled without some bloodshed. In the interim the progress of surveying and settlement was seriously retarded.

To augment the acreage of agricultural land available closer to Wellington, Colonel Wakefield and Captain Smith next turned their attention to the Manawatu district, which the Colonel considered had been included in the original purchase negotiated at Port Nicholson, but the sale of which was disputed by the local tribesmen, as was the case of all the land between Wanganui and Porirua. On 1 December Captain Smith, accompanied by Assistant Surveyors Harrison and Kettle and sixteen survey hands, set out from Wellington. At Porirua Harrison received an accidental gun - shot wound in his right arm and had to return to Wellington. After a conference with the leading chiefs at Otaki, who were the principal owners of the land they were about to explore, the party went to the mouth of the Manawatu River, which they reached on 5 December and a reconnaissance survey was immediately commenced. On 8 December the party was joined by some of the Wellington settlers, including Messrs Edmund Halswell, Protector of Aboriginals for the district, and Samuel Revans, editor of the New Zealand Gazette. The negotiations with the resident Maoris were not entirely harmonious but the outcome was that a Company depot was established and Charles Kettle remained to complete the survey. Accompanied by Mr Revans, Captain Smith set out for Wellington on the last day of 1841, taking an inland route skirting the foothills of the Tararua Range and examining the land about Lake Horowhenua while making for Otaki. Shortly after his return he dispatched Robert Nankeville to survey the pasture lands between Manawatu and Horowhenua, and, on his recovery from his wound Mr Harrison went to assist in the Manawatu surveys.

The barque Brougham which arrived on 9 February 1842 from England, brought reinforcements for the survey staff. The Principal Surveyor, Samuel Charles Brees, was to replace Captain Smith whose leave of absence from his regiment was to expire on 1 July. Among the new arrivals were men who, together with their colleagues who had arrived earlier, were to take a prominent and worthy part in the development of the new colony.

Assistant Surveyors were Messrs Henry S. Tiffen, Frederick A. Sheppard and his brother Robert Sheppard, Andrew Wylie, Arthur Whitehead and William Nicholas Searanke. The Cadets were Messrs Alfred Wills, Albert J. Allom, Edward Norman, Thomas H. Smith, Horace Charlton, Edward Jollie and his brother Francis Jollie, John Tully, Samuel M. Scroggs and (Sir) Richard Nicholson.

The Company’s Court of Directors had decided that the town of Wanganui was to comprise two thousand sections of a quarter of an acre. On 2 March Frederick Sheppard was sent to Wanganui to replace Mr W. Carrington who had left to join his brothers Frederick and Octavius who had commenced the surveying of the town of New Plymouth for the Plymouth Company. Cadets Nicholson and Hunt and six survey hands accompanied Mr Sheppard.

In May Mr Robert Sheppard, accompanied by Cadet Norman, went to take charge of the surveys at Manawatu and Captain Thomas was withdrawn from Wanganui and sent, with Mr Mewburn as assistant, to explore the country inland of Porirua with the object of finding practicable lines of communication that would open up good agricultural land.

Charles Kettle set out from his base camp at Karekare, on the Manawatu River, on 5 May to ascend the river and pass through the gorge and then turn southwards to explore the Wairarapa country and find a pass through the Rimutaka ranges that would give access to Wellington. His party comprised Alfred Wills, survey cadet, and five survey hands, including Donald Cameron senior and his son Donald, a lad of fifteen years, and Alexander Grant who became seriously ill on the journey. There were also seven Maoris in the party, i.e. six canoe - men and Te Ahu Karamu, a Ngatiraukawa chief. The journey was accomplished under very difficult conditions in the depth of winter. The terrain was virtually unknown to Europeans and their Maori guides had little knowledge of the country through which they passed and which was occupied, although sparsely, by the Ngati Kahungunu, their traditional tribal enemies. The party carried blankets but no spare clothing. They had to subsist mainly on a supply of potatoes they carried and such wild pigs and birds as fell to their guns en route. Kettle's diary records, for 26 May, " - this valley is over-run with wild pigs, and the land for miles together, is completely ploughed up by them. The dog that we have with us caught a small one, which will be useful as our potatoes will not last much longer...." On the same day they forded the Waiohine river which was in flood. The crossing was effected with the use of poles, each man being in the icy cold water up to his armpits. Kettle wrote, "I have not had dry clothes on for the last three days and was bitterly cold after crossing". On 4 June he wrote, "this morning the weather was so bad that none but persons like ourselves with the fear of starvation before them would ever think of leaving a shelter. We struggled on through the bush for six miles.... Nearly all the men are in very bad spirits today, and. seem quite worn out from constant exposure to the dreadful weather. Two days later, having crossed the Rimutaka range, they reached the home of a settler on the banks of the Heretaunga (Hutt) River, and on 8 June arrived in Wellington. Kettle's successful leadership, at twenty-two years of age, led to his appointment four years later as Chief Surveyor, responsible for laying out the Otago settlement.

Capt Smith completed his term as the Company's Surveyor General at the end of March. He resigned his commission and retired on half pay to remain in New Zealand. His services were retained by the Company and he was sent firstly to the Chatham Islands to report on the practicability of settlement there, and on his return to Wellington was sent to investigate and report on the harbours on the east coast of the South Island, with a view to future Company settlements. Leaving Wellington on 16 September in The Brothers, a cutter little bigger than a whaleboat, he spent almost three months on the voyage which took him as far south as Stewart Island. Parties were landed at suitable spots along the coast and hills were climbed in an endeavour to see as much of the interior as possible. Captain Smith made brief reconnaissance surveys of the harbours at Otago, the Bluff and New River (Invercargill). On the return journey, when The Brothers was entering Akaroa Harbour, it was upset in a sudden

squall and Capt Smith lost all of his field books and instruments. Subsequently he had to compile his report from memory.

The first selections of' town and rural sections at Wanganui took place at the Resident Surveyor's office on 16 June 1842. Mr Gilbert F. Dawson, Police Magistrate, under instructions from Governor Hobson, was in attendance to see that justice was done to the Maoris, in apportioning allotments for their use. He had occasion to lodge a protest against the unfairness of the proceedings, in that no allotments were being reserved for the natives. Mr Brees, Principal Surveyor, responded that his instructions from the Principal Agent were that "as the stipulated portion of the district has been, or will be, reserved for the natives in the Country Sections, you will not choose any Town Sections for them" and that if the Company desired subsequently to give the natives Town Reserves, they would be taken from the selections now being made by the Company. It was therefore apparent that, despite the stipulation in the Deed of Sale which entitled the vendors to a tenth part of the allotments after subdivision by survey, the natives were to be deprived of the right of participation in the ballot for order of priority in the selection of the allotments.

At Wellington the activities of the survey staff were now concentrated mainly on road location and construction. Roads to Karori and Ohariu were under construction and routes from Ngahauranga along the foot of the hills into the Hutt Valley, and from Porirua towards the Hutt Valley, were being surveyed.

Mr Whitehead had the task of extending the road into the upper Hutt with the object of ultimately finding a route across the Rimutaka ranges into the Wairarapa country that had been traversed by Mr Kettle. An extract from the Principal Surveyor's report for October concerning the Hutt surveys gives some indication of the hardships faced by these early surveyors.

"The great difficulty connected with the undertaking consists in conveying rations. The ration carriers pass along the west side of the gorge where they wade across the river, a rope being stretched from one bank to the other to support them against the current but the flood increases the height of water so much that the men are frequently prevented from crossing."

Assistant Surveyor Robert Stokes had made the first traverse of the Rimutaka Range in November 1841. With a small party he set out from Petone and several days later reached a point on the crest of the range overlooking Lake Wairarapa. Descending to the lake via a small stream he explored the country around it and then made the return journey through the country between the lake and the foot of the range. Reaching Palliser Bay the party skirted the coast to Wellington.

Early in February 1843, the Principal Surveyor with a party of eight Europeans and five Maoris) went up the Hutt Valley to Pakuratahi and from there crossed over the Rimutaka Range to Lake Wairarapa. Returning by Stoke's route they accomplished the entire journey in eight days. Brees reported favourably on the Wairarapa country as a future prospect for settlement by the Company. The Company however, owned no part of the Wairarapa.

In 1843 a crisis was looming in the affairs of the Company and Colonel Wakefield decided on a policy of retrenchment. This involved a reduction in the

survey staff and the services of Messrs Kettle, Harrison, Thomas and Nankeville were dispensed with. None of Captain Smith's original staff surveyors now remained in the Company's service. Wellington Carrington had joined his brothers in Taranaki; Robert Park resigned on January 1841 to become the first Town Surveyor at Wellington; Robert Stokes resigned a year later.

Under pressure from the settlers who were impatient to gain possession of their land, some of the surveys had been hastily executed. In some instances the expedient had been adopted of pegging only the frontages of the sections and short direction lines for the sides, sufficiently to identify the allotments on the ground and permit the selection from a scheme plan of the subdivision. Among the first tasks of the staff under Mr Brees were the correlation of the surveys by triangulation of the whole of the Company's block and the cutting and pegging of the lines previously omitted.

By this time sufficient town and rural sections had been surveyed at Wellington, Wanganui and Manawatu to satisfy the immediate requirements of the first settlement. Members of the survey staff now became involved with the Second Settlement, at Nelson, and with developments at New Plymouth where the New Zealand Company had taken over the commitments of the Plymouth Company.

At Manawatu the Company became involved in disputes with the Maoris concerning the title to the surveyed land. There was similar unrest in the Wellington and Wanganui settlements. The Land Claims Commissioner, Mr Spain, investigated the Company's land purchases and in the case of the Manawatu ,he awarded only 900 acres as against the 25,000 acres claimed by the Company.

In the Porirua and Hutt districts, owing to serious collisions between settlers and Maoris, detachments of several Imperial regiments were sent to garrison barracks and block-houses built at strategic points so as to protect the settlers. On 23 July 1846 Te Rauparaha, the leading chief, was captured and held in custody by the Government. After a brief campaign the recalcitrant

Maoris, who were led by Rangihaeata, were driven into the mountainous interior where they remained until peace was restored.

At Wanganui for the first three years the settlers occupied only the town sections and there was little friction with the Maoris. Trouble began when they tried to occupy the rural allotments and were opposed by the natives. In August 1845, the settlers, threatened with attack, applied to the Government for protection. The Government was fully engaged in quelling the disturbances in the Bay of Islands and it was not until March 1846 that Governor Grey was free to visit Wanganui where he met the leading chiefs of the district to discuss the land question in the hope of reaching a basis of settlement. The Land Purchase Commissioner, Donald McLean, and surveyors Alfred Wills and John Waite, were appointed to arrange with the chiefs the boundaries of the land to be transferred to the Europeans and also of the land to be reserved for the natives.

The proceedings were abortive and Captain J. J. Symonds,

secretary to the Governor, broke off negotiations. In 1846 a military garrison was established and fortifications erected to protect the town. Soon the outlying

settlers were driven in to the protection of the stockades and there were casualties and loss of life on both sides. The town was virtually in a state of siege until in January 1848 Governor Grey again visited the district and after further discussions with the native chiefs the way was cleared for a settlement of the land question. Donald McLean with surveyors Wills and White spent three weeks marking the proposed boundaries on the ground and the negotiations concluded by the payment of £1,000 when the Maori owners signed the deed of sale.

As the Company's survey operations at Wellington and Wanganui diminished, members of the survey staff who remained in its service were transferred to Nelson, Otago and Canterbury where new settlements were being established by the Company. With the winding up of the Company in 1852, when the Colonial Government took over its responsibilities, the Government became the sole authority for surveys. The Wellington province was established in 1853 pursuant to the New Zealand Constitution Act of 1852 and thereafter, until the abolition of Provincial Government in 1876, had its own Survey Department controlled by a Chief Surveyor.

CHAPTER 5. THE NEW PLYMOUTH SETTLEMENT

The Plymouth Company, which founded the New Plymouth settlement, originated at a public meeting held at Plymouth, England, on 25 January 1840. The Earl of Devon became the Governor of the Company and his supporting Directors were influential men of Devon and Cornwall. The Company's aims were similar to those of the New Zealand Company and it was hoped that the settlement would provide some relief of the unemployment then prevalent in the West of England. The purchase of a block of 11,000 acres from the New Zealand Company was arranged. This was to be selected out of the land presumed to belong to that Company. Land reserved for the New Zealand Company 'a first settlement, at Port Nicholson was not available for selection and a condition of sale was that ten per cent of the land in the New Plymouth settlement was to be reserved for the original Maori vendors. The New Zealand Company's claims to land purchased in New Zealand had not yet been investigated or determined by the Land Claims Commission when the Plymouth Company arranged for the purchase of a further 50,000 acres on 26 August. Early in January 1841, at a public meeting in Wellington, the settlers requested that the Wanganui lands be retained for the purposes of the Wellington settlement. This reduced the choice of sites for the New Plymouth settlement to either Taranaki or the northern end of the South Island.

The Plymouth Company's prospectus planned for 2,200 town sections of a quarter of an acre and 1,150 rural allotments of 50 acres each. Land orders or scrip, was on sale in England before the site had been decided or the land surveyed. The order of priority of selection was decided by ballot.

The site for the settlement was to be selected by the Company' a Chief Surveyor and for this important task Frederick Alonzo Carrington aged 33, an able surveyor and official of the Ordnance Survey Department in England, was chosen. The terms of his appointment were, a salary of £300 per annum, fourpence per acre on all land surveyed, as soon as it was sold or leased, and one per cent commission on all land sold. Also he was to be supplied with instruments, tents and rations.

He sailed from Gravesend, in the ship London, on 13 August 1840, and arrived at Port Nicholson on 12 December. The survey staff in the charge of the First Assistant Surveyor, who was Carrington's brother Octavius, sailed in the Slains Castle which arrived at Port Nicholson on 25 January 1841.

Colonel Wakefield placed the barque Brougham and the services of Barrett as guide and interpreter at Carrington's disposal, and Carrington sailed for Taranaki on 7 January and arrived at Ngamotu (the Sugarloaf Island) the following evening. After landing and inspecting the country in that vicinity he next examined the Taranaki coast and then sailed for Port Hardy, D'Urville Island. He cruised along the coast of Tasman Bay and visited Queen Charlotte Sound before returning to Wellington. He decided to establish the New Plymouth settlement at Taranaki despite the fact that there was no suitable harbour for ocean going vessels on that coast. In justifying his choice Carrington said " if I had chosen a Harbour I could not have had land with it - in New Zealand it is useless seeking these two desirables together (at least the part I had to select from). I consider the best Harbour in the world of

comparative little value if you have no export." He was confident that in time a suitable harbour could be built. [18]

The survey party which arrived at Ngamotu in the Brougham on 12 February, was comprised as follows –

Chief Surveyor,	Frederick Alonzo Carrington, (with wife and children).
First Assistant Surveyor,	Augustus Octavius Croker Carrington, (familiarly known as Octavius Carrington).
Second Assistant Surveyor,	John Rogan.
Draughtsman,	George Duppa.
Gentleman Assistant (cadet)	Harcourt Richard Aubrey.
Surveyor's Assistants.	John P. Baines, (Promoted Assistant Surveyor 18/10/1841). Gardner Levitt, James Dingle, Samuel Teague, Samuel Harris, Charles Nairn.
Storeman,	William Lukeman, (with wife).
Labourer,	William Pote, (with wife).
Guide and Interpreter,	Richard Barrett.

To select the site for the town the surveyors systematically explored the coastal strip from the Ngamotu anchorage to about eight miles beyond the Waitara River in one direction and several miles south westward of Ngamotu in the other. This was to constitute, roughly, the seaward boundary of the 60,000 acres. The landward boundary was as yet unknown except for one point, i.e. the summit of Mount Egmont.

The district immediately fronting the anchorage was known as Moturoa. It was occupied by a Maori pa, or kainga, and by Barrett's whaling station which was a foul smelling establishment operated mainly by his Maori employees. Also there was the beginning of the Wesleyan Mission station where the resident missionary, the Reverend Charles Creed, had arrived on 14 January only a month ahead of the surveyors.

Carrington was tempted to lay out the town on the banks of the Waitara River and utilise the river mouth as the port, but decided against it considering that a sheltered roadstead was better than a bar harbour where only comparatively small vessels could enter. A boat accident on the bar which almost led to a fatality, probably helped to decide the issue. After careful consideration he decided on the land lying between the Huatoki and Henui streams as the site for the capital town. His scheme of operations appears to have been to lay out a town in quarter acre sections with appropriate provision for public reserves, the town being surrounded by a town (green) belt, then the suburban sections of fifty acres, and beyond that the rural sections of a hundred acres.

He at once commenced the preliminary survey but was greatly hindered by the dense vegetation, chiefly bracken fern, the height of which he estimated at from 15 to 20 feet. He tried burning it but nearly succeeded in burning himself and his brother Octavius. All survey lines had to be cut laboriously through fern, scrub and forest. He began to employ some of the local Maoris who were not used to such tasks or working long and regular hours, but later proved to be very adaptable. They demanded more payment and he was forced to appease them by promises of goods, chiefly blankets, which payment was never made because the boat bringing the goods from Wellington was lost. Barrett also was troublesome when he put in a claim to any part of the country he chose to select, despite the fact that his Maori father-in-law had signed the agreement made with the New Zealand Land Company.

Carrington kept the surveys progressing except for a break in March and April occasioned by the arrival of the first of the immigrant ships, the William Bryan. All available labour was required to erect temporary accommodation for the settlers who were obliged to await the completion of the surveys and the allocation of their land. In September he wrote to Captain King, the Company's local agent, concerning remarks that had been made about the slow progress of the surveys. He pointed out that in face of the difficulties he had to contend with he had done remarkably well, and he drew Captain King's notice to the trouble he had had with regard to accommodation, labour and inclement weather.

Shortly after commencing operations the Plymouth Company became involved in financial difficulties brought about by the failure of its bankers, Messrs Wright and Company, of London. This led to the merging of the Plymouth Company in the New Zealand Company under a deed of agreement dated 10 May 1841. Although the Directors of the Plymouth Company continued to act as the West of England Board for the New Zealand Company, there was a change of management and officials in the New Plymouth settlement under which Carrington found it difficult to carry on the surveys owing to almost intolerable restrictions and impositions he had to endure. He was deprived of a reasonable share of the labour force and was not provided with suitable accommodation. Relations between the surveyors and the Company officials were strained.

At the end of September 1841, Wellington Carrington who was engaged in laying out the town of Wanganui, resigned from the New Zealand Company staff and joined his brothers at New Plymouth. Subsequently Messrs W. N. Searancke and Copps who previously had been working on the Wellington surveys, also joined the New Plymouth survey staff.

Toward the end of 1841 the Chief Surveyor reported the completion of the base line from which to lay out the sections. Known as "Devon line", with a length of about 20 miles, it became Devon Street, the principal street of the town, and its extension, Devon Road. The line was used as a "false meridian" assumed to have a bearing of 360°, and all surveys were co-ordinated in terms of this origin. Subsequently, when Taranaki was triangulated and the true meridian determined by astronomical observations, it was found that the true bearing of "Devon line" was 68^{o} 43'.

The allocation of the town allotments took place between 15 and 21 November 1841; most of the suburban allotments were allocated before the end of April 1842, and the rural allotments were allocated in June.

The Plymouth Company's Agent, Captain Henry King R. N., was succeeded by Captain Liardet R. N. but the latter, only ten days after taking office, was temporarily blinded and almost killed by a misfire while testing a cannon from the schooner Regina which had been wrecked on the Moturoa beach. He was invalided home to England and Carrington took the opportunity of forwarding to the Court of Directors of the Company various maps of the settlement and some mineral specimens, Including coal from Mokau and Taranaki iron sand. The coal had been obtained by a surveyor named Copps who had been sent to explore the Mokau basin and had reported the existence of two large coal seams and deposits of limestone and that the river was navigable by small craft for several miles.

J. T. Wicksteed arrived unannounced at Now Plymouth to replace Captain Liardet. In the absence of official notice Carrington, who had been directed by Liardet to deal directly with Colonel Wakefield, was at a loss to know how to act. Wicksteed commenced a policy of retrenchment that seriously affected the survey operations. Almost from the beginning of their association there was friction between the new Agent and the Chief Surveyor. Before leaving England Carrington, at the request of the Company, had obtained a boat which he brought out for survey work purposes, but it was used mainly on Company work other than surveying. It was in consequence of this and of the long distances he had to walk when supervising the survey work that Carrington obtained from Captain Liardet permission to import a horse and saddle from Sydney. These arrived after Liardet' s departure and Wicksteed refused Carrington the use of the horse which was sold at a loss and Carrington's allowances were docked to make up the deficit. Another sore point was the ration allowance. Labourers on the survey parties received two shillings per day; Chief Surveyors at Wellington and Nelson, seven shillings per day; the First Assistant Surveyor (his brother Octavius) five shillings per day, while Carrington received only two shillings and nine pence. Also the Company's agent disallowed the fourpence per acre for surveys of leased land. In 1842 Carrington requisitioned additional theodolites as he had five assistant surveyors and only two serviceable instruments while two others, privately owned, were out of repair. The instruments were not forthcoming and shortly afterwards the services of two of the surveyors were dispensed with. At the end of March 1843 the Chief Surveyor and the other members of the professional staff received notice through Wicksteed that their services with the Company would terminate on 31 March 1844.

Writing to a relative in England, Frederick Carrington expressed the opinion that he had been brought to New Zealand under false representations; promises to him had not been kept; the authorities, he feared, had tried to badger him into resigning. However, the confidence and esteem of his fellow settlers is demonstrated by the fact that a few years later they elected him Superintendent of the Province and their Representative in Parliament.

At the termination of his engagement with the New Zealand Company Frederick Carrington estimated that 26,000 acres had been surveyed and subdivided. On 8 June 1844 Commissioner Spain awarded the Company

60,000 acres, excluding all pas, native villages and cultivation; excluding also Sections 23 and 27 as reserved for Richard Barrett and 100 acres at Moturoa for the Wesleyan Mission Station.

The first dispute between the Maoris and the New Zealand Company over ownership of land in Taranaki arose towards the end of 1841 when a large body of armed Waikato warriors descended on the New Plymouth settlement demanding payment for the land which they claimed by right of conquest. In 1831, under the paramount chief Potatau Te Whero Whero, they had conquered the Taranaki tribes, many of whose tribesmen they still held in bondage. Captain Liardet hastily sent a messenger to Captain Hobson in Auckland, requesting Government protection for the settlers. Captain Hobson, to prevent bloodshed, acceded to Te Whero Whero's demand for payment) and purchased all rights of the Waikato tribes to land in Taranaki for the sum of £150 plus two horses and a hundred blankets.

A short time later the Waikato tribes, having been converted to Christianity, freed their slaves who made their way back to their erstwhile homelands in Taranaki. About the same time the Ngatiawa tribesmen who had been living in exile in the Port Nicholson district, commenced a migration back to their ancestral lands in Taranaki. On their arrival the ex-slaves and exiles found European settlers in possession and there was dissension and conflict when the settlers on the northern side of Waitara River were evicted from their allotments. To quell the disturbance Wicksteed called on Captain Cooke the Police Magistrate at New Plymouth, to swear in as special constables, 26 members of the survey parties. Armed with cutlasses and muskets they were sent to Waitara and Wicksteed reported "as I fully expected, this demonstration had the desired effect. A long talk with the natives ended in their entire submission and promise of good behaviour in the future". [19]

The matter did not rest there however, the aggrieved Maoris sought the protection of the Governor (FitzRoy) and his assistance in retaining the land they claimed. On 8 November 1844, believing that the Company had no valid title to the 60,000 acres, or that the rightful owners had not be en recompensed , he set aside the Commissioner's award and forfeited the whole block but induced the Maori claimants to accept payment of £350 in goods, cattle and money, for 3,500 acres at and around the town. For the next three years all settlement was confined to this FitzRoy Block. The settlement languished, surveying and immigration ceased and the settlers were frustrated and depressed.

The New Zealand Company refused to accept Governor FitzRoy's ruling and referred the matter to the Imperial Government. Eventually FitzRoy was recalled and was succeeded by Captain George Grey. In the hope of being able to keep faith with the Company's settlers, Governor Grey decided to negotiate with the Maoris. His instructions to Mr Donald McLean, Land Purchase Commissioner, included the following items:-

" 5. Every effort should be made to acquire for the European population those tracts of land which were awarded to the New Zealand Company by Mr Spain; and where blocks are reserved for the natives within those limits, portions of land of equal extent (greater, if possible) must be purchased without the limits for the New Zealand Company..

6. If possible, the total amount of land resumed for the Europeans should be from 60,000 to 70,000 acres; a grant of this tract of land will then be offered by the Government to the Company.

7. The price paid for any portion of land should not, under any circumstances, exceed 1s 6d per acre, and the average price should be below this amount. The greatest economy on this subject is necessary.

8. No time should be lost in completing these arrangements.

9. Two surveyors and parties, upon the most economical scale, must be engaged for the purpose. The police should, in as far as practicable, be employed on it. ….

14. In reserving the blocks intended for the natives, the surveyed lines of the Company should, in as far as practicable, be observed; but, whenever there is a necessity for a departure from this course, the lines must be run as Mr McLean thinks proper."

5 March 1857. G. Grey."

In May the Tataraimaka Block of approximately 4,000 acres was purchased; in August the Omata Block of 12,000 acres and in October the Grey (Ngamotu) Block of 9,770 acres. Of these only the Grey Block was within the area covered by Spain's award. The others were adjacent to the southern boundary of the awarded land.

The Government next appointed Mr Francis Dillon Bell, who had succeeded Mr Wicksteed as Company Agent at New Plymouth, to negotiate with the sub-tribe of the Ngatiawa at Mangoraka for the purchase of the Puketapu land, which was part of Spain's award. It immediately became apparent that there were two opposing factions among the Maori owners. Those who wished to sell were led by Rawiri and the non-sellers by Katatore. The first attempt to subdivide the land between the two parties led to violent conflict and bloodshed. Rawiri's party who tried to cut a boundary line was attacked by Katatore' a party. Although Bell]. managed to purchase about 2,000 acres, it was not possible to place settlers on the Block until 1853, owing to the fierce internal tribal feuding that continued for several years during which both leaders and sixty of their followers were killed.

On 31 March 1844 all members of the Company's survey staff had been dismissed. Frederick Carrington returned to England but the others elected to remain in New Zealand. Octavius Carrington was appointed Chief Surveyor, without pay, which in effect placed him in charge of the Company's survey records and to receive payment for surveys as they were required. The surveying of the blocks acquired by the Land Purchase Department was carried out by Messrs Wellington Carrington and John Rogan. Octavius Carrington visited England in 1846 and returned to New Plymouth in 1848. In the interval Wellington Carrington was in charge of surveys in Taranaki. When New Plymouth became a province in 1853, Octavius Carrington was appointed Provincial Surveyor. In 1858 the province was renamed Taranaki.

CHAPTER 6.

THE SECOND SETTLEMENT OF THE NEW ZEALAND LAND COMPANY, NELSON

Colonel Wakefield's over optimistic early reports from New Zealand, concerning his successful purchases of Maori land, claimed for the Company about twenty million acres. The location of this land was roughly as follows. The northern boundary was a line approximately from a point on the West Coast near the mouth of the Mokau River to a point on the East Coast at about 41 degrees South latitude (Castle Point) and the southern boundary was approximately the parallel of latitude at 43 degrees South.

Encouraged by these reports and by the reports of progress at the First settlement at Wellington the Company began to plan it Second settlement. Realising the unsoundness of its land titles and that the Treaty of Waitangi and the Land Claims Ordinance seriously threatened its claims the Company approached the Minister for the Colonies and the British Government and after protracted negotiations during 1840 the Company, by a new charter dated 12 February 1841, became virtually an agency for the colonisation of New Zealand and the basis of compensation for its activities in New Zealand was laid down. The all important point, concerning the validity of the Company' a title to land in New Zealand, had not yet been determined and, notwithstanding its Charter, the Company's claims were not supported by the very necessary Crown Grants.

For the Second colony, scrip, or Land Orders, were to be sold in Great Britain for an aggregate of 201,000 acres. There were to be 1,000 allotments of 201 acres each. An allotment comprised one town section of an acre, plus a suburban section of 50 acres, plus a rural section of 150 acres. The order of right of selection was to be determined by ballot in London, before the site of the settlement had been finally decided and even before any plan of survey delineating the sections was available. The price of an allotment was £300, irrespective of the quality of the land. Half of the proceeds were to be used to assist the immigration of suitable labourers who would not be land owners. In addition to the land to be provided for the settlers the Company was under an obligation to provide 100 allotments as part payment to the Maori vendors. The Second settlement was therefore to comprise no less than 221,100 acres.

Captain Arthur Wakefield, R. N. who was a member of the organising committee chosen as the leader of the expedition to go to New Zealand to develop the new colony. A brother of Edward Gibbon and Colonel William Wakefield, he was 42 years of age with a distinguished record in the Royal Navy and he resigned his command of the frigate Rhadamanthus to take up his position with the Company. It was probably his influence that brought about the naming of the new colony after Admiral Lord Nelson.

The carefully selected survey staff comprised one principal surveyor-engineer, six assistant surveyors and ten youths as Improvers, or survey cadets. The Principal Surveyor, who was also second in command of the expedition, was Frederick Tuckett, who, at 34 years of age had had an extensive training and experience of his profession. The Improvers, who were well educated and of respectable family background, were mostly in the late teens and the assistant surveyors, were not much older. The First Assistant

Surveyor was Samuel Stephens and the others were William Budge, Thomas Duffy, William Davison, Thomas Musgrave, and Charles Fowell Willett Watts. The Improvers included Charles Obins Torlesse, who was a nephew of Captain Wakefield, Thomas Brunner, A. R. Arnold, J.C. Boys, Browne, J.C. Drake, F. Moline, C. L. de Pelichet, W. E. Wilkinson and J. W. A. Watts.

Also selected were six foremen and sixty labourers, all married men of good repute and under 30 years of age. The terms of their engagement were two years from date of embarkation at a wage of £1-8-0 per week. The foremen received a little more. Their dependents were to receive a free passage to New Zealand with the main body of the expedition which was to leave England about four months after the advance party of officials and surveyors who sailed from Gravesend in the barques Will Watch and Whitby on 27 April 1841, followed by the store ship Arrow on 21 May.

The Arrow arrived at Port Nicholson on 8 August and the Will Watch and Whitby on 8 and 18 September, respectively. Fortuitously the Government brig Victoria, with Governor Hobson on board, also arrived on 8 September. The approval of the site for the new colony had been left to the discretion of the Governor, by the Colonial Secretary. The Company had been given the alternatives of purchasing suitable blocks of land from the Crown at a considerable discount or of utilising land previously purchased by the Company and for which it could reasonably be expected to establish a good title.

Although Colonel Wakefield strongly advocated placing the colony in the vicinity of Port Cooper (Lyttelton Harbour) the suggestion was firmly opposed by Captain Hobson, partly because of the unresolved dispute with the French Nanto- Bordelaise Company over the ownership of Banks Peninsula, but mainly because of the distance from the seat of Government at Auckland of the proposed colony, Captain Hobson foresaw the possibility of having to provide military protection for the settlers and considered it best that the settlement should be closer to Auckland. He offered Crown land at Mahuranga to the north of Auckland and at the Firth of Thames to the south-east. The Company officials, fearing the loss of its labour force, which had been brought out at considerable expense, to the more attractive earlier established settlement at Auckland, declined the Governor's offer. After consultation with Te Rauparaha and other leading chiefs at Kapiti Island, Colonel Wakefield decided to place the colony on land at Blind Bay (Tasman Bay) that had previously been purchased by the Company, the sale of which was now unreservedly acknowledged by the Maori vendors.

Little was then known about the district that had been chosen for the settlement. Frederick Alonzo Carrington, Principal Surveyor for the Plymouth Company, who had been charged with the task of selecting out of the land owned by the New Zealand Company a site for the New Plymouth settlement, had visited Taranaki, Tasman Bay and the Marlborough Sounds during January 1841. His inspection of Tasman Bay was cursory and he had not been aware of the existence of the natural harbour at Wakatu Nelson). He had chosen Ngamotu In Taranaki for the site of his settlement.

The expedition under Captain Wakefield arrived at Astrolabe Bay (a few miles north of Riwaka) on 9 October 1841 and survey parties were sent ashore at various places along the coast to explore the hinterland. One of the more

active explorers was Charles Heaphy who had joined the expedition at Wellington as draughtsman-surveyor. It was not until 20 October that Captain F. G .Moore, pilot of the expedition, discovered the Boulder Bank and the natural harbour of Wakatu. The site for the settlement was now confirmed although both Captain Wakefield and Frederick Tuckett had misgivings about the availability of sufficient good agricultural land to satisfy the ambitious plans that had been drawn up in London without any knowledge of the local conditions.

The land on which the settlement was to be founded was known to the Maoris as Taitapu and it had been included as part of the South Island land sold to Colonel Wakefield by Te Rauparaha and his allied North Island chiefs who claimed ownership by right of conquest. The few hundred South Island Maoris residing on the land soon let Captain Wakefield know that they disputed the right of Te Rauparaha and his colleagues to sell the lend. At a conference arranged with the local chiefs from Wakapuaka, Waimea and Motueka, Captain Wakefield was able to placate them with gifts of goods of a total value of about £440.

Subsequently the chiefs from Massacre (Golden) Bay were also presented with goods to the value of about £500 to satisfy their claims. All were also to be compensated by the setting aside of native Reserves in the settlement.

There were no further objections to the commencement of the surveys. Governor Hobson was informed of the choice of site and Colonel Wakefield sent Charles Heaphy to England with maps and charts and information for the Court of Directors concerning the locality. Heaphy's optimistic report, which extolled the site chosen for Nelson and which eulogised the country and the work of the Company in New Zealand was published soon after his arrival in England in 1842. [20]

At Wakatu the survey of the town of Nelson and on the Waimea plains the surveying of the "accommodation" or suburban sections were commenced and proceeded as expeditiously as the arduous cutting of tracks and boundary lines through bush, scrub and marshy land would permit. The trying conditions under which the men worked in the damp bush and marshy land, sometimes having to wade knee deep for days on end, caused much suffering from bad legs, colds and rheumatism but there was no let up in the prosecution of the surveys, the completion of which was so urgently needed.

One factor that had not been given sufficient consideration in the Company's plans was that the allocation of the allotments could not commence until all of the holders of land orders, or their agents, had had an opportunity to inspect the land as well as the plans before making their selections. Because the order of precedence of choice had been determined by ballot in London the Company had of necessity to delay the allocation of allotments until the scrip holders or their agents were present and in a position to nominate their preferences. Many months were to elapse before the Company was in a position to allocate sections and meanwhile Captain Wakefield was perforce obliged to permit the earlier arrivals, both labourers and scrip holders, to "squat" or build temporary dwellings on land that had not yet been surveyed or allocated. This caused some complications when the land was subsequently selected by someone other than the "squatter".

Another complication was the insistence of Governor Hobson on the provision of adequate reserves for public purposes before the sections were numbered and allocated. These reserves were in addition to the 1,100 town lots required to satisfy the scrip holders.

The fears of Captain Wakefield and Frederick Tuckett, that there was insufficient arable or good agricultural land in the Tasman Bay and Taitapu Block to satisfy the Company's commitment for the rural sections, were soon confirmed. They also realised that the residue of the block, comprising bush-clad ranges and lofty mountains, was mainly suited for pastoral farming and that due to the almost total lack of local markets and the distance from other countries the future success of the colony would depend largely on the export of the products of a pastoral industry.

The Immediate problem however, was to find no less than 220,000 acres of good agricultural land to fulfil the Company's obligations to the holders of land orders.

It was discovered that in the tracts around Tasman and Golden Bays there were about 70,000 acres of suitable agricultural land, sufficient to satisfy all of the requirements for the 50 acre " accommodation" sections and a few of the 150 acre rural sections.

The survey of the town, comprising 1,100 building sections plus the public reserves, was completed and the selection and allocation of lots commenced on 11 March 1842 and the registration of the selections occupied the succeeding four days. Tuckett had completed the preliminary explorations in March when he had visited Golden Bay. On his return to Nelson he drew up his plans for the settlement. All of the "accommodation" sections were to be located on the tract fronting Tasman Bay lying between Wakapuaka in the east and Sandy Bay in the west. He outlined and designated eight survey districts of various sizes conforming to the configuration of the country. These were;

1. Suburban North, between Nelson and Wakapuaka.

2. Suburban South, extending from Nelson to a little beyond Stoke.

3. Suburban East, comprising nineteen lots to the east of the town.

4. Waimea East, between Suburban South and the Wairoa and Waimea Rivers.

5. Waimea West, on the west side of Waimea and Wai-iti Rivers.

6. Waimea South, between the Waimea and Wai-iti Rivers, extending south from their junction.

7. Moutere, to the west of Waimea West comprising the Upper Moutere.

8. Motueka, comprising the Lower Moutere and including Riwaka and small areas at Kaiteriteri and Sandy Bay.

To expedite the availability of the sections Tuckett dispensed with the making of a triangulation survey which would eventually have to be made for control and co-ordination purposes. Instead he required that in each of the survey districts the surveyor concerned should lay down a long base line for the purpose of bearing control and from this rectangles measuring 75 chain by 69

chains were to be laid off. Each of these rectangles was to be subdivided into 50 acre sections. Where rivers or steep hills prevented regular straight line boundaries for these sections adjustments had to be made to fit in with the terrain. Provision was made for roads. An allowance for probably errors of up to 2½% was made. Roads running north and south were to be 60 links wide and those running east and west were to be 75 links in width. This difference in width was an expedient sometimes used during the pioneering period where roads were cut through standing bush and scrub and which roads would remain unmetalled for many years. The vegetation had to be cut back to a sufficient width to admit the maximum amount of sunlight to the clay roads so as to help to keep the surface dry. At a later date a standard width of a chain became a statutory requirement in New Zealand.

The survey work was apportioned among his survey staff and three contract surveyors. The latter were Messrs J. W. Barnicoat, T. J. Thompson and J. S. Cotterell all of whom contracted to complete their surveys at a price of a shilling an acre, and agreed to lay out the necessary roads.

Thomas Duffy was responsible for the surveys in Suburban North, Musgrave surveyed Suburban South and the surveyors of Suburban East were Budge, Watts and Davison, all of the Company s survey staff.

Barnicoat and Thompson in partnership, contracted to survey 12,000 acres in Waimea East while Cotterell contracted for 8,000 acres in Waimea West. Samuel Stephens, the First Assistant Surveyor, with several Improvers (survey cadets) and twelve survey hands, set out on 2 May for the Motueka district. At that time this district was the centre of the Maori population and Stephens met with some opposition to the commencement of the survey but was able to placate the Maoris by giving assurances that a tenth of the surveyed sections would be reserved for them and that their potato grounds and other plantations would not be disturbed. Stephens established his first survey station on the banks of the Atua stream near the present site of Riwaka. He returned to Nelson and brought a second survey party to Motueka where he established a second station on the bank of the Motueka River.

Despite severe wintry weather the surveys were pushed ahead. Heavy floods and severe frosts caused much suffering to those working in the extensive un-drained swamps while those working in the bush on the higher land found that the dense wet undergrowth and high fern interlaced with supplejack and bush lawyer made life no less arduous or miserable. Stephens, who became seriously ill as a result of exposure and the privations they endured, made a comment that surveying in England, which was hard work at the best of times, was child’s play in comparison.

Cotterell completed his contract, amounting to 8,350 acres, on 16 July. Barnicoat and Thompson, who accounted for 11,253 acres, completed theirs on 27 July. It was not until 18 November that the surveys in the Motueka valley, supervised by Stephens, were completed. The surveys in the other districts except Waimea South and Moutere had already been completed.

Anxious to place as many settlers as possible on the land by early spring Captain Wakefield decided not to wait for the completion of all the surveys but to permit the selection of sections to commence as soon as about half the

required number were available. Scrip holders were notified of this decision early in August and there was a certain amount of opposition by a few who wanted to wait until all the sections were available to selectors.

The objectors were over-ruled and the selections commenced at the survey office at Nelson on 22 August and by noon on 24 August all but 15 of the sections offered had been allocated. About 25,000 acres had been made available and the settlers set out to take possession. Due to the high proportion of absentee owners and to a lack of capital, the development of only about a quarter of these sections was put immediately in hand. This sporadic development was a serious drawback to the rapid progress of the settlement as a whole.

In August the contract for the surveying of the Waimea South district was undertaken by Cotterell and the surveys of the Moutere were undertaken by Messrs Barnicoat and Thompson. Cotterell completed his contract in November but the Moutere surveys were not completed until late in December.

The second selection, comprising 1,100 “accommodation” sections took place on. The requirements of the scrip holders so far were concerned were now satisfied but there found and surveyed 1,100 rural sections of 150 acres each .A few such rural allotments had been surveyed in the Golden Bay district but the disposal of these was postponed while the surveyors sought additional suitable land.

During the progress of the surveys of the 50 acre sections the immigrant ships continued to arrive. The choice of selection of allotments for these later arriving immigrants, in numerous cases, had been exercised by proxy. Many of them were greatly disappointed to find their town lots or accommodation sections included a considerable amount of un-drained swamp or rough hill land covered in bush and scrub and to find that access roads were nonexistent. The greatest disappointment most had to face was that their town lots and accommodation lots were situated many miles apart and that, as yet, there was no knowledge whatsoever of where the rural sections would be located. It was obvious however, that the rural sections would be situated many miles from the town of Nelson.

Mountain ranges reaching heights of five to six thousand feet were barriers to progress. To the east and south was the Richmond Range, to the south St Arnaud Range and to the west rose the Lyell Range and the Tasman Mountains. According to the reports of the local Maoris, extensive open plains were to be found beyond these mountain ranges. Survey parties were sent to find practicable routes across the mountains to these desirable plains.

On 17 November 1842 Cotterell led an exploring party southwards. Accompanied by Richard Peanter he reached and explored Lake Rotoiti. All hope of finding suitable land to the westward and southward were now abandoned. Ascending the upper reaches of the Wai-iti and Motueka Rivers, Cotterell discovered a pass that gave access to the Wairau valley. This became known as Tophouse Pass.

Descending the Wairau River the party reached the sea at Cloudy Bay and returned in a whaleboat to Nelson which they reached on 11 December. Cotterell reported that the Wairau valley contained more than 172,000 acres of

which a great part was an extensive plain in good natural pasture immediately available for grazing and that the district was easily accessible to Nelson by sea. Tuckett traversed the valley in February 1843, and confirmed that the extent of land suitable for the rural sections was approximately 200,000 acres.

Captain Wakefield lost no time in requesting his brother, Colonel William Wakefield, as Principal Agent for the Company in New Zealand, to take steps to make the Wairau land available for the Nelson Settlement. The Colonel considered that the Wairau tract was part of the land included in his South Island purchases of 1839. Also it was specifically the land for which he had taken the trouble of purchasing for the Company the supposed interests of the widow of John Blenkinsop, who held deeds of an alleged sale of this land to her husband prior to 1839.

The Land Proclamation of 20 January 1840, made it imperative that before the Maori title could be fully extinguished and a Crown Grant issued to the Company, the Company should establish to the satisfaction of the Land Claims Commission the validity of its claims. As yet the Company a claims to the Nelson Settlement lands and to the Wairau valley had not been adjudicated by the Commission. The Company had taken the risk of proceeding with the Nelson Settlement at Tasman Bay only after consultation with those Maoris who were most likely to raise objections to its claims. In the case of the Wairau land no such consultation took place. Tuckett had returned to Nelson on 5 March and a few days later tenders were called for the surveying of the Wairau land. The two year term of engagement of the Company's staff surveyors had now terminated and they were not being re-engaged.

Most of the surveyors, including some of the staff men, went to look over the Wairau district with the object of tendering for contracts. Their presence was soon known to the Ngati Toa chiefs, Te Rauparaha and Rangihaeata, residents of Kapiti Island, who asserted that they were the principal owners of the Wairau and that it had not been included in the sale of South Island land to Colonel Wakefield. A party of Ngati Toa led by Rauparaha and Rangihaeata immediately went to Nelson and met Captain Wakefield, Tuckett and the Resident Magistrate, H. A. Thompson, and vigorously objected to the sending of the surveyors to the Wairau before ownership had been determined by the Land Claims Commission. The interviews held at the Survey office and at the Company's office were acrimonious and uncompromising. Rauparaha said that he would not allow the surveys to proceed while Rangihaeata stated even more vehemently that he would kill Cotterell if he caught him in the Wairau and that the surveyors would be removed forcibly if necessary. Captain Wakefield replied that if the surveyors were molested a strong force of constables would be sent to arrest the culprits. He also refused the request that the dispute be referred to Commissioner Spain.

Barnicoat in a whaleboat left Nelson for Cloudy Bay on 15 March and although pursued by Rauparaha managed to elude him and returned safely to Nelson on 29 March. A second deputation of Ngati Toa, residents of Cloudy Bay, arrived at Nelson on 17 March and again enjoined Captain Wakefield not to proceed with the surveys until the question of ownership had been finally decided by the Commission. This deputation also affirmed that the Wairau land

had not been included in any sale and declined all offers of presents for their consent to permit the surveys to proceed.

Three survey parties aggregating 43 men set out by boat from Nelson for Cloudy Bay on 15 April. The contractors were Messrs Barnicoat and Thompson, in partnership, for the Marshlands district on the east side of the Wairau River, and S. Parkinson and J. S. Cotterell for a block each on the west side of the river. Their stormy reception by the local Maoris left them in no doubt that there was serious trouble ahead. During the ensuing weeks the Maoris did everything they could, short of personal violence, to prevent the work from proceeding. Cotterell left for Nelson on 2 May and informed Captain Wakefield of the state of affairs. He arrived back on 13 May with instructions that the surveyors should proceed as best they could without themselves provoking a breach of peace. They would be indemnified in the case of personal injury or damage to property and the Company would take steps to apprehend the offender. The survey work proceeded with some interruptions until the end of May.

The chiefs of the Ngati Toa sought out Commissioner Spain at his court at Porirua on 12 May and implored him to go at once to Cloudy Bay and settle the dispute or instruct that the surveys be discontinued until the question of ownership had been decided. He replied that he would not be available until after the June session of his court at Wellington and that meanwhile he wished the surveys to continue undisturbed. The chiefs then decided that, failing an injunction from Commissioner Spain, they would themselves stop the surveys but would do so without personal injury to the surveyors. They went in force to the Wairau and in turn rounded up each of the survey parties and conveyed them in canoes with all their personal gear, instruments and chattels to the pa at Cloudy Bay. In the process care was taken that none of the survey party received personal injury. In turn each party was dispatched by whaleboat to Nelson. The Maoris proceeded to destroy by burning all of the huts, ranging poles and pegs which were made of indigenous materials growing on the land and which they considered to be their own property.

Tuckett arrived on the scene on 3 June just as Cotterell’s party, the first to go, were leaving for Nelson. The surveys were nearing completion and, in fact, Thompson had finished his contract and with his party had already returned to Nelson. Tuckett besought Te Rauparaha to permit the surveys to be completed but the Maoris, who considered that their ease would be prejudiced and they might lose their land, refused to accede to his request and he returned to Nelson on 11 June.

At Nelson, on 12 June, a bench of magistrates with L. A. Thompson, Resident Magistrate presiding, heard the depositions of Cotterell and others and considered what action should be taken against those who bad disrupted the surveys. The other members of the panel were Captain Wakefield, Captain Richard England (12 Regt.) and Alexander McDonald (bank manager) all of whom were Justices of the Peace. They decided that the only tenable course open to them was to lay a charge of arson against the accused. Thompson, who was only 28 years of age and of an irascible and somewhat irrational temperament, enlisted a force comprising some of the gentlemen, the few constables available, and impressed the services of about twenty of the

Company's labourers, most of whom were sworn as special constables although some were reluctant to so act.

The intention was that the Maoris would be brought to submission merely by a show of force. On previous occasions such proceedings had been sufficient to overawe the Maoris. One such occasion had occurred less than seven months earlier when, on 17 November, Thompson, Captain Wakefield and J. S. Tytler, with an escort of about 25 of the Company's labourers as special constables armed with swords and cutlasses, set up a court at Takaka landing place to try the local chief, Puakawa. He was charged with destroying the lime kilns and some casks belonging to some Europeans who had commenced coal mining and lime burning on land the ownership of whish was disputed by the Maoris and of which the Land Claims Commission had yet to adjudicate. The Maoris had effectively stopped these operations by removing the property of the miners but without doing them any personal injury. Puakawa, who refused to appear before the court, was subjected to the great indignity of being hand-cuffed and hauled before the court. The Maoris, who resented this treatment of their chief, would have retaliated but for the presence of the armed constables. Thompson, who was in the unique position of holding both offices, as Police Magistrate and also Protector of Aborigines, considered he was letting the chief off lightly with a fine of only £1 and he extracted promises of future good behaviour from the Maoris. Thereafter the miners were unmolested but they earned the lasting resentment of the Maoris.

With this previous success in mind, Thompson and the leading settlers, with their escort of special constables, sailed for Cloudy Bay in the Government brig which conveniently happened to be at Nelson on a visit. On the way they met Tuckett's boat returning to Nelson and he and his party were taken aboard and obliged to go back to Cloudy Bay where they arrived on 15 June.

Next day the party assembled on shore and a variety of arms and accoutrements was issued from the Company's store. Included were 33 muskets of the old Tower variety, with flintlocks, many of which were almost useless. Most of the men had had no training in the use of firearms and were given little instruction before being actually faced with a situation in which their lives depended on such knowledge and experience. Those without firearms were issued with cutlasses excepting Tuckett and Cotterell who, being "Quakers", adhered to the tenets of the Society of Friends and carried no arms whatsoever. With the reinforcements from the survey parties the small force now numbered forty-nine and on 17 June the advance up the west bank of the Wairau River commenced. The first Maoris they met were a small body under an influential chief named Puaha. When he learned the nature of the mission he urgently advised Thompson to return to Port Underwood and promised to bring Rauparaha and Rangihaeata to confer with him there. Thompson insisted that the two chiefs were to be arrested and taken aboard the Government brig for trial. Before he left Puaha promised to inform Rauparaha and Rangihaeata of the nature of the mission and that he would advise them to submit to trial but he warned Thompson that it was most probable that the chiefs, on being confronted by an armed party, would naturally assume that an attack was about to be made upon them. Having noticed how well the Maori party was armed many of the Europeans now began to doubt the wisdom of going on to confront

Rauparaha and Rangihaeata and would have withdrawn but for Thompson's persistence.

That day, l7 June, the Nelson party found the Maori encampment on the right bank of the Tuamarina stream, a tributary of the Wairau river. There were at least eighty warriors, about half of whom carried firearms, and there were some women and children. Puaha and his followers, who were Christian converts, were also present and they were anxious to avert a conflict.

Thompson halted his men a short distance from the stream, which was too deep to ford, and ordered them to keep back and on no account to open fire unless ordered to do so. Divided into two parties, one under Captain England and the other under Mr Howard, an ex Navy man, they took up their positions facing the Maoris across the stream. Thompson and Captain Wakefield then crossed over in Puaha's canoe. They were accompanied by Tuckett and Cotterell - surveyors, W.R. Richardson - the editor of the Nelson Examiner W. B. Patchett -land agent, John Brooks -interpreter, and Thomas Maling-the chief constable.

Through the interpreter Thompson informed Rauparaha that he came in the name of the Queen to arrest the two chiefs on a charge of arson and that they were to accompany him to the Government brig where the trial would be held.

Rauparaha hotly repudiated the charge, maintaining that they had merely burnt some of their own property which was the product of their own land. He refused to attend any trial but said that if Mr Spain and Mr George Clarke, the Chief Protector of Aborigines had been present he, Te Rauparaha, would have consented to go and have the issue of ownership of the Wairau decided. Under existing circumstances he would remain where he was until that business was settled by Mr Spain.

Thompson then declared that the matter of arson did not concern Mr Spain, nor did it concern the question of ownership. The destruction of Cotterell's whare was the matter at issue. The Maoris refused to believe that an armed party would come all the way from Nelson over such a trivial matter and were convinced that it was the land dispute that brought them there.

The debate became acrimonious and tempers frayed. Puaha tried to intercede but was roughly told by Thompson not to interfere. The latter then ordered Rauparaha to submit to arrest or be compelled to do so. He ordered the handcuffs to be produced. Both sides were now shouting angrily and some of Thompson's companions implored him to be cautious, while a group of Maoris took up a defensive attitude. Te Rangihaeata became defiant and declared that he was on his own land and that on no occasion had he gone to England to interfere with Englishmen. Impetuously Thompson thereupon ordered Captain England to bring his men forward. To assist them Captain Wakefield placed Puaha's canoe across the stream. Several had crossed when a shot was fired which was immediately followed by a volley from both sides. At the subsequent enquiry it was not definitely established who fired the first shot but the weight of evidence was that it was an accidental discharge of one of the Englishmen's muskets.

Several on each side fell at the first volley but it was soon evident that the Maoris held a decided advantage. The war hardened warriors were more

than a match for the untrained Europeans who were in an exposed position and were being fired on by unseen enemies who made the best use of the available cover. In the retreat a group of twelve, including Thompson and Captain Wakefield, were separated from their companions. Realising the hopelessness of their position Captain Wakefield advised surrender and they raised a flag of truce and laid down their arms. Unfortunately for them one of the first Maoris to be killed was Te Rongo, the daughter of Rauparaha and wife of Rangihaeata, and the latter, invoking all of the doctrines of ancient Maoridom, insisted on immediate retribution and would not be restrained by his companions. All of the twelve were tomahawked, most of them by the hand of Rangihaeata.

The rest of the Europeans, after a running fight, made their way back to Cloudy Bay and Nelson in scattered groups, most of them being nearly a fortnight on the way with almost nothing to eat and suffering severe hardships.

The European dead numbered 22, of whom twelve were massacred after capture and the others were either shot down or died of wounds when trying to escape.

Those who died were:-

Massacred:- Captain Arthur Wakefield. R. N., Henry Augustus Thompson,

George Ryecroft Richardson, Captain Richard England, 12 Regt,

John Coster, Ely Cropper, James Howard, R. N., William Gardiner, James

McGregor, Thomas Pay, John Brooks, and John Sylvanus Cotterell

(surveyor).

Shot and killed during the affray or died of wounds:- Henry Bumforth,

Thomas Maling, William Northam, William Bennett Patchett, Isaac Smith,

Edward Stokes, Thomas Tyrrell, and three survey hands, John Burton,

William Clanzie, and Thomas Ratcliffe.

Wounded who escaped:- Robert Crawford, Bernard Gapper, James Henry

Smith, and two survey hands, John Bumford and Richard Burnett. Those who escaped unwounded were three surveyors - Messrs Frederick Tuckett, John Wallis Barnicoat, and Eugene Bellairs - nine survey hands, Messrs William Chamberlain, James Grant, Thomas Hannam, John Miller, Joseph Morgan, William Morrison, Richard Peanter, Henry Richardson, and Henry Wray - and nine others, Messrs William Burt (or Bird) James Fergusson, John Gay, Samuel Goddard, John Kidson, William Maunsell, John Noden, Abraham Vollard and Richard Warner. The Wairau affair caused great alarm in the scattered settlements throughout New Zealand and was a serious setback to the New Zealand Company. After considering all the circumstances, the official enquiry that was instituted by the Acting Governor, Lieutenant Shortland, decided against taking any punitive action. It was considered that the Maoris had acted under extreme provocation at having indicated their willingness to have the cause of the dispute decided by a properly constituted authority. This view was also maintained by the new Governor, Captain Fitzroy, after his arrival in New Zealand in December. In any case had the decision been to the contrary, the Government, through lack of a sufficient military presence or any other means

of imposing its will, was not in a position to safeguard the scattered settlements if a general uprising of the dissident tribes, which was a distinct possibility, had occurred. As it was, during the ensuing twelve months, several incidents of aggression on the part of the Maoris occurred at the Bay of Islands and in the vicinity of the Wellington settlement. The Government had to send for British troops who were brought to New Zealand to protect the settlements and quell the incipient rebellion.

Nelson suffered a staggering blow; not only had the community lost its leading men but a number of the colonists, having already waited interminably for the land they had purchased, and despairing of any possibility of an early settlement, took the earliest opportunity of shipping to Australia or elsewhere where the prospects seemed brighter. Any expectations that the Wairau land would soon become available for the rural sections were dashed when, in August, Parkinson on his own initiative, in the hope of completing his survey contract, went to the Wairau without the consent of the Company which had given the Government its assurances that the surveys would not be completed. Again the Maoris objected and would not permit the work to proceed. The Company would not go to his assistance and he was ordered to withdraw. The district then remained almost uninhabited.

No less disastrous to the Company's affairs was the effect of the news of Wairau in England where prospective emigrants were dissuaded from going to New Zealand. Although three years had elapsed since the beginning of settlement in Nelson the Company had yet to provide the rural sections necessary to fulfil its obligations to the colonists. The Company was not in a position to allocate land in its other settlements for the benefit of the Nelson colonists and its colonising activities had to be suspended until, with the help of the Government, it was able to make headway against its difficulties.

It was not until August 1844 that William Spain arrived at Nelson to investigate the Company's claims in that district. To ensure more amicable relations between the Maoris and the settlers Colonel Wakefield now paid to the local Maoris a further £800 which, together with the sums previously paid by Captain Wakefield and the reserves to be set aside for the Maori vendors, was more than sufficient to satisfy Commissioner Spain that the Company's claim to the Nelson land was equitable. The blocks at Wakatu, Moutere, Waimea, Motueka and Golden Bay were awarded to the Company and a Crown Grant for 151,000 acres was issued. At this time however, the Company did not press for an investigation of its Wairau claims.

Captain George Grey who, in November 1845, succeeded Captain Fitzroy as Governor, solved the Wairau problem by purchasing for the Crown a large tract embracing the Wairau valley and the surrounding hill country and selling to the Company the land it needed to fulfil its obligations. The Surveyor General, C. W. Ligar, arrived at Nelson in February 1847, and with William Fox, the Company's agent, went to the Wairau via Top House. After his inspection he recommended the purchase by the Crown of 320,000 acres. The sale was negotiated with the Ngatitoa owners and the deed of sale was signed at Wellington by all of the leading chiefs except Rauparaha, who was held in captivity by the Government as a precaution against subversive activities, and also Rangihaeata who was a fugitive hiding in the forest where, with his

followers, he had been driven by the British troops who had been brought in to quell the rebellion in the Wellington district.

Sufficient of the Wairau land was sold to the Company to provide the rural sections it needed and the balance was retained by the Crown to provide Native Reserves and other purposes. A fresh Crown Grant was issued to the Company in 1848 to include the Wairau lands with those previously awarded by Commissioner Spain in the Nelson district.

Immediately after the Wairau debacle the responsibility of managing the Company' a affairs at Nelson had fallen on Frederick Tuckett whose duties as Principal Surveyor were then combined with those of Local Agent. He found it a thankless task, particularly as he was immediately beset by labour troubles. Owing to the considerable speculative element in the Company's land sales procedures, whereby the majority of the purchasers of land orders had remained in Great Britain while the management of their Nelson properties was placed in the hands of agents who represented them in New Zealand, the immigrant labourers greatly outnumbered the resident land holders. Because the rural sections were not yet available, the agricultural work for which the labourers had been brought to Nelson was as yet very limited and the Company was obliged to employ most of them on public works for which, owing to the unforeseen circumstances, its financial resources were insufficient. The men were paid a pittance, barely at sustenance level, and hence the labour troubles. The maintenance of such a large labour force for such a length of time had not been anticipated and the Company was soon in financial difficulties and in 1844 had to suspend operations. William Fox became its agent at Nelson and Frederick Tuckett was released to undertake the task of selecting a suitable site for the Scottish Free Church settlement which was being organised in Scotland under the aegis of the New Zealand Company. Samuel Stephens replaced Tuckett as Principal Surveyor.

The Nelson surveyors had not been idle, for the search for suitable agricultural land still went on. They again turned to the south and west, having been told by the local Maoris that suitable tracts were to be found beyond the ranges.

Some more rural allotments were laid out on the indifferent agricultural land lying beyond the existing accommodation sections. By this time a number of the disappointed settlers had left Nelson and the survey staff had been reduced by the departure of some of the surveyors and Improvers. Surveys were conducted in the Moutere district by Barnicoat and Brunner, in the Upper Motueka Valley by Davison and Boys and at Golden Bay by Budge and Watts. By August 800 of the required 1,100 rural sections had been laid out and this left a further 45,000 acres of good agricultural land still to be found. The connecting road lines had been surveyed and several miles of road bad been formed as part of the Company's programme of relief works.

As an incentive to explorers the Company offered bonus payments for the discovery of suitable tracts of land or a more practicable route over the mountains to the Wairau plains. Acting on persistent statements by the local Maoris that vast plains lay beyond the mountains, attention was again turned southwards and westwards from the Nelson settlement. In August 1843 Thomas Brunner, a young improver in Samuel Stephens' survey party in the

Motueka district, traversed the Motupiko river to its source near Lake Rotoiti, only to discover that it led to the Wairau pass already explored by Cotterell.

In November the surveyors, Samuel Parkinson and Charles James Drake, discovered the Maungatapu route to the Pelorus River. In January 1844 Drake, with a party which included W. Bishop and C.F. Watts, again crossed the Maungatapu and went down the Pelorus River to the Sound and then went up the Kaituna River to within a short distance of the Wairau River. This new route, although much more difficult, became an alternative to the longer Tophouse route.

Invariably the Nelson explorers were faced with what was literally uphill work, finding a way through and over the mountains that beset the settlement. The scope of each expedition was limited by the amount of food that the men could carry on their backs as it was rarely possible to use horses in the trackless forest and scrub that clothed the land they had to traverse, and the country they explored was virtually uninhabited.

After his return from England, where he had been sent to convey to the Company's directors first hand information about developments in New Zealand, Charles Heaphy became one of the most active of the explorers. He had strongly advocated that more attention should be given to exploration and mapping before further settlement projects were undertaken by the Company in New Zealand.

On 8 November 1843, accompanied by a fellow surveyor J. S. Spooner and a small party, Heaphy set out with the intention of exploring the terrain lying between Lake Rotoiti and the west coast. From the Lake they followed the course of the Kawatiri (Upper Buller) River and had covered no great distance when they met J.C. Boys and his survey party who had explored southwards from the survey base at Motueka. Combining forces they continued down the Buller river and it soon became evident, after they had passed through a steep gorge which they named 'the Devil's Grip', that further search in that direction was in vain.

As opportunity offered further expeditions were arranged, mainly on an unofficial basis owing to the Company's drastic retrenchment of its survey staff after the expiration of the two year term of contract of the professional men. Heaphy made several less extensive expeditions during 1844, visiting the ranges above Takaka and Riwaka and beyond the Aorere valley. Also he investigated some of the country lying between Nelson and the Marlborough Sounds. On 5 March 1845, accompanied by Charles Christie, Heaphy again tried to penetrate the country beyond Lake Rotoiti but floods caused them to turn eastwards and explore the ranges in that direction. On their provisions running out they returned to Nelson which they reached on 20 March. In February the following year Heaphy returned to the attack determined to find the large lake (Rotoroa) to the west of Rotoiti and from there seek the elusive "extensive plains". On this expedition he was accompanied by Thomas Brunner and the Company's local agent William Fox. They had with them a Maori guide named Kehu who had been with Brunner' on his earlier expeditions. Leaving Nelson on 2 February they succeeded in reaching Rotoroa on the 11th and the fortuitous discovery of a Maori canoe enabled them to pleasantly explore the lake on the 12th. On the 13th they resumed their travels on foot, leaving the

lake and crossing over a pass that led to the head of the northern branch of the Tutaki river. Travelling down the river bed they reached the junction with the Buller river and on the 18th discovered the open country of the Matakitaki valley. The following day they reached a point where the Buller again became confined in a narrow gorge surrounded by high mountainous bush clad country. Shortage of provisions prevented them from continuing and they made their way back to Nelson which they reached on 1 March.

Encouraged by their discovery of promising country in the Matakitaki valley, Heaphy and Brunner decided that on their next expedition they would explore the west coast from Cape Farewell to the mouth of the Buller River. At that time very little was known about the coast which was uninhabited except for a few Maoris at Arahura.

Heaphy, Brunner and Kehu the Maori guide, set out from Nelson on 17 March 1846, and by the 24th had reached Pakawau near the western end of Massacre (Golden) Bay. Despite bad weather Heaphy walked to Cape Farewell on the 26th and on his return to the pa at Pakawau another Maori named Etau, who had some knowledge of the district they were about to traverse, was engaged as an additional porter and guide. During the journey southwards along the coast from Whanganui Inlet they traversed an extremely rugged shoreline and only by the construction of rafts were they able to cross three major rivers; the Karamea, the Buller and the Grey; and there were numerous lesser streams, dangerous in times of flood, that they had to ford. The food supplies with which they had set out were soon exhausted and for the greater part of the expedition they had to support themselves with whatever they could obtain in the bush, swamp, river or sea beach. The Maoris were excellent foragers, adept at snaring birds and catching fish, and knew where to seek and how to obtain shell fish and crustacea and which were the edible plants to be found in the bush and swamp.

Owing to the very inclement weather and having to live off the land, their progress was very slow. They reached the mouth of the Buller on 30 April and nineteen days later came to the small Maori kainga at Kararoa. There they stayed for two days recuperating on good cooked food after a period of semi starvation. On 27 May they reached the mouth of the Arahura River, the southernmost limit of their journey. The return journey, in the depth of winter, was even more arduous. The severe weather and the lack of sufficient food and a suitable diet brought on attacks of dysentery. Reaching Whanganui Inlet, and adequate food supplies, at the beginning of August, they arrived back at Nelson on the 18th, exactly five months after they had set out.

Despite the disappointing reports on the nature of the country they had seen their exertions were highly commended. Their material rewards however, were practically nil. At the time Brunner, aged 25 years, and Heaphy, aged 24 years, were no longer in the employment of the New Zealand Company. With the majority of the survey staff they had been dismissed as soon as the contract term of engagement had expired. The Company was suffering severe financial straits. William Fox, the Company’s agent, in forwarding to Colonel Wakefield the reports of the expedition and the map showing the physical features the explorers had named, said, “I have thought it a proper memorial to their exertions to affix their own (names) to two of the rivers (the Whakapoai which I

have named the ‘Heaphy’ and the Arahura, the furthest limit of their journey, the ‘Brunner’

Brunner and Heaphy had learned a great deal about the interior of the island from the Maoris and of the existence of a pass over the Southern Alps that led to the extensive plains to the eastwards and to Port Cooper (Lyttelton Harbour). Brunner was determined to learn more about the country and decided to complete the traverse of the Buller River from the point on the Maruia tributary which he had reached, in company with Fox and Heaphy during their earlier expedition. He proposed then to explore the coast from the mouth of the Buller to Milford Haven (Sound), and then return to the mouth of the Taramakau River which he would follow up to its source near which was to be found the pass that led to the plains and Port Cooper.

To equip this expedition William Fox advanced the sum of £30. Brunner’ s companions were) his faithful henchman Kehu, who this time was accompanied by his wife, and another Maori, Pikiwati, whose wife also joined the party. Pikiwati had previously been a companion of J. S. Cotterell on his exploring expeditions.

On 3 December 1846 the party set out from Nelson on what has come to be recognised ed as New Zealand’s most famous journey of exploration. Brunner’s journal recounts the almost incredible hardships they had to endure and overcome in very rugged country clothed in the densest of rain forest, intersected by fast flowing rivers, and subjected to an intensely rainy climate with periods of severe storms.

Once again progress was slow, dictated by the weather and the necessity to hunt for food. Delayed by foul weather and bouts of illness brought on by an inadequate diet, the party reached the Maruia and struggled down the Buller Gorge in the beginning of winter. Sometimes being able to construct a raft, but usually having to ford or swim the swollen rivers, they were perpetually wet and hungry. Food was so scarce that Brunner was induced to kill his dog Rover for the sustenance of the party. The unpleasant conditions occasionally brought on ill temper and wrangling among his Maori companions and was the cause of further delays. The coast was not reached until the end of April and in July the party reached the Taramakau River where food and shelter were available from the local Maoris. On his companions refusing to continue the journey during the winter months, Brunner had of necessity to remain at Taramakau until 12 October when the journey was resumed. On 19 November Brunner had a severe fall while attempting to pass around the rocky shoreline at the foot of Tititera Head. He suffered a crushed foot and sprained ankle that detained him in the vicinity for several days. He decided to turn homewards but it was not until 11 December that he was able to set out. He abandoned the idea of crossing the Island to Port Cooper and decided to travel up the Mawhera (Grey) River on the return journey to Nelson.

Hampered by Brunner’s lameness the party slowly made its way back to the Mawhera (Grey) River where the Christmas season was observed with the local Maoris. Some days were spent in the locality recuperating and preparing for the journey up the river. Four canoes were available and on 26 January 1848 a start was made. The following day a large tributary, the Kotukuwakaho, (Arnold) was reached and a diversion of several days duration was made while

this was explored. They passed through a large lake (Lake Brunner) before returning to the Mawhera on 31 January. Brunner discovered an extensive coalfield in this district. From there the Mawhera Maoris returned to their homes leaving one of their number to guide Brunner's party up the river and later to return the canoe to Mawhera. The junction of the Arahura was reached on 2 February but the party was detained by bad weather and their guide left them. The rest of the journey was to be made on foot. From time to time, while his companions were engaged in foraging, Brunner was able to do some exploring of the adjacent country. Occasionally they came across tracts of open country but for the main part the land was covered in dense trackless forest and the travellers had no alternative to m their way up the river beds. The rainfall was frequent a sometimes torrential and there were few really fine days.

Brunner's supply of clothing and footwear was almost depleted and he was reduced to using flax (phormium tenax) sandals made in a few minutes from that fairly prevalent plant. His feet became hardened and he covered many miles of the latter stages of the journey barefooted.

Each night they had to build a rough shelter from the rain where they could light a fire and dry their clothing which was wet from the continual fording and swimming of the river and from the constant dripping from the trees in the dense sunless forest. At times, owing to the scarcity of birds and fish, they were reduced to subsisting on the rather unpalatable fern-root.

The party journeyed up the Mawhera to the junction with the Mawheraiti which they ascended to its source and then crossed over the divide to the Inangahua River which they followed down to its confluence with the Buller. The country they had traversed was trackless and rugged. Pikiwati was troubled with lameness and on 15 April Brunner was stricken with paralysis down one side and could not move for several days. In the belief that Brunner would not recover, Pikiwati and his wife went on their way leaving the loyal Kehu and his wife to look after the unfortunate invalid. A week later when he could manage to stand on one leg, Brunner made a determined effort with the aid of his two companions, to resume the journey. On 25 April they overtook Pikiwati and his wife who had been denuding the country of all ground birds before them. The following day they reached the familiar country at the Maruia. During the ensuing weeks the weather was bad, including falls of snow, and the party was delayed by Brunner's illness. Working their way through the rugged Buller gorge they found the ascent

much more difficult than had been the downward journey when they could use rafts.

At length, on 15 June, they reached the old survey station on the Motupiko River and that night reached civilisation in the shape of a shepherd's hut on Edward Stafford's sheep run at the Motupiko - Motueka junction.

This long and arduous expedition produced little of value for the Nelson settlement agriculturalists and did not discover the promised land, but much had been learned about the remoter regions and some useful coal measures had been found. The hardships he had under gone had permanently impaired Brunner' a health and probably shortened his life. His report concluded with the

eloquent words - "but to Kehu I owe my life - he is a faithful and attached servant".

The material rewards to the explorers were again parsimonious. The Company subscribed £25 towards a public testimonial which was augmented, mainly by a small flock of sheep donated by his fellow settlers. Kehu and Pikiwati received the equivalent of £9 each.

Although settlement of the Wairau lands had been suspended pending negotiations with the Maori claimants, the surveyors continued the search for a better route from Nelson through the intervening mountain ranges. Cyrus Goulter, with two companions, explored the watershed between the Motueka and Wairoa valleys in March 1846 and what he saw on that occasion encouraged him to make a further expedition a year later when, with his fellow surveyor Joseph Ward, and Henry Redwood, Ward's pass was discovered.

Following the Company's purchase of Crown land in 1847, William Budge proceeded to lay out the rural allotments (150 acre allotments) in the Awatere and Wairau valleys for the Company's claimants, some 34,219 acres being allotted to the various purchasers by 31 March 1848.

By Proclamation dated 10 March 1848, pursuant to the New Zealand Constitution Act of 1846, New Zealand was divided into two provinces, New Ulster and New Munster. As a result the Nelson settlement, situated within the New Munster province, was given a measure of local government and a status similar to that enjoyed by the Wellington settlement, when Major Matthew Richmond was appointed Superintendent, with limited powers, to administer the Nelson district. The surveying of the Crown lands in the province was now the function of the Government while the New Zealand Company was still responsible for surveys of the lands for which it had obtained a Crown Grant.

In November 1848 Thomas Brunner was sent by the Government to examine all of the known overland routes between Nelson and the Wairau and to make sure that no practicable alternative had been overlooked. His report favoured the pass originally discovered by Cotterell as being the most practicable route. However, as no easy overland access had been discovered, it was decided to look for the site for a suitable port to serve the Wairau settlers. Early in 1845 William Fox, and Samuel Stephens the Principal Surveyor, had gone by boat to Waitohi (now Picton) at the head of Queen Charlotte Sound and discovered that there was comparatively easy access from there to the Wairau valley. In 1850 Messrs Goulter and Ward, under contract to the Company, laid out the township of Waitohi (Picton) which was to be the port and principal town for the Wairau and Awatere settlers.

Shortly afterwards the New Zealand Land Company surrendered Its Charter to the Crown. The purchasers of land from the Company were now able to obtain an indefeasible title when Crown Grants were issued on proof of their claims.

When the last of the allotments needed to satisfy the Company's obligations to the Nelson settlers had been surveyed the services of the Company's surveyors were no longer required in the Nelson district and those retained by the Company were transferred to work in the Company's other settlements, particularly in Otago and Canterbury. Of those who left the

Company’s service, a few returned to Great Britain and the others, as land holders, became farmers and graziers, engaging in surveying as opportunity offered.

CHAPTER 7. THE OTAGO SETTLEMENT.

Gravely disturbed by the Land Claims Commission's award, which amounted to only a small percentage of the twenty million acres that Colonel Wakefield claimed to have been purchased, the Directors of the New Zealand Company in February 1844 informed Lord Stanley, Secretary for the Colonies, of the critical state of the Company's affairs and proposed that the Government should take over the Company's assets and liabilities or alternatively, should guarantee a loan of £100,000 to be made to the Company. These proposals were rejected by the Government and consequently the Company commenced a campaign in Parliament to achieve its objects. On 17 June 1845 the House of Commons commenced a debate on New Zealand that lasted three days and thoroughly explored the affairs of the colony. On 30 July during a further debate it as indicated that a settlement of the differences between the Colonial Office and the Company was pending. On 24 June the following year a bill "to authorise a loan from the Consolidated Fund to the New Zealand Company" was read a third time and on 3 August received the Royal Assent. It provided for a loan of £100,000 to be expended as follows: £8,000 for outstanding claims, £25,000 towards placing the Company's establishments in a state of efficiency, and £67,000 towards the purchase of land in New Zealand and for satisfying native claims. In July 1847 the House of Commons agreed to advance the Company a further £136,000.

Negotiations were then under way for the settlements of Otago and Canterbury, or rather, settlements in New Zealand sponsored by the Free Church of Scotland and by the Church of England, under the aegis of the New Zealand Company. Arising out of the negotiations of the Colonial Office and the Company was the division of New Zealand into two provinces, namely New Ulster and New Munster. The settlement of New Munster was to be the prerogative of the Company, while the settlement of New Ulster was the responsibility of the New Zealand Government. The Company was to be duly recompensed for its colonising work.

The first step taken in New Zealand towards the settlement of Otago was the exploration of the harbours on the east coast of the South Island by the Company's Surveyor General, Captain W. M. Smith, in 1842. Little was known of the interior and the first to attempt such an exploration was Dr Edward Shortland. As Protector of Aborigines and Interpreter, he had accompanied the Land Claims Commissioner, Colonel Godfrey, to Otago harbour in September 1843 to investigate land claims in the southern region.

One of the principal claimants was John Jones of Waikouaiti, proprietor of several whaling stations, who had founded a settlement at Waikouaiti in March 1840 with forty immigrants from Australia. Also at Waikouaiti a Wesleyan Mission station was established in June. At the conclusion of the Commissions business Dr Shortland decided to explore as much of the district as possible. Part of his mission was to take a census of the native population. He accompanied Jones on a visit to the southern whaling stations calling at a number of planes including Bluff, Riverton, Jacob's river, Ruapuke Island and Stewart Island. On his return to Waikouaiti he decided to travel overland to Banks Peninsula, a journey that as yet no European had attempted. He set out on 10 January 1844 with a party of Maoris. They had difficulty In crossing some

of the larger rivers which were in flood, and were subjected to much delay. By an extraordinary coincidence, in the midst of the wilderness near the Waihao River, they met on 16 January a party of Maoris led by Bishop Selwyn, who was making the first overland journey by a European from Banks Peninsula to Otago. From the Maoris Dr Shortland had gleaned much useful information about the interior of the southern districts.

The land for the settlement of Otago, and subsequently that for the Canterbury settlement, was purchased in co-operation with the New Zealand Government. Captain Robert Fit R. N. who became Governor in December 1843, had received instructions from Lord Stanley, Colonial Secretary, authorising him to assign to the Scottish promoters, and at Port Cooper, Banks Peninsula, provided a better site was not available elsewhere in the South Island. Colonel Wakefield pressed for the purchase of the Port Cooper land and Governor FitzRoy was agreeable but made one important proviso, namely that in order that the rights of the Maoris be adequately safeguarded, a Government official should proceed to Banks Peninsula to see that a valid purchase was effected. The Government appointee was Captain John Jermyn Symonds. He was to superintend and to assist the Company's agent in the purchase of not more than a hundred and fifty thousand acres and was enjoined not to countenance any, even the smallest encroachment on, or infringement of, existing rights or claims, whether native or other, unless clearly sanctioned by their legitimate possessor.

Colonel Wakefield chose Frederick Tuckett, the Company's Chief Surveyor at Nelson, to represent the Company. Tuckett had already proven to be professionally competent and decisive in his opinions. As the basis of his acceptance of the assignment, Tuckett insisted on freedom of choice in the selection of the site for the proposed settlement.

On 3 April 1844 Tuckett set out in the schooner Deborah (Captain Thomas Wing) from Port Nicholson. With him were Captain J. J. Symonds, Assistant Surveyors J. W. Barnicoat and W. Davison, and five boatmen and survey hands. Other passengers were, three Nelson settlers - Dr David Munro and Messrs Wilkinson and Withers; the Rev. Charles Creed a Wesleyan Missionary who was going to relieve the Rev. James Watkin at Waikouaiti; and the Rev. J. F. H. Wohlers of the German Missionary Society who was going to establish a mission station at Ruapuke Island. Captain Wing was a competent hydrographic surveyor and as opportunity offered he made coastal surveys during the expedition.

The Deborah called first at Port Cooper where Tuckett viewed the extensive plains from the summit of the Port Hills. He crossed the plains as far as the Waimakariri river before returning to the port. He formed an unfavourable opinion of the locality owing to the lack of suitable access to the port and considered the plains were more suitable for pastoral farming than for agricultural purposes. His quest was to find a tract of good agricultural land.

The schooner sailed for Moeraki Bay which was next investigated. At Waikouaiti the Deborah was sent on to Otago harbour while Tuckett and members of the survey party walked overland. Not yet entirely satisfied Tuckett decided to continue to explore to the southward. At the mouth of the Taieri river he and Dr Munro disembarked and with three Maori guides made their way to

the mouth of the Molyneux (Clutha) river over country so rugged that it took them three days to cover thirty miles.

They found evidence of a valuable coalfield near Kaitangata. From the hilltops they saw the plains stretching westward to the high ranges fifty miles away. The expedition continued southwards as far as Stewart Island making a number of excursions ashore at various places. On the homeward journey Tuckett, Munro, Barnicoat and Davison left the ship at Molyneux on 1 June and with three Maori guides set out on an overland journey to Otago peninsula. Travelling through primeval country in the depth of winter was arduous and unpleasant. They suffered all the hardships that were experienced by early pioneer explorers; sleeping on the ground, their blankets encrusted with rime; wading through icy cold streams and extensive swamps; making lengthy detours to avoid having to struggle through the tangled undergrowth in bush and scrub. The journey took much longer than had been anticipated and towards the end they ran out of food. Before they reached their destination the Europeans were reduced to a ration of a handful of rice per day while the Maoris survived on some blubber taken from the remains of a stranded whale and on a kiore (native rat) which their dog had caught.

Tuckett was now satisfied that the region surrounding the Otago harbour and including the Taieri and Molyneux plains would fulfil the requirements for the settlement. He commenced negotiations with the Maori owners in June. Soon afterwards he was joined at Koputai (Port Chalmers) by Colonel Wakefield who was accompanied by William Spain the Land Claims Commissioner, Captain J. J. Symonds, and George Clarke the official interpreter. On 31 July a large number of Maori owners assembled at Koputai and the negotiations concluded with the sale of a block of about 400,000 acres for the sum of £2,400. The block extended from Taiaroa Point in the north to Nugget Point in the south, and for several miles inland. From this Colonel Wakefield selected the 150,000 acres for the Scottish settlement and the rest became Crown land.

Anticipating the need for additional survey staff at Otago, Colonel Wakefield sent cadets Richard Nicholson and Albert Allom with seven experienced bushmen in the schooner Carbon which left Wellington on 26 June. Severe storms were encountered and shipwreck was narrowly averted when the schooner sought shelter on the uncharted coast. The voyage lasted a month and the ship’s food stores were exhausted before Otago harbour was reached. The newcomers surveyed part of the harbour under Tuckett’s direction and commenced the survey of the town of Port Chalmers.

The Company was now in straitened circumstances and was negotiating a loan from the Imperial Government. In November the surveys ceased and the survey staff at Otago was withdrawn except for William Davison who remained to look after the Company’s interests until such time as the Company was in a position to recommence the surveys. In December Frederick Tuckett left the Company’s service and returned to England.

The preparations by the Association of Lay Members of the Free Church of Scotland for the settlement at Otago were delayed while the New Zealand Company negotiated with the Imperial Government for a loan and a new Charter. Eventually the Crown Grant to the Company, dated 13 April 1846, was

for the whole 400,000 acres except certain specified un-surveyed reservations for the Crown and for the natives. In its Twenty Second Report, dated 14 May 1847, the Court of Directors published its arrangements designated “Terms of Purchase” for the establishment of a settlement and for the disposal of the lands of the New Zealand Company, at Otago. The following items affected the surveys:-

> “4. The site of the settlement to be at Otago, in the Middle Island of New Zealand, on the land granted to the Company by a Deed under the Seal of the Territory, bearing date 13 April 1846.
>
> 5. The settlement to comprise one hundred and forty—four thousand six hundred acres of land, divided into two thousand four hundred properties; and each property to consist of sixty acres and a quarter, divided into three allotments; namely, a town allotment of a quarter acre, a suburban allotment of ten acres, and a rural allotment of fifty acres, be the measurements more or less.
>
> 6. The 2,400 properties to be appropriated as follows, namely:- 2,000 properties, or 120,500 acres, for sale to private individuals. 100 properties, or 6,025 acres, for the estate to be purchased by the Local Municipal Government. 100 properties, or 6,025 acres, for the estate to be purchased by the Trustees for Religious and Educational Uses. And, 200 properties, or 12,050 acres, for the estate to be purchased by the New Zealand Company.
>
> 7. The price of the land to be fixed in the first instance at forty shillings an acre, or £120-10-0 a property to be charged on the Estates of the Municipal Government, of the Trustees for Religious and Educational Uses, and of the New Zealand Company, in the same manner as on the 2,000 properties intended for sale to private individuals - and the purchase money, £289,200, to be appropriated as follows, namely:- Emigration and supply of labour (three-eighths) £108,450 Civil uses, to be administered by the Company, viz - Surveys and other expenses of founding the settlement, roads, bridges, and other improvements, including steam (transport) if hereafter deemed expedient and if the requisite funds be found available. (two-eighths) £72,300
>
> Religious and educational uses, to be administered by Trustees.
>
> (one-eighth) £36,150
>
> The New Zealand Company, on account of
>
> its capital and risk. (two—eighths) £72,300....
>
> 10. [This section reserved coal and minerals to be dealt with as agreed upon between the Company and the Association.]
>
> 11. Reservations to be made, so far as it may be practicable, of the sites of villages and towns, with suburban allotments adjacent, in the several parishes and hundreds, to be laid out in accordance with the Government Regulations on this head.

12. In laying out the chief town of the settlement - to be named ‘Dunedin’ - due provision to be made for public purposes, as fortifications, public buildings, sites for places of public worship and instruction, baths, wharfs, quays, cemeteries, squares, a park, and other places for health and recreation; for all of which, instructions have already been given to the Company’s Principal. Agent....

30. William Cargill, esq. to be recognised as the Company’s Agent for the settlement of Otago....

On the conclusion of his service with the Company’s survey staff at Wellington in 1843, Charles Kettle had returned to England where he had met George Rennie and other leaders of the Scottish Free Church Lay Association. When the way was cleared for the surveys at Otago to proceed, Kettle who was strongly recommended by Colonel Wakefield and Captain W. M. Smith, was appointed Chief Surveyor for the Otago settlement, although he was not yet 26 years of age. His appointment was for a term of three years at £400 per annum and ration allowance of five shillings a day. He sailed for New Zealand in the Mary Catherine on 11 September 1845 and on arrival at Port Nicholson he advertised for contract surveyors and survey hands. Much of the surveying of the 2,400 properties was to be done under contract and the tenders were to be at prices per acre for town sections; per acre for the 10 acre suburban allotments; per acre for the 50 acre rural allotments. The survey hands agreed to serve, initially, for a minimum period of three months at a wage of 14/- per week with weekly rations of 10 pounds of flour, 10 pounds of salt pork, 1½ pounds of sugar and ¼ pound of tea.

Having assembled eleven surveyors and twenty-five survey hands he sailed for Otago in the Mary Catherine which arrived at Koputai (Port Chalmers) on 23 February 1846. They were welcomed by William Davison.

Kettle and the contract surveyors lost no time in making a reconnaissance survey of the 150,000 acre block. He decided on geodetic control of the operations by triangulation survey and that the work be divided into five separate contracts. His specifications provided for the delineation of boundaries and road lines and staking and numbering of the sections, the contractors being required to complete at least forty of the 50 acre allotments per month. The prices for contracts varied according to the terrain and vegetation, and terms and conditions were finalised on 30 April. The rural allotments varied from 3d to 1/9 per acre and extra cutting from 3d per linear chain in open country to 1/6 per chain in bush.

The work was arduous and the conditions were exacting, owing to the difficulty in supplying the survey camps so remote from headquarters. Provisions were transported by whaleboat to the nearest point to the surveys and thence “swagged” (carried by the men) over the intervening hills and rivers to the camps. When there was much stormy weather the survey parties almost starved and had to make f or the main camp which was first situated at Port Chalmers and subsequently at Dunedin.

All of the Otago surveyors had had previous experience in the Company’s survey staff. Robert Park and William Davison were appointed to be

Kettle's staff surveyors, as was Charles de Pelichet when he arrived in Otago in November 1847. The contracts were allocated as follows:-

1. The first contract included land on the right bank of the Molyneux river, the Clutha, Balclutha, Kaihiku, Puerua and Waiwera districts and was allotted to Messrs Andrew Wylie, Alfred Wills and Edward Jollie.

2. This extended between the Molyneux and Tokomairiro rivers and was taken by Captain Joseph Thomas and Mr R.J. Harrison.

3. This was between the Tokomairiro and Taieri rivers and the Waihola and Waipori rivers and was undertaken by Messrs Charles James Drake and John Tully.

4. This extended northwards from the Taieri river and included the Taieri plain. This was taken by Messrs Sydney M. Scroggs and Edward Immyns Abbott.

5. This included Anderson's Bay and to the south of Cape Saunders, Kaikai Point, Sawyers Bay and the lower Kaikorai. This was taken by Mr Horace Chariton.

During his lonely sojourn Davison had spent the tine making a survey of Otago harbour and parts of the southern coastline. The survey of the town of Port Chalmers was completed by the staff surveyors by September and the survey of the town of Dunedin was then commenced by Davison and Park. Towards the end of the year Kettle established his headquarters at Dunedin. In designing the "New Edinburgh" an attempt was made to produce a replica of old Edinburgh, or at least some of its principal features. This had been the original intention but the topography of Dunedin was inimical to such a scheme. Kettle himself was critical of the resultant layout which involved steep gradients for some of the streets and serious problems of reclamation and drainage of some of the low-lying areas.

The contract surveyors had completed their assignments by the middle of 1847. The surveying of the town of Dunedin was not completed until shortly before the arrival of the first immigrant ship on 22 March 1848. The lines cut through the bush and scrub marked the lines of the streets but no work had been done towards cutting and forming the roadways. Because Kettle received instructions to prepare temporary accommodation and facilities for the reception of the settlers less than a week before the first ship arrived, the newcomers found themselves in the same predicament as that which had been faced by the earlier settlers at Wellington, New Plymouth and Nelson.

The Company extended Kettle's term of office in 1849 for an indefinite period. Also Governor Grey appointed him to be one of the four magistrates (Justices of the Peace) for the Otago settlement. Because he was a Sassenach and devoted Anglican, Kettle lost favour with the resident agent Captain Cargill, and other Scottish leaders. Cargill's term as resident agent terminated when the Company surrendered its Charter on 8 July 1850, but Governor Grey appointed him Commissioner of Crown Lands for Otago. Friction grew between Cargill and Kettle and eventually the former brought a Court action against Kettle who had refused to hand over the keys of the survey office because, as he maintained, he was still responsible for the custody of the maps and land registers. Kettle pointed out that on one occasion during his temporary absence, some unauthorised person had made an entry in the register and even issued a

certificate. Although the action resulted in Cargill's favour, he was in turn censured by both the Company Directors and by Governor Grey; by the former because he had brought the action without their sanction and by the latter because Cargill had overlooked the fact that he was no longer an officer of the Company but was a Government servant. Subsequently in February 1852, Kettle was appointed Government surveyor f or Otago. In the previous year Cargill's term as Commissioner was concluded.

When the first settlers arrived in Otago, the interior beyond the surveyed block had yet to be explored and mapped. When the surveys were suspended in November 1844, William Heaphy, one of Tuckett's survey staff employees who had previously assisted in the early surveys at Wellington and Nelson, had sought Tuckett's permission to attempt the overland journey from Otago to Nelson. He was provided with a compass, a rough sketch map of the coast line, and a letter of introduction to the Deans brothers who had settled at Riccarton. In November he set out alone on his epic journey through North Otago and Canterbury but although he added little to existing information about Otago, his observations on Canterbury were a valuable contribution to the knowledge of that province.

Another member of Tuckett's staff, James Charles Drake, a young Improver who had assisted in the Nelson surveys and had accompanied Tuckett to Otago, was entrusted with the surveying of the land awarded to John Jones by the Land Claims Commissioners in December 1844. The award was for 8,650 acres and Drake's 1845 survey was the first to be made in Otago.

All the land northward of Kaiapoi had been alienated from Maori ownership when, on 20 June 1848, in anticipation of the settlement of Canterbury, Henry Tacy Kemp of the Land Purchase Department negotiated the purchase of all Maori land extending from Kaiapoi to the Otago block, but e certain native reserves which were to be defined by survey. W. B. D. Mantell of the Land Purchase Department, accompanied by Alfred Wills the surveyor, set out in August to negotiate with the local Maoris and to define the reserves. They went first to Kaiapoi and then worked southwards. In the course of their assignment they arrived south of the Waitaki in November and reserves were surveyed at Kakanui and Moeraki. In December they were in Dunedin whence Mantell returned to Akaroa to complete the business of the purchase.

The hydrographic survey of the New Zealand coast, directed by Captain John Lort Stokes, R. N. of HMS Acheron, commenced at Auckland in 1848. By an arrangement between the Admiralty and the New Zealand Company, which paid his salary and expenses, W. J. W. Hamilton, a young man who could speak the Maori language and who had been secretary to Governor FitzRoy, was attached to the ship's company as draughtsman-surveyor. The Acheron arrived in Akaroa harbour in February 1849 and Captain Stokes and Hamilton attended the meeting with the Maoris when Mantell finalised the purchase of the Canterbury land.

In March 1850 the Acheron was stationed in Foveaux Strait during survey operations. In April Hamilton examined Bluff harbour and soon afterwards he accompanied Captain Stokes in a six-oared whaleboat on an expedition of about thirty miles up the Oreti river. Next Hamilton and Lieutenant Spencer, on a journey that lasted several days, walked up the Aparima river as

far as Otautau before returning to Bluff. Early in May, accompanied by several Maoris, they set out to travel overland to Dunedin. Their inland route passed close by the site of the present town of Mataura. Hamilton made a careful reconnaissance survey of the country through which they passed, and made copious notes about the terrain and concerning the information he elicited from the local Maoris. In his eulogistic report to the Company he suggested that the Murihiku country (Southland) could be purchased for £2,000, but the Company was then in the process of closing down.

The Company had found it impossible to continue its operations and acting in accordance with the provision in its 1847 agreement with the Imperial Government, the Company commenced negotiations for the relinquishment of its Charter. This was effected in July 1850 when it was arranged that the Company should relinquish its claims to all lands in the colony; that the loan of £236,000 from the Government should be deemed liquidated; and that the New Zealand Government should pay a further £268,000 to reimburse the Company's shareholders and defray the Company's liabilities. In 1852 the Otago Association also failed and ultimately the Company's land reverted to, and became vested in Her Majesty, as part of the demesne lands of the Crown, subject to any subsisting contracts in regard to the said lands.

The Crown Lands Amendment and Extension Act of 1851 brought Otago under the provisions of the Ordinance of 1849 which was previously limited to the province of New Ulster. This enabled the Commissioner of Crown Lands to grant Runs up to an estimated carrying capacity of 25,000 sheep or its equivalent, one cattle beast being rated as six sheep. A deposit of £20 was lodged and the runholder was given a fixed time to stock the run and effect certain specified improvements. The licence was for an initial period of 14 years, subject to cancellation if the land was required for closer settlement. The annual fee was £5 with an additional fee of £1 for every thousand sheep above 5,000. In 1851 Walter Mantell had succeeded Captain Cargill as Commissioner of Crown Lands. The new legislation set in motion the search in Otago for grazing properties beyond the confines of the Otago Association's block.

Under the New Zealand Constitution Act of 1852, Otago became a Self-Governing province and, subject only to certain over-riding powers of the General Government, controlled its own civil establishments which included a Waste Lands and a Survey Department. Charles Kettle was appointed the first Chief Surveyor for the province of Otago, and Captain Cargill was elected its first Superintendent.

CHAPTER 8. THE CANTERBURY SETTLEMENT

European ships began visiting the Canterbury coast, mainly at the harbours of Banks Peninsula, in the second decade of the nineteenth century. Port Cooper (Lyttelton Harbour) and Akaroa were much frequented by whaling ships and in 1837 Captain George Hempleman set up a shore station at Peraki and in 1839 Captain W. B. Rhodes established a station near Akaroa. Several of the whaling companies ostensibly purchased large tracts of land from the Maoris and these purchases were subsequently investigated by the Land Claims Commission.

One of the claimants was George Weller of Sydney whose claim of 63,000 acres was eventually disallowed as were those of other claimants except Hempleman who, after protracted litigation, was granted 250 acres at Peraki. Weller had disposed of 5,000 acres to James Herriot and 2,560 acres to the Reverend William Purvis. It is in connection with the surveying of this land that we learn of the first surveyors on the Canterbury plains. The presence of the survey party was mentioned in a report by Captain Stanley of HMS Britomart who was at Akaroa in August 1840. The survey party from Sydney had accompanied Herriot and McGillivray, Purvis' farm manager, to the site at Putaringamotu, the present site of Riccarton, in April 1840. The land was surveyed and faming operations commenced but the site was abandoned about eighteen months later when it was discovered that none of the claimants was likely to be granted a secure title. [21]

Among those who frequented the harbours of Banks Peninsula were a number of French whalers and in 1837 the Heroine, a French naval corvette (Captain J. B. Cecille) was in New Zealand waters to protect French interests. In 1838, Cecille spent some time in Port Cooper, Port Levy and Akaroa Harbour. Captain Langlois, one of the whalers at Port Cooper in 1838, paid the local Maoris a small sum, presuming to purchase the whole of Banks Peninsula. In France the following year, to exploit his purchase, Langlois was able to induce several financiers and Government officials to form a corporation, entitled the Nanto-Bordelaise Company, and to obtain the sanction of the French Government to establish a settlement at Banks Peninsula.

The French expedition comprised the Naval sloop L'Aube (Captain C. F. Lavaud) and the immigrant ship Compte de Paris (Captain Langlois). The former sailed from France on 19 February 1840, and the latter on 20 March. L'Aube arrived at the Bay of Islands on 11 July and Captain Hobson was informed of the French intentions. British sovereignty had already been proclaimed over the whole of the South Island (New Munster) but to forestall any difficulties that might arise with the French Government, Hobson took the precaution of dispatching Captain Owen Stanley In HMS Britomart to Akaroa to establish British authority. The Britomart arrived at Akaroa on 10 August and L'Aube on 15 August. The Compte de Paris, with sixty- three immigrants and the Company's agent, P. J. de Belligny, arrived on the 17th.

Faced by a very uncertain future the immigrants landed and on 22 Aug the site for the town was chosen and surveying commenced. The streets and plots were measured out in metres, evidently by the ships officers, as there is no record of a surveyor among the immigrants. The first survey comprised 107 acres available for selection by the immigrants. The majority of the rural

sections were of ten acres or less. There were few men of means among the immigrants. In September Bishop Pompallier arrived from the Bay of Islands, with two French priests and also a French surveyor, J. A. Duvauchelle, who had been engaged in surveying the land claimed by several Frenchmen in the Bay of Islands. Duvauchelle had come to Akaroa as agent for Messrs Rateau and Cafler who claimed to have purchased the interests of Captain Clayton who alleged he had purchased Banks Peninsula prior to Langlois' purchase. When these claims were disallowed by the Land Claims Commission, Duvauchelle decided to throw in his lot with the French settlers. He acquired land from the Nanto-Bordelaise Company at the head of the harbour in the bay that still bears his name.

Negotiations between the British and French Governments and the Nanto-Bordelaise Company were very protracted. Governor Hobson visited Akaroa in September 1841 and discussed the proceedings with Captain Lavaud. The frustrating suspense and the lack of a local market were discouraging to the settlers and to the colonising efforts of the Company.

On the decision of the British Government the Nanto-Bordelaise Company was treated as if it were a British concern and was required to submit Its claims to the Land Claims Commission. The Commission, comprising Colonel E. L. Godfrey and Major M. Richmond, sat at Akaroa in August 1843 when several claims were dealt with. The report on the French claim was submitted to Lord Stanley, Secretary of State for the Colonies, and the outcome was that the Company was awarded 30,000 acres at Banks Peninsula. It was not until late in 1845 that Governor Grey received instructions to grant the land to the Company and in February 1846 he accordingly informed Captain Berard, who had succeeded Captain Lavaud as French commandant in the South Pacific. At this time the Company had no accredited agent in New Zealand and the matter of defining the boundaries of the Company's land was left in abeyance. The Company had lost interest in promoting further settlement at Banks Peninsula and ultimately, on 30 June 1849, with the knowledge that the plans of the Canterbury Association for the settlement at Port Cooper and the adjoining plains were well advanced, the Nanto-Bordelaise Company transferred its interests in New Zealand to the New Zealand Land Company for the sum of £4,500.

During the search for a suitable site for the New Zealand Company second settlement (Nelson) the land in the vicinity of Port Cooper was investigated by Captain Edward Daniell and George Duppa in August 1841. Besides examining Port Cooper and Port Levy, Duppa went by boat several miles up a river, most probably the Avon. Although their report was favourable, the use of the site for the proposed settlement was vetoed by Governor Hobson, partly because of the unsettled claims of the Nanto-Bordelaise Company at Banks Peninsula and other unsettled claims in the vicinity and also because he wished to concentrate European settlement closer to Auckland.

William Deans was an enterprising settler who had assisted with the first surveys at Wellington. He was still searching for suitable land to satisfy his agricultural land orders when in July 1842 he took passage on the cutter Brothers which periodically serviced the southern whaling stations. The voyage took him as far south as Jacob's River in Foveaux Strait, visiting Port Cooper

and Akaroa harbour en route. His report on the districts he had visited was published in the Wellington newspapers in September and subsequently several Wellington settlers moved to Port Cooper to endeavour to acquire land there. William Deans moved to Port Cooper in February 1843, and with some assistance from the Government was able to arrange a lease from the Maori owners of the land at Putaringamotu previously occupied and subsequently abandoned by Herriot and Purvis.

As previously mentioned, the New Zealand Company's Surveyor General, Captain W. M. Smith, made his southern voyage in the Brothers, leaving Wellington on 16 September 1842. On 10 November on the return voyage, at the entrance to Akaroa harbour during a severe storm, the cutter was swamped and sank with the loss of three lives. Captain Smith lost the charts and field notes of his southern surveys as well as his instruments. Nevertheless he went on by boat to examine Pigeon Bay, Port levy and Port Cooper, at all of which he made sketches and took notes before returning to Wellington.

The next official appraisal of the Port Cooper plains was made by Frederick Tuckett during his brief visit in April 1844 prior to the purchase of the Otago block. Returning from Otago, one of Tuckett's party William Heaphy, in his attempt to reach Nelson overland and travelling alone, had reached Deans' brothers homestead at Riccarton in December 1844. This was the first attempt by a European to penetrate North Canterbury and the following record of his experiences was published by Dr David Monro in the Nelson Examiner of 5 July 1845 shortly after Heaphy had reached Nelson.

"After refreshing a week (at Riccarton) he started on his route to Nelson, in the direction as marked on the chart furnished him by Mr Tuckett (i.e. in the direction of Wairau Pass); but after penetrating some distance into the Interior, he found the country so very rugged and mountainous that he was forced to change his course more northerly, and finally to give up all idea of being able to make Nelson through the interior. However, in getting down from one of the rugged hills, he fell from the top to the bottom, nearly killing himself. After lying for some time in a state of insensibility, having sustained very serious injury, Heaphy managed to proceed, and very soon found himself on the banks of a very large river which proved to be the Waihau (Waiau) which empties itself into the sea south of Kai Kora (Kaikoura) Upon the banks of this river he constructed a mogi (mokihi), and in this frail craft he committed himself to the current. The river is quite unfit even for boat navigation, but it passes through two very fine patches of land, one six miles by three, and the other about fifteen miles square. The violence of the stream proved nearly fatal to poor Heaphy, upsetting his mogi he himself making a narrow escape from drowning. His provisions too were exhausted; his only subsistence at this time being wild cabbage or sow thistle. After incredible fatigue and suffering he at length reached the island of Motuno (Motunau) nearly dead. He was in fact so far gone the day before, that he laid himself down exhausted in as open a space as he could pick out, placing his pocket—book and chart in a conspicuous situation, with no hope of ever rising again, and with the very so-so satisfaction that some passer-by might see his body or his bones, and make out whose bones they were from the pocket-book and chart. After dozing the day and night, strange to say when he awoke he managed to proceed."

Monro also reported that after resting some days at Motunau whaling station, Heaphy returned to Riccarton and then took ship from Port Cooper to Nelson.

The first step towards further European settlement in the South Island was the extinguishment of the Maori title. The purchase of large tracts was facilitated by the very small total of indigenous population and the few tribes that had to be consulted. The enormous size of the tracts however, presented problems when it came to defining the boundaries and the reservations. The purchase of the Otago block had been followed by the purchase of the Wairau block in March 1847. The latter purchase was to extinguish all claims of the Ngatitoa to land in the South Island, and was presumed to extend from the Wairau to as far south as the old Kaiapohia pa, near the Ashley river, the southernmost limits of the territory formerly conquered by the Ngatitoa.

Appointed Governor in Chief on 1 January 1848, Sir George Grey visited Banks Peninsula in February and learned that the Ngai Tahu chiefs were agreeable to selling the tribal lands to the Crown, provided adequate reserves were set aside for the use of the Ngai Tahu people. It was left to the newly appointed Lieutenant Governor, E. J. Eyre, to negotiate the purchase. For this purpose the Protector of Aborigine's, H. Tacy Kemp, was sent to Akaroa where he was joined by Charles Kettle, whose task was to be the definition of the boundaries of the purchased block and of the reserves.

The tribal leaders assembled at Akaroa and "Kemp's Deed" as it came to be called, was signed on 12 June. The deed of sale included about twenty million acres, extending from old Kaiapohia in the north to the boundary of the Otago block in the south.

All pas and Maori plantations were expressly excluded from the sale as was Banks Peninsula which was presumed to have been already alienated from Maori ownership by previous sales.

Owing to the vastness of the purchased territory, the surveying and defining of the boundaries of the block and of the reserves, was deferred. In August, Walter Mantell as Lend Purchase Commissioner, and Alfred Wills as surveyor, set out to locate and survey the reserves.

They went first to the district northward of Banks Peninsula and surveyed reserves at Tuahiwi and the old pa site at Kaiapohia and a small reserve of five acres on the north bank of the Waimakariri (Kaiapoi). The northern Maoris however, protested that no land to the north of the Waimakariri river had been included in their sale, and that their interests in such land had yet to be purchased. Mantell and Wills then went south to survey reserves at Taumutu, Arowhenua, the Umukaha river, Timaru, and on the north bank of the Waitaki river. Their expedition which ended at Dunedin, constituted the first official exploration of the South Canterbury district.

The Canterbury Association strongly supported by Anglican churchmen, was founded in London in March 1848. The Directors chose Captain Joseph Thomas, 87 Regiment, who had had previous experience of surveying in New Zealand, to be Chief Surveyor to the Association, and gave him the responsibility of selecting the site for the settlement. The choice of site however,

was to be subject to the approval of the Governor, Sir George Grey, and of Bishop Selwyn.

The Manawatu, Wairarapa and Hawkes Bay districts were under consideration but Captain Thomas was already acquainted with those localities and having heard good reports of the Port Cooper plains he considered it advisable to explore them before making a final decision. The cutter Fly sailed from Wellington for Port Cooper on 12 December with Captain Thomas and his assistant surveyors, Messrs Thomas Cass and Charles Obins Torlesse and five survey hands. Accompanying the survey party was Mr (later Sir) William Fox, Principal Agent of the New Zealand Company who had recently succeeded Colonel Wakefield who had died at Wellington on 19 September. On 15 September the Fly anchored in Purau Bay on the southern side or Port Cooper (Lyttelton Harbour) where the Rhodes brothers had acquired the homestead originally built by the Greenwood brothers in 1843. On 16 September William Heaphy walked the forty miles through the bush from Akaroa and joined the survey party. The following day, leaving Thomas Cass and his field assistants to commence the survey of Lyttelton harbour, Captain Thomas accompanied by Fox and Torlesse, walked around the head of the harbour and crossed the hills to the Deans brothers' homestead at Riccarton. On 19 September the party set out to explore the region to the north of Riccarton and during the next few days went as far as the Ashley river and at Kaiapoi met the Maori leaders who again claimed that their interests in the land to the north of the Waimakariri had not been included in the sale. The party went inland as far as the Waimakariri gorge before returning to Riccarton on Christmas eve.

On 29 December Torlesse commenced the topographical survey of central Canterbury which embraced the territory between the Ashley and Rakaia rivers and between Riccarton and the Torlesse Range. Captain Thomas was joined by Alfred Wills who, with Walter Mantell, had arrived at Akaroa a few days before, and they set out to make a topographical survey of the plains to the westward of Lake Ellesmere and as far south as the Ashburton river. These preliminary surveys were completed by the end of January 1849 and on 26 February the mapping of about a million acres was sufficiently advanced to enable Captain Thomas to leave for Wellington and Auckland to obtain approval of the site for the Canterbury settlement.

Thomas Cass, who was making a hydrographical survey of Lyttelton harbour and the estuary at Sumner, was left in charge at Port Cooper, and Torlesse was sent to extend the reconnaissance survey as far south as the Waihao river. [23]

William Fox accompanied Captain Thomas to Auckland where approval of the site was finally obtained from Governor Grey on 14 May with the understanding that Port Cooper would be excluded from the land awarded to the French. This land had yet to be defined by survey.

The survey ship HMS Acheron arrived at Port Cooper early in March to commence the hydrographical survey of the coast. Captain Stokes and several of the officers, including W. J. W. Hamilton, went on an expedition inland which culminated with the climbing of Mount Grey. The following month Hamilton explored the country northward of the Ashley river as far as the Hurunui and Waiau rivers, noting the existence of broad expanses of open plains. In

November Hamilton and Lieutenant Governor Eyre, who had a distinguished record of exploration in Australia, set out on an expedition to attempt to discover a practicable route from the Wairau Plains to the Canterbury Plains. Sailing from Wellington accompanied by J.D. Ormond, Eyre's secretary), they went to the Wairau and having obtained a party of Maoris as guides and bearers, they went up the Awatere river. Having reached a point below Mount Tapuaenuku, the highest peak in the Kaikoura range (9,465 feet), Eyre decided to climb to the summit in the hope of obtaining useful knowledge of the route ahead. While Hamilton remained at the snowline, Eyre and Ormond and some of the Maoris pushed on up the icy slopes and reacted the summit late in the day after thirteen hours climbing. On the way down an accident occurred which resulted in the death of Wiremu Hoeta who slipped and roiled some hundreds of feet into an inaccessible ravine. As a consequence the expedition to Canterbury was abandoned.

The Government allocated a million acres to the New Zealand Company for the purposes of the Canterbury settlement. To secure Port Lyttelton (previously known as Port Cooper) for the settlement, it was necessary to finalise the definition of the Nanto-Bordelaise block and also to finalise the payment for the remainder of Banks Peninsula amounting to about 250,000 acres and to define and survey the native reserves. Lieutenant Governor Eyre commissioned Walter Mantell to determine these boundaries and he commenced negotiations with the Maoris in June 1849 and purchased the Port Cooper block of 59,000 acres in August. He then purchased the Port Levy block comprising 121,000 acres. Next, with the assistance of Octavius Carrington, he defined the boundaries of the Nanto-Bordelaise block of 30,000 acres that had been transferred to the New Zealand Company. There now remained about 80,000 acres of Banks Peninsula, land designated the Akaroa block. In negotiating its purchase Mantell ran into difficulties with the Maoris who objected to the proposed reserves which they considered to be inadequate. The purchase was held in abeyance and in June 1856 John Grant Johnson, surveyor and Deputy Land Purchase Commissioner, was sent from Auckland by Chief Commissioner Donald McLean, to continue the negotiations. He also was unsuccessful in coming to terms with the Maoris but in August W. J. W. Hamilton, with Cyrus Davie as surveyor, was successful in concluding the purchase on the lines suggested by Johnson.

The Canterbury Association obtained a Royal Charter in November 1849 and soon afterwards entered into an agreement with the New Zealand Land Company which undertook to reserve two and a half million acres for the Association's settlement, subject to certain specified conditions which if not fulfilled the Association would forfeit control over the land which would revert to the New Zealand Company. The main terms of purchase and the definition of the Association's powers to dispose of the land in the Canterbury block of 2,500,000 acres were set out in the Canterbury settlement's Act of 14 August 1850. The block extended from the Waipara river to the Ashburton river and from the sea to the "Snowy range of hills". Land previously sold by the Nanto-Bordelaise Company was not at the disposal of the Association. The "sufficient price" was fixed at £3 per acre and the proceeds from sales were to be applied as follows; one third to ecclesiastical and educational purposes, one third to immigration, one sixth to surveys and incidental expenses of the Association,

one sixth to the New Zealand Land Company for the land and to cover the outlay and risk of loss incurred in its colonising activities.

The Association's terms of purchase differed in some respects from those that had pertained in the New Zealand Company 'a earlier settlements. Land orders were sold in Great Britain providing for rural allotments of fifty acres and upwards at £3 per acre and for town sections in the principal town Christchurch) at £24 per half acre, and for town sections at the port town (Lyttelton) at £12 per quarter acre. Each member of the body of immigrants who was the purchaser of rural land was to receive an allotment in the principal town or in the port town for each £150 worth of rural land he had purchased. The order of choice of allotments was decided largely by the order of receipt of the letters of application which were received unopened, numbered and registered and on a specified day were opened in the presence of the applicants and the committee of the Association. It was recognised that provision should be made for pastoral pursuits as well as agricultural farming and accordingly unsold lands were to be open under licence for pasturage at twenty shillings a year for every hundred acres. The land purchasers of the first body of immigrants were to be allowed five acres of pasturage for every acre of land purchased at a special rate of 16s 8d per year for every hundred acres, and their licences carried pre-emptive rights. Every purchaser of land was given the right to nominate persons eligible to become assisted steerage passage emigrants, "proportional in number to his contribution to the Emigration Fund" i.e. a third of the value of his land purchase.

The difficulties experienced by the New Zealand Company in the earlier settlements had demonstrated that the greatest mistakes that had been made were in failing to send the surveyors to New Zealand well ahead of the settlers and in failing to ensure that the native title had been properly extinguished before the settlers were put into possession of the land. The importance of these matters was emphasised by Edward Gibbon Wakefield in a letter he wrote on 22 June 1849 to John Robert Godley, the Association's principal, agent in New Zealand, when he said "I will only repeat the expression of my confident trust that you have sacrificed everything else to the one essential thing - the survey, the survey, the survey. Every other defect could be remedied when the colonists arrived, save only that of a deficient survey".

For the Canterbury settlement a different procedure was devised for surveying and allocating the rural allotments than had pertained in the earlier settlements. This was due to some extent to the advocacy of Felix Wakefield, a surveyor member of the family who had been one of the principal agents in England for the sale of land orders and who was the author, in 1849, of a work on Colonial Surveying with a view to the Disposal of Waste Land .

From the reconnaissance surveys Captain Thomas was able to locate his principal town and his port town and he also sited a town at Sumner as an auxiliary port. Inland he reserved several sites for rural townships at places where it was obvious that development would occur, such as landing places at the head of river navigation, fording places on the rivers, junctions of the projected main roads, and possible posting houses on the main highways. These reserves and road-lines were projected on the selection maps. The whole of the selection territory was covered by a triangulation survey to facilitate

the location of the rural allotments. Holders of land orders could select rural land anywhere outside the reserves and in the event of there being more than one selector of the same parcel of land the right of priority was decided by reference to the number recorded in the register of applications previously mentioned. On selection the area was surveyed, plotted on the Record Hap, given the next consecutive Rural Section number and registered. As a result of this recording system, which is peculiar to the Canterbury Land District, consecutively numbered Rural Sections can lie as much as a hundred miles apart.

Having obtained approval of the Port Cooper plains as the site for the settlement Captain Thomas returned to Wellington to arrange contracts for surveying and engineering works. Several surveyors and a number of labourers were engaged and the total complement of thirty-five sailed in the Fair Tasmanian and reached Port Cooper on 2 July. Besides Captain Thomas, the surveyors were H.J. Cridland, Donald Gollan, who had been appointed Works Overseer, and Sydney M. Scroggs. Cridland had previously gone to Port Cooper in HMS Acheron, having been commissioned to prepare estimates for roading and other public works, and was now returning as Superintendent of Works. Also on board were Walter Mantell and Octavius Carrington, who were to deal with the Banks Peninsula land claims and to survey the native reserves and the Nanto-Bordelaise block of 30,000 acres.

The triangulation survey of the settlement lands was put in hand Immediately and in August the base line was selected a short distance westward of Riccarton and carefully measured and re-measured by Thomas, Cass and Torlesse. The latter commenced the survey of the town of Lyttelton while Cridland and Gollan commenced the construction of a jetty and explored a line of road from Lyttelton to Sumner. Scroggs surveyed a road-line from Sumner to the site of Christchurch. Edward Jollie and Thomas Brunner arrived from Nelson on 12 August. Jollie assisted in the surveying of Lyttelton, Sumner and Christchurch. Brunner was appointed Clerk of Works.

The extension of the triangulation survey commenced in September. Thomas Cass, having established his headquarters at Riccarton, was responsible for extending it over the territory southwards of the Waimakariri river while Torlesse was responsible for the northward extension. In October Torlesse was joined by John Cowell Boys, his collaborator in the work in the northern districts.

In September also, the first contract surveys were allocated. Samuel Hewlings undertook the survey of the Heathcote Valley to the boundary of Christchurch town. John and Thomas Hughes in partnership, and Robert Nankeville, were engaged to make detailed topographical surveys under the supervision of Torlesse and Boys in the northern district.

The surveyor mainly responsible for laying out the towns at Lyttelton, Sunnier and Christchurch was Edward Jollie. The Lyttelton survey was completed by the end of September and Sumner by the end of November 1849 and the Christchurch survey on 18 March 1850. Despite delays caused by some opposition from the Maoris, when Torlesse and Boys attempted to survey land to the north of the Ashley river, triangulation of some 230,000 acres, comprising a strip of land about ten miles wide between the Ashley and Selwyn rivers, was completed by the end of January 1850.

By this time the Company's allocation of £20,000 for preliminary surveys and public works was almost exhausted and Captain Thomas was forced to retrench severely, dismissing most of the employees and suspending all operations except necessary maintenance work. He had to apply to the Company's Chief Agent, William Fox, for a further £3, 500 with which he hoped to complete essential works before the arrival of the immigrants. Such was the state of affairs when the Association's Resident Chief Agent, John Robert Godley, arrived at Lyttelton on 12 April. He had no funds to enable the work to be resumed and it was not until early in November that by pledging his personal credit he obtained for the Association a loan of £5,000 from the Union Bank which enabled the resumption of the work of the survey office, The road to Sumner could not be finished in time so Edward Jollie surveyed an alternative road, the Bridle Track, which Gollan's road gang constructed over the hill from Lyttelton to Heathcote Valley. On 16 December the first of the immigrant ships, the Charlotte Jane, arrived and was soon followed by the Randolph, the Sir George Seymour and the Cressy, bringing a total of 773 passengers.

When the New Zealand Company had surrendered its Charter in 1850 Captain Thomas and his survey staff had become servants of the Canterbury Association. Disappointed with the turn of events Thomas resigned on 20 January 1851 and was succeeded as Chief Surveyor by Thomas Cass.

Among the newly arrived settlers were three engineer surveyors who were to play leading roles in the new settlement. They were Edward Dobson, Richard Harman and Cyrus Davie.

By the end of 1851 the preliminary surveys were completed. Some 3,000 immigrants had landed and some 25,000 acres of freehold land had been allocated and occupied and about 400,000 acres of pasturage had been leased. Live stock was being imported from Australia but greater numbers were needed and efforts were being made to discover practicable overland stock routes from Nelson and the Wairau plains where stock was available.

Starting from the Wairau plains in April 1850, Captain W. M. Mitchell, E. Dashwood and a whaler named Harris, with their horses, had penetrated with great difficulty the labyrinth of mountains and valleys and reached the Canterbury plains in the vicinity of Motunau towards the end of May. Later in the year E. J. Lee, mounted and travelling alone, had followed much the same route and had found a way through. In March and April the following year Lee and Edward Jollie the surveyor took 1,800 sheep from Nelson to Canterbury. Reconnoitring ahead Jollie had discovered a practicable pass for a stock route and by judiciously burning off some hundreds of acres of impenetrable scrub the sheep were successfully brought through. Two years later Mr (later Sir) Francis Weld discovered a more direct route from the Wairau to Jollies Pass, via Tarndale.

Pursuant to the New Zealand Constitution Act of 1852, Canterbury became a Self Governing province and at the election held on 4 March 1853, J. E. Fitzgerald was elected Superintendent and the twelve Councillors included Thomas Cass and W. J. W. Hamilton.

The Canterbury Association had reached a settlement and terminated its connection with the New Zealand Company and finally, under the Canterbury

Association Ordinance passed by the Provincial Council in 1855, it had arranged to transfer the remainder of its assets to the Council which had also taken upon itself the Association's liabilities. The Council had its own civil establishments which included a Waste Lands and a Survey Department, with Thomas Cass as Chief Surveyor.

PART I NOTES AND REFERENCES

1. The Pioneers Explore New Zealand J. R. Elder — 1929. p.33 etc.

2. Captain W. M. Smith to the Secretary of the New Zealand Company 12 December 1840. Letter Book of Surveyor General (N. Z. Company) December 1839 to April 1843.

3. They Chose This Valley (Ararimu Centennial 1867 – 1967). p.7.

G. McDonald - Editor.

4. The Long White Cloud W. Pember Reeves - 1898.

5. Lieutenant Edward Frome. R. E. replaced the noted Australian explorer, Captain Charles Sturt, as Surveyor General of South Australia in 1839. Sturt held the office for only a few months having succeeded Colonel William Light.

6. This new division was made pursuant to the New Zealand Government Act - 1846 - clause 3. Previously the North Island was called New Ulster; the South Island was New Munster and Stewart Island was New Leinster.

7. British Parliamentary Papers - Foreign Office Correspondence relative to New Zealand - No. 16 - The Marquis of Normanby to Captain Hobson R. N. 14 August 1839.

8. Founding of New Zealand (from Journals of Felton and Sarah Mathew). Edited by Professor J. Rutherford - 1940.-p.179.

9. Journal of Ensign Best, Edited by Nancy Taylor - 1966. P.283 et seq. covering 1 April to 31 May 1841.

10. Mrs Hamlin, the wife of the missionary stationed at Orua Bay became ill and the services of Dr Ellison of the immigrant ship Brilliant were sought. In the absence of the doctor, Captain Symonds procured some medical supplies and with four companions in the ship's boat set out to cross the Manukau harbour. A sudden squall upset the boat and only one of the five, a Maori reached the shore. See also Journal of Ensign Best. p.328.

11. A. J. H. R. 1862. Report of Land Claims Commissioner (F. Dillon Bell) D No. 10.

12. For copy of Deed of 8 November 1839, see A. J. H. R. 1861. C No. 1. Report of the Land Purchase Department.

13. Adventure in New Zealand E. J. Wakefield - 1845. Abridged edition by Joan Stevens - 1955. Chapter III, p.35

14. For copy of Deed of 15 February 1840, see A. J. H. R. 1861. C No. 1. Report of Land Purchase Department.

15. Captain W. M. Smith to Secretary of New Zealand Company, 12 December

1840. Surveyor General's Letter Book (as in 2 above).

16. Captain W. N. Smith to Colonel Wakefield, 2 November 1840.

Surveyor General's Letter Book (as in 2 above).

17. Tuwharetoa, J. Te H. Grace - 1959. Chapter 46.

18. F. A. Carrington to Thomas Woollcombe, Managing Director of Plymouth Company - 14 October 1841 - Carrington Papers

19. Wicksteed to Colonel Wakefield - 8 July 1841. N. Z. C. 3/21.

20. Narrative of a Residence in New Zealand, Charles Heaphy - 1842.

Hocken Library Facsimile No. 7. University of Otago 1968.

21, History of Canterbury, Volume I. J. Hight and C.R. Straubel. - 1957. Chapter IV. Also Pioneers of Port Cooper Plains, 3. Deans - 1964. Chapter 2.

22. William Heaphy was an employee of the New Zealand Company survey staff as was also Charles Heaphy. William assisted with the first surveys at Wellington, Nelson, Otago and Canterbury. Subsequently he settled at Lyttelton.

23. The Torlesse Papers (1848 - 1851) Edited by P. B. Maling - 1958. Chapter 3.

THE PIONEER LAND SURVEYORS OF NEW ZEALAND

PART II

(Chapters 9 to 20, inclusive.)

SURVEYS DURING THE PROVINCIAL ERA. 1854 – 1876.

SURVEYS FOR THE LAND CLAIMS COMMISSION.

SURVEYS FOR THE NATIVE LAND PURCHASE DEPARTMENT

CHAPTER 9

SURVEYS FOR THE LAND PURCHASE DEPARTMENT AND FOR THE LAND CLAIMS COMMISSION.

The probationary period under the New Zealand Company's Charter of 1847 expired on 5th April, 1850. The Company was Insolvent and entered into negotiations with the British Government to surrender its Charter. Briefly stated, the arrangements now entered into with the Government was that the Government pay to the Company the sum of £268,000 in respect of its activities as agent for the Government in land settlement, and thus enable the Company to reimburse its shareholders and defray Its liabilities.

This arrangement was the subject of Clause 74 of the 1852 Constitution Act which provided for the appropriation of a quarter of the proceeds of sales of Crown Lands to discharge the debt to the Company.

In 1852 the Otago Association failed and the following year the Canterbury Association also failed. The Company's land thereupon reverted to and became vested in Her Majesty as part of the demesne lands of the Crown in New Zealand, subject to any contracts subsisting in regard to any of the said lands. The debts of the Company were apportioned against the provinces of Nelson, Otago and Canterbury. After 1852 the power of disposal over the waste lands comprised in the Company's settlements reverted to the Crown to be administered in general conformity with Clause 72 of the Constitution Act.

Each province set up under the Act had its own Survey Department but Provincial Councils were debarred by sub-clause 10 of Clause 19 of the Act from making any law or ordinance affecting lands of the Crown or lands of which the title of the aboriginal native owners had not been extinguished.

The General Government retained control over the purchase of Maori Lands and over legislation concerning Crown Lands. Of necessity, the Native Secretary's Department and the Land Purchase Department were closely linked.. The purchase of Maori land was one of the functions of the office of the Surveyor General. To assist him Land Purchase Commissioners were appointed from time to time to negotiate with the Maori vendors. Occasionally the appointee was also a Protector of Aborigines, i.e. an official of the Native Secretary's Department. In some cases the appointee was a surveyor.

The statutory requirements concerning the extinguishment of native title necessitated the services of all three, a Commissioner who represented the Crown, a Protector of Aborigines who was a competent interpreter and who was required to act as a referee and official witness to maintain equity and justice in dealings with the Maoris, and a surveyor to correctly define the boundaries of the purchased areas and of the reserves. Proceedings were often very protracted. Before negotiations were concluded the usual procedure was that the appointed representatives of the vendors would perambulate the boundaries with the surveyor and when It was ascertained that these boundaries were acceptable to all parties, including adjoining hapus and tribes, and that appropriate reserves for the vendors had been agreed upon, the responsible representatives of all of the vendors were assembled to sign the deed of sale and receive payment.

Among the first appointees was Mr. (later Sir) Donald McLean who came to exercise a powerful influence over Maori affairs and the acquisition of Maori lands. Arriving in New Zealand in 1840 when he Was twenty years of age, he was the representative of a Sydney based firm interested in the kauri timber trade. He soon acquired fluency in the Maori language and in 1843, through the influence of the then Colonial Secretary Dr. Andrew Sinclair, he was appointed as clerk and interpreter in the office of the Protector of Aborigines (Native Affairs). His exceptional ability was recognised by Governor Grey who In 1847 appointed him, youthful as he was, as a special envoy to investigate the state of affairs in Taranaki and to endeavour to reconcile the differences that had arisen between the Maoris and the New Zealand Company over conflicting claims to ownership of the Waitara lands. Subsequently his services were called upon wherever and whenever difficulties arose over Maori lands. He was remarkably successful in negotiating the purchase of vast tracts of land and in 1854 at the request of the Governor he established the Land Purchase Department with headquarters at Auckland. The whole management of the purchase of native lands was transferred from the Surveyor General to him as Chief Land Purchase Commissioner. Two Assistant Commissioners were also appointed; Messrs. Henry Tacy Kemp, previously Protector of Aborigines, and John Grant Johnson, a surveyor[1]

The Land Purchase Department was organised with several Districts in the North Island, each with a Commissioner with whom there was associated a surveyor or survey staff.

By 1854 the activities of the Department in the South Island were insufficient to warrant a resident Commissioner but special appointments were made as the occasion required. Some of the South Island purchases were made by District Commissioners from the North Island.

In 1858, however, James Mackay of Nelson was appointed Assistant Native Secretary under Donald McLean, and Land Purchase Commissioner for the South Island. In 1859 Mackay completed the purchase of the Kaikoura Block after providing for the appropriate Native Reserves. The following year he purchased the remaining Maori interests in Westland, amounting to about seven and a half million acres exclusive of the Native Reserves. These purchases virtually completed the acquisition by the Crown of all available Maori lands in the South Island.

During its comparatively brief existence the permanent staff of the Department comprised a number of District Commissioners whose main fields of activity were as follows:

Bay of Islands	Henry Tacy Kemp
Whangarei and Auckland	John Grant Johnson
Kaipara and Whaingaroa	John Rogan
Thames and Piako	George W. Drummond Hay.
Taranaki	Robert Parris
Ahuriri (Hawkes Bay)	George S. Cooper
Wellington	William Nicholas Searancke

Coromandel	James Preece
South Island	James Mackay

With few exceptions these officers were surveyors with previous experience in New Zealand and most of them were competent Maori linguists.

The Department's small permanent survey staff comprised Messrs. Andrew Sinclair, [(2)] Stephenson Percy Smith, Malcolm Fraser, and a Maori cadet named Wirihana. In those Districts where the Commissioner was not a surveyor he was assisted by the local Government Surveyor. For the Bay of Islands the surveyor and Resident Magistrate (equivalent of modern Justice of the Peace) was W. B. White; at Auckland, Edwin Fairburn; at Coromandel, District Surveyor Charles Heaphy; in Taranaki, Messrs. Octavius and Wellington Carrington; at Wellington, Captain W. Mein Smith and Messrs. George Smith, D. Porter and J. T. Stewart.

As Native Secretary and Chief Land Purchase Commissioner, Mr. McLean was responsible only to the Governor and he wielded an influence that led to adverse criticism by the then Premier, Mr. William Fox who wrote to Governor Grey on the 8th October, 1861, after the beginning of hostilities in Taranaki, commenting on the administration of his predecessor, Governor Browne; "the result is, that while on all other subjects the Responsible Ministers are the sole advisers of the Governor, and exercise the entire executive functions of the Government, on Native Affairs, the Governor has, in addition to his Ministers, another Adviser, his Native Secretary, who is not a responsible Minister nor under the control of responsible Ministers, but who exercises (subject only to instructions from the Governor himself) all of the Executive functions of Government in relation to Native affairs.

In 1856 the two departments were amalgamated by the union of the two offices of Native Secretary and Chief Land Purchase Commissioner, in the person of Mr. McLean. A prominent result of this union of the political function of the Government with its Commercial function as land purchaser, has been the creation in the native mind of a suspicion that all the acts of the Government originate in a desire to get possession of their land. They have learned to look upon the Government as a gigantic land broker, and every attempt made by it either to improve their social condition or to control them by the necessary restrictions of law, is supposed to have for its ultimate object the acquisition of territory. This feeling, to a great extent lies at the foundation of the unsatisfactory relations at present existing between the Natives and the Government.

"The House of Representatives, on two separate occasions in t he last two Sessions, unanimously condemned the fusion on of the two departments …..

"Ministers are bound to state that they regard the existence of the Native Secretary's Department, free as it is from all control on t he part of the Responsible Ministry, as a very serious evil ....."

At the ensuing Parliamentary session a voluminous report of the Land Purchase Department relative to the extinguishment of Native title was presented to both Houses of the General Assembly. It covers the activities of the Department from its inception in 1854 and includes numerous copies of

correspondence and relevant document s concerning the purchases in Taranaki and Wanganui by the New Zealand Company that were the subject of investigations by Mr. Donald McLean prior to 1854.(3)

Officials of the Land Purchase and Native Departments were implicated in a major degree in the events leading to the war in Taranaki. The fierce and bloody feud between the sellers and non-sellers of the Puketapu block which commenced in 1854 and disturbed the New Plymouth settlement for several years has already been mentioned. The opposition of many Maori leaders to further land sales was hardening and in May, 1854. an important meeting of Maori tribesmen was held at Manawapou in South Taranaki when, according to reports about 2,000 attended the meeting. Following this meeting there was a marked decline in the amount of land offering and a decided stiffening in the opposition to land sales on the part of many influential Maori leaders. One outcome was the prolongation of the Puketapu feud.

The unhappy state of affairs in Taranaki was aggravated in March, 1859, when, following a meeting with settlers and Maoris at New Plymouth, Governor Gore Browne decided to accept the offer for sale of a block near Waitara by a minor chief named Teira. The right of Teira to sell the land was hotly disputed by the paramount chief, William King (Wiremu Kingi Te Rangitaaki) and others who had an interest in the block. The ensuing controversy over the principles involved implicated not only the Maori disputants but also political leaders, Government officials and some of the Colony's leading dignitaries. Among the leading European protagonists who opposed the action of the Governor in accepting the sale was the former Chief Justice of New Zealand, Sir William Martin, who disputed the legality of the proceedings, and Archdeacon (later Bishop) Octavius Hadfield, who deplored the neglect of a proper regard for ancient Maori customary and proprietary rights. The Governor, however, was influenced by his political advisers and the importunities of a considerable body of settlers who were eager to gain possession of the land.

A meeting of the Executive Council called by the Governor, and attended by the Officer Commanding the Troops in New Zealand, the Colonial Secretary, the Attorney General, the Colonial Treasurer and the Hon. Mr. Tancred, was held at Auckland on 25th January, 1860. The following is an extract from the minutes:

"The Governor submits to the Council the question of the completion of the purchase from the Native Chief Te Teira of a certain block of land situated in the Province of Taranaki, on the south and left bank; as a preliminary to which a survey of the land is necessary.

The Council, after a full consideration of the circumstances of the case, advise :

1st. That Mr. Parris (Lana Purchase Commissioner) be instructed to have the land surveyed in the ordinary manner, and to take care that the Native Chief, William King, be indirectly, but not officially, made aware of the day on which the survey will be commenced.

2nd. Should William King or any other native endeavour to prevent the survey, or in any way interfere with the prosecution of the work, in that case the

surveying party be protected during the performance of their work by an adequate Military

force under the command of the Senior Military Officer; with which view power to call out the Taranaki Militia and Volunteers, and to proclaim Martial Law, be transmitted to the Commanding Officer at New Plymouth.

3rd. That when the survey shall have been completed, the Officer commanding at New Plymouth shall, until further instructed, keep possession, by force if necessary, of the said land, so as to prevent occupation of, or any act of trespass upon it by the Natives.

4th. That the Civil Authorities at New Plymouth be instructed to assist and co-operate, by every means in their power, with the Military Authorities in carrying out these instructions.

And the Honourable Colonel Gold and the Honourable C. W. Richmond are to give the necessary directions accordingly." (Paper E, p.11).

The outcome of the expedition was reported in the "Taranaki News" on February 23rd, of which the following is an extract :

"On Monday (20th February) Mr. Parris, with Mr. (Octavius) Carrington and Mr. C. W. Hursthouse, of the Survey Department, and one of the armed police force, proceeded to Waitara. The party was met at various points of the road by parties of natives, but no obstruction was offered to their progress.

"Arrived at the land to be surveyed, a large number of natives, of men and women, were found assembled, and a party, apparently appointed for the purpose, attempted to obstruct unpacking the instruments without success; but when the chain was thrown out, and taken by Messrs. Parris and Carrington, they effectively prevented their making use of it. The obstruction was managed in the least objectionable way possible; there was no noisy language, and no more violence was used than was necessary to prevent the extension of the chain; they laid hold of the middle of the chain, and so disturbed the measuring; and the survey party, finding it vain to persist further, forth with returned to town. Subsequently a communication from the authorities was made, giving the Waitara Chief twenty four hours to apologise for the obstruction offered by his people and to notify his relinquishment of the opposition to the survey. To this a answer was received, to the purport that he, Wiremu Kingi, did not desire war; that he loved the white people very much, but that he would keep the land, and that they (that is, he and the Government) might be very good friends, if the survey were relinquished."

The Proclamation of Martial Law was published by Colonel Murray, on the 22nd February but it bore the date of 26th January, the day on which it was signed j the Governor, at Auckland. It was as follows :

> "Whereas Active Military Operations are to be undertaken by the Queens Forces against Natives in the Province of Taranaki, in arms against Her Majesty's Sovereign Authority, Now I, the Governor, do hereby PROCLAIM THAT MARTIAL LAW will be exercised throughout the said Province from the publication hereof within the Province of Taranaki until the relief of the said district from Martial Law by public Proclamation."

The outbreak of hostilities brought about the commencement of a complete review by the General Assembly of the whole administration of Native land purchases from the beginning of colonisation. In addition to the reports of the Land

Dillon Bell, in 1862 presented the first really comprehensive report of the Land Claims Commission. (4) The Commission had been functioning for twenty years and there still remained some unsettled claims. The chief causes of delay were the necessity to have the land surveyed and the prevailing shortage of surveyors. Also the reversion of the “surplus lands to the Crown instead of to the original vendors was the cause of much controversy.

By an Ordinance of 1840 Sir George Gipps, Governor of New South Wales, had restricted the area that could be granted to any claimant to a maximum of 2,560 acres. On becoming a separate Colony the first Ordinance of the Legislative Council of New Zealand adopted the laws of New South Wales. The second Ordinance established the pre-emptive rights of the Crown and incorporated the same restriction of 2,650 acres in respect of land claims. All purchases made or claimed previous to this ordinance were declared null and void and had to be proved before a grant was issued. On establishing proof of claim, an area was awarded which, after survey, was granted by the Crown to the claimant.

Although many claimants established a valid claim to more than 2,560 acres, all land in excess of that area reverted to the Crown as waste land available for disposal. In accordance with Schedule B to the Ordinance the cash value of the purchase was calculated and the Commission made its award. The basis was sixpence per acre f or land purchased between 1815 and 1825 and increased by stages to between four shillings and eight shillings per acre for land purchased in 1839. Where the claimant was an absentee or had no resident agent, his claim was reduced by a third. Goods bartered for land were assessed at three times selling value at Sydney at time of purchase. If the subsequent survey disclosed that the area alienated by the Maoris exceeded the area awarded by the Commission, the surplus reverted to the Crown, but could be purchased from the Crown by the claimant. Inevitably this procedure led to dissension and was one of the primary causes of the growing distrust of British law by the Maoris.

A brief summary of Bell’s 1862 report is as follows

Total number of claims :

1050 Old Land Claims

250 Pre-emptive Claims

58 Miscellaneous claims

18 Half-caste Claims.

Area claimed in all classes, 10,322,453 acres, of which the greater part was bought between 1837 and 1839.

Value of payments to Maoris = £95,215.

Acreage surveyed = 474,146.

Total granted	= 292,475 (less than 2% of land claimed)
Surplus reverting to Crown	= 204,000 acres, plus 50,000 not then proclaimed.
Total available for settlement	= 254,000 acres.
Fees, payment of natives and cost of surveys	= £131,000.
Average cost of land to original purchasers	= 5/6 per acre.

An important outcome of the review by the General Assembly in 1862 was the passing of the Native Lands Act. It was realised that hitherto there had existed no judicial body competent to settle disputes over Maori land ownership. Also, since the Crown was implicated as a quasi interested party, there existed no independent Court of Appeal. The 1862 Act provided for something in the nature of a Titles Court under the presidency of European magistrates. Its functions were primarily to investigate the titles of Maori customary lands and to issue Certificates of Title therefore. This type of tribunal proved to be too limited in its scope and the Act was repealed by the 1 865 Native Lands Act which established Maori Land Courts presided over by Judges appointed for the purpose.

The efficacy of the Courts thus established has been assessed by a leading authority who says"... it v be correct to say that, in the beginning, the Maori Land Court was constituted for the following principal purposes :

(a) To settle and define the property rights of the Maoris inter se in the lands held by them under customs and usages.

(b) To convert the Maori customary title into a title cognisable under English law.

(c) To facilitate dealings with Maori lands and the peaceful settlement of the country.

(d) To remedy the invidious position occupied by the Crown. " "It could hardly be said that the Act of 1865 achieved all these objects; and the position of the Crown, although improved, was not what it was hoped to be …

"There was then no authority for the Court to exercise control over the alienation of Maori Lands, or the terms upon which such alienations were made …

"Their (the Maoris) cupidity was tempted and its growth encouraged by the sight of things that, money could buy, and the ease by which to acquire them by the simple process of selling land. Grave abuses resulted as the pre-emptive right was waived and revived from time to time, and in 1870 the first Native Lands Frauds Prevention Act was passed in order to confer protection on the Maoris in their land transactions with Europeans The Act invalidated all alienations of Maori Lands by Maoris made contrary to equity and good conscience, or in consideration of the supply of liquor, arms or ammunition, or which left insufficient land remaining f or the support of the Maoris alienating. Trust Commissioners were appointed, and no instrument of alienation was to be valid

unless endorsed by a Commissioner that the alienation was in conformity with the Act. The policy of the Act was to prevent improvident dealings and frauds with respect to alienations of land by Maoris. This Act was repealed by the Native Lands Frauds Prevention Act, 1881, which remained in farce until the Native Land Court Act, 1894 which in turn took away from the Trust Commissioners the power of confirming alienations and conferred that jurisdiction upon the Maori Land Court."(5)

A concomitant of the 1865 Act was the regulation of surveys affecting Native Lands. Clause XXV provided that applications and dealings coming before the Court be accompanied by a survey plan correctly defining the land concerned, and that the survey be made by a surveyor licensed to do so under the Act. To obtain a licence the surveyor had to present his credentials to the licensing authority, designated Inspector of Surveys. The first appointee to this office was Mr. Theophilus Heale who was stationed at Auckland.

In 1866 Regulations governing the survey of Native Lands were drafted by Mr. Andrew Sinclair, who became Chief Surveyor to the Native Department. These Regulations were in most respects similar to, and an extension of, those affecting the surveying of Land Claims and of Crown Lands. As the Colony lacked any overall control survey, by triangulation or otherwise, most of the surveys were isolated or uncoordinated. In 1870 Theophilus Heale took the first steps towards instituting a proper geodetic triangulation survey for the overall control of all survey work. The initial station for this survey was situated on Mount Eden at Auckland.

The first Judge to be appointed to the Native Land Court was John Rogan, the former surveyor and Land Purchase Commissioner. Among the earlier appointments as Judges were several surveyors, including Theophilus Heale, Charles Heaphy and George Thomas Wilkinson, while William Australia Graham became a leading advocate for the Maoris in settling questions concerning land that bad been confiscated as a consequence of the operation of certain punitive clauses of the New Zealand Settlement Act of 1863.

With the establishment of the Department of Lands and Survey in 1876, when Provincial Government was abolished, the supervision of surveys of Maori lands and the purchase of Maori lands by the Crown became functions of that Department. Land Districts were set up whose boundaries coincided with the old Provincial boundaries. The controlling officer in each District was Commissioner of Crown Lands. For the next 60 years the appointees to Commissionerships were professional surveyors who were experienced in surveying under New Zealand conditions and also in the administration of Crown and Native lands. To them is due in a very great measure our excellent system of land administration.

CHAPTER 10

AUCKLAND PROVINCIAL SURVEYORS

In March, 1853 to stimulate immigration Governor Grey issued General Land Regulations which provided incentives for prospective settlers. Crown land of fair agricultural quality, previously sold at a fixed rate of £1 per acre, was now to be available at 10 shillings per acre, and inferior land at 5 shillings per acre. Special concessions were granted to retired officers of the naval and military forces who desired to settle in the colony and came to New Zealand for that purpose. The amount of land that could be selected was proportional to the grantee's previous rank and to the amount he had expended on emigration. These concessions were subsequently extended to the rank and file of Her Majesty's Forces who desired to settle in New Zealand. These concessions were included in the Auckland Provincial Waste Lands Act of 1858 which also included a special concession which enabled the issuing of land orders to school teachers to select 80 acres of general country land and obtain a Crown grant therefore when the teacher had been for five years teaching in a public school in the Province.

The naval and military settlers were usually settled in districts having a tactical military advantage and the teachers in the districts where their services were most needed.

The Auckland Land Regulations of 1855 granted to civilian immigrants concessions somewhat similar to those available to naval and military settlers. The immigrants received money certificates in proportion to their actual outlay on emigration. These ranged from £8 to £16 for each child under seven years to between £20 and a maximum of £40 for each person over fourteen years of age. The certificates could be offered towards the purchase of Crown lands. The Auckland Waste Lands Act of 1855 expanded these concessions to permit the issuing of land orders for 20 acres for children between five and eighteen years and for 40 acres for persons above that age. The orders remained in force for five years during which time the grantees had to occupy and improve the land awarded to them. In 1869 the conditions were slightly altered and a few years later all con- cessions were repealed, when legislation for the establishment for Special Settlements was introduced.

(Owing to the loss of valuable early records in two disastrous fires in the Survey Office, the first in 1842 and the second in 1873, the complete record of early controlling officers has been difficult to ascertain).

The Land Purchase Department, under General Government control, and the Provincial Waste Lands Department, had each its own survey staff and each also engaged contract surveyors. Until 1863, while Auckland remained the seat of Government of the Colony, there existed some duality, and consequently, some confusion in the control of the surveys in the Province. In 1852 R. G. Wood was appointed Assistant Surveyor General and in 1855 became one of the Waste Land Commissioners for Auckland, a position he relinquished the following year to enter private practice. His successor was Cormac Patrick O'Rafferty, who had been appointed Provincial Surveyor in 1855 and who was appointed Commissioner of Crown Lands at Auckland in 1857. Evidently O'Rafferty acted as Surveyor General for a while after C. W.

Ligar resigned in 1857. GO. Ormsby was also appointed a Waste Lands Commissioner in 1 855, and was also Provincial Road Surveyor.

Most of the field work was done by the contract surveyors whose work was supervised by two or three District Surveyors, employees of the Provincial or the General Government. One of these was Charles Heaphy who was at one stage a Provincial Surveyor and subsequently District Surveyor under the General Government.

When the Austrian “Novara” expedition visited Auckland, in 1859, Ferdinand von Hochstetter, the leader, was requested by the Provincial Government to make a geological survey of the southern districts of the Province. His assistant, Julius von Haast, later remained in New Zealand to carry out extensive surveys in the South Island. Haast re marked on the dearth of survey data and topographical information available and the very limited extent of the Colony that had been surveyed at that time. To quote Haast’s biographer – “except for the nautically surveyed coast lines, the southern part of the Auckland Province had only been sketched from information from the missionaries and a few officials who had travelled through it. Nowhere had an instrument been used to fix any point. But even this imperfect knowledge of the interior of the Province was in most cases confined to the Maori path which extended from Auckland as a postal track along the Waikato River and Lake Taupo to Ahuriri (Napier) on the east coast and thence to Wellington, while the region from the west to the east coast, in particular from Kawhia Harbour to Lake Taupo, was entirely unknown. Hence Hochstetter had to make a complete topographical survey as well as a geological map of the whole, and fix the heights of more than two hundred peaks.

“The northern part of the Province was better known, as Haast had been informed that Captain Drury (or HIM. Survey ship ‘Pandora’) would shortly be sending to London a map of this part to complete the coast line that he had fixed by astronomical observations, but Haast heard from other quarters that much would be left uncertain in it.” (1)

During the expedition extensive topographical and geological surveys were made, reaching from Whaingaroa (Raglan) Harbour and Mokau on the west coast to Maketu and Tauranga on the eastern coast, and including Mounts Tongariro and Ruapehu, and Lakes Taupe, Rotorua and Rotomahana with the geysers, terraces and other thermal phenomena. Luckily for Hochstetter, the Maoris, who were suspicious of land speculators and who placed all sorts of obstacles in the way of the Provincial Surveyors, on learning that he was a foreigner spending only a short time in the country, gave him every assistance. Visits were also made to the Waikato coal-fields and to the Coromandel Peninsula, and the volcanic regions of the Auckland Isthmus. As guides, interpreters and topographers, District Surveyors Charles Heaphy and George W. Hay had been attached to the expedition and of them Haast remarked that their exploits in field and forest were reminiscent of Fenimore Cooper’s “Deerfoot’ and “Pathfinder” and they lost nothing in comparison with Cooper’s fictitious characters. Not long afterwards the mettle of both was to be tested during the Maori Wars which broke out in Taranaki and spread to the Waikato and Bay of Plenty and thence to the East Coast and Hawkes Bay. As officers in the Colonial Defence Forces Major Drummond Hay was the trusted envoy of

General Pratt in negotiations for peace in Taranaki and Major Heaphy was the recipient of the Victoria Cross for gallantry in action, during the Waikato campaign.

Hostilities, which commenced in Taranaki in 1860 and which were sympathetically supported by the growing Kingite movement in the Waikato, threatened an invasion of the Auckland settlement which was the seat of the Colonial government as well as of the Province. Under its assisted immigration policy the Provincial Government had several settlements in hand and now made strenuous efforts to accelerate the surveying and settlement of available Crown lands. Those already under way were all to the north of Auckland and had been designed as a barrier to the powerful northern tribes who had led the insurrection of 1845

These settlements were made pursuant to the Auckland Provincial Waste Lands Act of 1853 and subsequent amendments. The first settlement was cantered on Waipu, just to the south of Whangarei, and the first settlers arrived in 1854 Provincial Surveyor, Charles Heaphy, was instrumental in the selection of the site of the “Albertlanders” settlement which eventually embraced all the land between Kaipara Harbour and the east coast. The first settlers arrived here in 1862. At the same time settlement commenced around Helensville and in 1863 a special settlement of Bohemians commenced at Puhoi. Although these settlements had been surveyed and provision made for internal roading, there was no road connection with Auckland and the settlements depended on coastwise shipping. Most of the land was heavily forested, with dense undergrowth and some good timber trees.

To the south of Auckland isthmus some settlement had been accomplished as far as Tuakau. The Mangatawhiri river was regarded as the frontier. Most of what is today the City of Manukau and also the northern part of Franklin County had been purchased by the Crown and surveying and settlement was proceeding. Drury was the principal centre south of Auckland and the Imperial Forces stationed at Auckland had begun to construct a wagon road towards the frontier at Mangatawhiri. Besides Mangere, the principal Maori settlements in the locality were Tuamata, Kirikiri and Maketu, within three miles of Drury, and at Pokeno and Waiuku.

In 1860 Imperial troops and the Auckland militiamen established a military encampment at Otahuhu which became the headquarters for the Waikato campaign. The Maoris had become very excitable and but little provocation would be needed to cause a conflict. The Auckland community was greatly alarmed when the body of Eriata, a Patumahoe Maori, was found in the bush and his death from a gunshot wound was apparently accidental. His gun was found alongside the body and some of the Waikato Maoris attributed his death to murder by a European whose identity was unknown. Messrs. Donald McLean and John Rogan of the Land Purchase Department, in their capacity as Magistrates, and accompanied by Archdeacon Maunsell and Dr. Giles, went to Patumahoe where an inquest was held with a European jury. A verdict of death from accidental causes was returned, but the proceedings were fraught with considerable danger to the European party.

On a number of occasions the officers of the Land Purchase Department were called upon by the Government to act as intermediaries in disputes with

the disaffected tribes and as liaison officers with the friendly ones. In April, 1860, when Auckland was threatened with invasion, a very able young surveyor, Stephenson Percy Smith, who was but twenty years of age, but whose integrity and prestige among the Maoris among whom he had worked was highly regarded by the authorities, was sent as an emissary to the Ngatiwhatua solicit their assistance in the defence of Auckland in the event of an attack by their erstwhile enemies, the Waikato tribes.

When the fighting in Taranaki ceased in 1860, it was John Rogan as head of the Land Purchase Department who was sent by Governor Grey to implement the terms of an arrangement that the Governor had made with the fighting chief, Hapurona, for the peaceful settlement of the dispute and also to arrange for the necessary surveys to be carried out. However the Maori leaders remained obdurate in their determination to prevent any further encroachment by the surveyors or any Europeans on the land they claimed h never been alienated. A kind of armed truce existed until on the 4th May, 1863, a party of two officers and seven men were shot down by an ambuscade at Oakura. In an attempt to avert further bloodshed the Government sent John Rogan, at the risk of his life, with a letter to the Maori King Matutaera (Tawhiao) at Ngaruawahia, detailing events at Taranaki and asking whether, in the opinion of the King, the deed was or was not murder. The Kingites were divided in their opinions but the stronger elements of the party considered the Oakura affair was an act of war, not of murder. Shortly afterwards the Waikato war began.

At the time of the Patumahoe affair Stephenson Percy Smith was surveying land near the Waikato Heads and he refers in his private journal to the perilous nature of the meeting in the bush, as follows :

“October 18, 1860. Messrs. McLean and Rogan returned from Waiuku, and I hear they had a very narrow escape from being murdered (at Patumahoe). It all depended upon the “Tangata Whero” (the spearman who advanced to challenge a party of visitors) as to how he would throw his spear. But thanks to Ihaka Takanini (the chief of Ngati Tamaoho) the man was forcibly prevented from throwing it, or they, together with every white man present assuredly would have been killed. The Maoris have agreed to let the supposed murder pass by this time, but in the next incident or the kind they ‘will not require anyone to go and investigate the matter’ ”.

The Waikato tribesmen, however, were not satisfied with the outcome, and decided to make their own investigation. A warlike force, several hundreds strong, canoed down the river from Ngaruawahia towards Patumahoe. Their presence caused consternation and the outlying settlers were withdrawn to the safety of the defences of Auckland. Peace was maintained only by the intervention of one of the leading chiefs, Wiremu Tamihana, but events in Taranaki and in the Waikato were inevitably leading to war.

With the lowering of war clouds over the Waikato all surveyors in common with all physically fit men between the ages of sixteen and fifty were drawn into the defence forces of the Colony, some as members of the local volunteer corps and the rest as militiamen. Prominent among them Charles Heaphy was a Captain in the Auckland Rifles Volunteers; Drummond Hay was a staff officer and Aide-de-camp to the Governor; Daniel Henderson Lusk

organised a company of volunteers known as the Forest Rifles based on Mauku, a company that fought with distinction. In the ensuing campaign the surveyors performed an important role. It is significant that the only Victoria Cross awarded to a member of the Colonial Forces was to Major Charles Heaphy, more particularly because this decoration was reserved for members of the regular forces. A special decoration, equivalent to the Victoria

Cross, and designated the New Zealand Cross, was instituted for members of the Colonial forces. Of the twenty three New Zealand Crosses eventually awarded, four were to surveyors, namely Sergeant Arthur Wakefield Carkeek, Captain Christopher Maling, Captain Gilbert Mair and Lieutenant Henry C.V. Wrigg.

During his first term of office, Governor Grey had initiated a policy of selecting the best of the Maori, or part Maori, pupils from the Mission schools and training them for posts in the Civil Service where their services would benefit the Maori people. Several were selected for the Survey and Land Purchase Departments. Among these was James Fulloon, a young surveyor who proved to be an able intelligence officer, but who eventually lost his life as a victim of the Hau Hau rising.

A feature of the New Zealand wars was the use of the military to build roads. The country where the fighting took place was un-roaded and to a great extent unmapped. Following the campaign in the north, in 1845-46 the New Zealand Government appealed to the war Office for an increase in the military establishment and eventually the War Office decided on a re-deployment of the British regiments in the Colonies which would allow an increase of a few hundred men in New Zealand. The then Commander in Chief, the Duke of Wellington, had suggested, inter alia, that as a defence measure carriage roads (virtually dray roads) should be constructed in likely trouble spots in New Zealand. The responsibility was to be divided between the civil and military authorities. Troops not engaged on active service were to be used to construct roads for which they were to receive extra pay. The Wellington-Porirua road, in 1845-46, and the Auckland-Waikato road, in 1861-63, were constructed under the supervision and with the help of troops. In later years the Armed Constabulary, a Colonial force, built many miles of the frontier roads while stationed in the outlying districts.

In 1863, two hundred acres for the site of Cameron Town had been purchased alongside Ngati-tipa territory, known as Pura Pura, south of Shepherd’s Hill, Puna, for the purpose of establishing a military stores depot on the northern bank of the Waikato river. The major problem then jeopardising any advance along the Waikato River was supply. Not only was land traffic along the Great South road subject to ambush but the wettest winter on record had converted much of the military highway into a quagmire. An additional route was an urgent necessity and the obvious answer was water transport. A portage way linking the sheltered waters of the Manakau Harbour and the Waikato was surveyed and cleared, but the rapid advance of the troops and the clearing of the district rendered it superfluous. James Stewart, who was an engineer and surveyor, was sent by the New Zealand Government to Australia where he arranged for the construction of a gunboat which he had designed. This was the Koheroa which was built in sections at Sydney and transported to

Port Waikato where it was assembled at a specially built shipyard. He also purchased two river steamers, the Avon and the Pioneer, which were fitted with bullet-proof turrets, and used on the Waikato River as gunboats and tugs to tow barges.

For all of these works surveyors and engineers were needed to supplement the detachments of Royal Engineers. A number were recruited in the United Kingdom and Australia and attached to the forces to carry out reconnaissance surveys and act as guides and scouts. (2) Captain Charles Heaphy of the Auckland Militia was seconded to General Cameron's staff and attached to the flying column commanded by Sir Henry Havelock V. C. Those surveyors who had been trained in New Zealand before the war, most of whom were conversant with the Maori language and had some knowledge of the country beyond the confines of European settlement, provided a readily available source of military intelligence. This is well illustrated by reference to the report and map produced by Charles Heaphy, assisted by Andrew Sinclair, surveyor to the Land Purchase Department, at the time of the first Taranaki campaign and presented to the House of Representatives early in 1861. (Vide A. J. H. R. 1861. E No. 1c) This map conveys at a glance the situation in the North Island at that time.

In anticipation of war in the Waikato, several Volunteer corps had been formed in the districts to the south of Auckland. These were supernumerary to the Auckland Militia which had been disbanded temporarily on the cessation of hostilities in Taranaki in 1861. Daniel Henderson Lusk, a settler who had been a surveyor on the New Zealand Company's staff in Canterbury, was responsible for forming a company designated the Forest Rifles. Of him, James Cowan the historian says - "he was a frontiersman of the best kind, energetic and observant, used to the bush, and endowed with a natural gift for leadership. To him more than any other settler-soldier the credit was due of placing the district west of the Great South Road in a state of defence. He had organised local Volunteer corps (in that district) during the first Taranaki War. When that campaign ended in 1861 many settlers imagined that fighting had definitely ceased in New Zealand, and most of the rifles at Mauku were returned to the Militia Store at Auckland. However Mr. Lusk was firmly of opinion that there would be war in the Auckland district, and early in 1863 he was the principal means of forming three companies of Forest Rifles - one at Waiuku, one at Mauku and one at Pukekohe East. (4) The forest Rifles took part in several engagements and acquitted themselves well and efficiently, particularly at the engagement at Titi Hill, Mauku, on 23rd October, 1863, when confronted by a numerically much superior force of Kingite Maoris, and held their own in a desperate encounter until reinforcements arrived and routed the Kingites. (Note: The Forest Rifles corps is not to be confused with the Forest Rangers, another well known corps organised in August, 1863).

The Waikato campaign commenced on 12th July, when, following a series of incidents which included the eviction of Mr. John Gorst resident Civil Commissioner of the Upper Waikato, from his station at Te Awamutu, General Cameron ordered the advance of the Imperial forces across the Mangatawhiri river. The New Zealand Government which was embarking on a policy of "self reliance" decided to augment the military forces by recruiting four Colonial regiments whose personnel on the termination of the war, would become

permanent settlers in the conquered territory and help to maintain law and order. They were recruited mainly in the South Island and in Australia. The terms of engagement, which were Gazetted on 5th August, included a free grant of land to each officer, non-commissioned officer and private who fulfilled the conditions. The land grants were on a sliding scale according to rank, rising from fifty acres for a private to four hundred acres for field officers. In addition, irrespective of rank, each was to get a town section of one acre.

It was foreseen that a number of surveyors would be needed to survey the settlements and lay out the roads. The inducement of the land grants together with the opportunity of professional practice brought a number of surveyors into the Waikato regiments in which most of them became commissioned officers.

As a preliminary defence measure, to protect the out lying settlements and the lines of communication, a number of redoubts and blockhouses had been built and manned at strategic positions along the frontier and along the new military road from Drury to the Mangatawhiri River and along the north bank of the Waikato from the Mangatawhiri confluence to the s ea. Heavy transport for the campaign was carried on shallow draught river steamers built for the purpose of navigating the Waikato and Waipa rivers. Above the Mangatawhiri confluence the army was entirely dependent on these river steamers. A fortified depot had been established at Waikato Heads.

At Raglan on the Whaingaroa Harbour there was a small European outpost and it was Richard Todd, the Government surveyor, who took charge of the work of fortifying the small wooden building used as Government offices and converting it into a blockhouse and surrounding it with entrenchments and rifle-pits.

The surveyors attached to the Imperial staff were in demand not only as the eyes and ears of the forces but occasion ally were called upon to act as the mouthpiece also. A typical occasion was the conclusion of the battle of Rangiriri on 21st November when the remnant of the Kingite defenders were surrounded and in a hopeless position. It was the surveyor, (later Captain) W. J. Gundry who was sent forward to discuss terms of capitulation with the Maori chiefs.

The action for which Charles Heaphy eventually received the Victoria Cross took place on 11th February, 1864 He was reconnoitring near Te Awamutu when some men of the 40th Regiment were ambushed near the Waipa river. In charge of a small detachment Captain Heaphy went to their assistance and succeeded in extricating them from a perilous situation. During the course of the brief encounter Heaphy had been instrumental in the life of a seriously wounded soldier by attending to his wounds while himself being fired upon and wounded, although slightly, in several places.

It was in February, also, that the river steamer Avon sank in the Waipa river blocking the channel and disrupting the supplies to the advanced forces. Captain D. H. Lusk, who was then attached to the Transport Corps, succeeded in keeping the army at Te Rore supplied by using a Militia company to rapidly cut a pack track through the forest from Raglan to the Waipa river, a prodigious task.

On the 30th March, 1864, the surveyors, W. J. Gundry and G. T. Wilkinson, were reconnoitring from a position to the east of Kihikihi and taking observations with a theodolite when they saw and reported the presence of a large body of Maoris working at entrenchments at Orakau. At the same time Captain Lusk also reported the presence of the Maoris. The following day the pa was surrounded by the British forces and during the next three days an epic battle was fought which ended in the retreat of the surviving Maoris beyond the Puniu river, where they were relatively safe from any further southward advance by the Imperial forces. However to the north east there still remained the Ngati Haua, under Wiremu Tamihana, and their allies from the Bay of Plenty, who had fortified a pa at Te Tiki o te Ihingarangi, near Maungatautari. Faced with the advance of General Cameron's forces this pa was abandoned and the Ngati Haua and their allies withdrew to Peria, near Matamata, where they remained relatively quiescent.

In May, 1865, George Graham, a former officer of the Royal Engineers and Member of Parliament for Newton electorate at Auckland, who for some years had been on friendly terms with Wiremu Tamihana, made a journey at the risk of his life into hostile territory and met Tamihana whom he persuaded to cease fighting and come to terms with the Government. Tamihana met Brigadier General Carey at Tamihana on 27th May, and formally acknowledged his submission to the law of the Queen. The terms of the agreement between General Carey and Tamihana were drawn up and signed at Tamihana at the survey camp of George Graham's surveyor son, W. A. Graham. The Waikato campaign was virtually now at an end.

Shortly after the commencement of the Waikato campaign the Government passed the New Zealand Settlements Act, 1863, which provided, inter alia, for the confiscation of the districts occupied by the so-called "rebel" Maoris. Provision was made for compensation in the case of those tribesmen who, on appeal, could prove they had not borne arms against the Government or in any way assisted the rebellion. Part of the land was to be used for the settlement of about 5,000 militiamen and the remainder to be used for the settlement of about 18,000 assisted immigrants and for the sale as ordinary Crown lands to help to defray the cost of the war.

The confiscation of territory in the Waikato, comprising about 1,217,000 acres was proclaimed on 17th December, 1864., and a further proclamation allocating this between civil and military settlements was promulgated on 29th December.

The main centres for the military settlements were chosen in strategic positions at the head of navigation of the rivers so as to control the movements of the dissident tribes. Although the lower Waikato had been subjugated a chain of redoubts and blockhouses had to be built and manned along the new frontier to protect the settlers from the danger of raids of the dispossessed and still militant former owners who had withdrawn to the surrounding mountainous country and forest fastnesses of the interior.

On the 2nd of March, 1864 the shallow draught gunboats, Koheroa and Pioneer, steamed up the Horotiu (upper Waikato) from Ngaruawahia to the native Kainga at Kirikiriroa, the site of the present city of Hamilton, and the following day the Koheroa proceeded upstream s far as she could go with

safety, and finally anchored not far from the site of Cambridge. The party which landed was led by Captain Boulton, R. N., Captain Bulkley of the 65th Regiment, and Edward O'Meara, the surveyor. During the ensuing weeks the steamers conveyed men and equipment to establish military encampments on both sides of the river and General Cameron made his headquarters at Pukerimu not far from Cambridge. The surveyors A.M. Sheppard and W. McDowell laid out two townships Cambridge and Leamington facing each other on opposite sides of the river, and in February, 1865, the men of the 3rd Waikato Regiment balloted for their town sections. No time had been lost as it was the desire of the Government to get the men off its payroll and onto the land as soon as possible.

In June, 1864 it was decided that Kirikiriroa, later named Hamilton, was to be the town centre for the settlement of the 4th Waikato Regiment, and the surveys were put in hand immediately. Hamilton East was surveyed by William Australia Graham, son of George Graham, previously mentioned. Hamilton West was surveyed by William Blackburn, formerly of the Royal Engineers and the New Zealand Fencibles.

The site of Alexandra (now Pirongia) at the limit of navigation for the river steamers on the Waipa, and that of Kihikihi on the northern side of the Puniu river, were chosen in June, 1865, as town centres for the settlement of the 2nd Waikato Regiment. The surveyors were W. J. Gundry and John Goodall, who reported the completion of the surveys to Stephenson Percy Smith who was acting as Chief Surveyor.

During the Waikato campaign, the Government also turned its attention to the Bay of Plenty. The local tribesmen and those from as far afield as the East Coast and Hawkes Bay were assisting and supporting the Waikato Tribes. In January, 1864 the Government dispatched a naval and military force to Tauranga which at that time was little more than a mission station of the Church Missions Society at Te Papa. Two redoubts were built and a military encampment established while a naval blockade of the coast was put into operation. The fighting in the Waikato virtually ceased with the fall of Orakau on the 2nd April an Genera]. Cameron moved with part of his forces to Tauranga where he arrived on 21st April. An indecisive battle was fought at Gate Pa on the 29th April and the brief campaign was virtually completed by the defeat of the Maoris at Te Ranga on the 21st June.

Among the units which took part was a detachment of the 1st Waikato Regiment. The remnants of the defeated tribes retreated to the interior where the dense forests and rugged mountainous country of the Urewera afforded them protection.

The coastal districts having now been cleared and occupied by military forces, the surveyors immediately commenced laying out the town and rural sections for the military settlements. Once again the surveys were begun before the penal clauses of the New Zealand Settlements Act of 1863 bad been invoked and the areas proclaimed. Subsequently, in 1865, areas of about 214,000 acres around Tauranga and approximately 480,000 acres around Opotiki were proclaimed but later the area around Tauranga was reduced to 50,000 acres and that around Opotiki substantially reduced.

Theophilus Heale, Inspector of Surveys, was in charge of the surveys and on 7th April, 1865, he reported to the Minister of Defence that the surveys of the whole coast line of Tauranga were completed, the township of Te Puna laid off, and the land near Te Papa (the Mission Station) and Otumoetai subdivided into 50 and 100 acre sections. Simultaneously with the surveys the Government was negotiating with the Church Missionary Society and eventually the greater part of the Te Papa land was acquired and subdivided as the Town of Tauranga of which the greater part was allocated to military settlers.

The coastal survey was made by Mr. G. Blamford and Captain H. L. Skeet was in charge of the Te Puna surveys. The survey of Tauranga town was made by Messrs. E. O. Utting and H. N. Warner.

During the campaign the Government was also pursuing a vigorous immigration policy, the responsible Minister being the Colonial Treasurer Reader Gilson Wood, a former Deputy Surveyor General and Commissioner of Waste Lands for the Auckland Province. Although additional surveyors had been recruited from overseas there were still too few to cope with the work involved in rapidly placing so many settlers on surveyed sections.(6)

Major Charles Heaphy, who had been appointed Chief Surveyor to the General Government, had to resort to promoting intelligent chainmen and linesmen to do the less important subdivisions based on the control surveys of the professional surveyors.

Despite the troubled state of the Colony, immigrants were arriving in great numbers and throughout the disturbances the surveyors were kept busy. The 1861 census showed the European population of the Province to be 24,420 and had more than doubled since the 1851 census. As an illustration of the rate of immigration that resulted from the Settlement Act, the arrivals for the four months from 18th October, 1863 to 16th February, 1864 amounted to over 2,000 persons and, at the date of the return quoted, there were five more immigrant ships due to arrive. Many of the immigrants had been assisted by having part of their passage money paid by the Colonial Government and all were anxious to qualify for a grant of land by fulfilling the residential requirements of the Act. The Government was likewise anxious to have the settlers on the land and off its hands as soon as possible.

The immigrant barracks at Onehunga, North Shore and Otahuhu were soon full to overflowing and the Government resorted to sending settlers to make shift on some of the Crown blocks even before they were surveyed or the Native title totally extinguished. The Survey Departments of the General Government and of the Provincial Waste Lands Department were hard pressed through lack of sufficient qualified surveyors. Charles Heaphy, as Chief Surveyor, wrote to the Superintendent of the Province on 17th April, 1865, describing the situation. The officers of the Departments were working as much as sixteen hours a day, including Sundays and holidays. He had sent every available surveyor to the field and had even promoted chainmen and intelligent linesmen to carry out the surveys.

The blocks under contract survey for civilian settlement were as follows :

Block	Surveyors (Staff and Contract)
Waluku	S. Percy Smith, Read and Clayton

Pokeno	D. H. Lusk
Onewhero	A. Monro
Wairoa	McDonnell, Weetman and Glover
Waikato Coal Pits(Huntly)	H. Graham
Patumahoe	Laurie
Maketu	Bull and Campbell
Pukekohe	W. J. Gundry
West Coast	R. D. L. Duffus
Razorback	Cooper, Churton and Day
Tuakau	E. O'Meara and Pugh
Kohekohe	S. Kempthorne and Frazer

Heaphy took exception to the allegations of certain Ministers that the work was unduly delayed and not proceeding as rapidly as might be expected. In protest he took the extreme measure of sending dismissal notices to every Government Officer in his department. When work resumed soon afterwards some of the officers did not return and refused to accept further employment with the Government, other than contract work.

A short time previously a Commission of Enquiry into the administration of the Waste Lands Department of Auckland had been held. A very unsatisfactory state of affairs had developed owing to the dual control of surveys. The General Survey Department of the Colony and the Provincial Waste Lands Department were acting independently and both were competing for the services of contract surveyors.

The evidence given describes adequately the methods of survey employed in the Province up to that time.

Those giving evidence were :

Charles Haselden	Waste Lands Commissioner
H. N. Warner	Deputy Commissioner
H. H. Fenton	Acting Provincial Surveyor
Major Charles Heaphy	Chief Surveyor, General Survey Department
James Baber	A former Deputy Commissioner
J. I. Wilson	A former Provincial Surveyor
Theophilus Heale	Inspector of Surveys

With the exception of Charles Haselden, all were experienced professional surveyors.

The general tenor of the evidence was that the Department should be administered by a qualified professional man. Heale said, inter alia, "the surveys of this Province have from the first been so conducted that there can be no Survey Record properly so called, and there are no means in existence by which the Contract Surveys can be effectively checked. To attempt now to

unravel the accumulated errors of 24 years would be a prodigious task, and would probably fail altogether.

"The most which I believe now to be practicable is gradually to connect the detached surveys and to ascertain the variations in azimuth and standard from each other, and from the North, and to provide that all new surveys shall be based on a correct meridian.

"If the surveys of the General Government are conducted on sound principles they will confine the old errors to a limited area, and will ultimately afford a basis for closing and eliminating them, and then that system may be extended over the whole Province. ,... I apprehend that the Waste Lands Department of this Province has scarcely been so far "organised" that anyone can say they thoroughly "understood its organization". The surveys have always been carried on a system of "Traverse and Plot", every surveyor obtaining his meridian from the compass, and working without any geodetic check whatever."

In its report the Commission stated that the management of the Department as at first devised, proved to be defective. It found that the difficulties had arisen because the appointees to the offices of Commissioner of Waste Lands and Commissioner of Crown Lands were members, ex officio, of the Provincial Executive and their administration quasi political in effect. In general the appointees lacked the professional training necessary to direct the activities of the Department. The Commission recognised the necessity of appointing as controlling officers, men who were thoroughly qualified and had been regularly educated in the highest branches of Geodetic Surveying. The appointee should have entire charge of the whole of the surveys of the Province, both in connection with the alienation of Waste Lands and otherwise, and be charged with the responsibility of initiating a proper system for all future surveys, and to provide for the revision and correction of all existing surveys.

The Commission recommended that the field staff should consist of two or more District Surveyors whose duties, generally, would be to survey roads in their districts, check the work of the contract surveyors, ascertain the true position of, and connect, the detached surveys; and to act, under special circumstances, as Deputy Waste Lands Commissioners, when sales of land within their Districts should require. The Commission was of opinion that Contract Surveyors should be licensed under the Department - the passing of a proper examination before a duly qualified Board of Examiners, of whom the Head of the Department should be one, being a condition precedent to receiving a License to perform work under the Department. The report concluded with the Commission's acknowledgement of the valuable information and helpful suggestions proffered by Messrs. Heale and Heaphy.

Most of the recommendations were subsequently implemented, but the matter of the examination and licensing of surveyors was left in abeyance owing to the pressing necessity to complete the settlement surveys and the serious shortage of fully qualified surveyors. The practising surveyors, however, decided that steps should be taken to place the profession on a proper footing, as is evidenced by the following report which appeared in "The Daily Southern Cross" of 23rd June, 1865.

"A preliminary meeting of members of the surveying profession was held at the Belfast Hotel, Princes Street, yesterday afternoon for the purpose of forming a Surveyors' Association for the Province of Auckland. Among those present was Major Heaphy (Surveyor to the Central Government) and Messrs. Stevens, Wray, Macdonnell, Captains Richards, Simpson, Butler, Randell, Jones and Reed.

Major Heaphy was called to the chair and explained that the object of the meeting was the formation of an association for the Province of Auckland and that such an association had long been wanted to protect their interests and prevent imposition. It would be of benefit not only to the surveyors but also to the Government and the public generally. The establishment of such a society would enable auctioneers and land agents to learn whom they were trusting, and the Government and its Officers would be relieved of a great amount of responsibility. None but competent men would be admitted to membership."

The Association was duly formed but it functioned purely on a voluntary basis and lacked official recognition. It served a useful purpose, however, as the mouthpiece of the profession for the time being. There was ample evidence that the surveyors were dissatisfied with the way the surveys of the Colony had been conducted, and with the lack of adequate control surveys and a proper system of recording surveys, and that they were anxious not only to improve their conditions of employment and remuneration, but also to establish proper standards of qualification and integrity required in practitioners.

At that time there was nothing to prevent anyone, whatsoever his qualifications might be, from undertaking survey work. The only exception was that persons desirous of undertaking contract surveys of Crown land or Waste Lands of the Province or for the Land Purchase Department, were required to satisfy the Chief Surveyor or Provincial Surveyor, whichever was concerned of their ability to perform such work.

The system of conveyancing then in operation (now commonly known as "the Old Deeds System") depended on an owner having possession of all deeds and instruments pertaining to transactions affecting his property, dating from the time of the alienation from the Crown by Crown Grant. A gap in the chain of title e.g. unregistered transactions could cause great difficulty in subsequent dealings. Owing to the great number of transfers and subdivisions, inevitable in a young Colony, conveyancing was becoming a very cumbersome process. Sometimes the plans and legal descriptions - the "metes and bounds" - submitted with and incorporated in the deeds were difficult to interpret correctly, many plans being little more than sketches with inadequate dimensions and incorrectly calculated areas. The services of a qualified and authorised surveyor was not then mandatory. Hence Heaphy's remark that the institution of the Association, with membership restricted to those of proven ability, would enable the public to know "whom they trusted".

The work of surveying the subdivisions and road lines in the many thousands of acres of confiscated land for the military and immigrant settlements in the Waikato, Bay of Plenty, Taranaki, East Coast, Hawkes Bay and 'Waitotara districts required the services of a considerable number of surveyors and engineers for several years and was fraught with difficulty and danger to the settlers and specially to the survey parties. Much of the work had

to be done under the protection of military detachments and occasionally the survey parties had to forsake the theodolite for the rifle and fight their way out of danger. The growing resentment of the dispossessed tribes and their allies, and their disappointment and disillusion engendered by the harsh and inequitable treatment meted out to them, led to the birth of the fanatical Hau Hau sect whose main purpose was to destroy the settlements and regain the confiscated territories.

In the latter part of 1866 there were twelve parties subdividing the confiscated block inland from Te Puna and Tauranga. The former owners, the Pirirakau, and their allies, who had become Hau Haus, descended on the surveyors and threatened their lives. The surveyors were driven out and in some instances their instruments and equipment taken. W. A. Graham and W. J. Gundry were deprived of their theodolites. Daily Southern Cross 5th July, 1866 - 24 September, 1866. The raiders also attacked the outlying settlers and there was some loss of life.

An expedition comprising a detachment of the 18th Imperial Regiment, a company of the 1st Waikato Regiment and a contingent of Arawas (friendly Maoris) commenced against the marauding bush dwellers with the object of destroying their villages and crops and driving them into the back country. An indecisive action was fought at Te Irihanga on the 18th January, 1867, and the force returned to the redoubt at Omanawa. The Resident Magistrate at Maketu, Major William Mair, raised a force of about 200 Arawas and scoured the district and captured and destroyed the Te Puke kainga where the theodolites of Graham and Gundry were recovered. The kainga at Oropi was also destroyed.

On the 21st and 22nd January another column comprising detachments of the 1st Waikato Regiment under Colonel Harrington and of the 12th Imperial Regiment under Colonel Hamilton, covered the same ground as that of the 18th January. On this occasion the guide and interpreter was a young surveyor, Gilbert Mair, who was destined to become a famous guerrilla leader during the next few years. One of the company commanders of the Waikato Regiment's detachment was Captain A. C. Turner, another surveyor who had a distinguished career during the New Zealand wars.

In the middle of February a stronger expedition left Tauranga to make a sweep through the same district as formerly. This force was composed of a strong body of Arawa under Major William Mair and his brother Ensign Gilbert Mair, and Captain H. L. Skeet's company of Volunteer Engineers, a fine body of young surveyors and survey hands well adapted to bush fighting. In support was a detachment of 1st Waikato Regiment. This column completed the work of destruction commenced by the previous expeditions. There was some hard bush fighting and on the 15th, at Te Umu-o-Korongaehe a young surveyor, T. E. Jordan, of the Engineers was mortally wounded. He was carried to the rear by four of his com under the protection of the rifles of two others. One of these was another young surveyor, E. C. Goldsmith, who later had a distinguished career in the Lands and Survey Department. This force advanced to Paengaroa and drove the Hau Haus into the Kaimai ranges. A strong point was established to cover the working parties of the surveyors. The Hau Haus moved to the Rotorua district where they threatened the Arawa kaingas. The Arawa contingents under the Mair brothers eventually drove them back to the Urewera mountains, from which they continued to menace the Tauranga, Opotiki and Rotorua districts.

While the confiscated territory around Opotiki was being surveyed, during 1866 to 1868, there was intermittent skirmishing and bush fighting in the district. In one incident, in May 1867, a surveyor G. T. Wilkinson, and three companions were living in a whare not far from the entrance to the Waioeka gorge and close to a redoubt that had been built there. A party of Hau Haus surrounded the Whare and the inmates were attacked. Wilkinson and his companions were armed but had run out of ammunition. Wilkinson and Livingstone managed to escape through the bush to Opotiki, but the others, Moore and Begg, were shot down and tomahawked.

In March, 1867, a considerable force of Kingites and Hau Haus from the interior invaded the Rotorua district and built a strong pa at Purakau, near Tarukenga. The 1st Waikato Regiment under Majors T. McDonnell and J. St. John (both of whom subsequently were promoted Lieutenant Colonel) and a contingent comprising Ngati-Pikiao and Ngati-Manawa, under Ensign Gilbert Mair, commenced operations to attack this pa and after some stiff fighting the pa was captured and the invaders driven off. For some time afterwards the district remained comparatively peaceful. In January the following year a war party from the Urewera raided Ohiwa and Waiotahi and terrorised the district. A force under Colonel St. John, comprising a detachment of 1st Waikato Regiment and the Opotiki Volunteer Rifles under Captain Henry Mair was unsuccessful in its attempt to drive out the marauders. Reinforced by a company of Armed Constabulary under Major Fraser and a contingent of Arawas under Major William Mair, a punitive expedition in March succeeded in driving the invaders back to the mountains.

Peace was maintained by the Armed Constabulary who manned the redoubts and blockhouses placed at strategic points along the frontiers. This corps bad been established as part of the Colonial Defence Forces to replace the departing Imperial Regiments. It was recruited mainly from the military settlers who had seen service in New Zealand and from the time expired Imperial regulars who preferred to take their discharge in this country.

The establishment of the Native Land Courts under the Native Land Act of 1865 facilitated the alienation of Maori lands and almost immediately there was activity in the purchasing and leasing of large blocks by the Government and by private individuals. The surveying of these blocks and the necessary access roads was not without incident. Time after time the surveyors were obstructed and opposition was not relaxed until, in 1881, Tawhiao, the Maori King, made peace overtures that led to more amicable relations. (9)

When the Maori King and his adherents had retreated within the ‘rohe potae” which marked the boundaries of the ancestral lands of the Ngati-Maniapoto tribes, Tawhiao and his supporting chiefs had issued an edict that no European was to be permitted to cross the aukati (confiscation) line, which was the frontier of the rohe potae, which came to be called the King Country, within which the rule of the king held sway. The penalty for a breach of this edict was death and because of it several Europeans died. One of them was the surveyor Richard Todd. In 1870 Todd and his partner Edward Frissell were surveying a block of land adjoining the aukati line near Pirongia, the township which at that time was called Alexandra. Fortunately for Frissell they had set up two camps about four miles apart. They had been warned of the possibility of an attack but

Todd had taken little heed. Early on the morning of 28th November the Hau Haus shot and killed Todd in his tent. One of his party was seriously wounded but the rest managed to escape to Alexandra and to warn Frissell.

Towards the end of the Waikato campaign James Mackay Assistant Native Secretary and Land Purchase Commissioner for the South Island, was summoned to Auckland to assist in the pacification of the war torn districts. He was a man of great force of character and strong physique which had been proved in his activities in the South Island. On arrival at Auckland he was given charge of the Maori war prisoners and the responsibility of re-settling these displaced by the confiscation of their land. His first task, in February, 1864 was to visit the Ngati-Maru in the Thames district, to persuade them to cease helping the Waikato malcontents and to surrender their arms. Non-compliance with this demand would lead to the confiscation of their lands. In the event, Mackay supported by only five Nelson Maoris, as oarsmen, pulled up the Kauaeranga river in the whaleboat of H.M.S. Esk and were met by several hundred Ngati-Maru who adopted a bellicose attitude. Mackay boldly explained his mission and the likely consequences of their non-compliance. It is recorded that the lives of Mackay and his party hung by a thread but it was his intrepid bearing in a very dangerous situation that gained him the ascendancy over the hostile local chiefs. The arms were surrendered and serious trouble averted. He next journeyed up the Waihou River on a similar mission to the Ohinemuri district. On his travels he learned that the country was auriferous. He had had much experience in the Nelson goldfields, haling been the Warden in the Collingwood field. The Coromandel area bad been proclaimed a goldfield in June, 1862, but due to the fact that there was little alluvial gold and that much capital was needed to develop the mining of the quartz reefs, and also the advent of the Waikato war, the field had been languishing. In May, 1864 Mackay was appointed Civil Commissioner for the Waihou (Thames) district and he set about the task of inducing the Maori land owners to permit prospectors to explore the region. It took some time to obtain the necessary consents but eventually the work was put in hand and the prospectors were successful in discovering payable reefs.

The first goldfield to be opened was Kaueranga (Thames). In July, 1 1867, Mackay had obtained the necessary consents of the Maori owners, and in August the goldfield was proclaimed, with Mackay as Warden and Resident Magistrate. With the assistance of C. P. Mitchall, he immediately commenced the laying out of a township which was first named Shortland, but later renamed Thames. The following year Grahamstown, adjoining Shortland, was laid out and is also incorporated in the Borough of Thames.

In 1875 the Ohinernuri Block was purchased for the Crown by James Mackay and opened for mining and settlement. Subsequently the Waitekauri and Te Aroha Blocks were also acquired and opened up for the same purposes. The surveyors were obstructed from time to time by the Kingite and Hau Hau elements in the district, and there was some shooting at survey parties working between Paeroa and Te Aroha. On one occasion, in 1879, a young half-caste survey hand, Daldy McWilliams, was seriously wounded. See N. Z. Herald - 1st September, 1879 et seq.

The opening of the goldfields served to alleviate the economic depression in the Province which followed the withdrawal of the Imperial Regiments in 1866 and 1867. Also it provided many of the surveyors who had been engaged in surveying the confiscated land with new fields of employment. The Mining Regulations required that the surveying of mining claims and leasehold blocks be carried out by competent surveyors duly authorised by the Provincial (or Chief) Surveyor and that the names of authorised goldfield or mining surveyors be published in the Provincial Gazette. Some of the surveyors became actively engaged in mining operations and some became mining company directors. The early directors of one of the most productive mines in the Thames field, the Caledonian, were Reader Wood, Charles Heaphy and Captain F. W. Hutton, all of whom were well known as leaders in the professions of land and geological surveying at that time.

The settlement of the Matamata plains began in 1866 when J.C. Firth, the friend of the paramount chief, Wiremu Tamehana, commenced the cultivation of the large estate leased from the Maoris and subsequently purchased by him. The leases and purchases were sanctioned by the Native Land Court in 1867 and by 1884, the estate comprised approximately 56,000 acres. Through lack of roads, the best access was via the Waihou River. Firth set about removing snags and improving the waterway but met with much opposition from Kingite and Hau Hau elements who also objected to any crossing of the aukati (confiscation) line and to the building of roads through Maori lands. By peaceful measures and aided by the powerful mana and influence of Tamehana, Firth succeeded in overcoming the prejudice of the Maoris and in developing a large tract of country.

Among the earliest European traders in the Waikato district was John Grant Johnson who was a surveyor and later a Land Purchase Commissioner. In 1852 he established a station at Tahuna on the Piako River.

In 1870 G.1. Drummond Hay, also a surveyor and Land Purchase Commissioner, bought 2,000 acres of Maori land situated near the site of the present Borough of Morrinsville. Thomas Morrin bought a large area adjoining and in 1873 the township at first known as Waitoa, was laid out.

After the opening of the goldfields in 1868, settlement in the Province increased rapidly and there was a pressing need for better overland communications particularly after the removal of the seat of Government to Wellington in 1865. Roading was a charge on the Provincial funds which were mainly derived from the proceeds of the sale and leasing of the Waste Lands. Disbursement was delegated to locally elected Highways Boards and was supervised by Road Surveyors who were employed by the Department of Works. There were as yet no arterial highways worthy of the name and the waterways remained the principal lines of communication. Beyond the confines of the towns there were very few miles of formed and metalled roads and for the main part there were unmetalled dray roads which provided access to the town and to the local wharf. An overland route to Wellington was deemed necessary for the transmission of mails as an alternative to the use of mail steamers. On 29th June, 1862, the mail steamer “White Swan” had been wrecked near Castle Point with the loss of many important public records in transit from Auckland.

Three months later the mail steamer “Lord Wolsley” was lost south of New Plymouth. (10)

On 28th June, 1870, the Colonial Treasurer, Mr. (later Sir) Julius Vogel, enunciated his Public Works and Immigration policy whereby a loan of £10,000,000 was to be raised in London for the purpose of building roads and railways to open up the back country for settlement. As security the revenue from Crown Lands was pledged. Immediately after the securing of the loan there was a great deal of activity in the construction of roads and railways which was preceded by a great deal of necessary survey work. A primary necessity was a geodetic control survey covering the whole country. This was commenced at Auckland in 1870 under the direction of the Inspector of Surveys, Mr. Theophilus assisted by Mr. Stephenson Percy Smith.

The first surveys for the Auckland-Wellington trunk railway were made by James Stewart and Samuel Harding in 1862 and carried as far as Drury. The construction was interrupted for a time during the Waikato campaign and resumed at the close of hostilities. In February 1867, when the line had reached Newmarket, but the Parnell. tunnel had yet to be completed, construction was again suspended through lack of funds. After a revision and extension of the survey in 1870, work was resumed in 1872, when the proposed terminus was Mercer. This line was opened in 1875. The next section from Mercer to Ngaruawahia had been surveyed and construction commenced in January, 1874

By 1873 an overland route to Wellington was available. Travellers went by coach to Mercer where they boarded the river steamer for Cambridge. From Cambridge a bridle track had been cut to Taupo, via Rotorua, and from Taupo to Napier. The track had been built by the Armed Constabulary or by Maori labour supervised by the Constabulary. Most of it was unmetalled and the worst parts were paved with the ubiquitous corduroy which was common practice in the “back blocks” for many years.

In 1867 there were only two telegraph lines in the North Island, One was from Auckland to the Waikato and was under the control of the military authorities. The other was from Wellington to Napier. In 1868, Mr. E. H. Bold was commissioned by the Government to survey and negotiate a route and construct a telegraph line from Napier to Tauranga, via Taupo. He was also given the task of exploring for a road line through the same territory. He succeeded in his mission despite much hostile opposition. The armed Constabulary were employed as covering parties and to assist in the construction of the bridle track. Their main task however, was to build redoubts and blockhouses at strategic points and to patrol the bridle track and the telegraph line. These precautions were indeed necessary as was demonstrated when Te Kooti and a strong band of Hau Haus surprised a party of fourteen Bay of Plenty Cavalry camped at Opepe on 7th June, 1869. The attack was treacherous and only five of the troopers survived by escaping to the bush and making their way under appalling conditions the forty miles to Fort Galatea. The following morning the burnt out camp and the bodies of the slain troopers were discovered by the Hallett brothers and Henry Mitchell who had finished a survey near Taupo and were on the way back to Napier. They galloped back to warn the military post at Taupo.

The telegraph line from Tauranga to Grahamstown (Thames) which was completed in 1872, was also constructed under difficulties through obstruction of the surveyors and linesmen, but the line from Grahamstown to Mercer, built in 1870, met with little opposition. The main trunk telegraph line from Auckland to Doubtless Bay in the north was commenced in 1874 and completed in 1877. Although much of the distance of over 200 miles was through Maori owned land, there was no obstruction and in fact the local Maoris assisted in the erection of the line by undertaking contracts to cut the lines through the bush.

Before 1870 little was done in the way of road construction in the districts west and north of Auckland. Roads had been laid out in connection with the settlements but these remained “paper roads” f or many years. Meanwhile most of the inter-communication and haulage of goods was via the waterways and coastwise shipping. In many cases the settlements were separated by intervening Maori land over which there was no right of way.

During the Provincial era the construction and maintenance of roads was in the hands of locally elected Roads Boards who were granted a subsidy of 50% of the cost by the Provincial Council. Almost invariably the Boards had difficulty in raising the necessary for Settlers who could not meet their obligations in cash did so by working on the road construction and having their contribution deducted from wages. This was a common practice in the period.

The first section of railway to the North of Auckland was built between Riverhead and Helensville between 1 871 and 1875. The route had been surveyed by Samuel Harding in 1863-64. For some years passengers and goods were conveyed by ferry steamer from Auckland to Riverhead and thence by rail to Helensville whence they were conveyed northwards by coastal shipping. Eventually Helensville was connected to Auckland by rail via Henderson and the rail from Riverhead to Helensville removed and the line abandoned.

The implementation of Vogle’s Public Works policy provided a great stimulus to immigration. Crown lands were being opened up to settlement and townships, both Government and private, were being developed. The Auckland Waste Lands Act of 1874 provided for the setting aside of land as special settlements and the appointment of immigration agents therefore, and authorised the Provincial Superintendent to contract with any person for the formation of special settlements, no settlement to contain less than ten families or selectors, whilst the area of each settlement was to be no less than a thousand acres. Under this legislation the first Kati Kati Special Settlement of 10,000 acres was initiated by George Vesey Stewart, an Ulsterman, in 1875. This was the first of several such settlements in the Bay of Plenty organised by him. (11)

In 1874 more than 18,000 immigrants had been brought to the Province under the Public Works and Immigration policy. The resultant land transactions both Government and private fully engaged the members of the surveying profession. In 1870 the Land Transfer Act had been passed which had the effect of simplifying the legal procedures of conveyancing. This Act inaugurated a system of registration based on the principles enunciated by Sir Robert Torrens, Registrar General of South Australia, in his Real Property Act of 1857. One of the requirements was that an accurate plan of the land concerned be

lodged in the Registry by a surveyor licensed under the Act to make such surveys. The licensing authority was the Provincial Chief Surveyor who was responsible for examining the credentials and the competence of all applicants to perform such surveys. In an endeavour to establish a high uniform standard of professional performance throughout the country a conference of Provincial Chief Surveyors was held at Wellington in 1873. The Inspector of Surveys, Mr. Theophilus Heale presided and the conference made a series of recommendations to the General Government outlining, in essence, the basic principles of the present survey system.

Another matter of concern to the legislators was the uncontrolled growth of towns and villages. In November, 1871, Charles O'Neill, who was a practising surveyor and engineer, and Member of Parliament for the Thames goldfield, introduced his "Plan for Towns Regulation Bill". In moving the second reading he said - "it was one that required very little explanation at his hands, as it plainly told its own tale. It was with the view of regulating the breadth of streets in towns. No law at present existed on the subject, and towns were therefore frequently laid out in any fashion, like some towns a century old. Having regard to the extensive public works which are in contemplation it was probable that towns would be springing up in various parts of the Colony, even before the next session of Parliament. It was therefore desirable that there should be some regulations put into force in order to preserve to towns the possession of wide and regular streets. It was a matter of the highest Importance from a sanitary point of view as it necessarily affected the health of the people". The Bill provided that every tenth quarter-acre section be reserved from sale as the nucleus of a town endowment, and that all plans of towns should be approved by the Governor before sale. The Bill, after passing its third reading in the Lower House, passed to the Legislative Council, where it was thrown out on the casting vote of the Speaker. On October 12th, 1875, "The Plan of Towns Regulation Act, 1875" was passed and came into force on 1st January, 1876. It followed very much on the lines of O'Neill's Bill and provided for :

1. Streets of not less than 99 feet from building line to building line.

2. Reservations for recreation grounds; these to be not less than one-tenth of the area of the town; the separate sizes of the reserves to be not less than 12½ square chains.

3. Cemeteries were prohibited in towns.

4. One acre in every ten was to be reserved as a town endowment.

5. In addition to the recreation grounds reserves were to be provided for rubbish disposal, gravel pits, quarries etc.

6. Plans of towns shewing reserves etc. were to be lodged and to obtain Governor's approval before being offered for sale.

7. Streets, as nearly as a due regard to the natural features of the country would permit, were to be laid off in straight lines and at right angles to each other.

This Act was limited in its application to future towns to be laid on Crown Lands. It had no application to existing towns where the evils of original mistakes had grown in intensity. Ten years later it was repealed by the Land Act

of 1885 which, however, incorporated most of its provisions as regards towns to be laid out on Crown Lands. (12)

In 1875 the Colonial Government obtained an independent professional opinion on the state of the surveys from Major H. S. Palmer, R. E. of the Ordinance Survey of Great Britain who was in New Zealand to observe the transit of Venus. After a brief examination of the systems in operation in the Provinces his report was very similar to that of the Commission of Enquiry (Messrs. W. Weaver and W. Bedlington) held at Auckland in 1864 Major Palmer put forward recommendations for a revision of existing surveys and the inauguration of a suitable system embracing the whole of the Colony. His proposals envisaged a unified control of the surveys throughout the Colony under a single survey authority. He presented his report to the House of Representatives on 5th April. On the 12th October the abolition of Provinces Act was passed and the way was clear for the implementation of his proposals. (13)

Under the new regime the Department of Lands and Survey was established and unity of control of surveys was attained.

CHAPTER 11

AUCKLAND PROVINCIAL SURVEYS II

THE EAST COAST DISTRICTS

In 1863 the region which today comprises the Gisborne Land District was comparatively remote from the scene of the fighting and was virtually un-roaded and unmapped. High forest clad ranges intervened between the east coast settlements and kaingas and the battlefields. A township site had been surveyed at Opotiki where there was a Mission station and also there were Mission stations at Waiapu and Tolaga Bay on the East Coast and at Waerenga-a-hika in Poverty Bay and there were a few small trading stations dispersed around the coast and the beginnings of a few sheep stations. The Europeans in the region numbered two or three hundreds at most and they and the Maoris depended for supplies and communications on the coastal shipping.

An examination of Old Land Claim records discloses that very little Maori land had been alienated in Poverty Bay or the East Coast when, in February, 1851, Donald McLean, Land Purchase Commissioner, who was in the process of negotiating the purchase of large tracts in Hawkes Bay, visited Poverty Bay. He concluded that it was yet too early to consider the purchase of land for settlement in the locality and it was not until 1857 that the Crown made its first purchase in the district. Fifty seven acres at Makaraka were acquired for the accommodation of a Resident Magistrate and a Courthouse. Today part of this land is the Makaraka cemetery and the Domain on the outskirts of Gisborne city.

The Kingite movement gained many adherents among the local Maoris whose sympathies were with the Waikato and Bay of Plenty tribes who were fighting to hold their land. In 1864 a contingent estimated as numbering between 700 and 800 warriors representing most of the eastern tribes (Tai Rawhiti) gathered in the vicinity of Opotiki with the intention of reinforcing the rebel tribes. With numerous canoes as transport the Tai Rawhiti advanced along the coast towards Tauranga. When they reached the Waitahanui River a strong party was diverted towards Lakes Roto Ehu and Roto Iti where it was opposed by a force of about 400 Arawa tribesmen who had remained friendly to the Government. The action which took place on the 7th, 8th and 9th April, resulted in the defeat of the Tai Rawhiti who retired to the coast where they were reinforced by parties of Urewera tribesmen and other local dissidents, and the march towards Tauranga resumed.

Maketu Pa and a redoubt at Pukemaire were manned by small bodies of Imperial troops who were supported by the Arawa tribesmen. A small party comprising men of the Forest Rangers and of the Colonial Defence Force, under the command of Major Drummond Hay and Captain T. McDonnell respectively, arrived on the scene to help organize the Arawa defences. Also H.M.S. Falcon and the Sandfly, a gunboat, arrived to patrol the coast. In the ensuing engagement the Tai Rawhiti were decisively defeated on the 27th April. Many of their canoes were captured or destroyed and the surviving tribesmen were dispersed to their kaingas on the east coast.

April, 1864, saw the first activities of the Pai-marire or Hau Hau cult in Taranaki, where it originated. This quasi religious movement was aimed mainly

at the recovering of the confiscated territory and it spread rapidly among the tribes who had suffered deprivation of land. Emissaries from Taranaki gained adherents in a broad belt of the North Island stretching from Taranaki and Wanganui on the west coast to Poverty Bay and the East Coast and the Bay of Plenty. In those regions the lives of the European settlers and of the loyal Maoris were seriously threatened.

The Hau Haus committed numerous atrocious acts of terrorism. Punitive expeditions comprising detachments of the Colonial Forces which were supported by the loyal Maoris, were sent to Poverty Bay, the East Coast and the Bay of Plenty, but owing to the rugged nature of the forest-clad terrain which afforded the Hau Haus a considerable degree of immunity from capture, the unrest lasted for more than a decade during which the operations of survey parties were fraught with danger.

In one such incident during the campaign James Fulloon lost his life. Son of a trader and his Maori wife, an East Coast chieftainess, Fulloon was educated at the Mission School at Rotorua and he proved to be an excellent scholar. When Captain Drury in the survey ship, H.M.S. Pandora, was surveying the New Zealand coast, Fulloon was attached to his staff as interpreter and survey trainee. Later he was appointed to the staff of the Native Land Purchase Department under Mr. Donald McLean, whom he accompanied on numerous expeditions. On the outbreak of the Waikato War he was attached to General Sir Duncan Cameron’s staff and in June, 1863 made some useful intelligence reports on the disposition and demeanour of the various tribes. After the murder of the Reverend Carl Volkner by Hau Haus at Opotiki in March, 1865, Fulloon was sent as guide and interpreter on H.M.S. Eclipse (Captain Freemantle) which visited Opotiki and the surrounding districts with the intention of apprehending the murderers. Early the following August Fulloon went to Whakatane in the cutter Kate to report on the attitude of the local Maoris and to endeavour to raise a contingent of loyal Maoris. While sheltering in Whakatane harbour, the Kate was stealthily boarded at night by a party of Hau Haus and Fulloon and two of his companions who were asleep in their berths were shot and killed. (1)

The Hau Hau movement gained strength in Poverty Bay and on the East Coast. In March, 1865, the lives of the inhabitants of the Waerenga-a Hika Mission Station (Poverty Bay) were threatened and early in April the station was abandoned. At Waiapu, on the East Coast, warfare broke out between the Hau Haus and the loyalist Maoris. In July a small military force comprising 70 Hawkes Bay Military Settlers, under Major Fraser, and 50 Hawkes Bay Militia under Captain Biggs, which was subsequently reinforced by Forest Rangers under Captain Westrupp, was sent to assist the loyal Maoris after son severe engagements, and the Hau Haus were subdued and dispersed.

At Poverty Bay the Hau-Haus occupied and strengthened Waerenga-a-Hika Pa, which was within rifle-shot of the abandoned and looted Mission Station. In November the Pa was invested by a detachment of the Colonial Defence Force and Military Settlers numbering in all about 200 men under Major Fraser assisted by some 300 loyal Maoris. After a siege of seven days the Pa was taken and destroyed.

After the fall of Waerenga-a-Hika the pursuit of the Hau Hau rebels resulted in fighting at Omaruhakeke and Te Kopane in northern Hawkes Bay and the campaign virtually concluded at the latter place on 12th January, 1866. Among those who took part in the campaign were two well known surveyors, Mr. 0. L. W. Bousfield and Captain G. J. Winter.

At the conclusion of the campaign the more intractable of the rebel prisoners and the trouble makers, including Rikirangi te Turuki Te Kooti, were exiled to the Chatham Islands, where they were kept under guard.

The penalty imposed on the East Coast, Poverty Bay and Northern Hawkes Bay tribes who had been involved in the insurrection was the confiscation of some of their land. As the land was held communally there was a difficulty in deciding how to proceed without causing injustice to those tribesmen who had remained loyal. The Native Land Court, established under the Native Land Act, 1865, was available and the Government enacted the East Coast Titles , 1866, with the intention that the Court would be empowered to deal with the question. The Act, however, did not clearly specify the class of persons intended to be adversely affected and had to be amended in 1867. Early in 1868 the Native Minister, Mr. Donald McLean, suggested to the loyal chiefs that blocks of land in Poverty Bay and the East Coast should be ceded voluntarily as representing the land to be given up by those tribesmen who had been in rebellion. In its turn the Crown was to waive its claims to rebel interests out side the ceded blocks.

Meanwhile Hawkes Bay tribes, mainly from the vicinity of Wairoa, without delay had surrendered a block at Marumaru which was surveyed as a military settlement with the village of Fraser town, named after Major Fraser, as its trading centre.

At Poverty Bay the T'Aitanga-a-Mahaki, Rongowhakaata and Ngatihipo tribes were persuaded in December, 1868, to cede the whole of the tribal lands to the Crown with the proviso that those portions which were found by the Court to belong to friendly Maoris would be returned. The periphery of the ceded blocks was defined by Messrs. Graham and G. W. Williams. There can be little doubt that the decision of the tribes was influenced by the fact that the Poverty Bay "Massacre" had occurred on the 10th November and that a punitive expedition of Colonial Forces had taken the field to or destroy the assassins.

On the 30th June, Te Kooti Rickirangi and his fellow exiles on the Chatham Islands had surprised and overpowered the garrison and after capturing the arms and ammunition bad seized the three masted schooner "Rifleman" and leaving the captain on shore had forced the mate and crew to convey them to Whareongaonga, a few miles to the south of Poverty Bay where they landed on 10th July. Gaining adherents as they advanced towards Poverty Bay they were able to repel the small body of Military Settlers and volunteers which had been sent to intercept them and were able to move inland to gain further support and become a serious threat to settlers. In the attack which occurred on the night of 9th - 10th November a total of 63 men, women and children were killed of whom 29 were Europeans, 4 were half-castes and 30 friendly Maoris. Among those killed were two leaders of the Military Settlers, Major Biggs and Captain Wilson. The sole survivor of Captain Wilson's family

was his seven year old son James who was destined to become a well known surveyor in the Lands and Survey Department.

The successful forays of Te Kooti and his followers led to an accession to their ranks of numerous other dissidents. The Government took steps to defend the local settlers and organized a force of Colonial troops which went to Poverty Bay under the command of Colonel Whitmore and set out in pursuit of Te Kooti who was fortifying a strong pa at Ngatapa on a high hill in a bend of the Wharekopa (or Te Karetu) river. The crest of the ridge was triangular with high cliffs on two sides and covered with bush. On the summit Te Kooti had built the pa which was approachable only from one direction and this had been protected by entrenchments and strong palisades.

On 3rd December, a force comprising some 370 loyalists Maoris and a few armed settlers attacked and over-ran Makaretu Pa which was evacuated by the rebels who fell back on Ngatapa Pa. The first attack on Ngatapa on 5th December was unsuccessful but shortly afterwards Colonel Whitmore arrived on the scene with four Divisions (i.e. Companies) of Armed Constabulary. Each Division was of a hundred men a good percentage of whom were Maoris. One of the Divisions was commanded by the surveyor, Captain W. J. Gundry. Ngatapa was invested and after a siege lasting seven days during which there was some severe fighting, the rebels suffered crippling casualties and on the night of the 4th January, 1869 a number managed to escape by descending the precipices in the pitch dark, crossing the river and disappearing into the dense bush. Among those who escaped was Te Kooti who for the next two years led his followers on some murderous raids on the settlements of Mohaka and the Bay of Plenty, and although pursued by a number of mobile troops of the Colonial Defence Forces, the Armed Constabulary and loyalist Maoris, he eluded them in the densely forested and rugged country of the Urewera, and eventually he and the remnants of his following escaped to the sanctuary of the King Country. During one such raid on Ohiwa Harbour on 2nd March, 1869, Mr. Robert Pitcairn, who was surveying confiscated land, was captured and killed.

After the fall of Ngatapa, at which 136 of his force of 500 warriors had been killed, Poverty Bay became relatively quiescent and settlement could proceed.

After lengthy negotiations with the local chiefs it was arranged that the Muhunga Block of about 5,000 acres be ceded to the Crown for the purpose of establishing a military settlement for the European servicemen. This was the Ormond Settlement to the west of the Town of Gisborne.

A further 57,000 acres, or thereabouts, was ceded to the Crown. This was known as the Patutahi Block, and a further block at Te Arai (735 acres) was also ceded. The whole was to be divided into three parts; the first for the loyal Ngati Porou, the second for the loyal Ngati Kahungunu, and the balance for the Crown. After the boundaries were perambulated by Mr. Samuel Locke, (the Hawkes Bay Provincial Surveyor and Land Purchase Commissioner) the peripheral survey was made by Mr. O. L. Bousfield and the total area was found to be 50,746 acres. The subdivisional survey was commenced by Captain G. J. Winter on 15th June, 1874

In March 1868, Locke had negotiated the purchase of 741 acres which today comprises the central part of the City of Gisborne. The town was surveyed by Alexander Monro, assisted by Samuel Begg, and the first sections were sold at an auction held at Napier in April, 1870.

Because Poverty Bay and the East Coast were accessible only by sea, there being no public roads nor even a respectable pack track to the Bay of Plenty nor to Hawkes Bay, the development of the region was a slow process. Although it was part of the Auckland Province there was more of an affinity with Hawkes Bay because Napier was nearer than Auckland, and consequently Hawkes Bay played a greater part than Auckland in the development of the region lying to the east of the Raukumara Ranges. Apart from the few thousand acres of very fertile Poverty Bay flats there was not much arable land and for the main part the country was hilly and clad in heavy bush and scrub.

The termination of the fighting in 1870 and the establishment of the Native Land Court in 1865 provided the impetus for the leasing of large tracts of Maori land in Poverty Bay and the East Coast. These leases were of large holdings and the country proved to be incomparable for sheep and cattle breeding.

Apart from the surveying of the Crown Lands a number of surveyors were needed to define the leasehold boundaries, to lay out the access roads, to survey the numerous bush felling and scrub cutting contracts and the various other jobs necessary in a rapidly developing district. Owing to the volume of work the Lands and Survey Department established a Land Office at Gisborne as an auxiliary of the Auckland Land Office, both being under the control of the Commissioner of Crown Lands, Auckland Land District.

In 1872 Gisborne and Opotiki were connected by a road cut through the heavily forested country via Motu and the Meremere hills by the Armed Constabulary. For many years this was little better than a pack track and not suitable for heavy haulage. Apart from this the Poverty Bay and Last Coast districts remained in isolation from the rest of the Colony, except by sea, for many years.

CHAPTER 12

WELLINGTON PROVINCIAL SURVEYS

The New Zealand Company's colonizing at Wellington and at Wanganui and the Manawatu was seriously disrupted by the conflicts with the Maoris in the Nelson and New Plymouth settlements, and by the Company's financial crisis and retrenchment that followed. The alarm caused by the Wairau incident was intensified at Wellington because the notorious Ngatitoa leaders, Te Rauparaha and Rangihaeata with their armed Ngatitoa and Ngatiraukawa followers had returned from the Wairau to their homes at Porirua and Otaki, and Governor Fitzroy had decided to take no punitive action against them. The colonists at Wellington took measures to defend themselves by building redoubts and forming and training companies of volunteers, who were supplied with arms and ammunition from the stores of the New Zealand Company. These warlike preparations were disallowed by the Governor who dispatched a company of the 96th Regiment from Auckland. Numbering two officers and fifty-three other ranks this detachment arrived at Wellington on 24th July, a little over a month after the Wairau affair.

During the next two years there were continual disputes between the Maoris and the settlers over the occupation of the land in the Hutt valley and at Porirua. Outlying settlers were forced to abandon their holdings and flee to Wellington for protection. In January, 1846 Governor Grey, who had succeeded Fitzroy in 1845 dispatched additional troops to Wellington. Some of these had taken port in the campaign against Hone Heke in the Bay of Islands. During the next few weeks further detachments arrived from Auckland and from Sydney bringing the force of Imperial troops to an aggregate of about eight hundred men. This force was supplemented by the companies of local militiamen who were trained for garrison duties.

A series of redoubts and stockades had been built along the routes from Wellington to Porirua and from Wellington towards the upper Hutt. Captain A.H. Russell, 58th Regiment was appointed Superintendent of Roads and the construction was carried out partly by the military and partly under civilian supervision. Much of the work was done by the Ngatiawa tribesmen under civilian supervision. Thong the engineers and surveyors responsible for surveying, designing and supervising the construction of defence works and roads were Walter Mantell and Thomas Henry Fitzgerald. The letter was the first Government Surveyor to be appointed at Wellington.

On 3rd March, 1846 after a number of homesteads had be plundered and stripped and some settlers killed, end the Maoris had fired on a party of the 96th Regiment, Governor Grey proclaimed martial aw over the .Wellington end Wanganui districts. At the latter place also disturbances had occurred and settlers had been driven off their sections. During the brief campaign in the Hutt valley and around Porirua there were some sharp engagements in which there were a number of casualties. Finally in August after some bush fighting in the Horokiwi valley and the surrounding hills, the rebels led by Rangihaeata retreated to the fastnesses of the forest end swamps in the district between Horowhenua and the Manawatu.

A decisive factor in the pacification of the Wellington district was the arrest of the paramount chief, Te Rauparaha. Acting on Governor Grey's orders, a party of seamen from H.M.S. Driver made a stealthy midnight raid on Taupo Pa, at Porirua on the 22nd July, and Te Rauparaha was taken prisoner on a charge of treason. He was held in custody on H.M.S. Calliope at the pleasure of the Government but was treated more as a guest then as a prisoner of war. After a few months, when the district was pacified, he was released and gave no further trouble.

For the first three years after the commencement of settlement at Wanganui the colonists occupied only their town allotments. Trouble began when the colonists tried to occupy their rural sections and were opposed by the Maoris. Conferences between the Government, the New Zealand Company and the Maoris to solve the difficulties reached a deadlock. Governor Fitzroy had not the means for maintaining order and wished to remove the settlers nearer to either Auckland or Wellington end compensate those who were removed. The settlers however were determined to remain where they were. The Maoris were equally determined not to give up the land without adequate compensation. The position was further complicated by the Wairau incident and by the war against Hone Heke in the Bay of Islands. The Wanganui Maoris adopted a warlike attitude. A further complication was the claim to ownership of the Wanganui lands by the powerful Tuwharetoa tribe under Te Heuheu. He led a strong force to Wanganui in December, 1844 with the object of asserting their rights. Trouble was averted mainly by the intervention of members of the Church Missionary Society. Threatened with attack the settlers in August, 1845 appealed to the Government for protection. Wanganui township was virtually in a state of siege. The Government was fully occupied in Quelling the insurgence in the Bay of Islands and it was not until March, 1846 that Governor Grey was able to come to Wanganui where he met the leading chiefs and discussed the land question in the hope of reaching an amicable solution.

Donald McLean, Land Purchase Commissioner, with Alfred Mills and John White, surveyors, were appointed to arrange with the chiefs the boundaries of the land to be transferred to the Europeans and also of the land to be reserved to the Maoris. When these proceedings proved abortive Captain J. J. Symonds, secretary to the Governor, broke off negotiations.

The Wanganui position remained precarious and in December, 1846 a military garrison was established and fortifications erected to protect the town. The Maoris were not mollified by these proceedings and soon outlying settlers were driven in to the protection of the stockades. Although there were some minor clashes in which lives were lost, there were no pitched battles. On 18th April, 1847 members of the Gilfillan family were murdered in their outlying homestead. The murderers were subsequently captured and hanged. The only military action of any consequence occurred at St. Johns Wood on 19th July, 1847. Peace was finally established on 17th February, 1848 and Donald

McLean was able to negotiate the purchase of 80,000 acres on 29th May. The boundaries were then surveyed by Messrs. Wills and White.

With the sudden death of Colonel Wakefield on the 23rd September, 1848 the New Zealand Company lost its principal agent in New Zealand. He was succeeded by Mr. (later Sir William Fox. The Company's activities in the

Wellington Settlement were virtually at a standstill as the bulk of its staff were fully engaged in the South Island settlements. It was left to the Colonial Government to carry out the Company's obligations in securing for each of its settlers an indefeasible title, by way of Crown Grant, to the land he had purchased. In fact this procedure had to be carried out in all of the Company's settlements.

By 1846 there were fifteen sheep runs in the southern Wairarapa district. The graziers had no title to the land but had entered into private arrangements with the local Maoris for temporary grazing rights and were therefore merely "squatters". At that time T H. Fitzgerald was surveying and cutting a bridle track over the Rimutaka ranges but the work was suspended when the fighting started. Work was resumed on Governor Grey's orders and in May, 1851, a new bridle track had been surveyed and cut by J. C. Drake.

Governor Grey was successful in persuading the Wairarapa chiefs to sell large tracts of land and the purchases were finalised by the Chief Land Purchase Commissioner, Mr. Donald McLean, in 1853. Simultaneously the Small Farms movement was gaining impetus at Wellington. Captain W. M. Smith, under instructions from McLean, made a general survey of the Wairarapa district to advise on the siting of the proposed Small Farms settlements. Two sizable blocks were set aside for the purpose and Gazetted on 7th February, l854. (1) The Small Farms Association established settlements at Greytown, Masterton and Carterton.

Greytown was a typical settlement. The town was to contain 200 acres i.e. one town section for each of the first 200 settlers; suburban sections 40 acres each, and Provision for rural allotments of up to 100 acres. There was to be a reserve around the town for the general use of the inhabitants. The land was to be paid for on selection and occupied within twelve months. No purchaser was to acquire more than one suburban and one rural allotment. The order of selection was determined by ballot. Captain Smith laid out the external boundaries of the block and T. Corbett, who had been appointed by the management committee immediately commenced the town survey. The selections took on the 16th March, 1854. Two setbacks delayed the progress of the settlement. Firstly Corbett failed to complete the surveys necessary f the whole of the proposed settlement. Secondly, there was a dispute over the reserve set aside for the Maori vendors. The 40 acres for the Maori College Reserve which had been surveyed by T. H. Fitzgerald, was much less than a tenth of the acreage of the land that had been alienated and consequently the vendors objected. The allocation of some rural allotments could not proceed until additional land had been set aside as Native Reserve. This survey was carried out by John Hughes and the surveys for the rural sections were completed in March, 1855.

By proclamation dated 10th March, 1848 the Colony was divided into the Provinces of New Ulster and New Munster in which there was to be a measure of self government. Wellington and Wanganui were within the latter Province and the expansion of colonisation became the responsibility of the Provincial Government but the purchasing of Maori land and the surveying of Crown Land remained the responsibility of the General Government. At that time two

additional surveyors were appointed to the General Government' s survey staff at Wellington; Messrs. T. D. McManaway and J. Roy.

Government acquisitions that had been made by the Native Land Purchase Department since the last of the New Zealand Company's purchases were the Porirua block in 1847, Wanganui in 1848, Rangeteki in 1849 and East Coast (Wellington Province) Blocks in 1853-4. Reporting on 6th June, 1861, District Commissioner and Surveyor, W. N. Searancke, estimated that from the commencement of the Government' s operations in 1847 approximately 3,088,000 acres had been purchased and a further 570,000 acres were under negotiation in the Wellington Province. (2)

During the period under review there had been great activity by the Native Land Purchase Department. The Commissioners who carried out the negotiations in the Wellington district were Messrs. G. S. Cooper and W . N. Searancke and the Departmental surveyors were Messrs. J. T. Stewart, M. Fraser, D. Porter, S. Kempthorne and G. Smith. Surveyors of the New Zealand Company staff who assisted were Captain J .M. Smith, R. Park and S. Scroggs.

The Wellington Province was established in June, 1853 pursuant to the New Zealand Constitution Act of 1852. In 1854 a Commission was set up to examine the survey records at Wellington. The Company survey plans were described as selection plans in a dilapidated state and, like the Government survey plans, were of no uniform style or size. The survey office of which Michael Fitzgerald was in charge was poorly staffed and remained so until handed over from the General Government control to the Provincial Authority in August, 1856. In 1857 Robert Park was appointed Chief Surveyor by the Provincial Government and controlled the surveys in the Wellington Province, there being now no Surveyor General. Under Park were two District Surveyors, Mr. H. S. Tiffin and Captain W. Smith, and a staff of twelve. In 1859 all direct relations between the Land Purchase Department and the Departments of the Provincial Government were forbidden but in 1862 the duty of purchasing Maori lands was assigned to the Provincial Superintendent, thus bringing the Survey and the Land Purchase Departments into close relationship. Following the institution of the Maori Land Courts, in 1865, surveyors were loaned to the Native Department to conduct preliminary surveys and prepare plans for the Court.

The first settlement to be established by the Provincial Council in the Wairarapa was named Featherston after the first Provincial Superintendent. This was not a Small Farms project although the terms of settlement were similar. The site of the township was defined by Captain W. M. Smith in September, 1856, and the surveying of the town and suburban allotments immediately followed. The surveyors were Messrs. J. Kelleher and R. M. Skeet. The surveying of the rural allotments was carried out by Mr. T. D. Triphook.

Although the name "Manawatu" has now no geographically political significance, the district derives its name from the largest of several rivers that traverse it, and it includes several Blocks purchased from the Maoris in 1858 and subsequently. These are the Horowhenua, Awahou, Ahuaturanga, Rangitikei-Manawatu and the Rangitikei Blocks which together contain more than 750,000 acres. Manawatu became a County and an Electorate during the days of the Provincial Government.

The New Zealand Company's claim to have purchased 25,000 acres at Manawatu in 1840 was reduced to only 900 acres by the Land Claims Commission. As a consequence only a few people settled there at a place called Paiaka. Nothing was done to develop the district and the settlers had to depend on coastal shipping or walk the un-roaded shoreline to Wellington or to Wanganui. The settlement suffered so severely in the terrific earthquake of 29th January, 1855, that he settlers moved their huts and houses nearer to the coast and the result was the establishment of the town of Foxton.

The Provincial Government in 1858 decided to negotiate with the Ngatiraukawa for the purchase of the Awahou Block and the Superintendent, Dr. Featherston, was successful in arranging the purchase of 37,000 acres. This was immediately followed by the purchase of the Ahuaturanga Block of about 250,000 acres from the Rangitane. In October, 1858, Mr. J. T. Stewart commenced the survey of these blocks. His task was the demarcation of the peripheral boundaries and to define the reserves set aside for the native vendors in accordance with the instructions of the Native Minister, Mr Donald McLean.

The country was almost completely covered in dense forest and the surveyors found that the quickest way to complete the survey was to traverse up the rivers from the sea to the mountains. The site of Palmerston North, Papaeoia, was then open "pakihi" country, surrounded by heavy forest. Stewart's records of the survey are interesting for the sketches he made and for his comments that the local Maoris, as in other districts, freely enlisted in the service of the surveyors, and formed the greater number of those employed in line cutting and similar tasks, and they proved themselves thoroughly trustworthy in all their dealings and rapidly adapted themselves to the requirements of survey work. There were no roads and the survey parties had to rush their way along narrow native paths through the bush, or along river beds, and in the latter case unlike the Maoris who could travel bare-footed, the Europeans soon wore out their boots and had to improvise with sandals made of flax, as usually fashioned by the Maoris, or of the raw hides of the wild pigs they killed. The latter was a common practice of the Colonial scouts and guerrilla bush fighters during the New Zealand wars.

The sale of the Waitotara Block, for which Donald McLean had commenced negotiations and made a preliminary payment in 1859 and which was partly surveyed by J .T. Stewart was still being disputed by the vendors when the Taranaki war over the disputed Waitara purchase commenced. In 1863 the Land Purchase Commissioner for Wellington Province, Dr. I.E. Featherston re-negotiated the purchase of Waitotara with a different set of sellers. The local Maoris, however, had demonstrated their aversion to the land sales and a number of them had assisted the Maori rebels in the Taranaki Campaign. They also prevented the Europeans, who had purchased the land from the Government, from taking possession of the land. Following the eruption of the Hau Hau cult in Taranaki in 1864 the district lying between the Wanganui and Patea Rivers was in a very disturbed state. Early in 1865 General Cameron with some of the Imperial troops, who had taken part in the Bay of Plenty campaign, were sent to Wanganui to occupy the coastal territory between Wanganui and Patea.

The advance of General Cameron's force from Wanganui was contested by the cc tribes who had joined the Hau Hau movement. Their main stronghold was Weraroa Pa, a formidable fortification near Waitotara. This Pa was by-passed by Cameron's force but was captured some months later by a Colonial force under the Governor, Sir George Grey. After some fighting on the way Cameron's force reached Waingongora in southern Taranaki, on the 15th March. Redoubts were built and garrisoned at Pates, Kakaramea, Waingongora and Manawapou.

In 1864 the Wanganui settlement was in danger of attack by the upper river tribes who had been involved in the fighting in Taranaki and had now joined the Hau Hau insurgents. The immediate danger, however, was averted when the lower river tribes (Kupapas) defeated the cream of the Hau Hau warriors in an epic battle fought on Moutoa Island, a short distance up the river from the Maori village of Runana, on 14th May, 1864. This battle was followed by desultory fighting in the district between the Hau Haus and the Kupapas.

In April, 1865, two companies (Nos. 8 and 9) of Taranaki Military Settlers were sent from New Plymouth to Wanganui where they were joined by a section of Patea Rangers and 60 Kupapas. This force, totalling 260 men, embarked in canoes at Parikino and made its way to Pipiriki, some fifty miles above Wanganui, where three redoubts a short distance apart were built in positions commanding the river.

The Hau Haus began to assemble around the isolated Pipiriki redoubts and soon outnumbered the garrison by several hundreds. On 19th July, led by Te Pehi Turoa, they attacked in force but were repelled. The redoubts were then besieged and the garrison's food and ammunition supplies were being depleted. Communication with .Wanganui, only possible by river, was cut off. After several days the commanding officer, Major Brassey, adopted the expedient of dropping messages, sealed in bottles, into the river with the remote possibility that one would be discovered on reaching Wanganui after travelling the hazardous fifty miles down stream

The messages were written in Latin or French in case they should be intercepted by the Hau Haus. Fortunately one of the bottles was discovered by Mr. G. F. Allen, a Wanganui surveyor, a day or two after it was dispatched. It read "Omnes sunt recti. mitte res belli statim". This message and another which reached Wanganui via Waitotara carried by a friendly Maori and which read "Sumus sine rebus belli satis", were understood by the military authorities and a relief expedition was immediately organized.

As a last resource Major Brassey had sent two volunteers to run the gauntlet of the Hau Haus by canoe after dark. These men safety reached Heruharama where they met the relief expedition. After twelve days the siege was raised and the Hau Haus dispersed to the forested fastnesses of the upper Wanganui.

On 22nd September, 1864 by Order in Council, the Government confiscated a belt of coastal territory stretching from Wanganui to Pates. The confiscation was subject to the provisions of the New Zealand Settlement Act of 1863. Arrangements were immediately put in hand to have the land surveyed and subdivided for settlement. Special survey offices were established at Patea

and at Kakaramea. Owing to the continuing hostility of the dispossessed and fanatical Hau Haus all survey work had to be carried out under the protection of military detachments. At the same time the bush warfare was continuing in the upper Wanganui, Waitotara and Taranaki districts and detachments of the Armed Constabulary and Military Settlers had to regularly patrol the settlements.

In September, 1868, a Colonial force under Colonel Mc Donnell was severely repulsed by the Hau Haus under Titokowaru at Te Ngutu-o-te-manu, in southern Taranaki.

Two months later a force of armed Constabulary under Colonel Whitmore was repulsed by Titokowaru and the Hau Haus at Moturoa, about three miles from Wairoa (Waverly). At this time the Imperial Regiments were being withdrawn from New Zealand and the Armed Constabulary and other Colonial units were fully extended in guarding the frontiers and prosecuting a campaign against Te Kooti and his followers on the East Coast and Bay of Plenty. Colonel Whitmore and part of his command were withdrawn from the Wanganui district to take part in the pursuit of Te Kooti on the East Coast and the remainder of his force remained to garrison redoubts at Nukumaru, Wairoa (Waverley) and Weraroa. All of the settlers were withdrawn from their farms to the protection of the stockades until reinforcements could be mustered and the Hau Haus dislodged.

At the conclusion of the East Coast campaign Colonel Whit more and the Armed Constabulary divisions returned to Wanganui where a camp had been established at Westmere and a large number of recruits for the Armed Constabulary had been enlisted and were in training for the campaign against Titokowaru. The latter and his followers had built a strongly constructed pa at Tauranga-ika on the route between Kai-Iwi and Waitotara.

On 25th January, 1869 Colonel Whitmore and his forces, about 1,000 strong, set out from Wanganui. In the vanguard of this column was the Corps of Guides, a small but elite body of picked scouts who were experienced bush-men. One of the leading Guides was a young surveyor, Christopher Maling. Tauranga-ika was reached on 2nd February and shelled by the two Armstrong guns with the force. The following morning it was discovered t the Maoris had evacuated the pa and were in retreat in the forest. The ensuing pursuit virtually ended in the extensive Ngaere swamp in southern Taranaki on 24th March when Titokowaru and the remnants of his followers narrowly escaped capture and made their way into the rugged, forested and almost trackless interior where pursuit was practicably impossible.

In April a force of Colonial troops numbering 157 of all ranks under the command of Major M. Noake left .Weraroa redoubt and moved up the Waitotara River searching out the Hau Haus in that district and returned to Weraroa ten days later when further pursuit proved fruitless. A further expedition soon afterwards covered the same ground and by August the remaining Hau Haus in that district had given themselves up at Heruharama (Jerusalem) and Kauaeroa on the Wanganui River.

The European settlers were now permitted to return to their farms and the surveying and road construction was resumed. The main road towards

Patea was built mainly by the military. On 5th February, 1870, the first coach journey between Wanganui and Patea was made by Cobb and Company. Despite the lack of formed roads and bridges this Company had commenced a twice- weekly mail service between Wellington and Wanganui in 1869. At times there was difficulty and danger when fording swollen rivers.

The fact that the purchase of the districts between the Ohau and Rangitikei rivers was then under negotiation was recognised in the Native Lands Act of 1865, which expressly excluded those districts from the operation of the Act. There was some discontent among a few of the local Maoris and one chief attempted to prevent the surveys and some of the settler's cattle was wantonly destroyed. Ultimately however, the balance of the Horowhenua Block and the Rangitikei Manawatu Blocks became Crown Land.

The subdivisional survey of the Ahuaturanga Block, in which Palmerston North is situated, was completed in 1866-67. The Provincial Government did little to provide the necessary roading and amenities, much being left to be done by private enterprise. For many years there was no road connection with Wellington or Wanganui so that Foxton, as the seaport, was the most important town in the district. Settlement languished until the railway from Foxton to Palmerston North was opened. Palmerston North, surveyed in 1866, did not start to develop until about 1870, when the Manawatu had become an electorate with representation on the Provincial Council.

Among the new settlers in the Manawatu in 1866 were Bishop Ditlev Gothard Monrad, a former Prime Minister of Denmark, and members of his family. They had settled at Karere, on the bank of the Manawatu River. After the outbreak of hostilities in South Taranaki in 1868, in which his two eldest sons were involved as military settlers, Bishop Monrad and all the outlying settlers left their farms to go to the security of the blockhouse at Foxton. Prom there the Bishop and his wife and younger children returned to Denmark. It was Monrad's influence that brought about an influx of Scandinavian settlers in the Manawatu and subsequently in Hawkes Bay. The first of these, 120 Norwegians, arrived in Wellington in 1871 in the ship Hooden, and 60 of them went on to Foxton, where they arrived on 14th February. Land was allocated to them at Awapuni which was then little better than a swamp. The following year a contingent of Danes and Swedes numbering 120 persons arrived.

Another colonising body, known as the Emigrant and Colonising Aid Society, originated in London in 1870, under the chairmanship of the Duke of Manchester. Essentially philanthropic but commercially practical in its application, it was intended for the purpose of aiding worthy mechanics to better their condition in one of the Colonies. Colonel Feilding, the Society's delegate, came to New Zealand in 1871 and negotiated with the Government the purchase of 106,000 acres in the heart of the Rangitikei-Manawatu and Ahauranga Blocks. This land came to be known as the Manchester Block.

Certain conditions were laid down; one of which was that the Society should settle 2,000 people on the Block within six years, and another was that the Government was to provide the immigrants with a free passage from England and also find employment for them in the construction of the railway which was being built through the Block. Early in 1874 there were 250 people

on the ground and the town of Feilding was founded. The local agent for the corporation was Mr. A. F. Halcombe whose name is perpetuated in the district.

In the first issue of “The Manawatu Daily Times published on 23rd October, 1875, it is reported that the railway from Foxton to Palmerston North was nearing completion and that a surveyor named Beere and his party were taking levels for the bridge over the Manawatu, while another party was laying out the roads that form the Square at Palmerston North.

Before 1872 communication between Manawatu and Hawkes Bay was very difficult, either by Maori canoe on the treacherous river through the Manawatu Gorge or on foot over the very steep tracks through the bush on the sides of the Gorge. In 1867 Mr. J .T. Stewart made a reconnaissance survey and reported the possibility of constructing a road along the river bank without climbing the ranges. This would ensure an almost level connection through the Gorge. On receiving approval of his scheme he was deputed to confer with Mr. C. H. Weber, the Road Surveyor for the Hawkes Bay Province. They decided on a route on the south side of the river and the construction was commenced in 1871 and completed the following year. The completion of the Upper Gorge Bridge, in 1875, gave coach communication with Hawkes Bay.

The Rangitikei Block was purchased for the Crown in May, 1849 by Donald McLean with the assistance of Robert Park, Principal Surveyor to the New Zealand Company. This Block which extended from the Turakina River to the Rangitikei was a large tract of land and was not surveyed immediately. The western boundary was the coast and the inland bounds were decided on after a series of meetings between the Land Purchase Commissioner, McLean, and the leading chiefs of the Ngatiapa, the Ngati Tuwharetoa, the Ngatiraukawa, the Ngatiawa and various Wanganui tribes. The boundaries of the Wanganui purchases were adjusted and extended to the Whangaehu and Turakina rivers.[4] With the subsequent purchases of the adjoining blocks to the south the way was opened for the construction of road and railway connections between Foxton and Wanganui, but owing to the disturbed state of the Colony during the next two decades little settlement took place in the locality. Before the purchase some graziers, as in the case of the lower Wairarapa, had been occupying country under private arrangements they had made with the Maoris. Unfortunately there was much dispute among the Maoris themselves over ownership and it was not until 1866 that these disputes were finally resolved and the Government’s purchases completed. Even so, the surveyors met with much interference when surveying the boundaries. In 1856 a township, first known as Tutaenui, was established. The name was altered to Marton in 1869 after Captain Cook’s birthplace, to mark the centennial of his discovery of New Zealand.

The Puraekaretu Block (46,975 acres) comprising most of the upper Rangitikei basin, was purchased on 16th March, 1872, and opened for settlement. The subdivisional surveys were made by Messrs. J. McKenzie, M. Carkeek, W. Snowden, C.E.O. Smith and L. Smith.

The Rangitikei Block was opened for sale in 1871 and the following year the Sandon Special Settlement of 5,000 acres was established with Sanson as its town centre. In 1873 the railway from Palmerston North to Wanganui was surveyed by Mr. E. H. Beere who moved to Hawkes Bay the following year to

take charge of railway construction there. His successor in the Manawatu was Mr. E. H. Beere. The Palmerston North to Wanganui section of the railway was opened in 1878.

During the Provincial era the coastal land south of Foxton was predominantly in Maori ownership and there was little by way of development except that some of the Maori land was leased to European graziers. Such roading as existed was so poor that travellers between Foxton and Wellington were best served by the coastal shipping.

Pursuant to the New Provinces Act of 1858 the Hawkes Bay district separated from the Wellington Province on 1st November 1858 and became the Hawkes Bay Province. Between Masterton, at the northern end of the Wairarapa plains, and Makaretu, at the southern end of the plains in Hawkes Bay, lay a vast forest known as “Seventy Miles Bush”. The southern portion of this forest which lay within the Wellington Province was generally known as “The Forty Miles Bush”.

The first European party to traverse the Forty Miles Bush was that led by Kettle in 1842 The next to penetrate the forest was the missionary and noted explorer, William Colenso. In recording his experiences he stated that in all his travels in New Zealand this forest appeared to be the most primeval. The sunlight barely penetrated the leafy canopy. The floor was composed of decomposing vegetable matter several feet deep. Many trees were of immense size and within the forest a death like silence reigned. Birds were few and except for the murmur of the breeze in the treetops and the sound of rippling water the silence was not broken - not even by a solitary owl.

Robert Park reported to the Surveyor General in May, 1856 that a road line to serve the Wairarapa settlements had been reconnoitred as far as Ruataniwha and suggested that the route was suitable for a railway as well as a road. Commissioner Searancke reported to Mr. Donald McLean in April, 1860, that the Maoris resident in the Forty Mile Bush had offered for sale a large portion of that Bush. Proceedings, however, were disrupted by the outbreak of war and it was not until 1870 that Mr. Samuel Locke, Provincial Surveyor for Hawkes Bay negotiated the purchase of the whole of the Seventy Mile Bush (Approximately 400,000 acres) for the Crown, and in September, 1873 Mr. Horace Baker was instructed by the Inspector of Surveys, Mr Theophilus Heale, to commence a trigonometrical and topographical survey of the whole tract.

Impetus to the settlement of the Forty Mile Bush was given in 1870 by Julius Vogel’s Public Works and Immigration schemes. Surveys for the railway route from Wellington to Featherston were made by John Rochfort in 1870-71. He explored several trial grades. To keep within the money available for construction, grades as steep as I in 15 had to be accepted to avoid heavy earthworks and tunnelling. Construction began in 1872, and this section of line was opened on 16th October 1878. To provide an adequate labour force the Government had to extend its assisted immigration policy and under this scheme several hundred Scandinavians were brought in to help settle the Seventy Mile Bush. The first of these immigrants arrived in New Zealand in March, 1872, and an immigration barracks was built at “Scandinavian Camp” (Kopuaranga) a few miles north of Masterton. The officers in charge at the Camp were the surveyors, Alexander Monro and his assistant, Samuel Begg.

The route for the railway they were extending towards Hawkes Bay was surveyed by John Rochfort.

The construction work on road and railway was undertaken by the immigrants on contract and their earnings went towards the development of the sections set aside for them under the settlement scheme. This was on similar lines to the so called “forty acre scheme” operating in the Auckland Province. Assisted immigrants were entitled to purchase a block of forty acres at £1 per acre. Those who had paid their passage money in full were entitled to forty acres free of cost.

The first of these settlements was Mauriceville (4,000 acres) which was laid out in 1873 by Mr. Arthur Carkeek. Surveying farmlets in the dense forest was an arduous and time consuming task and once again the surveyors were harassed by importunate settlers eager to obtain possession of their allotments and get away from the Public Works camp even before the necessary access tracks to the allotments had been cut.

Early in 1873 the site of the second settlement at first named Mellemskov and subsequently Eketahuna, was chosen and by October the surveys were completed and the settlers began to take possession.

By 1877, the main road from Kopuaranga (Scandinavian Camp) to Woodville had been constructed and partly metalled.

After twenty years of surveying in the Wellington district, first for the New Zealand Company and then for the Provincial Government, Robert Park left the service in 1860 to become a grazier in Canterbury. In 1865, Henry Jackson who had joined the Provincial Survey Department in 1862 became Chief Surveyor. He as an accomplished mathematician with a scientific approach to surveying and he set out to raise the standard of the work. Although trigonometrical surveys for control purposes had been advocated earlier there was much opposition on the score of expense, but in 1866 the Provincial Superintendent made provision for such a survey in the Wellington Province. This work was commenced by Mr. Alexander Dundas in the Wairarapa and by Mr. James Mitchell in the Manawatu, under the direction of Mr. Jackson.

The entire system was based on magnetic meridian with eight base lines measured with a new standard chain of 65 feet which had been purchased from the instrument makers, Messrs. Troughton and Simms. This survey was completed in 1872 at a cost of £7,000. The triangulation was then coalesced. A mean value of all eight base lines was computed and adopted and a major triangulation of the Tararua Ranges was based on this method, the minor triangulation not being corrected. Then the system of True Meridian was adopted in 1878 and the District divided into meridional circuits the old work was translated in terms of True Meridian by applying the difference of bearing and adopting the distances. (5)

In 1868 Henry Jackson drew up a set of “Instructions for Guidance of the Surveying Staff under the Provincial Government of Wellington”. In 1873 he reported that the Provincial Government had fifteen survey parties operating in the Wanganui, Wairarapa, Rangitikei, Manawatu and Wellington Districts. Triangulation connecting the east and west coasts was being expedited. .A map

showing the principal trigonometrical stations of the Province had been completed.

Major Palmer, reporting to the Government in 1875, stated that 1,099,000 acres in the Province had been correctly mapped; that previous faulty surveys had been adjusted and that the method of surveying then in operation was sound.

CHAPTER 13

HAWKES BAY PROVINCIAL SURVEYS

The earliest recorded European visitor to Hawkes Bay after Captain James Cook's initial visit in October, 1869, was Lieutenant Thomas McDonnell who was in New 2 waters in 1823-24 and made several sketchy hydrographical surveys at places he visited. His map of New Zealand, mainly compiled from existing charts and containing several gross errors, was published by Wyld of Charing Cross, London, in 1834 This shows Ahuriri (Napier) Harbour as McDonnell's Cove.(1)

Captain Thomas Wing, who was a competent hydrographical surveyor, made a survey of Ahuriri Harbour in 1837. His chart of "Ahuriri" is deposited in the Dominion Museum at Auckland. (2)

Owing to its remoteness from the earlier European colonies there was little attempt at settlement before 1850. When William Colenso established a Church Missions Station at Te Awapuni, near the present town of Clive, in 1844 there was a trading station at Ahuriri and the Rhodes Brothers, whalers, had already started a cattle and sheep run near Cape Kidnappers. In 1847 the graziers had begun to move into Hawkes Bay from the Wairarapa and lease land from the Maoris for sheep runs. Among the first of these were H. S. Tiffen and Captain J. M. Northwood who had previously been on the New Zealand Company's survey staff.

Captain Joseph Thomas, surveyor, and H. S. Harrison, settler, left Wellington on 9th October, 1844 and travelled overland via the Wairarapa and Hawkes Bay to the whaling station at Table Cape, Mahia Peninsula which they reached on 5th November. Much of the country they traversed had never previously been visited by Europeans. (3)

Hapuku, paramount chief of the Ahuriri district, requested Sir George Grey in 1850 to establish a European settlement in the locality. Mr. Donald McLean, who was then engaged in completing the transactions in the Wanganui and Turakina districts, arranged for the services of several Hawkes Bay chiefs to act as guides set out early in December to ascend the Manawatu river and travel to Ahuriri. His party of several Europeans and a number of Maoris, grew from thirty at the start to about fifty by the time they reached Waipukurau on 11th December. Two unofficial members were the former New Zealand Company surveyors, Captain J. Thomas and J. C. Drake. Several weeks were spent meeting the Maori chiefs and examining the region about Ahuriri and some miles in every direction.

McLean and his party then travelled northwards by canoe to the Mohaka district and then up to Wairoa. They then went by canoe up the Wairoa and Hangaroa rivers until stopped by the Te Reinga Falls. From there they went overland to Turanganui (Gisborne) which was reached on 6th February, 1851. McLean returned to Wairoa on 1st March byway of Mahia and Nukaka, spending some time meeting the chiefs and the few European traders and settlers scattered throughout the district. Returning to Ahuriri via Tongoio on 8th March, McLean met C. H. de Pelichet and his party who were about to commence the survey of the Mohaka block. On the 10th March at Ahuriri he

met Robert Park, Chief Surveyor of the New Munster Province, who had arrived to superintend the surveys.

The three main blocks purchased at that time were Ahuriri, approximately 265,000 acres; Waipukurau 279,000 acres and Mohaka, 85,000 acres. In 1853 the Porangahau land was purchased in two blocks, one of approximately 130,000 acres and the other of 60,000 acres. These were followed in 1856 by the Aorangi Block, 38,000 acres; Te Totara, 35,000 acres; Ruataniwha South, 35,000 acres and Otapahi, 6,000 acres.

Surveys of the Ahuriri, Mohaka and Waipukurau blocks were commenced in 1851 by Messrs. Park, de Pelichet and Thomas but the district was in a disturbed state through intertribal warfare caused by a dispute over the sale of tribal lands by Hapuku. The fighting, in which a number of leading chiefs were killed, did not cease until Hapuku and his people were driven northwards out of the Heretaunga district in 1853.

The beginning of European settlement in Hawkes Bay was not on an organized basis. The first settlers were pastoralists who were licensed under the Crown Lands Amendment and Extension Ordinance of 1851 which provided rules and regulations for the issuing by the Commissioner of Crown Lands of pasture or timber licences and prescribed the method of and for an allotment. The Commissioner was empowered to grant a run up to a maximum carrying capacity of 25,000 sheep; one head of great cattle being rated as equal to six sheep. The licence, which was for a maximum of fourteen years, was to cease and determine if the land at any time was to be sold by the Crown. If necessary the Commissioner could alter the boundaries of the Runs. Every facility was to be given to the licensee for the purchase of the freehold of a homestead area not exceeding 80 acres. Should the homestead area be offered for sale by auction the value of improvements effected by the licensee was to be ascertained and paid over to the outgoing licensee if another person secured the run and homestead.

Several such licences were granted by Alfred Domett who was Colonial Secretary for the Province of New Munster and from 1854 to 1856 was Commissioner of Crown lands and Resident Magistrate at Ahuriri.

In 1853, by Proclamation dated 4th March, Sir George Grey issued General Land Regulations which were in force only in the Province of Wellington which included the Hawkes Bay region. These Regulations were amended and extended in June, 1855. Besides regulating the sale, letting, disposal and occupation of the waste lands of the Crown provision was made for surveying and the method of payment for surveys. Section IV, which dealt with Un-proclaimed Land, i.e. land which had not yet been surveyed, provided that applicants had the land applied for surveyed at their own expense if no Government Surveyor was available, in which case an allowance of 5 acres per cent, would be made. If such land sold at auction and the r original applicant be outbid he would be repaid, as cost of survey, a sum not exceeding one shilling per acre. Allotments in un-proclaimed districts were to be not less than 80 acres. [4]

The surveyors of the Wellington Provincial staff working in Hawkes Bay in 1853 were Messrs. Robert Park, T. H. Fitzgerald and R. M. Skeet. Soon afterwards they were joined by Messrs. M.S. Tiffen and Michael Fitzgerald.

Towards the end of the year Charles De Pelichet met his death under tragic circumstances. One day while engaged in surveying near Patangata, the weather being too wet for the work in hand, he and his party went pig hunting. The party separated and after a time one of the men, seeing some movement in the scrub, fired at the spot and was horrified to discover he had fatally shot his employer.

Another former New Zealand Company surveyor who was in Hawkes Bay at that time was Mr. Donald Gollan who became a run holder in the Province. In 1843 he was a member of the first Wellington Provincial Council, representing the Wairarapa and Hawkes Bay districts.

The first settlers, and the surveyors, were faced with transport difficulties. Port .Ahuriri was virtually an open roadstead. There were no roads and heavy goods had to be carried up the rivers in Maori canoes which at best could carry little more than half a ton of freight. The Tukituki river was the main route to the interior and the Waipukurau kainga was the head of navigation, but in summer time canoes frequently could go no further than Patangata. In 1843 T. H. Fitzgerald laid out the township of Patangata. In his report dated 5th August he describes the capsizing of a canoe and the consequent damage to his instruments. It took two months to get a load from Port Ahuriri to Waipukurau at a cost of £7.

Mr. 0. L. W. Bousfield commenced the survey of the 130,000 acre block at Porangahau in 1855. This was a difficult survey owing to the swampy nature much of the land.

John Rochfort, who arrived in New Zealand in 1852, and who was to become one of the most highly regarded of the pioneer surveyors, was appointed to the Provincial Survey Department to assist in the Hawkes Bay surveys. First he went with Messrs. McLean and Park to Rangitikei where they finalized the payment for the Manawatu and Rangitikei blocks. Having dispatched his instruments and gear to Port Ahuriri by ship, Rochfort set out overland in May 1852 and made the remarkable and hazardous journey, unaccompanied, from Rangitikei to Ahuriri, travelling via the Manawatu and Pohangina rivers and crossing over the Ruahine ranges. In his written account Rochfort states that of the nine European men who had previously attempted this journey, two had died of starvation and one had become demented through being lost in the ranges. On arrival at Ahuriri Rochfort resigned his appointment to go to the Australian gold fields which had recently been opened. Evidently seeking soon lost its appeal for him and after returning to England he came back to New Zealand to resume surveying in the Nelson Province.

The extensive hilly promontory at Ahuriri, which today is the hilly part of the City of Napier, was known to the Maoris as Mataruahau. This block had been omitted from the original sale of Ahuriri and was purchased by McLean in 1856, the witnesses being H. S. Tiffen, District Surveyor and Michael Fitzgerald surveyor. Robert Park had laid out a township on the flat land flanking Mataruahau in 1851. Mataruahau was connected to the mainland by a long,

low, narrow sandy isthmus that was occasionally swept by heavy seas. On the landward side were extensive swamps and a large saltwater lagoon several thousands of acres in extent. Many years later part of the swamp was reclaimed to extend the town southwards. Still later the earthquakes of 1931 elevated the whole countryside by approximately six feet and drained thousands of acres of the Ahuriri lagoon.

In 1854 Domett renamed Mataruahau which he called Scind Island, and the town which was resurveyed and extended by Michael Fitzgerald, he named Napier to commemorate General Sir Charles Napier, the conqueror of Scind (modern Sind) who had died the previous year. Domett named the streets after famous British poets, writers and scientists. The squares and some streets he named after personalities and places connected with the British Raj in India.

Towards the end of 1857 the quarrels and fighting over land sales and the consequent tribal feuding between the partisans of Te Moananui and those of Te Hapuku were very disturbing to the settlers who appealed to the Government for protection. A detachment of the 65th Regiment arrived from Auckland on 7th February, 1858, and erected an encampment at Onepoto at the southern end of Scind Island. Soon afterwards a barracks to accommodate a garrison of about 300 was erected on the hill above. In addition to garrison duties the soldiers were engaged on road construction. The first such task was the building of Shakespeare Road over Scind Island from the port, commonly called the “Iron Pot”, to the township situated on the southern side of the hill. From time to time until the Imperial Regiments were withdrawn from New Zealand in 1867, the Napier garrison was manned by detachments of the 65th, 14th, 70th and 12th Regiments, in that order. Following the commencement of the war in Taranaki, in 1860, stockades were built at Waipukurau and at Waipawa-mate, near Tikokino, and manned by detachments of the 14th Regiment. The last of the Imperial troops were withdrawn from Hawkes Bay in April, 1867.

In 1857 the European population of Hawkes Bay had reached about

1,000 and the land revenue approximated £2,000 per annum. Then it was that 317 settlers, i.e. the majority of the taxpayers, feeling they were being unjustly treated by the Wellington Provincial Council in its disbursement of the revenue, petitioned Parliament requesting that Hawkes Bay be separated from the Wellington Province. The outcome was the New Provinces Act of 1858 which provided that on the petition of three-fifths of the electors - not fewer than 150 in all - in any district of a province (such district being not less than half a million acres nor more than three million acres in extent) with a population of not less than a thousand European civilians, with a centre and port of its own, and distant - except in the case of Taranaki and Nelson - not less than sixty miles at any point from the capital of the parent province, the Governor should with all convenient speed issue an Order-in-Council establishing a new province and defining its limits. Under this act, Hawkes Bay became a Province on 1st. November, 1858.

Among the leaders of the separation movement were the surveyors, T. H. Fitzgerald, H. S. Tiffen and D. Gollan. All were elected to the Provincial Council and on 3rd April, 1859, T. H. Fitzgerald became the first Superintendent of the Province of Hawkes Bay.

Tiffen had succeeded Alfred Domett as Commissioner of Crown Lands for Hawkes Bay in June, 1857. In 1862 he was Chief Surveyor also and he relinquished both offices towards the end of 1863 to devote his time to the development of his sheep station at Pourerere. His successor as Chief Surveyor was Charles (Karl) Herman Weber who joined the Provincial survey staff in 1860 and retained the office of Chief Surveyor until the end of the Provincial era.

Samuel Locke became Provincial Surveyor in 1862 and shortly afterwards when the Native Land Act came into operation, he was appointed Land Purchase Officer for Hawkes Bay and Poverty Bay. He was responsible for the purchase of many thousands of acres including, in 1870-71, the Seventy Mile Bush, a tract of approximately 400,000 acres at the Southern end of the Province. The peripheral and topographical surveys of this block were made by Horace Baker in 1871

The purchase of Maori land by individuals, after the Crown's pre-emption rights had been abolished by the Native Land Act of 1862, led to some abuses. Many thousands of acres were acquired by Europeans in Hawkes Bay and the methods used by some of them to overcome the reluctance of the Maori owners to sell, can be described as unscrupulous, avaricious and almost illicit. Prior to the Act a number of graziers had been illegally leasing land from the Maoris. They now set about acquiring the free hold of their runs. Soon there were reports of harassment, amounting to persecution, of the owners, some of whom were driven to go into hiding to avoid the too pressing efforts of the would be purchasers to secure signatures to sale documents. Also there were allegations that some would-be purchasers were encouraging the Maoris to become their debtors and subsequently to sign away their land in order to clear themselves.

A. Royal Commission was set up to enquire into the Heretaunga Purchase which involved a number of purchasers who had acquired large tracts of the rich Heretaunga plains. After a protracted investigation the Commission found that, in the main, the charges against the purchasers were not substantiated, and no further action was taken. The publicity earned for those mainly concerned the epithet of "The Twelve Apostles" from some, and from others "The Forty Thieves". The real outcome, however, was the passing of the Native Lands Fraud Prevention Act of 1870, which was for the protection of the Maoris in their land transactions with Europeans.

In February, 1862, C. H. Weber, who had had an extensive experience in road and railway location and harbour works in the United States and in South America, was appointed Provincial Engineer and in November the following year was appointed Chief Surveyor also. Under his direction a system of main highways was surveyed and construction commenced. Harbour improvements and extensive drainage and swamp reclamation works at Ahuriri were put in hand. Towards the end of 1870 acting on instructions from John Blackett, the Engineer-in-Chief for New Zealand, he made a reconnaissance survey to connect Napier with Wellington by road and rail. At Woodville he joined his survey with that of John Rochfort through the Wairarapa and he and J. T. Stewart traversed the Manawatu Gorge and decided on the route for road and rail down the southern side of the Manawatu River to connect the east and west coast systems.

A block of land was purchased at Wairoa by the Crown in 1864 and the township and settlement was surveyed by Messrs. M. Fitzgerald and G. Burton in 1865. A few months later the peace of the Wairoa district was disturbed when the Hau Haus after their defeat and retreat from Waerenga-a-Hika, in Poverty Bay, were menacing the settlers in the Wairoa valley. In December a force of volunteers and Hawkes Bay and Taranaki Military settlers who had taken part in the East Coast campaign, were sent to Wairoa. The Hau Haus were confronted at Omaru-hakeke Pa and after a sharp engagement on Christmas Day were driven to the forested hinterland at Onepoto on the southern side of Lake Waikaremoana.

Reinforced by contingents of friendly Ngati Porou from the East Coast and local Ngati Kohungungu, the Military Settlers again took the field on 9th January, 1866. The Hau Haus were again encountered by the Friendly contingent at Te Kopane, about 25 miles from Wairoa. After so severe bush fighting, in which sixty of the Hau Haus were killed and fourteen loyal Maoris lost their lives, the surviving Hau Haus were driven back to Onepoto and their Urewera strongholds.

In September, 1866, the garrison of imperial Regulars was withdrawn from Napier except for a sergeants guard, left as caretakers of the barracks and a detachment of 30 men of the 12th Regiment stationed at the stockade at Waipawa-mate. The following month Hau Hau and Kingite dissidents, mainly from the Ngati-Hineuru tribe who's Kaingas were at Tarawera and Te Horoto on the Napier-Taupo track, organised to attack the Napier settlement. The main party gathered at Omaranui on the Tutae-kuri river not far from Napier.

Learning of the impending attack the authorities at Napier called out the local Militia and Volunteers, a total of about 200 men. This force, together with a contingent of friendly Maoris with whom was Mr. Samuel Locke, the Government Surveyor and Native Agent, as liaison officer, was placed under the command of Colonel Whitmore, a retired Imperial officer who had settled in the district. A party of forty Military Settlers from Wairoa, under the command of Major Fraser, arrived at Petane to intercept a band of mounted dissidents that was approaching Napier from the north.

On 12th October the Hau Haus were heavily defeated at Omaranui and the majority of them captured and subsequently dispatched to the Chatham Islands as prisoners of war. Major Fraser and the Military Settlers were equally successful at Petane and few of the Eau Haus escaped to perpetrate further mischief.

After these brief encounters there was a period of peace in the Province until July, 1868. The prisoners at Waitangi on the Chatham Islands led by Te Kooti Rikirangi had overpowered their guards and escaped to Poverty Bay where they had caused great havoc. Then followed the defeat of Te Kooti and his minions at Ngatapa Pa early in 1869 when Te Kooti and the survivors escaped to the impregnable country of the Urewera surrounding Lake Waikaremoana. From there they terrorised the settlements and loyal Maoris in the Poverty Bay, East Coast, Bay of Plenty and northern Hawkes Bay districts by a series of raids in which a number of European settlers and their friendly Maori neighbours were murdered and their homes looted.

The worst of the raids in northern Hawkes Bay occurred in April, 1869 when Te Kooti and his Hau Haus, supported by Tuhoe tribesmen of the Urewera, making a total of about 200 armed men, descended on the Mohaka villages. Killing all of the inhabitants of the small native village at Arakaniha and a number of European settlers, men, women and children, on route, they arrived at the pa at Huka near the mouth of the Mohaka river. The pa was captured and its Maori inhabitants butchered. Heruhirama (Jerusalem) pa was next attacked. The inhabitants, having witnessed from a distance the fate of their kinsmen at Te Huka, determined to fight to the death. Ably led by Trooper George Hill of the Armed Constabulary

small garrison of a few Maori men and their wives and children, all of whom bravely played their part in the defence, withstood the assault on the pa for two days, when Te Kooti and his followers, who heavily outnumbered the defenders, fearing the approach of a relief column from Wairoa, broke off the attack and returned to their strongholds in the Urewera.

To subjugate the Hau Haus a gruelling bush campaign in the most rugged region of the North Island was necessary. Experienced bushmen from the Military Settlers and other Colonial Corps and loyal Maoris were enlisted in the Armed Constabulary. Several surveyors ware enlisted and led some of the Divisions or Companies of Constabulary. After a protracted and frustrating campaign peace was restored in February, 1872, when Te Kooti and the remnants of his band escaped to Tukanga-mutu in the King Country where they found refuge among the Kingites.

A contributing factor in hastening the coming of peace was the building of lines of communication. Despite the troubled state of the country in 1868, Mr. E. H. Bold, as telegraph engineer and surveyor, was sent to explore and negotiate with the Maori chiefs a right-of-way for a telegraph line to connect Napier with Tauranga. In June the following year he was a appointed Road Engineer for the Napier-Taupo road which followed the same route as the telegraph line. The construction of a pack track was put in hand by the Armed Constabulary who also established block-houses along the route and patrolled the telegraph line. Napier and Wairoa were also connected by telegraph line. A Mr. Staphell surveyed a road from Frasertown to Onepoto at Lake Waikaremoana where the Armed Constabulary established a redoubt. A pack track id telegraph line and a series of blockhouses linked Onepoto with Wairoa. These telegraph lines, which were erected under the protection of armed parties, proved invaluable to the Colonial Forces.

A rapid development of the Province commenced in 1872 with the implementing of the Central Government’s Public Works policy and the passing of the Hawkes Bay Special Settlements Act. This Act, in Part I, authorised the setting aside of blocks of land of up to 20,000 acres for sale on deferred payment; one fifth of the price - which varied from 10/- to £2 per acre - was to be deposited with the application. No person could purchase more than 200 acres and not less than 40 acres. The purchaser had to comply with certain conditions with regard to development of the property and if these conditions were satisfactorily complied with the balance of the purchase money was to be paid in four annual instalments. Part II provided for the setting aside of land for special settlements not exceeding a total of 30,000 acres. The Provincial

Superintendent was empowered to contract with any person for settlement of blocks. Conditions for settlement were fixed by the Government or in Council.

Under Part I a number of immigrants from the United Kingdom settled in the Province. Under Part II settlements at Makaretu, Norsewood, Matamau and Dannevirke were established by immigrants from Scandinavian countries. These Scandinavians, totalling more than nine hundred, arrived at Napier in two parties.

On the 15th September, 1872, the sailing ship Ballarat arrived at Napier in the morning and the ship Hovding arrived in the afternoon. Most of the Ballarat's passengers were Danish and on the Hovding all were from Norway except eleven from Sweden. On the 1st December, the following year another party, mainly Danish, arrived in a new ship, also named Hovding. In their new homes, all of which were within the heavily forested Seventy Miles Bush district, the new settlers, during the early years were harassed by the numerous bush fires, as the bush was felled in preparation for farming activities. Nevertheless, they were materially assisted in adding to their resources by the sale of railway sleepers and bridging timbers, and by employment on road and railway construction contracts.

Railway construction was commenced at Napier in 1872 and the line was opened for use as far as Waipukurau in September, 1876 and Takapau in March, 1877 at the close of the Provincial era.

The town of Hastings came into existence as a private subdivision when rail transport with Napier became available. The towns of Waipawa and Waipukurau, former Maori kaingas which had become distribution and shopping centres during the "squatter" era, grew with the advent of the railway. Woodville was laid out as an important transport town at the junction of the road and railway systems connecting Wellington and the Wairarapa with Hawkes Bay and the Manawatu districts. When the road bridge over the Manawatu River at Woodville was opened for traffic in 1875 a regular coaching service commenced.

The geodetic survey of Hawkes Bay, as part of the major trigonometrical survey of New Zealand, was commenced in January, 1871, when the base line, laid out near Maraekakaho on the Heretaunga plains, was measured by Messrs. Heale, S. Smith and H. Baker. It is noteworthy that this was the first occasion that a long steel bard was used for such a purpose an! that the results achieved were superior to those obtained formerly by the use of a Gunter's chain and similar measuring devices. The use of the long steel band had been advocated by Edwin Fairburn who is acknowledged to have introduced it in New Zealand. It was soon to become standard practice.

CHAPTER 14

TARANAKI PROVINCIAL SURVEYS

The Province of New Plymouth (subsequently re-named Taranaki) was the smallest both territorially and numerically as regards the European population, of the six Provinces established by the New Zealand Constitution Act of 1852. The European settlement, comprising about 2,500 inhabitants, was confined to little more than 20,000 acres surrounding the town. Of necessity the Provincial Government establishments were on a minimal scale. For a start surveys and road construction and maintenance was the responsibility of a sole Road Surveyor. The Provincial Waste Lands Department was set up in 1856, the staff comprising -

Commissioner of Crown Lands	£200	per annum
Clerk (half time)	£75	per annum
Surveyor	£274	per annum
Assistant Draughtsman	£150	per annum
Pupils of Surveyor (Cadets)	£50	per annum

For contract surveys and contingencies during 1856 the sum of £600 was appropriated. The Provincial Surveyor was Octavius Carrington. The first cadets were Stephenson Percy Smith, Thomas Humphries and Charles Wilson Hursthouse. (1)

The purchase and surveying of Maori lands remained the function of the General Government's Land Purchase Department. In February 1854, G. S. Cooper was appointed Sub Commissioner for Taranaki. Although there was continued friction between the sellers and non-sellers among the Maori tribesmen, Cooper managed to negotiate the purchase of the Hua Block of about 12,000 acres to the north of New Plymouth town. This block was surveyed by John Rogan.

In August Cooper reported the conflict between the rival parties over the sale of the Puketapu land. That led by Rawiri Waiaua had commenced to cut a boundary line to divide the land of the sellers from that of the non-sellers but had been attacked by Te Whaitere Katatore and his followers. Rawiri and five of his party had been killed and a number on both sides had been wounded.(2) This was the beginning of a feud that lasted for several years during which fighting occurred close to the town and caused great disturbance in the settlement. Not only was there a cessation of sales of Maori land but some of the settlers who bought from the Crown were prevented from occupying the land they bought.

In April, 1855 the Acting Governor, Colonel R. H. Wynyard visited Taranaki to examine the situation and deemed it necessary to send garrison of Imperial troops for the protection of the settlers. On the 19th August a detachment of the 58th Regiment arrived at New Plymouth and a redoubt and barracks were built within a stockade on the summit of Marsland Hill overlooking the town. A few months later the 58th were replaced by a detachment of the 65th Regiment as a permanent garrison.

The movement to prevent further European settlement in Taranaki, sometimes referred to as “The Land League” had originated at a largely attended meeting of Maori tribal representatives, from a large section of the west coast of the North Island, held at Manawapou, in south Taranaki, early in 1854. The non-sellers were determined to prevent any further sales of tribal lands and anti-European feeling was growing more intense.

Despite the arrival the Imperial troops in the settlement the unrest and feuding among the Maoris continued with occasional acts of violence and pitched battles in which lives were lost and many wounded. These battles took place on and around the farms of the outlying settlers and on the outskirts of the town. In growing alarm some of the settlers abandoned their farms and sought refuge in the town.

Notwithstanding the disturbances, some survey work was achieved in the subdivision of the Hua and Bell Blocks. No Europeans had as yet been attacked and they could move freely throughout the district. Such was the case in January, 1858 when Stephenson Percy Smith, who had recently completed his cadetship and had been appointed an Assistant Surveyor, although still under eighteen years of age, accompanied by C. W. Hursthouse, and three other youthful companions, Messrs. A. Standish, F. Murray and J. S. McKellar set out on an expedition which traversed much of the interior of the North Island. From New Plymouth they went overland to the mouth of the Mokau River and thence to the upper reaches of that river whence they travelled across country, crossing the upper tributaries of the Wanganui River and reaching Tokaanu at the southern end of Lake Taupo. They continued up the eastern shore of the lake and then went overland to the Rotorua district where they visited the lakes and the famed Tarata (Pink and White Terraces). Returning to Tokaanu they then made their way overland to the upper reaches of the Rangitikei River down which they travelled to the coast and thence via the coast to New Plymouth.

The expedition had taken eight weeks and Percy Smith estimated they had walked 500 miles, ridden on horseback 60 miles and travelled by Maori canoe 46 miles. The country they had traversed was virtually un-roaded and unmapped and sparsely inhabited. For much of the journey they had to live off the land as the settlements were few and far between.

Early in January, 1858, Katatore and three of his partisans were waylaid at Bell Block by members of the non- selling party and Katatore and his relative, Rawiri Karira, were brutally killed. This was the commencement of further internecine fighting among the tribal factions instigated mainly over the sale of tribal lands. [3] The following month, owing to the threatening attitude of the Maoris, the Government called out the New Plymouth battalion of the New Zealand Militia for training and exercises. Some 300 physically fit men of military age were armed and training commenced. On 31st August, when the immediate danger had abated, the corps was disbanded by the Government on the score of expense. The settlers, however, were not satisfied that all danger had passed, and they took steps to form a volunteer corps to be armed and be ready for any contingency. Governor Browne invoked the Militia Act of 1858 and under an Order in Council dated 13th January, 1859 the Taranaki Volunteer Rifle Company was authorised. This was the first such corps to be established

in New Zealand. The original roll of the Company contained the names of several young surveyors who ultimately became leaders in their profession. (4)

In 1859 occurred the much debated “Waitara Purchase” that has been referred to in an earlier chapter. The obstruction of the surveyors on 20th February, 1860 was followed by the Proclamation of Martial Law in Taranaki two days later. The Militia and the Volunteers, now increased to two Companies were called out and given the role of guarding the town while the Imperial troops and a Naval detachment took the field. The centre of the town was turned into an entrenched fortress with strongposts manned by the Militia and Volunteers.

Hostilities commenced at Waitara on 17th March when the Imperial troops attacked the Te Kohia Pa situated on the disputed land. The British bombardment caused considerable destruction and during the night the defending Maoris evacuated the Pa and escaped to the bush or sought safety in neighbouring pas. During the ensuing months the farms of the outlying settlers were raided by the insurgent Maoris; the settlers were driven to the sanctuary of the town; livestock was stolen or destroyed and of the 212 homes, 175 were completely destroyed.

The Militia built and manned stockaded redoubts at Bell Block, a few miles to the east of the town, and at Omata about the same distance to the west. Each of these was within visual signalling distance from Military Headquarters on Marsland Hill. No settler, neither adult nor child, was safe beyond rifle shot of town or stockade. A number of women and children had to be evacuated to Nelson during the course of the campaign.

The Imperial troops and a Naval detachment, assisted by the Militia and Volunteers attacked and destroyed a number of formidable Pas but nevertheless New Plymouth remained a beleaguered town, accessible only by sea. The local Maoris and the hundreds from other districts who aided them proved to be an elusive enemy who could retire to the safety of the surrounding forest if too hard pressed, and in the un-roaded forest their mobility gave them the advantage.

Reinforcements of Imperial troops were sent to Taranaki and after nearly twelve months fighting the British forces gained the ascendancy. The main body of Maoris had taken up a defensive position at Te Arei Pa on the Waitara River and was besieged, in March 1861, when the influential Waikato chief, Wiremu Tamihana (Tarapipipi) intervened on behalf of the Taranaki Maoris. G. T. Drummond Hay, surveyor and District Commissioner of the Land Purchase Department, who was acting as interpreter to General Pratt, was sent as the General’s envoy to open negotiations for bringing about peace. His first meeting with Tamihane and Hapurona, the Taranaki leader on 17th March, was inconclusive but the following day, when Donald McLean accompanied Drummond Hay; an armistice of indeterminate duration was arranged. In notifying the cessation of hostilities the Commanding Officer ordered “that all persons in the town still keep within the outposts; and at Omata, Bell Block and Ngapuketurua near their stockades; and that all the usual guards be kept; and parties will only be allowed to proceed beyond these limits who have passes signed by the Deputy Quarter Master-General”.

Following the cessation of hostilities there was an interlude of peace until May, 1863. The Militia was virtually disbanded in February, 1862, but employment was found for the men in constructing roads and blockhouses.

In September, 1862 Governor Browne was superseded by Sir George Grey. A Commission of Enquiry was set up to again investigate the proprietary interests in the disputed Waitara Block and as a result Governor Grey issued a Proclamation on 11th May, 1863, renouncing the Crown's claims to the Waitara Block and abandoning the purchase. The block was to be given up to the Ngatiawa owners. Before this Proclamation was promulgated, however, the Tataraimaka block of 4,000 acres, which had been purchased in 1847 from the Taranaki tribe, and which had been temporarily abandoned by the settlers during the fighting, in which the Taranaki tribesmen had aided the Ngatiawa, was reoccupied by a detachment of the 57th Regiment on 4th April. Previously the Taranaki Tribe had informed the Government that Tataraimaka would not be given up unless the Government first gave up Waitara. As, in fact, Tataraimaka had been occupied before the Waitara Proclamation, an ambuscade at Oakura, on 4th May, in which nine British lives were lost, signalled the reopening of hostilities.

The Volunteers and Militia were now given a more independent role. The Colonial troops were proving to be adept at bush warfare and two companies of Taranaki Rifles Volunteers, designated Bush Rangers, scoured the forest around the outskirts of the settlement and kept watch on enemy movements.

A concentration of rebel Maoris was discovered entrenching and fortifying Katikara Pa near Tataraimaka. A force of Imperial and Colonial troops, aided by a bombard of the Pa by H. M. S. Eclipse, captured the pa after a determined assault on 4th June. The surviving Maoris escaped to the bush where pursuit was difficult.

There was desultory skirmishing for a while and then it was discovered that the rebels were fortifying Kaitake pa on the north western spur of Patua Range. A force of Imperial and Colonial troops, L strong, assaulted and captured this Pa on 25th March, 1864.

Soon after the resumption of hostilities in Taranaki the Waikato war had commenced. Some of the imperial troops were withdrawn from Taranaki and transferred to Auckland. At the same time the Waikato and Ngati Maniapoto tribesmen who had been aiding the Taranaki rebels now departed to defend their own tribal territory. The remaining Imperial troops and the Volunteers and Militia sufficed to defend the New Plymouth settlement. It was evident that the Maori rebels not only were deprived of the assistance of their allies but were also running short of supplies and ammunition.

In January, 1865, after the conclusion of the Bay of Plenty campaign, General Cameron moved some of his Imperial forces from Tauranga to Wanganui and commenced a march up the coast towards New Plymouth. One of the objects of this campaign was to open up overland communications between Patea and New Plymouth. The intervening land was almost entirely owned by dissident tribes. Also there were no practicable landing places between Patea and New Plymouth for the safe use of coastal shipping and it was essential, if military and civilian settlements were to be established and maintained, that a road be built.

General Cameron' a force marched and fought its way slowly up the coast and in midwinter halted at 'Waingongora. About this time the Weld Government came to office with its "Self Reliance" policy for New Zealand which included the withdrawal of the Imperial troops and replacement by Colonial forces. General Cameron resigned in August and was succeeded by General Chute who arrived in New Plymouth in October.

Peace was proclaimed on the 2nd September and simultaneously, as part of the peace terms a broad belt of coastal land stretching from Wanganui to a point some miles north of Waitara and containing approximately 980,000 acres, was declared confiscated by Order in Council. In the confiscated territory the provisions of the New Zealand Settlement Act of 1863 were to apply. This meant that a colossal task confronted the surveyors. It would be necessary to define the boundaries of the land to be taken for settlement and of the land to be returned to loyal Maoris and those who laid down their arms and whose Claims for compensation were determined by the Compensation Court. Also the allotments for the Military Settlers were to be laid out and other land which was to be set aside by the Crown for settlement was to be laid out as towns and farms.

In Taranaki the recalcitrant Maoris had retreated to the forested interior. Two envoys who were sent by the Government to discuss the peace terms with them did not return end were presumed to have been murdered. Despite the Proclamation on 1st August of the ending of Martial Law in the Province, it was necessary to enlist special units of Military Settlers who were prepared to become permanent residents in specially selected strategic districts. (5)

The fanatical end quasi-religious Hau Hau movement originated in Taranaki in 1864 and the land confiscation exacerbated the anti-European feelings of the dispossessed tribes. The confiscation led to the accession of many thousands to the movement and by the end of 1865 the cult had spread from coast to coast through a wide belt of the North Island. The main object of the movement was to regain the confiscated territory and drive out the European settlers. Hau Hauism was responsible for the perpetration of a number of atrocious murders.

General Chute went to Wanganui and on 30th December resumed the march up the coast and after intermittent fighting reached Ketemarae (near Normanby) in southern Taranaki. From there he set out on 17th January, 1866 over the inland Whaka-ahunrangi track with a composite column of Imperial and Colonial troops totalling 514 of all ranks and having 67 packhorses and 24 saddle horses as transport. The track was through dense rain forest for almost the entire distance. In pre-European days it had been the only bush track between northern and southern Taranaki. In the first years of settlement the New Zealand Company had cut a bridle track over the route as an alternative to coastal shipping but the track had been neglected and was now overgrown and not usable for horse transport. (6)

As a consequence the troops had to literally chop and slash their way to get the horses through the forested terrain. In the event it took nine days to accomplish the sixty mile journey and some of the horses had to be used as food by the half starved troopers. Fortunately they had met with little opposition from the Hau Haus.

On the 1st February, 1866 General Chute's column, augmented by some of the local units, set out from New Plymouth on the return journey to Patea, via the coastal route. After some bush fighting and skirmishing Patea was reached on the 6th February. The first step towards assuring an overland route between Wanganui and New Plymouth and the settling of southern Taranaki was taken by the military in building and manning redoubts, blockhouses and stockades in strategic positions.

For the purpose of surveying the townships end allotments for the military settlers on the confiscated coastal land lying between the Waingongora River in south Taranaki and the Waitotara River the Wellington Provincial Government in 1865 undertook the establishment of special survey offices at Kakaramea and Carlyle (later renamed Pates).

On the 15th March, 1866 a detachment of the 57th Regiment was sent to Kakaramea to build and garrison a stockade and to provide protection for the survey parties. Later, when the Imperial troops were withdrawn from New Zealand, this detachment was replaced by a body of Armed Constabulary under Colonel McDonnell.

Although much of the land to be surveyed was within the Wellington Province, the general oversight of the surveys was exercised by Mr. Octavius Carrington, Chief Surveyor for Taranaki. District Surveyors were Messrs. G. W. Williams, S.F. Smith, C. A. Ray and F. Wilson all of whom had previously been engaged on surveying confiscated land in the Waikato district and in North Taranaki. Other surveyors in charge of parties were G. A. Northcroft, F. S. Smith and N. Carrington. The first of the surveyors arrived at Camp Kakaramea on 7th June, 1866.

At all times the survey parties were in danger of attack from the Hau Haus who had determined to prevent the surveys and the occupation of the land. Although the survey parties were armed it was necessary to have a strong military escort when moving through the district. On several occasions survey parties came under heavy fire but fortunately there were no casualties. In his diary for the 28th July Mr. S. F. Smith recorded "the men all refused to go to work as they considered it too dangerous with only a covering-party of twenty men. Several of our men have left to join the Military Settler". However, despite the growing hostility of the Hau Haus the surveys progressed and the settlers began to occupy their allotments situated not too far from one or other of the stockades. Several townships were laid out around the stockades and were surrounded by the ten acre and forty acre rural allotments. Where the town of Hawera later developed there was a small redoubt surrounded by about thirty ten acre allotments.

There was a resurgence of hostilities in May, 1868, when four military settlers were murdered in the bush by a band of Hau Haus. The Hau Hau leader, Titokowaru, threatened to exterminate all of the settlers.

The redoubts were immediately manned with all available local troops and the armed Constabulary. The military headquarters was at Waihi Redoubt near Hawera and there were redoubts at Hawera, Okautiro, Kakaramea, Manutahi, Manawapou and Waingongora. A small redoubt at Turuturu-mokai was also manned.

In the early hours of the 12th July Turuturu-mokai which was manned by 22 Military Settlers, was attacked by a strong party of Hau Haus. In the desperate defence ten of the garrison were killed and six were severely wounded before the relief column arrived.

The Colonial forces in South Taranaki, commanded by Colonel T. McDonnell, were reinforced by companies of volunteers, the Wellington Rifles and the Wellington Rangers, and in August a campaign to subdue the Hau Haus was commenced. The first attack on Titokowaru's forest stronghold at Te Ngutu-o-te-Manu was abortive. Although the Pa had been captured at the cost to the attackers of four killed and eight wounded, the surviving Hau Haus had escaped into the forest.

With a force numbering 360 and comprising detachments of the Armed Constabulary, Wellington Rangers, Wellington Rifles and other volunteer units and 110 friendly Wanganui Maoris (Kupapas), Colonel McDonnell set out on 7th September to penetrate the forest and surprise the Hau Haus in their kainga at Te Rua-ruru in the vicinity of Te Ngutu-o-te-Manu. The Hau Haus were discovered not far from their old stronghold and in the bush fighting that ensued McDonnell's force was badly mauled by the well concealed Hau Hau marksmen. Casualties among the Colonial troops were so heavy that the force was almost immobilised by the unseen snipers. It was not until after nightfall that the survivors, hampered with their wounded, were able to fight their way out of the forest and return to the safety of the redoubts. The force had lost 24 killed including five officers, and had brought 26 wounded men off the field. Another seriously wounded man, Private Dore of the Wellington Rangers, miraculously survived four days in the bush and made his way beck to Waihi Redoubt.

Following this reverse the General Government deemed it advisable to discontinue the development work in South Taranaki until the Defence Forces could be sufficiently augmented to undertake a protracted bush campaign. The garrisons of the redoubts and the military settlers were withdrawn to Patea and the redoubts and stockades abandoned. The survey parties were withdrawn to work in other districts.

Titokowaru and his Hau Hau adherents, who had greatly increased in numbers, had also moved southwards and had taken up a defensive position at Moturoa, about four miles from Wairoa (now named Waverley).

Colonel G. Whitmore, who commanded the Colonial troops at Patea, moved out with a composite force of Armed Constabulary and. Volunteers and a number of Kupapa auxiliaries from Wanganui, on 7th November, to attack the Hau Haus entrenched at Moturoa.

After a fierce encounter, during which his force suffered a number of casualties without gaining any advantage, Colonel Whitmore, deeming his force insufficient to achieve its objective, broke off the engagement and retired beyond the Waitotara River, and subsequently set up a line of defences along the Kai Iwi River to protect Wanganui while measures were being taken to prepare for a protracted bush campaign against Titokowaru.

The General Government proceeded to enlist further Divisions of armed Constabulary and set up a training camp at Westmere. Titokowaru and his Hau Haus were very active and had constructed a very strong pa at Taurangaika,

eighteen miles from Wanganui. In January, 1869 Colonel Whitmore's augmented force consisted of about 800 Armed Constabulary and a small body of Wanganui and Kai Iwi Mounted Corps with about 200 Wanganui Kupapas under Major Kepa (Te Rangihiwinui). The Colonel had formed a small body of experienced bushmen to act as scouts and guides. This very small but elite Corps of Guides, at first numbering only seven, was at first commanded by William Lingard, but subsequently by Captain Christopher Maling, a young surveyor.

The advance towards Taurangaika commenced on 25th January and by 2nd February was in front of the pa which was immediately shelled by the force's two Armstrong guns. Although little damage had been done to the strongly built pa, the attackers were surprised to find on the following morning that the pa had been abandoned during the night. The subsequent pursuit of the Hau Haus, through rugged bush country, virtually ended on the 24th March when Titokowaru and the remnant of his followers eluded capture in the extensive Ngaere swamp and escaped to the sanctuary of the almost impregnable interior.

The Armed Constabulary and Military Settlers returned to South Taranaki and rebuilt and reoccupied the redoubts and stockades and the work of developing the district was resumed. A programme of road construction was commenced under the direction of F. A. Carrington, in Northern Taranaki and his brother Octavius in the south. Frederick Carrington was elected Superintendent of the Province on 15th October, 1869; and retained the office until the abolition of provincial government on the 1st November, 1876.

Octavius Carrington relinquished the office of Chief Surveyor on 1st November, 1870 and was appointed Provincial Engineer in charge of Public Works which included the construction of arterial roads and the railway connecting Wanganui with New Plymouth. Thomas Humphries was appointed Chief Surveyor for Taranaki but the Patea office remained under the control of the Wellington Provincial Survey Department until 1876.

The first arterial road was that from Patea to New Plymouth via Opunake and the first mail coach used this road on 12th January, 1871 leaving Wanganui at 6 a.m. and arriving at New Plymouth at 9.15 p.m. after a very rough journey. The route for the telegraph line from Wanganui to New Plymouth was also surveyed and by 1872 had been erected as far as Opunake. The stretch from Opunake to New Plymouth was not completed until 1877, owing to the strenuous objections of the Maoris through whose land it passed.

The surveying of the confiscated land in northern Taranaki had been carried out between 1865 and 1868 with little opposition from the Maoris. The work had been done by surveyors under contract to the General Government. No less than sixteen survey parties had en engaged. Areas surveyed extended from Tataraimaka in the west to Urenui in the east.

The introduction of the Public Works and Immigration policy of the Fox-Vogel administration helped to accelerate the development of Taranaki. In the period 1872 to 1875 the Land Purchase Department acquired from the Maoris several contiguous blocks lying to the east of Mount Egmont and aggregating about 380,000 acres and extending from the Waitara valley towards Hawera.

The Land Purchase Department's surveyor was Captain H. L. Skeet whose assistant surveyor was his son H. M. Skeet. In 1874 Captain Skeet was promoted to the office of Inspector of Surveys for the Department in Taranaki.

Charles Wilson Hursthouse was appointed Public Works Surveyor in 1871 and he proceeded to survey the route for the Whenuakura to Waingongora section of the "New Plymouth-Foxton" railway as it was then designated. In 1893-94 he surveyed and supervised the construction of the "Mountain Road" from Sentry Mill to Hawera. This road for much of its course was cut through dense bush, followed fairly closely the track used by General Chute and today is the main highway south from New Plymouth.

With the necessity to provide accommodation for the influx of immigrants who came in the first instance to b the roads and railways and later to become permanent settlers, the survey staff in Taranaki was greatly increased in 1874. The activities commenced with the roading and subdivision for settlement in North Taranaki. The surveyors were fully engaged in laying out the settlements in advance of the railway construction. By January, 1875, the township of Inglewood had been established and construction was proceeding towards Tariki.

One task undertaken by Messrs. P. J. Cheal and G. P. Robinson in 1875-76 was a reconnaissance survey for a connection with the projected Main Trunk Railway at Te Kuiti. Subsequently in 1877 Stratford township was laid out by Mr. W. H. Skinner on the northern side of the Patea river on the site of the proposed railway junction.

In the heavily forested country it was difficult to provide control surveys by means of triangulation. As an alternative to triangulation the Chief Surveyor, Mr. Thomas Humphries, in 1875, decided to cut a meridian line to which the surveys could be connected and checked. He determined astronomically the position of Huirangi Trigonometrical station and from there a meridian line was cut through the forest a distance of about forty two miles to the south coast.

The northern part of this line was run by Mr. E. S. Brookes and it was continued by Mr. J. Bird assisted by Mr. T. G. Sole. At times the work on the southern section was interfered with by the dissident Maoris who would remove the survey monuments and endeavour to obliterate the survey lines or to falsify them. Surveyors working in South Taranaki adopted the expedient of burying a handful of broken crockery or an inverted bottle beneath each survey peg so that if a peg should be removed its true position could be re-established after a little digging. The meridian line was astronomically checked by Mr. Humphries at the southern end and a difference in azimuth of about four seconds was disclosed. The work was tested by the Inspector of Surveys, Mr. Theophilus Heale whose observations were in close agreement with those of Mr. Humphries.

Reporting to the General Assembly in 1875 on the state of the surveys in few Zealand, Major Palmer, R. E., stated that of the 140,000 acres covered by subdivisional surveys in Taranaki, the greater part needed to be checked and coalesced by triangulation so as to eliminate gross errors and anomalies. At that time only about 12,000 acres around few Plymouth had been effectively

triangulated by Mr. Humphries and further trigonometrical surveys were proceeding.

At the close of the Provincial era in 1876 South Taranaki still resembled a vast military camp. There were numerous blockhouses and stockades garrisoned by the Armed Constabulary whose presence was needed for the protection of the settlers and the survey parties. Similar conditions pertained in the north on the boundary with the Auckland Province.

PART II

SURVEYS DURING THE PROVINCIAL ERA Notes and References

Abbreviations D. S. C. = Daily Southern Cross, amalgamated with the New Zealand Herald in 1877.

A. J. H. R. = Appendices to the Journals of the House of Representatives.

J. A. P. C. = Journals of the Auckland Provincial Council.

Chapter 9.

1. A. J. H. R. C. N0.1 1861 Colonial Secretary to Mr. Donald McLean, 26th January, 1854

2. Andrew Sinclair, the surveyor, was a nephew of Dr. Andrew Sinclair, the Colonial Secretary

3. A. J. H. R. C. No. 1 1861 and 1862 Report of the Land Purchase Department.

4. A. J. H .R. D. No. 10. 1862 Report of the Land Claims Commission.

5. Maori Land Law by Norman Smith. Judge of the Maori Land Court, 1960.

CHAPTER 10

1. Life and Times of Sir Julius von Haast by H.F. von Haast, I 948.

A copy of Hochstetter's lecture on the geology of Auckland, delivered at the Mechanics' Institute at Auckland on 24th June, 1859 is to be found in the Auckland Provincial Gazette No. 14 of 8th July, 1859. He refers to several surveyors who were associated with him during his survey.

2. D. S. C. 29th June, 1863. Detachment of surveyors from England to work in New Zealand

3. A. J. H. R. E. No. 10 1861 Map of North Island shewing alienation of Maori Land 1840-1860

4. The New Zealand Wars by James Cowan Vol. 1 p.297.

5. The Forest Rifles, not to be confused with the Forest Rangers, another well known volunteer corps which was organised in 1863.

6. D. S. C. 30th June, 1864 and 25th April, 1865. Too few surveyors available.

7. J. A. P.C. Session XVIII 1864 A. No. 13. Chief Surveyor, Charles Heaphy, to the Auditor General and the Colonial Secretary, 17th March, 1865

8. J. A. P. C. Session XVIII, 1864 A. No. 13. Report of Commission of Enquiry into Provincial Waste Lands Department.

9. Press reports on interference with surveys. D. S. C. 10th December, 1863. HMS Eclipse protecting Charles Heaphy while surveying town and military depot at Port Waikato.

24th September, 1866. Surveys at Te Puna and Wairoa disrupted by Maoris.

28th February and 13th July, 1867. Capture of James Corlett, surveyor, by Hau Haus at Paengaroa.

7th, 8th, 22nd and 28th January, 1867. Surveyors driven from Te Whaiti Block.

9th, 12th July, 1867. Attack on surveyors at Ohiwa.

9th, 15th and 31st March, 1869. Reports concerning murder of Robert Pitcairn, surveyor, by the Hau Haus at Ohiwa.

6th April, 1869. Armed survey party stopped but work resumed by Tawhiao's orders. D. S. C. 14th April.

19th January and 8th February, 1870. Surveyors prevented at Paeroa.

30th November, 2nd, 6th, 9th, 22nd December and

15th April, 1870. Reports on murder of Richard Todd, surveyor at Pirongia.

10. The History of the Post Office in New Zealand by Howard Robinson. 1964 p.98.

11. A. J. H. R. D.3 1878. Report on Katikati Special Settlement.

12. D. S. C. 20th October and leading article on 23rd October,

1871. Charles O'Neill introduced Bill on the regulating of Towns.

See also – Planning Series I Bulletin 3 1936 published

by the Town Planning Institute of New Zealand. This is a reprint of a paper read before the Town Planning section of the Otago Branch of the Royal Society of New Zealand 16th June, 1936 by C. B. Barroughclough, B.A., L. L. B.

13. A. J. H. R. H. l 1875. Report on the state of the surveys in New Zealand by Major H. S. Palmer, R. E.

Chapter 11 D. S. C. 7th and 9th August, 1865. Murder of James Fulloon, surveyor and members of the crew of the cutter Kate by the Hau Haus at Whakatane.

Chapter 12.

1. Wellington Provincial Gazette, 7th February 1854.

2. A. J. H. R. C. No. 1 1861. Reports of the Land Purchase Department. Wellington District. Enclosure No. 82.

3. For the story of Monrad's sojourn in New Zealand see "DG. Monrad. Scholar, Statesman, Priest and New Zealand Pioneer" by G. C. Petersen, 1965.

L A. J. H. R. C. No. 1 1861 . Reports of the Land Purchase

Department. Wellington District. Enclosure No. 13.

5. It was probably Major Palmer's favourable report that influenced Henry Jackson to oppose J. T. Thomson's instruction to adopt the meridional circuit

plan and adjust the Wellington triangulation to True Meridian. For his continued refusal Jackson faced an official enquiry which resulted in his dismissal from the Service. (Vide N. Z. Gazette No. 31 20th March, 1879). Jackson appealed and his dismissal was cancelled but he resigned shortly afterwards. (Vide, N. Z. Gazette No. 96 October, 1880 p.1476

Chapter 13.

1. Lieutenant Thomas McDonnell, R. N. (1788—1864 was a younger son of the Earl of Antrim He joined the Royal Navy in 1804 and in 1815 resigned to join the service of the East India Company, sailing widely in the Mediterranean, Indian Ocean and China Seas. In 1831 he acquired the ship-building establishment in Hokianga Harbour and settled in New Zealand. In 1865 he was appointed Assistant British Resident. One of his sons, Colonel Thomas McDonnell, N. Z. C., was a notable senior officer in the Colonial Forces during the Maori Wars. McDonnell (senior) died at Auckland in 1864.

2. Captain Thomas Wing (1811-1888). Between the years 1835 when as master of James Clendon's trading schooner, Fanny, he made the first hydrographical survey of Tauranga harbour, until 1886 when he was Harbour Master at Onehunga and still carrying out hydrographical surveys, he made numerous such surveys around the New Zealand coast. He produced charts for the New Zealand Company and for the Hydrographic Office, including the first charts of the Kaipara, Raglan and Manakau harbours on the west coast, and Ahuriri, Tauranga and Tolaga Bay on the east. Also he surveyed and made charts of Otago harbour and Foveaux strait. He commanded the Deborah which carried Tuckett's expedition in 1844, which explored the east coast of the South Island to decide the location for the Scottish Free Church Settlement in Otago. For thirty years he was officially connected with Onehunga as Pilot and Harbour Master.

See — This Stern Coast by Rear Admiral J. O' C. Ross, C. B. ,

C. B. E. 1969.

3. A manuscript map of the journey of Captain Thomas and H. S. Harrison is attached to the New Zealand Journal, published in London, November 5th, 1845 of which there is a copy in the Turnbull Library. This map shows also Robert Stokes' journey to the Wairarapa in 1842, and the track of Kettle's party in 1842. H. S. Harrison made other journeys into the interior. He was Clerk to the Wellington Provincial Council in 1856 and a J.P. at Wanganui in 1863. Not to be confused with the surveyor, R. J. Harrison, who was Captain Thomas' partner in the contract surveys for the Otago Settlement in 1846.

4. The fixing of a minimum area of eighty acres in the pastoral Provinces, although meant for the protection of the original developer, led to the abuses of "spotting" and "gridironing" by means of which an unscrupulous purchaser with small capital could "pick the eyes out" of a large block and so render the purchase of the balance uneconomical for any other prospective purchaser.

5. John Rochfort did not stay long in the Australian gold-fields, but went on a visit to England where he wrote "Adventures of a Surveyor in New Zeal which was published in London in November, 1853. A précis is included in "The History of Hawkes Bay" by J. G. Wilson, 1939 pp. 158-164. Evidently Rochfort did not suffer from "gold fever". When surveying in the Taramakau Valley,

Westland, in November, 1859 one of his party, F. Millington discovered gold in the river. In his report Rochfort says “.. the royal mineral was lying on the edge of the river, glistening in the sun, and in such quantity as induced rather a mutinous spirit; my hands having greater preference for the golden prospects before them than the sterner duties of surveying”.

6. See pamphlet “The Naming of Napier” by Alice Woodhouse, 1970.

7. See pamphlet “British Regiments in Napier” by Alice Woodhouse, 1970.

Chapter 14.

1. Province of New Plymouth. Appropriation Ordinance 1856—57.

2. A. J. H. R. C. No. 1 1861 . Taranaki District. Enclosure No. 45. C. S. Cooper to the Resident Magistrate, New Plymouth, 7th August, 1854.

3. Ibid. Enclosure No. 54. Henry Halse to the Native Secretary,

11th January, 1858.

4. “Pritmus in Armis”. Journal of the Taranaki Regiment Vol. 1 July, 1936. Surveyors enrolled in the Volunteers were C. W. Hursthouse, R Pitcairn, S. P. Smith and G. F. Robinson. Mr. Wellington Carrington was enrolled as a Captain in the Taranaki Militia.

5. Taranaki Naval and Militia Settlement Act 1865.

6. The track from Mataitawa (Lepperton) to Ketemaire (Normanby) was used as a stock track by Messrs. Charles and Francis Nairn in 1843.

CHAPTER 15

NELSON PROVINCIAL SURVEYS

By Proclamation dated 28th February, 1853 pursuant to the Constitution Act of 1852, the boundary of the Nelson Province with Canterbury followed the course of the Hurunui River to its source and thence by a line to the source of the Arnold River and thence via that river to its confluence with the Grey River and thence to the mouth of the Grey. At that time none of the land along the boundary had been surveyed except for the shore line which had been surveyed during 1850 -1851 by Captain J. L. Stokes and the officers of the survey ship, H. M. S. ACHERON

The extinguishment of the Native title over the land in the Province was still proceeding in 1855. By 1856 the purchase of the Nelson Block had been completed when the land between Aorere river and the west coast was purchased by Mr. Donald McLean, the Chief Land Purchase Commissioner. There was still some difficulty, however, in settling the southern districts of the province. The Ngai Tahu were objecting to the occupation by Europeans of land to the north of the Hurunui River which they claimed was the northern boundary of the land purchased under “Kemp’s Deed” in 1848 The settlers in the disputed district were being harassed by the Maoris and when Edward Norman was sent to survey the Kaikoura peninsula in 1852 he met with much opposition but managed to complete the survey.

The Ngai Tahu claims were investigated at Kaiapoi in May, 1856 by J. G. Johnson, Land Purchase Commissioner, and as a consequence W. J. W. Hamilton negotiated the purchase of the outstanding claims between the Hurunui and the Waiau Rivers on 5th February, 1857. James Mackay as Land Purchase Commissioner purchased the Kaikoura block extending from the Hurunui River to the Wairau Bluffs on 29th March, 1859, thus including some of the land already negotiated by Hamilton, but obviating any further claims by the Ngai Tahu. The purchase in May, 1860, by James Mackay of all of the Putini Ngai Tahu interests in the West Coast lands between Kahurangi Point in the North to Milford Sound in the south effectively extinguished the Native title in the Province.

Among those elected to the first Provincial Council were three surveyors namely, Joseph Ward, John Wallis Barnicoat and Samuel Stephens. Alfred Dobson was appointed Provincial Commissioner of Works and Stephens was Chief Surveyor. Stephens was also elected to represent the Nelson settlement in the House of Representatives in 1854 but his death occurred at Riwaka on 26th January the following year.

The new Council initiated a roading programme that was administered by Alfred Dobson and there was further activity in the search for more practicable routes to the eastern and southern districts. In 1855 Dobson surveyed the road from Waitohi (Picton) to the Wairau River and the following year commenced the survey of the town of Blenheim on land owned by Alfred Fell who subdivided 450 acres into quarter acre lots as a private venture.

Alluvial gold was discovered in the Takaka River by W. T. L. Travers in 1852. Soon other discoveries were made in the Onekaka and Moutere districts. Like James Mackay, Travers was an assiduous explorer of thee remote districts

of the Province. Between 1856 and 1858 Mackay had made several expeditions, exploring the upper reaches of the Takaka and Orere Rivers and searching for a pass to the southern districts. He also re-traversed the 1846 route of Heaphy and Brunner. In 1857 he had reported the possibility of a goldfield in the Orere district and when the field was success opened he was appointed Goldfields Commissioner, a responsible position for a young man of 27 years.

Feeling aggrieved at the lack of progress in the development of the districts to the south and east of the Richmond Range the Wairau setters petitioned Parliament with the result that the New Provinces Act was passed in 1858 and the Province of Marlborough hived off from Nelson and was established by Order in Council dated 1st November, 1858. As a consequence the Nelson Provincial Council became more active in promoting the exploration of the southern and western districts.

Early in 1859 James Mackay had been commissioned by the General Government to negotiate the purchase of the outstanding land interests of the Putini Ngai Tahu on the Test Coast. The Provincial Government took the opportunity of requesting him to endeavour to find a more direct route from the Lakes (Rotoiti and Rotoroa) to the Grey. At the same time John Rochfort was sent to survey the Provincial boundary from the head of the Hurunui saddle (Harper's Pass) to the mouth of the Grey. James Mackay, who was accompanied by his young cousin Alexander Mackay, had gone firstly to Kaikoura where he had negotiated the purchase of the Kaikoura Block. The Mackays then travelled up the Hurunui River to Lake Sumner where unexpectedly they met John Rochfort and his survey party. Travelling together they crossed over the Pass to the Taramakau River. While crossing this turbulent river, Rochfort, who was encumbered with a heavy pack, lost his footing and was being speedily and helplessly carried away. Fortunately James Mackay who was crossing lower down was able to secure a grip on a firm boulder with one hand and at considerable risk succeeded in grasping Rochfort as he was sweeping by.

Shortly afterwards the parties separated, the Mackays travelling down the Taramakau on a moki which they constructed, and Rochfort and his party going northwards to Lake Brunner. The task of Rochfort and his party of traversing the Provincial boundary was arduous and perilous in the dense rain forest. Progress was slow and when traversing the Arnold disaster was narrowly averted. With their food supply exhausted they had to subsist on such birds and eels as could be caught. They endured some foodless days and arrived at the Mawhera Pa at the mouth of the Grey on the 19th May in a famished condition.

Having arrived at the mouth of the Taramakau the Mackays also made their way up the coast to Mawhera Pa where James entered into negotiations with the Maori chiefs but was unsuccessful in arranging the purchase. The Mackays accompanied by a Maori named Tarapuhi then set out early in August to endeavour to find a practicable route overland to Nelson. Their food supplies were very meagre and after twelve days Tarapuhi returned to Mawhera and the Mackays struggled on to the headwaters of the Grey where, having satisfied themselves of the existence of a suitable pass to the Buller River, lack of provisions forced them to return to Mawhera. From there they walked up the

coast to the mouth of the Buller where they found the cutter SUPPLY which had been chartered by Rochfort who had commenced his survey of the Buller district. The experiences of the Mackays were similar to those of Rochfort and his party. They were reduced to skin and bone, their clothing in rags and bootless except for the moccasins they had made from the ubiquitous flax (phormium tenax). Sailing in the SUPPLY the Mackays reached Nelson on the 19th September and the following day James Mackay left for Auckland to report to McLean, the Chief Land Purchase Commissioner. Mackay was instructed to return to the West Coast to continue the negotiations and was given four hundred sovereigns to take with him, which sum was considered more than sufficient to conclude the bargain with the Maori owners.

John Rochfort and his brother James and four survey hands were making progress with the Buller surveys when, on 4th November, their canoe was upset in some formidable rapids with the loss of much of their provisions and equipment. The party had to return to Nelson via the coast for replenishments.

In January, 1860, three expeditions left Nelson for the Western and southern districts; Mackay and his party to resume the purchase negotiations and to complete the exploration for a practicable route tot' a road via the Buller and Grey valleys; Rochfort and his party returned to complete the Buller surveys. The third party was that of Julius Haast who was, to undertake a geological and topographical survey assisted by James Burnett, surveyor, and three survey hands.

In August, 1859, at the invitation of the Provincial Council, .the eminent Austrian geologist, Dr. Ferdinand von Hochstetter, had visited the Golden Bay region accompanied by his assistant, Julius Haast, and after nearly two months examination bad reported the existence of the "mineral belt" extending from French Pass to Top House. Before the end of the year Hochstetter left New Zealand but Haast was engaged by the Provincial Government to extend the survey into the ranges and to report on the coal measures in the Grey region previously discovered by Thomas Brunner.

Mackay rapidly traversed the lower reaches of the Matakitaki and Maruia rivers before deciding that the course of the latter would lead to the head waters of the Grey. By burning off where possible and by cutting their way through the undergrowth the party made its way up the Maruia until shortage of provisions caused Alexander Mackay and Flowers to return to Nelson leaving James Mackay and three Maoris to continue the journey southwards. These four were reduced to living oft the land on such wood-hens and eels as they were able to catch. Mackays difficulties were increased when one of his In was painfully injured by speargrass. On

27th February they reached the confluence of the Alexander with the Grey, the point that James and Alexander Mackay had reached the previous year. Three days later they were greatly relieved men they were met by a party led by Tarapuhi and John Rochfort who were coming up the river in canoes. All returned to Mawhera Pa. (1)

Haast's party at a much slower pace followed Mackay's route, taking time to carry out the geological inspection and topographical survey. The

weather deteriorated and they ran short of provisions. Hemmed in between the flooded Grey and Ahaura rivers they were unable to find the cache of food that was supposed to have been left at the junction of the Mawhera-iti and the Grey. They were greatly relieved when a Maori arrived on the scene and led them to the depot.

While Rochfort and Haast with their respective parties continued their surveying operations, Mackay set out to continue his negotiations with the Putini Ngai Tahu of whom it was estimated that there were fewer than a hundred all told scattered throughout the territory. He had to seek them out and endeavour to come to terms with them. Accompanied by Samuel Mackley and James Burnett and some of the Mawhera Maori he commenced the southward journey to Poerua Pa on 28th March. From Poerua they tramped a further seventy miles southward to Mahitahi (Bruce Bay) visiting the outlying Kaingas and fixing the boundaries of the proposed reserves. At Poerua on 21st May, 1860 the sale terms were agreed upon and the deed of sale signed. The Maori title to more than 7,500,000 acres between Kahurangi Point on the coast of the Nelson Province to Milford Sound in the south was transferred to the Crown for £300 after reserves totalling 6,724 acres had been set aside for the vendors. (2)

In February, 1860, with the object of finding a practicable route from Amuri County to the West Coast, the indefatigable Travers, accompanied by the youthful Christopher Maling of the Provincial Survey Department, began to explore the upper reaches of the Waiau River and having traversed it to its source they discovered Maling Pass which they crossed into the upper Waiau valley. Having traversed the Henry tributary of the Waiau. their expedition terminated when they were able to get a distant view of Boyle River which they named, and of an unknown river flowing westward.

The Provincial Government then took an interest in the project and sent Henry Lewis and D. Stewart with Maling to continue the exploration. They made their way to the westward flowing stream and followed its course through the Kopickai Tangata (Cannibal's) Gorge and discovered the Maruia hot springs. Further downstream they discovered that the river veered northwards and they also came across Mackays cut track leading to the Rahu Saddle and realised that the northward flowing stream was the Maruia, a tributary of the Buller River. They then turned their attention to the head waters of the Boyle and crossed over a saddle (Lewis Pass) into the Lewis River which they traversed to its confluence with the Boyle where the latter river was still flowing west ward. At this point the expedition was abandoned in the belief that the Boyle continued westward as a tributary of the Grey or the Ahaura.

In February the following year Maling and a companion set out to traverse the course of the Boyle. At the Lewis River junction they met Henry Handyside, a Marlborough surveyor, who was able to inform them that the Boyle was a tributary of the Waiau and that in his opinion the pass to the west ward would be found at the head of another Waiau tributary, the Doubtful River. Bad weather precluded their traversing the Doubtful but a few months later John Rochfort confirmed the existence of this pass (the Amuri Pass) by traversing up the Waiheke tributary of the Ahaura and crossing over into Doubtful River.

The labyrinth of mountain ranges to the south and west of Nelson Province had now been thoroughly examined and it was clear that road

communication with Canterbury and Westland would be difficult to provide Some of the key passes to be negotiated were at elevations of over 5,000 feet and consequently above the winter snow line. Winter travelling would be hazardous.

Soon after the commencement of their surveys in the Buller district both Rochfort and Haast reported the existence of alluvial gold and of extensive coal deposits. Gold was discovered in November, 1859 by Frank Millington, one or Rochfort Survey hands. Rochfort's report on the incident is typical of his inherent professional outlook. He said, inter alia, "the royal mineral was lying on the edge of the river, glistening in the sun, and in such quantity as induced a mutinous spirit; my (survey) hands having a greater preference for the golden prospects before them than the sterner duties of surveying."

Regulations for the sale and disposal of the waste lands of the Crown were passed by the Provincial Council and issued by the Governor on 14th May, 1856. These were amended and extended from time to time, especially when it became necessary to provide for mining and mineral leases. In July, 1858, Thomas Brunner became Chief Surveyor. The more pressing work for the surveyors was the laying out of roads to open up the back country and to provide access to the coal fields and the goldfields. In 1863 the Council started settling the bush country at Tadmore, Motupiko, Stanley Brook, Dovedale and the Motueka valley. Between 1862 and 1864 considerable sums were spent on surveying the coal fields and cutting tracks towards the West Coast. These endeavours to open up the south western regions had been disappointing. One of the chief obstacles to development was the lack of a safe harbour. The bars at the mouth of the Buller and Grey rivers and the prevailing westerly storms were ever-present menaces to shipping Boating accidents with the loss of life were not infrequent and on one occasion, during an expedition organised by the Provincial Superintendent, John Perry Robinson, he and three members of his party of seven were drowned when their boat was swamped on the Buller bar. The survivors were James Burnett, the surveyor, John Gully, the artist, who was an employee of the Survey Department, and Robinson's son.

In 1860 William Skeet was surveying in the Wangapeka district. He blazed a trail up the Tadmor River to its source and crossed over the pass to the Hope river continued on to the Buller. At the same time John Rochfort was cutting tracks in the Wangapeka, Lyell and Karamea valleys.

The arduous nature of these tasks is described in his "Reminiscences by A. D. Dobson. In 1867 he was given the task of thoroughly examining the Arthur Range to look for a practicable route for a road across the range into the Karamea basin. Previously Rochfort had blazed a track up the Wangapeka and crossed over a high saddle into the utter Karamea. Dobson's task was to traverse the range from upper Takaka to the Wangapeka saddle, a bee line distance of a little over thirty miles. Dobson says, "I undertook to carry out this work, and with the assistance of good bushmen, I followed the ridge from the Takaka road to the Wangapeka saddle, taking the heights by barometer of all peaks and hollows, at the same time making a rough survey of the ridge. ... This exploring was rough work, as the ridge followed a very winding course more than double the distance in a straight line. The height above level varied from 3,000 to nearly 6,000 feet. It was necessary to move camp constantly, and

although it was summer time, snow storms often stopped the work. I worked with two men, the other two being fully occupied fixing the camps and swagging food up from the valleys. There was a store at Baton, one at Sherry, and also one in the Wangapeka valley not far from the junction of the Dart. At this time there were a good many men prospecting and gold washing in the various streams flowing from the main range." (4)

These stores were little more than depots to be found near the edge of the forest and at the terminus of a pack track, and were chiefly for the use of the scattered settlers and prospectors. Pack animals could not survive in the bush unless considerable quantities of fodder were packed in for them. In any case, owing to the dense vegetation of the rain forest, tracks would have to be cut and maintained. Men on foot could scale cliffs and crags and go where animals could not. Consequently the surveyors had to swag supplies and equipment on their backs and, as in the case of Dobson's party, it took two men all their time to provide for the other three.

When it rained the men were often drenched to the skin and even when the rain ceased the water dripping from the canopy of foliage would keep everything damp for days. Even if the sun was shining above, the foliage was so dense that the sun shine could not penetrate the murky depths below.

During wintry weather the life of those working in the bush with no shelter other than a tent or a rough bush bivouac was far from idyllic. Woe betide the survey party if one or other of its members became seriously ill or suffered a severe accident. There are on record a number of tragic instances of the loss of life despite the most valiant of efforts on the on the part of all to get the victims within reach of medical or surgical attention.

To those working in the forest, the danger of bush and scrub fires, especially during the dry season, had constantly to be guarded against. A number of cases of surveyors seriously affected are on record. One such occasion was reported by William Skeet during his track cutting expedition in the Buller region in January, 1862. Writing to the Superintendent he said "on 21st January I had, the misfortune to lose my tent, blankets, provisions and everything in the camp from fire. I left the camp at 7 a.m. after extinguishing the fire used for cocking. But when I returned at 6 p.m. I found nothing but a heap of ashes; it was evident that some embers had revived after we left and the fire crept in the grass up to the tent. This loss was a severe one to me as : could not replace the articles at the Buller. I therefore took the opportunity of coming to Nelson for a fresh outfit .

Officially mining in the Nelson-South West Goldfield began in earnest in 1865. The proclaiming of the West Canterbury (Westland) Goldfield at Greymouth and Hokitika in January had seen the commencement of a series of "rushes" and the diggers were arriving in large numbers despite the lack of safe harbours, good roads or food stores. They came from many lands and many of them were ill prepared for the conditions they found in the goldfields. To get there they had two alternatives; either to travel overland, mainly on foot, over bush tracks that soon became quagmires in winter and to cross dangerous unbridged rivers, and to sleep out in the bush at night, often with no more shelter than a blanket provided; or they could travel by ship and face the perils of landing on an open storm swept coast. Some of the overlanders died from

drowning in the rivers or from starvation and sheer exhaustion. Some of the seafarers lost their lives from shipwreck or from drowning when surfboats were swamped when attempting to land during stormy weather.

To John Blackett, the Provincial Engineer, was given the additional task of opening the Nelson-South West Goldfield as Minefield Commissioner. He was responsible not only for superintending the construction of roads and tracks, but also for the issuing of Miner's Rights (annual licences) for registering their claims and settling boundary disputes. The administration was controlled by the "Rules and Regulations of the Nelson-South West Goldfields, 1865" which were drawn up in accordance with the General Government "Goldfields Act, 1858".

The "Miner's right cost £1 and it allowed the digger to peg out a "claim". It also gave him the right to occupy a residential site in the vicinity. The term Claim" also included the area held as a business licence or a share or interest in a claim.

Claims were classified as alluvial, river, creek, beach, or quartz, and the allowable dimensions differed in each case. The ordinary alluvial claim was normally 45 feet square though the form could be varied to give the prescribed area provided the length did not exceed twice the breadth. In the other categories extra area was allowed in accordance with the nature of the country or stream bed or the proven depth of the mineral deposits. Special privileges, by way of increased areas, were granted to prospectors and discoverers of new fields, provided the discoverer was not less than ten miles from existing workings.

All of these activities required the services of qualified surveyors. The District Surveyors and Assistant Surveyors of the Survey Department cooperated with the :Goldfield Commissioners and the Wardens. A special category of Goldfield and Mining Surveyors was established for private practitioners whose qualifications had first to be examined and approved by the Chief Surveyor and Gazetted before practice commenced.

Henry Lewis succeeded Thomas Brunner as Chief Surveyor in 1866 and held the office until his retirement in December, 1871. His successor was his son-in-law, Mr. (later Sir) Arthur Dudley Dobson. Dobson was also Provincial Engineer.

He resigned in April, 1876 and was succeeded as Chief Surveyor by John Millar who held the office until his death on 15th November , 1876, virtually at the close of the Provincial era.

Acting for the General Government, Mr. (later Sir) James Hector 1874, supervised the completion of the surveys of the coal reserves. Most of the sea were of good quality and were situated from 800 to 3,000 feet above sea level. Up to that time small quantities had been mined. Owing to the lack of roads suitable for heavy transport, the coal had been taken out by pack horse or river boat. No serious attempt was made to work the field until the formation of the Westport Colliery Company in 1877.

Although the Inangahua goldfield was opened up in 1866 it was not until 1872 that quartz mining on a large scale commenced in the field. Lodes had been discovered at Lyell in 1869 and shortly after in the Inangahua. Reefton

developed as the principal centre of the quartz mining industry. The surveyors and engineers were now active in laying out and constructing roads and tracks. Previously the field had been supplied by boatmen operating canoes and boats on the rivers.

Several trial surveys were made to find the most practicable route for the construction of heavy traffic road to connect Nelson town with Westport and Greymouth. Reconnaissance surveys were also made far a railway route but soon abandoned on the score of the prohibitive cost of construction.

It was found that the route through the Buller Gorge as originally suggested by Thomas Brunner and John Blackett, was the best available for a road and construction was commenced. In places the work entailed cutting the roadway as a ledge across the face of towering granite cliffs such as Hawkes Crag on the section between Inangahua and Westport. At first there were no bridges and in places where the river was too deep to ford, ferry services had to be provided. It was not until April, 1878, that the first through coaches for passengers and mail commenced running.

Although the first gold had been obtained in the Lyell field as early as 1863 it was not until 1875 that Theophilus Mabille laid out the town-ship of Lyell. Similarly the Charleston field had been opened in 1866 but it was not until May, 1873, that Assistant Surveyor G. R. F. Sale surveyed Charleston township.

The Nelson Provincial Waste Lands Act of 1874 provided, inter alia, for the disposal of Waste lands within a goldfield. Land was set aside in the Karamea district. Each settler was to be granted fifty acres of virgin bush. There were no roads and the settlers were engaged on road construction contracts. The first of the settlers arrived at Karamea in November. The settlement was remote and many miles from the nearest township. Many years elapsed before the connecting road was completed. Lacking markets, the settlers existed in the interim on Subsistence farming.

During the closing years of the Provincial era the surveyors and engineers were engaged mainly on road construction to open up the back country. As the roads extended the settlers were purchasing or leasing the Crown Lands that became available . Railway construction had also commenced. Much of the Nelson Glenhope route had been surveyed and by 1875 construction had reached Foxhill and the Nelson to Foxhill section was opened to traffic. (6)

There was one part of the Province that was less favoured by the Provincial authorities than the rest. This was the land that ultimately became the Counties of Amuri and Cheviot in the south-eastern extremity of the Province. When the boundaries of the Marlborough Province were decided, and mainly because of the 3,000,000 acres restriction of the New Provinces act, the southern boundary of Marlborough was fixed along the Conway River to its junction with the Towy and thence by an involved course along the Towy, middle Clarence, Guide, Alma, and Upper Clarence Rivers, to Mount Mahanga in the Spencer Mountains. That part of Nelson Province lying to the south of this boundary and bounded to the west by the high Spencer Mountains, to the east by the coast between the Conway and Hurunui Rivers and to the South by the

latter river which constituted the Provincial boundary with Canterbury, was extremely isolated from the rest of Nelson Province.

There was no was overland route to connect with Nelson town and no available sea port. The lay of the land made communication with Christchurch much easier than with Nelson, and in fact the earliest grazing licences in the district were issued by the Canterbury Commissioner of Crown Lands. Nevertheless the administration of the region remained with Nelson from 1853 to the close of the Provincial era.

The whole region was suitable only for large grazing runs and in 1851 the first of the de-pasturing licensees was J. S. Caverhill, followed soon afterwards by E. J. Lee and Edward Jollie, the surveyor. By 1859 there were no less than eighteen large grazing runs with areas ranging from 18,000 acres to 39,000 acres. The run-holders had the right to freehold and after the passing of the Nelson Waste Lands Act of 1856 the first applications to freehold land in this part of the Province were received. The Regulations stipulated, inter alia' that within a prescribed period after the date of application, a plan of survey of the land to be freeholded was to be submitted by the applicant. Since most of the run boundaries followed natural physical features, the first such surveys were little better than magnetic compass traverses, sufficiently accurate to identify the boundaries on the ground and sufficient to enable the area to be calculated to within a probable error of an acre or two. The regulations also stipulated that the applications must be advertised and the land offered at public auction. Under this proviso capitalists with ready cash could outbid the applicant and acquire the best parts or the whole of existing runs, to the detriment of the licensees.

Several surveyors were among the early licensees and run-holders. These included Edward Jollie, John Tinline, J. W. A. Watts and Thomas Brunner. The latter for a brief period was in partnership with John Sharp in a run. Watts engaged in surveying from time to time, lost his life by drowning in the Waiau River on 14th January 1862, and his grazing licence was transferred to Thomas Brunner.

John Tinline was elected to represent the Amuri district on the Nelson Provincial Council in 1859-60.

Edward Jollie was a Deputy Commissioner of Crown Lands - for the Amuri district for a period after 1853, acting as an unofficial assistant to the Commissioner. He was elected to represent the Cheviot district in the General Assembly, 1859-60.

Little was done to improve access to the Amuri runs during the Provincial regime. A bridge over the Waiau, designed by John Blackett and built by Henry Handyside was completed in May 1864 and survived until 22nd November , 1874, when it was destroyed during a nor'west gale. The Amuri Road Board was established in 1866, responsible for roading between the Conway and Hurunui Rivers. Through lack of sufficient finance little more could be done than to maintain rough unmetalled, dray roads and pack tracks from Top House to the Canterbury boundary at Hanmer. The Hurunui was bridged in 1868 at the expense of the Canterbury Provincial Government.

The Amuri Road Board was established under the Nelson Provincial County Roads Act of 1859 and gazetted on 16th April 1866. Its district comprised practically all the land which today constitutes the Counties of Amuri and Cheviot. The principal land owner in what is now the Cheviot County was one William ‘Ready Money”) Robinson, who had acquired a very large freehold estate in the region, including the Cheviot Hills Run of 89,000 acres. He and the other three run-holders in the Cheviot district demurred from joining the Amuri Road District and consequently, in 1868 a separate Cheviot Road District as gazetted but it failed to function and no Board was appointed. Consequently the Cheviot district was inadequately roaded during the Provincial era.

The only township to serve the Amuri and Cheviot districts under Provincial Government developed in 1868 when a reserve was set aside for a township at the Waiau ferry. On 31st December some 92 allotments of from five to ten acres were offered for sale, of which 21 were purchased by some ten applicants. By the close of the Provincial era the township comprised an Accommodation House, Post Office, Police Station and Court House and a few tradesmen’s buildings and houses.

Following the abolition of Provincial Government the land District boundaries were readjusted so that the Amuri and Cheviot Counties were included in the Canterbury Land District. Thereafter all surveys in those Counties were under the control of the Chief Surveyor for Canterbury.

CHAPTER 15

NELSON PROVINCIAL SURVEYS

1. See also – "The exploration of New Zealand" W. G. M. McClymont 1959 edition, pp. 95-97.

   "The West Coast Gold Rushes" P. R. May 1967 edition Chapter 2

2. James Mackay to the Chief Land Purchase Commissioner, 21st September, 1861. A copy of this report is included as Appendix 1 in Ella Matthews' Yesterdays in the Golden Buller". 1957. pp. 209-213.

3. "The West Coast Gold Rushes P. R. May, 1967 p.57 et seq.

4. Reminiscences" Sir Arthur Dudley Dobson, 1930 (Whitcombe & Tombs)

5. The Nelson-South West Goldfield was proclaimed on 1st August, 1865. John Blackett, Provincial Engineer, and J. W. Barnicoat, surveyor and Provincial Councillor, were sent by sea to select the site for the headquarters for the administration of the goldfield and to organise the administration. They chose the Grey in preference to the Buller and the town of Cobden was laid out at the river mouth. immediately opposite the township of Greymouth. Blackett undertook the responsibilities of Commissioner for the first few months, until the appointment of Thomas Kynnersley.

   John Blackett became Acting Engineer-in-Chief and Marine Engineer to the Colony on 1st October, 1870. Two of his sons, John George (1852-1885) and James William, (1855-1905) followed the professions of surveying and engineering.

6. "Footprints" J. N. Newport, 1962. Chapter XXXI

7. For a complete history of the Amuri County see "The Amuri" by W. J. Gardner, 1956, and for the history of Cheviot County see "The Story of Cheviot" by Douglas Creswell 1951

See also " Molesworth by L. W. McCaskill 1969 which gives the history of Molesworth Station which includes a great part of Amuri County.

CHAPTER 16

MARLBOROUGH PROVINCIAL SURVEYS

Pursuant to the New Provinces Act of 1858, Marlborough separated from Nelson and achieved Provincial status on 1st November 1859, with Picton named as the Capital Town. Government establishments were set up, including a Waste Lands Department and a Survey Department. Mr. C. W. Adams was appointed Commissioner of Crown Lands and Mr. Cyrus Goulter became Chief Surveyor.

During the control from Nelson, the land outside the New Zealand Land Company's blocks was quickly taken up in large pastoral leases, the various areas were generally bounded by natural features and located by a sketch survey. Later, when enabling legislation was enacted, the pastoralists applied to purchase the more desirable portions of their runs. These applications could be made in any part of the District and, when received, the land was surveyed by private surveyors and offered at auction by the Crown. The better classes of land were quickly disposed of under this system and a certain amount of "grid ironing" and "spotting" occurred. These practices, together with the disposal of the valuable frontages of the Crown Lands were detrimental to the subsequent economic subdivision and settlement of the back areas, the results of which remain to the present day. Apparently the Chief Surveyor had little or no say in the economic subdivision of Crown Lands in the early days.

The lessees, often referred to as "squatters", were able to take up pastoral licenses, under certain prescribed conditions, and, subsequently, under Provincial Government Waste Lands Ordinances, they were permitted to acquire the freehold. The franchise was limited to land and property holders and lessees and men of substance, and in the Marlborough, Wairarapa, Hawkes Bay and Canterbury districts, the "squatter" faction, whose voting power was in proportion to their property holding, formed the dominant governing party and had things much their own way.(1) For example, some of the early "squatters" in the Wairau and Awatere Districts of the Nelson Province made use of the New Provinces Act to set up the Marlborough Province. Having done so, the "squatter" element became the governing body and saw to it that they controlled the disposal of the Waste Lands of the Province, and made it possible for the "licensee" to acquire the freehold at the lowest upset price. The op wanted to subdivide some of the holdings which were originally licensed by the Crown for a period of fourteen years. The "squatters" on exercising the right of purchase, saw to it that the cost of surveying the freehold land fell on the general taxpayer and was not loaded on to the purchase price. This led to some abuses, in particular the "grid ironing" and "spotting", whereby the purchaser having the right of selection of the area purchased, would select his land in long strips along the frontage with the strips between remaining Crown Land. As the cost of fencing would be prohibitive to anyone contemplating purchasing the intervening strips, the "squatter", when eventually he was able to raise the necessary capital, was able to purchase these strips, and sometimes large areas at the rear, at a minimum price. Meanwhile he was able to lease the unoccupied land. (2)

With regard to Native Lands in the Province, certain areas were excluded from sale by the Maori owners and the responsibility of surveying the Maori

lands lay with the Native Land Commissioner in the early days . These surveys were generally bounded or marked by natural features and were of a sketchy nature. When accurate surveys were made later, the areas and dimensions differed considerably from those given on original plans. The Native Land Court did not operate in the Province until after 1876, the Maoris holding their lands by communal interest.

Previous to the surrender of its charter the New Zealand Company had had the town of Waitohi (now Picton) laid out at the head of Queen Charlotte Sound and a road, intended for a wagon road, had been surveyed to connect the town with the Wairau. These surveys had been carried out by Messrs. Joseph Ward and Cyrus Goulter in partnership. Waitohi was to be the principal seaport for the district but as the land-holders were mainly speculators living in Nelson, slow progress was made in developing the settlement, and Marlborough produce still continued to be shipped over the Wairau bar. Earthquakes in the 1850's seem to have lowered the Wairau Plain as it was discovered that the Opawa River was navigable for small steamers eight miles from the sea. This eventually determined the site of Blenheim which is situated at the confluence of the Opawa and Omaka Rivers. Blenheim was a private enterprise, comprising at first two of the Land Company's original 150 acre allotments, and the survey was completed in 1857, the survey being made by Mr. Alfred Dobson. Later the town was extended to embrace about eleven of the original allotments.

The rivers of the Wairau Plain are tidal for about ten miles along their course from the sea. In the early days the site of Blenheim was particularly subject to floods and on these occasions only the higher land was above water, as a series of islands. In one of his reports the surveyor mentions these floods - "there we sat like beavers on a dam completely surrounded by water". This led to the town being named "The Beaver' but later, when the Province was established the name was changed to Blenheim. There was much rivalry between Picton and Blenheim for the title of Capital of Marlborough but eventually Picton had to yield place to Blenheim.

While still under the Nelson regime, in addition to Picton and Blenheim, the following townships had been laid out Havelock - surveyed by Alexander Ogg in 1858. Crown lands subdivision.

Te Awaiti - surveyed by John Rochfort in 1859. Crown Lands subdivision.

Tuamarina - surveyed by Henry Handyside in 1859. Crown lands subdivision.

Renwicktown - a private subdivision surveyed by Goulter and Ward in 1859.

At the first election of the Provincial Council in 1860, W. Adams became Superintendent and Cyrus Goulter the Speaker. Joseph ward and A. P. Seymour were among elected Councillors. Following the first Council meeting on 1st May, Alfred Dobson was appointed Chief Surveyor.

Subdivisional surveys were carried out in the Kaikoura district in 1858 by J. Ward and J. W. A. Watts. Kaikoura Township was surveyed by Ward in 1863. Between 1860 and 1876 further subdivisional surveys in the Kaikoura district were made by Messrs. J. W. Beauchamp, A. J. Ward and W. Darby. In addition to those already mentioned, surveyors working in the Province during

that period were Messrs. T. Little, H. B. Huddlestone, J. 0. Weston, A. P. Seymour, J. Green, W. Pickering, A. W. Carkeek and W. Darby.

A. P. Seymour was one of the leaders in the political affairs of the Province. He served on the Council from its inception in 1860 to the dissolution in 1876. He was Superintendent from 5th September, 1864 to October, 1865 and again from 28th March, 1870 to the dissolution. He also represented the Wairau electorate in Parliament from 10th February, 1872 to 6th May, 1875 and again from 8th September, 1879 to 8th November, 1881 . He next represented the Waimea-Picton electorate from 21st September, 1887 to 3rd October, 1890.

Other surveyors who served on the Provincial Council were William Budge (1862-64) Cyrus Goulter (1860-73) A. B. Monro (1869-70) and Joseph Ward (1860-76). Like Seymour, Joseph Ward served on the Council during the whole of its existence and he also entered Parliament as member for Wairau in 1875.

In 1864 the Province experienced its only gold rush. In April alluvial gold had been found in the Wakamarina stream, a tributary of the Pelorus River. Within a few weeks more than 6,000 people were established in the Wakamarina field. Havelock was the supply centre. In October, Theophilus Mabille laid out a township comprising lots of eight perches at Deep Creek. These lots were for camp sites only. Later a township named Canvastown was surveyed. There were few buildings other than tents and these “towns” proved to be of an evanescent character common to those on the early goldfields. Although a few miners did well on the Wakamarina field it soon petered out and within two years of its opening the field was being deserted by the miners who were lured to more profitable fields elsewhere that were then opening up. Henry Gostling Clarke succeeded Alfred Dobson as Chief

Surveyor on 19th August, 1862 and continued in office until the dissolution and thereafter he was appointed Chief Surveyor in the Lands and Survey Department for the Marlborough Land District, from which office he retired on 1st July, 1879.

All surveys prior to 1876 were based on magnetic meridian. Only a small area was under triangulation at that date and this was also on the magnetic meridian. The system of section survey outside of the New Zealand Land Company’s allotments was not satisfactory as the subsequent piecemeal surveys, especially of the “spotting” surveys, were not under check and the survey plans had to be accepted at their face value. Very few of the surveys were connected to previous surveys and a certain amount of a overlapping and of distortion occurred. Generally the surveys fit very well and there seems to have been a high standard of integrity among the majority of the old time surveyors.

One of the major undertakings of the Marlborough Provincial Council was the construction of the Picton Blenheim Railway. This was surveyed by Alfred Dobson and built under his direction. He was appointed Resident Engineer for the railway in September, 1871 and the line was completed and opened in November, 1875.

CHAPTER 16

MARLBOROUGH PROVINCIAL SURVEYS

1. For many years the franchise was limited to the owners of property, and voting was actually based on the letting value of the property. If the net annual value did not exceed £25 the owner was entitled to one vote; $25 to £50, to two votes; £50 to £1 00, to three votes; £100 to £2Q0, to four votes; more than £200. to five votes. Electors made application to returning officers, who checked their qualifications and received objections, if any, and subsequently published the a list of electors in the newspapers. Any objections were then investigated and the names of those struck off as a result were then published. Applicants had to appear in person before the returning officer to substantiate their claims and failure to do so resulted in their names being struck off. Among those struck off in 1860 was the surveyor C. 0. Torlesse, who owned much property in Canterbury. He had failed to appear personally to support his claims.

Before 1879 only men holding property were allowed to vote, end the right extended to each electorate in which they held property, provided they could reach the several polling booths in time to vote on polling day.

The Electoral Act of 1879 gave every male over 21 years of age the right to vote, subject to certain residential qualifications. In 1889 the principle of “one man, one vote” was established by law. Women received the vote in 1893, and exercised the right for the first time at the elections that year.

2. In exercising his right of purchase, a licensee was permitted under the existing legislation to freehold parts of his Run so as to protect the improvements he had already effected, provided that in each instance the area purchased was not less than 20 acres. This legislation led to the abuses known as “spotting” and “gridironing” when the licensee purchased long narrow strips in strategic places that had the effect of denying reason able access to the back of the Run to anyone who considered purchasing it. The practice of “spotting” and “gridironing” was profitable to the licensee but it had the effect of delaying the development of the locality and preventing closer settlement.

See “Marlborough” by A.D. McIntosh, 1940 p.238 etc.

“A History of Canterbury Vol. 2 edited by W. J. Gardner, 1871 , Chapter XIII.

CHAPTER 17

CANTERBURY PROVINCIAL SURVEYS

The Proclamation of 1853, pursuant to the New Zealand Constitution Act of 1852, described the boundaries of the several Provinces. The boundary between Nelson and Canterbury was the Hurunui River from its mouth to its source and thence across country by a line, as yet undefined, to the mouth of the Grey River on the West coast. Between Canterbury and Otago the boundary was the Waitangi (Waitaki) from mouth to source and thence by an undefined line to the source of the Awarua River and following that river to its mouth on the west coast.

At the time of its founding in August, 1853, the most important problem that faced the Provincial Council concerned the right of disposal of the Waste (Crown) Lands and the right of disbursement of the Land Revenue. In fact the Council was depending on Land Revenue as its principal source of income to be used in the development of the Province, but existing legislation reserved to the Central Government the administration of Crown Lands and the disposal of Land Revenue.

From its inception until it passed its Waste Lands Regulations Amendment Ordinance of 1856, the Council was plagued with dual control of the disposal of the Waste Lands. There were two Commissioners of Crown Land and two survey authorities.

In the Canterbury Association's Block, i.e. the region between the Waipara and Ashburton Rivers, previously administered by the New Zealand Company, the disposal of the Waste Lands was still controlled by an Act of the Imperial Parliament and was now the responsibility of the Association that had taken over the liabilities of the New Zealand Company. Under this legislation the selling price of the Waste Lands remained at £3 per acre. Also the rentals for grazing licences were higher than in any other settlement. For this region William Guise Brittain was Commissioner of Crown Lands and Thomas Cass was Chief Surveyor.

In those parts of the Province outside the Association's Block - i.e. between the Waipara and Hurunui Rivers; between the Ashburton and Waitaki Rivers; and some parts of Banks Peninsula - the disposal of Crown Lands was controlled by Governor Grey's General Land Regulations of March, 1853. The price was fixed at ten shillings per acre, except for inferior land which was classified by the Commissioner of Crown Lands and was priced at five shillings per acre. The Regulations also fixed the rentals of leasehold land in accordance with the numbers of livestock de-pastured on each run.

For these regions, Colonel James Campbell who had his headquarters at Akaroa, was Commissioner of Crown Lands, and Cyrus Davie acted as his principal surveyor. There was a minor rush to acquire grazing runs, both freehold and lease- hold, and the areas were so extensive that it was practically impossible to make accurate surveys in the time available. Consequently the original surveys of the runs were merely sketches. In North Canterbury some large estates were freeholded by a few capitalists and in South Canterbury all available land was divided into grazing runs. The right to acquire the freehold was a great incentive. Some of the runs had been licensed as early as June,

1851 under earlier legislation. In 1854 little was known of the interior of the Province but the existing runs extended from the coast to the summits of the foothills of the Southern Alps, and there were neither roads nor bridges to provide access to the runs.

The disparity of upset prices and rentals of land within the Association's Block with those of land outside the Block threatened stagnation of settlement within the Block. Measures had to be taken to rationalise proceedings. The first step was taken in 1855 when the Provincial Council by its Canterbury Association Ordinance undertook the liabilities of the Association. This was followed by the Canterbury Association Reserves Ordinance of July, 1855, und which the reserved lands of the Association passed to the Council. There followed some modification of the upset price and rentals within the block.

The following year the Council negotiated with the General Government and Land Regulations for the Province were proclaimed on 9th February. These were amended by the Waste Lands Regulations Amendment Ordinance, 1856, assented to by the Governor in 1857 and validated by the Waste Lands Act of 1858. This gave the Provincial Council the necessary control and provided, among other things, for the establishment of a Survey Department under a Chief Surveyor and that Crown Grants be issued only after a survey by a Government Surveyor.

Towards the end of 1853, however, the Governor had consented to the amalgamation of the offices of Commissioner of Crown Lands in Canterbury and under the new arrangement, W. G. Brittan became the sole Commissioner of Crown Lands for Canterbury, although having to administer two different sets of Regulations, and Colonel Campbell became Registrar of Deeds. Thomas Cass became the Chief Surveyor for the Province.

In 1854 soon after the new arrangement came into operation, Cass and Brittan went to South Canterbury on a reconnaissance journey to ascertain the requirements for future town sites, public reserves, forest reserves, river crossings and highways etc. and on 28th October, Samuel Hewlings, Staff Surveyor, received instructions to go to South Canterbury and commence the surveys. On the site chosen for the town of Geraldine he set up his headquarters and the whare he built was the first dwelling to be erected in the township which he laid out. He then commenced the triangulation and topographical surveys to define the grazing runs. In July, 1855, he received additional instructions to survey the land that had been purchased in South Canterbury by the Rhodes Brothers (Messrs. G. and R. H. Rhodes) and also to lay out the Government town of Timaru on the site that had been reserved by Thomas Cass.

Timaru was laid out in 1855-56, partly on Crown Land and partly on land previously purchased from the Crown by the Rhodes brothers. Hewlings surveyed the Government Township on orthodox lines as laid down in the Government Survey Regulations, i.e. with streets more or less parallel with the water front and with rectangular blocks with true orientation. Rhodes-town was surveyed by a contract surveyor, E. H. Lough, and the layout of the streets to fit the natural configuration of the ground, indicates that there was little collaboration between the two surveyors. The common boundary is North Street, with Government Town to the south. Whereas Hewlings had provided for

a number of public reserves for various purposes, no such reserves were set aside in Rhodes-town, but George Rhodes, on behalf of the brothers, was generous in donating sections for the various religious denominations.(1)

In November 1854 Edward Dobson was appointed Provincial Engineer and he and Thomas Cass were responsible for selecting and setting aside the reserves for most of the town sites in early Canterbury. It was Dobson who initiated most of the early engineering projects, especially the road construction programme.

In 1858 Cass chose ferry sites across the southern rivers. As there were no formed roads at that time, one of the conditions for operating a ferry under licence was that the licensee erect a flagpole 40 feet high at the ferry site so as to aid travellers in locating the crossing place. Sir Arthur Dobson, in his " Reminiscence's " states that in the absence of formed roads across the plains it was the practice to fix the position of ferries, township sites etc. by triangulation and then, having calculated the bearings from point to point as required, to cut a furrow along the line of bearing using a heavy swamp plough drawn by a team of bullocks. This enabled travellers to find their way across the plains where landmarks were few and the view sometimes obstructed by tall scrub which, in places, was higher than a mounted horseman's head. In due course roads were constructed on these lines. (2)

The Proclamation of 1853 described the south-western boundary of Canterbury as being "the River Waitangi (Waitaki) to its source, then by a right line running to the source of the Awarua River, thence by the Awarua River to its mouth".

At the time nobody knew where the sources of either river were located as neither had been traversed to its source and neither had as yet been surveyed. As a result there was a great deal of confusion as to whether certain grazing runs were located in Canterbury or in Otago and some litigation occurred that resulted in proceedings to have the boundary clearly defined by survey. In 1857 Captain Cargill, Superintendent of Otago, suggested that the Provincial Chief Surveyors should meet and decide on the boundary line, but J. E. Fitzgerald, the Canterbury Superintendent demurred. After a further exchange of correspondence Fitzgerald agreed to send Samuel Hewlings to meet an Otago surveyor and that the two should make a reconnaissance survey of the several upper branches of the Waitaki which had not yet been surveyed. It was decided, however, that a more complete survey would be necessary to correctly define the boundary and in 1858-59 the survey was made by Edward Jollie, assisted by W. S. Young.

As a result of this survey Thomas Cass for Canterbury and Charles Kettle, Chief Surveyor for Otago, agreed that about 880,000 acres of which about 650,000 acres was suitable for pasturage, lay between the two disputed lines. After three years of negotiation, mainly to adjust the land revenue accounts between the two Provinces, the dispute was settled by the passing by the General Assembly, of the Otago and Canterbury Boundary Bill on 18th June, 1861 . The boundary was defined as beginning at the mouth of the Waitaki River and going up the middle of that river to its junction with the Ohau River, thence by that stream to its outlet at Lake Ohau, after which it takes a

direct line across country to Mount Aspiring. From there it takes a line to the source of the Awarua River which it then follows to the sea.

Construction of the main southern highway had been completed as far as Riccarton in 1858 when J. S. Browning commenced the survey of the route from there to the Provincial boundary on the Waitaki River. He completed this survey the following year . At the same time Edward Dobson mad a reconnaissance survey for a road from Washdyke to Burkes Pass. He also laid out the town reserve for Waimate and the town was surveyed by Hewlings and H. J. Sealy.

Samuel Hewlings left the service of the Provincial Government in 1858 and joined Edward Jollie in partnership as contract surveyors. Their first work was laying out the town ship of Horowhenua. Hewlings himself bought the adjoining land which he subdivided, calling his town Wallingford after his birthplace in Berkshire. Wallingford is today the business centre of Temuka, Horowhenua and Wallingford combined) having been renamed in 1866.

In North Canterbury at the commencement of Provincial Government the greeter part of the country between the Waimakariri and Hurunui rivers had been taken up either as large freehold estates or under grazing licence. The first licences had been issued in 1851 and by 1857 virtually the whole had been taken up for grazing purposes. Although Torlesse had surveyed a rood as far as the Ashley River none of the rivers had been bridged and there was no road formation beyond the Waimakariri river, which proved a formidable obstacle to progress.

The township of Kaiapoi was laid out at the site of the ferry across the Waimakariri in 1855, the surveyors responsible being Thomas Cass, Cyrus Davie and J. O. Boys. The town of Rangiora was a private development in 1855 on land that had been freeholded by Torlesse and Boys in 1851 while they were carrying out the original surveys for the New Zealand Company.

By the end of 1854 much of the Waipara-Amuri country had been surveyed so as to fix the boundaries of the land that had been freeholded and to settle a number of disputes that had arisen concerning these boundaries.

In 1857 Edward Dobson, accompanied by three of the run proprietors, Messrs. Henry Taylor, Christopher Dampier, and George Mason, explored the upper reaches of the Hurunui River and found the route to Harper pass. This pass was penetrated a month later by Leonard Harper and a Mr Locke.

The activities of the Canterbury Association in promoting immigration ceased in 1853 and the Provincial Council was soon faced with a serious labour shortage. As soon as funds from land sales were available in 1854 R. J. S. Harman, a qualified civil engineer and surveyor, was sent to Great Britain as Immigration Agent for the Province and during the next three years he was active in selecting and sending out the men required for the construction of public works. He returned to Canterbury in 1856, soon after the purchase of the Maori lands on Banks Peninsula had been completed by Messrs. Hamilton and Davie, and in May the following year he joined the Provincial Survey Department as an Assistant Surveyor and Commissioner of Waste Lands and was stationed Akaroa. He was also elected a member of the Provincial Council.

One of the first acts of the Provincial Council in 1853 was to appoint a committee of experienced civil engineers and surveyors to decide on the best means of providing communication between Port Lyttelton and Christchurch. The chairman was W. B. Bray and the other members were Edward Dobson, Edward Jollie, H.J. Cridland and R.J. S. Harman Some improvements to the road via Sumner were suggested. The Province had as yet no prospect of obtaining the finance required for railway construction involving costly tunnelling. However, trial surveys were made and costs investigated and after protracted negotiations, which involved consulting G. R. Stephenson, a nephew of George Stephenson the eminent British railway authority, the necessary finances were arranged and a contract was let in December, 1859 with Edward Dobson as supervising engineer. The most direct line, which had been surveyed by Dobson, was adopted. Tunnelling began at the Lyttelton portal in January, 1860, but soon afterwards the contractors were troubled by the hardness of the basalt rock. The recently appointed Provincial Geologist. Julius Haast, was called in to make a geological survey of the tunnel line and subsequently fresh contracts had to be arranged. The tunnel was completed in June, 1867 and the line opened for traffic in December. The first railway to be opened, however, was that between Ferrymead and Christchurch. This was designed as a spur line to connect with Ferrymead, the secondary port at the head of navigation, above Sumner, on the Heathcote River. Its main purpose was to facilitate the construction of the tunnel from the Christchurch end. This line was opened in December, 1863.

At the same time surveys were commenced for the railways to be constructed to the north and to the south of Christchurch. A contract was let in April, 1865, for construction as far as the Rakaia River and work commenced in May. Owing to differences of opinion among the Railway Commissioners concerning the route for the North Canterbury the northern railway construction was held up until a decision could be made. The Commissioners, all of whom were surveyors or engineers, comprised Messrs. Edward Dobson, E. Richardson and Thomas Cass all of whom favoured a line from Kaiapoi to Waiuku, and Messrs. R. J. S. Harman, E. G. Wright and James Wylde, who favoured a line through Rangiora. Ultimately the latter route was chosen by the Provincial Council.

Surveys for closer settlement in the region north and west of the Waimakariri River were commenced in 1859 when Charles Torlesse, under instructions from Thomas Cass, began a topographical survey of a large tract of country which, in 1861, became known as the Oxford District, and which contained the Harewood Forest of 56,000 acres. Settlement surveys were immediately begun by Messrs. C. F. Pemberton and J. H. Whitcombe. James Wylde was appointed Assistant Provincial Engineer for the district in January, 1862. His responsibilities included roads, railways, bridges and the supervision of large swamp drainage projects. The first surveys for the drainage of the extensive Rangiora swamp were undertaken in 1859 by John Marshman, assisted by A.D. Dobson.

By the end of 1860 these preliminary surveys in North Canterbury had reached the Hurunui where the country at the upper of that river had been surveyed by J. H. Whitcombe assisted by A.D. Dobson. The route via Harper’s

Pass would soon to become the principal overland access to the newly opened West Coast Goldfields.

In South Canterbury the trigonometrical surveys were continued in 1861, covering the district between the Orari and Pareora rivers and extending inland for a distance of about six miles. These surveys were undertaken by Hewlings with Messrs. C. R. Shaw and R. Townsend as his assistants.

The work was based on magnetic meridian and much of it was not integrated and subsequently some revision was necessary at a later date. In 1862 the work was extended to embrace the whole coastline between the Rangitata and Waitaki Rivers and a depth inland of eight miles. Isolated surveys were also made in the McKenzie Country by C. R. Shaw assisted by W. S. Young.

A branch office of the Provincial Survey Department was established at Timaru in 1863 with J. R. Rawlings, Crown Lands Ranger in occupation and Shaw as resident surveyor. W. Kitson was appointed Road Surveyor and he and Shaw were responsible for surveying the first road lines in South Canterbury. The road from Orari to Burke's Pass was surveyed by Kitson in 1865. With the opening of the Timaru office, Robert Park was appointed to assist Samuel Hewlings with the southern surveys.

Most of the available grazing land in South Canterbury had been taken up under license by 1860 but the higher country at the upper reaches of the rivers and beyond the cold lakes had yet to be fully explored. The previous year the Mackenzie basin had been taken up. In 1860 J. H. Baker, a young surveyor who had just completed his cadetship under both Davie and Harman, set out with his cousin, Frank Mathias, on a month's exploration of the back country of the Waimakariri and across to Lake Coleridge and on to the headwaters of the Ashburton River. They discovered about 15,000 acres of grazing land and their application to the Land Board for a license was approved. However they managed to sell their rights for £300. Shortly afterwards Baker met Samuel Butler, the author who was proprietor of Mesopotamia sheep station, and they set out to explore the upper reaches of the Rangitata and Rakaia Rivers, in the hope of finding a practicable pass over the main range to the West Coast. They found a pass which is now named after Henry Whitcombe, the surveyor who was the first to penetrate the pass and reach the coast but whose journey ended in tragedy.

In March, 1861 Baker and a companion named Owen, starting from Timaru explored the Mackenzie Country and Lakes Pukaki and Wanaka and on through Lindis Pass to the Lindis goldfield. They went to the head of Lake Wanaka and Baker went to the top of the pass now known as Haast Pass. They returned to Timaru by travelling do the Waitaki River and shortly afterwards Baker went to the Tuapeka goldfield and Gabriel's Gully which had been opened up in June 1861.

The discovery of gold deposits in Otago and Nelson Provinces induced the Provincial Council to obtain a geological survey of Canterbury. The services of Julius Haast had been obtained to make a geological survey of the Port Hills in connection with the piercing of the railway tunnel and Haast had been assisted by A. D. Dobson, his future brother in law. The Council then engaged

Haast to make the Provincial survey and in February, 1861, he, as geologist, and Dobson as topographer, commenced the survey of the head waters of the rivers and of the mountain ranges of the Province. They were accompanied by Dr. Sinclair, the former Colonial Secretary, who was then aged 67 years. Dr. Sinclair was an accomplished botanist and a Fellow of the Linnaen Society. Tragically he was drowned on the 28th March when attempting to cross the Rangitata River to reach the homestead at Samuel Butler's Mesopotamia station.

In July the following year Haast and Dobson commenced the survey of the Mount Cook region, most of which was unexplored and unmapped. In his "Reminiscences" Dobson describes the difficulties in contending with the "Wild Irishman" (Discaria Toumatou) and the "Spear Grass" or "Spanish Bayonet" (Aciphylla Squarrosa) and other noxious vegetation which frequently barred their way. In many places they found it impossible to penetrate without laboriously cutting e track or by setting the bushes alight and risking a dangerous prairie fire.

Haast's program for 1863 involved the exploration of the country to the west of Lake Wanaka and the search for a practical route to the west coast. He had as his assistant surveyor W. S. Young. A. D. Dobson had gone to the West Coast to make topographical survey, under contract to the Provincial Government.

The result of Haast's expedition was the discovery of the pass and the river route which now bears his name. This pass had been noted but not penetrated by Baker. Haast's party suffered severe privations and there was later some controversy as to whether Haast or Charles Cameron was the first to traverse the route. There is evidence that Cameron was on the ground about the same time as Haast but there is no doubt that it was Haast's party that first reached the coast. In 1881 T. N. Broderick, who was surveying in the locality, found Cameron's inscribed powder flask in a cairn built on very high mountain ("Mount Cameron) to the west of the pass. The inscription was "Charles Cameron. January 1863". [(3)]

Haast's surveys proved conclusively that there was neither gold nor any other mineral of commercial value, except a few seams of low grade coal and some limestone, to be found in Canterbury east of the Southern Alps. In North Canterbury in 1862 H. C. Howitt, on behalf of the Provincial Council had prospected the country about the Hurunui River from Waitohi Gorge to Harper's Pass with similar results.

Encouraged by the reports from Nelson of the discovery of alluvial gold in the Buller district the Canterbury Provincial Council decided to send some of its survey its survey staff to explore the country to the west of the Southern Alps. Howitt was given the task of cutting a pack track from the Hurunui over Harper's Pass to the mouth of the Grey River. An alternative route, and a better one if possible, was desired and J. H. Whitcombe was instructed to make a reconnaissance survey and he chose to explore the possibilities of the pass previously discovered by Butler and Baker. At the same time Thomas Buxton's schooner "Crest of the Wave" was chartered by the Provincial Council and Charles Townsend was sent to the West Coast with a prefabricated building to

establish a depot to supply the survey parties and the prospectors. He was to select a site at the mouth of either the Hokitika or of the Grey River.

Later in the year contract surveys were awarded to A.D. Dobson and Robert Bain. Dobson was to make a topographical survey of the region between the Grey River and Abut Head and Bain from Abut Head to the mouth cit the Awarua River at Big Bay.

By 22nd May, Whitcombe with his party had reached the vicinity of the pass and he those Jakob Lauper, a Swiss alpinist who had previously been a member of J.C. Drake's survey party in North Canterbury, to be his sole companion on the journey across the pass and down the Hokitika River to the coast. Soon after they started the weather deteriorated and in heavy rain and snow they made their way downstream. It was soon evident that Whitcombe had seriously underestimated the difficulties the passage and their food supplies, estimated to last a fortnight, were exhausted or spoiled by the rain and the ubiquitous blowflies. The terrain was much worse than either could have imagined. They were delayed by the precipitous country which necessitated lengthy detours and having to cross and re-cross the swollen river.

Day after day with no shelter from the elements, drenched to the skin and rarely able to light a fire, their food supplies spoiled and sadly diminished, the pair struggled along and, despite their greatest exertions, gained little more than three miles a day at times. At length near the coast they came across to Maori whares where had expected to obtain food, but the place was deserted and all they found was a handful of small potatoes and a little Maori cabbage (Puwha). Next day, thirteen days after setting out from the top of the pass, they reached the mouth of the Taramakau River. The actual distance they had travelled was about sixty miles.

Across the Taramakau they could see the Maori kainga but there was no sign of life as it also was deserted. Despite the fact that Lauper could not swim, Whitcombe decided to attempt to cross the river rather than face the prospect of dying of starvation in the forest. They found the water logged remains of two canoes which they lashed together with flax, making a rough raft, and set out to cross the deep, fast flowing river not far above the breakers at the river mouth. So decayed was their primitive craft that by the time they reached the middle of the river it sank, leaving them at the mercy of the breakers. Whitcombe attempted to swim ashore but Lauper clung to the raft which was eventually driven ashore with Lauper more dead than alive, but Whitcombe was drowned. Next day, when he had sufficiently recovered, Lauper retrieved Whitcombe's body which he buried in a shallow grave above high water mark. Lauper then set out to reach Howitt's survey camp at Lake Brunner. Fortunately he met two small groups of Maoris on the way and although they also were desperately short of food, they were able to provide him with sufficient to enable him to reach Howitt's camp. It was mid winter and Harper's Pass was in a dangerous condition but Lauper, with the aid of two horses provided by Howitt was able in the course of two days to cross over the pass and reach Henry Taylor' s station at Lake Sumner and a few days later return to Christchurch. Whitcombe' s Pass had proved impracticable for a road line. (4)

On 24th May the schooner "Crest of the Wave" was off the west coast searching for the bar-bound entrance of the Hokitika River which was difficult to

distinguish from the ship which had to stand a mile or more off shore. Townsend with a boats crew , took the ship's whaleboat and found the entrance but the state of the bar deterred Captain Buxton from endangering his ship in attempting a crossing. He turned northwards making for the Grey while Townsend and his companions dragged the whaleboat ashore near the mouth of the Hokitika end then made their way overland to the Grey. Captain Buxton brought his ship over the Grey bar on 8th June and Townsend and his party set about erecting the depot on the south side of the river. On 8th October Townsend with Peter Mitchelson, William Sherrin and two Maoris, Soloman and Simeon, went back to the Hokitika to retrieve the whaleboat and on the return voyage, while crossing the Grey bar, the boat was swamped and Townsend, Mitchelson and Soloman were drowned. (5)

In September Robert Pain chartered the schooner "Fawn" at Port Chalmers and sailed to the west coast via Cook's Strait. He landed his Party and encamped at Jackson's Pay. There he was joined by six prospectors in a whaleboat. The coastline was so rugged that he decided to use the boat in travelling along the shore. Frequent storms were encountered and time was lost running for shelter. One of the party was drowned in attempting to cross a river. In January, 1864, when the survey had reached Big Bay, a schooner, "Pride of the Huron" from Dunedin, called at the Bay and Bain chartered her to take his party back to Jackson's Bay. When off Martin's Bay the schooner was wrecked fortunately without loss of life, but little was saved. With little food remaining the whole company set off in February to travel the difficult route via Lake McKerrow - Hollyford Valley - Greenstone River and Lake Wakatipu to Queenstown. This route had been discovered the previous year by a prospector, P. Q. Caples and traversed by Dr. James Hector, the Otago Provincial Geologist. On the journey another of Pain's party died of sheer exhaustion. Subsequently Pain's survey contract was completed by John Rochfort who employed a party of Maoris who had trained as chainmen and linesmen and whom he found to be excellent workmen, well able to fend for themselves in the primitive conditions. (6)

As previously mentioned, Howitt and his track cutting party were camped at Lake Brunner when Jakob Lauper arrived there to report the death of Whitcombe. On Saturday 27th June, a few days after Lauper had left on his journey to Christchurch, Howitt and two members of his party, Messrs. Henry Mullis and Robert Little, left camp to cross the lake in a canoe to obtain some stores from their supply hut at the Arnold River outlet. Soon after they had set out stormy weather set in and lasted two days. James Hammet, the remaining member of the party, who had been left in camp, became anxious when, after five days, the party had not returned. He set out to walk around the lake in search for them, but the going was so difficult that he had to build a rough raft to cross the lake. After a couple of days he found Howitt's swag and tent at the mouth of the Arnold. He then spent several days searching right around the lake but found no sign of the missing men. Some weeks later in a distraught condition Hammet reached the depot at the mouth of the Grey and reported that Howitt and his companions were missing. Other survey parties then scoured the district but no sign of the missing men was ever found. (7)

Howitt's survey and the track cutting were completed by a party under J.C. Drake who also a few years later was to meet the same fate as Howitt by going missing believed drowned in a river between Collingwood and Takaka.

In preparation for his survey undertaking, Arthur Dobson went to Nelson where he chartered the fifteen ton schooner, "Gypsey" to take him to the mouth of the Grey. The schooner sailed on 8th August but owing to adverse weather conditions it was three weeks before the Grey was reached but then, when the stormy weather continued, a further eleven days were spent off the coast waiting for a favourable opportunity to cross the bar. In the event the heavy seas swept over the vessel which suffered so much damage as to make her unmanageable and she was driven aground near the river mouth and damaged beyond repair. Fortunately no lives were lost and her cargo was retrieved and found to have suffered little damage.

The sequence of fatal accidents that in the course of a few months had cost the lives of three surveyors and six of their employees had a depressing effect on Dobson's European party whose members deserted him to return to a safer environment. Dobson then, like Rochfort, enlisted a party of local Maoris whom he trained and found to be capable and reliable workers.

The coastal traverse as far as Abut head was completed early in January, 1864 and Dobson returned to Christchurch to report progress. In March, when returning to complete his contract, Dobson, acting on the suggestion of the Chief Surveyor Thomas Cass, took a new route in the hope of finding a pass and a more convenient route that would materially help him in the completion of his contract. On 11th March, he and his brother Edward set out to explore the head waters of the Waimakariri River. They found and named the Bealey River which they explored and near its source found a flat saddle. After hacking their way through the scrub on the saddle they came upon the Otira gorge on the western side of the range and found that a considerable amount of track formation would be necessary before horses could travel down it. Arthur Dobson and two companions with the help of flax ropes, managed to scramble down the gorge as far as its junction with the Rolleston stream but nevertheless, in his report to Cass, Dobson considered that the construction of a road over this route would be less costly and on easier gradients than could be accomplished over the Hurunui saddle.

The discovery of payable deposits of alluvial gold in a number of streams on the West Coast stimulated the search for a practicable route for a dray road over the Alps. The one available route, that via Harper's Pass, was suitable only as a pack track and when the "gold rush" commenced and hundreds of diggers made their way over the pass in wintry weather it soon became a quagmire and a veritable death trap.

Several parties of surveyors and engineers were organised to explore and re-assess the known passes and to ascertain that more suitable alternatives were not available. First George Dobson was sent to examine his brother Arthur's pass, and he reported adversely. Next parties under Edward Dobson (senior) and including George Dobson, J. S. Browning, E. J. Cahill, and R. J. S. Harman, explored four other passes at the headwaters of the Waimakariri before deciding to make a thorough survey of the possibilities of Arthur's Pass as being the most promising. In April, 1865, Browning and

Harman organised a party to explore the headwaters of the Wilberforce, a tributary of the Rakaia. One of the party was the veteran New Zealand Company surveyor, Robert Park who made several paintings depicting the expedition.

Information concerning the existence of the pass had been obtained from some elderly Maoris residing at Kaiapoi. The party left Glenthorne station above Lake Coleridge on 15th April. Three days later they met Messrs. Griffiths and Otway who had already reached the foot of the pass. The pass proved to be very steep and dangerous but despite severe snowstorms they traversed the saddle and descended to the Arahura River where progress was stopped by a dangerous gorge and their diminished food supplies. They returned to their camp on the Canterbury side. On the 8th May Browning and Griffiths again made their way to the Arahura and despite atrocious weather managed to find a way around the gorge and Griffiths found a pass (the Styx Saddle) from the .Arahura to the Hokitika River, down which they travelled on a mokihi which they were able to build. They had taken nine days from the camp at Browning' s Pass to reach Hokitika and it was decided that the route was suitable only for a pack track and would be very dangerous during winter months.

Edward Dobson lost no time in commencing the construction of a road for dray traffic to the West Coast via Arthur's Pass. During the severe winter of 1865 a pack track was cut over the saddle and down to the bed of the Otira River. In October contracts were let and the work pushed ahead vigorously under the direction of Edward Dobson. [(8)] It was a prodigious effort and by the end of the year drays from Christchurch could reach the Taramakau valley where road construction to link with Hokitika was under the direction of Malcolm Fraser. The road was opened for traffic on 20th March, 1866, but almost immediately a dispute arose between West Canterbury and East Canterbury over paying for and maintaining this road. The people of the West Coast, or Westland, as it came to be called, refused to bear the major part of the cost and soon they were agitating for separation and Westland began to develop a separate entity. Separation was effected indeed, but in two stages. The County of Westland Act was passed by the General Assembly and that part of Canterbury to the West of the main range of the Southern Alps became the County of Westland from the 1st January, 1868. At the same time the Westland Land District was constituted with boundaries coinciding with those of the County. The County was Proclaimed a separate Province as from the 1st December, 1873.

John Marshman, who had been Canterbury's Immigration Agent in Great Britain from 1861 returned in 1867 and was succeeded by the Chief Surveyor, Thomas Cass and by Crosbie Ward as Agents. In the absence of Cass, Cyrus Davie was Deputy Chief Surveyor.

Eastern Canterbury was facing some serious problems. Immigration especially assisted' immigration, was increasing rapidly. Crown Land was in demand and many of the earlier lessees were exercising their rights of purchasing the free hold. Urgent action was needed to preserve the routes for main roads and to anticipate and avert possible later claims for compensation for taking land through freehold property. The Canterbury Association's system of selection and giving possession of Crown Land before survey was still being

practised. This meant that as late as 1872 many of the selectors were waiting as much as two years for the completion of surveys to establish their boundaries. The operations of selectors who practised “spotting” and “gridironing” were a menace to progress. The original land regulations had provided that land grants were to be increased by five per cent so that, when required, land could be resumed by the Crown for roads, without compensation. In some cases the Land Board had injudiciously waived this regulation when approving the Grant and consequently the Crown had to repurchase the land required for roads.

The Provincial Council almost doubled its appropriation for surveys and increased its survey staff.

In 1870 the Land Transfer Act, which was to have a great influence on the general standard of the surveys in the Colony, was introduced in Parliament by the Member for West land, and former Superintendent of Canterbury, the Hon. W. S. Moorhouse. While drafting the Act he had had the assistance of a young Canterbury surveyor, George McIntyre, who had been trained in the Land Transfer Office at Hobart before coming to New Zealand in 1866. To inaugurate the system, Moorhouse himself became the first Registrar General of Lands on the passing of the Act, and he appointed McIntyre as his secretary. Two important provisions of the Act were that applications for registration of title must be accompanied by an approved survey plan of the land concerned and that the survey be made by a competent surveyor licensed, as required by the Act, to perform such surveys.

When Moorhouse resigned his office in 1872 he was succeeded by Mr. (later Sir) Joshua Strange Williams, the then District Land Registrar for Canterbury. Williams remained in Canterbury and for the time being the Christchurch office became the Head Office of the Land and Deeds Department. George McIntyre became the first Land Transfer Draughtsman, attached to the Registrars General’s staff and responsible for examining all survey plans presented for deposit. After examination, the plans that were found to be mathematically correct and in accordance with existing land titles were presented to the Chief Surveyor for final approval.

Surveyors desiring to undertake land transfer surveying were required to apply to the Provincial Chief Surveyors who examined their credentials and on proof of competency issued a licence. Licences were endorsed by the local District Land Registrar and all Provincial Chief Surveyors and Land Registrars were notified of the is suing of the licence. There appears to have been some disparity of standards of competency from Province to Province. In 1874 the Registrar General, J. S. Williams, set up a Board of Examiners to examine applicants for licences in Canterbury. This Board comprised the Chief Surveyor, Samuel Hewlings, the Land Transfer Draughts man, George McIntyre, and Thomas Cass, the former Chief Surveyor to had returned from England in 1868 and retired in 1871.

In 1870 policies concerning public works and immigration, introduced by the Colonial Treasurer, Julius Vogel, were adopted by the General Assembly. The development of the Colony was greatly accelerated. Roads, railways and harbours were to be built with money borrowed in England. The responsibility for immigration passed to the General Government and there was the beginning

of a movement towards centralising the control of public works and surveying. There was a need to augment the working force of surveyors and engineers.

The recommendations to Parliament by the conference of Provincial Chief Surveyors held in Wellington in 1873 supported centralised control of surveying and it was also supported by Major H. S. Palmer in his report on the state of the surveys in! Zealand in 1875. Centralised control was achieved after the dissolution of Provincial government in 1876 and the establishment of the Lands and Survey Department.

CHAPTER 17

CANTERBURY PROVINCIAL SURVEYS

1. See also “Timaru Centenary” Part I by J. S. Parker, 1968

2. See “Reminiscences of Arthur Dudley Dobson” A.D. Dobson,

1930 (Whitcombe & Tombs).

3. “Life and Times of Sir Julius von Haast” H. E. von Haast, 1948 (Avery Press, New Plymouth).

14. Jakob Lauper’s story of the expedition has been published as “Over the Whitcombe Pass” edited by John Pascoe and published by Whitcombe & Tombs, 1960.

5. An account of the incident is given in “The West Coast Gold Rushes” by P. R. May, second edition, p.91 (Pegasus Press).

6. Ibid - p. 9O - 91

7. See also, “The Story of Canterbury” by A.H. Reed, 1949 p.246 et seq.

(A. H. and A. Reed).

8. In 1880 Edward Dobson wrote his textbook “Pioneer Engineering. A Treatise on the Engineering Operations Connected with the Settlement of Waste Lards in New Countries”, published in London by Crosby Lockwood and Company. In the text and illustrations of this work he has drawn extensively on his experiences while building the Lyttelton tunnel and the road over Arthur’s Pass.

Sir Julius von Haast, who was a son-in-law of Edward Dobson, was a founder and lecturer at Canterbury University College which was constituted under the Canterbury College Ordinance of 21st May, 1873. Edward Dobson also was a lecturer at the College and virtually the founder of the College’s School of Engineering.

CHAPTER 18

WESTLAND PROVINCIAL SURVEYS

The County of Westland Act, which came into force on 23rd October, 1868 gave Westland a measure of self Government. This Act had been anticipated earlier in the year by the establishment of a separate Waste Lands Department at Hokitika with G. S. Sale as Commissioner of Crown Lands and Malcolm Fraser as Chief Surveyor. The position was regularised by the General Assembly which passed the Westland Waste Lands Act in 1870. However it was not until 1st December, 1873 that Westland achieved Provincial status, by Proclamation Gazetted on 6th November, pursuant to the Province of Westland Act, 1873.

In January, 1864 W. H. Revell, an officer of the Provincial Survey Department, arrived at Greymouth to replace Townsend as Agent in charge of the Government depot. On 2nd March, the following year, the Canterbury Provincial Council proclaimed Westland a goldfield, with Revell as Warden, and Hokitika the headquarters. Although be was not a surveyor Revell, with the assistance of Police Sergeant Broham in December, 1861 laid out three streets as the beginning of the town of Greymouth. (1) The following June he assisted John Rochfort to lay out the town of Hokitika, and in August he assisted Robert Bath to lay out a town at Paroa.

The Canterbury Provincial Council gazetted its “Rules and Regulations of the West Canterbury Gold Field” on 6th March. These followed closely those in force in the Otago goldfields and were identical with those of the Nelson South - West Goldfield. On 1st April, G. S. Sale was appointed Gold Field Commissioner to administer these regulations and he soon found it necessary to revise and extend the regulations to meet the special requirements appertaining in Westland. When he took charge he found that little if any land had been set aside as public reserves and that already some of the prospectors and miners in exercise of their “miner’s rights” were squatting on land needed for roads and public purposes, and he had to arrange for their removal.

The first surveyors in Westland and their assistants had an unenviable task. Before the goldfields had opened several had already met untimely deaths by drowning. While the surveys were still being controlled by Canterbury the surveyors were reporting regularly to the Chief Surveyor at Christchurch. On his correspondence files were to be found many letters from Westland telling of the hardships endured by the surveyors who were caught up in the throes of the first gold rushes. They were finding it extremely difficult to live on their usual comparatively low salaries and wages, when ordinary food prices in the goldfields were soaring e.g. flour as much as two shillings a pound. Most of the goods could be brought in only by sea and scores of ships were arriving, not only from New Zealand ports but also from Australia, Great Britain, the United States and elsewhere, bringing thousands of miners, prospectors and speculators, many of whom were ill-prepared for the conditions under which they would have to live and work. As there were no really safe harbours available on this notoriously stormy coast, most of the passengers and goods had to be landed in the ships’ boats. A number of ships were stranded and destroyed and many lives were lost when ships’ boats were upset in the surf during stormy weather. The difficulties were not over when the passengers and

goods were landed. At first there was little shelter available and canvas dwellings were the order of the day in this notoriously wet climate.

There were no facilities for transporting goods except by boat or canoe on the rivers and the coat of such transport was high. There were no formed roads and few pack tracks. As there was no indigenous pasturage suitable for the maintenance of teams of draught or pack animals all forage had to be imported and consequently the heavy cost of pack transport was added to the cost of living.

The problems of supplying a large and rapidly increasing population in a remote and foodless area were enormous and in 1865, owing to the frequent storms which prevented the landing of goods, there was a serious threat of famine. Thousands of ,sheep and cattle were driven over the Hurunui saddle but owing to the atrocious nature of the track which soon became a quagmire in the wintry weather, the stock losses were heavy before the coast was reached. Some livestock was shipped from Hew Zealand ports and from Australia but again stock losses were heavy. Hutton and beef were expensive.

Only those survey parties who were within reach of the Government Depot could live reasonably. There is on record that one staff surveyor went missing. Then after several weeks his usual monthly report had not reached the Chief Surveyor at Christchurch, enquiries were instituted through the Police Department. He was found living, or rather hiding, in the bush in a remote area with several miners who also were being sought. In his report to the Chief Surveyor he stated that he and his party had exhausted their cash and no further credit was being extended to them by the storekeepers. He had been sued for debt and judgment given against him and was now being sought by his creditors. Prices were exorbitant and he was subsisting on birds and fish. His men had deserted him and joined the gold rush and he was almost destitute. In fact this state of affairs was not uncommon on the West Coast at that time. (2)

Some of the prospectors worked their way down the coast south of Hokitika and found alluvial gold in most of the rivers as far south as Bruce Bay. Soon miners from the Otago fields were making their way over Haast Pass to the West Coast diggings The Native Reserves in southern Westland had not yet been defined by survey and Alexander Mackay who had been appointed Land Purchase Commissioner for the South Island was sent to finalise the boundaries. Gerhard Mueller, a Southland surveyor was employed on contract to define these reserves. He arrived in Hokitika in September, 1865 and went on by the ship Bruce to Bruce Bay (Mahitahi) taking with him a whaleboat for use during the surveys. With a mixed party of Europeans and Maoris he laid out the reserves and while still employed on this work he was appointed Assistant Surveyor on the Canterbury Provincial staff on 2nd May. Soon afterwards he was promoted District Surveyor for South Westland. About the same time

Messrs. J. S. Browning and Robert Bain were appointed District Surveyors in Westland. (3)

Inevitably in the transient and itinerant populace of the goldfields were to be found criminal elements and a number of robberies and several murders occurred in the New Zealand goldfields. It was impossible for the small police force to give adequate protection in the heavily forested ill roaded districts of the

West Coast where miners and bank officials were transporting quantities of gold. One of the victims of the most notorious gang of criminals which harassed the West Coast Goldfields was George Dobson. On 28th May, 1866 he was travelling alone down the Arnold track inspecting the route in his capacity as District Road Engineer when he was accosted by four men. Later it transpired that these notorious bush-rangers had mistaken him for Mr. E. B. Fox, bank official and gold buyer and courier at the Arnold diggings. Dobson was strangled and buried in a shallow grave in the bush. The disappearance of Dobson was soon noticed and search parties led by police and the surveyors, Messrs. Edward Dobson, John Rochfort, R. J. S. Harman, E. H. Bold and G. Mueller, scoured the district without success. Several weeks later, however, the criminals were apprehended following several murders they had perpetrated at Maungatapu on the road from Nelson to the Wakamarina diggings. One of the gang, Joseph Sullivan, turned Queen's evidence and disclosed a number of crimes, including the murder of George Dobson. The other members of the gang Richard Burgess, Thomas Noon (alias Kelly) and William Levy, all with criminal records were executed, but Sullivan was brought back to Hokitika and Dobson' s grave was located. (4)

The Canterbury Provincial Geologist, Dr. Julius von Haast, .made a brief geological survey of southern Westland in 1868. He made his headquarters at Bruce Bay and had his assistants two prospectors, Messrs. Charles Douglas and William Docherty. Most of their travelling was coastwise in an open boat. The region along the coast southward of Bruce Bay and Parings was explored. Shortly afterwards Haast's engagement as Provincial Geologist terminated and he then founded and became Curator of the Canterbury Museum. The New Zealand Geological Survey Department was founded by Dr. (later Sir) James Hector, in 1865 and Haast was employed from time to tine by the Department as Acting Geological Surveyor in the Nelson and Canterbury Provinces. In 1869 he again visited the Mount Cook region taking E. P. Sealy as his topographical surveyor. (5)

Charles Douglas became a peripatetic and inveterate explorer who virtually devoted the rest of his life to exploration, mapping and sketching the rivers, ravines and mountains of the remoter uninhabited regions of Westland. He was of great assistance to the surveyors, especially Gerhard Mueller and George Roberts who were mainly responsible for the triangulation surveys. Douglas was employed by the Lands and Survey Department in the capacity of Explorer, a position unique in the annals of the Department. Often he worked in solitude in the most rugged and uninhabited districts with only his dog for companionship. Sometimes he had the company of a kindred spirit like his friend A. P. Harper, another inveterate explorer. Besides his topographical work Douglas supplied the Department with mineral and plant specimens. Some of his reports are to be found in the Appendices to the Journals of the House of Representatives of that period. (6)

In July 1871 Gerhard Mueller succeeded Malcolm Fraser as Chief Surveyor for Westland. Up to that time the staff surveyors had been occupied mainly in laying out village sites, roads and mining claims and water easements and assisting the Warden' s Court to settle disputes over the boundaries of mining claims and in fact were preoccupied with the establishment of the mining industry.

The telegraph line from Christchurch to Hokitika had been surveyed and was opened February, 1866. A month later when the road over Arthur' a Pass was suitable for wheeled traffic, the first mail coach ran from Christchurch to Hokitika. Previously the mail had been carried by pack horse, or by shipping which was not altogether reliable. (7)

The construction of roads to connect Hokitika and Greymouth and Hokitika to Okarito were commenced. At first some of the main roads were built as bush tramways with horse drawn trams running on wooden rails. During the 1870's macadamised roads were built and mail coach lines developed.

The construction of a railway linking Christchurch with Hokitika was mooted soon after the goldfield was opened and a reconnaissance survey was made from Horsley Downs, in North Canterbury, to Hokitika, via Harper's Pass, but the estimated cost of construction was far beyond the financial resources of the Province at that time a the scheme was dropped.

Gerhard Mueller attended the conference of Provincial Chief Surveyors at Wellington in April, 1873, and on his return initiated the triangulation survey of Westland. Most of the field work of this survey was carried out by G. J. Roberts and the purpose of the survey was to connect and adjust all previous surveys. Owing to the nature of the heavily forested terrain and the extremely wet climate and the fact that a number of the trigonometrical stations were sited on mountain peaks of from 6,000 to 7,000 feet in elevation, the work took several years to complete. The surveyors were at the mercy of the weather. At times, after an arduous climb to a station bad weather and cloudy conditions would intervene and delay the observations for days at a time. The work was extremely arduous and tested the physique of the men and their mountaineering skills as well as their tempers.

In 1881 Roberts final connected the Westland triangulation with that of Canterbury east of the Southern Alps, but the work had taken a heavy toll of his health and he had to give up field work.

CHAPTER 18

WESTLAND PROVINCIAL SURVEYS

1. Evidently it was the importunities of the tradesmen who were waiting for building sites that forced Revell to peg out a road line, however crooked, without waiting for the services of a surveyor. See also “The West Coast Gold Rushes” by May, 1967 edition, p.99.

2. In 1923 the present writer was one of four staff members who were given the task of purging the Files of the Chief Surveyor at Christchurch of all irrelevant and redundant correspondence. The descriptions given here of the state of affairs in West land in 1865-66 are a brief précis of that correspondence.

3. See also - “My Dear Bannie” edited by Miss M. Mueller (Pegasus Press) for an account of Gerhard Mueller’s first years in Westland, 1865-66.

4. See “Death Round the Bend” by J. Halket Miller, for the complete story of the “Burgess Gang”.

5. See “The life and Times of Sir Julius von Haast by H. F. von Haast, 1948, for a complete biography.

6. See “Mr. Explorer Douglas” edited by John Pascoe, (A. H. Reed) for a complete biography of Charles Edward Douglas.

7. The loss of the mail vessels “S. S. Swan” near Castlepoint on 29th June, and of “S. S. Lord Worsley” on the Taranaki coast on 1st September, 1862, caused the Government to seek the earliest opportunities of a contracts for overland transport of mails.

CHAPTER 19

OTAGO PROVINCIAL SURVEYORS

In accordance with the New Zealand Constitution Act of 1852 the Province of Otago was established by Proclamation dated 28th February, 1853. Territorially Otago was a very large province but in 1853 little was known of the interior beyond the boundaries of the Otago Association's Block, to which settlement and development had been confined. The Province comprised the southern part of the South Island. Its northern boundary ran with that of Canterbury, but as yet the boundary had not been surveyed and except for the main course of the Waitaki River much of the boundary was indefinite.

The southern part of the Province, comprising about half of the total area, was the vast Murihiku block which was still in Maori ownership. The northern boundary of Murihiku was described as a line from Milford Haven (Sound) on the west coast to Nugget Point on the east coast. W. J. W. Hamilton had suggested in 1850 that this territory could be purchased for the Crown for the sum of £2,000 and the following year Walter Mantell, who had been appointed Commissioner of Crown Lands and Land Purchase Commissioner for Otago, set about arranging the purchase.

Towards the end of 1851 Mantell, accompanied by Messrs. Findlater and W. H. Stephen, made the first overland journey from Dunedin to Bluff. On New Year's Day, 1852, they were joined by Messrs. C. J. Nairn and C. J. Pharazyn. Mantell and his party then travelled overland coastwise to the Waiau River while Nairn and Stephen went overland from Riverton to the headwaters of the Waiau and on to Lake Te Anau, which they reached on 26th January. They then rejoined Mantell and the whole party returned to Dunedin. They had met many of the Maori owners and had commenced negotiations. These proved to be very protracted and it visa not until 17th August, i353 that the deed of sale was finally signed by 58 Maori owners. The price was £2,000 but to completely satisfy the vendors an additional £600 was paid and the Native reserves, as agreed upon with Mantell, were surveyed by Charles Kettle. (1)

In February, 1851 Kettle who was both Chief Surveyor and Registrar of Deeds, made a reconnaissance survey starting from Waikouaiti and going westward across rough country, reached the Strath Taieri Plains. He then went up the Taieri River some miles and crossed north-eastwards the encircling hills, from which he had a distant view of the Maniototo Plains. Then turning eastward he completed the circuit of that part of the interior.

In January, 1854 Mantell left Dunedin for Bluff where he had arranged to meet the southern Maoris and pay them their share of the Murihiku purchase money. He was accompanied by Constable H. Prance and several prospective pastoralists, namely Dr. D. J. A. Menzies, Captain E. H. W. Bellairs and Messrs. A. Cameron, J. Studholme and Stewart. On the southward journey some time was spent in exploration. The Country was virtually uninhabited and covered with a rank impeding growth of scrub and tussock interspersed with swamp land. At one stage of the journey tragedy was narrowly averted. Menzies and Cameron had gone off for a couple of days to examine the district that is now known as Croydon. They then turned towards Tuturau (near Mataura) to

explore in that direction but found themselves enveloped in a swiftly travelling prairie fire. The other members of the party had been exploring the country between Mataura Palls and Otu Creek and to facilitate travelling had set fire to the tussocks, ignorant of the fact that the fire was travelling towards their absent companions. Enveloped in a dense pall of suffocating smoke Menzies and Cameron decided to make a dash through it in the direction whence came the least sound of crackling flames. By good fortune they reached a place where the vegetation was sparse and were able to break through the wall of smoke and flame when almost at the end of their endurance. Continuing their journey Mantell and Bellairs covered new ground by travelling down the east bank of the Mataura to the sea at Toetoes Bay. They traversed densely covered savannah-like country and from the mouth of the Mataura to Bluff they crossed two major rivers and had to skirt around many miles of swamps. (2)

The Land Regulations for the Province of Otago were promulgated by Governor's Proclamation dated 12th February, 1856. Previously the leasing and disposal of Crown Lands was controlled by the General Land Regulations issued by the Governor in March, 1853. The following year the Waste Lands Act confirmed these Regulations and empowered the Governor to issue Regulations framed by the Superintendent and Council of any Province.

In the Otago Regulations of 1856 –

Part I divided the waste lands of the Crown into town land and rural land.

Part II directed town land to be sold by auction.

Part III dealing with rural land, set the basic price at 10 shillings ($1) per acre and stipulated the conditions applicable to sale or lease; sat out the requirements for public reserves and for the reservation of minerals and for timber, etc. etc. and specified the requirements for surveying.

Inter alia these Regulations provided for the resumption of leasehold land when required for closer settlement. Such land was proclaimed a "hundred" and the lease was terminated accordingly and the land subdivided for sale or lease. (3)

The "hundreds" system was succinctly and neatly epitomised by James Mclndoe a member of the Provincial Council when he wrote - "the Regulations under which public or Waste Lands are sold are various. The original, and still leading method, is the "Hundred" system - which means a large piece of agricultural country selected within natural and easily defined boundaries and surveyed in sections of from 50 to 100 acres. On the survey being completed, the land is declared open for and on a day fixed by advertisement and at the uniform price of £1 ($2) an acre. In making the application a deposit of 10 per cent, or 2/- (20 cents) per acre is paid and if one applicant only puts in a claim for any number of sections, he is forthwith declared the purchaser, pays the balance of purchase money within ten days and gets a certificate of purchase on which a Crown Grant is issued. If more than one person applies for the same land on the same day, the sections applied for are advertised for sale by auction and the highest bidder becomes the purchaser. Only those who purchase land within the 'hundred' have the right of running stock on the unsold portions; and the license to depasture is issued according to a fixed scale, the cost being yearly 3s. 6d. (35 cents) a head for great cattle and 7d. a head for sheep. This

assessment, after paying the cost of collection, is applied to forming and making roads within the ‘hundred’. The holder of land has the privilege of free grazing for a certain number of stock. After the expiry of seven years from the date of the proclamation, any land remaining within it (the ‘hundred’) unsold, may be put up to auction at 1o/- ($1) per acre and knocked down to the best bidder. There are no conditions attached to this system of sale either as to the extent of land one man may purchase, or as to residence or cultivation.” (4)

The graziers and prospective graziers, including a number of the “squatter” faction, were g to take advantage of the depasturing licenses provided under the Crown Lands Ordinance Amendment Act of 1851 and subsequent legislation. Aided by the banks and other lending institutions they took up several hundred thousand acres on leasehold tenure although the land had not yet been surveyed, or roaded and undeterred by the fact that such leasehold land could at any time, if required for closer settlement, be proclaimed a ‘hundred’ and the lease terminated.

The applicants or their agents explored the unoccupied districts and within a year or two of the extinguishment of the native title most of the more easily accessible grazing land had been taken up. The area granted to each applicant was limited to an estimated maximum carrying capacity of 25,000 sheep. The applicant described the boundaries of the land he wished to lease and in most cases the boundaries so described were natural physical features such as rivers or mountain ranges. If there was no palpable clash with the boundaries described by adjoining lessees, the lease for a term of fourteen years was granted, subject to termination at any time should be land be required for closer settlement, and proclaimed a ‘hundred’. Surveys were deferred until such time as surveyors were available.

When the powers of disposal of Crown Lands by sale or lease passed to the Provinces in 1856 it soon became evident that the run holders, acting on the policy of “tat we have, we hold”, began to operate in the political arena to gain control of the legislative machinery to alter the regulations to suit their own ends. Plural voting was available to the owners of the larger properties, with a maximum of five votes for the owners of the largest. As a consequence the property owners dominated the legislature, and made the laws to suit themselves. This is evident from the almost annual occurrence of amendments to the Waste Lands Acts and the Land Regulations that were a feature of such legislation during the Provincial era.

A summary of the effects of such land administration is given by a correspondent in the issue of the Tuapeka Times dated 29th January, 1870 as follows :

“Squatting was the curse of the country and the ruin of the colonies, as it means the lands locked up in the hands of the few to the detriment of the many, thereby causing stagnation, stopping immigration and retarding the progress of the country for an indefinite term. The system was a sound one in the early days of the province, when they (the squatters) took runs and held them on the tenure that if they should be required at any time for public purposes they would be required to clear out on receiving twelve months’ notice without compensation. They clamoured for a fixity of tenure, and later for compensation, while always reiterating the bluff that they were promoting settlement.”

A provincial historian also was critical of the system when he wrote –

"The Deferred Payment system (Otago Land Act, 1872) was the weapon which finally won the battle for the settler. Up till 1874 the squatters ruled the Province, as they had control of the legislature, the local financial world (including the banks) the Commercial houses and the press (the one shining exception being the Tuapeka Times, which fought the squatters all the way and espoused the cause of the settler). With the increasing number of immigrants added to those who were leaving the mining industry and the younger sons of settlers looking for land, there was formed a body of men and voters whose demands could not be denied - and when their interests clashed with those of the squatters they were able to hold their own. And, again, the conservatives in politics had to face the new liberal which sponsored the claims of the small man against the privileged class who held the reins of power from the beginning. ... The history of the survey, subdivision and sale of blocks under the deferred pay system is throughout its initial stages and during the first years of its application a history of conflicting interests as between the runholder and the prospective settlers, with the Tuapeka Times as a lone voice espousing the cause of the settlers and speaking out at every opportunity." (5)

The Miner's Franchise Bill of 1860 had extended the franchise to the holders of Miner's Rights in the proclaimed minefields districts. The Miner's Right could be purchased for a fee of £1. It was the miner' a votes that gained the liberal faction the ascendancy in the legislature.

In 1851 Charles Kettle became a grazier as lessee of the Kaihiku run but retained his office as Chief Surveyor until 1854 when he resigned to give his time exclusively to farming. In 1860, his run having been included in the West Clutha Hundred and taken for closer settlement, he returned to Dunedin and the following year was elected Member of Parliament for Bruce.

Peter Proudfoot succeeded Kettle as Chief Surveyor in January, 1855, and in June he also became Commissioner of Crown Lands when Mantell resigned. Under Proudfoot's direction the preliminary surveys for the development of towns at Bluff and Invercargill were made by Alexander Garvie. Garvie also made extensive topographical surveys in eastern and central Otago to delineate the boundaries of the pastoral leases.

In May, 1856 John Turnbull Thomson, a very experienced surveyor who had been Chief Surveyor for the Straits Settlements, arrived in Dunedin to take up the office of Chief Surveyor which was relinquished by Proudfoot. Thomson's first task was to lay out the towns of Bluff and Invercargill. For the latter he chose a somewhat different site from that selected by Garvie. Thomson's town plans were officially approved by Surveyor General C. W. Ligar who fortuitously was visiting Otago at that time and was shortly to resign his office to become a grazier and run holder in Otago.

Thomson's next task was to initiate a major reconnaissance and topographical survey of Otago. Much of the ground to be covered had not previously been explored by Europeans end was little known to the Maoris. For this survey Thomson introduced methods by which reasonable accuracy could be achieved at minimum cost. By astronomical observations the exact latitude of Bluff Hill was determined and the same process was repeated at The Dome,

a mountain a little over L feet high, at a distance of about 70 miles almost due north of Bluff Hill. A geodesical computation gave the distance between the points of observation with considerable accuracy. A base line on which a triangulation could be built was thus provided and the considerable cost in time and money in manually measuring a long base line was avoided.

In the first three months of 1857 Thomson explored, surveyed and mapped a large tract of southern Otago extending from the Waiau River and the Taitapu range eastward to the Mataura River, comprising altogether nearly 2½ million acres. Sometimes on horseback, but mostly on foot, the survey party travelled almost 1,500 miles through country that was very sparsely populated. Thomson reported that there were 253 Europeans, 70 half-castes and 119 Maoris in the region, most of whom lived on the coast. On a number of occasions the party had difficulty with the horses where the country was covered with dense thorny vegetation and at other times when they had to swim the horses across deep ice-cold rivers. This part of the Otago survey was completed by the end of March when Thomson arrived back at Invercargill, to find that the first dwellings there were being erected. The first of these was Thomson's survey office, a slab sided edifice built of pong boles and thatched with toi toi.

In October Thomson continued his reconnaissance surveys in northern Otago. Commencing on the east coast from Dunedin northwards he adopted the same method of obtaining a base line by observing the latitudes of three prominent peaks; Mihiwaka, near port Chalmers; Puke Iwitai near the present town of Palmerston and Big Hill near the present town of Oamaru. During the following months he made a number of journeys into the interior, extending his surveys westward as far as Lakes Hawea, Wanaka, Ohau and Pukaki and in the course of his travels discovering Lindis Pass. By the end of January, 1858, he had mapped the northern region as far as the Canterbury Provincial boundary and had connected with his southern surveys of the previous year. The map of Otago bears the names given by Thomson to many of the principal physical features of the Province. From a distance he had sighted and named Mount Aspiring. He was the first European to sight Mount Cook from the east and although he made his observations from some considerable distance his computation of its height at 12,460 feet was remarkably close to that since more accurately determined as 12,349 feet.

As a result of Thomson's favourable reports concerning the availability of good pastoral country there began a considerable movement of sheep men to take up leasehold runs in the interior. It became necessary to extend the surveys westward. Thomson sent Alexander Garvie to expand the topographical survey in central Otago. This survey starting from the coast between the mouths of the Molyneux (Clutha) and the Tokomairiro embraced much of the drainage basins of those rivers and extended to the Manuherikia tributary of the Molyneux and included the territory lying between the Dunstan Mountains and the Raggedy and Lammerlaw ranges. Of the survey parties and the seekers of grazing runs who ventured further and further into the unoccupied hinterland it has been written 'the hardships encountered by these pioneer explorers of the mountainous terrain of Western Otago beggar description for only a knowledge of the country they traversed in their search for runs can convey an appreciation of the magnitude of their

achievements'. (7)

During the course of these surveys John Buchanan, one of Garvie' a assistants, had discovered the existence of alluvial gold in the Tuapeka and Molyneux (Clutha) rivers. On the earlier expedition of 1851 Pharazyn and Nairn had also reported finding traces of alluvial gold and in December, 1856 Surveyor General Charles Ligar had also reported finding traces of gold in the gravel of the Mataura River. At the time the Provincial authorities had taken little notice of these discoveries. The general feeling was expressed by Superintendent Cargill when he

observed that for several years past gold had been found in Auckland and Nelson Provinces but was as yet quite un-remunerative, and that in no circumstances would it be advisable to allow any searcher to go upon a run without leave of the lessee, or on native reserves without leave of the Maori owners. The prospectors persisted, however, and in January, 1861 the existence of a payable goldfield was established. Thomson's official investigation and confirming report was followed by the first of the Otago gold rushes.

James McKerrow joined Thomson's staff as Assistant Surveyor in December, 1859 and after two years on settlement surveys he was given the task of extending Thomson's reconnaissance surveys westward towards the coast. Commencing this survey in December, 1861 , during the next two years he surveyed nearly four million acres of land as well as six large lakes. Starting from Queenstown, which was as yet only a sheep station, he worked across Lake Wakatipu and down into Southland. In 1862, he carried the survey from Lake Wakatipu to Lake Wanaka. He surveyed Lakes Wanaka and Hawea and extended the survey of Matukituki valley which had been commenced by Jollie and Young in 1859 when surveying the Canterbury-Otago provincial boundary. In 1 863 he surveyed Lakes Te Anau and Manapouri and in the course of the survey reached Mount Pisgah from which he sighted Caswell Sound on the West Coast. Bad weather and the rugged bush clad terrain prevented him from carrying the survey to the coast. He next explored and mapped the country at the head of and northward of Lake Wakatipu. In the course of these surveys he traversed some of the highest and most rugged country to be found in New Zealand.

By order in Council dated 19th September, 1860 the General Government authorised the Otago Provincial Council to sell rural waste land at £1 ($2) per acre, thus doubling the previous upset price. The effect of this was to slow down the land sales and to allow the Provincial survey department to overtake some of the arrears of surveying and to enable the earlier issuing of the Crown grants to the purchasers of the freehold.

On December 10th 1856, the Provincial Council had passed the Land Sales and Leases Ordinance and thereby amended the Land Regulations by empowering the Waste Lands Board to sell 600,000 acres outside the existing "hundreds' in blocks of not less than 2,000 acres, at the usual price of 10/- per acre and without the usual condition that the purchaser must expend £2 per acre on improvements. The pastoral licensees were protected by the pre-emptive clauses in the event of their land being required for closer settlement, but they had no such protection if their leases were terminated on the land

being taken for the purposes of the 2,000 acre scheme. This Ordinance which adversely affected the runholder and licensees, led to agitation that ultimately caused the separation from the Otago Province and the constitution of Southland Province.

Three districts were surveyed for the purposes of the 2,000 acre scheme, the Half Way Bush district, (now the Mabel and Lothian Hundreds) by Robert Gillies, and the Lindhurst and Waimumu districts by C. W. Mountfort. The Provincial Council engaged the former Surveyor General Charles W. Ligar, to go to Australia to interest investors there in its 2,000 acre scheme and some 45,000 acres were sold in the area east and north of Woodlands. Others also took up large holdings in the areas set aside for the scheme and some of them made huge profits on the resale of the land two or three years later.

Led by Dr. D. J. A. Menzies the discontented southern run holders petitioned Parliament for separation from Otago Province. The New Provinces Act of 1858 was invoked with the result that Southland became a Province on 1st April, 1861. The new Province comprised the territory bounded by the Waiau River in the west and the Mataura River in the east. The Otago administration, which had opposed the separation, immediately notified all concerned that all public works in Southland started under the authority of the Otago regime would cease forthwith and that the Chief Surveyor and his staff were to return to Dunedin or to look to the Southland administration for their salaries and wages. At that time J. T. Thomson held the dual offices of Chief Surveyor and Provincial Engineer.

All doubts about the existence of a payable goldfield were dispelled in March, 1861 when a prospector from Tasmania, Thomas Gabriel Read, reported his discoveries in the Tuapeka district. Despite the fact that the district had not yet been proclaimed a goldfield, gold seekers immediately began to invade the district and stake out claims. Chief Surveyor Thomson was sent to investigate and report. The first Otago goldfield, embracing the Tuapeka watershed and the Waitahuna basin, was proclaimed on 1st August. There was a rapid influx of prospectors and miners from all parts of New Zealand and from overseas and in search for new goldfields they invaded all previously unexplored parts of the Province.

The Provincial Council sought the services of a competent geologist and on the recommendation of Sir Roderick Murchison, Director of the Geological Survey of Great Britain, Dr. James Hector, who had recently returned to Great Britain from Canada, where he had gained considerable experience as a geologist and surveyor, was appointed Provincial Geologist in 1861. He arrived in Dunedin the following year.

In 1862 the Council voted £1 ,000 for the purposes of exploring and assessing the mineral and other resources of the west coast of the Province and also the possibility of establishing a port with overland connection with Dunedin. An expedition was organized by the Chief Surveyor and Provincial Geologist. As a preliminary n Hector led a small party from Dunedin in January, 1863, going first to Lake Wanaka and then traversed the Matukituki river to its source and climbed Black Peak from which Hector examined the country to the westward. The following month with two companions he went to the headwaters of the west branch of the Matukituki. and crossed Hector Col and tackled the

precipitous descent which proved to be a severe test of the physique and skill of the climbers. Hector, who had gained much mountaineering experience in the Canadian Rockies, led the way across ice-fields and glaciers. They reached the terminal moraine in the bed of the Waipara River where they cached some of their provisions.

Thereafter progress was retarded by deep gorges and turbulent rivers but by strenuous and taxing exertions they reached Arawata River and got to within eight miles of Jacksons Bay. Through shortage of provisions they were compelled to retrace their steps and on very scanty rations they reached the cache at the glacier only to find that it had be discovered by rats and all but a tin of sardines had been devoured. To sustain them on the very difficult climb to the pass end their next food cache all the three men had was a very thin soup made from toi toi roots and six square inches of sheepskin and the sardines.

Similar experiences were endured by Patric Caples, a prospector who travelled alone and by a party of prospectors of which A. J. Barrington was a member. They also were exploring western Otago. All were reduced to starvation rations and suffered frostbite before again reaching inhabited regions. (9)

Hector next made a short expedition to Lake Wakatipu. where he traversed the Greenstone River with the idea of riding a pass that would lead to the west coast. Bad weather forced him to return to Queenstown but not before he had gained the impression that a route could be found from Wakatipu to the coast. The Provincial Council chartered the Matilda Hayes to take Hector to the west coast to commence his geological survey in advance of the projected official expedition to be led by Chief Surveyor Thomson.

Before Hector sailed, however, three private expeditions of gold seekers had set out for the coast. The first of these under Messrs. Symms and Sutcliffe in the Courier set out early in 1863 but in April the weather was so atrocious that most of the party returned to Port Chalmers, leaving six prospectors with the ship's whaleboat and a depot with ten months' provisions. It was this party which subsequently joined up with Robert Bain, the Canterbury surveyor at Jackson's Bay, and it was one of them who was drowned while attempting to cross the Arawata River.

The second expedition of prospectors sailed in the Aquila to Milford Sound which was used as a base to explore the coast from Milford to Awarua Bay. Their prospecting, which proved unsuccessful so far as the finding of gold was concerned, included Lakes McKerrow and Alabaster and the Pyke and Hollyford Rivers of which the latter had previously been explored by Caples.

The third team of prospectors sailed in the cutter Nugget and called first at Bligh Sound late in April. There the country proved so inhospitable that they moved on to Jackson's Bay. Arawata River was explored and also the country between the Waiatoto River and the Haast. One party traversed the Clarke and Landsborough rivers and another went up the Haast for some distance. Next the country between the Waiatoto and Cascade rivers was searched. The results of all of this prospecting were disappointing as little sign of gold was found. The party returned to Invercargill in November.

When Dr. Hector reached Milford Sound in the Matilda Hayes he first ascended the Cleddau River in search of a route to Queenstown. The towering cliffs at the headwaters forced him to turn back to Milford Sound and he then went to Martin's Bay and traversed Lake McKerrow and the Hollyford River and crossed over the range and reached Lake Howden and went on to Lake McKellar which drained into Greenstone River. Hector was now on familiar ground and went down the Greenstone to Lake Wakatipu and crossed to Queenstown. As a result of these explorations the Provincial Council abandoned all ideas of a workable port on the west coast.

The opening up of the goldfields in 1861 and the subsequent gold rushes caused a great influx of population to the Province. An impetus was given to all phases of development, including the agricultural and pastoral industries. Roads had to be built and new towns developed. In 1858-59 town sites had been surveyed by E. V. Briscoe at Oamaru and Moeraki (Hampden).

In Central Otago the town of Lawrence was laid out by Robert Grigor in 1862. The following year the townships of Clyde, Alexandra, Cromwell and Pembroke were surveyed by J. A. Connell; Roxburgh by J. Moran; Queenstown by C. B. Shanks and Balclutha by E. Campbell. (10)

The Provincial Triangulation Survey was commenced in 1857 by Alexander Garvie with the measurement of a base line on Taieri Plains. During the Provincial era varying progress was made, the best return being 885 square miles in the 1860-61 season.

In 1859 Chief Surveyor J. T. Thomson introduced the survey system which, in effect, obtains throughout the Dominion today. The system of subdivision into Section, Block and District for title purposes was adopted. In 1863 the term "Survey" was prefixed to "District". At first the districts following settlement south from Dunedin to Clinton were irregular in shape, but in 1867 soon after the administration of Goldfield surveys was brought under the Chief Surveyor, a rectangular shape for Survey Districts was adopted.

The Crown Grant Record Maps for Otago were prepared in 1860 by Mr. John Reid of the survey staff. The purpose of producing these maps, according to Chief Surveyor Thomson, was to provide an authentic groundwork of all titles to land and would be of intrinsic service at a future time in the preservation of land titles. A series of Road Record Maps, produced during the period 1860-70, was also inaugurated and showed the legal status of all roads in the Province. These Record Maps coalesced all previous surveys made by the survey staff of the New Zealand Company, and by the Land Purchase Department and by the Provincial survey staff. Similar Record Maps were prepared in the other Provinces and were regarded as authoritative on all questions concerning land titles and the publicity of roads.

Thomson was strongly critical of the system of "spotting" surveys then being carried out by private surveyors practising in the Province. In 1861 he promulgated regulations for conducting all survey work and these later became the model for similar regulations in the other Provinces. In 1866 the gold-field surveys were brought under his jurisdiction and in 1869 he established a Board to examine applicants for licences as mining surveyors. Survey offices were established at Clyde, Lawrence, Queenstown and Hamilton.

Prior to 1860 the Chief Surveyor was also Provincial Engineer, responsible for public works. In May 1860 a separate Public Works Department for the Province was instituted with John Roy as Engineer. The following year, however, Roy resigned and J. T. Thomson resumed the duties of Provincial Engineer. Although this office was held for short periods between 1863 and 1 868 by Messrs. C.R. Swyer and T. Paterson it again reverted to Thomson in 1868. He was responsible for the construction of most of the major roads and bridges and also drainage and harbour works, from 1859 to 1873. In the latter year he was appointed Chief Commissioner of Surveys and Works and on the dissolution of the Provinces in 1876 he became Surveyor General. His successor as Chief Surveyor for Otago in 1873 was James McKerrow.

The idea of placing a settlement on the west coast was furthered in 1863 when William Arthur was sent to check the route previously explored by Dr. James Hector. Two years later Francis Howden, an experienced road surveyor, was sent to appraise the practicability of road construction over this route. Yet again in 1867 W. C. Wright was sent to Martin's Bay to explore the possibility of a road from there to Lake Wakatipu. On 5th January, 1870 James McKerrow commenced the construction of a bridle track over the Routeburn with the intention of ultimately connecting with Martin's Bay. He also went over the route, travelling via the Routeburn to Lake Harris and the Hollyford valley and on to Martin's Bay.

The paddle steamer Charles Edward was dispatched from Dunedin on 26th February for Martin's Bay with a party of surveyors and some prospective settlers. In negotiating the Lower Hollyford the steamer ran into difficulties but the passengers and cargo were safely delivered on the eastern shore of Lake McKerrow. On the way downstream the steamer fouled a snag and had to be run aground. Captain W. Thomson had to send to Hokitika for assistance in re-floating his vessel. Meanwhile the survey parties led by Samuel Thompson and John Strauchon, surveyors, and James McKenzie, survey cadet, set about laying out a township, named Jamestown, and a number of rural allotments. A number of these town and rural lots were sold but only a few were subsequently occupied and worked by the purchasers. For a few years the settlement was served by coastwise shipping which was subsidised by the Government for carrying mail, and called at Martin's Bay once a month. When this service proved unprofitable and became less frequent, and when also the road to Queenstown failed to materialise, the settlers eventually abandoned the settlement. (11)

Owing to the discovery of coal and indications of gold at Preservation Inlet, Adam Johnston was sent there by the Provincial Government towards the end of 1868 to make a topographical survey. He reported on the area in February the following year. He surveyed Cromarty which survived for a few years as a mining township.

The surveying and construction of the main road linking Dunedin and Invercargill commenced in 1856 and, until the Province could raise the funds for major bridge construction, ferries had to be provided to cross the Clutha and Mataura Rivers.

For the General Government, telegraph lines were surveyed and the service was operating by May, 1865, when Bluff, Invercargill Dunedin and Christchurch were linked.

Roads had been surveyed to connect the main centres of population in the Province and many miles of main roads had been built but it was not until April, 1864 that a regular coach service between Invercargill and Dunedin was established. Lines for railways were surveyed during the Provincial era but most of the construction was done by the General Government.

The line from Port Chalmers to Dunedin was built under contract to the Provincial Government and was taken over by the Provincial Council and opened to traffic in January, 1873. Construction of the main trunk railway between Dunedin and Invercargill and that between Dunedin and Christchurch had commenced but these lines were not completed until after the dissolution of Provincial Government.

Owing to the lack of roads and bridges, and of a safe port, and the fact that main industries were agricultural and pastoral, northern Otago was developed at a much slower pace than the gold-bearing central districts. In 1859 Alexander Garvie laid out the township at Blueskin Bay, later renamed Waitati. The following year Edwin Fairburn laid out the towns on the reserved sites at Hampden and Oamaru. In 1862 Palmerston was surveyed by Alexander Dundas. In July the following year the construction of the main road was sufficiently advanced, and the river ferries available, to allow the commencement of a coach service, twice a week, between Dunedin and Christchurch.

Oamaru, which developed as the principal centre in northern Otago, was the only feasible port, but during the Provincial era it remained an open roadstead served by land based surf boats. In the fifteen years from 1860 to 1875 no less than 33 vessels of all sizes were wrecked in the vicinity while working this port.

Reporting to Parliament in 1875 on the state of the surveys in New Zealand Major H. S. Palmer, R. E. had little fault to find with the methods introduced for the control and recording of surveys in Otago. Subsequently Thomson was appointed by the General Government to visit the other Provinces and evaluate the methods then in use. To Thomson and to Theophilus Heale can be attributed in no small measure the system of surveying and survey records subsequently adopted for New Zealand. (12)

CHAPTER 19

OTAGO PROVINCIAL SURVEYS

1. For a more complete account see “The Pioneers Explore Otago” by J. Herries Beattie (1947 pp. 20 to 24 derived from the reports and journals of Mantell and Nairn.

2. Ibid - p.37 etc.

3. See “The History of Land Legislation and Settlement in New Zealand” by W. R. Jourdain. (Government Printer) 1924 pp. 86 to 89, for a resume of land laws and regulations of Otago Province.

4. See “A Sketch of Otago” by James McIndoe 1878.

5. See “Beyond the Blue Mountains” by F. W .G. Miller. (Otago Centennial Historical Publications) 1954 p.39

6. For a concise account of J. T. Thomson’s explorations and a complete list of reference works see “Mr. Surveyor Thomson” by John Hall-Jones (a great grandson of J. T. Thomson) - Published by A.H. and A. W. Reed (1968)

7. See “History of Otago” by A.H. McLintock. (Centennial Publications) l949 p.430

8. For a concise account see “The Exploration of New Zealand” by W. G. McClymont, (Oxford University Press) 1959, p.82 etc.

9. For a complete account see “Early Travellers in New Zealand” by Nancy M. Taylor (Clarendon Press, Oxford) 1959, pp. 387-419.

10. For a complete list of towns and the surveyors concerned see “Nineteenth Century Otago and Southland Town Plans” compiled by R. P. Hargreaves, (University of Otago Press) 1968.

11. For an account of this settlement see “Pioneers of Martins Bay” by Alice McKenzie. (Whitcombe & Tombs Ltd.) 1947.

12. For Major Palmer’s report, dated 5th April, 1875, see A. J. H. R. - H.1 - 1875.

CHAPTER 20

SOUTHLAND (INCLUDING STEWART ISLAND)

PROVINCIAL SURVEYS

Southland, which was established on 1st April, 1861, was the smallest of the Provinces. Its western boundary was the Waiau River from the sea to Lake Manapouri. The northern boundary meandered from the outfall of the Waiau River, at the lake, to a point on the Oreti River and thence to Ayre Peak (6350 ft.) and thence to the source of the Mataura River. The eastern boundary was the Mataura River from its source to the sea. The northern boundary was eventually defined by survey, by James Dundas, in 1868. (1)

An office of the Otago Waste Lands Department was opened at Invercargill on 24 October, 1857, with Walter Henry Pearson as Acting Commissioner. When Southland separated from Otago, Pearson remained as Commissioner but, because the Otago Provincial survey staff had been withdrawn, Southland lacked a Survey Department. In September, 1861, the new administration appointed Theophilus Heale as Chief Surveyor and three months later he was given the additional appointment as Provincial Engineer.

Heale's survey staff at commencement comprised C. Stevens and G. F. Richardson. The latter had formerly been a cadet with James McKerrow. Towards the end of the year J. H. Baker and J. A. McArthur were appointed Assistant Surveyors. Resident contract surveyors were P. H. Giesow and G. Mueller, both of whom were expatriate Germans and brothers-in-law of J. A. McArthur. All staff and contract surveyors were engaged mainly in the subdivision of Waste Lands for settlement. (2)

In August, 1862, Baker assisted James McKerrow on a geodetic survey to connect Stewart Island to the Southland trigonometrical survey. This was followed by an hydrographical survey of the New River estuary. Assisted by M. Pugh, survey cadet, Baker then continued with the expansion of the Southland trigonometrical survey, on which Mueller was also engaged.

The Stewart Island Annexation Act, which became effective on 3rd December, 1863, annexed this island, and all adjacent islands, to the Province of Southland. At that time all of the islands were still in Maori ownership, but negotiations were proceeding for their purchase by the Crown. The following year Land Purchase Commissioner Henry Tacy Clarke concluded the purchase for the sum of £6,000, subject to the reservation by the vendors of certain lands specified in the deed of sale. These reserves which required to be surveyed, were the subject of the Stewart Islands Act of 1873.

The founding of Southland had coincided with the opening up of the Otago goldfields. It was soon realised t the Southlanders that for heavy freight a railway connection between Bluff and Lake Wakatipu would be more serviceable to the Wakatipu and Dunstan goldfields than a railway connection between Wakatipu and Dunedin. Southland Provincial Council, despite strong opposition from Otago, set out to construct the railway from Bluff to Lake Wakatipu, where the township of Kingston eventually was laid out. The line from Bluff to Invercargill was surveyed in 1863 and construction commenced. In February, 1867, it was opened to traffic. The line northward of Invercargill was surveyed along the Oreti River and construction commenced. The Province,

however, lacked the finance to purchase steel rails and on the Oreti Tramway, as an interim measure instigated by Theophilus Heale, wooden rails were used. Subsequently the wooden rails were replaced by steel and the line was completed to Kingston and opened to traffic on 10th July, 1878. (3)

The main crossing place for the Dunedin-Invercargill highway at the Mataura River was named Longford. There in 1862 a Government township comprising a dozen half-acre sections was laid out as the nucleus of a town. When the Dunedin-Invercargill railway construction reached Longford in 1874 and the Mataura was bridged, a town was laid out by District Surveyor G. F. Richardson and Longford was renamed Gore. This town became an important trading centre railway junction when the railway from Gore to Lumsden was built and the large land holdings on the Waimea Plains were subdivided for closer settlement.

Large blocks in Southland had been freeholded under the Otago Provincial Council's Land Sales and Leases Ordinance of 1856, commonly known as the "2,000 acres scheme" and the main cause of Southland's secession. A number of these large freeholdings were situated within the "Black Belt" (so called by the adversely affected leaseholders) which was a broad band of country lying between the Aparima and Mataura Rivers and purporting to contain about 600,000 acres. Groups of these freeholders subsequently amalgamated to form land companies for the purpose of subdividing and exploiting their holdings. Probably the best known of these companies, all of whom employed contract surveyors for the development work, was the New Zealand and Australian Land Company. (4)

Prominent among the freeholders was Peter MacKellar, a surveyor from Great Britain, who with his brothers David and John, had gained experience as graziers in Australia and subsequently had been attracted to New Zealand by the "2,000 acre" scheme and had acquired large holdings on the Waimea Plains. Peter MacKellar and Alexander McNab had explored the region in 1855 and were among the first to settle there. Five years later David MacKellar and George Gunn explored the country between Lakes Te Anau and Wakatipu and MacKellar produced a map of the region.

In 1864, owing to its very ambitious public works commitments, the Province was on the verge of bankruptcy and had great difficulty in meeting its obligations. In December, Theophilus Heale was temporarily absent from the Province when the Council elections were held. He was a candidate for the office of Superintendent and was successful. However he did not command a majority of supporters in the new Council and he did not hold the office. The General Government offered him the appointment of Inspector of Surveys in the Native Lands Purchase Department and he did not return to Southland. On his recommendation J. H. Baker, who had been Acting Chief Surveyor during his absence, was appointed Chief Surveyor for Southland, and took office on 4th July, 1865.

The new Chief Surveyor, only twenty four years of age when he was appointed, faced a policy of retrenchment and for a while was without a permanent field staff. All of the staff surveyors had been dismissed but were allotted "districts" in which they carried out, under contract, such surveys as were necessary.

With his penchant for exploration, Baker assiduously and energetically visited all parts of the Province in the course of his work during his term of office. In October, 1865 after the loss of several ships had been reported, he was sent on an expedition to the Auckland Islands to search f or survivors. With him went G. F. Richardson as a reporter for the Southland Times. Baker then visited all of the settled districts of the Province and with Thomas Paterson, the Provincial Railway Engineer, he planned the routes for railway extensions. He was appointed a Commissioner of Waste Lands in addition to his office as Chief Surveyor and under his direction ample reserves for public utilities were established for future development. He strongly advocated town and country planning well in advance of settlement, an aspect of development which, in his view, had received insufficient attention in the past.

In 1867 Baker accompanied Governor Grey on a visit to Stewart Island when the subject of the Native Reserves was reviewed but it was not until May, 1870, that Charles Heaphy, Commissioner of Native Reserves, and G. S. Cooper, Secretary of Native Affairs, visited Invercargill and the location of the reserves on the mainland and on Stewart Island was settled. Baker made a triangulation survey of Stewart Island and the adjacent Islands and supervised the surveying of the reserves.

Southland was still existing precariously as a Province in 1870 when negotiations with the Otago Provincial Council resulted in the Otago and Southland Union Act and Southland was re-annexed to Otago on 6th October. As a consequence the Invercargill Survey Office became an adjunct of the Otago Survey Department with J. T. Thomson as Chief Surveyor. However the Act provided for the retention of the separate Waste Land Boards and Commissioners of Crown Lands. J. T. Thomson was Commissioner for Otago and W. H. Pearson for Southland. J. H. Baker was in charge of the Southland surveys as Inspector of Surveys.

The more important townships and towns laid out in Southland under Baker's direction as Chief Surveyor and Inspector of Surveys, and the names of the surveyors responsible, are as follows :- [5]

Orepuki,	1866	J. Dundas
Mataura Bridge,	1868	J. E. F. Coyle
Mataura Bridge,	1874	T. Maben
Wyndham,	1869	G. F. Richardson
Longbush,	1871	G. F. Richardson
Gore,	1874	G. F. Richardson
Mataura,	1874	G. F. Richardson
Winton,	1871	G. Mackenzie
Otautau,	1872	E. Tanner

In March, 1872, Baker commenced the standard survey of Invercargill at which he worked intermittently at such times as the performance of his many other duties would allow. This standard survey was completed in 1874.

J. T. Thomson relinquished the office of Chief Surveyor in November, 1873, when he was appointed Chief Commissioner of Crown Lands and head of the Waste Lands Board f or Otago. James McKerrow succeeded him as Chief Surveyor.

At the request of the General Government, Major H. S. Palmer, R. E. visited the various Provinces in January and February, 1875, to examine and report on the state of the surveys in New Zealand. In his report he highly commended J. T. Thomson and James McKerrow for the systematic methods of survey and of survey records that they had introduced in Otago and Southland. (6) Thomson's system of survey control, land appellations and survey recording, was subsequently adopted as standard throughout New Zealand. Following the abolition of Provincial Government in 1876, Thomson was appointed Surveyor General and given the responsibility of organising the Lands and Survey Department. He chose James McKerrow as his Assistant Surveyor General. John Holland Baker was appointed

Chief Surveyor for the Canterbury Land District when Samuel Hewlings retired at the end of 1876.

CHAPTER 20

SOUTHLAND (INCLUDING STEWART ISLAND)

PROVINCIAL SURVEYS

1. Southland established on 1st April, 1861, by Order-in- Council, in which the boundaries are described.

2. “A Surveyor in New Zealand, 1857-1896”. The recollections of J. H. Baker. Edited by Noeline Baker and based on his diaries for that period. These diaries are now deposited in Turnbull Library.

   “My Dear Bannie” (Edited by M. V. Mueller and published by Pegasus Press, 1958). Based on Gerhard Mueller’s letters from the West Coast, 1865-66, it gives some account of J. A. McArthur and F. H. Giesow as well as Mueller.

3. For a brief account of this railway project see “Early New Zealand Engineers” by F. W. Furkert, 1953 (Reed) pp. 67-69.

4. See “Historical Southland” by F. Hall Jones, 1945 p.134 etc.

5. See “Nineteenth Century and Southland Town Plans” - University of Otago Press - 1968 for a complete list compiled by R. P. Hargreaves.

6. For Major Palmer’s report dated 5th April, 1875 see A. J. H. R. H.1, 1875.

7. For J. T. Thomson’s report to Parliament dated 7th December, 1876, see A. J. H. R. 17 A, 1877.

PART III

1877 - c1900.

THE ESTABLISHMENT OF THE DEPARTMENT OF LANDS AND SURVEY AND THE FOUNDING OF THE NEW ZEALAND INSTITUTE OF SURVEYORS

CHAPTER 21

THE DEPARTMENT OF LANDS AND SURVEY

The dissolution of Provincial government in 1876, and the institution of central government for the Colony, provided the opportunity for revising and consolidating the numerous statutes, ordinances and regulations affecting Crown Lands, Native Lands, land settlement, land subdivision, surveying and the registration of title. Among the State Departments then established or re-established were those dealing with land and surveying viz, the Lands and Survey Department, and the Land and Deeds Department, while Native lands were the responsibility of the Native Land Courts.

The Lands and Survey Department, while continuing to carry out the functions formerly delegated by the General Assembly to Commissioners of Crown Lands and to the Native La Purchase Commissioners and its other functions in connection with Immigration, Mining, Forestry etc., now assumed responsibility for the administration of the various Provincial Ordinances and Regulations then in force dealing with Waste Lands. The Legislative Council, on 6th December, 1877 passed the Land Act which repealed no fewer than fifty six former Acts, Ordinances and Regulations. This new Act defined the functions of the Department and how they were to be administered. (1)

Prior to this the Minister of Lands had also been designated Secretary for Crown Lands. Early in 1878 James McKerrow was appointed Secretary for Crown Lands, i.e. Permanent Head of the Department. In May, 1876, J. T. Thomson had been appointed Surveyor General and in January the following year McKerrow had been appointed Assistant Surveyor General. These former Otago surveyors guided the destinies of the new Department and shaped its policy. In this they were ably assisted, firstly by Huntly John Harry Eliott, as Under-Secretary for Crown Lands, an experienced administrator with an intimate knowledge of matters concerning the Crown Lands, Immigration and Mining branches of the service, which more or less came under his control, and secondly by Alexander Barron, a former Otago surveyor, who subsequently became Assistant Surveyor General.

Ten Land Districts were established which, for convenience of administration, were identical with the former Provinces viz., Auckland, Taranaki, Hawkes Bay. Wellington, Marlborough, Canterbury, Otago, Southland and Westland, except that the eastern part of Auckland Province namely Cook County and the northern part of Wairoa County, were incorporated in Hawkes Bay Land District. The Controlling officer in each district was the Commissioner of Crown Lands whose deputy was the Chief Surveyor. The former Provincial Commissioners of Crown Lards continued in office as Commissioners in the Department. Only three of these Commissioners were professional surveyors. It had been strongly recommended by the Commission of enquiry into the administration of the Auckland Provincial Waste Lands Department, in 1865, that the controlling officer of such Departments should be a professional man. (2) Theophilus Heale, as Inspector of Surveys and virtually Surveyor General, had been one of the principal witnesses at that enquiry and he strongly advocated the adoption of the Commissioners' recommendation. Also it was Heale who presided at the conference of Provincial Chief Surveyors in 1873 which made important recommendations to the General Assembly about surveying and departmental

administration. Consequently, when in due course each of these early Commissioners retired, his successor was appointed from the ranks of the professional surveyors. These new appointees then held the dual offices of Commissioner of Crown Lands and Chief Surveyor. By 1901 this policy was fully implemented.

The recommendations of the conference of Chief Surveyors in 1873 had outlined the basic principles for a survey system that were ultimately adopted for the colony. (3) In 1875 Major H. S. Palmer, an eminent authority on surveying, was In New Zealand as leader of a scientific expedition whose main object was to observe the transit of Venus. The Government took the opportunity of obtaining from him an independent opinion of the state of the surveys in the Colony. He visited the Provincial centres where he examined the survey records and submitted a comprehensive report. The following items are extracted from that report:

“ About 20,631,200 acres or three tenths of the whole (of New Zealand) has been covered with triangles trustworthily observed ... they (the triangulations) are spread in six or seven detached pieces over parts of the Provinces ... In various parts the baselines and angles were measured with commendable care. A good deal of pains was taken in determining geographical positions. ... In its present state it rests on a multiplicity of bases and standards and on the eight or nine determinations of true meridian and geographical position ... In Otago alone there have been already at least seventy base lines and seventy small triangulations. You have a number of disjointed details of good enough quality in themselves but as yet no means of piecing them together ... it will be necessary to bring the whole within the grasp of one exact and comprehensive system and to refer them to a single standard of length and a single starting point ... The state of section (cadastral) surveys, however, is much less encouraging. Piecemeal work and want of unity of plan have been introduced wholesale. Ten different departments have been at work in as many different parts of the Colony and following systems so various that scarcely any two are exactly alike ... Out of 11,136,400 acres returned as finished under this head, 4,730,900 acres, mainly in the triangulated area may be said to come up to the standard of accuracy which fits them to form the kind of map required by the country - that is to say a cadastral map on the correctness of which all men may agree. Of the remaining 6,405,000 acres (which has been surveyed) a very large portion has been inaccurately done and is next to valueless.” (4)

Major Palmer’s recommendations were for a triangulation of the whole colony with, as a fundamental framework, a system of major triangles with sides about thirty miles in length, to be broken down afterwards to secondary and tertiary triangles as required and with detail (section) surveys connected to the trigonometrical framework. The report and its recommendations were accepted by Government which took the first step towards an orderly survey system by appointing a Surveyor General as organiser and controller of surveys throughout the Colony. However, shortage of finance coupled with the unsettled state of large sections of the North Island restricted any immediate start to implement the system as envisaged by Major Palmer, but nevertheless, certain practical measures that were designed to fit into the frame work of the overall scheme, were put in hand.

Twenty-nine districts, designated Meridional Circuits, were established throughout the Colony. The Land Districts of Taranaki and Marlborough was each a single circuit and the other Land Districts contained two or more circuits. Each circuit was treated as a plane surface. A more or less central trigonometrical station in each circuit was selected as an Initial Station and its geographical position determined by astronomical observations. These observations, besides fixing very accurately the latitude and longitude of the Initial Station, gave the true meridian of the station and azimuths of adjacent stations.

A system of control bearings was run through the existing triangulation networks and at least they could be brought into terms of one another for bearing. However, owing to slight variations in the standards of length used in measuring the several base lines on which the several earlier networks were based, it was more difficult to harmonize the computed lengths of the sides of the triangles. Never the less, by making allowance for a reasonable margin of error it was considered that the standards of length were adequate for the purpose of the triangulation, which was the control of cadastral surveys. All cadastral surveys were connected to the triangulation and all survey monuments were coordinated by means of rectangular coordinates, in terms of the Initial Station of the Meridional Circuit. This system had certain disadvantages, particularly where the land under survey overlapped circuit boundaries, but it has fulfilled the main purposes for which it was devised.

Contemporaneously, with the introduction of the meridional circuits, a system of nomenclature was devised for the purpose of having uniformity of land appellations throughout the Colony, so that any parcel of land anywhere in the Colony could easily be identified by its legal appellation. To achieve this, the Meridional Circuits were subdivided into Survey Districts each of which was a square with 100,000 link (12½ mile) sides except where such squares were truncated by natural (coastal) boundaries or by adjacent Land District or Meridional Circuit boundaries. Each Survey District was subdivided into sixteen Blocks, each of which was a square of 25,000 link sides, except where truncated as mentioned above.

The boundaries of the Survey Districts and of the Survey Blocks were notional, that is, they were not defined by survey but were easily definable by rectangular co-ordinates in terms of the initial trigonometrical station of the relevant Meridional Circuit. Since every survey monument which marked either a land boundary or a survey traverse point was coordinated in terms of this initial station, it was readily seen within which Survey Block or Blocks; any parcel of land was located.

Under the new system and its appurtenant Survey Regulations, surveyors were required to lodge with every survey plan; the relevant coordinate sheets as well as the original field notes, whether the survey was of Crown Land or Native Land or of private land subject to the Land Transfer Act.

The new System, however, was superimposed on the earlier ones which originated with the New Zealand Company and the Provincial authorities, and which comprised a variety of designations, such as “registration district”, “hundred”, “parish”, “rural Section”, “suburban section” etc. and also was superimposed on a complicated system of Native Land appellations. The

combination of the old and the new brought about the somewhat cumbersome system still in operation but which has adequately served its purpose.

The newly appointed Surveyor General initiated a review of the qualifications of all practising surveyors. Prior to 1876 there was no specific test of the ability of a surveyor. The responsibility for appraising the competence of applicants to carry out surveys as required under the various statutes such as the Crown Grants Act, Native Lands Act, Mining Act, Land Transfer Act etc. had rested with the local Chief Surveyor whether for the General Government or the Provincial Government. If the Chief Surveyor was satisfied as to the credentials and qualifications of the applicant he granted him a licence. The granting of a licence was notified in the New Zealand Gazette or in the Provincial Gazette. All surveys were subject to inspection by the duly appointed Inspecting Surveyor and should a surveyor's work prove to be unsatisfactory, his licence was cancelled.

In 1876 the Surveyor General instructed each Chief Surveyor to carefully examine the qualifications of all surveyors carrying out land boundary surveys in his District. Those who were suitably qualified were issued with a certificate of competency by the Surveyor General and became Authorised Surveyors. Thereafter all candidates for certificates of Authorisation were required to have had at least three years of practical experience under an Authorised Surveyor and then to be examined by the Chief Surveyor before being issued with a certificate of competency. This examination consisted or an interview and viva voce examination followed by written papers on practical survey computations and the solution of mathematical problems encountered in survey practice, and finally by practical field tests, including elementary astronomical observations f or the determination of latitude, longitude and azimuth.

Because, in effect, there were ten independent examining authorities, there were inevitably some variations in the quality of the set examinations, and consequently there was some dissatisfaction with this system and the desirability of a single examining authority was mooted by members of the profession. The preponderance of survey work, however, was in connection with the Crown Lands or Native Lands and consequently it was the Government officials who controlled the surveying profession. The private practitioners or contract surveyors, as they were generally termed, had no official voice in the direction of profession al affairs. In the Provinces the number of contract surveyors was comparatively small so that the forming of a professional organization for the Colony would have been difficult to accomplish at that time and it was not attempted. The Auckland Provincial Surveyors Association founded in 1865 comprised both contract surveyors and Government officials. Its main objects were to protect the public interest by ensuring that all persons engaged in surveying were fully qualified to do so and, generally, to promote and maintain a high standard of survey work. This Association favoured the policy of requiring applicants for entrance to the profession to pass an examination by a duly appointed Board of Examiners after the candidate had served several years as a cadet under a recognized practising surveyor. However the Association lacked the legal authority to impose such a system. Entrance to the profession remained under the control of the District Chief Surveyors, as the statutory examining authorities, until the passing of "The Institute of Surveyors and Board of Examiners Act, 1900".

In November 1879 James McKerrow succeeded J. T. Thomson as Surveyor General and held the office in conjunction with that of Secretary of Lands. He was a very able administrator and he initiated a number of reforms that raised the efficiency of his Department The Land Act 1885 was a very important consolidation of the previous statutes that governed the operations of the Department and also introduced certain innovations. This Land Act was followed immediately by three sets of statutory regulations, two of which were for the purpose of liberalising the acquisition of Crown leasehold land by intending settlers and the third of which i.e. “Regulations and Instructions of the Survey Department of New Zealand” were of the greatest importance to members of the surveying profession.

These Regulations and Instructions dealt comprehensively and in detail with the requirements of all phases of the surveying of Crown and Native Lands and of surveys made for the purposes of the Public Works Act of 1882. Also incorporated in these Regulations were “The Land Transfer Survey Regulations” authorised under the Land Transfer Act, 1885, which dealt with the surveying of privately owned land for the purpose of bringing such land within the scope of the Act (Application Surveys) and subsequent subdivisional surveys of such land (Deposited Plans).

In addition to the purely surveying procedures the Regulations dealt with such cognate matters as the planning of towns in connection with Crown Lands settlements; scales of charges applicable to contract surveys; the authorization of private surveyors; the qualifications for entry and promotion in the Survey Department. The Regulations also specified the requirements in connection with the various plans, field notes, tabulations, reports and other formal documents required to be lodged as survey records in either the Lands and Survey Department or the Land and Deeds Department. Appended to the Regulations were specimen plans and forms for every type of survey.

The main function of the Regulations was to integrate the survey system of the Colony and this required that all surveys be connected with and controlled by the major triangulation survey. This major triangulation was the responsibility of the Survey Department and the work was carried out by specially appointed highly qualified surveyors designated Geodesical Surveyors. The first of these was Stephenson Percy Smith who had teen engaged on this type of work in the North Island since 1870.

During the early years of the Lands and Survey Department there was great activity throughout the Colony in the construction of railways and arterial roads to improve access to the interior of the country. This led to the surveying and subdivision of large tracts of Crown Lands thus made available for closer settlement. A main trunk railway between Wellington and Auckland was projected and reconnaissance surveys were undertaken but a decision on the route had yet to be made. In 1889 the Government appointed a Commission to manage railway affairs and selected James McKerrow to be Chief Commissioner of Railways. He relinquished the offices as Secretary of Crown Lands and Surveyor General and was succeeded by Stephenson Percy Smith.

Although the primary functions of the Lands and Survey Department were the surveying, subdivision and settlement of Crown Lands, there were other important functions that were the responsibility of the several Branches

within the Department. Among these was the Forestry Branch, set up in 1886 under Thomas Kirk, F. L. S, as Conservator of State Forests. This became a separate Department in 1918 as the State Forest Service. The Agricultural Branch, also set up in 1886 under W de G. Reeves, was merged in the Department of Agriculture in 1893. The administration of the tourist resorts remained with the Lands and Survey Department until 1901, when the Tourist Department was formed. Immigration from Great Britain was dealt with by the Department until 1913, when a separate Immigration Department was formed. The Lithographic Branch was responsible for the printing and publishing of all Government maps until 1901 when it merged in the Government Printing Office. The laying out and construction of all roads required to give access to Crown Lands for settlement was part and parcel of the activities of the Department and was directed by the Chief Surveyors and Road Engineers and was financed out of rentals received from Crown leases or the proceeds of the sale of Crown Lands. In 1902 a separate Roads and Bridges Department was set up with C. W. Hursthouse as Chief Engineer. This Department was merged in the Public Works Department in 1909.

In October 1887 George Frederick Richardson, a former member of the Provincial Survey staff in Otago and Southland, became Minister of Lands in the Atkinson Ministry. He Was instrumental in promoting land settlement and also the interests of the surveying profession. Featured during his tenure of office were the Village-Homestead Special Settlements Associations and the Farm-Homestead Special Settlements.

An interesting item in the Land Act 1887 refers to the inclusion of the Kermadec Islands in the Auckland Land District. The Proclamation of Annexation of these Islands had been carried out ceremoniously by Mr. S. Percy Smith, Assistant Surveyor General, and Captain Fairchild of the Government steamer, “STELLA which had landed the Government officials at North Beach, Sunday Island, (formerly known as Raoul Island) on 16th August, 1887. A party under Mr. H. D. M. Haszard then made a survey of Sunday Island. (5)

The Land for Settlements Act of 1892 introduced a new principle in the acquisition of land for closer settlement. Whereas previously the Government had depended mainly on the purchase of Maori owned land for such purposes, this new Act, which was of a compulsory nature, empowered the Crown to acquire or resume privately owned estates, subject to the payment of reasonable compensation. This legislation brought about the subdivision of many large holdings of partly developed country and provided land for hundreds of bona fide settlers at a time when the gold mining industry was declining rapidly. It also kept the surveyors busy for many years to come.

The Land Act of 1 892 made provision for the setting up of a Board of Examiners as desired by the surveying profession but the Board as established in 1896 under the Regulations for the Conduct of Surveys, still consisted of the Chief Surveyors of the Wellington, Hawkes Bay, Nelson and Canterbury Land Districts, with the Surveyor General as Chairman, ex-officio. The New Zealand Institute of Surveyors was not represented on the first Board and it was not until the passing of “The Institute of Surveyors and Board of Examiners Act, 1900” that the Institute was empowered to appoint two members of the Board. By the

turn of the century both the Lands and Survey Department and the Institute of Surveyors were well established and this may be regarded as the beginning of the end of the pioneering period. In some of the frontier districts pioneering was still prevalent but in 1907 the Colony of New Zealand was granted Dominion status in recognition of its emergence as a mature self-governing community.

CHAPTER 21

THE DEPARTMENT OF LANDS AND SURVEY

1. For a synopsis of the Land Act, 1877 see “Land Legislation and Settlement in New Zealand” by W. R, Jourdain, 1925 (Government Printer) Part IV, p.p. 91-97
2. See J. A. P. C. Session XVIII - 1864-65 A No. 13.
3. For J. T. Thomson’s report to Parliament dated 7th December, 1876 see A. J. H. R. 17A, 1877.
4. For Major Palmer’s report dated 5th April, 1875 see A. J. H. R. H.1 1875.
5. The annexation is described in “Crusoes of Sunday Island” by Elsie K. Morton, New Zealand edition, 196)4, (A.H. and A. V. Reed) Chapter 14.

CHAPTER 22

AUCKLAND LAND DISTRICT

The Land District, as established in 1876 remained under unified control until in 1919 the North Auckland Land District was established and in 1923 the Gisborne Land District was established.

The first controlling officer was Daniel Austin Tole who had been Provincial Commissioner of Crown Lands since 1871 and Chief Surveyor since 1873. In January 1877 Stephenson Percy Smith was appointed Chief Surveyor.

The disaffection engendered during the previous decade by the confiscation of land was still rife, especially in the southern and eastern regions where the surveyors met with much opposition, sometimes of a violent nature, from the Maori inhabitants. By an edict of the Maori King Tawhiao, no European was permitted to enter the Rohe Potae (King Country), a vast district lying southward of Kawhia Harbour and the Puniu River and the headwaters of the Waikato River and extending beyond the southern boundary of the Province. Much the same conditions applied to the Urewera country, the extensive hinterland between Lakes Taupo and Waikaremoana. These two Maori held territories occupied much of the centre of North Island and were a barrier to settlement for many years. They also provided a refuge for lawbreakers who were avoiding capture by the police. Notorious among these were Te Kooti, the leader of the perpetrators of the Poverty Bay massacre in November, 1868; Wetere te Rerenga, the leader of the perpetrators of the White Cliffs (Pukearuhe) massacre in February, 1869; and Purukutu, who was responsible for the murder of Timothy Sullivan near Cambridge in 1873.

Towards the end of May 1873, James Mackay, the former Commissioner of the Native Land Purchase Department, and now Native and Defence Commissioner in charge of the Waikato district, decided to enter the King Country alone in an endeavour to apprehend Purukutu, the alleged murderer of Sullivan. Mackay was well known to the Maori leaders who permitted him to enter Tokangamutu (Te Kuiti) for a conference. That night following the conference an attempt was made on Mackay's life by a fanatical Maori and it was only by the intervention of Rewi Maniapoto , the leading chief, who was supported by Te Kooti, that Mackay's life was saved and he was permitted to leave the King Country without further molestation. His mission had been fruitless. (1)

During the next four years, which brought the end of the provincial era, there was no improvement in relations along the frontier. The Kingites and the Hau Haus remained obdurate and were a threat to the settlements. The Armed Constabulary continued their border patrols and also protected the telegraph line and the track from Taupo to Napier that provided the only available overland connection between Auckland and Wellington.

The principal task of the Constabulary, however, was the construction of the arterial roads. Young engineers and surveyors were enlisted in this Corps to supervise the road works. Much of the necessary labour force was supplied by the local Maoris who undertook the work and proved to be reliable and industrious workmen.

Among the staff appointments in the reorganised Department in 1877 were several District Surveyors, including Edwin Fairburn, A. C. Turner, Lawrence Cussen and James Orme Barnard.

Fairburn, who was subsequently transferred to the Public works Department, was given the task of surveying and superintending the construction of the Great North Road from Takapuna to beyond Monganui, a distance of more than 200 miles. Much of the road was through Maori owned land, but the work was accomplished with the minimum of opposition.

Turner was stationed in the Bay of Plenty district and played a conspicuous part in its development. His principal task was the surveying of the arterial roads and superintending the construction. Much of this work was executed by Maori labourers. From time to time dissident Maori groups interrupted the work. Early in 1877 the construction of the main road from Cambridge to Taupo was under way. On 23rd January, Sub-inspector Morrison of the Armed Constabulary, who was in charge of the working parties, reported that the work had been stopped by a considerable force of Maoris, some of whom were armed. The Native Minister then issued instructions that the work must proceed. The Constabulary were issued with arms and ammunition a returned to work. There was no further active opposition but the hostility persisted. (2)

From time to time survey parties were molested. To stop the surveys a new tactic was employed. Instead of attempting to intimidate the surveyors by a show of force or by occasionally sniping from the cover of bush or scrub, either of which led to the intervention of the Armed Constabulary, the Maori women entered the lists. Many of them were buxom and of powerful physique but not altogether physically attractive. Two or three of them would grasp the surveyor and each of his men in a firm embrace while others grabbed the survey instruments and the chain and endeavoured to make off with them. In the ensuing struggle the survey gear, if not the members of the party would be damaged and consequently the survey operations would be effectively prevented for the time being, and could proceed only under police protection.

There were a number of instances of such interference. In November and December surveys were stopped near Opepe and Taupo and the following March an attempt was made to destroy a surveyors whare near Opotiki. (3)

The Auckland Land Company, in 1876 and 1877 had acquired many thousands of acres of erstwhile Maori land in the Matamata district. The surveyors who were sent to survey this land met with much opposition. In one instance, on 18th 1878, when a survey party was working in the vicinity of Horohoro on Maori owned land without the sanction of the Native Land Court, the party was captured by an armed band of the Tuhoutangi tribe which took possession of the surveyor’s instruments and gear and marched the whole party to Parekarangi Pa where they were held prisoners for some time. (4)

In 1879 the Government acquired a large block (140,000 acres) in the Patetere district and surveyors were sent to commence the subdivisional surveys but they were stopped by the local Maoris and detained for several days while a Maori deputation went to Wellington to request the Native Minister, the Honourable John Bryce, to stop the surveys as there would be bloodshed if

the surveys proceeded. For the time being the surveyors were withdrawn but it was discovered that there was dissension among the Maoris themselves over the sale of the block and in April, 1880, despite the continued opposition of a small section, it was decided that the surveys should proceed. The Chief Surveyor, Mr. S. Percy Smith, was authorised to resume the surveys and Mr. O. M. Creagh was placed in charge of the work. Despite the threats of bloodshed Mr. Laurence Cussen was able to report on 8th June that he had completed a triangulation survey embracing the whole of the Patetere block without serious opposition. The townships of Lichfield and Oxford (now Tirau) were early developments in this block. (5)

Following the purchase of the Waitekauri and the Te Aroha blocks by the Crown and the opening of the Ohinernuri goldfields the surveyors were active on roading and subdivisional surveys. Again there were attempts to prevent the surveys and there was some shooting at survey parties which on one occasion in September, 1879 resulted in the serious wounding of William Daldy McWilliams. (6)

Earlier that year there had been some interference with surveys at Te Puke and in October the trig stations erected by F. H. Edgecumbe between Huntly and Rangiriri were destroyed and Edgecumbe and his party ordered off the ground. The following month there was interference with the surveyors at Hikutaia and a few months later, in March, 1880, an armed band turned the surveyors off the Puketotara block. (7)

The first indication of relaxation of the uncompromising attitude of the Kingites and their allies came in 1881. Following James Mackay's abortive visit in 1873 the Government from time to time made peaceful overtures to King Tawhiaho and his Kingite followers in the hope of gaining a right of way for a main trunk railway and an arterial highway. In 1881 Tawhiao himself took the initiative in an endeavour to obtain a suitable political settlement and the right of self government for the Maoris within the King Country. As a gesture of submission or as an indication that there would be no further armed conflict, he led a large company of his followers to Alexandria (now Pirongia) where Major W. G. Mair was stationed as Native Agent and Resident Magistrate. There on 11th July Tawhiao and his followers ceremoniously laid down their arms before Major Mair, who at once returned them to their owners as an indication of the goodwill and good faith of the Government. This action, however, did not signify the immediate opening up of the King Country. There still remained some uncompromising sections of the Maniapoto and other tribes, especially those of the Hau Hau persuasion.

The Government in February, 1883 passed an Amnesty Act whereby all Maoris who had committed political offences were pardoned unconditionally. These included Te Kooti, Wetere te Rerenga, Purukutu and the murderers of Todd, Lyons and Moffat who were sheltering in the King Country. The land owning Maoris then authorised the Government to proceed with the surveys for the railway.

C. W. Hursthouse was sent to commence at Te Awamutu and work southwards. John Rochfort, in the Wellington Land District, was to work from Marton northwards.

Early in March Hursthouse made an exploratory trip up the Waikato River from Cambridge in search of a possible route for the railway. It was then decided to explore the possibilities of a line from Otorohanga to Mokau. On the 9th he engaged Robert Newsham as his assistant but had some difficulty in obtaining a Maori guide owing to prevalent tribal animosities. Having obtained the services of a guide he set out on the 12th but the party was forcibly turned back at the Waipa River and escorted to Whatiwhatihoe, near Pirongia. There Hursthouse met Mahuki, a fanatical Hau Hau chief, who was the leader of the malcontents. On the 16th March, Hursthouse was joined by Wetere te Rerenga, chief of the Mokau sub-tribe of the Maniapoto, who with 25 of his followers undertook to escort the survey Party to Mokau.

They set out on the 20th but when they reached Te Uira they were confronted by Mahuki and a considerable following of his Kaumarua tribesmen. The result was a melee in which Te Wetere's party was overpowered, Hursthouse and Newsham were dragged from their horses and each firmly held by four antagonists. Under Mahuki's orders they were taken to a rough shed where they were robbed and deprived of some of their clothing and bound hand and foot with chains. Their Maori companion, Te Haere, who had received much the worst treatment, was also incarcerated but left unbound. Te Wetere and his followers had been stripped of most of their possessions and then released.

Hursthouse and Newsham lay bound hand and foot and unable to help themselves for forty one hours. Te Haere, who was injured, did his best to help them but the meagre supply of food they were given was almost uneatable and the little water they had was filthy. Lying in the dark and cold, tormented by mosquitoes, they could distinctly hear their captors outside discussing what was to be the manner of their deaths. Early on the second morning of their captivity they were greatly relieved to hear the war cries of a rescuing party led by Te Wetere and Te Kooti. After a brief encounter the gaolers were overpowered and the prisoners released. For Te Haere the rescue came none too soon and the two Europeans were very weak at the end of their ordeal. It was Te Kooti who escorted them to Te Kuiti where he supplied their wants in food and clothing.

The disgruntled Mahuki, who was neither molested nor admonished by his compatriots for his attack on the survey party, now tried to persuade them to kill the surveyors. When this suggestion was spurned he announced that he would attack

Alexandria (Pirongia). Mr. G. T. Wilkinson, the surveyor and agent of the Native Department, who had arrived in Te Kuiti to assist Hursthouse, was informed of this and was able to send a warning to the Constabulary garrison at Alexandria who immediately sent for and obtained strong reinforcements. Mahuki's raid culminated on 27th March when he and his 24 adherents was no match for the Constabulary who captured Mahuki and the whole of his band in a very short time. The raiders were tried and convicted and taken to Auckland where they served their sentences in Mount Eden gaol. (8)

At the southern approaches to the King Country in 1883 John Rochfort met with little better treatment than Hursthouse had experienced. Only his resolute bearing in a desperate situation saved him from maltreatment and

possibly death. On his first attempt to explore the King Country his party had reached

Manganui-O-Teao, a few miles north of Ongarue, where many years later the northern and southern sections of the railway were linked. There he and his party were seized by Kingites under chief Taumata and held prisoners for a few days and then escorted back down the Wanganui River.

Rochfort went to Wellington to consult the Native Minister and it was arranged that an armed escort comprising a small force of Kupapa (friendly Maoris) under Major Kemp (Te Rangihiwinui) accompany Rochfort on another attempt. However, in due course, Rochfort and his companions were confronted by a much more powerful force of armed Hau Haus and were obliged to make a judicious retreat and the attempt was abandoned.

The use of a force of Armed Constabulary was eschewed by the Government because it might lead to armed conflict. Not to be deterred, Rochfort again essayed to penetrate the King Country and succeeded in reaching the territory of the friendly and powerful Tuwharetoa tribe whose paramount chief, Te Heuheu Tukino assisted by providing two guides to escort the survey party. At Taumarunui the party was confronted by a hostile assembly led by chief Ngatai and further progress was barred. Rochfort was forced to retrace his steps towards Lake Taupo and by taking a bush track skirting the Lake he made his way northwards and after a tramp of about 150 miles the party reached Kihikihi, the Kainga of Wahanui, the powerful and influential Maniapoto chief. Wahanui, who favoured the building of the railway, arranged a conference of the leading chiefs from Wanganui and the King Country with the result that the survey parties were enabled to proceed with their work under their protection. (9)

Early in 1884 Laurence Cussen commenced the triangulation survey required to control the railway surveys. He likewise got a cool reception at the King Country frontier. Then his party in a canoe attempted to cross the Puniu River, which was regarded as the boundary of the Rohe Potae or forbidden land, they were rushed by a crowd of Maoris and the canoe was over turned and its contents thrown into the river. Subsequently, after the survey got under way, the malcontents destroyed the trig station that had been erected on Mount Kakapuku. Despite this, and other minor annoyances, the surveyors, with the aid of the chiefs, were able to proceed with the surveys, so that on 15th April, the following year, Sir Robert Stout ceremoniously turned the first sod of the railway on the south bank of the Puniu, and in September, 1887 the construction was completed as far as Te Kuiti.

Once the political problems had been resolved the surveyors and engineers were able to grapple with the very difficult problems imposed by the rugged nature of the terrain. Agreement had been reached between the Government and the Kingite Maoris concerning the internal government of the King Country or Rohe Potae which was proclaimed on 11th December, 1884 and the Maoris had consented to the building of the railway. In 1886 a Native Land Court was opened at Otorohanga with Major W. G. Mair as judge. The Maoris had decided to come within the aegis of European law in relation to their lands. They agreed to contribute £1,000 towards the cost of the outer boundary of the Robe Potae. The first lend was opened up to European settlement in

1893 on leasehold tenure for a term of twenty one years, with a right of renewal. Later the Lessees were enabled to purchase the freehold.

The selection of the final route for the Main Trunk railway involved a number of trial surveys on various routes until a decision could be made on the most suitable and economical one. The construction of bridges, viaducts, tunnels and access roads to facilitate their construction, had to be carefully assessed. The construction was completed in 1908.

Surveys for a railway connection between Auckland and Kaipara harbour were commenced in 1876 under the direction of Messrs. Samuel Harding and James Stewart. This line passed through Henderson, Swanson and Waitakare and joined the existing Riverhead - Helensville line at Kumeu. Two years later an alternative route was surveyed from Waikomiti (now New Lynn) to Riverhead. An assessment of costs, however, favoured the earlier survey which connected with Kumeu. The construction was commenced in 1879 and completed in July, 1881, and the service opened from Auckland to Helensville.

Helensville, at the southern end of Kaipara harbour and Dargaville at the Northern extremity, had been founded by private enterprise as trading posts in connection with the kauri timber industry. In the late 1860s the principal building in Helensville was the Native Land Court presided over by Judge Rogan. Joseph McMullen Dargaville, a leading merchant and local politician of Auckland, purchased land in the Kaipara district from the Maoris in 1869 and subsequently purchased an additional 160 acres at the mouth of Kaihu creek. There he had a town surveyed as a trading centre. At first called Kaihu, it was later renamed Dargaville.

In 1884 the Kaihu Valley Railway Company, authorised by the Railways Construction Act, 1881, proceeded to build the railway for the purpose of carrying timber from its 15,500 acre grant, situated sixteen miles up the valley, to the wharf at Dargaville. The Government in 1891, under the Railways Authorisation and Management Act, took over this line and extended it a further seven miles to Donnelly’s Crossing. Subsequently Helensville was linked by rail with Dargaville and a line from Waiotira junction to Whangarei was built and extended to Okaihau with a branch line to Opua Harbour at the Bay of Islands. However, most of the last mentioned lines were built in the twentieth century and do not come within the purview of this history.

Extensive developments in the auriferous country to the south of the Firth of Thames commenced in 1875 when James Mackay purchased the Ohinemuri Block for the Government and opened it for mining and settlement. Subsequently the Waitekauri and Te P Blocks were purchased for the same purposes. While surveying these blocks the surveyors met with a considerable amount of opposition and on several occasions lives were endangered when the survey parties were fired upon. With the commencement of mining operations and the influx of miners and settlers the op gradually diminished and, in fact, many of the local Maoris willingly assisted in the development works by undertaking contracts on road and railway construction.

To cope with the flood of development works occurring in all parts of the Land District the Department greatly augmented its field staff. The number of surveyors in private practice also increased.

The largest single private development was that of the property of J.C. Firth in the Matamata district. In 1866 he subdivided part of his estate into 50 acre sections and formed the Waharoa Settlement named after his friend Wiremu Tamehana te Waharoa.

By 1884 the railway had reached Morrinsville and the extension to Lichfield, which was the headquarters of the Auckland Land Company, was completed in May 1886. This had been achieved despite some opposition, the worst of which occurred

in August, 1885 when a strong body of Maoris, men and women, attempted to prevent the construction of the bridge over the Waitoa River. This bridge was nearing completion when the Maoris, who were demanding a considerable sum of money as compensation for the building of the railway through their land, descended in force and began grappling with the builders and throwing the timbers and rails into the river. The melee lasted several hours until reinforcements arrived to assist the contractor and his men and eventually the bridge was completed under police protection.

As a result of the opening up of the country some large estates were acquired by individuals and by companies. Among these can be mentioned the following :

The Waikato Land Association,	Woodlands Estate	88,000 acres
J.C. Firth,	Matamata Estate	55,000 “
T. & S. Morrin, at Morrinsville,	Lockerbie Estate	25,000 “
Thomas Russell,	Waitoa Estate	20,000 “
Rich & Williams,	Thames Valley	20,000 “
Thames Valley Land Company,	Patetere or Selwyn Downs Estate, originally about	300,000 acres

The owners had depended on borrowed capital to develop these estates and some of them became insolvent during the protracted financial depression of the late 1880s. As a result the lending institutions, as mortgagees, took over the management of the estates. When the slump persisted some of the owners became bankrupt and the mortgagees, as a measure of self protection, set up an Estates Company of which the Bank of New Zealand was the principal member and guarantor. In June, 1894 the Bank was on the brink of failure and had to turn to the Government for assistance. It was deemed necessary to liquidate the assets of the bankrupt estates and an Assets Realisation Board was established to farm the estates while they were still in the hands of the Bank and to dispose of them as soon as possible.

It took more than ten years for the Board to dispose of its assets. To assist in the disposal many thousands of acres that were suitable for closer settlement were purchased by the Government under the provisions of the Land for Settlement Act, 1892. This land was subdivided and disposed of by the

Lands and Survey Department so that by 1907 the Assets Realisation Board was able to wind up its affairs.

The town of Rotorua came into existence following the passing of the Thermal Springs Act in 1881, when a special town district was constituted by Order in Council and a Board of Management comprising the Resident Magistrate,

Mr. H. W. Brabant, Mr. Rotohiko Haupapa, representing the Maori owners, and

Dr. T. Lewis, the medical officer who was also Receiver of Fees. By arrangement with the Maori owners the Government leased a large block adjoining the Kainga at Ohinemutu and the town was laid out and the sections disposed of by way of lease for a term of 99 years with no right of renewal and no compensation for existing improvements at the expiration of the lease. The town was developed as a health spa and tourist resort. In December, 1895 the railway connecting Rotorua with Putaruru and Auckland was opened. The Board, which was increased to five members in 1887, managed the affairs of the town until the passing of the Rotorua Town Act in 1907 when the Department of Tourist and Health Resorts took over the management and the town was administered by the Government until the passing of the Rotorua Borough Act of 1922 and the town has been administered in accordance with the provisions of the Municipal Corporations Act since that date.

In the Bay of Plenty district Special Settlements initiated by Mr. George Vesey Stewart were developed. The Kati Kati Settlement of 10,000 acres was commenced in 1875 and the Te Puke Settlement of 16,000 acres commenced in 1880.

Closer settlement of the Thames valley was accelerated by the advent of the railway. Construction from Hamilton to Thames commenced at Claudelands in June, 1879, and had reached Te Aroha, via Morrinsville, in 1886. In December, 1895 the line was opened to Paeroa and was completed to the terminal at Thames in December, 1898. Seven years later a connecting line between Paeroa and the mining centre at Waihi had been completed.

The Urewera Country, tribal domain of the intractable Tuhoe, remained closed to Europeans. Intruders were driven out. In the course of the major triangulation survey in 1884 District Surveyor James Baber (junior) assisted by cadet Maurice Crompton Smith, endeavoured to carry the survey across the Urewera. There ensued what might be described as a gigantic game of hide and seek in the rugged bush clad ranges as the survey party, comprised of the two Europeans and several Maoris belonging to tribes other than the Tuhoe, endeavoured to evade the attentions of the local inhabitants, but in the long run, when provisions ran out, the survey party was forced to place itself at the mercy of the Tuhoe who reluctantly, but magnanimously, fed the party and permitted them to depart unharmed but with a stern warning as to their fate if they attempted to return. Nevertheless sufficient survey work had already been done to enable the compilation of a topographical map of several hundreds of square miles. (10)

The next attempt to survey the Urewera was made in April 1895.

Mr. J. I. Phillip’s party was turned back by the Ngati- Whare tribesmen at Te Waiti and Mr. E. Foster’s party was stopped at Waiohau, between Ruatoki and

Fort Galatea. The Government found it necessary to send a military detachment to protect the surveyors. Ten years earlier the armed Constabulary had been disbanded the Government sent fifty men of the Permanent Artillery from Auckland. At Huatoki the detachment was confronted by a large force of Tuhoe, many of whom were armed. It took several days of difficult negotiations, with the notable Maori leader, the Honourable James Carroll (Timi Kara) as mediator, to bring about a peaceful and practicable settlement and the Tuhoe allowed the surveys to

proceed. (11)

Occasionally variety was given to the work of the surveyors when they were called away from the routine tasks of settlement, road and railways surveys, to perform other duties. One such occasion was the eruption of Mount Tarawera on 10th June, 1886. On the night of the eruption Mr. J.C. Blythe, Government Surveyor and his assistant Mr. H. Lundius, were at the home of the schoolmaster, Mr. Charles Haszard. At the height of the eruption the weight of the ash shower made it necessary to evacuate the house when the building began to collapse. Messrs. Blythe and Lundius and the two eldest Haszard girls got clear but Haszard and his wife and the three younger children were trapped. The next morning Blythe and Lundius excavated the house and found Mrs. Haszard still alive. The rest had perished.

Lundius acted as guide to the search parties who came to investigate. The first party left Rotorua on 12th June and was directed by Captain Gilbert Mair and Mr. Alfred Warbrick. Wairoa village was completely buried under the ash and there were few survivors. Hundreds of square miles had been devastated in the greatest eruption that has occurred in New Zealand within the period of recorded history. On 19th June a party including Professors Brown and Thomas of Auckland University visited the scene of the eruption. On 27th July an official party under Stephenson Percy Smith, Assistant Surveyor General, commenced a thorough investigation of the affected district. Lundius acted as guide and the party included Messrs. E. C. Goldsmith and H. D. M. Haszard, surveyors, and E. F. Adams, survey cadet.

Tomos, or sinkholes, leading to subterranean caves and waterways, exist in several localities in New Zealand. The best known are the Waitomo Caves. Their existence was known to the Maoris who apparently considered them as places to be avoided. When Lawrence Cussen was engaged on the triangulation survey of the King Country his assistant, Frederick Mace, learned of the existence of the caves at Waitomo and in 1887, accompanied by Tane Tinorau and using a canoe, he was the first European to explore them. Subsequently District Surveyor A.G. Allom surveyed as much of the caves as could conveniently be reached at that time and the caves became a major tourist attraction.

In the low flat land lying between Te Aroha and the head of the Firth of Thames there existed an extensive swamp of about 120,000 acres traversed by the Piako and Waitoa Rivers. From observations he had made, District Surveyor H. D. M. Haszard in 1895 was convinced that much of the swamp could be reclaimed for agricultural purposes. Through his efforts the Government became interested. Much of the land was Maori owned and it was the veteran James Mackay of the Lend Purchase Department who arranged the

purchase from the Maoris. A Land Drainage Branch was established by the Survey Department and the surveys commenced in 1902. The reclamation works commenced in 1908. Subsequently the activities of the Drainage Branch were extended to the 100,000 acres of swamp land in the Rangitaiki district in the Bay of Plenty. Ultimately many thousands of acres were converted to fertile farms. (12)

When Mr. James McKerrow was appointed Chief Commissioner for Railways in 1889 Mr. S. Percy Smith became Surveyor General for New Zealand and was succeeded as Chief Surveyor at Auckland by Mr Thomas Humphries. Two years later when Humphries transferred to Canterbury he was succeeded at Auckland by Mr. G. J. Mueller as Chief Surveyor and Assistant Surveyor General.

CHAPTER 22

AUCKLAND LAND DISTRICT I

1. For an account of this incident see “Tales of the Maori Bush” by J. Cowan, Second Edition 1966 p.173 etc.

2. See also “The History of the Matamata Plains” 1877-1950 Compiled by C. N. Vennell, Mona Gordon, M. E. W. Fitzgerald and G. Gilmore Griffiths and edited by T. E. McMillan, 1951 p.97 etc.

3. N. Z. Herald, 1877 20th November and 6th December; 1878 22nd May

4. “The History of the Matamata Plains” (see 2 above) and the report of W. G. Mair to the Native Department, A. J. H. R. G. No. 1, 1878.

5. See also “The History of the Matamata Plains” p.118 etc.

6. N. Z. Herald, 1879 - 1st, 2nd, 3rd, 6th, 9th, 11th, 12th, 15th, 16th and 18th September. See also “Settlers and Pioneers” by James Cowan - in N. Z. Centennial Surveys - l940, published by Department of Internal Affairs - Chapter 7 etc.

7. N. Z. Herald, 1879 - 30th January - Attempted obstruction by the Hau Haus on the Raglan - Kawhia road survey.

   16th June - Native unrest over land survey in the King Country.

   23rd October – Edgecumb’s trigs between Huntly and Rangiriri destroyed and he ordered off the ground.

   5th November - Native interference with surveyors at Hikutaia.

   8th November - Stoppage of Mr. Alley’s surveys. 1880, 13th February natives turn surveyors off the Puketotara Block.

8. See also “South of the Aukati Line” by Dick Craig, 1962 Chapters XVII and XVIII.

9. See “The Exploration and Survey of the Marton-Te Awamutu Section of the North Island Main Trunk Railway” by J. R. Lee in Year Book of the Engineers and Assistants Association, Hamilton, 1955. Ibid - The Raurimu Spiral and Investigations into Routes for the North Island Main Trunk Railway in the Central Plateau Region by J. R. Lee - 1956.

10. See articles in the New Zealand Surveyor by M. C. Smith.

    Vol. XIII, No. 2 June, 1928. A quick lunch.

    XIV, No. 5 March, 1930. Forty five Years Ago.

    XV, No. 9 October, l934 Surveyors as Game.

    Also “New Zealand Wars” Vol. 11 by J. Cowan 1956 edition p.460

11. See “New Zealand Wars” Vol. II. by J Cowan. 1956 edition. p 460

12. See “The Story of the Rangitaiki” by G. J. Murray, 1968. Published by Presbyterian Book Room.

CHAPTER 23

POVERTY BAY AND THE EAST COAST

As previously mentioned, Cook County, as established in 1876, and the northern part of Wairoa County, both of which were parts of Auckland Province, were now incorporated in Hawkes Bay Land District.

Remoteness from the seat of Provincial Government at Auckland and from the headquarters of the Department of Lands and Survey for the Auckland Land District, and also the lack of arterial roads, retarded the growth of the Poverty Bay and East Coast region which, although it depended mainly on sea borne transport, lacked a suitable port with berthing facilities for ocean going vessels. The 1878 census shows that there were 1541 Europeans residing in that part of the Land District lying to the east of Raukumara ranges and comprising about 3,000 square miles. The indigenous Maori population greatly outnumbered the Europeans.

Earlier Provincial records disclose evidence of neglect of this district, in that the revenue received by the Provincial Council from this locality small though it was, was much in excess of the amount expended there on public works. The district was without direct representation on the Provincial Council and it was not until 1873 that the Poverty Bay and East Coast district was provided with a seat on the Council.

At the close of the Provincial era the only means of overland access to the district was by unpaved bridle tracks. The pack track across the ranges from Gisborne to Opotiki, via Motu and Toa Toa, was surveyed by Messrs. L. and F. Simpson and cut through the heavily forested area by the Armed Constabulary in 1874. The track to Wairoa via Waerengaokuri and Te Reinga was surveyed under the direction of Mr. John Drummond, constructed by Maori workmen and completed in 1877. This track was subsequently widened to take wheeled traffic and was available for a coaching service in 1887 when staging stations were established, one of which was the village of Tiniroto where an accommodation house and livery stable were built. However, long stretches of this road remained unpaved and became quagmires in winter and at times were impassable. The paving was finally completed in the 1930s.

The conversion of the Opotiki track into a vehicular traffic road took much longer because in some places near the top of the range the road had to be blasted out of solid rock as a ledge along the steep hillside and in some places was wide enough only for one way traffic. Another pack track, via the Waioeka gorge and linking Opotiki with Matawai was surveyed and cut in 1904 and this route was developed for wheeled traffic in 1928 and is now the main highway. Lengthy stretches of the road between Te Karaka and Matawai remained unpaved and on these stretches the rivers remained unbridged until in the 1930s, under Highways Board administration, the paving and bridging was completed. Until then wheeled traffic was frequently held up during winter months by flooded streams and by the deep potholes which developed in. the clay road and bogged down the vehicles.

The cutting of the track from Gisborne to Hicks Bay commenced in 1873 with the work being done under contract by the local Maoris. In the course of the work there was occasional dissension when the contractors altered the line of

the road to suit their own convenience. The noted Maori leader Major Ropata N. Z. C. acted as mediator and was successful in obtaining a satisfactory conclusion.

The geology of the whole East Coast and Poverty Bay region adversely affected the early development of good roads. The predominant formations are mudstone (papa) and a friable shale, both utterly unsuitable for road surfacing. The few outcrops of limestone and igneous rocks which were suitable for road metal were widely scattered and not readily accessible. Consequently the region continued to depend on coastwise ship ping and the development of the interior was subjected to pioneering processes until well into the twentieth century.

The track from Gisborne to Tolaga Bay was gradually improved to take wheeled traffic so that in 1887 it was possible by travelling along the beach in places to avoid the worst parts of the track and to commence a weekly coaching service. In 1894 a dray road was commenced between Tolaga Bay and Tokomaru Bay, and was completed in 1902. The road to Hicks Bay was not completed until some years later. In the whole length of the road there were numerous treacherous rivers that had to be crossed and there was a dearth of good road metal. Until the rivers were finally bridged in the 1930s the river crossings took a heavy toll of human lives. The Waiapu was particularly notorious; the records of over forty years disclose that at least one person per annum was drowned while attempting to cross this river in flood.

Virtually the whole of the Poverty Bay and East Coast region was Maori owned at the time of the passing of the Native Land Act in 1865. The extent of the land confiscated or surrendered after the East Coast campaign of 1868 together with the insignificant acreage that had already been alienated, was very small in comparison with the size of the region. The Native Land Act abolished the Crown’s pre-emptive rights and allowed individuals to negotiate the purchase of Maori lands, subject to the approval of the Native Land Court. Before any such sales could take place, however, the ownership, and the extent of the ownership, had to be determined by the Court. Consequently, in the 1870s there commenced great activity in the region when the Courts were kept busy investigating the ownership and a number of authorised surveyors were active in this almost unknown country surveying the boundaries of the tribal domains as decided by the Courts.

The first Land Court Judges to preside in the region were John Rogan and Theophilus Heale, both of whom were former surveyors and officials of the Land Purchase Department, and also Frederick Maning. In a number of cases the Court’s decision was violently disputed. The worst occasion was In connection with the Waipero block in 1885. The contending parties, each about 60 strong, obtained arms and ammunition and a civil war seemed imminent. The Government hastily dispatched from Auckland a force of 13 constables and 12 artillerymen under Police Inspector Emerson, and peace was maintained. (1)

Because the Maori land was communally owned, the Courts were faced with great difficulties when individual owners wished to sell or lease their interests in the land. Partitioning the interests, especially when there were a large number of owners concerned, and some were non-sellers, confronted the Court with a practically impossible task because the individual interests would

have to be defined by survey. An expedient adopted by some of the lessees, or intending purchasers, was to induce the sellers to transfer their individual rights to one of their number who would then apply to the Court for a partition order for his cumulative rights. On an order being granted the land was surveyed and title transferred to the purchaser. The resultant patchwork subdivisions were often as deleterious to future development as were the ”spotting” and “gridironing practised in Canterbury and Otago.

Land speculation or more correctly, dealing in undefined interests in land was soon rampant. The multiplicity of such negotiations which were often loosely drawn up, and sometimes tainted with cupidity and rapacity, inevitably led to many legal entanglements which overburdened the land courts with work. The fact that in 1885 there were 16 solicitors, 18 authorised surveyors and 17 licensed interpreters practising in Gisborne is indicative of the volume of work entailed. It was said at the time that legal work, surveying and interpreting were among the principal “industries” of Poverty Bay. Special legislation in the Native Land (Validation of Titles) Act of 1893, became necessary and a Validation Court was set up to settle all conflicting interests.

A by-product of the land dealings Was the establishment of the East Coast Native Land Trust which eventually came under Commissioner control in 1905. The stormy history of the Trust commenced in 1878 when certain owners placed whole blocks in the trusteeship of W. L. Rees, a solicitor, and Wiremu Pere a leading chief and Member of Parliament. When the Supreme Court ruled that the trustees had no legal powers to convey trust lands the owners set up the New Zealand Native Lands Settlement Company Ltd. which was promoted by Mr. Rees, to enable its capital, which was subscribed mainly by European investors, to be utilised in the development and settlement of the land. From the outset the Company was beset by contested claims to ownership between some of the owners and the alleged purchasers of their rights. Legal and survey costs soon assumed large proportions. The Settlement Company was obliged to raise finance and mortgaged its land and rights to the Bank of New Zealand Estates Company Ltd. Still in financial difficulties the Settlement Company was wound up in 1892 and its rights were vested in the Hon. James Carroll, M. P. and Wiremu Pere, M. P., who executed a mortgage to the Estates Company for the amount owing and a further £400,000 needed for improvements to the blocks. This arrangement was sanctioned by the Validation Court and the L Company was declared mortgagee in possession.

The trust lands became more heavily involved in debt and in 1902 the Bank of New Zealand commenced proceedings to sell some of the land. The trustees were unsuccessful when they applied for an injunction to prevent the sale but Parliament intervened and passed the East Coast Native Land Trust Act which prohibited the Bank from selling any of the land before 31st August, 1904 without the prior consent of a special board which was to be established. The outcome was that the debt was liquidated in June, 1905 and the land came under Commissioner control from that date. Ultimately an area of approximately 225,000 acres was under the control of the Commission.

From the outset the Lands and Survey Department, as agents for the Crown, became involved in the partitioning of the Maori lands. All surveys were regulated by the Surveyor General and all surveys required by an order of the

Native Land Court had to be carried out by a surveyor authorised by the chief Surveyor. In 1892 an amendment to the Native Land Act reinstated the Crown's pre-emptive rights as a measure adopted by the Government to prevent the undue aggregation of land holdings. The Department became more active in purchasing Maori land for settlement purposes. The Court was empowered to engage valuers and surveyors to assist in the work of classification and subdivision and the surveying was the responsibility of the Crown.

Before a survey was authorised the Chief Surveyor had to be satisfied that payment for the survey had been sufficiently secured. In most cases when costs were met by the Department, the costs were secured by a charging order on the land and registered against the title as a lien. The Court was empowered, on the receipt of an application from the Native Minister, to vest in the Crown a part of the land of sufficient value to meet the survey costs. In the event, however, in innumerable cases of small subdivisions, the survey costs were remitted by the Crown.

During the early days of surveying the hinterland of Poverty Bay and the east Coast the surveyors and their assistants endured not only the hardships common to all pioneers in an inhospitable land but also much annoyance when, from time to time, their work was disrupted by obstructionists. Such incidents occurred intermittently until the close of the century and references to them are to be found in the Depart mental reports and in the Magistrates Court records. A noteworthy occasion was in connection with the surveying of the Taurawharoua block near East Cape in 1893, by Mr. W. J. Wheeler. The first attempt to prevent the survey was made by a party led by Koroneho Kopuha who felled trees across the survey lines to obstruct the survey, assaulted the survey party and carried off the theodolite. The ringleaders were later apprehended, taken to Court and six of them were fined. Undeterred, another party led by Te Kakaha soon afterwards tore do the trig station on Pukekiore hill. They also were apprehended and fined. Soon after it was re-erected it was again demolished by a party led by Enoka Rukuata, who threatened to shoot anyone who assisted the survey party in any way. This time seventeen of the offenders were arrested and each fined £40 or in default three months in gaol. They re-erected the trig station and also agreed to desist from molesting the surveyors if the fines were reduced to £10. There was no further obstruction. [(2)]

The Lands and Survey Department set up a branch office of the Hawkes Bay Land District at Gisborne in 1877 with a Land Officer deputising for the Commissioner of Crown Lands and an Inspector of Surveys acting for the Chief Surveyor. The first appointment included Mr. J. O. Barnard as Inspector of Surveys and Messrs. T. W. Hickson and W. S. H. Haig as District Surveyors. Their first task was to commence the extension of the triangulation survey from the Patutahi baseline for the purpose of controlling the subdivisional surveys. The complete coverage of the district took about twenty years to achieve as the triangulation was gradually built up by a number of surveyors from time to time. Among those engaged in the early stages were Messrs. J. H. Balneavis and B.C. Goldsmith at Poverty Bay and M. Hallett, A. A. Kennedy, B. Lambert and H. Ellison from the Hawkes Bay end.

Cook County, as originally established in 1876, embraced the whole of Poverty Bay and the East Coast districts and extended from Cape Runaway in

the north to Paritu bluff in the south. Subsequently parts broke away to become separate counties. These are today Waiapu County (1890) Waikohu County (1908) Uawa County (1918) and Matakaoa County (1919). Cook County surveyor in 1877 was R. M. Skeet who was succeeded the following year by G. J. Winter. When Waiapu County was established in 1893 William O'Ryan was appointed engineer and surveyor.

A notable addition to the survey staff at Poverty Bay in 1889 was W. T. Neill who was engaged on settlement and roading surveys, mainly in the heavily forested Motu district. He was responsible for surveying the greater part of the Gisborne Opotiki main highway which subsequently was named after him. In 1920 he became Surveyor General.

The road outlets to Opotiki in the north and to Wairoa in the south, when they became available were so defective during winter months that the local authorities began to consider the possibility of a railway outlet as an alternative to shipping for handling heavy goods. A feasibility reconnaissance survey of a route linking Napier and Gisborne was made in 1886 by C. B. Knorpp Inspecting Engineer, but the estimated cost of construction placed it beyond the financial resources of the Government at that time. Another feasibility survey of a line between Rotorua and Gisborne was made by James Stewart in 1897. He assessed two possible routes, one via the Urewera country and another via Opotiki. He recommended the latter and the Government gave its approval to commence construction. The construction surveys were commenced by S. S. Springall in 1900. The line was completed as far as Motuhora, a distance of 49 miles, in November 1917, and then discontinued and further construction postponed indefinitely. This line proved of great service to the timber milling industry. (3)

Construction surveys for the Gisborne-Napier line were commenced by G. J. Winter in 1913 and the line was built as far as Ngatapa. The construction of this line, which was known as the inland route, was suspended in 1918 and subsequently abandoned. A new coastal route was surveyed in 1929 and construction was again commenced. Construction was suspended during the 1930s on account of the general financial depression and it was not until September 1942 that the line was completed and opened for traffic.

Closer settlement throughout the Colony was stimulated by the successful introduction of the freezing industry in the 1880s, but owing to the lack of an efficient port and of railway connections the development of the dairying and meat industries in Poverty Bay and the East Coast lagged behind other districts. A small freezing chamber was built at Taruheru, near Gisborne, in 1890 and about the same time the dairy industry began to expand. The passing of the Land for Settlement Act in 1892 and the State Advances to Settlers Act in l894 led to the subdivision of some of the larger pastoral holdings to provide dairy farms.

A number of surveyors were actively engaged in these subdivisional surveys and also in the development of the "back block" districts, as they were commonly called. Surveyors working in the hinterland were living in conditions no less arduous and little different from those to which the Colony a first surveyors were exposed in the wilderness fifty or more years earlier. With the nearest township or source of provisions more than a day's journey away, the

survey parties camped on the job, mainly under canvas but sometimes in a bush bivouac constructed of nikau fronds or raupo. All stores had to be conveyed over bush trails by packhorse where possible, but otherwise on the backs of the members of the party. Food supplies were supplemented by hunting wild pigs which abounded in some districts, and by wild fowl including kereru, weka, kaka and pukeko, while in most lakes and streams eels were to be found. Such conditions were still prevalent in the more remote parts of the Gisborne Land District when it was founded in 1923.

The Land District embraces the whole of the Poverty Bay meridional circuit and includes Poverty Bay, the East Coast and the eastern part of the Bay of Plenty. The western boundary is a line meandering from Ohiwa harbour southwards to the western side of Lake Waikaremoana and terminating on the southern boundary which is the parallel of latitude 39° south. In 1923 much of eastern Bay of Plenty was still undeveloped. There was no formed road between the Waiau river and Cape

Runaway and this road linking Opotiki with Hicks Bay was not completed until the 1930s. Until then that part of the district was served by coastal shipping, the only alternative being a pack track which followed the shore line.

CHAPTER 23

POVERTY BAY AND THE EAST COAST

1. The Native Land problems are well described in J. A. Mackay's Historic Poverty Bay and the East Coast, vide Chapter XXXVI p.310, second edition, 1966.

2. The trials and tribulations of the surveyors are referred to by Mackay - see above - on p.314 of his history, which refers to the incident in which W. J. Wheeler was involved. Another incident which occurred in 1899 is related in the "New Zealand Surveyor Vol. XIX No. 3 (December 1945) p.198.

   Mr. H. K. Hovell was surveying a bush block near Hicks Bay when he and his party were ordered off the ground by a number of local Maoris. Hovell, who was a noted athlete and a Maori linguist, responded in the native language, "when the sun sets, then the work finishes". Thereupon he and his assistants were assaulted and the theodolite smashed. Hovell's assistants ran off and he was overpowered and lashed to a tree. His life was threatened but some wahines interceded and he was left tied to the tree until his assistants some hours later found and released him.

3. The Gisborne-Motuhora line became uneconomic and the Railway Department closed and abandoned it.

CHAPTER 24

WELLINGTON LAND DISTRICT

The transition from Provincial to Departmental control saw few changes in the administration of surveying in the Wellington district. The former Provincial Surveyor, Henry Jackson, continued as Chief Surveyor.

At the time of the change the conflict between the Provincial Government and the Central Government over the control of the Waste Lands had not been completely resolved. Also there still remained son extensive tracts of Maori owned lands that to a considerable degree impeded settlement and development. An outstanding example was the lack of an efficient overland highway between Wellington and the burgeoning settlements to the north of the Manawatu River. Much of the intervening land was Maori owned, the numerous rivers were unbridged and the road was unsuitable for heavy traffic. Heavy goods were carried between Wellington and Foxton by coastal shipping. For passengers there were alternative routes other than the sea voyage. Firstly by railway from Wellington to Featherston and thence by coach via Woodville to Palmerston North; secondly from Wellington by coach or bullock wagon to Porirua and thence along the miserable beach road and through a wilderness of forest and flax-covered swamps to Foxton.

The Government became more active in the purchasing of Maori land so that in 1875 a railway from Wellington to Foxton was projected and the route from Wellington as far as Tawa Flat was surveyed by Messrs. D. and H. W. Climie. In 1879 construction was commenced but owing to the p financial depression, and a change of Government, the project was shelved. The following year, several leading business men in Wellington, Messrs. J. Plimmer, J. Wallace and W. T. L. Travers, convened a public meeting and formed the Wellington- Coast (Manawatu) Railway Company. This Company was registered as a joint stock company in 1881 and the Government passed the Railways Construction and Land Act under which the Wellington and Manawatu Railway Company was authorised to proceed with the work and under which the Company received an endowment of 215,000 acres in the Manawatu. To take full advantage of this endowment the Company altered the original route so as to pass through this land and connect with Longburn instead of Foxton. For the Company H. F. Higginson was Chief Engineer and for the Waikanae - Palmerston North section J. E. Fulton was Resident Engineer and Surveyor. The line was opened on 29th November 1886. Eventually the line was purchased from the Company by the Government in December, 1908 and became part of the North Island Main Trunk Railway.

In the course of construction of the Wellington-Manawatu Railway several townships were laid out, two of which, i.e. Plimmerton and Levin, were named after directors of the Company. Much development was necessary before the district could be settled and for many years timber and flax milling were the principal industries. It was not until 1888 that the town ship of Levin was surveyed by Messrs. A. E. Ashcroft and T. L. Humphries.

Owing to conflicting opinions, mainly of a political nature, as to the route to be taken for the railway between Foxton and Wanganui, the line connecting Foxton and Palmerston North, on which construction was commenced in 1873

was not completed until 1876. The following year the line from Palmerston North to Feilding was completed and the connection with Wanganui was made. As District Engineer of the Public Works Department for the Wanganui and Manawatu districts, J. T. Stewart superintended the construction of the railway and the roads and bridges.

The railway route from Wanganui northwards to Hawera had been surveyed by Mr. E. H. Beere in 1875. The Public Works District Engineer was Mr. W. H. Hales and he superintended the construction of the railway and roads. The line was completed as far as Kai-iwi in 1879 but it was not until March 1885 that the connection between Kai-iwi and Manutahi was completed and a regular train service between Wellington and New Plymouth commenced on 1st December, 1886.

The ultimate objective in the construction of the Welling ton-New Plymouth line was a main trunk line to connect Wellington with Auckland. By March 1881 the line from Auckland southwards had been constructed as far as Te Awamutu and it then became necessary to find the most suitable route to connect Te Awamutu with the Wellington - New Plymouth line. Feasibility or route surveys were put in hand, several of which were within the Wellington land District. Two surveyors, Mr. H. C. Field and his son H. A. Field, had a good knowledge of the country in the upper regions of the Wanganui and Rangitkei valleys, having surveyed in those localities from the early 1870s. Field senior had been responsible for a great deal of the roading, which included the well-known “Fields Track” between Wanganui and Karioi. In 1881 H. A. Field suggested to the Chief Surveyor, Mr. J. Marchant, the possibility of a railway line up the Porewa valley and thence via the Rangitikei and Hautapu valleys to the Murimotu plains and on to Waiouru. The following year Staff Surveyor J. F. Sicely ran a trial survey over the route but this survey subsequently was discarded in favour of a re-survey by John Rochfort.

Rochfort commenced his survey in June 1875 and despite much serious opposition from dissident Maoris in the King Country, he eventually completed his reconnaissance survey from Marton to Te Awamutu. His first trial line was from Feilding to Taihape, but this was abandoned and he then re-surveyed the route from Marton via the Porewa valley. On the completion of the reconnaissance work the surveys for the construction of the permanent way were put in hand and construction was authorised under the North Island Main Trunk Railway Loan Act and a contract let in April, 1885 for the first section from Marton northwards. (1)

As the work progressed problems imposed by the difficulties of the terrain had to be solved in advance of construction. The ingenuity of the surveyors and engineers produced some remarkable solutions of which the most notable were the Raurimu Spiral and the Hihitai Loop. During the twenty-five years required to complete the line from Marton to Erua a number of surveyors and engineers were engaged on these location surveys. In addition to those already mentioned were Messrs. E. J. Armstrong, J. B. Browne, R. A. Brown, M. Carkeek, R. Donkin, F. W. Furkert, R. W. Holmes, A. Koch, J. D. Louch, C. B. Turner and G. P. Williams. (2)

Completion of the stages of construction were as follows:

Marton to Kaikarangi	June 1888
Mangaonoho	May 1893
Mangaweka	November 1902
Taihape	September 1904
Mataroa	June 1907
Waiouru	June 1908
Erua	February 1909

Regular services between Wellington and Auckland commenced in 1909. Settlement of the country bordering the railway developed rapidly as the railway progressed. Many of the new settlers were erstwhile construction workers and labourers, many thousands of whom were brought to New Zealand to build the roads and railways, tunnels and bridges, and on the completion of contracts were now helping to develop the townships that came into existence along the railways. The advent of the railway accelerated settlement generally and a typical development was the town of Hunterville which was surveyed by A. E. Ashcroft in 1885 and became the centre of a thriving farming district.

Preliminary surveys for the Manawatu Gorge Railway were made in 1871 but it was not until 1879 that surveys for the construction of the permanent way were commenced. However construction was delayed until 1886 and the line from Palmerston North to Woodville was not completed until March 1891.

The railway from Wellington to Napier via the Wairarapa was completed in 1897 when the final section between Eketahuna and Woodville was opened for traffic.

On the completion of the various roading and railway contracts, numbers of workers had to seek other employment but there was little available. The economic boom that had been engendered during the 1870s by the expenditure of the millions borrowed for building the railways, was followed by a financial depression when the loan money was expended. On previous occasions of economic depression the General Government and the Provincial Governments had adopted small farm schemes as a measure of relief. Once again similar legislation was enacted in 1886 in the Village-Homestead Special Settlements Associations and the Farm-Homestead Special Settlements. These were introduced by the Hon. G. F. Richardson, Minister of Lands, the erstwhile Southland District Surveyor.

The employment problem was aggravated by a decline in the gold mining industry as the easily worked alluvial deposits were worked out. Many of the miners had joined the work force which built the railways and roads and were now unemployed. A number of them turned to the land for a livelihood.

There was a considerable demand for small farms and the surveyors were fully engaged, not only in laying out the various settlements but also in supervising relief works, mainly roading, that were organised by Government. Indicative of the times were the annual reports of the Lands and. Survey Department. The Survey Reports of 1892 are typical, and the following is an extract:

" The Road Surveyor, Pahiatua, reports, - during the nine months ending 31st March, 1892, I have been entirely engaged in the construction of roads by the unemployed, who have recently been developed into co-operative contractors. I have during that period found employment for over four hundred men, most of who were provided with stores, including clothing and medical aid when necessary and all of them with tools and tents."

In 1866 the Wellington Provincial Government had established a District Survey Office at Kakaramea, a Maori kainga a few miles north of Patea in the Southern Confiscation Area established under the New Zealand Settlements Act of 1863. This confiscation zone was a broad strip of territory along the coast between Whitecliffs in northern Taranaki and the Waitotara River. It was in the southern end of this zone i.e. from Mount Egmont to the Waitotara, that the surveyors had experienced bitter opposition which led to warfare which ended with the defeat of Titokowaru in 1868. In 1867 the survey headquarters had been shifted to Patea so as to be under the protection of the military garrison that had been sent there to protect the settlers. When surveying was resumed, which was for the purpose of placing military settlers on the land, the work had to be carried out under the protection of the military forces. The Chief Surveyor for Taranaki, Mr. A. C. C. Carrington, had oversight of all surveys in the confiscation zone. In 1870 he was appointed District Engineer, Public Works Department, for the Waitotara to New Plymouth region and Thomas Humphries became Chief Surveyor for Taranaki. Humphries was given the additional responsibility of Inspector of Native land Surveys under the General Government in 1874. By arrangement with the Commissioner of Crown Lands for Wellington Land District in 1877, after the abolition of Provincial Government, he continued to supervise the surveys in the confiscation zone.

There was still much friction between the settlers and the Maoris who resented their presence and protested that the Government had not kept faith with them over the provision of the reserves that had been promised. Further trouble between the Maoris and the surveyors in southern Taranaki in 1879 resulted in the Government setting up the Bell-Fox (Coast) Commission in 1880 which spent the next four years investigating and settling the grievances in the Taranaki and Waitotara districts. To implement the decisions of the Commission a special West Coast (North Island) Land District was established with Mr. C.A. Wray as Commissioner of Crown Lands and Mr. H. L. Skeet as Chief Surveyor. The Commission also used the services of the Government staff surveyors. This office functioned until 1884 when the work of the Commission was completed and control of the surveys in the Waitotara area was resumed by the Wellington Chief Surveyor.

When Henry Jackson retired in 1879 his successor as Commissioner of Crown Lands and Chief Surveyor for the Wellington Land District was Mr. J. W. A. Marchant. In May 1891 Marchant and J. H. Baker exchanged Land Districts, Marchant going to Canterbury and Baker to Wellington. The latter in 1892 was given the additional responsibility as Assistant Surveyor General. When Baker retired in 1896 Marchant returned to Wellington and Alexander Barron was appointed Assistant Surveyor General. [3]

Chapter 24

WELLINGTON LAND DISTRICT

References and Notes

1. See J. R. Lee's article - "The Exploration and Survey of the Marton-Te Awamutu Section of the North Island Main Trunk Railway" in the 1955 Year Book of the Engineers Rail Assistants Association Inc.
2. See J. R. Lee's article "The Raurimu Spiral and investigations into routes for the North Island Main Trunk Railway in the Central Plateau" - 1956 Year Book of the Engineers and Assistants Association, Inc. This has a very useful catalogue of source material.
3. J. R. Jourdain's "Land Legislation and Settlement in New Zealand" 1925, in an appendix, has a fairly complete list of controlling officers of the General Government's Lands and Survey Department from 1854 to 1925.

CHAPTER 25

HAWKES BAY LAND DISTRICT

At the close of the Provincial era Hawkes Bay still depended on coastwise shipping for the carrying of heavy goods. The available harbour at Napier and Wairoa were not suitable for heavy draft vessels and overseas ships had to anchor in poorly sheltered roadsteads and be served by lighters.

Overland, Napier was connected by four main routes with outside districts. The best of these was the Napier - Woodville Road which already had been constructed and over which coaching services with Wellington via the Wairarapa and with Palmerston North via the Manawatu Gorge had been inaugurated. The Napier-Taupo road, built and maintained by the Armed Constabulary, was still little better than a pack track although, subject to the vagaries of the weather and the state of the roadway, a coaching service inaugurated in 1872 was being fitfully maintained by horse drawn vehicles and bullock wagons. Travelling this route in winter, and occasionally in other season was an ordeal for passengers, driver and the draught animals. The route to Gisborne, via Te Reinga, was still a pack track but the construction of a vehicular road had commenced. The fourth route, known as the Inland Patea Track, served the district surrounding Taihape until the advent of the North Island Main Trunk Railway at Taihape in 1904. Until then wool and other produce from the interior was packed out to the dray road terminus and hauled thence to Napier. By 1880 this dray road from Napier vent only as far as Kuripapanga. By 1888 the dray road was completed to Moawhango.

As Provincial Engineer and Chief Surveyor, Mr. C. H. Weber had surveyed the route for the railway from Napier to Woodville in 1870. Under his direction construction had commenced at Napier in 1872 and was completed as far as Pakipaki in 1874. From Pakipaki to Waipukurau construction was supervised by D. M. Beere and was completed in 1876.

Immediately afterwards Beere was transferred to the Waikato district and the construction from Waipukurau southwards was laid out by Rochfort and supervised by Public Works engineers. Takapau was reached in 1877, Dannevirke in 1884 and the line completed to Woodville in 1887. The following year construction of the line through the Manawatu Gorge was commenced and the connection with Palmerston North completed in 1891. The Woodville-Masterton line was opened in 1897.

When the control of surveying was taken over by the Lands and Survey Department, Weber relinquished his office as Chief Surveyor and was succeeded by Mr. Horace Baker. Earlier Weber bad made extensive surveys for the purposes of land drainage, reclamations aid improvements at the Port of Napier and in 1876 he became the first engineer to the Napier Harbour Board. In 1879 he prepared the report on the whole harbour development to assist the eminent harbour engineer, Sir John Coode, in making his recommendations to the Harbour Board. This report was submitted in March, 1880. Built at Onepoto, the entrance to the Ahuriri tidal lagoon, which at that time covered some 7,000 acres, the inner harbour, dubbed by the local inhabitants “The Iron Pot”, could accommodate only the smaller coastal vessels and the lighters. The larger overseas liners still bad to anchor in the open roadstead.

In 1884 John Goodall succeeded Weber as Harbour Engineer. He advocated aid designed a breakwater harbour at Bluff Hill, outside the influence of the tidal lagoon. His scheme was adopted by the Board aid construction commenced in 1887. The first vessels berthed at the new Wharf in 1893. The disastrous earthquake in February 1931 elevated thousands of acres around Napier six feet or more above seen sea level. The greater part of Ahuriri lagoon was effectually drained and the outer harbour seriously affected so that subsequently the breakwater and wharves, had to be extended to deep water.

The opening for settlement of northern Hawkes Bay took much longer than in the south of the Province where most of the Maori owned land had already been alienated. In 1865 the Land Purchase Department had acquired about 70,000 acres including the following blocks :

Waihua	21,000 acres
Potutu	2,800 acres
Wairoa, upper and lower	4,570 acres
Nuhaka	10,000 acres
Mahia	16,000 acres
Turiroa	15,000 acres

The surveying of these blocks and also of large tracts of Maori owned land for which leases had been arranged through the Native Land Court, kept the staff and contract surveyors fully engaged. From time to time further blocks were purchased by the Department and disposed of by sale or lease to grazier. Before the advent of the freezing industry which encouraged the introduction of the dairying industry, most of the land was subdivided into large holdings as sheep stations and consequently the increase in the European population was minimal. This is exemplified in the case of the Wairoa County which was established in 1876. The census of 1881 disclosed that the total population of the County, which included the town of Wairoa, amounted to 1009. (1)

The freezing industry commenced with the registration of the Hawkes Bay Meat Exporting Company in October 1882. The factory at Tomoana was opened in 1884. Nelson Brothers established freezing chambers at Gisborne and at Waipukurau in 1889. The Wairoa Co-operative Meat Company was founded in June, 1915. Previously some of the farmers had to send their stock distances of up to eighty mile, to the works at Gisborne or Tomoana.

The development of the freezing industry which was soon followed by the passing of the Lands for Settlement Act of 1892 and the Advances to Settlers Act of 1894 stimulated the demand for land and brought about the subdivision at some of the large estates including not only freehold properties but also Crown lands and Maori lands. Among the first of these subdivisions was the block of 16,000 acres between the Makaroro and Kereru rivers which was subdivided by the Lands Department in 1888. (2)

The dairying export industry commenced in southern Hawkes Bay with the founding of the Norsewood Dairy Company in 1896. In the Wairoa district a factory was opened at Nuhaka in 1901 and another at Wairoa the following year.

When Horace Baker became Chief Surveyor in 1877 much of the Province, especially in the south, was clothed in primeval forest and there were some extensive swamps on the low lands. Drainage surveys occupied much of the time of the surveyors. Among the staff surveyors at that time were Messrs. John and James Rochfort and Charles Dugald Kennedy. The latter achieved prominence not only as a surveyor but also in the civil engineering and the legal professions. Of his own volition he made an exhaustive study of the rivers and the periodic floods that endangered the town of Napier and the surrounding district. The most disastrous of these floods occurred on 16th April, 1897 when several lives were lost and there was much damage to property. Kennedy set up in private practice in 1880 as a surveyor and civil engineer and became consultant to a number of local authorities, including the Clive and Pukehou River Boards. When the railway was under construction at Napier in 1872, Pukemokimoki hill at the southern end of Scind Island - as the hilly part of Napier Borough was then known was entirely removed to make way for the railway to the port and the spoil was used for reclamation purposes and to build the causeway for the railroad. Some years later Kennedy conceived the idea of reclaiming a considerable area to provide for the expansion of the town which at that time was confined to Scind Island and the limited areas of flat land surrounding it. With Messrs. W. Nelson, G. Latham and A. Langlands, Kennedy formed a private syndicate which was instrumental in reclaiming the large area lying between the shore line and George' Drive in Napier South. This reclamation was completed in 1908. The result of the great earthquake of 3rd February 1931 was an up thrust amounting to six feet or more of many thousands of acres including the borough of Napier. However the up thrust was not uniform throughout the affected district and at Clive there appeared to be little, it any, alteration in the levels. Despite the beneficial draining of some thousands of acres of Ahuriri Lagoon the alteration in levels in other parts of the district caused some drainage problems especially when it was found necessary to divert Tutaekuri river into the Ngaruroro so as to avoid inundating an extensive area around Meeanee.

On the resignation of Horace Baker to enter private practice in May, 1887, G. W. Williams was appointed Chief Surveyor. The latter moved to Southland on promotion in May 1891 and was succeeded by Thomas Humphries who in turn was succeeded by E.G. Goldsmith in January 1897. Under the administration of these pioneer surveyors closer settlement and improvements in the lines of communication in the Province were gradually developed. It was not until the year 1912, however, that a commencement made in the construction of the railway linking Napier and Wairoa.

It is regrettable that the Land Office at Napier was destroyed in the great Earthquake of 3rd February 1931 and in the fire that followed most of the original survey records of the Province were lost.

I

CHAPTER 25

HAWKES BAY LAND DISTRICT

1. The number and the size of the large pastoral holdings in the Province is well illustrated in Miriam Macgregor's "Early Stations of Hawkes Bay", published by .A.H. & A. W. Reed, 1970.

2. How some of the large estates came to be subdivided e.g. Clive Grange etc. is described in "Early Stations of Hawkes Bay" (Macgregor) and also in "Tutira – A New Zealand Sheep Station" by H. Guthrie-Smith 1969 edition, A.H. &

   A. W. Reed.

3. For a brief synopsis of C.D. Kennedy's career as a lawyer see "Portrait of a Profession", the Centennial Book of the New Zealand Law Society, edited by Robin Cooke, Q. C. 1969, A.H. & A. W. Reed.

CHAPTER 26

TARANAKI LAND DISTRICT

The former Provincial Surveyor, Thomas Humphries, became Chief Surveyor for Taranaki under the administration of the Lands and Survey Department. In 1876 the greater part of the Province was still clothed in dense primeval forest. On the eastern side of Mount Egmont the railway which oh was to link New Plymouth with Wellington was being built through this forest. The previous year construction had been completed as tar as Inglewood, which was one of the towns that developed with the advent of the railway. Beside the railway work the surveyors were engaged in laying out the arterial roads that were to serve the now settlements. Departmental records show that all of the in roads were located, cleared and formed by the Department in the process of land settlement. This work was in addition to the survey operations and was carried out by the officers of the Department prior to the formation of the Roads and Bridges Department.

Native opposition to the surveys was still much in evidence in southern Taranaki. While surveying the Stratford - Opunake road, first known as “Hursthouse’s Track”, the surveyor, C. W. Hursthouse, had met with considerable opposition, including the confiscation of his theodolite, which was. returned to him only on the intervention of the paramount chief Wirimu Kingi During the surveying of the “Meridian Line” Messrs. Bird and Sole encountered a considerable amount of interference from the Maoris who tampered with and sometimes removed the survey marks.

Worse trouble was experienced when survey parties were sent to commence the surveying of the fertile Waimate plains between Hawera and Opunake. The local tribesmen, actuated by an abiding resentment over their defeat in 1868 and feeling that they were being badly treated by the Government, which, they claimed, was not adhering to the conditions implicit in the New Zealand Settlements Act of 1863, to provide adequate native reserves, took action in an endeavour to prevent further encroachments on the tribal land.

They made their headquarters. at the large kainga at Parihaka and under the leadership of Te Whiti-o-Rongomai and Tohu Kakahi they erected fences across the road lines that were being laid out through the Maori cultivations and parties of Maoris ploughed up the fields of the recently established settlers in various places in the confiscated territory.

The Government took action by reinforcing the garrison of the Armed Constabulary in their redoubts throughout the district and erecting another redoubt at Tokaora on the Waingongora river. The ploughing parties persisted and the Constabulary took action and no less then 180 of the plough men were arrested tried and imprisoned. (1)

In March, 1879 several survey parties as set up camps in the vicinity of the Waimate plains preparatory to the commencement of the survey work. On the 29th occurred an event that was reminiscent of the preliminaries to the “Wairau Affair” of 1843 in Marlborough. Separate bands of Maoris approached each survey camp, dismantled it and carefully packed the survey gear on to bullock drays and carted it away to the Waingongora river at the southern boundary of the plains. There the drays were unloaded and the gear placed at

the side of the main road. All was done quietly, but effectively, without any display of force or personal injury to members of the survey parties, as had been strictly enjoined by Te Whiti. Almost without exception the survey parties suffered harassment in one form or another and the surveyors involved included Messrs. C .W. Hursthouse, De G. Fraser, H. W. Climie, C. E. Finnerty, P.E. Cheal, H. M. Skeet, T. K. Skinner, J. Bird and T. G. Sole.

Apart from strengthening the military posts the Government took no other precautions but made no attempt to proceed with the surveys. To investigate the whole position in Taranaki, the Government set up the West Coast Commission comprising Sir William Fox, Mr. (later Sir) Francis Dillon Bell and Mr. Honi Tawhai, LP. The litter, however, refused to serve on the commission but Messrs. Fox and Bell went to Taranaki and carried out an exhaustive investigation. Until the Commission's findings were promulgated the status quo was to be observed and only simple repairs to existing roads were to be carried out. The local Maoris however did not observe the conditions laid down and the result was the "Parihaka Affair".

At Parihaka had congregated a considerable number of malcontents from other districts and one of them was Hiroki who was wanted by the police for having shot and killed McLean of Fraser's survey party, at Moumahki in 1877. The population of Parihaka had grown to about 2,500. The arterial road which was being built through the confiscated territory under the direction of C. W. Hursthouse, was to pass close by Parihaka and its construction was being systematically and stubbornly blocked by the inhabitants. No progress could be made, so the Government decided to take action.

In addition to strengthening the Armed Constabulary, the Government enlisted and assembled several volunteer units until, all told, there were almost 1,600 men under arms in southern Taranaki. In the meantime the Native Minister, John Bryce, and the Minister of Lands, William Rolleston, were in communication with Te Whiti and his colleagues in an attempt to bring about a peaceful solution of the difficulties. They decided to visit Parihaka accompanied by a military escort.

On 5th November, 1881 the troops, 1,300 strong, left their camps at Pungarehu and Rahotu and marched to Parihaka which was invested without opposition from the Maoris who, on the advice of Te Whiti and Tohu, had decided on a policy of passive resistance. The Ministers were admitted to the pa for a conference end in the parley that followed Hursthouse acted as interpreter. The outcome was that Te Whiti and Tohu submitted to being taken into custody by the Government and subsequently were treated in the same way as Te Rauparaha had been after the "Wairau Affair" of 1843, and were released when southern Taranaki wee again quiescent. Hiroki was arrested and was later tried, convicted of murder and executed.

The work of the West Coast Commission continued and appropriate reserves were allocated for the local Maoris. These reserves were surveyed by a small survey staff attached to the Commission and controlled by Captain H. L. Skeet the Inspector of Surveys for the Native Department. In the course of this work in 1862 Captain Skeet died and the control passed to Thomas Humphries, the Chief Surveyor. The Departmental survey staff and a number of contract surveyors were engaged on the surveying of the Waimate plains for settlement

purposes. In addition to those previously mentioned, the surveyors principally concerned with these surveys were Messrs. W. H. Skinner, E. S Brookes, J. Sicely, C. W. Thompson, C. Atkinson, J. Annabell, F. Duthie and F. Dalziell.

Despite the unrest in southern Taranaki railway construction was steadily advancing southwards. The line had reached the Patea river crossing in 1878 and Stratford township wee laid out there by Mr. P.E. Cheal. By October, 1881 construction had been completed as far as Hawera. The line between Hawera and Manutahi wee opened in September, 1863. The final section being built between Waverly and Manutahi was completed in March, 1885. The Manawatu Railway Company's line between Wellington and Longburn was opened on 29th November, 1886 and three days later the first mail train travelled from New Plymouth to Wellington.

With the access provided by the Railway and arterial roads, settlement went rapidly ahead in Taranaki. The report of the Lands and Survey Department for 1882 discloses that the triangulation surveys were being extended and that there was great activity in surveying the Crown Lends for settlement and that claims for no less than 200,000 acres were being investigated by the Native Land Court. A considerable amount of surveying of Native Land was in progress mainly by private surveyors. On all types of survey work there were twenty-two survey parties. operating in the district. The triangulation was being extended across the rugged country in eastern Taranaki toward the Wanganui river and northwards to connect with the Auckland district triangulation surveys. (2)

Surveying in the forested country in the wet Taranaki climate was strenuous enough at any time but in the road less eastern ranges conditions were much more difficult, especially where it was not possible to use pack animals and all supplies had to be swagged for miles on the backs of the party. The surveyor mainly concerned with the triangulation of the district was H. M. Skeet, son of the former Inspector of Surveys.

The difficulties and dangers facing the survey parties, and the pioneer "backblock" settlers before the roads were built, are indicated in the following account of the death of the young surveyor, Joshua Morgan, who died in his camp in Tangarakau Gorge on 3rd March, 1893. He had been feeling unwell for several days and on 24th February he remained in camp. The following day he was desperately ill and two of his party, Messrs. Fred Willison and W. Lang, set out to obtain medical assistance. They covered the twenty miles through dense bush along Maori trails and across swollen rivers to the mouth of the Tongaporuru river in record time and there they obtained horses and rods to New Plymouth. Having obtained a supply of medicine they set out immediately on the return journey and arrived back at Tangarakau on 2nd March, having accomplished the journey to New Plymouth and back in four days, but they found Mr. Morgan much worse and he died at 11 p.m. the following day, Friday 3rd. The following day Lang and Willison set out for New Plymouth to report his death and by a forced march covered the distance to Tongaporutu in 11½ hours. They then rode to New Plymouth where they arrived at 2.30 a.m. on Sunday. The distance covered before they took rest was close on 80 miles, 30 of which was through rough country. They left New Plymouth on the Sunday afternoon and took Constable Bliezel from Pukearuhe with them and reached Morgan's camp on Tuesday morning. Next day they made a slab coffin and

buried Morgan's remains beside the roadline. The valiant and self-sacrificing efforts or these men to save Mr. Morgan's life were typical of most or the men engaged in the arduous work far from the amenities of civilisation. Not only had they to be self reliant but also they had to be, and they almost invariably were, mutually dependable. The usual survey party comprised five or six men, sometimes less, and often some of them were Maoris who proved to be no less loyal and dependable than their European comrades. (3)

Joshua Morgan was one of a number of pioneer surveyors who died in the wilderness while actively engaged in surveying duties. Thomas Oldfield was another Taranaki surveyor who died in his camp on 20th September, 1902, when he was engaged in surveying Rawhitiroa road, inland from Eltham.

The settlement of Taranaki progressed in step with the construction of the railway. Many of the immigrant settlers were first employed on the railway contracts. Almost as soon as five or six miles of line had been finally surveyed and construction commenced the adjoining Crown land within five or six miles of the line was subdivided for settlement and the line was then carried another step forward and work was still available for those settlers who might require it. The steps were waited by the supply centres which developed into the villages of Inglewood, Waipuku, Midhurst, Stratford, Ngaere and Eltham. Of these the Midhurst Block was settled under earlier Provincial legislation as a Special Settlement provided for by the Taranaki Waste Lands Act of 1874 and surveyed by Mr. W. H. Skinner in 1878. (4)

The final decision concerning the route to link the New Plymouth - Foxton line with the Main Trunk Railway had not yet been made in 1883 when C. W. Hursthouse was sent to Te Awamutu to make a feasibility survey southwards. At the same time Messrs. M. Carkeek, J. F. Sicely and A. O' N. O'Donahoo were running trial surveys over several routes in northern Taranaki. Subsequently, following the recommendations of Parliamentary Committee. in 1892, a thorough investigation of the suggested Taranaki routes was made by Messrs. R. Donkin, R. W. Holmes and A. Koch, and the "Ngaire Route", which approximately is the present line between Stratford and Okahukura, was favoured, subject to further detailed surveys being made. Eventually, how ever, the route between Taumarunui and Marton was confirmed for the Main Trunk and it was not until 1901 that the construction of the line connecting Stratford with Okahukura was commenced. (5)

At the close of the Provincial Era, Taranaki still lacked a harbour with facilities for berthing deep sea vessels and the port at New Plymouth was still operating as an open roadstead. In 1870 F .A. Carrington, the erstwhile Chief Surveyor of the Plymouth Company, represented New Plymouth in Parliament and he was instrumental in obtaining approval for a survey to ascertain in the likely costs of providing harbour facilities. In 1874 the New Plymouth Harbour Endowment Act was passed and Carrington became first Chairman of the Harbour Board.

In 1878 the quarrying of the stone for the breakwater, and the building of the railway to transport it, were commenced. On 7th February 1881 Carrington, who had been severely criticised forty years earlier for selecting the site for the settlement at a place which lacked a harbour, now had great satisfaction in presiding at the ceremony of laying the foundation stone for the new harbour.

Among the pioneer surveyors of Taranaki were several whose professional attainments were highly esteemed throughout N Zealand. This was especially the case of cadets trained by Octavius Carrington. Among these were Stephenson Percy Smith and Thomas Humphries, both of whom eventually became Surveyor General and also were elected President of the New Zealand Institute of Surveyors and Fellows of various learned societies. Also there was C. W. Hursthouse, who eventually became Chief Engineer to the Roads and Bridges Department, and there was G. A. Northcroft who went to South Africa and eventually became Chief Engineer in the Orange Free State. Several other Taranaki surveyors played notable parts in the development of colonial New Zealand. Probably the moat eminent of these was Edward Tregear who in 1891 became Secretary of Labour and Chief Inspector of Factories in the Labour Department, then known as the Bureau of Industries. He collaborated with William Pember Reeves, the Minister of Labour, in drafting many of the early laws which it was Tregear' a responsibility to administer. Tregear was a foundation member of the New Zealand Institute of Surveyors and was the first editor of its journal "The New Zealand Surveyor".

Thomas Humphries, in April 1889, was transferred to Auckland as commissioner of Crown Lands and Chief Surveyor and was succeeded in Taranaki by Sydney Weetman who on 1st May, 1893, was succeeded by John Strauchon. James Mackenzie succeeded Strauchon on 1st January, 1902.

Thomas Humphries as became Surveyor General on 1st July, 1906 and was followed in that office by Strauchon In 1909 and by Mackenzie in 1912.

CHAPTER 26

TARANAKI LAND DISTRICT

Notes and References.

1. See also - James Cowan's "New Zealand Wars" - 1956 edition, Vol. 2, Chapter 43, p. 476-491.

2. Annual reports of the Surveyor General published in the Appendices to the Journals of the House of Representatives for the years 1877 to 1907.

3. Derived from Fred Willison's report on the death of Joshua Morgan. See also article in the Automobile Association's Official Bulletin 1960, "Pioneer Tragedy Recalled". Also -"History of Land Legislation and Settlement in New

   Zealand" W.R. Jourdain 1925 (Government Printer) - p.231.

4. See "Reminiscences of a Taranaki Surveyor'" by W. H. Skinner, 1946. Also "Frontier Life in Taranaki – N. Z. by L. B. Brookes, 1892.

5. For the reports of the Committees of Inquiry on the route of the North Island Main Trunk Railway - see Appendices to the Journals of the House of Representatives -

   1884 Session II Vol. II, 1-6.

   1892 Session III Vol. IV, 1-9

   1900 Session III Vol. 1V, 1-13.

CHAPTER 27

NELSON LAND DISTRICT

The appointment of John Samuel Browning as Chief Surveyor for the Nelson Land District in 1876 coincided with the transfer of administration on from the Provincial Waste Lands Department to the newly organised Lands and Survey Department.

The principal problems facing the Department were in connection with the provision of adequate overland communication by road or railway with the adjoining Provinces and also roads for opening up for settlement the back country of the Province. Owing to the activities of the searchers for grazing and agricultural land and of the gold prospectors, the province had been thoroughly explored but the roads beyond the confines of the agricultural districts were still little better than pack tracks or unpaved dray roads used mainly for bullock wagons and were often impassable during winter months.

In 1878 John George Blackett, a son of the former Provincial Engineer, was appointed Resident Engineer for the Nelson and Marlborough districts. Under his direction the highways and bridges to Collingwood, Blenheim and the West Coast were built and he also examined the prospects of constructing a vehicular highway from Nelson to Christchurch via the Tophouse-Hanmer route. (1)

`The railway from Nelson to Foxhill was functioning in 1876 and under Blackett's direction the line was built to Belgrove and opened in July 1881. A railway from Christchurch to Greymouth and thence to Nelson was first mooted in 1866. In Canterbury the first definite proposals were put forward in 1878 and a commission was set up by the Government in 1882 to examine the possibilities. The following year eleven feasibility surveys were put in hand but the Commission dismissed al]. but the route via Arthur's Pass as impracticable. Blackett made a reconnaissance survey of the route via Tophouse and the Wairau Gorge to the Canterbury terminus at Amberley. Evidence before the Commission related to the possibility of opening up agricultural and pastoral land along the proposed route against which the cost of construction could be weighed. Meanwhile a permanent survey from Belgrove southwards was made to Blue Glen, a distance of a little over nineteen miles, and some construction was commenced. However the Colony was in the throes of a financial depression and all construction ceased for the time being.

The District Railways Act of 1877 empowered private companies, with the consent of the Government, to construct private railway lines, and the Government reserved the right to purchase the lines from the companies after the lines had been in operation for seven years. Under this legislation the Midland Railway Company was incorporated in April, 1886 and entered into a contract with the Government to construct 235 miles of line in ten years. The Midland Railway Contract Act, 1887 provided for the completion of the line from Belgrove in the Nelson Province, to Brunner and thence across the Southern Alps to Springfield, the then terminus at the railway from Rolleston in Canterbury.

By October, 1894 the line had been constructed from Brunner to Reefton and from Brunner to Jackson's, at the southern extremity of the Nelson

Province. Also the Belgrove-Motupiko section had been constructed, after the earlier surveyed line from Belgrove to Blue Glen had been abandoned and a new route surveyed between Belgrove and Murchison. The Government was dissatisfied with the rate of progress, only seventy-five miles mostly in Westland and Nelson, having been built and after some litigation with the Midland Company the Government exercised its powers under the Railway Construction and Land Act and on 25th May, 1895 took over the assets of the Company and assumed responsibility for completing the line. Because the Government had not been able to get possession of the Company's working plans, John Howard Dobson, who had previously been employed by the Company, was appointed to re-survey the route from Jackson's to Otira and to supervise the construction. The line as far as Otira was completed in December, 1899. In 1904 J. H. Dobson set out the lines for the Otira Tunnel. (2)

The Government resumed the construction of the line from Motupiko but, cuing to several delay the construction did not reach Glenhope until 1912. There were further delays and the line reached Kawatiri in 1926. Owing to the prevailing financial depression construction ceased at Rowanbridge in I 930.

The other line in the Province, that from Westport to the Buller coal fields, was authorised under the Railways Act of 1872 and was opened on 5th August, 1876. A year later it was opened to Granity.

Two of the more important works carried out under the direction of J. S. Browning and J. G. Blackett were the building of the main highways from Nelson to Lyell on the Buller River and from Nelson to Blenheim via the Rai valley.

They selected the route to the Buller by way of Clarke Valley and the Hope Saddle and construction was commenced in 1876. A fortnightly passenger and mail coach service from the railway terminus at Foxhill to Hampden (later renamed Murchison) commenced in July 1879. Simultaneously a fortnightly service commenced between Westport and Reefton, via Inangahua, and also between Inangahua and Lyell. The road between Hampden and Lyell was not yet in a fit state to sustain a regular service and it was not until 1882 that this service was available.

Owing to the poor state of the roads there was no regular coaching service between Nelson and Havelock which was the main supply centre for the Wakamarina goldfield until 1879, by which time the road via Whangamoa and the Rai valley had been sufficiently improved. Later the road was extended, via Kaituna and Renwick to Blenheim, and a regular coach service commenced between Blenheim and Nelson on 19th April 1885.

A few months later, on 13th September, 1885, John George Blackett died at the early age of thirty-three years. His successor as District Engineer 'was William Whitney Dartnall, whose principal tasks were in connection with the roading and bridging necessary to open up the back country of the Province.

One of the projected roads, which had been proposed by James Mackay as early as 1861, was from Collingwood to the western coast via the Aorere valley. In 1882 Charles Lewis, son of the former Chief Surveyor, Henry Lewis, made a reconnaissance survey of the proposed route. The following year he

commenced a trigonometrical survey of the territory between the upper reaches of the Takaka river and the Karamea valley. It was not until 1888, however, that J. B. Saxon, for the Collingwood (now the Golden Bay) County Council, surveyed and graded the road line. Eventually the road was formed as far as Walsh Creek, a tributary of the Aorere, a few miles south of the township of Bainham. From there a pack track was cut to the mouth of the Heaphy River. This is now known as the Heaphy Track.

In the isolated south-eastern portion of the Province the counties of Amuri and Cheviot were established on 1st January 1877. In each the land was held as large sheep stations and there were comparatively few inhabitants. Access was inadequate, with poorly formed unmetalled dray roads supplemented by pack tracks, and the dangerous rivers remained unbridged. Consequently there was little movement towards closer settlement. Between 1874 and 1878 Thomas Meddick Foy was engaged in exploratory surveys to assess the possibilities at extending the South Island Main Trunk Railway from the then terminus at Waipara, in Canterbury, to connect with Nelson and Blenheim and, via the Hurunui valley with Westland. Subsequently the construction was carried forward from Waipara until in 1886 Culverden, in the Amuri, was reached and there a township was laid out. Owing to the prevailing financial depression construction ceased and Culverden remained the terminus for many years. Ultimately the South Island Main Trunk was built from Waipara to Blenheim along the coastal route. The Culverden line, which terminated at the Waiau River in 1919, became a branch line.

The former surveyor, John Tinline, who had been a run holder in the Amuri since 1854, became the chairman of the Amuri County Council in March, 1881 and his was the driving force that brought about the bridging of the dangerous Waiau river near the village of Waiau in 1883. (5)

Waiau became the headquarters at the District Surveyor, Frank Stephenson Smith, who with his assistant surveyors, F. A. Thompson and L. Paske, was engaged in the trigonometrical and topographical survey of the high country at the headwaters of the Waiau and Clarence rivers to the summits of the Spencer Mountains. Tragic disaster befell the members of Smith’s party on 9th June, 1885 when owing to deteriorating weather they were making their way towards their winter quarters at Waiau. While still at the higher levels they were caught in a sudden and very severe snow storm. In the hope of finding better conditions at lower levels they pushed on over Fowler’s Pass (4,250 feet) only to find the snow piled high and in the continuing blizzard it became almost impossible for man or horse to make headway. They became benighted but still struggled towards safety. At 10 p.m. Paske died from cold and exhaustion. One of the horsemen, W. Mitchell, at great personal risk, managed to get down into the Clarence riverbed and worked his way down the channel four or five miles to Macarthur’s station, the nearest homestead, where a relief party was quickly organised. The rescuers reached the unfortunate survey party about 2 a.m. but too late to save the life of the head chainman, Hugh Thompson, who died a few minutes after their arrival. Undoubtedly the whole of the party would have succumbed but for the efforts of William Mitchell. (6)

In 1887 the construction of the Waiau to Kaikoura road was completed and the way was opened for closer settlement but it was not until 1901 that the

first Government block was opened for selection. By that time, however, under the provisions of the Land Act of 1892 the whole of the Amuri and Cheviot Counties had been excised from the Nelson Land District and incorporated in the Canterbury Land District.

At the end of 1896 J. S. Browning retired from the Lands and Survey Department and his successor as Commission of Crown Lands and Chief Surveyor for the Nelson Land District was Thomas Humphries.

CHAPTER 27

NELSON LAND DISTRICT

Notes and References.

1. See “Early New Zealand Engineers” by L. W. Furkert 1953, pp. 114-117 for biographies of John Blackett, former Engineer-in-Chief of New Zealand and of his sons, John George, and James William, all of whom played a significant part in the early surveying of roads and railways in various parts of New Zealand.

2. A useful outline of the history of these railway lines is D. B. Leitch’s “Railways of New Zealand” 1972 published by Leonard Fullerton, Auckland and David and Charles, Newton Abbot, England. This is one of the series, “Railway Histories of the World”.

3. During World War 2, the demolition of this line was commenced when the materials were taken to supply shortages in other districts. In 1955 the line was finally closed as being uneconomic.

4. The trials and tribulations of Charles Lewis’ party during the 1883 survey, when they became weather bound In the inhospitable forest and hemmed in by raging rivers and suffered starvation, are recounted by A.H. Reed in his “Nelson Pilgrimage” 1965, in the chapter on the Heaphy Track, pp. 73-88.

5. For a detailed history see “The Amuri-A County History” by W. J. Gardner, 1956.

6. See also “The History of Land Legislation and Settlement in New Zealand” by W.R. Jourdain 1924, pp. 228-9.

CHAPTER 28

MARLBOROUGH LAND DISTRICT

An aggregate of almost a fifth of the area of Marlborough Province was still clothed in primeval forest in 1876. Most of the available agricultural land such as in the Wairau plains had already been freeholded. However, the greater part of the Province is high country at elevations of more than a thousand feet above sea level and mainly suitable for sheep and cattle runs. Most of the runs, including those situated on the easier lower country behind the Kaikoura peninsula, were Crown leasehold land, and for the most part the boundaries of the runs were not yet adequately defined by survey.

The former Provincial Commissioner of Crown Lands, Mr. Cyrus Goulter, and the Chief Surveyor, Mr. Henry Gostling Clark, continued in office when the Lands aria Survey Department took over the administration.

The advent of railway services and the building and improvement of roads and bridges gradually brought about closer settlement. The Picton to Blenheim railway was opened in 1875 but it was not until ten years later that the highway connecting Blenheim and Nelson, via Whangamoa and the Rai valley, was sufficiently serviceable to warrant the establishment of a regular coaching service. Crown Lands in the Rai valley were first offered for sale at the Blenheim Lands Office in 1877 and the first sections in that area were surveyed by William Darby in 1881.

Owing to the lack of roads and bridges the settlers in the Kaikoura district at the southern extremity of the Province were still dependent on the coastwise shipping services.

A geodetic survey of considerable interest was under taken by Mr. A.D. Wilson in 1883. Its purpose was to connect the triangulation survey systems of the North and South Islands across Cook's Strait. Some of the stations he used, which included Mount Tapuaenuku (9,465 feet) the highest trigonometrical station in New Zealand, were as much as fifty miles apart, necessitating the use of heliostat signals, which were used to good effect. (1) The principal result of Pr. Wilson's efforts was the coordination of triangulation stations throughout New Zealand, for latitude and longitude, by reference to the one standard initial station at the Survey Observatory at Mount Cook (Wellington). The site, or rather the exact geographical position, of this original initial trigonometrical station, is today marked on the floor of the entrance lobby of the Dominion Museum at Wellington. (2) Observations to determine true meridian and latitude at the Mount Cook (Wellington) observatory had been made by Mr. C. W. Adams, who also determined the longitude by means of telegraphic signals from the Sydney Observatory. Subsequently Adams visited each of the Provinces where by a series of new astronomical true observations he checked the true latitude and longitude at each of the Provincial initial trigonometrical stations. Kaikoura County came into existence following the abolition of Provincial government and the County Council held its first meeting in January, 1877. It administered a sparsely settled district and had little in the way of funds for development and it depended a great deal on the services of engineers and

surveyors of the Departments of Public Works and Lands and Survey. The Kaikoura Roads Board, which had been established seven years earlier, and was responsible for the construction and maintenance of district roads and bridges, continued in office until it was merged in the County Council in 1884. At that time the road from Kaikoura township northwards to the mouth of the Clarence River was little better than a pack track and the treacherous Clarence had yet to be bridged. Consequently the Kaikoura community preferred overland communication with Canterbury rather than with Blenheim. In 1882, with Government approval, construction of the main road from Waiau northwards was commenced and was completed as far as Kaikoura township in 1887. Three years later it reached the Clarence, where the bridge had been constructed in 1887, and an all purpose road linked Christchurch and Blenheim.

Closer settlement In the Kaikoura County commenced when the Government, acting under the provisions of the Land Act of 1885, proclaimed two small Village-Homestead settlements. These were the Hapuku settlement, proclaimed in 1886 and the Conway settlement, in 1887.

Despite the growing demand for land, the fact that most of the leases of the larger holdings had several years to run delayed the subdivisional plans. The introduction of the graduated land tax in 1891 and the Advances to Settlers Act of 1894 which was to liberalise the acquisition of Crown Lands by intending settlers, helped to bring about the subdivision of both Crown and privately owned land. In 1895, because many of the leases of the larger runs were terminating the following year, the Government became more active In surveying large tracts throughout the Land District.

As a preliminary to the subdivisional surveys, Mr. Sidney Weetman, who had succeeded Mr. H. G. Clark as Commissioner of Crown Lands and Chief Surveyor In June, 1893, was responsible for organising trigonometrical and topographical surveys covering the greater part of the southern and eastern regions of the Land District. Staff Surveyor Morgan Carkeek, assisted by Mr. D. W. Gillies, was responsible for the surveys covering the Awatere Valley and westwards, and District Surveyor F. Stephenson Smith, assisted by Mr. T. W. Hughes, was responsible for the surveys in the Kaikoura county. (3)

These surveys, which aggregated more than 500,000 acres, Involved the defining of many miles of boundaries and were not completed until 1902. As the work progressed further staff surveyors and private contract surveyors were engaged in subdividing the blocks that became available on the expiration of the leases. The first of these blocks was opened to the public by the Lands and Survey Department for selection on 23rd September, 1895. This was situated in the Hundalee district in Kaikoura County and comprised thirteen farms an twelve small grazing runs totalling over 32,000 acres. Thereafter, from time to time, depending on public demand, further subdivisions were opened for selection. This was a period of great activity by members of the engineering and surveying professions.

The construction of the railway southwards from Blenheim was commenced In 1893 but it was built In stages as closer settlement, brought about by the subdivision of some of the larger privately owned agricultural estates created a demand for railway services. By 1915 the railway had reached Wharanui and there it halted until 1936 when a fresh start was made.

Kaikoura township was reached In March, 1944 and with the completion of the construction of the line from Parnassus in December that year the South Island Main Trunk railway from Bluff to Picton was opened.

The Land for Settlement Act of 1892 enabled the Government to acquire and subdivide a number of private estates. By 1899 the largest of the estates so acquired in Marlborough was the Starborough run of approximately 35,000 acres. A noteworthy acquisition was that of Sir George Clifford's Flaxbourne property in 1908. The negotiations prior to the purchase were prolonged and litigious. The compensation claimed by the owner was much more than twice the price offered by the Crown. The ensuing Court hearings constituted the most important land law case ever to be decided in New Zealand. The first session held in 1894 lasted sixteen days without reaching a satisfactory agreement. Reconvened in 1905 a further eleven days were spent without success. Finally In 1908, when the Court was again reconvened, an agreement was reached after eight days of argument and the compensation for the acquisition of Flaxbourne estate of approximately 56,000 acres was finalised.

There was a change of controlling officers in Marl borough in January, 1897 when Mr. Weetman was transferred to Canterbury on promotion and was succeeded by Mr. C. W. Adams who held the office until the end of May, 1904 when he retired from the service. The next controlling officer was Mr. Henry Trent who two years later was transferred on promotion to Hawkes Bay. Mr. Frank Stephenson Smith, who had been responsible for a great deal of the field work in Marlborough, became Commissioner of Crown Lands and Chief Surveyor on 1st July 1906.

CHAPTER 28

MARLBOROUGH LAND DISTRICT

Notes and References

1. See 'The New Zealand Surveyor' Vol. XV No. 8 April, 1934 p.279.
2. See 'The New Zealand Surveyor' Vol. XV No. 13 October, 1936 p.472.
3. See - A. J. H. R. 1891 C.1 for reports of the Lands and Survey Department. The annual reports give details of the work of the field staff of the Department in the various districts.

CHAPTER 29

CANTERBURY LAND DISTRICT

On the inauguration of the Department of Lands and Survey in 1876, John Marshman was appointed Commissioner of Crown Lands and Samuel Hewlings continued as Chief Surveyor for Canterbury. Both were veteran surveyors who had taken part in the surveying and development of Canterbury from the beginning of settlement by the Canterbury Association in 1850. Hewlings retired in 1877 and was succeeded by J. H. Baker who later held the dual offices of Commissioner and Chief Surveyor when Marshman retired in 1884.

The advent and the extension of the railways resulted in an influx of immigrants and saw the commencement of the subdivision of the large land holdings. In 1877 most of the remaining Crown Lands along the railways had been sold or disposed of by lease. The holders of large estates in the former Canterbury Association's region also began to subdivide and land sales were booming. Funds accruing as a result of these sales placed the local road boards in a sound financial position and the surveyors and engineers were fully occupied with the subdivisional surveys and the necessary roading.

The eminent Canterbury settler, William Rolleston, became Minister of Lands in 1879. He introduced and promoted the Village Settlement legislation which enabled agricultural workers and labourers to obtain, on liberal terms, the purchase or lease of village allotments of one acre and rural sections not exceeding fifty acres, on which they could subsist during the periods during which they were not engaged on seasonal work on the large agricultural and pastoral estates in the neighbourhood. Numerous villages or hamlets throughout the Colony had their origins under this legislation.

Another facet of this legislation was an attempt to prevent land aggregation by wealthy land owners. Purchasers of Crown Land were restricted to a maximum of 640 acres and were obliged to make a statutory declaration that they would personally work the property. This system, despite the best intentions of the legislators, led to a certain amount of abuse known as "dummyism", a process whereby a not too reluctant landless person could be induced by an unscrupulous wealthy landowner who, himself, was prohibited by the legislation from purchasing Crown Land, to make the necessary declarations and obtain the land with funds provided by the said prohibited person. Under this clandestine arrangement the supposed "purchaser" or "dummy" would reside on the property for the prescribed period, really as agent for the prohibited person, and subsequently the property would be "sold" to the person who provided the money in the first place, thus circumventing the law.

During the 1880s New Zealand was In the throes of a financial depression and the Village Settlement scheme, as did the various small farms schemes on similar occasions, helped materially to sustain the Colony until better times returned. Eventually, however, it was found that, when fully developed, many of these farmlets were too small to constitute an economical family farming unit, and consequently there began an agitation for larger allotments. A contributing factor to the demand for more land was the advent of the refrigeration Industry which created a demand for farm products. A natural

consequence was the agitation that then began for the Government to acquire and subdivide some of the larger holdings which were only partly developed and to legislate against further land aggregation by wealthy capitalists.

A leading advocate for the subdivision of the larger holdings and an opponent of the squatter faction was the surveyor, and later a farmer in South Canterbury, Edwin Percy Sealy. In 1881 he published his radical political pamphlet, ‘Are We to Stay Here?’ in which he proposed several important agrarian reforms. The political power of the dominant landholding faction was greatly reduced by the passing of the Electoral Act, 1879 which extended to every male over twenty-one years of age, the right to vote, subject to certain residential qualifications, which included the possession of a Miner’s Right.

The attack on land aggregation became a major issue in the House of Representatives and a much quoted example of aggregation was that of a large estate lying between the Hororata and Rakaia rivers which had been acquired over a number of years by Mr. (later Sir) John Hall who was Premier from 1879 to 1882. (1)

The liberalising of the acquisition of Crown Lands by bona fide and competent settlers, either by purchase or by lease, was provided in the Land Act of 1885, introduced by the Hon. John Ballance, Minister of Lands. This Act also placed limits on the areas that could be acquired by any one purchaser. Amended and extended in 1887 and 1888 the Act was superseded by the Land Act of 1892 which incorporated many of the desired agrarian reforms.

There still remained the problem of acquiring privately owned land for the purposes of closer settlement. In 1892 a Lands for Settlement Act was introduced by the Hon. (later Sir) John McKenzie, Minister of Lands. This provided for the establishment of a Land Purchase Board which was to be responsible for the inspection and reporting to Government upon private freehold land the owners of which offered it to the Government f or sale. If found suitable f or subdivision and closer settlement, it could be purchased by the Crown and offered for selection under the lease-in-perpetuity tenure, the area of a holding being limited to 320 acres. This Act proved to be ineffective, particularly in the case of the purchase of the Cheviot Estate of 85,361 acres the purchase of which was effected under special legislation. The 1892 Act was superseded in 1894 by a new Land for Settlements Act which included clauses of a compulsory nature empowering the Crown to take privately owned land for settlement purposes, subject to the payment of reasonable compensation. This Act was amended several times and the amendments were incorporated In the Land for Settlements Consolidation Act of 1900.

Throughout the Colony, in the decade following the 1894 Act some hundreds of thousands of acres were acquired and subdivided by the Government. A greater area was acquired in Canterbury than In any other province. (2)

At the same time private owners of agricultural estates were active In subdividing their properties. A typical example was Longbeach the 30,000 acre agricultural estate of John Grigg, in .Ashburton County.

Of great assistance to the purchasers of these private subdivisions was the Advances to Settlers Act of 1894 which enabled bona fide settlers to acquire, with Government assistance, the land they needed.

In keeping with the closer settlement and the large increase In the volume of agricultural and pastoral products, the roads and railways were progressively developed.

On the arable plains the change from sheep farming to cropping, especially of wheat, turned the attention of the land owners to watering and also dewatering problems. In some cases extensive swamps, such as on John Grlgg's Longbeach estate, called for large scale communal drainage schemes. On the other hand there were large tracts of poorly watered country that could be brought to full production only by providing large scale publicly owned irrigation schemes.

The first feasibility survey for an irrigation scheme was made as early as 1866 by C. E. Fooks and the first water races were constructed at Westerfield under his direction in 1869. He also was responsible for surveying the Longbeach swamps with a view to drainage.

Engaged by the Provincial Council, Henry Wrigg, consulting engineer and surveyor, in September, 1873 presented his report and assessment of the feasibility of economically irrigating various parts of the Canterbury plains. The Canterbury Water Supply Act of 1874 empowered the Canterbury authorities to construct water races in the district between the Waimakariri and the Rakaia Rivers. The preliminary surveys were made and contracts were let and work commenced on the construction of the initial scheme in August, 1876. Since then large areas have been irrigated by water races of which today there are several thousands of miles in Canterbury.

In 1864 the Canterbury Railway and Bridge Commission, consisting of the engineers and surveyors Edward Dobson, Edward Richardson, Edward Wright, James Wylde and Richard Harman, had recommended the coastal route for the railway northwards from Christchurch and after protracted political controversy this route was accepted by Government. The construction surveys for the first section were put in hand by Messrs. W. B. Bray and T. S. Tancred in March, 1870. The line was opened to Kaiapoi in April, 1872 and had reached Amberley in 1876.

By stages the line advanced slowly northwards, the main obstacles to be overcome being not only the bridging of the major rivers but also the state of the public finances. The line was opened to Waipara in October, 1880, the Hurunui bridge was completed in 1886 and the line opened for traffic as far as Culverden in February that year. Thence it was carried as far as the southern bank of the Waiau and construction ceased there in 1919. An alternative route for the Christchurch-Blenheim connection had been surveyed along the coastal route and was adopted by Government and the line from Waipara to Parnassus was opened in 1912. Eventually the section between Parnassus and Kaikoura was completed in December, 1944.

Two branch lines were surveyed in 1872, the first from Rangiora to Oxford and the second from Kaiapoi to West Eyreton. Both were built and the Oxford line opened in June, 1875 and the West Eyreton line in December the same year.

Subsequently these lines were linked at Bennet's Junction. In 1877-8 the Waimakariri gorge bridge, which was for the dual purpose of railway and road traffic, was constructed and the Oxford line was linked with the Midland line at Sheffield. In 1932, during the financial depression, the sections between Sheffield and Oxford and between Bennet's and Horrelville were closed. Since then both lines have been abandoned and the rails removed.

The construction of the Main Line from Christchurch southwards was commenced by the Provincial Government in May, 1865 and was opened as far as Selwyn river in October, 1867. Owing to difficulties encountered in bridging the Selwyn, construction of the line was delayed for a while and was resumed after Vogel's public works and immigration policy had come into operation and the General Government had taken over the responsibility for railway construction.

The line was completed to .Ashburton in August, 1874, and to Timaru in February, 1876 and reached Oamaru in February, 1877. The section from Oamaru to the Waitaki river had been completed in September 1875 and the entire line between Christchurch and Dunedin was opened to Traffic In August, 1878.

Several branch lines were constructed or commenced during the Provincial era. That from Rolleston to Sheffield, via Darfield, was completed in December, 1874, with a spur line from Darfield to Whitecliffs opened in November, 1875. A branch line from Hornby to Leeston, via Lincoln was completed in 1875 and carried on to Southbridge in 1886. A spur line from Lincoln to Little River was opened in 1880.

Certain lines were built pursuant to the District Railways Act of 1877 under which the Government empowered approved companies to construct the lines and reserved the right to purchase the lines from the companies after they had been in operation for seven years. One such line was the Rakaia and Ashburton Forks Railway which was built by a company which terminated construction in 1880 when the point where the town of Methven was laid out was reached. This line was purchased by the Government in 1885.

The line from Tinwald to Mount Somers was built in 1880 and that from Washdyke to Fairlie was completed in 1884. Likewise the short line from Studholme Junction to Waimate, built by the Waimate Gorge Railway Company was completed in 1884.

A railway from Canterbury to Greymouth and thence to Nelson was first mooted in 1866, when several possible routes were suggested. Following a commission of enquiry in 1882, eleven feasibility surveys from various points on the Canter bury railway system were made in 1883 and the Commission finally accepted the route via Arthur's Pass as being the best available. Under the Midland Railway Company Contract Act of 1888 the Company undertook to construct the line, a condition of the contract requiring the completion of the line by 1895. The section of line within Canterbury Land District, i.e. between Springfield and Otira, contained the most formidable terrain facing the constructors. Between Springfield and Arthur's Pass sixteen tunnels and five massive viaducts, as well as five sizable bridges were required and then the lengthy tunnel had to be driven through the Southern Alps.

The section of railway between Sheffield and Springfield, built by the Government, was commenced in April, 1879 and opened in January the following year. Construction from Springfield towards Arthur's Pass was commenced by the Midland Railway Company in January, 1890. It became obvious that the Company could not complete its contract within the prescribed time and the Government was dissatisfied with the rate of progress. After some litigation with the Company the Government exercised its powers under the Railways Construction and Land Act and on 25th May 1895 took over the assets of the Company and assumed responsibility for completing the line.

The section from Jackson's to Otira was completed in 1899 but it was not until July, 1914 that the Springfield Arthur's Pass section was completed. The contractors for the Otira Tunnel, Messrs. J. McLean and Sons, commenced construction in May, 1908 but met with great difficulties and had to default in 1912. The Public Works Department took over the completion of the tunnel which was pierced in August, 1918, and was finally opened to traffic in May, 1923. The tunnel which is five miles and twenty-five chains in length has an elevation of 2,435 feet above Mean Sea Level at the Arthur's Pass (Canterbury) end and of 1,586 feet at Otira, with an average gradient of 1 in 33. So well had the engineers and surveyors performed their tasks that when the headings met in 1918 differences in alignment and elevation were found to be minute, being about three inches in each case.

Concurrently with the surveying of the settlements, roads and railways, the Government staff surveyors were carrying out the triangulation surveys required to control the other surveys. In northern Canterbury this work was the responsibility of J. S. Welch; in central Canterbury by Messrs. G. H. M. McClure, James Hay and L. 0. Mathias; in the southern districts by T. N. Brodrick and H. Maitland. As the work extended into the Southern Alps the survey parties, as were their colleagues in the Westland and Otago Districts, were accounting for numerous "first ascents" of the peaks of the Alps on which the survey stations were established. A number of these were more than 6,000 feet in elevation and there was a certain element of danger to the members of the survey parties working at the higher altitudes.

Describing the conditions encountered by his party McClure reported in 1889.

"I was impeded in the earlier part of the season by bad weather, and during November there was fully 2 ft. of snow round the camp. In consequence of the previous severe winter and the high altitude of the country, some being over 9,000 feet, among the glaciers there was a certain amount of danger attached to traversing the head waters of the rivers, through avalanches; and, later through the rivers being in flood, we had to work wet to the waist, continually crossing and re-crossing the rivers; in fact, during a flood in the Clyde, one of my men nearly drowned in attempting to cross with the theodolite".

He did not mention that he, himself, had been fortunate to survive, with minor injuries, a fall into a crevasse. (4)

The rapid development of the agricultural and refrigeration industries and the expansion of wool production as the Colony emerged from the financial depression of the 1880s and the early 1890s, coupled with the liberalising of the

land laws, produced a spate of land subdivision and road and bridge building that taxed the resources of the engineering and surveying professions. More surveyors were required and the number of practitioners was augmented by Immigrant professionals and by the training of the local youths. A high standard of competency was asked of those entering the profession in New Zealand where a surveyor was required to be proficient in all branches of survey work. The training of a cadet was the responsibility of the master surveyor to whom he was indentured.

In Canterbury the first classes teaching subjects appertaining to engineering and surveying became available through Canterbury University College which was affiliated to the New Zealand University. The College was set up in 1872 and the classes commenced In 1874. Four faculties were established, of which that of mathematics and natural history was directed by Professor C. H. H. Cook and that of geology and palaeontology under Sir Julius von Haast. Three special Schools were developed at the College, viz. School of Art in 1882; School of Engineering in 1890, under Professor R.J. Scott (a cousin of Captain Robert Falcon Scott R. N. of Antarctic fame); School of Forestry in 1921. However, the first course of lectures directly concerned with engineering and surveying were given at the College from 1887 to 1892 by the veteran engineer-surveyor, Edward Dobson. (5)

The Canterbury surveyors were represented by Walter Kitson on the steering committee which set up the Institute of Surveyors in 1888. Another active member of the Canter bury Branch was Charles Hastings Bridge who was President of the Institute in 1917-1 8.

In May, 1891 J. H. Baker exchanged places with J. W. A. Marchant of Wellington and in March the following year Baker was appointed Assistant Surveyor General an office he held in conjunction with that of Chief Surveyor for Wellington Land District. When Baker retired at the end of 1896 Marchant returned to Wellington and in January, 1902 he became Surveyor General for New Zealand.

The offices of Commissioner of Crown Lands and Chief Surveyor for Canterbury were held by Mr. Sidney Weetman from July, 1897 until he retired in 1902 and he was succeeded by Thomas Humphries who, in turn, became Surveyor General in 1906 and was succeeded in Canterbury by E. C. Gold Smith.

CHAPTER 29

CANTERBURY LAND DISTRICT

I. See map in N. Z. Parliamentary Debates, Vol. 103. Also ‘A History of Canterbury’ Vol. II (1854-76) (Edited by W. J. Gardner) 1971 Appendix III.

2. See also - ‘A History of Canterbury’ Vol. III, (1876-1950) by W. H. Scotter. (Edited by W. J. Gardner) 1971 pp. 209-219.

3. During several years before Otira tunnel was pierced it was the practice for groups of senior surveying students from Canterbury University College School of Engineering, under the direction of Mr. W. P. Robinson, F. R. G. S., lecturer in surveying, and with the sanction of the Public Works engineers, to spend the long vacations making check surveys of the alignment and levels for the tunnel.

5. See A. J. H. R. Report of the Survey Department, 1888-89, C - 1A. Report of the Chief Surveyor for Canterbury.

5. Edward Dobson bequeathed to his fellow surveyors and engineers the benefit of his more than forty years of pioneering experience in New Zealand and Australia in his writings which include “Public Works of Canterbury” and “Pioneer Engineering” (1880). In the latter, which is a text book for student engineers and surveyors, he illustrates his subject with problems he faced in the construction of the road over Arthur’s Pass in 1865-66. The construction of this road was a prodigious feat in the days of pick, shovel and wheelbarrow. Edward Dobson and his son Sir Arthur Dudley Dobson, (after whom the Pass was named) are honoured and commemorated by the New Zealand Institution of Engineers by the Dobson Award.

CHAPTER 30

WESTLAND LAND DISTRICT

The gold mining industry was virtually at its zenith in Westland when the last gold rush of any consequence occurred at Kumara in 1876 simultaneously with the ending of Provincial government and the founding of the Department of Lands and Survey. (1) Gerard Mueller, who had succeeded Sir Malcolm Fraser in 1871 , continued as Chief Surveyor for Westland under the Department, and in 1885 also became Commissioner of Crown Lands.

Heavy traffic between Westland and the rest of New Zealand in 1876 depended on coastal shipping or on the solitary overland highway from Greymouth to Canterbury via Arthurs Pass. The first proposals for a railway connecting Greymouth with Nelson were included in the Nelson, Cobden and Westport Railway Act of 1866 which was renewed and extended in 1868. The reconnaissance survey was made by Henry Wrigg in 1867 of a route down the Buller River to Westport and also by way of Inangahua to Greymouth and Cobden. Construction authorised under the Railways Act of 1872 was commenced at Greymouth and Cobden and the section to Brunner was completed in 1880. However, an earlier railway between Greymouth and Brunner, for colliery purposes, had been opened in April 1876. The line was subsequently continued to Stillwater where in 1885 the Midland Company took over the construction. The Stillwater to Reefton section was completed to Reefton in 1892 where the Government again resumed responsibility. The Stillwater to Jackson's section was completed by the Midland Company in 1893 and thereafter the Public Works Department took over the completion of the line via Otira. (2)

The railway from Greymouth to Hokitika was surveyed and construction commenced in 1879 but it was not completed until 1893 when it was opened for traffic. Later this line was continued southwards and terminated at Ross. This section was opened for traffic in 1909.

In the goldfields the earlier primitive methods of gold extraction, i.e. panning and cradling of the alluvial deposits in the watercourses, were soon superseded by more sophisticated techniques in the areas where it was necessary to bring hydraulic forces to bear on the dry gravel terraces and conglomerate formations.

Groups of claim owners for companies, amalgamated their claims, and employed surveyors to locate suitable sources of water supply and lay out the routes and rights-of-way for the aqueducts required to deliver the water at the sluicing claims. Much of the work of the surveyors at that time was in connection with the registration in the Warden's Court of the mining leases and various easements appurtenant to them. (3)

when it became apparent that the more profitable gold-bearing alluvial country was already taken up, more attention was given by the prospectors to searching for the mother lode that was the source of the alluvial deposits. Gold bearing quartz reefs in the Inangahua district of the Nelson West Coast Goldfield had been discovered in 1870 and reef mining had commenced at Reefton the following year.

In Westland, despite the difficult forested terrain and the inclement climate, the surveyors and prospectors continued to explore and to move into the upper reaches of the rivers and into the alpine regions in search of the elusive lodes. Under the direction of Chief Surveyor Gerhard Mueller, who had earlier been responsible for much of the exploration and topographical surveying in south Westland, the major trigonometrical survey of the Westland Land District was commenced in 1877. (4) The arduous field work was performed by G. J. Roberts with C. H. Douglas as his assistant. It was not until 1881 that Roberts was able to complete this triangulation by connecting with the Canterbury system after traversing the glaciers and snowfields among the summits of the Southern Alps.

Sluicing as an effective method of extracting gold from the alluvial deposits began to decline in the 1880's and by the turn of the century practically all of the more easily available deposits had been worked over. To work the more difficult deposits companies were formed to undertake the dredging of the river beds and the adjacent deep shingle beds. After the turn of the century the dredging business also began to decline and by 1914 there were few companies still operating.

With the gradual decline in gold mining the redundant miners turned to other indigenous industries such as timber and flax milling and especially farming. Once again the small farm association" and similar legislation coupled with the State Advances to Settlers Act, proved to be of great benefit to the land seekers. Settlements in Westland had commenced under the Waste Lands Act of 1870 which with several minor amendments was continued under Part XI of the Waste Lands Administration Act of 1876. Thereafter settlement was controlled under the appropriate legislation by the General Government and several settlements were established in Westland. Staff surveyors who carried out the necessary surveys from time to time included Messrs. W. Wilson, G. T. Murray, W. G. Murray and C. Galway.

By the early 1890's the boom days of gold mining had passed and there was a steady decline in population numbers in Westland. A more stable era began at the beginning of the new century.

After almost twenty years as Chief Surveyor for Westland G. J. Mueller was promoted as Chief Surveyor for the Auckland Land District. His successor in Westland in May, 1891 was John Strauchon who in turn was succeeded by David Barron in 1893; William George Murray in 1896 and George John Roberts in 1902.

CHAPTER 30

WESTLAND LAND DISTRICT

Notes and References

1. "The West Coast Gold 'Rushes" by P. R May. 2nd (revised) edition, 1967 p.233 etc. for a complete history.

2. See also - "Railways of New Zealand" by Davis B. Leitch, 1972, which has a full historical outline of New Zealand railways, and is part of the 'Railways of the World" series published by L. Fullerton, of Auckland and David and Charles, Newton Abbot, England.

3. See also "A History of Gold Mining in New Zealand" by J .H. M. Salmon, published by Government Printer, 1963.

4. See "My Dear Bannie" (Gerhard Mueller's letters from the West Coast, 1865-66) edited by M. V. Mueller, 1958, (Pegasus Press), which gives an account of Mueller's early exploration of southern Westland. Also a footnote to p.220 states - "Baron Ferdand von Mueller, after whom the Mueller Glacier is named, was a distinguished botanist and explorer who settled in Australia in l847 and came the first director of the Melbourne Botanical Gardens".

CHAPTER 31

OTAGO LAND DISTRICT

When James McKerrow moved to Wellington in 1876 as Secretary for Lands, his successor as Chief Surveyor for Otago was William Arthur who previously had been Provincial engineer responsible for road and railway construction.

Because of its extensive and highly productive gold fields, Otago was in a much stronger position financially than any other Province at the time of the abolition of Provincial government end consequently had in progress a considerable programme of public works, including roads and railways. Under General Government these developments were continued and expanded and eventually Otago, except for its western alpine regions, was better supplied with roads and railways than any other part of the Colony. Under construction was the South Island Main Trunk Railway. The section from Oamaru to the Waitaki river was completed in 1875 and on completion of the Waitaki railway bridge the line between Oamaru and Christchurch was opened in February 1877. Construction from Oamaru southwards reached Moeraki (Hampden) in November 1876 and was continued towards Waikouaiti. The line from Dunedin to Waikouaiti was completed in May 1878 and the whole line between Dunedin and Christchurch was opened to traffic on 8 August 1878.

From Dunedin southwards the line reached Clutha River in September 1875. The Kaitangata Coal Company, which had commenced mining in 1863 and had depended on coastal shipping between Port Molyneux and Dunedin, now founded the Kaitangata Railway and Coal Company and with Mr. G. M. Barr as its surveyor and engineer, built the line from Kaitangata to Stirling and in 1878 the first consignment of coal was dispatched to Dunedin by rail.

By January 1878 the Government line had been constructed as far as Balclutha. Shortly afterwards the section being constructed from Gore northwards had reached Clinton. With the completion of the section between Balclutha and Clinton the whole line between Invercargill and Christchurch was opened to traffic on 22 January 1879.

The advent of the main trunk railway provided a basic requirement for the closer settlement of large tracts of agricultural land, mainly Crown owned, that previously had been held under lease or licence for grazing purposes. On the termination of the leases and licences this land was progressively made available for subdivision and disposed of by sale or lease. The Land Act of 1877 introduced, inter ails, the disposal of Crown Lands on a deferred payment tenure. The popularity of this system, which enabled persons of small means to become landholders, was demonstrated by the fact that throughout the Colony between the years of 1877 and 1891, when this tenure was abolished, there were no less than 7,687 selections aggregating 1,028,023 acres.

Branch railways were commenced with the object of serving the new settlements and ultimately connecting the earlier established mining centres. The colossal task involved in the subdivisional and triangulation surveys and the surveying of the necessary roads and railways extended over several decades. A small Departmental field staff controlled operations. District Surveyors were placed in charge of branch offices at c Lawrence and Naseby, where they were

also responsible for the control of mining surveys. Much of the triangulation and subdivisional surveying was carried out by contract surveyors.

The Otago Central railway was commenced at Wingatui in 1879 and reached Middlemarch in 1891, Hyde in 1894, Ranfurly in 1898, Omakau in 1904 and Clyde via Alexandra in 1907. Eventually it was continued to Cromwell which was reached in 1921.

The branch line from Milton to Lawrence was completed in 1877 but it was not until 1906 that the extension west ward was undertaken. Beaumont was reached in 1914, Miller's Flat in 1925 end the terminus at Roxburgh in 1928. The Tapanui branch line was opened between Waipahi and Herriot in 1880 and later continued to Edievale.

In northern Otago the line from Pukeuri to Kurow was opened in 1883 and later two short spur lines were built; one from Oamaru to Ngapara and another from Palmerston to Dunback.

In southern Otago a line from Balclutha to Glenoamaru was opened in 1868 and subsequently constructed as far as Tahakopa. This line was instrumental in the settling of the Catlins district.

In 1876 little was known about the interior of the vast mountainous region in western Otago comprising more than three million acres, most of which is now included in the Fiordland National Park which is under the control of the Commissioner of Crown Lands for Southland.

In 1877 E. H. Wilmot was appointed District Surveyor and stationed at Queenstown which was then the centre of a very active mining district. Prospectors were still exploring the more remote regions and much of Wilmot's work was in connection with assessing and surveying mining claims. In 1880 he spent some time on a reconnaissance survey of the Routeburn and Hollyford valleys with the object of extending the Otago triangulation survey to the settlement at Martin's Bay. The following year this survey was commenced. In this typical trackless alpine region, where the dangerous rivers were flanked by high mountains clothed to the snowline by dense rain forest, all stores and equipment had to be man hauled except where a clumsy dug-out canoe could be used when traversing the rivers. (1)

In 1881 Wilmot's field party, temporarily under Cadet A.D. Burns and comprising Frederick Pitt, Ronald Raymond and Kennedy, was travelling from Martin's Bay to Queenstown after completing the season's work when a tragedy occurred at the crossing of Pyke River near its confluence with the Hollyford. Both rivers were in heavy flood. The canoe was too small to carry the whole party and its equipment. Pitt and P successfully took the equipment across the Pyke but on the return trip to pick up their companions, .Raymond landed Pitt on a small island in midstream and continued in the canoe which soon proved unmanageable by one person in the strong current. The canoe was swept towards another small island near the junction with the Hollyford and Raymond mar to land but lost the canoe. He managed to swim to the other side of the Hollyford but in attempting to rejoin his companions he was drowned. Burns and Kennedy went back to Martin's Bay for assistance. As all the streams were in flood it was a week before they again reached the Pyke were able to rescue Pitt who had remained on the island, half naked and without food or shelter in

almost incessant rain. He had no means of making a fire. By throwing stones he managed to kill a few small birds which he ate uncooked.

Travelling from Queenstown to meet the party, Mr. Wilmot had arrived at the Pyke crossing the day after the accident. He found the equipment but found no sign of the missing men. Being short of food he returned as quickly as possible to Queenstown where he enlisted the services of a Mr. Whitburn who had a good knowledge of the locality, to help in the search. Returning to the Pyke with all haste they arrived there soon after Pitt had been rescued. A search for Raymond proved fruitless. (2)

To complete the Hollyford survey Wilmot reorganized his party in December 1882 and returned to Martin Bay. He sailed from Bluff in the Government Steamer “STELLA”, taking with him a suitable boat for use on the rivers and lakes. On the way the Stella called at several of the sounds, including Milford Sound which Wilmot hoped to include in his survey. With the old survey depot at Jamestown as his headquarters Wilmot, despite the very wet season and flooded rivers, was able to survey much of the surrounding district. The very difficult approach from inland to Milford Sound made it impossible at that time to include the Sound in his survey. (3)

Then William Arthur died in August 1885 his successor as Chief Surveyor was Charles Williams Adams who, in 1888, revived the search for a practicable route from the interior to Milford. In 1887 Quintin Mackinnon had reconnoitred several miles up the Clinton river at the head of Lake Te Anau. On 2 September the following year, accompanied by Ernest Mitchell, he set out from Lake Manapouri to seek a pass from the Clinton to Milford. They tramped most of the way up the eastern shore of Te Anau and then used a boat to take them a mile or two up the Clinton where they made their base camp. From there they blazed a trail to the headwaters of the Clinton. After a month of arduous work, when their supplies were almost exhausted, they surmounted the saddle 3,400 feet above sea level, at the head of the Clinton. This proved to be the key pass for a practicable walking route which today is the famed Milford Track. Mackinnon and Mitchell were expecting to meet the survey party led by C. W. Adams somewhere in the Arthur Valley but on reaching Lake Ada they found it impossible to proceed without a boat. Fortuitously one of Adams’ field parties, exploring the Arthur with a canvas boat, came upon Mackinnon’s track and found a message in a note which, hopefully, Mackinnon had stuck on a stake. The parties met just as Mackinnon and Mitchell ran out of food. (4)

The well equipped party under Adams had arrived at Milford by the Government Steamer “STELLA” on 28 September and there met Donald Sutherland, the “Milford Hermit” who already had spent ten years in the locality and had explored the surrounding country and discovered, inter alia, the Sutherland Falls. The object of Adams’ expedition was to make a reconnaissance survey of the Arthur valley and

to find an overland route to Te Anau and also to survey the Milford region and measure the height of the Falls which at that time were believed to be the highest yet discovered anywhere. This survey proved the height to be 1,904 feet.

Adams' party comprised his eighteen years old son who some years later as Dr. C. E. Adams, D.Sc. became the Government Astronomer; Assistant Surveyor G. A. Stables and W. Wyinks. The latter subsequently became Registrar General as head of the Department of Land and Deeds.

There were also two parties of professional photographers comprising three men each. (5) Also associated with the expedition were Mr. (later Sir) Thomas Mackenzie, M. P. for Clutha, and Mr. W. S. Pillans, a member of the survey staff. Mackenzie became Premier and Minister of Lands in 1912 while at the same time his brother, James Mackenzie, I. S. O. was Surveyor General. Mackenzie, Pillans and Wyinks explored the upper reaches of the Arthur and linked up with Mackinnon and Mitchell, thus completing the reconnaissance for the Milford Track. (6)

Early in 1889 W. H. Homer, a settler and prospector of Martin's Bay, accompanied by George Barber, explored the upper reaches of the Eglington end of the Hollyford. Homer reported finding in the range to the west of the Hollyford a saddle which, in his opinion, with some tunnelling would provide a suitable route for a dray between Te Anau and Milford. District Surveyor Wilmot was sent to make an investigation and his survey embraced the Eglington valley and the upper Hollyford. Wilmot's report was adverse but Homer persisted in advocating the tunnel scheme. Forty-five years later the tunnel was commenced and the road was built.

Assistant Surveyor Mackinnon was stationed at Te Anau to supervise the construction of the Milford Track. Alone in his whaleboat he left Te Anau on the 30 November 1893 to sail to his depot on the Clinton. When he failed to arrive at his destination a search party was sent out and after several days his sunken boat was found with all his equipment but no sign of the missing man, who was presumed drowned. (7)

Thomas Mackenzie, M. P. was again in Fiordland in 1894 when, with W. S. Pillans and two other companions, he explored the Spey River valley at the western end of Lake Manapouri. Before their supplies ran out they had discovered Pillans' Pass and Mackenzie Pass and had traversed some distance down the Seaforth river, but they were forced to return to Manapouri. Two years later Mackenzie organized another party and went by ship to Supper Cove at the eastern extremity of Dusky Bound. From there they explored the Seaforth valley with the intention of linking up with the survey of two years before, but failed to make the connection before they were obliged to return to their base. Mackenzie's report and map of his expeditions are included as appendices to the Report for 1895 of the Lands and Survey Department published in the Journals of the House of Representatives.(8) This map shows that his 1894 survey could not be reconciled with that of 1896. The matter was clarified in 1897 when Wilmot traversed the whole course of the Spey and the Seaforth. He also explored the route from Western Arm of Lake Manapouri to Deep Cove in Doubtful Bound via Wilmot Pass. Today the road built by the Ministry of Works and Development in connection with the Manapouri hydro-electric scheme follows this route.

The records of the Departments of Lards and Survey and of Public Works and of Mines, from 1876 to the end of the century, disclose the prodigious amount of survey work that was accomplished during that period. In

Otago the control surveys were carried out by the small Departmental permanent staff, comprising at most six or seven surveyors, augmented from time to time by three or four temporary staff.

The triangulation was gradually extended to cover the whole of the Land District except the mountainous Fiordland.

New Zealand's greatest political proponent of closer settlement was Mr. (later Sir) John McKenzie who represented the Otago electorate of Waiheme continuously from 1871 to 1900. As Minister of Lands and Agriculture from 1891 until his retirement in 1900 he was responsible for introducing legislation for liberalising the land laws. Under this legislation he also became Minister in charge of Land Valuation, State Advances to Settlers and Commissioner of State Forests. Many of the settlers who were aided by this legislation came from the mining community when the alluvial mining industry began to decline or from the workmen who had been employed on railways construction. A number of contract surveyors were employed in laying out the settlements.

Some of the staff surveyors later attained high office in the Government service. John Strauchon, who was responsible for a great amount of the triangulation work was Surveyor General for New Zealand from 1909 to 1912. E. H. Wilmot was Surveyor General from 1914 to 1920. John Langmuir, an experienced geodetic surveyor, preferring field work to administrative duties, declined promotion to Commissioner of Crown Lands or Chief Surveyor and became Inspecting Surveyor for the Dominion. David Barron, who was District Surveyor at Naseby, became Chief Surveyor and Commissioner of Crown Lands for Otago in 1901. An experienced engineer-surveyor, W. D. R. McCurdie, who surveyed much of the rugged Catlins district, ultimately became City Engineer for Dunedin in 1911.

John Edie, as staff surveyor from 1876 to 1898 and subsequently in private practice, worked in all parts of the Land District, including Catlin's Bush. In 1922 he was elected to represent Tuapeka in Parliament and in 1925 was elected to represent Clutha.

When C. Adams was promoted to Commissioner of Crown Lands and Chief Surveyor for Marlborough in 1897 his successor as Chief Surveyor for Otago was John Hay who, in 1901, was promoted Commissioner of Crown Lands and Chief Surveyor for Southland.

CHAPTER 31

OTAGO LAND DISTRICT

Notes and References

1. A. J. H. 1880 H 27 p.20

   Also -Evening Star, Dunedin, 16 June 1883

2. See - Southland News. 13 April 1882.

   Also - Pioneers of Martin's Bay by Mrs. P. Mackenzie (Southland Historical Society) l947, Chapter DC recounts the Pyke River tragedy.

   Also - Early Fiordland by Dr. John Hall-Jones (A. H & A. W. Reed 1968, Chapter 11

3. See - Evening Star, Dunedin, 16 June 1883.

4. See - Early Fiordland, by Dr. J. Hall-Jones p. 1O5 et seq.

5. One party of photographers comprised Messrs. G. Moodie, H. Burton and R. Ferguson of the firm of Burton Brothers. The other comprised Messrs. F. Muir, J. Forrest and P. Brodie of Morris' firm. Some samples of their work are included in Early Fiordland. Of special interest is the photograph of C. W. Adams' survey party facing p.97.

6. See the account in Early Fiordland - Chapter 9 and also Sir Thomas McKenzie in Hansard, 1925.

7. Lands and Survey Department, Invercargill, file 13/1/12.

8. A. J. H. R., 1896, C.1 p.112.

CHAPTER 32

SOUTHLAND LAND DISTRICT, INCLUDING STEWART ISLAND

With the establishment of the Lands and Survey Department in 1877 Southland Land District was given independent control over surveying, whereas formerly control had been exercised by the Otago Provincial Surveyor. John Spence, formerly District Surveyor Queenstown, was appointed Chief Surveyor for Southland. Walter Henry Pearson continued in office as Commissioner of Crown Lands until October, 1884 when he was succeeded by Spence who held that office in addition to that of Chief Surveyor.

In Southland, as it was throughout the Colony, this was the beginning of a period of intensive surveying activity. The nationwide programme of railway and road construction induced a demand for closer settlement and, where conditions were suitable, a change from sheep farming to agriculture. Additional incentives were the introduction of the deferred payment for the disposal of Crown lands and the commencement of the refrigeration industry. Also, at no great distance eastward of the port of Invercargill lay the Crown owned district then known as the Seaward Moss on which there were magnificent stands of indigenous timber for which there was a ready market. Westward of Invercargill at Otatara, and more distantly at Otautau and Longwood, there were further mature indigenous forests. A flourishing timber milling industry grew as the roads and railway became available. Gradually, as the forest was cleared, the land became available for settlement.

The railway from Invercargill to Kingston was completed in July, 1878. The following year the main line from Invercargill to Dunedin was completed and the lines under construction from Makarewa Junction to Riverton and to Otautau were opened. From Riverton to Orepuki the line was opened in June, 1881.

The essential control surveys were provided by extending the triangulation and much of this work was accomplished by staff surveyors John Hay and John Strauchon. The Chief Surveyor's annual report for 1879 states that during the previous year Hay had completed the triangulation of 107,1400 acres. (1) During the following years extensive topographical surveys were made by John Hay, J. Strauchon, H. R. Dundas and J. Tresseder.

The most extensive of these surveys was by Hay in 1883 when he commenced the survey of some 554,000 acres, mainly in the southern fiord district. This survey embraced the whole territory westward of Waiau River as far as Preservation Inlet and northward to within sight of the Seaforth River. Included were Lakes Hauroko and Poteriteri. An essential part of Hay's equipment was a canvas boat which he end his assistants hauled through the trackless forest over the hills from lake to lake. Much of this territory is now included in the Fiordland National Park. (2)

Until 1883 there h been little surveying activity on Stewart Island since J. H. Baker surveyed some native reserves and connected by triangulation with the mainland in 1870. Then a road was surveyed and constructed between Port William and Halfmoon Bay. Reporting in 1888 the Chief Surveyor stated that owing to a considerable amount of mining activity at Port Pegasus the requisite surveys had been made by Messrs. John Hay, H. T. Dundas and T. S. Miller.

Hay had also surveyed Ruapuke Island for the Native Land Court. The Chief Surveyor stated that the interior of Stewart Island had never been mapped, the coastal features having simply been adopted from Admiralty charts. He recommended that a topographical and trigonometrical survey of the southern end of the island be completed. (3) These surveys, comprising some 145,000 acres were eventually made by Dundas between 1894 and 1896. (4)

At the northern end of the Land District in 1876, and particularly the Waimea Plains, the land was held in large pastoral runs, both freehold and Crown leasehold, that had originated in the earlier “2,000 acres scheme”. V/hen the Land Act of 1877 was passed the run-holders realised the likelihood of the leases being terminated end their holdings which contained much good agricultural land, being resumed by the Crown and subdivided for closer settlement.

To avert this possibility and to keep control of the development of the runs in their own hands, the run-holders, with the assistance of some influential capitalists, two of whom were former Ministers of Finance, (5) formed the New Zealand Agricultural Company which was incorporated in London in December, 1878. Commencing operations in 1879 the Company began by establishing ownership over 170,000 acres of freehold end 139,000 acres of leasehold. Of this it was estimated that there were about 121,500 acres of good agricultural land, mainly in the Waimea Plains. The first subdivisions into suitable agricultural farms, situated near Gore, were made available f or sale or lease in September, 1879. (6)

Earlier there had been a request for the General Government to build a railway across the plains linking Gore and Lumsden, but the Government had declined to act. Under the provisions of the District Railways Act of 1877 a private company was formed, most of its directors and shareholders being also those of the New Zealand Agricultural Company. The Waimea Plains Railway Company commenced operations in January, 1879, the contractors working from both Gore and Lumsden. The Company’s engineer was H. P. Higginson and the resident engineer and surveyor was A. R. W. Fulton. The line was completed and opened in July, 1880. The Government took over this line in November, 1886. For many years the railway served in the development of the district but with the improvements to the roads and the competition of the road services it became uneconomic and the line was officially closed in March, 1971. A branch line from Riversdale to Waikaia had been built and was opened in January 1909. This branch was officially closed in 1959.

Over the years several surveyors were involved in the work of subdividing the large estates and laying out the townships on the Waimea plains. Those principally concerned were the Hon. G. F. Richardson, William Begg and James Blaikie.

At the southern end of the Land District the surveyors were actively engaged in progressively laying out the rural settlements and the townships, the roads and railways and the surveys in connection with the mining and timber industries.

To open up the coalfields the railway from Otautau to Nightcaps was completed in 1882 and was later extended to Ohai. Commencing in 1886 the construction of the line through the Seaward Bush district progressed stage by

stage and was opened as far as Gorge Road in 1896. Then, after several lengthy interruptions it was carried forward to Tokanui where construction terminated in 1909. Dray road connections with Fortrose and Waikawa were built, serving many thousands of acres of settlement land along the route.

Spur lines to serve new agricultural settlements were built; that from Lumsden to Mossburn in 1887; from Winton to Hedgehope in 1889 and from Edendale to Glenham in 1900. By the end of the century Southland had more miles of railway relative to its size and population than any of the other Land Districts. In Southland, as in every Land District in New Zealand to cope with the increasing demand for survey services, the numbers of Government staff surveyors and also the private practitioners, had more than doubled between 1877 and 1900.

When John Spence resigned in May 1891 , he was succeeded as Commissioner of Crown Lands and Chief Surveyor by G. W. Williams. When the latter died in November, 1896, David Barron was appointed and held office until he was transferred on promotion to the Otago District in January, 1901, when John Hay was appointed Commissioner of Crown Lands and Chief Surveyor for Southland.

CHAPTER 32

SOUTHLAND LAND DISTRICT INCLUDING STEWART ISLAND

References and notes

1. A. J. H. R. 1879, H. No. 19.
2. A. J. H. R., 1883, C. No. 2.
3. A. J. H. R., 1888, C. 1A
4. A. J. H. R, 1896, C. No. 1.
5. The former Ministers of Finance were Sir Julius Vogel, K. C. M. G., and the Hon. W. J. M. Larnach.
6. For a concise account of the formation and operations of the New Zealand Agricultural Company an of the Waimea Plains Railway Company, Ltd., see chapters I V and VI of “The Riversdaleans” compiled by Stanley Slocombe for the Riversdale and District Centennial Committee, 1973.

CHAPTER 33

THE NEW ZEALAND INSTITUTE OF SURVEYORS

Because all land titles originated in a Crown Grant and because all subsequent dealings in such land, and all dealings in Maori lands, were subject to Government control, the surveying profession and the practice of surveying in New Zealand was dominated by Government authorities. Entrance to the profession and the granting of licences were regulated by the Survey Department, and all statutory surveys were subject to Departmental inspection and approval. Prior to the establishment of the Lands and Survey Department in 1876, statutory regulations required that surveys be carried out by Authorized Surveyors, i.e. those whose credentials and competency had been assessed by the relevant Provincial Chief Surveyor and had passed his examination which comprised set papers in surveying subjects and practical field tests.

In the Regulations and Instructions of the Survey Department promulgated by the Surveyor General (J. T. Thomson) in 1879, the qualifications for surveyors were defined. Three classes of surveyors were mentioned; Government staff surveyors, contract surveyors and private surveyors. Contract surveyors were defined as those Authorized Surveyors who had satisfactorily practised for not less than five years as such and were then certified by the Surveyor General as qualified to undertake Government contract surveys. Private surveyors were defined as those Authorized Surveyors carrying out surveys as required under various statutes an whose plans were subject to examination and approval by the Department. (1)

Private surveyors were required to obtain a diploma of competency which was issued by the Surveyor General after the applicant had passed an examination set by the local Chief Surveyor. The scope of this examination was set out in the Regulations.

The Regulations of 1879 stipulated that candidates for examination must have served a cadetship or apprenticeship under an Authorized Surveyor of not less than three years of which two years had been served in the field. In 1886 the stipulated period was extended to four years of which three were to be spent in the field. The master surveyor to whom the cadet was indentured or apprenticed, was responsible for the training of the cadet in all branches of surveying.

Under these Regulations the salary scales for Government survey cadets were specified. Also fees chargeable for surveys for the Native Land Court and for the surveying of certain classes of Crown Land(by private surveyors were tabulated. These salary scales and scales of fees undoubtedly influenced the fees chargeable for all classes of survey work both Government and private. (2)

The continual increase in the dealings affecting freehold land, and the establishment of municipalities greatly increased the scope of employment of the private surveyors whose numbers were augmented accordingly. For some time it h been recognized that a properly organized professional institution authorized to represent the views and aspirations of its members, was needed, and that its functions should include the dissemination of information concerning advances in scientific and technological knowledge of interest to its members and of assistance in the education of the survey cadets.

Some of the surveyors had been active in helping to establish the philosophical societies, such as the Nelson Institute and the New Zealand Institute, (later known as the Royal Society of New Zealand) which had functioned in the in centres during the Provincial era. Some surveyors helped to promote secondary and tertiary education, including the University of New Zealand, which was inaugurated in 1870 and began to function in 1874.

In Great Britain in 1834 members of the surveying profession had formed themselves into a professional body known as the Surveyor's Institution. This institution was granted a Royal Charter in 1881 and is now known as the Royal Institution of Chartered Surveyors. After 1881 entry was solely by examination conducted by the Institution. Briefly its objects are -

(A) to secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a Surveyor.

(B) to promote the general interests of the profession and to maintain and extend its usefulness for the public advantage.

The creation of the British Royal Institution was of great interest to the surveyors in New Zealand and Australia who proceeded to establish their own institutions for the same objects as their British confreres. In New Zealand the advent of steam navigation, the railways and the electric telegraph had eliminated the former isolation of the Provinces and made it practicable for surveyors, and others, to hold general assemblies.

The initiative in forming the New Zealand Institute of Surveyors was taken by several Wellington men who sent out a circular letter to men in each of the land Districts. The chosen correspondents were mainly surveyors holding office positions as Chief Draughtsmen (Deputy Chief Surveyors) and Land Transfer Draughtsmen (now Land Transfer Surveyors), all of whom were most likely to be in touch with all private surveyors in their Districts. Including the six Wellington men there were eighteen surveyors from different Districts who formed the organizing committee. They were as follows :

Joseph Bird, of New Plymouth; James Rochfort, of Gisborne; W. Kitson, of Christchurch; R. Garrett, of Wanganui; G. M. Barr, of Dunedin; A. Mackay, of Eketahuna; G. Fitzgerald, of Nelson and Marlborough; H. Gordon, of Hokitika and Greymouth; John King, of Wairarapa; T. W. Downes, and M. Carkeek, both of Otaki, H. Baker, of Napier; and James Mackenzie, John Davis, Thomas Ward, A. O' N. O'Donahoo, A. P. Mason and James McKerrow of Wellington. (3)

Probably because Auckland and Invercargill were at that time an ocean journey from Wellington, those places were not represented by a delegate, but subsequent lists of members show that surveyors in those districts were in full accord with the proceedings.

The eighteen delegates assembled at the Athenaeum at Wellington on 3 September 1888 and submitted lists of 216 proposed members of an Institute, and called e general meeting for the following day. Evidently all available surveyors had been advised beforehand, because, although the minutes of the meeting do not record the number in attendance, there is evidence that at least 157 voted during the proceedings. At this meeting the Institute was launched and officers were elected. These were as follows:

President: James McKerrow, F. R. A. S. ,F. R. G. S., Surveyor General

Vice Presidents: S. Percy Smith, F. R. G. S. and G. M. Barr, M. I. C. E.

Hon. Secretary and Treasurer: Thomas Ward, C. E.

Council: A. Barron, M. Carkeek, A. R. W. Fulton, M. I. C. E., H. A. Gordon, F. R. G. S, J. A. Marchant, A. O' N. O'Donahoo and James Rochfort, A. M. I. C. E.

The first Rules and By-laws were approved 22 October, 1888. At first the Institute was a voluntary association and it remained so for the first fifty years of its existence. Its undoubted success depended entirely on the loyalty of its members. In May, 1889 the Council decided on the form of its Journal, the New Zealand Surveyor, and Edward Tregear I. S. O., F. R. G. S., was appointed editor.

The first Annual Report shows the membership as 220 with 11 Associate Members. Two matters of paramount importance engaged the attention of the Institute during the first years of its existence, firstly obtaining through Parliament an Act of Incorporation and secondly the reform of standards and the method of making and authorizing surveyors by establishing a central Board of Examiners.

A Bill was drafted and was sponsored by the Hon. G. F. Richardson, Minister of Lands and Immigration (1887-91) who was a member of the Institute and its President for a number of years. Although the Bill Was actually passed on two occasions by the Legislative Council, it was rejected by the House of Representatives on the grounds that it would create a close corporation and would therefore be contrary to the public interest.

The Institute persisted in its efforts and each session an attempt was made to reintroduce it to Parliament. Encouragement to the Institute came as the result of resolutions passed at the first Australasian Conference of Surveyors held in Melbourne in 1892 at which "Professional Federation" was proposed and was accepted on behalf of New Zealand by its delegate Mr. A. O' N. O'Donahoo. To give effect to this proposal it would be necessary to constitute in New Zealand an Examining Board on similar lines to the Australian Boards. The immediate outcome was that the Land Act of 1892 contained a provision for the setting up of a Central Board of Examiners but without representation of the Institute upon it. However this Board, which was constituted by Order in Council, was not appointed until 1897.

Meanwhile the Institute was still pressing for its Act of Incorporation. In 1895 a special committee of the Council redrafted the Surveyor' s Bill but although Sir Robert Stout took charge of it he was not able to bring it before the House although at this stage it had been passed for the second time by the Legislative Council.

In 1898 the President of the Institute, Mr. H. A. Field, M. P. for Otaki, took charge of the Bill but was not able to get it before the House at all, in consequence of the crowded condition of the order paper.

In January, 1900 the Council of the Institute resolved to take steps to secure the appointment to the Board of Examiners of at least two members who were not officials of the Lands and Survey Department. This compromise proved to be acceptable to Government and the amended Bill was introduced

by the Hon. (later Sir) John McKenzie, and the New Zealand Institute of Surveyors and Board of Examiners Act Was passed on 20 October 1900. (4)

The Board, which comprised the Surveyor General, Chairman ex officio, two members appointed by the Governor and two by the Institute of Surveyors and a Secretary, who was an official of the Survey Department, first met in April, 1901.

The members were -

Alexander Barron, Acting Surveyor General, Chairman

J. W. A. Marchant, Minister's Nominee.

M. Carkeek, Minister's Nominee.

G. F. Richardson, Institute's representative.

A. O' N. O'Donahoo, Institute's representative.

T. M. Grant, Secretary.

At the conference of the Australasian Surveyors held in Melbourne in 1902 the New Zealand Institute was represented by the Hon. G. F. Richardson. Reciprocity of certificates of competency between the Australian states and New Zealand was arranged and thereafter the examination papers were set by each of the Australian states and New Zealand in rotation.

The Surveyor's Act of 1938 which came into force on 1 July, 1939, vested in the Survey Board and in the Institute certain powers of control over the profession and also certain disciplinary powers. Membership of the Institute was made compulsory for all practising registered surveyors who were required to pay the prescribed practising fees. It became a punishable offence for any unregistered person to act as if he was an authorized surveyor. This Act, which was passed by the first Labour Administration, was much in keeping with the legislation concerning compulsory unionism which was introduced about that time. Nevertheless, the Act reserved to the Minister of Lands, through the Survey Board, certain governing powers over the Institute, such as; firstly, prescribing the syllabus and conducting the examination for new entrants to the profession; secondly, exercising disciplinary power over members of the profession; and thirdly, exercising statutory authority over the Scale of Charges covering work performed by registered surveyors.

However, these matters are outside the purview of our pioneer surveyors and the history of surveying in the twentieth century remains to be written.

The Institute of Surveyors has been fortunate in the calibre of the men who have presided over its proceedings. This was especially so during the formative years. All of the early executive officers had seen long service in the field and their qualities of leadership, foresight and executive ability had been tested and proved during the strenuous pioneering period. Listed below are early Presidents who were foundation members of the Institute.

James McKerrow, F. R. A. S., F. R. G. S.	President 1888-90 and 1907-08
Stephenson Percy Smith, F. R. G. S.	1891-92
Henry Andrew Gordon, F. R. G. S., A. M. I. C. E.	1893-94

Hon. George Frederick Richardson	1895-97 and 1900 to 1906 and pt. 1909
Henry August Field	1898-99
James Edward Fulton, M. I. C. E.	pt 1909-1910
Thomas Humphries, F. R. A. S.	1911-16
Charles Hastings Bridge	1917-18
John Strauchon, I. S. O.	1919—20

From the beginning the Institutes official journal, the New Zealand Surveyor, maintained a high standard and kept its members, some of whom were working in the more remote regions, informed on current advances in the fields of science and technology and on new legislation affecting the profession. Edward Tregear edited the first five half-yearly issues and in 1891 was succeeded by Mr. C. W. Adams who continued as editor until 1917.

The approved objects of the new Institute were as follows :

1. To secure uniformity of practice among surveyors.
2. To define the nature and extent of the education expected from candidates for entry to the profession.
3. To provide a competent and sufficient authority to pronounce the opinions of the whole profession upon the conduct of any of its members, and upon any matters touching their general interest or well-being.
4. To secure to surveyors employed directly or indirectly in the public service a recognised official position.
5. To afford the various branches of the public service requiring the assistance of surveyors some guarantee of the competency of men seeking employment.
6. To provide means for the discussion of professional questions, with a view to mutual improvement and to promote the cultivation of friendly relations between surveyors.

CHAPTER 33

THE NEW ZEALAND INSTITUTE OF SURVEYORS

References and notes

1. Regulations and Instructions of the Survey Department 1879, issued by the Surveyor General, Mr. J. T. Thomson, approved by the Minister of Lands, the Hon. Robert Stout.

2. Regulations and Instructions of the Survey Department of New Zealand. 1886 issued by the Surveyor General, Mr. James McKerrow. These Regulations include surveys under the Native Land Act and under the Public Works Act and also incorporate the Regulations made under the Land Transfer Act, 1885.

3. See also — The New Zealand Surveyor, Vol. XVI, No. 6 December 1938. “The Institute of Surveyors. An Historical Sketch” By Maurice Crompton Smith.

4. See also - The New Zealand Surveyor, Vol. XIII No. 1 , March 1926. “The Profession of Surveying in New Zealand and the Institute”. By C. H. Bridge.

   The New Zealand Surveyor, Vol. XXIV No. 1 , March, 1963. “Early History of the Institute”. By A.H. Bogle.