

# THE WHITWORTH RIFLE IN NEW ZEALAND

By Paul Farmer & Phil Cregeen



## Enfield Whitworth Pattern 1863

In the year 1854 Lord Hardinge Commander in Chief requested Joseph Whitworth, a well respected Mechanical Engineer, to assist in investigating the mechanical principles applicable in the construction of an efficient service rifle. He willingly agreed to do so, subject to the condition that he should be provided with a suitable gallery, protected from changes in the wind and from fluctuations in the atmosphere, where he could carry on the experiments which were necessary to arrive at any sound conclusion. A 500 yard gallery range was built at his home in Manchester where using screens of tissue paper he evaluated the trajectories of many combinations of rifle barrel and projectile. In these experiments he was constrained by the requirement to use the same charge, 70 grains and weight of bullet 530 grains, as the current service cartridge for the Pat 53 Enfield Rifled Musket of .577 Calibre.

The result of these experiments was a calibre of .451, which used a longer projectile and Polygonal (hexagonal) rifling with a twist of 1 turn in 20 inches. The advantage of the hexagonal rifling was that the bullet did not have to be forced into the grooves of the rifling and therefore could be of a harder material and friction was reduced. Bullets could be hexagonal or cylindrical in shape. In 1857 the .451 calibre hexagonal rifled Whitworth rifle was found in comparative trials to be three times more accurate than the .577 calibre Enfield rifle. Whitworth manufactured these rifles in three barrel lengths; Long 39 inch, Medium 36 inch, Short 33 inch.

In 1862 the Whitworth underwent limited trials in the British Army. The configuration chosen was the 3 band full stock bar on band rifle. The 39 inch barrel was marked WHITWORTH PATENT and the lock marked VR, ENFIELD 1863. The corresponding bayonet also made by Enfield was the pattern 1863 Whitworth Yataghan bayonet; this had a round mortise slot to fit the corresponding round bar on the band of the rifle. Regiments to whom rifles were issued included Guards, Fusiliers the 3rd & 5th Foot and in India the 34th, 42nd, 77th. Regiments.

Despite the Whitworth accurately it was rejected for

general service primarily because it was considered to be too expensive. The .577 calibre Enfield rifle retained its position as the general service weapon of the British Army. We have not seen any official reference that the British Army used Whitworth rifles in New Zealand. However there is strong evidence that the Whitworth rifle was issued in very limited numbers to the sharpshooters of various regiments and used by British Forces in the Waikato Campaign in the New Zealand Wars.

## The Waikato War 1864

Lieutenant General Cameron following the action at Rangiaowhia believed the next engagement would be against Wiremu Tamihana at his pa Te Tiki o te Ihingarangi at Pukekura on the upper Waikato River beneath Mangatautari Mountain. General Cameron proceeded to establish his forward position at Pukerimu on the Waikato River near present day Cambridge. Troops and supplies were moved overland from Camp Te Awamutu and by river steamer from Ngaruawahia. Pukerimu was chosen as it was the best last spot assessable by the river close to Pukekura and Mangatautari. This front was to become known as Mangatautari. Over a week, *Avon* and *Koheroa* Waikato River gunboats were used to transport two 8 inch and two 10 inch mortars, two 24 pound and two 32 pound howitzers, three 12 pounder Armstrong guns and in total 2200 shot and projectiles for his siege train, plus small arms, ammunition and stores to this forward position at Pukerimu. Round trips were made from Ngaruawahia to Pukerimu and back.

While this buildup was underway, Rewi Maniapoto and his supporters began construction on another pa at Orakau. It was observed, reconnoitered and attacked by Brigadier-General Carey before it could be completed. The battle lasted three days, 31 March to the 2 April 1864. General Cameron with his focus at Pukekura did not arrive at Orakau until the third day of the battle. The battle ended with the break out of Rewi and the defenders, an action accomplished with a heavy loss of life for the Maori's. The Maori defeat at Orakau was so decisive that Wiremu Tamihana abandoned Mangatautari, effectively ending the Waikato Campaign. Wiremu Tamihana made his peace with the British on 25 May 1865.

**The preparations:**

The preparations at Maungatautari were to involve the building of a sap, it appears the deployment of the Whitworth was to protect “the working parties employed in the sap.”

The following newspaper reports are on the use of the Whitworth rifle in the Waikato Campaign of the New Zealand Wars.

**Wellington Independent, 7 April 1864, (From the Correspondent of the Southern Cross) CAMP, TE AWAMUTU, March 29**

*“Fatigue parties are employed in constructing gabions of young tea-tree, which are to be forwarded to the Front as soon as a sufficient number have been completed. A number of marksmen have been selected from each regiment in camp, and have proceeded to the Front, where they will be armed with the Whitworth rifle.”*

**PUKERIMU, March 30**

*“There appears every indication at present that the rebels will make a determined stand at their pa at Manungatautari, bearing the euphonious title of Te Tiko o te ihi nga rangi.”*

*“A corps of sharpshooters is now being organized- three of the best shots from each company of regiments now here, having been selected, and undergo musketry instruction every morning. All the guns, howitzers, and mortars brought by the steamers have been brought up to the encampment”*

**New Zealand Herald, 6 April 1864, page 5: CAMP PUKERIMU [FROM OUR OWN CORRESPONDENT] April 1**

*“No attack has yet been made at Mautatautari, although everything seems to be pretty well up to the mark, the gabions and sap rollers expected, but I think the sooner we get our position taken up the better”*

*“the steamer came in this morning and brought a large supply of small arms ammunition and starts again for Ngaruawahia immediately. She brought a number of Whitworth’s rifles, which are to be issued to the marksmen of the 68th, 50th, 65th, 70th and 18th Regts. These marksmen are formed into a company and are to be employed in picking off any Maori that may attempt to show himself during the time that the working parties are employed in the sap. I should think we muster close upon a hundred of these crack shots, so the rebels will have to keep pretty close under cover.”*

*“The marksmen of the different corps who have been supplied with Whitworth rifles were at target practice yesterday, and are at it again this morning; they are making splendid practice scoring centers at a 1000 yards range; as my countrymen would say the men are greatly in love with this same rifle, and are decidedly of the opinion that it is superior to the Enfield for accuracy of range.”*

**New Zealand Herald, 5 April 1864, page 4: QUEENS REDOUBT. April 2**  
Reporting on the action at Orakau.

*“The men are now engaged in running a single sap up to the position, the enemy keeping up a tremendous fire on the working parties.”*

*“A party of sharpshooters is in course of formation, to be composed of the twelve best shots of each Regt., being armed with the Whitworth rifle. Lieutenant Glover, Musketry Instructor of the 43rd, arrived here yesterday, from Wairoa, on his way to the front, he will, I believe, be the chef de corps.”*

**Daily Southern Cross, 23 April 1864, Page 4**

**CAMP, TE AWAMUTU, April 19**

*“The marksmen who were selected some time ago from the several regiments in camp to proceed to Pukerimu, to be there armed with the Whitworth rifle, have returned to this camp, and rejoined their regiments. They were formed into a company at Pukerimu and went through a course of musketry instruction, and fired 28 rounds per man, the trial being satisfactory. They regret that they have not yet had an opportunity of giving the rebels a practical illustration of the efficiency of this weapon; but perhaps that opportunity will be afforded to them at some future day, as they will retain the arms.*

**Comment:**

The Whitworth was deployed in the field at the front, this being at Pukerimu it was here the selected sharpshooters practiced their trade. Maori resistance in the Waikato collapsed following their defeat at Orakau this in turn lead to their abandonment of Maungatautari and the ending of the Waikato Campaign. The assault on Maungatautari never eventuated, the buildup and preparations have largely been overlooked, even Cowan, gives little reference to it.

**Daily Southern Cross, April 30 1864. MAUNGATUTARI EVACUATED BY THE REBELS**

*“viewing the position under mingled feeling of surprise and disappointment, as well as satisfaction. Disappointment that all the laborious preparation for giving the rebels a good drubbing, in the way of howitzers, guns, mortars, cohorns, and rockets- should have, so far at least as Maungatautari was concerned, has been exerted for naught.”*

The siege at Orakau also involved a sap it is possible the reference to the Whitworth in the Queens Redoubt report may be to do with this, it is not clear. The “front” may still be referring to the build up at Maungatautari.

It is absolutely clear from the above that the Whitworth rifle was issued and used by British Forces in the Waikato



- Top:** Serial No. 609, (no prefix) Square bayonet bar on band. Dove tail fore sight. Ramp rear sight. Stock has had been extensively carved. Muzzle ring diameter 19mm. No military markings
- Middle:** Serial No. C 708, Square bayonet bar on band. Dove tail fore sight, ladder rear sight. Muzzle ring Diameter 19mm. This rifle is broad arrow marked, indicating military ownership.
- Bottom:** Serial No. D 374, Square bayonet bar on band. Fixed fore sight, ladder rear sight. Muzzle ring diameter 20mm. The butt of the stock is stamped S. No military markings.

Campaign in the New Zealand wars. These rifles were issued in the field and are unlikely to have been regimentally marked. It is presumed the Whitworth rifle issued was the 3 band Enfield trial rifle; we have not seen evidence to confirm this. In this campaign it is probable the British issued Whitworth rifles saw very little, if any action.

It is not known if the British deployed the Whitworth elsewhere in New Zealand. The regiments left New Zealand in 1866, except the 18<sup>th</sup> which departed in 1870 but no longer played an active part in the war after 1866.

**Further Evidence of New Zealand use**

The fact that Whitworth rifles were available in New Zealand as early as 1862 is indicated by this Government Notice in the Colonist, 23 September 1862, Page 2

**NOTICE** is hereby given that in the competition for the rifles given by Lieutenant-Colonel Richmond, C.B., and the Provincial Government of Nelson, no person will be permitted to FIRE with a WHITWORTH RIFLE.  
 JOHN LOCKETT, Captain,  
 Adjutant Nelson Militia.  
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Whitworth rifles were also readily available from Sydney and advertised in New Zealand newspapers by Brush & MacDonnell, importers of 326 George Street, Sydney in March 1864.

The issue of the Whitworth rifle in Waikato Campaign cannot be the whole story of the Whitworth involvement in New Zealand. Some 38 recorded examples of 2 band,

bayonet bar on band Whitworth short rifles in New Zealand suggests there was some military reason for them to be here. The bayonet bar is square and therefore could not fit the military made Enfield Pattern 1863 Whitworth Yataghan bayonet, but it would fit a pattern 1858 Yataghan bayonet with a reduced muzzle ring diameter.

Illustrated and described are three New Zealand sourced Whitworth short rifles.

(1) Serial No. 609, (no prefix), barrel marked WHITWORTH PATENT, lock: a wheat sheaf and crown over W, inscribed WHITWORTH 1860. Square bayonet bar on band. Dove tail fore sight. Ramp rear sight. Stock has had been extensively carved. Muzzle ring diameter 19mm. No military markings. (footnote 1)

(2) Serial No. C 708, barrel marked WHITWORTH PATENT, lock: a wheat sheaf and crown over W, inscribed WHITWORTH. Square bayonet bar on band. Dove tail fore sight, ladder rear sight. Muzzle ring Diameter 19mm. This rifle is broad arrow marked, indicating military ownership. This rifle is clearly not one the British Army trial rifles.

(3) Serial No. D 374 barrel marked WHITWORTH PATENT, lock: a wheat sheaf and crown over W, inscribed THE WHITWORTH COMPANY LIMITED. Square bayonet bar on band. Fixed fore sight, ladder rear sight. Muzzle ring diameter 20mm. No military markings. The butt of the stock is stamped S, indicating a stock a half inch shorter than standard. This is a military form of marking. (this rifle and other D serial numbered Whitworth rifles have a heavier barrel, 20mm)



**Top: Ramp sight, Serial No. 609  
Bottom: Ladder sight, Serial No. C 708**



**Serial No. 609, (no prefix) inscribed  
WHITWORTH 1860.**



**Serial No. C 708, inscribed WHITWORTH.**



**Serial No. C 708, this rifle is broad arrow marked,  
indicating military ownership.**

Year of manufacture:

- C serial number 1861 – 1862
- D serial number 1862 – 1863.

The Army Museum at Waiouru currently has 7 Whitworth short rifles in its collection (it did have 18) Five of these are recorded as having been previously used by the Militia, post the New Zealand Wars. (footnote 2) The other two were part of a number of Whitworth rifles purchased by the NZ Government in the late 1880's for patriotic pageantry and display purposes. These two rifles have had a hole drilled at the muzzle end, this was to facilitate the attachment of the 1853 triangular bayonet, a bayonet never associated with this rifle in its service life.

In 1921 Auckland Museum was given 4 Whitworth rifles by the New Zealand Government. Three of which were exchanged for three other Whitworth short rifles. Rifles in both Museums have C and D serial numbers.

During the time the rifles were in Government (Army) possession some had N^Z added, some were Parkerized some were destroyed by cutting them up and some found their way to the open market.



**Serial No. D 374 inscribed  
THE WHITWORTH COMPANY LIMITED**



**Breach plug end section of Whitworth rifle serial No D 430. It also is N^Z 13 marked, forward of this it is stamped No.16 which over stamped with a cancelation (of number) mark. This is a section of a cut up New Zealand Army disposed Whitworth.**



**Cross-section of a Whitworth barrel illustrating the hexagonal bore**

The 2 rifles in Waiouru Museum with a hole drilled in the muzzle have been Parkerized.

The Te Papa Museum collection has a N<sup>Z</sup> marked short rifle donated by the New Zealand Government. In 1960 the NZ Army donated a 2 band short Whitworth rifle serial No C302 to the Petone Rifle Club.

In 1979 the National Army Museum loaned a 2 band Whitworth rifle to members of the New Zealand team to compete in the International Muzzle Loading Championships in 1980-82.

A search of "Papers Past" produced a number of references to Whitworth rifles being used in Volunteer Corps Annual Prize Shoots and also use by the Canterbury Constabulary from 1863 to 1877 (Star 19 July 1877). These would have been of a military pattern, rather than target rifles.

Final proof of previous Government ownership comes in this statement from Bay of Plenty Times, 8 June 1896, Page 2, concerning the Bay Of Plenty Rifle Club.

**The Chairman read a letter from the Defence Storekeeper, Wellington, stating that Snider rifles and carbines and Whitworth rifles could be sold to the Club at £1 each plus freight and packing, but that the Department could not supply any ammunition.**

**Conclusion:**

- (1) Whitworth rifles were issued to British regimental sharpshooters in New Zealand during the Waikato Campaign in 1864.
- (2) Whitworth short rifles in New Zealand museum and private collections came from previous Militia use and others were purchased by the New Zealand Government.



**Foresight, bayonet bar and ramrod of Whitworth Short Rifle**

- (3) The acquisition of, use and disposal, of these rifles have not been well documented.

**Footnote:**

- (1) Paul has personally seen a ground dug .451 Whitworth bullet from the 1861 Te Arei battle site in Taranaki. Other examples of projectiles obtained from this site show a variety of calibres being used, possibly by the Militia. We have not seen any evidence to suggest the Whitworth rifle was issued to the British troops here. This action involved the building of an extensive sap that was subject to fire from the Maori defenders, it may be from here the idea to use the Whitworth in the Waikato originated.
- (2) The acquisition records state these rifles were used post the New Zealand Wars (1872) this does not in itself exclude their use during the Wars.
- (3) The Army cut up their surplus Whitworth rifles probably in the 1970-1980's.

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Rose Young Curator History, Gail Romano Assoc. Curator & Sandra Lees Collections manager, Auckland War Memorial Museum.

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