

LIFE FROM THE DEBRIS:  
ARTEFACTS FROM THE  
NATIVE MOUNTED  
POLICE, 1849 TO THE  
EARLY 1900S.

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I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

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Anthony Pagels

# Preface

This thesis describes what the ammunition- and weapons-related artefacts located at Native Mounted Police (NMP) camps tells us about frontier violence in Queensland between 1849 and 1901. Since commencing my postgraduate studies in archaeology and heritage management at Flinders University in 2017, I have begun to understand that the NMP was a significant contributor to frontier violence. I have been struck by an accumulating portrayal of deadly violence that was ubiquitous and heterogeneous, not only in Queensland but also across the continent, from the first moments of non-Indigenous “settlement” in 1788 through to the early 20th century. I was astonished at the breadth and intensity of deadly violence which had become a way of life, an accepted component **of Indigenous and settler peoples’** existence throughout the 19th century. Ultimately, this violence culminated in the subjugation and dispossession of the Indigenous peoples of Australia as an inevitability of the imperialist settler-colonisation process to expand the British Empire.

This thesis discusses sensitive topics, combining material on warfare, frontier violence, and the NMP and Indigenous peoples. As such, I feel that readers may benefit from knowing a little about who I am, particularly where my lifelong interest in policing and weapons comes from.

Growing up on the banks of the Derwent River in Tasmania and later the outer eastern suburbs of Melbourne, my father owned a small calibre rifle and shotguns which he used to control vermin; he familiarised me with hunting feral animals and target shooting in my teenage years. I enjoyed the outdoors, and in the early 1970s, my parents bundled my siblings and me into a car, and we toured through the centre and down the west coast of Australia with the family caravan as home. I recall fond interactions with Indigenous peoples, and it was on this trip that I became fascinated by their culture. I was later educated in the public and private school systems of Victoria in the 1970s. I learned at school of the celebrated, as well as the fateful exploits of explorers, in particular the voyages of Captain Cook, and the Burke and Wills expedition. I learned of notorious bushrangers such as the Kelly Gang, and engineering feats like the overland telegraph, and the expansion of a seemingly endless railway network.

Nonetheless, it was not until I began investigating the history of policing in the mid-1980s that I **gained a limited awareness of the function 'police' played during the colonial period. I would** read non-fiction books on all manner of Australiana, including military history and the campaigns of the world wars. Importantly, I now know there is a chapter on the war that occurred during the colonial period on Australian shores that was not taught as part of the Victorian school curriculum in the 1970s.

My paternal and maternal grandfathers fought in WWI, and the former in both world wars. As such, Anzac Day was an essential component of my upbringing, entailing the wearing of military regalia while participating in national remembrance services. I knew my maternal grandfather well, as he lived with us for a number of years during the latter part of his life; nevertheless, he never spoke of the war. I knew he had been shot, with the bullet remaining lodged inoperably close to his spine. The war clearly left him scarred by the memories, as well as his injuries. In contrast, I did not know my paternal grandfather; following WWII, he abandoned his young family, re-settling in seclusion in country Victoria. My father does not speak of him much; nonetheless, he was a decorated WWI hero. I suspect the exposure to the horrors of war left my grandfather tormented, as well as afflicted by Post-Traumatic Stress Disorder (PTSD), a wartime condition now commonly recognised though this was not so in my **grandfather's time. As such, most of what I learned about war was from books and** documentaries; each was becoming more complex and nuanced over time due to technological advances such as digitization, greater freedom of information regulations and the internet.

In 1983 I completed a Fine Arts degree at the Royal Melbourne Institute of Technology with a **comparative paper on 'primitive' art. On gaining my driver's licence, hunting and outdoor** activities escalated with my freedom of movement.

In 1987, unlike two of my cousins who enlisted in the army and thus continuing a family tradition of military service, I chose a cognate occupation in law enforcement and commenced an ongoing, 34-year career with Victoria Police. I initially served as a constable on the frontline before transferring to investigating serious criminal offences as a detective. During the next 16 years, I investigated the full gambit of criminal offending from murder to assaults, drug

manufacturing and trafficking, rape and serious sex offending against children, armed robbery, and firearm offences, as well as fraud-related matters. In 2005, I returned to a frontline position on the outskirts of Melbourne. During my career, I have examined an incalculable number of crime scenes, as well as conducted extensive and protracted criminal investigations which have required the compilation of complex and detailed briefs of evidence to present accused persons before the courts at all levels of State jurisdiction.

Since 2005, my external interests in firearms have entwined with my policing duties, managing the vast array of weapons, firearms, and ammunition that is either seized or voluntarily surrendered to police. Managing these items has provided me with an opportunity to become familiar with firearm and ammunition identification, allowing me to establish a network of firearms experts who I have turned to for assistance with the research presented in this thesis. In 2018, my policing career diversified when I took up a position of Police and Aboriginal Liaison Officer (PALO). This position has provided me with a greater understanding of what police and policing means to Indigenous people and communities. Conversely, the PALO role provides a platform to foster relationships and bridge the gap between police and Indigenous peoples.

As I considered opportunities beyond policing, I turned to archaeology as a means of combining my early childhood interests, enthusiasm for the outdoors, and fascination for the culture and heritage of Indigenous peoples, with the knowledge and skills I had learnt during my policing career. Nonetheless, I could not have envisaged the fortuitous direction my archaeological studies were going to take me. In 2017, I commenced my postgraduate studies in archaeology at Flinders University, and I was introduced to frontier conflict at a field-school held at the site of one of the camps used by the NMP on the banks of the Burke River, just north of Boulia in western Queensland. The excavation and recording were directed by my thesis supervisors, Professor Heather Burke, and Professor Lynley Wallis.

This thesis contributes to their ARC-funded project on the Archaeology of the Queensland Native Mounted Police, allowing me to utilise my personal interests and experiences to assist them with their professional questions about the weapons and ammunition of the NMP, and

offering new insights into the interplay between landscape features, human behaviour, and firearm use in colonial Queensland.

# Abstract

Conflict on the Australian colonial frontier was an asymmetric form of war, fought by Indigenous peoples deploying a range of guerrilla-type tactics against colonial interlopers. In Queensland, Government officials chose to employ a Native Mounted Police (NMP) force, comprising detachments of Indigenous troopers under the command of European officers. This thesis presents a study of weapons-related artefacts from four NMP camps (Belyando in central Queensland [1863–1879], Boralga in Cape York [1875–1894], Boulia [1878–1886] and Eyres Creek [1883–1889] in western Qld), focusing on the context, use, and spread of spent cartridge cases and bullets across space and time.

Historical research identified weapons issued to the NMP, including percussion weapons (double barrel, Constabulary and Yeomanry carbines, and Colt revolvers) in the 1850s–1860s, 20-gauge pinfire carbines from 1869, and centrefire Snider carbines and Webley R.I.C revolvers from 1870. The addition of various revolvers, .44-40 Winchester rifles, and 12-gauge shotguns is also indicated archaeologically. Archaeological data fill various gaps in the historical narrative and contradict claims that Martini-Henry carbines were issued to the NMP, show that officers privately purchased handguns, and that shotguns and Snider carbines were equally important to camp life.

A second phase of analysis focused on understanding the terrain around NMP camps through the eyes of a trooper. US military-based terrain analysis via the KOCO method was used to visualise landscape features to elucidate individual and group behaviours. This provided insights into site selection, camp arrangement, storage areas, target practice, and resource procurement that demonstrate practical combative strategies. The spatial distribution of discharged ammunition confirmed that target practice was rare; instead ammunition was connected to site-specific areas that point to individual troopers returning to spaces to hunt and reinforced a hierarchical separation between officer and trooper areas. Although Queensland had few formal “battlefields” akin to those identified in the US and the UK, it did have “battlescapes”, that is, intrinsic places connected to facilitating war, including NMP camps.

Strategically anchored, NMP camps served as hubs to launch punitive expeditions against, **and “dispersals” (a euphemism for killing) of, Indigenous peoples.**

A third phase of analysis calculated potential death rates on the frontier. Based on the ammunition of the Snider carbine, a weapon characteristic of the NMP between 1871 and 1890, this thesis considers that a rate of 26,400 Indigenous people killed by the NMP over this period is not unreasonable.



# Warning

This thesis contains content that some people may find distressing, including images of Aboriginal people who have died and reference to deadly violence between Indigenous and non-Indigenous peoples in Australia. In addition, this thesis uses terms and language derived from various primary sources that may be considered offensive today. There is no intention for language to be construed as derogatory or of ill-intent, but original language has been quoted verbatim wherever necessary.

# Acknowledgements

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I am continually inspired by and dedicate this work to my father, Gordon.

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# Chapter 1: Introduction

Historical accounts have mostly portrayed Australia's establishment as a peaceful process, carved by **settlers against a harsh, unforgiving land**. **Stanner's (1968) breaking of the 'great Australian silence'**, however, which **posited an alternative version of these events**, was followed by seminal work on racial relations by Rowley (1974), stirring historians such as Raymond Evans (Evans et al. 1975), Henry Reynolds (1981) and Noel Loos (1982) to explore an alternative, non-peaceful narrative of British imperial expansion.

This newly emerging narrative was not without critics. Conservative commentators such as **Keith Windschuttle (2001, 2003, 2004) became vocally critical of 'revisionist' historiographic accounts**. **Windschuttle (2001:46, 47) perceived Indigenous peoples' behaviours as civil disobedience**, while emphasising that British colonialism introduced civility and an orderly society controlled by laws and sanctions. He also claimed that accounts of colonial massacres were fabricated by historians, and their estimates of Indigenous people killed exaggerated (Windschuttle 2001:46, 2003:106).

Subsequent scholars have argued that Indigenous peoples mounted stiff resistance, stalling the colonial advance from the late 18th through to the early 20th centuries (e.g., Bottoms 2013; Broome 2010; Clements 2019; Evans 2003, 2010; Gapps 2018; Reynolds 2013; Richards 2005, 2008; Ryan 2012). In response, a key strategy of imperial colonialism was to employ Indigenous forces against their own countrymen (Richards 2008:185, 186). This took the form of Indigenous troopers mounted on horses and provided with firearms, operating under the command of a white officer. Arguably, the most notorious of such forces was the Native Mounted Police (NMP) of Queensland.

## Contributing to understanding frontier conflict

The overarching significance of this research is to contribute to understanding the nature of frontier war in Queensland. The study of conflict and why people resort to deadly violence is intrinsic to understanding human behaviour (Darmangeat 2019:1556–1557), but is also important because it can influence social, economic, and political change (Gilchrist 2003). Archaeologists have an opportunity and obligation to contribute to such endeavors through the

forms of truth-telling (sensu the Uluru Statement, Appendix A) that material culture can provide. Before the **“Archaeology of the Queensland NMP” (AQNMP) project, which** commenced in 2016, the archaeological contribution to understanding frontier violence had not matched the historiographic response, principally owing to a paucity of visible material evidence (for exceptions see Cole 2004; Genever et al. 2010) and challenges in establishing the cause of death from archaeological evidence alone (Gat 2015:112–113; Pardoe 2014:123, **2021:64**). **Australia had few “battlefields” akin to those commonly studied in the US** (e.g., Bleed and Scott 2009, 2011; Greene and Scott 2004; Scott and McFeasters 2011; Scott et al. 1989, 2009, 2016). Barker (2007) and Litster and Wallis (2011) argued that the identification of massacres in Australia was problematic in part owing to the actions of perpetrators, especially the killing of small numbers of people in isolated locations and/or over vast areas, and the deliberate destruction of incriminating evidence. Hence, establishing a nexus between intentional acts of violence on the frontier and the NMP is problematic.

One key form of circumstantial evidence that can validate the presence and intent of the NMP is the items which they left behind, particularly uniform buttons, weapons, and ammunition. Together, these sources make possible the **recognition of similarities in the way “dispersals”**—a common 19th century Queensland euphemism for killing—were perpetrated. Given the absence of battlefields, the larger AQNMP project targeted NMP camps as highly visible frontier conflict sites, since these served as hubs from which to launch punitive expeditions against Indigenous peoples (Wallis et al. 2018). NMP camps were an integral part of the **“battlescape”**—the spaces, structures, and facilities which catered for the logistics and strategic support necessary for combatants beyond the battlefield (Scott et al. 2016:52–57). **This thesis uses the material traces of NMP weaponry to explicate NMP personnel’s behaviour** within the battlescape to understand how they took advantage of the terrain and the environment. The examination of weapons-related artefacts in particular, over and above other kinds of domestic materials commonly associated with NMP camps, can reveal much about the battlescape and thus the broader warfare waged in 19th century Queensland. Specifically, this thesis interrogates data retrieved during fieldwork conducted between 2016–2018 by the AQNMP project at NMP camps, presenting case studies of weapons-related artefacts from Boralga (Lower Laura), Belyando (Mistake Creek), Eyres Creek (Cluney), and Boulia (Burke

River) (Figure 1.1). It focuses on the context, use, and spread of spent cartridge cases and bullets across these sites, and considers both a fine-grained (local camp level) and coarse-grained (regional level) analysis to assess weapons distribution patterns.

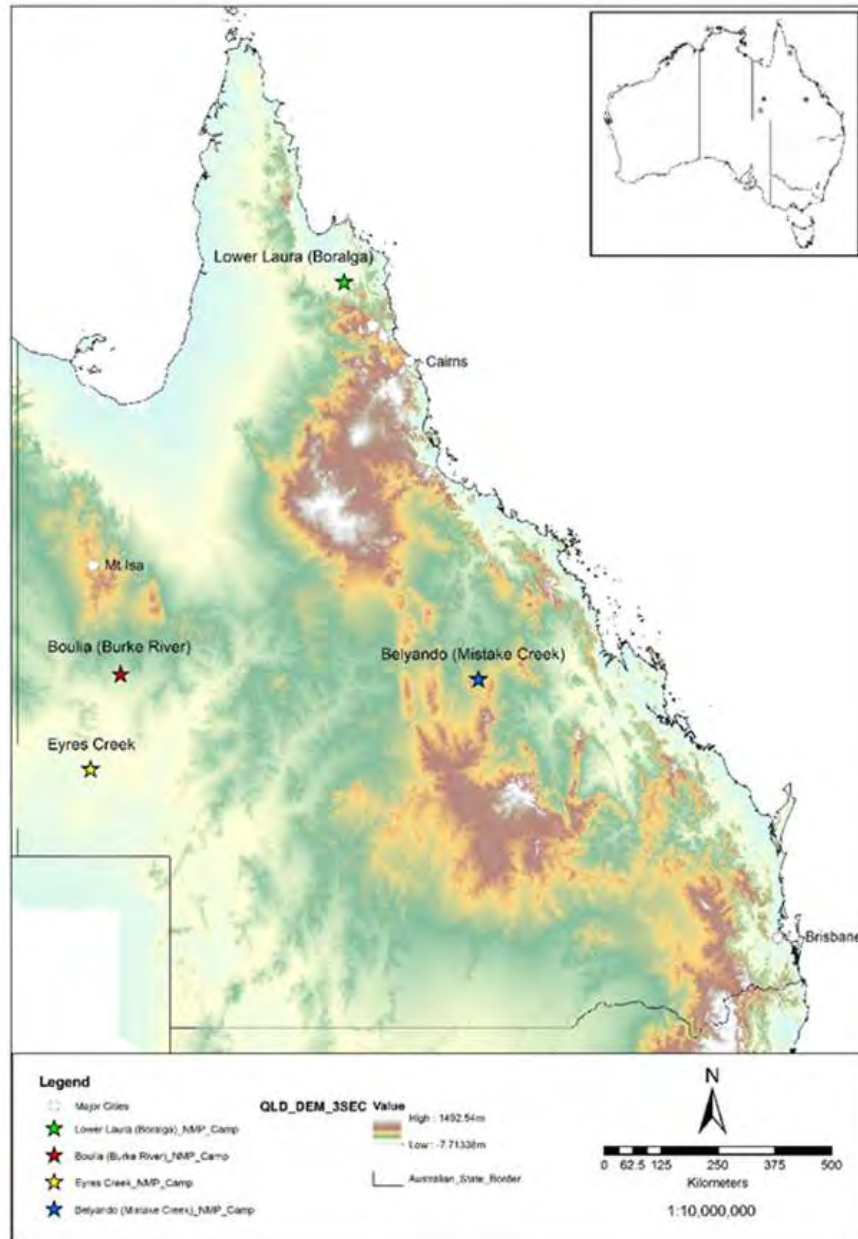


Figure 1.1 Map of Queensland showing the location of the four study sites (image by Wayne Beck).

Analysing data at a landscape scale allows Eurocentric historical documents to be re-interpreted. While weapons were crucial to the NMP, to date it has been unclear which firearms were on issue to them. Richards (2008:55–56) stated that the NMP was armed with government-issued Snider rifles and later Martini-Henry carbines. Robinson (1997) agreed that Snider carbines and Martini-Henry rifles were issued to the NMP as part of their supply to the wider Queensland Police, while also arguing that pinfire carbines, although purchased specifically for the NMP, were never issued to them. In both works the discussion is vague, leaving the specifics of weapons and the periods of their respective use open to conjecture. Secondary sources, such as newspapers, are typically limited to anecdotal or generic **references (e.g., 'Snider'), and do not advance the discussion. From an archaeological perspective, a failure to establish what arms the NMP wielded renders a nexus between an incident involving deadly violence and the NMP problematic.**

## Understanding the armaments of the NMP

In the absence of eyewitness testimony, archaeologists rely on tangible circumstantial **evidence, such as past occupants' debris, to understand human** behaviour. In this thesis, the analysis of "definitive" weapons and ammunition artifacts, more specifically spent cartridge cases and bullets allows us to determine the types of weapons present in the NMP assemblage. This includes centrefire rifles, shotguns, and revolvers. The abundance of a particular ammunition type indicates a trend or preference for a specific weapon, which in turn reflects the types of activities undertaken by the NMP, such as dispersals, hunting, or target practice. This information provides insight into the behaviour and activities of the NMP, even in the absence of eyewitness accounts.

The main question to be addressed by this thesis is:

What do the armaments from NMP camps reveal about conflict spatially and temporally?

Underpinning this question are subsidiary questions geared to augmenting our understanding of weapon use by the NMP, including:

- What types of weapons were represented at the study sites?
- Does the archaeological evidence support the historical narrative?
- What can the ammunition-related assemblage tell us about NMP behaviour?
- What, if any, behaviour patterns are visible in the ammunition-related assemblage?
- How did weapons affect the functionality of the NMP?

This thesis, for the first time, uses archaeological material to better understand firearm use by the NMP and resolve unanswered questions arising from Richards (2008) and Robinson (1997), who relied solely on historical material. It adopts several approaches:

- Historical research and archaeological data are used to identify the weapons issued to, and used by, the NMP;
- An examination is made of the firing pin and breech face markings on discharged cartridges from NMP sites to identify the minimum number of weapons used; and,
- Archaeological finds are spatially analysed following the military-based KOCO A model to determine behavioural patterns within the camp environs.

KOCO A terrain analysis is a model derived from the US military and has become the recognised benchmark for the archaeological investigation of battlefields in the US (Babits 2014). The KOCO A principles are an acronym for five terrain factors considered by the military—Key terrain, Obstacles, Cover and concealment, Observation and fields of fire, and Avenues of approach. This model explains how the landscape and features are used during periods of conflict (Babits 2014:263-270). Although KOCO A is commonly applied to battlefields (e.g., Bleed and Scott 2011; Maio et al. 2013; Silliman and Batt 2015; Sivilich and Sivilich 2015), it has also been utilised to interpret a marine environment (e.g., McKinnon and Carrell

2015; McKinnon et al. 2020), and a POW camp (e.g., McNutt 2014, 2018, 2021). The diversity of this model suggests it would be equally suitable to interpreting NMP camps. Hence this thesis applies a new approach to understanding battlescapes within the Australian context.

This thesis will substantially improve our knowledge of the NMP in several ways.

Firstly, knowing which weapons were used by the NMP may provide direct evidence of their involvement in a shooting incident (Richards 2008:63). Secondly, as the discharge of a firearm can occur for several reasons, ammunition-related archaeological assemblages may elucidate NMP activities other than dispersal events. Thirdly, when a firearm is discharged, alterations occur to the cartridge case and bullet, such as hammer and rifling impressions, which are unique to each firearm (Pringle 1994:1). These provide the opportunity to track weapons, as well as individual and group movements, across time and space (Scott et al. 1989:21, 22, 185–190). Forensic data gleaned from ammunition are amenable to a range of analyses, including statistical analysis (e.g., Scott et al. 1989; Leoni 2014), ballistic interpretations (e.g., Scott 2020; Sivilich 2016; Refshauge 2015), spatial correlation, terrain analysis (e.g., Bleed and Scott 2009, 2011; Leoni et al. 2018; Scott et al. 2016; Sivilich 2019; Spennemann 2020), and incident reconstruction (e.g., Laumbach 2009; Lucas and Schablitsky 2014; Reeves 2010; Silliman and Bat 2015; Sivilich and Sivilich 2015; Sutherland 2005). Consequently, a substantial contribution can be made to knowledge of NMP behaviour—and thus how they created and defined the broader battlescape—from weapons-related artefacts.

## Thesis outline

Chapter 2 presents a theoretical framework to characterise the violence of colonisation, synthesising warfare discourse, focusing on whether the spectrum of events and behaviours associated with colonial conflict can be characterised as a war, and how the NMP fitted into this picture. It then examines the correlation between hunting and the evolution of war in non-State and State societies, providing an overview of the tactics employed in 19th century non-State and State warfare and how the type of warfare was pivotal in quelling Indigenous resistance to the settler colonisation process. The concept of the battlescape is introduced as

a preferred means of interpreting frontier conflict that encourages us to look beyond the “battlefield” per se.

Chapter 3 describes the four case study sites, explaining how they fit into the geographic matrix of frontier Queensland between the 1840s and the early 20th century.

In Chapter 4, the methods adopted for data collection and analysis are described, including forensic procedures to identify specific characteristics from the ammunition-related artefacts.

In Chapter 5, the results of the analysis of the weapons- and ammunition-related artefacts are presented.

Chapter 6 presents the results of the firing pin and breech face impressions to identify the number of weapons responsible for discharging the Snider cartridge cases. The distribution of ammunition for certain weapons is plotted and combined with viewshed and DEM overlays to provide a spatial visualisation of the study sites and the behaviours being exhibited by weapons activity.

An in-depth interpretation of the results explores the inter- and intra-spatial connections between the munitions-related artefacts. While a fine-grained approach using KOCOIA is adopted to understand behavioural trends within individual camps, a coarse-grained analysis is used to elucidate trends across camps. This provides new insights into frontier conflict and the impacts of the NMP on Indigenous peoples.

**Finally, in Chapter 7, the thesis returns to the original aims and summarises the study’s** outcomes, considers government accountability for the actions of the NMP, and the importance of remembering. It concludes with suggested areas for future research.

# Chapter 2: Frontier War

## Defining War

Considering the different theoretical definitions of war enables us to better contextualise frontier violence. Otterbein (2004:9) asserted that two combatants from independent political entities **fighting with weapons could be considered to be at war, thus defining it as “armed combat between political communities”**. Von Clausewitz (1832 [Tuck 2019:37]) viewed war as **“an act of violence to compel our opponent to fulfil our will”**, although some scholars have argued that such a generalised notion could also describe feuds, murder, or capital punishment (cf. Kelly 2000, 2005; Fry 2006, 2007, 2013). Other modern definitions of war relate to State<sup>1</sup> forms of warfare, for example:

War is the application of state violence in the name of policy. It involves killing and wounding people and destroying property until the survivors abandon their military resistance or the belligerents come to a negotiated agreement. (Millett et al. 2012:11)

**Millett et al.’s (2012)** definition, influenced by von Clausewitz (1832), did not make direct reference to armed combat or weapons, although both were implied because violence is geared to compelling the enemy to submit. The US Department of Defence JP 1 (2017:ix) defines war as **“socially sanctioned violence to achieve a political purpose” without specifying who the actors are, only that the violence must be ‘authorised’ to be considered war.**

Nonetheless, **defining ‘war’** only addresses part of the discussion, for war can be waged in many alternate forms.

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<sup>1</sup> Defined as “political organisations that incorporate many tens or hundreds of thousands of people from numerous communities into a single territorial unit” (Keeley 1996: 27).



Arguably, warfare inflicts violence in two primary forms: traditional and irregular. Traditional warfare is characterised as:

... **a violent struggle for domination between nation-states** or coalitions and alliances of nation-states. With the increasingly rare case of formally declared war, traditional warfare typically involves force-on-force military operations in which adversaries employ a variety of conventional forces and special operations forces (SOF) against each other in all physical domains as well as the information environment (which includes cyberspace). (USA Department of Defence JP 1 2017:x)

**This is very much a conservative, popular view considered by some scholars to reflect ‘real’** (e.g., Ferguson and Whitehead 1999; Keegan 1993; Turney-High 1949) or ‘true’ war (e.g., Fry 2007; Kelly 2002). Irregular warfare, alternatively, is defined as:

... **a violent struggle among state and non-state actors** for legitimacy and influence over the relevant population(s). In irregular warfare, a less powerful adversary seeks to disrupt or negate the military capabilities and advantages of a more **powerful military force, which usually serves that nation’s established government.** (USA Department of Defence JP 1 2017:x)

In irregular warfare, fighting between combatants is fluid, using varying offensive combinations **to suit the antagonist’s strategy and capabilities** (US Department of Defence JP 1 2017:ix, x). States can engage non-State combatants who have non-traditional modes of warfare which favour indirect and irregular approaches to **“erode their opponent’s power, influence, and will”** (US Department of Defence JP 1 2017:6).

**‘Non-State’ refers to a “technical condition**—that of using pre-industrial or pre-literate **technology”** (Keeley 1996:27), a definition applied throughout this thesis. This condition is significant, in that it allows for non-State agents to engage in warfare, and for warfare to be both multifaceted and unconventional. For these reasons irregular or non-State warfare is sometimes described as asymmetrical (Smith and Geier 2019: 13–15; USA Department of Defence JP 1 2017:1–6). Although there is no definitional consensus of asymmetrical warfare, Smith and Geier (2019:14) concluded that it amounts to any conflict,

... **between** opposing forces which differ greatly in military power and that typically **involves the use of nonconventional weapons and tactics ... [it] is warfare between** combatants who are unequal in military power, politics, population, or technology.

Central to Smith and Geier's definition is the disproportionate nature of the fighting, which usually consists of "raids, ambushes, surprise, harassment, skirmishing, and terrorism" by the "weaker" combatant, who is usually defined as armed with "less superior" weapons (Smith and Geier 2019:15). Following on from this discussion, this thesis defines war as: a violent activity carried out by members of one polity against members of another to achieve a primary purpose. In the context of Australian colonial frontier, this comprised the violent dispersals carried out by agents of the Queensland government, the NMP and/or settlers against non-State Indigenous peoples to control Australian lands and resources.

## The Blurring of War and Policing

**The Australian colonies' methods** of expansion meant that the military had, for many years, been performing the duties of police (Pratt and Hopkins-Weise 2019:34, 35; Richards 2013:49). Although colonial police forces began to be introduced from the 1840s onwards, it was not until the British Government announced their intention to withdraw all military support by 1859 that the development of policing forces accelerated (Skenneron 1975:1). What was problematic on the frontier, however, was the period between when Europeans arrived in an area and when Indigenous resistance had been quashed to the point that the area could be patrolled with ordinary police. It was during such periods that spaces became indistinct and **what Kraska (2007:501) referred to as the "blurred arenas of war and law enforcement" emerged, in spaces occupied by the "enemy" or "offenders"**.

The precise role of the NMP as an organisation operating in this blurred arena has been much debated. Guided by the models instigated by Robert Peel in Ireland and London, the colonial Queensland Executive defined the role and function of regular police as akin to the unarmed constables of metropolitan London. Conversely, Native Policing units were permanently armed and more akin to the Irish Constabulary, which operated to repress resistance (Dukova 2020:55). Several scholars have argued that they were paramilitary forces (e.g., Nettelbeck 2004:195; Reynolds 2013:67, 117), with Richards (2008:8–9) noting that the Queensland NMP

was defined from its outset (in 1848) as a Corps, i.e. a military unit. Paramilitary forces **“combine the characteristics of police and military”** (Lutterbeck 2004:46); the more a police force draws on a military ideology, the closer it resembles the military (Hill and Berger 2009:26, 34; Kraska 2007:511).

Native police forces became a crucial element in the success of British colonisation globally: they were cheap and less susceptible to ill-health when deployed in tropical conditions (Connor 2005:16; Richards 2008:10). Indigenous troopers also knew how to use the landscape to advantage, had superior bush survival skills, and were masterful trackers and hunters. Hunting, in fact, has been posited as a core skillset transferrable to irregular warfare, as well as being central to certain aspects of State-based warfare (Keeley 1996:42–44; Pickering 2013:105; Scott and McFeaters 2011:104,105). Key elements of hunting include ambush, approach, pursuit, tracking, and concealment (Pickering 2013:103–105), methods that are a mix of innate abilities and learned skills, and that are present globally in contemporary fisher-gatherer-hunter groups, complemented by the use of landscape features for concealment, **cover, stealth, stalking, and corralling. Use of a “line”<sup>2</sup>** (across a waterbody) was also a recognised fishing technique amongst Indigenous peoples in Australia. Such hunting tactics mirror those of irregular warfare, which is characterised by ambushes, raids and hit-and-run **attacks** (e.g., Fry 2007; Gat 1999, 2000, 2008; Keegan 1993, Keeley 1996; O’Connell 1989; Otterbein 1968, 1970, 2004; Turney-High 1948), as well as frontal line battles, where both sides face off against each other out of range of available weapons (Otterbein 2004:188, 202). The use of a line against the British was both high risk and futile: Indigenous weaponry—dominated by spears and nulla nullas, though on occasion also boomerangs and fire—dictated that frontal assaults could only be successful when opponents were reloading their guns or when the guns failed to discharge (Broome 2010:47).

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<sup>2</sup> Understood as a line of people moving in unison across the landscape, flushing out quarry, and driving prey towards waiting armed hunters.

The deployment of hunting skills in warfare was not restricted to Indigenous peoples, epitomized by the Western use of the line in military pursuits, a device inseparable from warfare since the rise of States in Mesopotamia and continuing in use well into the 19th century. Beyond the line, British hunting techniques influenced military doctrine in other ways. The British military establishment revered the masculine ideologies associated with the hunt, principally amongst the officer class. The British idea of hunting as sport not only applied to the hunting of animals but also men and Donaldson (2020:21, 22) emphasised the ways in which blood-sports were deeply ingrained in the narrative of colonial warfare following the Crimean War. Hogg (2012) argued that killing on the Queensland frontier became an acceptable way for men to express manliness, thereby encouraging violence (and its normalisation) against Indigenous peoples (e.g., *Brisbane Courier* 1877; *Courier* 1863a, 1863b).

For both troopers and officers, then, employment in the NMP blended non-State skills acquired from a lifetime of hunting with training in State military and policing tactics. This was supported by a command structure that both drew on, and mimicked, key elements of military organisation. The initial command of what became the Queensland NMP lay with a Commandant between 1849 and 1855, then briefly the Inspector General of Police for NSW, returning again to a Commandant after 1857. In 1860 the first Governor of Queensland assumed responsibility for **the policing of the colony, both establishing a 'regular' Police Force** and taking control of the NMP from NSW (*The Moreton Bay Courier* 1860:2; Robinson 1997:14). Significantly, there was no suggestion of altering the way the latter operated. In 1864 the newly created office of Commissioner of Police took over responsibility for the NMP. The first Commissioner, David Thompson Seymour, was recruited from the army and remained in **the position for about 40 years. Under Seymour's tenure the NMP became highly militarised**, especially after 1870 when they were issued with one of the most lethal weapons available—the Snider rifle.

Proficient use of weapons was enhanced by institutionalised learning centred on a code of conduct and competency in firearm handling. Clause 26(2) of *The Native Police Regulation* (1866) described the duties and responsibilities of NMP staff, highlighting the significance of training and the ethos that underpinned it, specifically the requirement to:

... **drill the troopers every day they are in camp**, until they are perfect in their exercise, mounted, and on foot (*Queensland Government Gazette* 10 March 1866, pp.258–261).

Drill was one of the more routine forms of training and was considered key to accustoming soldiers to subordination, instilling discipline, and fostering camaraderie (e.g., Anon. 1850, 1866, 1868). Although Connor (2005:18) has argued that drill was relatively rare amongst the Victorian and southern NSW versions of the Native Police, in northern NSW a Sergeant Major was appointed specifically to drill new recruits; other officers took on that role variously throughout the 1850s, 1860s, and 1870s in Queensland. In 1865 when Sub-Inspector Henry Browne (who had served for seven years in the 19th Prince [or Princess] of Wales Regiment) was in charge of the Spring Creek camp he regularly drilled the troopers on Sundays, as did Sub-Inspector Robert Johnstone (1905:8) in the 1870s.

Such practices were quite different from the training required of the regular police. *The Rules for the General Government and Discipline for a Member of the Police Force of Queensland* (1869), stated:

All officers, whether in charge of districts or stations, will take occasional opportunities to exercise their men in the manual and platoon movements: but it is to be understood that such exercises are not in any way to interfere with the discharge of their regular police duties (Clause 39).

Conversely, Clause 40 stated:

The principal object to be kept in view, in all exercises in drill and the use of fire arms, is to make the force effective and not to make it approximate in its character to a military body, further than by introducing the promptness and uniformity of action attained in such bodies.

The contrast between the two policing bodies could not be starker: unlike regular police, **NMP troopers were expected to be 'perfect' in handling firearms, a requirement achieved in part** through drill, and they could therefore be perceived as equivalent to modern day Special Forces soldiers. Collectively, these elements suggest that the NMP were a police force in name only; in reality they were a militarised force of the highest order. How they enacted their

paramilitary role across Queensland relates to how they understood and used the landscape to meet resistance with immediate and violent punitive measures (Richards 2005:11, 63).

## From Battlefield to Battlespace: Understanding the Paramilitary Role of the NMP

Considering definitions of war provides a theoretical framework for analysing the paramilitary role of the NMP. The US Army and most European powers have included terrain analysis in training since the early 20th century (Bleed and Scott 2011:48). This begins with the concept of the battlespace. The battlespace is one way to visualise the environment, factors, and conditions that need to be considered in decision-making (US Department of the Army 2001:subsection 4, pp.69–82). In this sense, it is recognised that battlefields are only one component of warfare and are typically surrounded by a mix of geographical arenas and facilities. These include spatial subdivisions—geographical zones of operation and information—and facilities—permanent and short-term locations which supply, stage, and support deployed forces and pathways (US Department of the Army 2001:subsections 4-69–4-82). GIS provides a tool to represent the battlespace visually, especially when linked to explicit military understandings of terrain, such as the KOCO A model (Bleed and Scott 2011:48).

As an example, Bleed and Scott (2009, 2011) and Scott et al. (2016) **adapted the “battlespace” model’s operational framework in their study of the 1865 conflicts at Mud Springs and Rush Creek in Nebraska, between the Cheyenne and US volunteer military forces.** The battles occurred within days of one another between the same individuals and groups, though the archaeological distributions show the battles were fought very differently. Bleed and Scott (2009, 2011) and Scott et al. (2016) analysed the archaeological material and the distribution of finds to show how the terrain was used to advantage by the Cheyenne and the military forces. They explained how combatants used Indigenous pathways, high ground and surprise to influence the outcomes of these conflicts. The battlespace and KOCO A principles meant Bleed and Scott (2009:170–178) demonstrated that the Cheyenne proved an effective and efficient antagonist, causing the US military to adopt a more aggressive approach against Indigenous peoples during the American Indian Wars until 1890.

Following changes in 2008 (US Department of the Army 2008:subsection D-4), the formerly singular battlespace is now understood to be a range of alternate spaces, such as areas of responsibility and theatres (US Department of Defence 2017). Although Bleed and Scott (2009, 2011) have retained the earlier concept, this thesis re-labels the 'battlespace' as the 'battlescape' to avoid confusion.

Within the battlescape, at the tactical level, a commanding officer (CO) must assess and understand the “environment, factors, and conditions” to “successfully apply combat power, protect the force, or complete the mission” (US Department of the Army 2001:subsection 4-77). The spatial subdivisions of the battlescape include the area of operations, areas of influence, areas of interest, and the information environment (Figure 2-1). The area of operations is “the immediate area occupied by a combat force”, including the battlefield (Bleed and Scott 2011:51). The area around the area of operation is the “area of influence”, or the zone in which a CO can “directly influence by manoeuvre or fire” (Bleed and Scott 2011:51). An “area of interest” surrounds the area of influence and may be controlled or occupied by Indigenous peoples. These three ‘areas’ can be located in “real space and tied to specific places and features” within a landscape (Bleed and Scott 2011:51). In addition to delineable geographic subdivisions, the less tangible information environment comprises material that is assessed by the CO. Within these areas are various ‘facilities’, including home stations and force projection bases—permanent and short-term locations which supply, stage, and support deployed forces—from which a force can be mobilised.

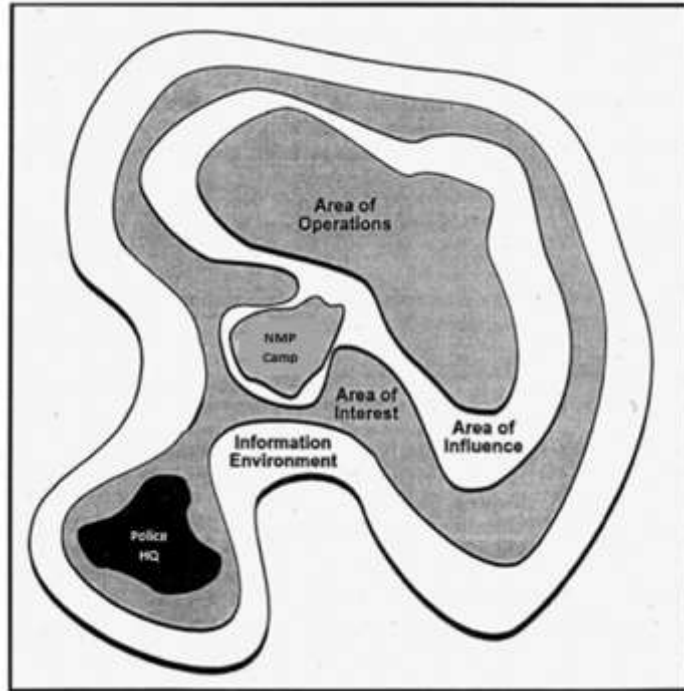


Figure 2.1 The battlescape model (adapted from Bleed and Scott 2011:52).

In NMP terms the home station was the police headquarters—a command node removed from areas of operation and fighting—while NMP camps (either permanent or short-term) were force projection bases. Camps were the staging areas for the NMP, offering strategic placement across the battlescape that influenced a unit's objectives. **These facilities also provided all necessary operational administration, logistics, and communications** (cf. Bleed and Scott 2011:52–53). Linking the NMP camp amenities were the routes (roads, tracks, and Indigenous travel pathways) that facilitated movement of supplies and information. Placing the NMP camp at the heart of the battlescape in this way recognises the crucial role that these locations **played in the related events of daily life and the NMP's actions against Indigenous peoples.**

The historical background of each of the NMP camps investigated in this thesis is considered in the next chapter, and the ways in which the battlescape may have been perceived by a trooper, is explored more fully in Chapter 6.



## Weapons of the NMP

Understanding how the NMP functioned and how they may have used the battlescape to their advantage also requires an understanding of their weapons and ammunition. A multitude of weapons were potentially available to the NMP, our understanding thereof complicated by the lack of NSW and Queensland Colonial Storekeeper<sup>3</sup> records. Existing documentation demonstrates the shortcomings of government correspondence: registers lack detail and contain unclear entries, highlighting discrepancies and conflicting information. Unfortunately, Robinson (1997) identified no documents that systematically recorded the movement of arms, although several documents have recently come to light that extend what we know about the weapons purchased in the 1860s by Queensland authorities and what this meant for the NMP.

Detailed historical research conducted at the Queensland State Archives and consultation with historical weapons specialists identified nine weapons shown definitively to have been used by the NMP (see Appendix 4; Table 2–1): the Constabulary 20-gauge carbine and/or the Yeomanry 20-gauge carbine, the **'Cape' Pattern 20-gauge** double barrel carbine, the Potts & Hunt 20-gauge double barrel carbine, the Colt revolver (the Colt Navy Model 1851 or Model 1861 .36 inch percussion revolver), the Westley Richards & Co. 20-gauge double barrel pinfire carbine, the P. Webley & Son Snider artillery carbine MkIII .577- inch centrefire single barrel carbine, the P. Webley & Son RIC No 3 .442-inch centrefire revolver, and the Martini-Henry .450 inch centrefire breech loading single barrel carbine. The ammunition for these weapons ranged from generic 20-gauge lead balls to unique Boxer constructed centrefire cartridges and bullets. Purchases of the types of weapons known to have been issued to the NMP is shown in Table 2-2.

It is also possible that other arms and ammunition used by the regular police or held in the Government Store could have filtered through to them. Two other, shorter and lighter longarms

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<sup>3</sup> The agents responsible for documenting what weapons and ammunition were issued, when and in what quantities to whom.

that the NMP—effectively a cavalry detachment—may have used were the Calisher & Terry single barrel capping breech loader and the Winchester 1873 model repeating rifle.

Unfortunately, there is insufficient historical evidence to support unequivocally the supply of either of these weapons to the NMP (see Appendix 4 for more information). In the absence of definitive evidence, the vague nature of documentary references causes speculation as to whether any NMP personnel received all or a portion of them. It is also possible that officers of the NMP may have purchased such weapons privately without their being officially issued to them.

Table 2-1 Weapons known to have been issued to the NMP.






Weapon	Description	Issued
	Constabulary and Yeomanry percussion, smoothbore 20-gauge single barrel carbines	c1848
	'Cape' Pattern percussion, smoothbore 20-gauge double barrel carbine	1860
<p>No Image</p>	Potts & Hunt percussion, smoothbore 20-gauge double barrel carbine	1862
	Colt Navy Model 1851 or Model 1861 percussion .36" calibre single action six shot revolver	1865
	Westley Richards & Co pinfire, smoothbore 20-gauge double barrel carbine	1867
	P. Webley & Son artillery centrefire, rifled .577" calibre single barrel carbine	1870
	P. Webley & Son RIC No.3 centrefire, .442" calibre six shot revolver	1870
	Martini-Henry MkIII centrefire, .577/.450" calibre single barrel carbine	Post 1878

Table 2-2 Purchases of the types of weapons known to have been issued to the NMP.

Date requisitioned	Date received	Weapon	Quantity	Notes
-	Mar 1860	Constabulary 20-gauge carbine &/or Yeomanry 20-gauge carbine	20	Initially used by the NP on transfer from NSW. Order supplied from NSW stores
-	Jan 1860	'Cape' Pattern 20-gauge double barrel carbine	12	Acquired from NSW Storekeeper
Dec 1861	Sept 1862	Potts & Hunt 20-gauge double barrel carbine	40	
-	Oct 1862		10	
-	1865	Colt revolvers		Colt revolver in stores
27 July 1868	September 1868	Colt Navy Model 1851 or Model 1861 .36-inch percussion revolver	80	
-	b/w Oct 1869 & Nov 1870 Mar 1870		17	Colt revolvers in store
	20 Sep 1870		25	4 issued to NMP at Barcoo
Nov 1866	Apr 1867	Westley Richards & Co 20-gauge double barrel pinfire carbine	200	Arms arrived without ammunition
-	Jul 1870	P. Webley & Son Snider artillery carbine MkIII .577- inch centrefire single barrel carbine	50	
Oct 1871	Post Jul 1872		50	
	24 Jan 1873			
Post Sep 1872			250	50 with swords
Mar 1874	1874		300	Marked Q↑P 100 with swords
27 Mar 1877	-		300	100 with swords
21 Jun 1883	Post Nov 1883		50	Marked Q↑G
-	July 1870	P. Webley & Son RIC No 3 .442-inch centrefire revolver	50	
Oct 1871	Post Jul 1872		50	
	24 Jan 1873			
Post Sep 1872			200	Marked Q↑G Numbered 1 to 200
26 Feb 1875	-		150	Marked Q↑G Numbered 201 to 350
27 Mar 1877	-		200	
21 Jun 1883	Post Nov 1883		100	Marked Q↑G
Post 1878	-	Martini-Henry MkIII .45-inch centrefire breech loading single barrel carbine	500	1 <sup>st</sup> order for Volunteers Issued to police
	B/w 1885 to 1895	Rifles & carbines	299 449	

## Summary

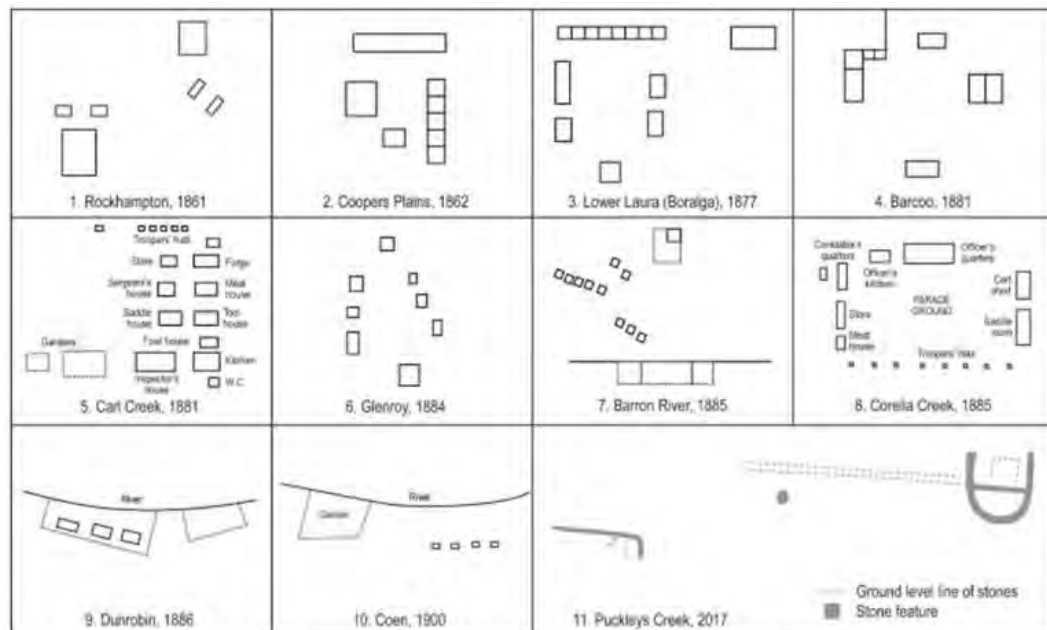
The mere existence of colonial conflict demonstrates the acceptance of non-State irregular warfare as a legitimate, recognisable mode of warring. The reality was that the subjugation of Indigenous peoples could only be achieved by combining State and irregular non-State modes of warfare to establish effective strategies and tactics against Indigenous resistance. The most notorious of government agents were the Queensland NMP. Commanded by leaders often possessing military backgrounds, the troopers were expert practitioners in non-State warfare, knew how to survive in Australian conditions, and knew the enemy. Moreover, both officers and troopers were well-equipped with, and trained in using, lethal weapons and ammunition. As colonial governments were not prepared to acknowledge Indigenous ownership of the land or afford Indigenous peoples inclusion or agency in the process of expansion, war was inevitable. The following chapter explores what is known about the four study sites and the intertwined connections between military precedent, NMP personnel, and socio-political influences on site selection and functionality.

## Chapter 3: The NMP study sites

As settlers extended their footprint in search of pastoral or mineral wealth, they were met with Indigenous resistance. They subsequently invited or petitioned for NMP support, or were provided with such as a matter of course. The NMP established more than 154 camps across Queensland over the course of the 19th century (Barker et al. 2020:26), the location of which was governed by three considerations:

1. The availability of permanent water and grass for horses;
2. Proximity to communications infrastructure; and,
3. Centrality to the area they were responsible for.

The spatial layout of individual camps varied between military quadrangles, parallel rows and **ad hoc designs (Figure 3.1). The replicable components of each were an officer's quarters, troopers' huts, storeroom, and horse paddock (Barker et al. 2020:30). Another constant was the hierarchical segregation of officers from troopers, with the placement of officers at one end of the complex and troopers at the other (Barker et al. 2020:31).**



SOURCES: 1. QSA COL/A24/62/30; 2. Private collection; 3. QSA A/44857; 4. QSA290277; 5. Stack 1996:82; 6. QSA290306; 7. QSA290311; 8. QSA290311; 9. QSA243588; 10. Private collection; 11. Archaeological site recording.

Figure 3.1 Comparative layouts of NMP camps (from Barker et al. 2020:31 drawing by Heather Burke).

Barker et al. (2020:31) suggested that the main factor influencing a camp's layout was the CO, who was either reinforcing the principles of military hierarchy or adhering to more generic camp construction principles. Richards (2008:7–9) has noted that many NMP officers had a military and/or Irish policing background (see Burke and Wallis 2019), and military doctrines and influences, both tacit and overt, would have left an indelible impression on the NMP. Even though this was not a sustained characteristic of officers in the later period of the force (Burke 2020), a general military influence, orchestrated by the Police Commissioner and cemented in the foundations of the NMP, would have had a lasting impact on the functionality and routines of the force.

This chapter considers the geographical placement of the four camps at the core of this thesis, the circumstances that brought each camp into existence, their personnel, and how each camp fitted into the larger picture of frontier violence.

## Belyando (Mistake Creek)

The Belyando NMP camp is located approximately 64 km southwest of Clermont on the eastern bank of the seasonal Mistake Creek (Figure 1.1). The site lies in the historical pastoral district of South Kennedy, on the border of the Yagalingu and the Wangan peoples (Tindale 1974). It is currently in the Jangga Native Title claim area.

Belyando was established in 1863 as settlers pushed west following the Peak Downs gold rush of 1862 (Burke and Wallis 2019). The camp was located on the station of Jeremiah Rolfe, who established the run in the early 1860s (*Historicus* 1951:11). According to newspaper reports, between 1864 and 1866 there were several outbreaks of hostilities in the area. Trooper Duncan was killed and another (unnamed) trooper wounded in one event in 1864, with the detachment apparently pushed to retreat to the camp (Murray 1864b, 1864c). In 1866 the *Brisbane Courier* (p.6) reported that **“the blacks have lately been menacing the Native Police Barracks at Belyando” and were being “troublesome”**. The corresponding response by Sub-Inspector Thomas Coward and his detachment was typical: **they reportedly “dispersed” people “in the usual and approved manner”** (*Rockhampton Bulletin and Central Queensland Advertiser* 1864:1). Reports of hostilities had virtually ceased by the early 1870s, no doubt owing to the brutal efficiency of the NMP, and Sub-Inspector Alexander Douglas and his troopers left the site for the final time in 1879 on transfer to Blackall. Thereafter the camp became known as Alberto Banchory outstation, during which time the buildings were probably re-used (Burke and Wallis 2019).

**The only reference to the arrangement of the camp’s structures is a photograph depicting four troopers in front of four timber and bark buildings (Figure 3.2).** The image is undated, and building functions are unknown, though they appear too **large and substantial to be troopers’ huts**. In this regard it is worth noting that the Belyando camp also served as the local Post Office (*Brisbane Courier* 1867:5) and it is possible some of the buildings might have served non-NMP purposes.





**Figure 3.2** An undated black and white photograph showing troopers in front of timber structures at Belyando (Queensland Police Museum Accession No. PM0637).

Trooper numbers fluctuated from 6–11 (Table 3-1), the variation potentially reflecting the ebb and flow of local Indigenous resistance or the relationship between the CO and his subordinates. For example, one of the most ruthless of NMP officers was Fredrick Wheeler, his infamy epitomised at Belyando in 1876 when his flogging of Jemmy, an Indigenous man, was so severe that Jemmy subsequently died. Wheeler was dismissed from the force and charged **with Jemmy's murder, absconding to Java while on bail to avoid prosecution** (*Queensland Police Gazette* 1876:49; Richards 2004:96).

Table 3-1 Personnel numbers for the Belyando (Mistake Creek) NMP detachment across time (source: *Pugh's Almanac* 1866:56-57, 1867:54, 1868:58, 1869:61, 1870:61, 1871:69, 1872:63, 1873:63, 1874:112, 1875:93, 1876:87, 1877:93, 1878:109, 1879:108).

Belyando (Mistake Creek) NMP personnel					
Year	Sub-Inspectors	Acting Sub-Inspectors	Sergeants	Constables	Troopers
1866	1		1	-	10
1867	1		1	-	6
1868	1		1	1	9
1869	1		1	3	9
1870	1		-	3	6
1871	1	1	-	-	10
1872	1	1	-	1	11
1873	1	1	-	1	6
1874	-	1	-	1	6
1875	1	-	-	1	10
1876	1	-	-	1	10
1877	1	-	-	2	10
1878	1	-	-	1	8
1879	1	-	-	1	8

Wheeler was not the only person to abscond: two troopers deserted in 1864, the entire detachment in 1869, four troopers in 1872, and a further four in 1878 (*Mackay Mercury and South Kennedy Advertiser* 1872:2; *Queensland Police Gazette* 1870:51; Murray 1864a, 1869) (Table 3-2).

Table 3-2 Known troopers assigned to Belyando NMP camp (source: Burke and Wallis 2019).

Name	Position	Tenure at Belyando (Mistake Creek)
Billy Button	Trooper	1869 deserted
Billy 13	Trooper	1869 deserted
Granby	Trooper	1869 deserted
Jemmy 5	Trooper	1869 deserted
Ned Edwards	Trooper	1869 deserted
George 2	Trooper	1876
Jemmy 2	Trooper	1878
Tommy 8	Trooper	1878

More than half of the 11 officers known to have been assigned to Belyando had previous military or policing experience (Table 3-3). The only known married staff member at Belyando was the camp keeper, Constable Peter Turner, who was accompanied by his wife Mary and son John.

Table 3-3 Belyando NMP personnel above the rank of trooper (source: Burke and Wallis 2019).

Name	Rank	Position Dates	Tenure at Belyando (Mistake Creek)	Military or police background
Thomas Coward	Act. Sub-Inspector	1864	1864-1867	S.A. Police & N.S.W. Police
	Sub-Inspector	1865		
	Act. Inspector	1872		
		1874 resigns		
	Sub-Inspector 2 <sup>nd</sup> Class	1879		
William Clements	Sergeant	1862	1864-1866	
		1866 resigned		
Maxwell Armstrong	Cadet	1862	1866-1869	
	Lieutenant	1864		
	Sub-Inspector 1 <sup>st</sup> Class	1865		
	Inspector	1870		
		1888 retired		
John McKay Dunne	Act. Sub-Inspector	1866	1867-1868	Navy
	Sub-Inspector	1872		
		1877 died		
John Stuart	Act. Sub-Inspector	1869	1871-1874	Royal Irish Constabulary
	Sub-Inspector 1 <sup>st</sup> Class	1876		
	Inspector 2 <sup>nd</sup> Class	1879		
	Inspector 1 <sup>st</sup> Class	1890		
	Travelling Inspector	1893		
		1900 retired		
Frederick Murray	Act. Sub-Inspector	1865	1872	
	Sub-Inspector	1866		
	Inspector 2 <sup>nd</sup> Class	1874		
	Inspector 1 <sup>st</sup> Class	1887		
	Inspector 2 <sup>nd</sup> Class	1895 retired		
George Nowlan	Act. Sub-Inspector	1868	1872-1875	
	Sub-Inspector 1 <sup>st</sup> Class	1876		
		1881 dismissed		
Fredrick Wheeler	Sub-Inspector	1857	1875-1876	
	Inspector	1874 resigns		
	Sub-Inspector	1875		
		1876 dismissed		
Ernest Carr	Act. Sub-Inspector	1865-1867	1876-1878	
	Sub-Inspector	(resigned?)		
	Sub-Inspector 1st Class	1871		
		1879-1894		
Peter Turner	Camp Keeper	1873	1877-1878	Military
	Constable	1879 dismissed		
Alexander Douglas	Act. Sub-Inspector	1872	1879	Navy
	Inspector	1884		
	Act. Police	1900		
	Commissioner			

## Boralga

The Boralga (aka Lower Laura) NMP camp is located on the east bank of the Laura River, ~18 km downstream from the township of Laura, Cape York Peninsula. The site is in the historical pastoral district of Cook, in the lands of the Kokowarra speaking peoples.

Established to protect persons travelling to and from the Palmer River goldfield, Boralga was occupied from 1875–1894 (Burke and Wallis 2019; Cole 2004:160). The gold rush caused a sudden and extreme arrival of fortune seekers, so 24 troopers under the command of Sub-Inspector Stanhope O'Connor were dispatched to disperse “troublesome mobs” (*Dalby Herald and Western Queensland Advertiser* 1876:4). O'Connor noted on his arrival that “I found the country in a very bad state, as the blacks were daring and warlike—so much so that they attacked my barracks the day after my arrival” (*Queenslander*, 18 December 1880, p786). Although most miners had moved on within a decade, they were replaced by pastoralists (Cole 2004:167).

O'Connor is a key source of information about Boralga, at least during its early years, writing letters and producing a sketch plan of the camp in 1877 showing the placement of buildings in a military quadrangle (Figure 3.3) (Cole 2004:163). O'Connor lacked a military background himself but was the son of a British army officer; defensively positioning the camp between river and swamp and organising it in a quadrangle layout suggests he may have been influenced to at least some degree by his father's military experience.

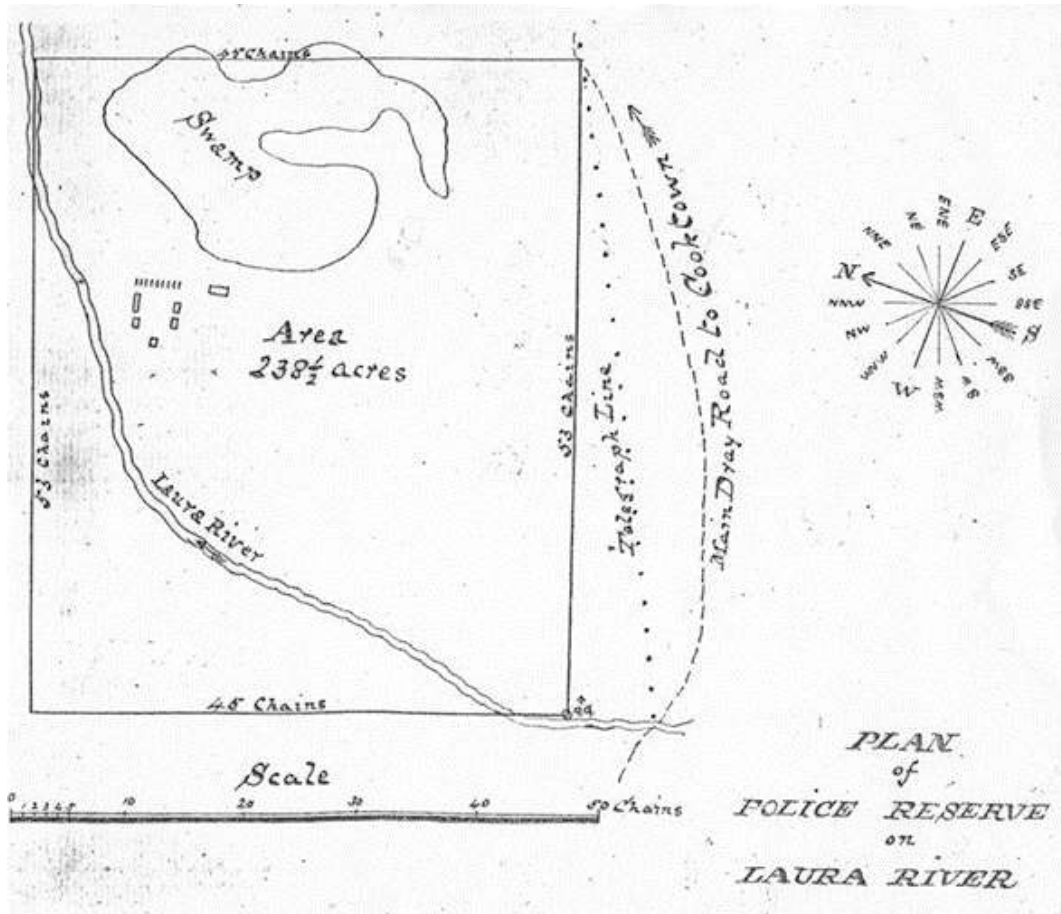


Figure 3.3 O'Connor's 1877 sketch 'Plan of Police Reserve on Laura River' (Cole 2004:163).

Historical photographs and geophysical mapping of the site suggest that the layout changed over time (Lowe 2018:689). An 1884 photograph, for example, shows Sub-Inspector Charles Marrett and his wife outside a relatively robust timber slab and bark house (Figure 3.4); by **1894 the primary residence comprised six rooms and a kitchen, while the constable's accommodation had two rooms and a kitchen.** In addition, there was an office with two spare rooms, a tack store, sheds for fodder **and carts, and multiple trackers' quarters** (Barker et al. 2020:34). Work by Cole (2004:161–167) identified structures and areas pinpointed by Indigenous elders as variously being inhabited by officers or troopers, a spatial and hierarchical division supported by archaeological analysis (Bateman 2020).



**Figure 3.4 Sub-Inspector Charles Marrett and wife Eugenie at Boralga NMP camp in 1884 (Queensland Police Museum Accession No. PM0634).**

At least 15 named officers were stationed at Boralga. One of these was former RIC member William Britton. He and Michael Linehan were the only officers with prior military or policing experience (Table 3-4 and 3-5) (Burke and Wallis 2019). Both were also the only members of the NMP to have an association with more than one of the study sites: Britton was later posted to Eyres Creek, while Linehan had been a camp keeper at Eyres Creek before his transfer to Boralga. At least seven officers were known to be married during their tenure (Burke and Wallis 2019).

Table 3-4 Personnel numbers for the Boralga NMP detachment across time (sources: *Pugh's Almanac* 1877:94, 1878:110, 1879:109, 1880:127, 1881:113, 1882:100, 1883:103, 1884:107, 1885:140, 1886:118, 1887:118, 1889:106, 1890:119, 1891:109).

Boralga (Lower Laura) NMP personnel				
Year	Sub-Inspector	Senior Constable	Constables	Troopers
1877	2	-	2	10
1878	2	-	1	10
1879	2	-	2	11
1880	2	-	1	8
1881	1	-	1	8
1882	1	-	1	8
1883	1	-	1	9
1884	1	-	1	8
1885	1	-	1	7
1886	-	-	2	3
1887	-	-	2	3
1888	-	-	2	4
1889	-	1	1	4
1890	1	-	1	5
1891	-	-	2	3

Table 3-5 Boralga NMP personnel above the rank of trooper (sources: Burke and Wallis 2019; Richards 2008).

Name	Rank	Position Dates	Tenure at Boralga (Lower Laura)	Military or Police background
Charles Francis Brown	Sub-Inspector	1873	1873-1875	
Charles Beauchamp Marrett	Sub-Inspector Inspector	1877 1898 1910 retired	1879-1884	
Hervey Fitzgerald	Act. Sub-Inspector Sub-Inspector  Inspector 2 <sup>nd</sup> Class Inspector 1 <sup>st</sup> Class	1865 1871 1876 suspended 1879 reinstated 1881 1892 1905 retired	1879-1880	
William Thomas Britton	Sergeant Sub-Inspector 2 <sup>nd</sup> Class Sub-Inspector 1 <sup>st</sup> Class Inspector 2 <sup>nd</sup> Class	1862 1878 1881 1887 1895 retired	1880	Royal Irish Constabulary
Frederick Malcolm Clerk	Constable Camp keeper Sub-Inspector 2 <sup>nd</sup> Class	1880  1881 1882 suspended 1884 dismissed	1881	
James Wylie Whiteford	Constable Senior Constable Sergeant Senior Sergeant	1881 1888 1896 1905 1911 retired	1882-1889	
David Elder Twaddle	Constable Camp Keeper Senior Constable Constable	1882 1882 1891 1893 1908 retired	1882	
Frederick George Margetts	Cadet Sub-Inspector	1882 1884 1889 resigned	1883	
Denis Keane	Constable Camp keeper	1878  1912 retired	1886	
James Murphy	Constable Camp keeper	1881  1911 retired	1886-1889	
George Inkerman Smith	Constable Camp keeper Senior Constable Act. Sergeant	1884 1894 1897 1901 died	1889-1894	
James Reid Lamond	Sub-Inspector Inspector	1875 1893 1909 retired	1889-1890	
Michael Linehan	Constable Camp keeper	1881  1895 resigned 1895 reappointed 1898 retired	1890-1892	Military
Thomas Joseph Lacey	Constable Camp keeper	1891 1891	1891-1892	
Samuel Joseph Waters	Constable?		1893	



*Pugh's Almanac* records the highest number of troopers (10 or 11) in the first three years of the camp's operation, falling to a low of three in 1886 and 1887, before rising again to five in 1890 (Table 3-4). Not much is known of the identity of these men beyond the brothers Jack Noble and Sambo (aka Quambo), the latter of whom died in Victoria on 19 March 1879 (*Morning Bulletin* 1879:2) (Table 3-6). Both troopers, along with Hero, Jimmy, and Johnny, were in a detachment under O'Connor's command which travelled to Victoria to assist in the search for the Kelly gang (Figure 3.5). The only other known named trooper, Willie, was noted as having deserted with a rifle and ammunition in 1877 (*Old Police Gazette* 1877:137).

Table 3-6 Known troopers assigned to the Boralga NMP camp (source: Burke and Wallis 2019).

Name	Position	Tenure at Boralga (Lower Laura)
Willie 5	Trooper	1877 deserted
Hero	Trooper	? -1879
Jimmy 10	Trooper	? -1879
Johnny 1	Trooper	? -1879
Jack Noble	Trooper	1879-1880
Sambo 5 (aka Quambo)	Trooper	1879-1880

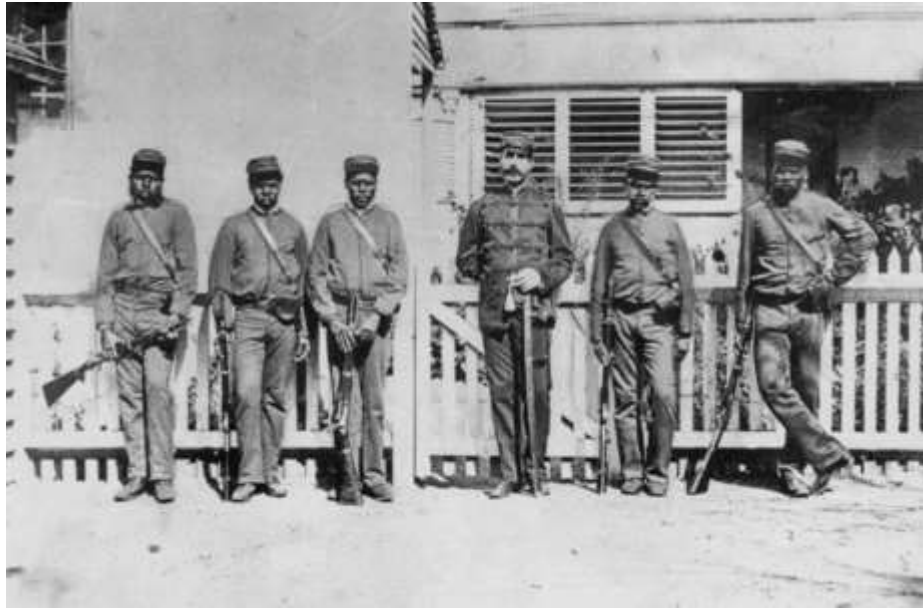


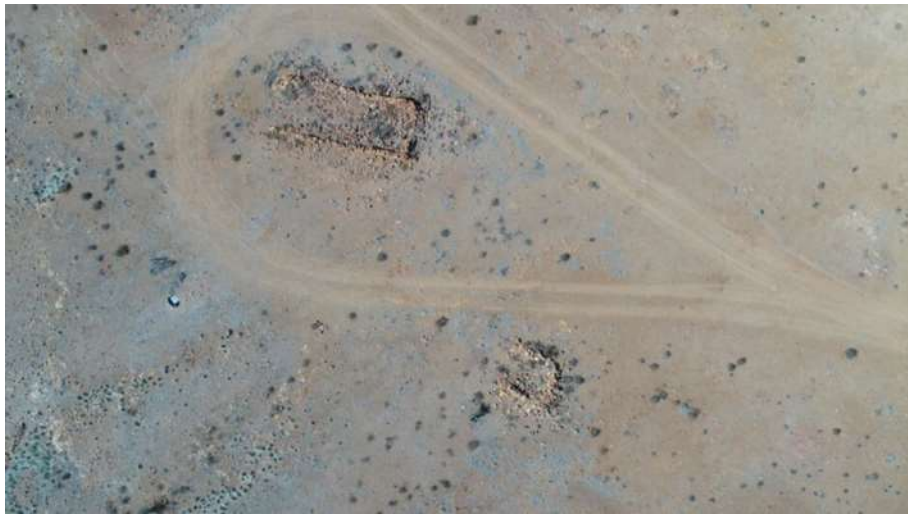
Figure 3.5 Sub-Inspector Stanhope O'Connor and the five surviving troopers sent to track the Kelly Gang, c. 1879. Jack Noble is standing far right. The troopers are armed with Snider artillery carbines (State Library of Queensland Accession No. 9044693).

## Boulia (Burke River)

The Boulia (aka Burke River) NMP camp is located ~25 km north of the town of Boulia (Figure 1.1), on the western bank of the Burke River and Mucklandama (aka Barracks) Waterhole. The camp is located on Strathelbiss Station in the Gregory North historical pastoral district within the Native Title lands of the Pitta-Pitta people, though Yulluna people also have close connections to the area (Lance Sullivan and Hazel Sullivan pers. comm. July 2018).

Unlike the previously described camps, which were instigated to facilitate mineral wealth, the Boulia camp was established in late 1878 by Sub-Inspector Ernest Eglinton and four troopers to support the westward expansion of pastoralists (*Brisbane Courier* 1878:7). The camp remained operational for nine years, with the decision made in 1885 to relocate the **detachment to Toby's Creek (Ahern 1885; Mosman 1886)**. The camp buildings were sold to pastoralist Edward Weinholt in 1885 for £100, who subsequently re-used them. The site reverted to a stock watering point and public tourism, camping, and fishing location sometime in the 20th century (Artym 2018:154).

No historical plans or photographs exist for the Boulia camp, nor are there any written **descriptions of the buildings, though it was described as “most respectable looking”** (*Queenslander* 1882:551). It is reasonable to expect that, like most NMP camps, Boulia would **have consisted of an officer’s quarters, troopers’ huts and store.** Notably, Boulia is the only camp to have had buildings constructed of stone (Barker et al. 2020:34) (Figure 3.6). Archaeological evidence suggests that the two surviving stone structures on site were **associated with the officers’ area, while the troopers were accommodated in less durable structures further from the waterhole** (Artym 2018:76).



**Figure 3.6 Aerial view of the two remnant stone structures at Boulia NMP camp (image by Andrew Schaefer).**

The number of personnel stationed at Boulia spiked in 1880, suggesting an influx of resources to carry out punitive expeditions against local Aboriginal people following white deaths at nearby Wonomo Waterhole in 1879, while a reduction in trooper numbers after 1884 suggests that Aboriginal resistance may have lessened after this time (Table 3-7). Certainly, the posting **of regular police to the Boulia township in 1883 would indicate that ‘pacification’ was complete** by this date. Boulia personnel were minimal compared to Boralga (Tables 3-5 and 3-7). Both Eglinton and Archibald Mosman had children with Indigenous women, **although the latter’s** were not within the period of his occupation at Boulia. None of the known officers were married

and no information is available on the names or marital status of troopers (OSA 563908; AF/1093 A/40056; Richards 2008:159, 249).

Table 3-7 Personnel numbers for the Boulia NMP detachment across time (sources: *Brisbane Courier* 7 December 1878; *Pugh's Almanac* 1880:126, 1881:112, 1882:99, 1883:102, 1884:196, 1885:139, 1886:139; *Queenslander* 21 June 1879:774).

<b>Boulia (Burke River) NMP Personnel</b>				
<b>Year</b>	<b>Sub-Inspectors</b>	<b>Constables</b>	<b>Troopers</b>	<b>Total</b>
1879	1	-	4	5
1880	1	-	10	11
1881	1	1	6	8
1882	1	1	6	8
1883	1	1	6	8
1884	1	2	4	7
1885	1	1	4	6
1886	1	1	9	11

Table 3-8 Boulia NMP personnel above the rank of trooper (sources: Burke and Wallis 2019; Richards 2008).

<b>Name</b>	<b>Rank</b>	<b>Position dates</b>	<b>Tenure at Boulia (Burke River)</b>	<b>Military or police background</b>
Ernest Eglinton	Sub-inspector 2 <sup>nd</sup> Class	1878	1878-1884	
Hugh Galbraith	Act. Sub-inspector	1869-1879	1881-1886	
	Camp Keeper	1881-1886		
	Constable	1889 resigned		
Archibald F. Mosman	Cadet	1884	1883-1886	
	Sub-inspector 2 <sup>nd</sup> Class	1884		
		1890 resigned		

## Eyres Creek

The Eyres Creek NMP camp is situated on Glengyle Station, approximately 10 km southwest of the town of Bedourie on the west bank of Eyres Creek (Figure 1.1) (Figure 3.7). Like the Boulia camp, Eyres Creek lay in the Gregory North pastoral district, in Wangkamadhla country.

The northern sector of the district had been 'civilised' by Eglinton, but the southern pastoralists maintained a need for an NMP presence between Boullia and Birdsville (Hyatt 1888). Sub-Inspector Frederick Murray selected the site based on **its ability to provide "permanent water and a good horse run"** (Murray 1882), resulting in the establishment of the camp by Captain Robert Little and troopers in 1883 (Sharpe 1882).

There are no historical plans or photographs of the site, though written descriptions exist:

**The camp at present consists of officers' quarters, Constables quarters, Store, six** thatch huts for troopers Horse & milking yards. I had arranged with the contractor to erect a kitchen but this will now have to stand over until a dray can be purchased as the timber will have to be carted some distance (Sharpe 1883).

Eyres Creek nourished small trees unsuitable for slab hut construction so buildings were erected from adobe, being described in 1889 as consisting of:

**Officers' Quarters** with detached kitchen. Camp Keepers Quarters, Store, meat House saddle shed a good-sized stock yard either troopers huts built of grass and a garden, all the buildings are mud with thatched roofs (Britton 1889).

Archaeological evidence was unable to contribute much additional information, given that the **adobe method left no geophysical signature, but given Little's military background the site plan** may have conformed to a more formal model (Barker et al. 2020:30, 31). In 1890 the barracks were sold (Britton 1890).



Figure 3.7 Eyres Creek NMP camp site looking southeast across the site towards the ephynous creek (image by Lynley Wallis).

The number of personnel stationed at Eyres Creek was relatively stable, at around eight troopers, declining to five in 1885 (*Pugh's Almanac* 1886:140) (Table 3-9).

Of the white officers, Constable Michael Linehan was ex-military and spent his entire career as a camp keeper (Table 3-10). There is some question of the exact role of Sub-Inspector Robert Sharpe at the Eyres Creek camp, but it appears he backfilled Little's position when required. Several women were also explicitly named in relation to the Eyres Creek camp (Table 3-11), including Little's wife and daughter and the wives of three troopers.

Table 3-9 Personnel numbers for the Eyres Creek NMP detachment across time (source: *Pugh's Almanac* 1883:103, 1884:106, 1885:139, 1886:140, 1887:117, 1888:114, 1889:106).

Eyre's Creek NMP personnel			
Year	Sub-Inspectors	Constables	Troopers
1883	1	1	6
1884	1	1	8
1885	1	1	8
1886	1	1	5
1887	1	1	8
1888	1	1	8
1889	1	-	8

Table 3-10 Eyres Creek NMP personnel above the rank of trooper (sources: Burke and Wallis 2019; Richards 2008).

Name	Rank	Position Dates	Tenure at Eyre's Creek	Military or Policing background
Robert John Kyle Little	Act. Sub-Inspector	1875 1878 susp'd & reinstated 1879 dismissed	1885-1889	Military
	Act. Sub-Inspector	1882 1889 died Birdsville		
Michael Linehan	Constable	1881	1883-1888	Military
	Camp keeper	1883-1895		
	Constable	1895- 1898 retired		
Robert Barrington Sharpe	Act. Sub-Inspector	1876	1885-1886	
	Sub-Inspector 2 <sup>nd</sup> Class	1876		
	Sub-Inspector 1 <sup>st</sup> Class	1883		
		1886 died Eyre's Creek		
Henry Scarlet	Constable	1886-1894	1888	
John McMillan	Constable	1887-1892	1888	
William Fraser	Constable	1888-1889	1888	
	Camp keeper		1888	
		1889 resigned		

Table 3-11 Known troopers assigned to the Eyres Creek NMP camp (Burke and Wallis 2019).

Name	Position	Tenure at Eyre's Creek
Tallboy	Trooper	1883-1889
Jimmy 8	Trooper	1886-1888
Kitty 3	Wife of trooper	1888
Lizzie	Wife of trooper	1888
Nelly 1	Wife of trooper	1888
Buckley	Ex-trooper	1888-1889
Bungaree	Trooper	1888-1889
Gilbert 3	Trooper	1888-1889
Johnnie/Johnny10	Trooper	1888-1889
Paddy 5	Trooper	1888-1889
Dora Little	Wife of Sub-Inspector Little	
Mary Little	Daughter of Sub-Inspector	

## Camp Keepers and Women

The running of each NMP camp required a dedicated camp keeper to take charge of the stores and the camp while the Sub-Inspector was on patrol; this was usually a white Constable, many of whom were employed because of their blacksmithing skills (Table 3–12). Although **neither patrol nor camp keeper's diaries exist for the four study sites, a typical camp keeper's duties** are apparent from the daily journal entries for the Craigie, Oak Park, and Nigger Creek NMP camps. Sites were cleaned and clothes washed every week, with the camp keeper also **responsible for unspecified 'general duties', as well as specific activities such as mowing hay and running despatches into town.**

Indigenous and non-Indigenous wives and children were also clearly a regular cohort at many camps, although there is little information to sustain an analysis of the degree or nature of **interaction between officers' and troopers' families. It is clear from camp diaries that** Indigenous women performed their daily work without recompense (Bateman 2020:30–31; OSA86146 1880, 1881, 1882), and, given general patterns of Aboriginal labour elsewhere, it is **likely they performed domestic labour tasks for officers' wives. The significance of women and the camper keeper cohort becomes apparent in Chapter 6 when considering their connection to the use of firearms.**



Table 3-12 Known Camp keepers gazetted to each of the four study sites.

<b>NMP Camp</b>	<b>NMP Member</b>	<b>Camp keeper tenure</b>
Belyando	Constable Peter Turner	1877-1878
Boulia	Constable Hugh Galbraith	1881-1886
Eyres Creek	Constable Michael Linehan	1883-1888
	Constable William Fraser	1888
Boralga	Constable Fredrick Clerk	1881
	Constable David Twaddle	1882
	Constable Denis Keane	1886
	Constable James Murphy	1886-1889
	Constable Michael Linehan	1890-1892

# Chapter 4: Methods

A range of methods were used to explore weapons used by the NMP, including archival research, comparison of arms and ammunition to those held in museum and private collections, cataloguing of recovered archaeological specimens, forensic analysis of fired cartridges and GIS methods to analyse the battlescape.

## Archival Research

Eight days were spent at the Queensland State Archives identifying relevant material. Specifically, material was sought that identified the weapons purchased by the Queensland government and issued to the NMP during 1860–1900. This was chiefly drawn from the **Colonial Secretary's correspondence, supplemented by other police correspondence.**

## Museum and private collections

Weapons held in the Queensland Museum, Queensland Police Museum, **and the author's** collection, as well as in private collections, were physically inspected. Additionally, the Australian Arms Auction website was monitored for the period 2018–2022 and weapons potentially purchased by the Queensland government for police were verified, with identifying details, such as manufacturer, date, and stamps, recorded for future reference.

A similar process was followed to understand developments in ammunition. The author has been affiliated with the Arms and Militaria Collectors Club, Australian Cartridge Collectors Association, and International Ammunition Association for some years and has established an extensive reference collection of pre-1900 ammunition. This reference collection, supplemented by discussions with other collectors made possible the positive identification of weapons and ammunition referenced in this thesis.

## Fieldwork

Work conducted prior to the instigation of this thesis consisted of visiting purported NMP camp site locations to determine whether they retained any archaeological evidence and, if so, to assess their research potential. A second fieldwork phase involved deploying geophysical techniques at selected sites to further establish their excavation potential (Lowe et al. 2018:689).

Systematic pedestrian surveys were then conducted across the full extent of all sites selected for excavation. This offered very limited results at Boralga, owing to most NMP-related materials being buried, but at the other study sites revealed extensive surface assemblages. Observed artefacts were flagged, and their locations plotted with a unique identification number using a Nikon total station. Aerial photography was obtained at three sites (excluding Boralga) using a DJI Phantom 4 Pro drone, georectified, and collated in ArcGIS as an underlay for site plans.

As summarised in Table 4-1, excavations were conducted in accordance with standard single context archaeological techniques following Burke et al. (2017:243–246). Trenches generally commenced as 1 x 1 m squares which were extended based on the exposure of sub-surface features. All excavated sediment was passed through nested 5 and 1 mm sieves to recover artefacts.

**Table 4-1 Number of trenches and squares excavated at the four study sites.**

<b>Site</b>	<b>Trenches</b>	<b>Squares</b>
Boralga	20	43
Boulia	4	16
Eyres Creek	1	2
Mistake Creek	1	2
<b>Total</b>	<b>26</b>	<b>63</b>

## Cataloguing weapons-related artefacts

Artefacts were catalogued individually by various team members and entered into an online project database (Burke and Wallis 2019). All weapons and ammunition records not entered in the first instance by the author were reviewed and, where necessary, updated.

Core variables recorded for all artefacts included completeness, material, dimensions (length, width, thickness), weight, and identifying features such trademarks. A brief written description of the object and a photograph accompanied each artefact record. Where possible, date ranges were indicated based on reference to published sources.

Supplementary variables changed according to whether the object was a weapon or a piece of ammunition. For ammunition, the projectile type, deformation, the number and type of rifling grooves, mould seams, sprue marks, base and rim, body and firing mechanism, weight in grains, and headstamp were recorded, where these could be determined. Bore, gauge, and calibre were also assessed. For weapons, trademarks and gun part were recorded. Details for the recording of all variables are provided, along with copies of the recording forms, in Appendix 3.

### Classifying ammunition by class, sub-class and calibre

The firearms used by the NMP during the 19th century were primarily designed for war, they were intended to kill Indigenous people over a range of distances and to minimise the risk to the user. The development of weapons technology and production during this time period led to the creation of increasingly lethal arms with greater range, accuracy, and rapidity of fire. A multitude of weapons exhibiting these changes were potentially available for the NMP during the latter half of the 19th century.

To identify the weapons represented in an ammunition-related assemblage, the ammunition must first be classed as rifled or smoothbore, and then drilled down to the sub-class based on the mode of discharge (rimfire, pinfire, centrefire). Calibre can then be used to determine precisely which type of weapon used a particular round. Determining the abundance of each class, sub-class, and calibre of ammunition allows conclusions to be drawn about weapons distribution, functionality, preference, and activities, such as hunting or target practice.

Functionality is particularly significant when combined with the local terrain, and the type of weapon used suggests how an NMP detachment functioned, since detachments adopted tactics appropriate to the local terrain. This included using rifles for long-distance aimed shooting, as compared to smoothbore pinfire shotguns and revolvers, which were more effective in close-quarter combat. The differences between double- and single-barrel carbines also provide insights into how weapons were used within the battlescape.

#### Forensic analysis of fired cartridges

A discharged cartridge case inherits impressions that are distinctive to a particular firearm and can be identified forensically. Comparing class and individual characteristics on multiple fired cartridges determined which cartridges derived from one as opposed to multiple firearms (Dillon 2008:367–403).

Ammunition-related artefacts were first separated by class into either smoothbore, rifled, or unknown, then into sub-classes of rimfire, centrefire, pinfire, or unknown, and then by calibre. Headstamps were examined to match the cartridges to a manufacturer and date. In circumstances where ammunition was not designed for a specific arm, the Integrated Ballistics Identification System (IBIS) database was used to match a cartridge to a weapon.

All examination of the ammunition-related artefacts was conducted in accordance with Association of Firearms and Toolmarks Examiners (AFTE) protocols (Dillon 2008:389, 395–396). The AFTE theory of identification has one of four outcomes: (positive) identification; inconclusive; elimination; and unsuitable for comparison (Dillon 2008:387). For a successful identification there must be agreement on a combination of individual characteristics. The outcome is inconclusive when there is some agreement on individual characteristics but not all (due to absence, insufficient individual characteristics, or lack of reproducibility of individual characteristics). Elimination is reached when there is sufficient disagreement on discernible **class/individual characteristics**. **“Unsuitable for comparison” is the outcome when a mutilated or fired cartridge bears no microscopic marks** (Dillon 2008:387–389).

## Breech face marks and firing pin impressions

Assistance was obtained from weapons experts at the Victoria Police Firearms Unit to examine the fired cases. Their advice included microscopic examination and the recording of individual characteristics caused by firing pin and breech face marks. General time restraints meant restricting this examination to the ammunition of the weapon that most epitomised the actions of the NMP: the Snider artillery carbine cartridges. This analysis were restricted to those from Boulia and Eyres Creek, as the Snider cartridges from Boralga were too corroded to examine.

Primers were examined under an Optico ASZ-400 trinocular stereo microscope at 40x magnification with a USB camera. Each primer was examined by aligning the cartridge to the **fired position (rotating the firing pin impression to 6 o'clock) and then recording** dimensions (length and width) of breech face impressions and the dimensions (length and width) and location of individual characteristics of the firing pin impressions.

Once the first primer was examined, all subsequent primers were then compared to the first and to each other in succession. Each time a unique primer was discovered it was assigned a capital letter (e.g., A, B, C, etc.). All subsequent primers were either matched to previous primers or became a new unique primer and so assigned a sequential capital letter. Examining the individual characteristics of two or more primers led to one of three outcomes. Firstly, the primers matched, which meant the same gun fired them. Where comparisons were inconclusive (due to insufficient individual characteristics), the cartridges may or may not have been fired by the same weapon. Thirdly, different weapons clearly fired some cartridges because there was sufficient disagreement in the discernible individual characteristics.

## KOCCA site analysis

GIS analysis intertwined the individual spatial data for discharged cartridge cases with topographic and georectified aerial imagery to visualise the distribution and discharge patterns of ammunition-related artefacts at all sites. Layered distribution maps were produced for each site to show the location of ammunition-related artefacts on a georectified aerial photograph and topographic imagery.

To determine something of the pattern of what weapons were being shot where, the ‘Key terrain, Observations and fields of fire, Cover and concealment, Obstacles, and Avenues of approach’ (KOCOA) model, developed by the US military to understand terrain, was adopted. The definition and examples of the KOCOA attributes are detailed in Table 4-2.

Table 4-2 KOCOA terrain attributes and how they are represented on the battlescape (Lowe 2016; McKinnon et al. 2020).

Attribute	Definition	Example
Key Terrain	Ground that must be controlled to accomplish the mission	High ground with good observation and clear fields of fire, transportation choke points such as water crossing, road junctions and clear ground.
Observation and Fields of Fire	Any point on the landscape that allows observation of movements, deployments, and activity of the enemy that is not necessarily key terrain, offers opportunity to see over an area and acquire targets, and an area that weapons may cover/fire upon effectively.	The viewscape, high ground, sloping approaches to entrenched positions and a weapons effective field of fire.
Cover and Concealment	Landforms or landscape elements that provide protection from enemy fire and conceals troop positions.	Walls, structures, forests, ravines, riverbanks, entrenchments, and ditches.
Obstacles	Natural or human-made landscape elements that prevent, impede, or divert movement.	Rivers, walls, dense vegetation, fortifications, ravines, and ditches.
Avenues of Approach	Relatively unobstructed ground route that leads to and/or away from an objective or key terrain and does not come under enemy fire.	Roads, paths, creek beds and railroads.

Determining direction of fire

Critical considerations in reading the battlescape are the inherent particulars of weapons use and their ballistic performance. Determining what direction the NMP were shooting—the field of fire—relies on knowing the type of firearm used, the weapon’s intended purpose, and the

**calibre of the fired cartridge (and thus the bullet's effective range<sup>4</sup>**, i.e. the maximum distance a bullet may travel accurately and retain sufficient energy to do its job [Potter 2014:315]).

Determining the direction of fire commenced with mapping the locations of discharged cartridges within the battlescape, and centring each artefact in a **360-degree circle ('circle of fire')**, with the radius corresponding to the effective range of fire (i.e. 20, 50, or 200 m). It was then possible to create a viewshed to show what could be seen by a trooper. Applying the KOCOAs principles to each viewshed showed the most likely direction the firearm was discharged within the circle of fire.

**The circle of fire was then reduced to a 'field of fire' by dividing the circle along contours across** the slope. Using the remaining KOCOAs principles, the field of fire was assessed to narrow down the direction a trooper decided to shoot. In other words, the field of fire was defined as the area across and downslope from where a target would be visible and provided a maximum observation area. In conjunction with the other KOCOAs principles this established the best line-of-visibility to show the most probable direction in which a trooper discharged his firearm. By determining direction, firearm activities can be identified and behaviours, such as target practice or hunting, suggested. It can also help to identify areas which were not suitable for shooting towards, such as buildings.

### Viewshed analysis

A viewshed uses the elevation of each cell of a digital elevation model (DEM) to divide a site into visible and invisible areas when viewed from given locations, underpinned by the accuracy and precision of the DEM and its metadata (Beck 2016:58). DEMs for the four study sites were derived from datasets retrieved from <https://earthexplorer.usgs.gov/>. Shuttle Radar Topography Mission (SRTM) 1 Arc-Second Global tiles were chosen due to the completeness of data, as well as accuracy and resolution. With a resolution of the data in arc-seconds (1 arc-

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<sup>4</sup> A bullet has an "extreme range" (i.e. the greatest distance a bullet can travel) (Potter 2014:315). A bullet starts falling the moment it leaves the gun's barrel; consequently it will always have a curved trajectory. Shooting a bullet slightly upward instead of horizontally compensates for this drop.



second approximately 30 m), the consensus view is that it has a minimum vertical accuracy of 16 m absolute error at 90% confidence (Root Mean Square Error [RMSE] of 9.73 m) worldwide (Farr et al. 2007).

While there are various types, this thesis used a binary viewshed analysis (Fisher 1996:1297). **Areas within the landscape that are visible from a given viewpoint were assigned a value of '1' as an indication of a positive result, or a value of '0' for a negative result.** All parameters were set via the Viewshed utility function of the ArcToolbox. A notional height of 1.7 m above the surface of the raster DEM was used for the observer, the standard offset for an adult human (Conolly and Lake 2006:232, 296; Wheatley and Gillings 2002:205), and visibility was generated on a 5 km radius from the centre point of the study area.

The impact of efficient weaponry

The introduction of rifling and the Snider artillery carbines in 1870 gave the NMP a more effective method for aimed shooting over greater distances. But how did weapons affect the functionality of the NMP? This question is answered by an equation that was devised to calculate a conservative, ammunition-based approach to quantifying Indigenous colonial deaths based solely on the Snider carbine, which dominated the duties of the NMP between 1870 and 1890. This equation takes into account the quantity of ammunition issued to troopers and the gazetted strength of the NMP, and assumes that troopers were accurate marksmen who hit their target with each bullet discharged.

By multiplying the number of troopers by the amount of ammunition they were issued and the number of years between 1871 and 1890 (n=20), an estimate of the minimum number of Indigenous people killed can be obtained using the equation: Number of cartridges x number of troopers x number of years = Indigenous people killed.

It should be noted that this estimate is highly conservative because it does not consider the years before 1871 or after 1890 during which the NMP operated, and does not take into account deaths caused by 20-gauge pinfire or revolver cartridges.

## Limitations

It is important to acknowledge that archives are shaped by social, political, and economic influences, and that they may reflect a biased view of historical events (Burke and Smith 2004:168; Piggott 2007:88). This is particularly true when it comes to the actions of the NMP and their impact on Indigenous peoples. It is therefore important to consider archival materials carefully and to think about alternative perspectives before relying solely on the information they present.

While every effort has been made to interrogate all relevant historical sources, archival records relating to the NMP are known to be incomplete (Ørsted-Jensen 2011:100–101; Richards 2008:5–6). The routine difficulty in reconstructing the past from the partial documentary record is compounded by the repeated use of anglicised Christian names given to troopers, and individual troopers sometimes being given different names when transferred between camps. Together, these issues complicate reconstructions of the strength of various detachments over time.

A presumption has been made that ammunition-related artefacts recovered from each camp **site do not predate a camp's occupation. Fired cartridges resulting from activity post-camp closure** were identified via their date range and references in primary sources.

Artefacts have also been exposed to taphonomic processes. Slope angle, in conjunction with the size and shape of objects, contributes to sorting; hence, resulting distribution patterns may be misinterpreted as representing patterns of human behaviour. Notably, the ammunition-related artefacts are akin to the formation of gravel deposits—**'gibbers'**—accumulating in depressions across Boulia, Mistake Creek, and to the south of Eyres Creek (Reynolds 1964).

In the archaeological context, flood water or sheet wash on flat sites or gently inclined slopes of <5% may not have moved artefacts significantly horizontally, but may have moved them downward as surrounding sediments have been eroded by wind. At Boulia, Artym (2018:159, 166) concluded that some artefact drift may have occurred, but was less likely in vegetated **areas, and that artefacts closer to the waterhole were "mostly unaffected", as were larger and heavier objects.** Because ammunition is both (relatively) heavy and large, no allowance has

been made for the possible movement of a fired cartridge once it passed from the systemic to archaeological context for those artefacts recovered from the surface of sites (cf. Schiffer 1972:161, 162).

The Boralga site artefacts, however, were from subsurface contexts and taphonomic processes had a very different effect on their state of preservation. Located in the tropics, the Boralga site is prone to annual inundation (Bateman 2020:50). Here, soil acidity and moisture have caused oxidation to such a degree that it rendered all ammunition cartridges unsuitable for forensic analysis. Additionally, the total number of artefacts across the site is unknown, and hence the recovered finds represent an unknown sample of the whole.

The ammunition-related artefacts recovered at Eyres Creek, Belyando, and Boulia were surface finds not subjected to the same levels of soil acidity or corrosion as those at Boralga, and were more amenable to forensic analysis. Additionally, given that all surface finds visible at the time were recovered from these sites, they are likely to represent a greater percentage of the total artefacts originally deposited at these sites.

Lastly, the life cycle of ammunition is unknown. While research has considered the lifecycle of bottles and ceramic vessels, the same cannot be said for ammunition. In the case of cartridge ammunition and the 20-gauge pinfire cartridges, they were intended to be reloaded multiple times (Sargeaunt 1867). While we know the NMP were reloading cartridges as part of camp life, we cannot be sure how many times a cartridge was re-used before it was discarded or how long a cartridge remained in the systemic context after it was manufactured.

## Chapter 5: NMP ammunition

In this chapter the results of the artefact analyses from the study sites are summarised by class, sub-class, calibre, and weapon. In total, 498 ammunition-related artefacts were analysed, of which four complete cartridges, 11 bullets, 20 shotgun projectiles, and 22 cartridge cases have not been discharged. Those that had been discharged included a single bullet and 264 cartridge cases. The primer was either absent, damaged, or corroded in the remaining 176 cartridge cases, hence it could not be determined whether they had been discharged or not.

Of the 498 ammunition-related artefacts recovered, Belyando had the smallest sample (n=10); **notably, the distinctive NMP .442" revolver, .577" Snider, and 20-gauge pinfire** were all present. Boulia presented the second smallest assemblage (n=103) but the second most diverse sample, matched to 11 different types of weapons (four handguns, six rifles, and a shotgun). While Eyres Creek had 116 artefacts, the site offered one of the least diverse selections of weapons, comprising only four handguns, three rifles, and three shotguns. Conversely, Boralga was the longest occupied of all the sites, had the greatest number of finds (n=269), possessed the widest variety of ammunition and the largest range of weapons (n=12). While the finds from Belyando, Boulia and Eyres Creek were remarkably well preserved, the impact of corrosion and oxidation on the finds from Boralga made distinguishing between **cartridge cases for the .577" Snider carbine and the .577-.450" Martini-Henry carbine** impossible in 26 cases (5.2% of the total sample). Nonetheless, positive identification was accomplished in 449 cases (90.2% of recovered finds).

### Ammunition-related artefacts by site

#### Belyando (Mistake Creek)

Ten ammunition-related artefacts were associated with Belyando, including a fired revolver .442 bullet (MIS-040637) (Figure 5.7 [right]). This was the only discharged bullet recovered from any site. Rifle ammunition-related artefacts from Belyando included a longarm .557

unfired Boxer Type 6 bullet (MIS-041564) for a Snider Mk VIII cartridge case (n=1) and a .442 revolver casing (n=1). Shotgun ammunition-related artefacts included a 20-gauge pinfire cartridge head (n=1), loose shot (n=2), a cap (percussion or primer) (n=1), and sections of brass foil (n=2). Despite the low numbers of finds at Belyando (n=10), the characteristic NMP **.442" revolver, .577" Snider, and 20-gauge pinfire** were all present.

#### Boullia (Burke River)

Boullia contained 103 ammunition-related artefacts. Some of these related to handguns, including an unfired bullet (n=1) for a .410" revolver (Figure 5.6), **.442" calibre cartridge cases (n=6), and .450" calibre cartridge cases (n=4)**. Rifle cartridge cases included **.22" rimfire cases (n=5) (Figure 5.11), a .22" magnum unfired cartridge (n=1) (Figure 5.12), .360" No 5 cases (n=2) (Figure 5.13) .442" long case (n=4), a single .577/.450" case for a Martini-Henry weapon (BOU-019498), .577" MkVIII or MkIX Snider casings (n=34), and four unknown rifle casings**. Shotgun cartridge head casings included 12-gauge (n=19), loose shot (n=8), caps (percussion or primers) (n=2), brass foil (n=8), and metal from unidentifiable ammunition (n=3).

The quantity of ammunition from Boullia was marginally below the median, but was the second most diverse, matched to 11 different types of weapons (four handguns, six rifles, and a **shotgun**). **The most common handgun ammunition recovered was for the .442" revolver, while the .577" Snider was the most common longarm**. Although there were six different rifle types, **the two .22" rifles post-date the period of NMP occupation (1878–1885)**. Notably, along with Boralga, Boullia had ammunition for Martini-Henry arms (n=1). Boullia was the only site with no 20-gauge pinfire ammunition.

#### Eyres Creek

The 116 ammunition-related artefacts from Eyres Creek included one revolver **.380" calibre cartridge case (Figure 5.5), five revolver .442" calibre cartridge cases (Figure 5.8), and four revolver .450" calibre cartridge cases (Figure 5.9)**. Rifle cartridge cases included **.22" rimfire cases (n=2) (Figure 5.11), a .44" 40 Winchester case (n=1), a .557" Type 6 unfired bullet (n=1) (EYR-016705) for Snider MkIX cartridges, and .577 casings (n=35)**. Shotgun cartridge head casings included 12-gauge (n=36) (Figure 5.25), 16-gauge (n=7) (Figure 5.26) and 20-gauge

pinfire (n=6) (Figure 5.27). Other ammunition-related artefacts included loose shot (n=1), unknown shotgun fragments (n=6), brass foil fragments (n=7), caps (percussion or primers) (n=1), and metal from unidentifiable ammunition (n=3).

The Eyres Creek site offered one of the least diverse selections of weapons, comprising handguns (n=4), rifles (n=3), and shotguns (n=3). The most common handgun ammunition recovered was for the .442 revolver. Despite the identification of three types of rifles, the **headstamp on the .22" rimfire casings indicate they post-date** the period of NMP occupation (1883–1889), reducing the number of NMP period rifle types to two. The most common longarm ammunition **was evenly spread between .577" Snider and 12-gauge** shotgun cartridge cases (n=36). **Along with Boralga, Eyres Creek is the only other site with 44"-40** ammunition (n=1). Compared to the other sites, Eyres Creek had the greatest number of shotgun types (n=3).

#### Boralga

Boralga was the longest occupied of all the sites and possessed the widest variety of ammunition, the largest range of weapons (n=12), and the greatest quantity overall (n=269). **Ammunition included a .30" rimfire cartridge (n=1) (Figure 5.3), a 9 mm pinfire unfired cartridge (n=1) (Figure 5.4), .442" revolver cartridge cases (n=22) (Figure 5.8), and unknown revolver cartridge cases (n=3). Rifle ammunition included one .380" long cartridge case (Figure 5.14), .442" long (n=5) (Figure 5.15), a .44-40 unfired bullet (n=1) (Figure 5.16), .44-40 cases (n=40), .577/.450" MkIII Martini-Henry cases (n=7) (Figure 5.18), .577" Snider unfired cartridges (BOR-35083, 57772) (n=2) (Figure 5.21), .577" Type 6 bullets (BOR-26086, 26087, 27700, 35082) for MkVIII Snider cartridges (n=5), .557" Type 7 unfired bullets (BOR-006874, 46332) (n=2), .577 cases (n=36), unknown .577" or .577/450" cases (n=26), and unknown rifle cases (n=21).** Shotgun cartridge casings included 12-gauge (n=43) and 20-gauge pinfire (n=17). Other ammunition-related finds included loose shot (n=7), unknown shotgun fragments (n=2), brass foil (n=18), caps (percussion or primers) (n=2), and metal from unidentifiable ammunition (n=7).

The most common handgun was the .442 revolver (n=22), while the **.44"-40 Winchester (n=41) and .577" Snider (n=43) were on a par, and the 12-gauge** shotgun (n=43) was clearly more

common than the 20-gauge pinfire (n=17). This site contained the most Martini-Henry cartridge cases (n=6) and there were 26 additional cartridges which could be for either Snider or Martini-Henry arms, although the ratio between the two suggests they are more likely the former. Also, there was ammunition for two small calibre handguns not seen elsewhere. Boralga had the most unknown rifle ammunition (n=21), but given its apparent size, shape, and location, the **majority of these are probably .44"-40** or similar cartridges. Important finds not captured in the statistical data (Table 5.4) are the three 20-gauge lead shot (Figure 5.28). Boralga was the only site with this size loose shot. The results for the analysis of the ammunition by calibre across the study sites are summarised in Table 5-1.

Table 5-1 The quantities of ammunition identified by calibre from the study sites.

Category	Calibre/Bore	Belyando	Boulia	Eyres Creek	Boralga	Total
Handgun/revolver	.30" rimfire				1	1
	9mm pinfire				1	1
	.380"		1	1	2	4
	.410"		1			1
	.442"	2	6	5	22	35
	.450"		4	4	1	9
	unknown				3	3
Longarm/rifle	.22" rimfire		5	2		7
	.22" magnum		1			1
	.360" No.5		2			2
	.380" long				1	1
	.442" long		4		5	9
	.44-40 Winchester			1	41	42
	.577/.450" Martini Henry		1		6	7
	.577" Snider	2	34	36	43	115
	.577" or .577"/.450"				26	26
	Unknown		4		21	25
Longarm/shotgun	12-gauge	1	19	36	43	99
	16-gauge			7		7
	20-gauge pinfire	1		6	17	24
	Loose shot	1	8	1	7	17
	Unknown			6	2	8
Miscellaneous	Brass foil	2	8	7	18	35
	Percussion or primer caps	1	2	1	2	6
	Unknown		3	3	7	13
<b>Total</b>		<b>10</b>	<b>103</b>	<b>116</b>	<b>269</b>	<b>498</b>

#### Ammunition-related artefacts by class

A total of 289 artefacts across all four sites were for rifled weapons (65.1%), while 155 were for smoothbore arms (35.9%). Ammunition for rifled weapons dominated the assemblages at Boulia (61.2%), Boralga (64.3%), and Belyando (40.0%), while Eyres Creek was dominated by smoothbore weapon artefacts (48.3%) (Table 5.2).



Table 5-2 Quantities of ammunition identified by class from Belyando, Boulia, Eyres Creek, and Boralga NMP camps.

Site	Rifled	Smoothbore	Percussion Cap	Miscellaneous	Unknown	Total
<b>Belyando</b>	4	3	1	2		10
<b>Boulia</b>	63	27	2	8	3	103
<b>Eyres Creek</b>	49	56	1	7	3	116
<b>Boralga</b>	173	69	2	18	7	269
<b>Total</b>	289	155	6	35	13	498

## Rifled and smoothbore ammunition-related artefacts by sub-class

### Rifled ammunition

The overwhelming majority of rifled ammunition-related artefacts at all four sites were for centrefire weapons (n=279; 96.5%). There were nine rimfire cartridges recovered, with eight of these for modern day rifles and thus unrelated to the NMP (see Table 5.1 and Table 5.3). Only one pinfire cartridge for a rifled weapon was retrieved, from Boralga.

Table 5-3 Quantities of rifled ammunition identified by sub-class from Belyando, Boulia, Eyres Creek, and Boralga NMP camps.

Site	Rimfire	Pinfire	Centrefire	Total
<b>Belyando</b>			4	4
<b>Boulia</b>	6		57	63
<b>Eyres Creek</b>	2		47	49
<b>Boralga</b>	1	1	171	173
<b>Total</b>	9	1	279	289

### Smoothbore ammunition

The most common smoothbore ammunition was for centrefire weapons (n= 131, 84.5%). There were no rimfire ammunition artefacts for smoothbore weapons and there were 24 (15.5%) artefacts for pinfire weapons (Table 5.4).

Table 5-4 Quantities of smoothbore ammunition by sub-class from Belyando, Boulia, Eyres Creek and Boralga NMP camps.

Site	Pinfire	Centrefire	Total
Belyando	1	2	3
Boulia		27	27
Eyres Creek	6	50	56
Boralga	17	52	69
<b>Total</b>	<b>24</b>	<b>131</b>	<b>155</b>

## Ammunition-related artefacts by calibre

As indicated by the different calibres, 17 different types of weapons were represented at the four NMP sites, though 49 artefacts could not be matched to a calibre. Identified calibre ammunition can be linked to different types of handguns (n=6), rifles (n=8), and shotguns (n=3). The unidentified calibre ammunition included three from revolvers, 25 from rifles, eight from shotguns, and 13 miscellaneous objects (i.e. brass foil and lead).

### Handguns (revolvers)

The six different types of handgun ammunition included a single .30" rimfire cartridge and nine mm pinfire cartridge, four .380" calibre cartridge cases, a .410" cartridge case, a .442" fired bullet, two .442 unfired bullets, 32 .442" cartridge cases, nine .450" calibre cartridge cases, and three revolver cartridges of unknown calibre (Table 5-4).

The most common handgun ammunition was for the .442" revolver (n=35; 64.8%), with the next most abundant being .450" revolver ammunition (n=9; 16.7%). The headstamps and cartridge construction indicate that all handgun ammunition was contemporaneous with NMP occupation (1863–1894).

### Longarms (rifles)

The eight different types of longarm (rifle) ammunition included seven .22" rimfire cartridge cases, a single .22" rimfire magnum cartridge, two .360" No5 cartridge cases, a .380" long (i.e. longer than a standard handgun case), nine .442" long cartridge cases, one .44"-40 unfired bullet, and 41 .44"-40 cartridge cases. A total of 115 .577" ammunition-related artefacts were recovered, including two complete cartridges, five unfired Type 6 bullets, two unfired Type 7

bullets, and 106 .577" cartridge cases. Seven .577"/.450" cartridge cases were recovered; 26 other cartridge cases could not be distinguished as either a .577" or the .577"/.450" cartridge.

The most common rifle ammunition was for the .577" Snider (n=115; 62.5%). The next most common was for the .44"-40 Winchester (n=42; 22.8%). The headstamps on the vast majority of the .22" and the .22" magnum cartridge cases indicate they were produced post-NMP occupation. The remaining headstamps and cartridge construction were contemporaneous with NMP occupation.

#### Longarms (shotguns)

Analysis of the longarm smoothbore (shotgun) ammunition identified three types by calibre. The smoothbore ammunition included 99 12-gauge metal cartridge heads, seven 16-gauge cartridge heads, 24 20-gauge pinfire cartridge heads, 17 pieces of loose shot, and eight fragments from shotgun cartridge cases of an unknown calibre. The high number of 12-gauge shotgun ammunition artefacts was unexpected, as the only record of shotguns being issued to the NMP is the 20-gauge pinfire. The 12-gauge and 20-gauge shotguns accounted for 76.2% and 18.5%, respectively, of the matched finds at all four sites. Headstamps indicate they were contemporaneous with NMP occupation.

#### Miscellaneous

Miscellaneous artefacts included 35 undiagnostic fragments from brass cartridge cases or foils, six percussion or primer caps (Figure 5.1), and 13 undiagnostic artefacts that are possibly weapons- or ammunition-related.



Figure 5.1 Percussion caps located at Boralga (left: BOR-22634) (image by Tony Pagels)

Other notable outcomes include the quantity of ammunition-related artefacts (projectiles and cartridge cases) that were unfired (i.e. not discharged), including four complete cartridges, 11 bullets, 20 shotgun projectiles, and 22 cartridge cases. Conversely, one bullet and 264 cartridge cases were connected to fired ammunition. For 176 cartridge cases the primer was either absent, damaged, or corroded, hence it is unknown whether they were discharged or not.

## Handgun ammunition by calibre

### **.30" rimfire**

A single unfired 6 mm rimfire cartridge was recovered from Boralga (BOR-021056) (Figure 5.2). The cartridge has slight damage at one point on the neck, as though an attempt was made to separate the bullet from the case, and lacks a headstamp.



Figure 5.2 A 6 mm rimfire cartridge recovered from Boralga (BOR-021056) (image by Tony Pagels).

.9 mm pinfire

A single 9 mm pinfire cartridge was recovered from Boralga (BOR-0277704; Figure 5.3), with a raised headstamp “ELEY” across the middle of the head. The number “9” is normally stamped into the head but is not apparent on the recovered cartridge.



Figure 5.3 A 10 mm pinfire cartridge case recovered from Boralga (BOR-0277704) (image by Tony Pagels).

### **.380” calibre**

Four .380” cartridges were recovered, all lacking a headstamp and fitted with the earlier battery primer design, dating them to pre-c.1885 (Suydam 1979:117) (Figure 5.4).



Figure 5.4 (left) A .380” revolver cartridge in profile recovered from Eyres Creek (EYR-16829); and (right) the head of a .380” cartridge case with battery primer and no headstamp located at Boulia (BOU-20511) (image by Tony Pagels).

### **.410” calibre**

A single .410” calibre bullet that had not been discharged was recovered at Boulia (BOU-21093; Figure 5.5).



Figure 5.5 Unfired .410 bullet for a revolver or rifle located at Boulia (BOU-21093) (image by Tony Pagels).

### **.442” calibre**

Of the 35 .442” ammunition related artefacts there were 33 cartridge cases and one fired and two unfired bullets (Figure 5.6). The headstamp on earlier battery primed cartridges included “ELEY BROS”, dating them to between 1868 and 1874, with later cartridges marked “ELEY LONDON .442” produced between March 1874 and 1919 (Dowell 1987:62; Harding 2006:149, 172) (Figure 5.7).



Figure 5.6 (left) An example of an unfired .442 bullet located at Boralga (BOR035119); (right) a fired (but did not hit anything) .442 bullet recovered from Belyando (MIS-40637) (images by Tony Pagels).



Figure 5.7 (eft) A .442" cartridge case from Boralga, shown in profile (BOR-25293); (centre) an early battery primed .442" cartridge with 'ELEY BROS' headstamp from Eyres Creek (EYR-26828); and (right) a later designed .442" cartridge with 'ELEY LONDON .442' headstamp from Eyres Creek (EYR-016827) (images by Tony Pagels).

### **.450" calibre**

A total of nine .450" ammunition-related artefacts were recovered from Boralga, Eyres Creek, and Boullia. All were MkII cartridge cases with headstamps of either "ELEY LONDON .450" (Figure 5.8) or "ELEY BROS", dating them to between March 1874 and 1919, and 1868 and 1874, respectively.



Figure 5.8 (left) A .450" revolver cartridge recovered from Eyres Creek (EYR-16825); and (right) a .450" revolver cartridge with headstamp 'ELEY LONDON .450', also from Eyres Creek (EYR-16822) (images by Tony Pagels).

Unknown

Three unidentifiable revolver cartridges were recovered, all from Boralga (Figure 5.9).

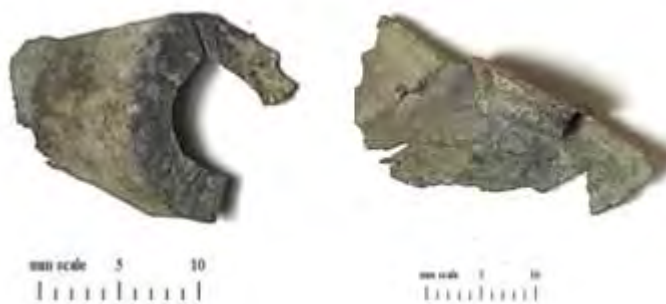


Figure 5.9 (left) An example of part of a revolver cartridge with missing head and insufficient material to identify the calibre from Boralga (BOR-26113); and (right) an unknown calibre split revolver cartridge from Boralga (BOR-1629) (images by Tony Pagels).



## Rifle ammunition by calibre

### **.22" rimfire long rifle**

Seven .22 rimfire cartridges were recovered: five from Boulia and two from Eyres Creek (Figure 5.10). The rimfire cartridge was not invented until 1887 and the dates of manufacture for the three cartridges shown in Figure 5.10 are derived from headstamps. The "H" indicates the Winchester Repeating Arms Company, in operation from 1887 to present. The double triangle is the headstamp of the Poongsan Metal Manufacturing Company of South Korea, first producing ammunition c.1968 to the present day. Finally, "ICI" in a broad arrow is a headstamp of the Imperial Chemical Industries, England, used from 1926 to the present (Poongsan Corporation 2018; White et al.1977:23, 24).



Figure 5.10 (left) An example of .22" cartridge case in profile from Eyres Creek (EYR-16719); (middle left, middle right and right) examples of the headstamps on .22" rifle cartridge cases from Boulia (BOU-26721, BOU-24157 and BOU-23360) (images by Tony Pagels).

### **.22" Winchester magnum**

A single .22" magnum Super X rimfire cartridge was recovered from Boulia (BOU-024153; Figure 5.11). This cartridge was not invented until 1960 and is still in use today.



Figure 5.11 A .22 Winchester Super X Magnum rimfire cartridge recovered from Boulia (BOU-024153) (image by Tony Pagels).

### **.360" No.5**

Two .360" No.5 cartridge cases were recovered from Boulia (BOU-020509 and BOU-021248). Both were compressed at the neck, partially flattening the cartridge (Figure 5.12), and carry the headstamp "ELEY BROS 360 NO. 5", dating them to between 1868 and 1874 (Harding 2006:154).



Figure 5.12 A .360" No 5 centrefire cartridge case recovered from Boulia (BOU-20509) (images by Tony Pagels).

### **.380" long**

One .380" long cartridge case (BOR-32296) was recovered from Boralga. The cartridge was partially flattened from the neck and contained a battery primer, but no headstamp, dating this cartridge to pre-c.1885 (Suydam 1979:117) (Figure 5.13).



Figure 5.13 A .380" long rifle cartridge case recovered from Boralga (BOR-32296) (images by Tony Pagels).

### **.442" long**

A total of nine .442" long cartridges were recovered from Boulia (n=4) and Boralga (n=5). Unlike the .442" short cartridges, there were no headstamps on any of these long casings (Figure 5.14). These cartridges date between 1868 and 1886 (Dowell 1987:62; Temple 1977:106).



Figure 5.14 (left) An example of .442" long in profile from Boralga (BOR-51359); and (right) the base disc without a headstamp on the cartridge cases recovered at Boralga (BOR-20508) (images by Tony Pagels).

.44"-40 Winchester (WCF)

Forty-two .44"-40 ammunition artefacts were recovered. A single unfired bullet (BOR-268043; Figure 5.15) was recovered from Boralga, along with 40 cartridge cases and one cartridge case from Eyres Creek. Their headstamps were of two types—"ELEY WINCHESTER" and "W.R.A.Co. 44 W.C.F" (Figure 5.15)—dating them to between 1885 and 1919, and 1886 and 1928, respectively (Harding 2006:175).



Figure 5.15 (top left) An unfired .44"-40 Winchester bullet from Boralga (BOR-26803); (top centre and right) examples of .44"-40 Winchester cartridge headstamps "ELEY WINCHESTER" (BOR-35034a) and "W.R.A. Co 44 W.C.F." (BOR-25292) from Boralga; and (bottom) an example of a .44"-40 cartridge in profile recovered from Boralga (BOR-35120) (images by Tony Pagels).

.577/.450 Martini-Henry

Seven Martini-Henry MkIII cartridges were recovered: one from Boullia and six from Boralga. The casings are distinguishable from Snider casings because they are longer and the seam in

the brass foil along the neck is visible. Some MkIII casings also have a characteristic sight hole (Figure 5.17 and 5.18).

Twenty-six double base cup cartridge heads were recovered from Boralga, although these did not have sufficient foil or a firing pin impression to determine whether they were for Snider or Martini-Henry casings. Thirty-five brass foil samples were recovered from the four sites, from either Snider or Martini-Henry cartridge cases (Figure 5.16).



**Figure 5.16** An example of brass foil from a cartridge case for a .577" Snider or .577-.450" Martini-Henry weapon from Eyres Creek (EYR-17078) (image by Tony Pagels).

There were no Martini-Henry rifle or carbine bullets recovered, and no headstamps on any of the cartridge heads, although all were government issue MkIII casings. These date from 1878–1886 when drawn brass cartridges were introduced, though rolled brass casings may have been produced by some companies post-1886 (Temple 1977:88, 90).



Figure 5.17 Martini-Henry MkIII cartridge case from Boralga (BOR-35175) with visible seams in the cartridge neck and sight hole (circled in red) (image by Tony Pagels).



Figure 5.18 A Martini-Henry MkIII cartridge from Boralga with the sight hole (circled in red) visible in the outer layer of the foil case (BOR-27701c) (image by Tony Pagels).

### **.577" Snider**

Snider ammunition artefacts were the most common weapons-related item recovered from the four sites (n=115). These included two unfired cartridges (Figure 5.20), 105 cartridge cases, and eight bullets. The cartridge cases lacked their paper covers and therefore it was not possible to distinguish between the MkVIII and MkIX versions. The Type 6 bullets included one from Belyando, one from Eyres Creek, and four from Boralga. Additionally, Type 7 bullets were recovered at Eyres Creek (n=1) and Boralga (n=1). Examples are shown in Figure 5.19.

There were no headstamps on any of the cartridge heads and all cases were double base cup, government issue ammunition. The MkVIII cartridges date from 1869 and the MkIX cartridges from 1871. Drawn brass cartridges were introduced in 1886, with some companies possibly

producing rolled brass after 1886 (Temple 1977:39–50). An example of an unfired cartridge is shown in Figure 5.20 and a discharged cartridge case in Figure 5.21.



Figure 5.19 (left) a Type 6 bullet with four cannelures for Snider MkVIII cartridges from Boralga (BOR-26086); and (right) a type 7 bullet with the three cannelures for Snider MkIX cartridges from Eyres Creek (ERY-16705) (images by Tony Pagels).



Figure 5.20 An unfired Snider cartridge from Boralga (BOR-57772) (image by Tony Pagels).



Figure 5.21 A .577" Snider cartridge with iron head and brass foil case from Eyres Creek (EYR-16844) (image by Tony Pagels).

**.577" Snider or .577/.450" Martini-Henry** cartridges

There are 26 instances where the cartridge case is incomplete or the firing pin impression is not visible owing to corrosion (Figure 5.22).



Figure 5.22 Examples of cartridge heads for either a .577" Snider or .577/.450" Martini-Henry cartridges negatively affected by corrosion at Boralga. Note the absence of a foil cartridge body and the indistinguishable firing pin impression ([Left] BOR-6865. [Right] BOR-32413) (images by Tony Pagels).

Unknown

Twenty-five rifle cartridges remain unidentified: four from Boulia and 21 from Boralga. Figure 5.23 depicts two centrefire primers recovered from Boralga.



Figure 5.23 An example of unidentified primers from Boralga (BOR-24012) (image by Tony Pagels).



## Shotgun ammunition by calibre

### 12-gauge

Ninety-nine 12-gauge cartridge heads were recovered. Their headstamps varied and included “E.B. No 12 LONDON”, “ELEY No. 12 LONDON”, “ELEY LONDON No.12 GASTIGHT”, and “KYNOCH No 12 BIRMINGHAM”. The “E.B.” shotgun cartridges without the reinforced head (Figure 5.24 [Left]) date to between 1866–1869. The “ELEY LONDON GASTIGHT” cartridge (Figure 5.24 [Right]) was produced between 1874 and 1918 (Harding 2006:58, 152).



Figure 5.24 Examples of the headstamps on 12-gauge shotgun cartridges from Eyres Creek ([left] EYR-016786 and [right] EYR-16785) (images by Tony Pagels).

### 16-gauge

Seven 16-gauge cartridge heads were recovered from Eyres Creek, with headstamps reading “ELEY LONDON No.16 GASTIGHT” (Figure 5.25), dating them to between 1874 and 1918 (Harding 2006:58, 152).



Figure 5.25 An example of a 16-gauge shotgun cartridge recovered from Eyres Creek (EYR-056024) (image by Tony Pagels).

### 20-gauge pinfire

Of the 24 20-gauge pinfire cartridge heads recovered, all came from Eyres Creek, Mistake Creek, and Boralga, and contain the "ELEY BROS 20G LONDON" headstamp (see Figure 5.26), dating them to between 11 March 1866 and March 1874 (Harding 2006:152).



Figure 5.26 20-gauge pinfire cartridge from Eyres Creek (EYR-016791) (image by Tony Pagels).

## Round balls 20-gauge

Three examples of 20-gauge round lead shot (BOR-25672, 26721, 35003) were recovered from Boralga (Figure 5.27). One has been lightly impressed by an edged implement, leaving a small indentation, the second has a mould sprue, and the third has a lightly flattened portion consistent with being dropped during manufacture. All appear to be unfired, measure between 15.60–15.80 mm, and weigh between 21.8–22.5 g (336.4–347.2 grains).



Figure 5.27 Three 20-gauge round balls recovered from Boralga (left: BOR-25672; centre: BOR-26721; right: BOR-35003) (images by Tony Pagels).

## Round lead shot

Seventeen samples of lead shot from shotgun cartridges were recovered. The size of the shot ranged from as large as 6.38 mm through to less than 4.5 mm, indicating gauge sizes of #2 (n=1), AAA (n=1), and BBB (n=16) that are generally termed “birdshot” (after Barnes 2016:629–634; Dowell 1987:298–302; Harding 2006:167; Robinson 1997:228; Figure 5.28).



Figure 5.28 An example of #2 size shot recovered from Boralga (BOR-35148) (image by Tony Pagels).

Unknown

A further eight fragments from shotgun cartridge heads could not be assigned to a calibre (Figure 5.29).

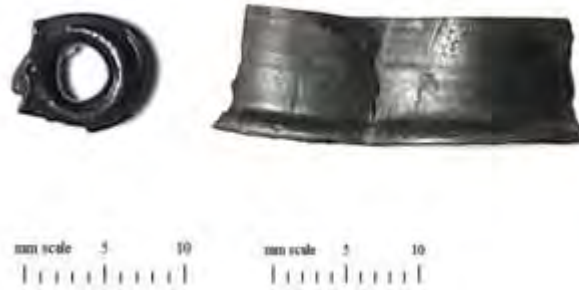


Figure 5.29 A portion of an anvil for a shotgun cartridge (EYR-16750) and a side wall of a shotgun cartridge head from Eyres Creek (EYR-17077) for which the calibre cannot be determined (images by Tony Pagels).

## Miscellaneous artefacts

### Unknown

Thirteen objects were classified as probable weapons- or ammunition-related artefacts but are otherwise unidentified (three from Boulia, three from Eyres Creek, and seven from Boralga) (Figure 5.30).



**Figure 5.30** Two unknown metal items suspected of being firearm-related: (left) a brass flanged ring from Eyres Creek (EYR-16737); and (right) a partially drawn brass cartridge case with measurements similar to a .442" long cartridge, though without provision for a cartridge head, from Boralga (BOR-26099) (images by Tony Pagels).

## Weapons-related artefacts

All weapons-related artefacts were directly derived from a firearm.

### Barrel Band

A single barrel band and sling swivel for Snider artillery carbines manufactured by P. Webley and Son was recovered at Boulia (BOU-26478; Figure 5.31).



Figure 5.31 A forend barrel band and sling swivel from Boulia (BOU-26478) (image by Kylie Macey).

Although the Barcoo River NMP camp was not subject to excavation or surface collection, two lockplates for Snider artillery carbines were recovered from this site by the landowner. One of the lockplates is inscribed 'P.Webley, London and Bir. 1874', with an '↑' and 'QP' above (Figure 5.32), the other is heavily corroded and markings no longer visible.



Figure 5.32 A hammer and lockplate inscribed with "P.Webley, London and Bir. 1874, QP with a vertical arrow above" for a Snider artillery carbine recovered from the Barcoo River NMP camp (BAR-016982). Scale bar is in cm (image by Bryce Barker).

There was only one significant weapons-related artefact recovered from the Belyando site: an external hammer for the left side of a double barrel, percussion-type shotgun. There were no **visible manufacturer's marks or motifs** on the hammer (MIS-41296) (Figure 5.33).



**Figure 5.33 External gun hammer with hatch pattern on the thumb area from Belyando (MIS-41296). There are no visible maker's marks or motifs. The configuration indicates the hammer is for the left side of a double barrel, percussion-type shotgun (image by Kylie Macey).**

## Conclusion

The study sites revealed a range of ammunition-related material displaying the advances in ammunition technology that typified the mid- to late 1800s through to the current day. The earliest cartridges comprised pinfire shotgun heads without reinforcing, cartridges using multiple parts (Boxer and battery primed construction) (1866–1886), and drawn brass cartridges produced post-1885, all of which befit the sequential histories of these sites. Notably, the study revealed the presence of ammunition for four key weapons used by the NMP: the **20-gauge pinfire**; **.442" revolver**; **.577" Snider**; and **.577/.450" Martini-Henry**. While this corroborated the historical narrative, it also provided details that the historical information did not. For example, ammunition associated with weapons not otherwise known to have been issued to the NMP was also identified, including the 12-gauge shotgun cartridge heads and

loose shot. Chapter 6 discusses these results in terms of individual weapons and this existing historical narrative, considers the forensic analysis of firing pin impressions, as well as evaluating each assemblage in the wider landscape via KOCOA spatial analysis.



# Chapter 6: Spatial considerations

Adopting an archaeological approach explicitly geared towards identifying the weapons used by the NMP enables a reconsideration of their role in frontier conflict. In this chapter, the weapons assemblage described in Chapter 5 is reviewed to understand the role of weapons in daily camp life and frontier conflict more broadly.

## Extending the known weapons used by the NMP

Three breech loading weapons dominated NMP activity between 1870–1890:

- the .442" Webley RIC revolver;
- the .577" Snider artillery carbine; and,
- the 20-gauge Westley Richards and Co. pinfire carbine.

Ammunition from these weapons was recovered at all study sites except Boulia. While the **absence of pinfire cartridges may indicate a local trend, it may also reflect how a weapon's design may have influenced the functioning of an NMP detachment.** This study has also identified some irregularities between the archaeological and historical narratives on NMP weapons. In particular, historical records do not explain why there were proportionally higher **numbers of .44"-40 finds at Boralga, why 12-gauge shotgun ammunition appears at all four sites, and why .380" and .450" revolver cartridges were found at three sites.**

Why no 20-gauge pinfire artefacts at Boulia?

It is postulated that the absence of 20-gauge pinfire ammunition at Boulia reflects the distribution of the arm, the **make-up of the detachment, the weapon's functionality, and how local terrain affected tactical deployments for dispersing Indigenous peoples.**

Controversy followed the purchase of the pinfire carbine: it was issued in small (but unknown) numbers, initially there was no ammunition, and less than two years after receiving the arms, a decision was made to sell half the inventory (Clerk-in-Charge Colonial Stores 1869). Despite

this, the double-barrel carbines were favoured by the NMP (Morisset 1861), and archival evidence indicates that at least one or two were issued to each detachment.

The differences between the double- and single-barrel carbines provide an insight into how the weapons may have been used. The single-barrel Sniders were rifled and geared for aimed shooting over long distances; the double-barrel pinfire shotguns were smoothbore and best suited for close-quarter combat. Troopers armed with the latter needed to be closer to their target to be effective, suggesting close-range surprise ambushes were a preferred tactic when using this weapon. In contrast, the Snider allowed troopers to be further away from their target.

Detachments also adopted tactics appropriate to the local terrain. The shotgun was an effective weapon in dense bush, where a close-quarter surprise attack was optimal. Conversely, in open country, weapons capable of aimed, long-distance shooting would have been preferred. Hence, it is possible that no troopers in the Boulia detachment were issued with pinfire carbines because the open country they routinely patrolled had minimal cover. This proposition could be tested archaeologically if NMP conflict sites are found.

### **Why so many .44"-40 Winchester cartridges?**

The .44"-40 Winchester cartridge was produced for the Winchester Model 1873 lever-action repeating rifle, though knowledge about their distribution to the NMP is sketchy. Although Skennerton (1975:33) pointed to the general popularity of this weapon, Robinson (1997:69–70) noted that only a small number were purchased for the Queensland police, all of which he argued were issued only to Inspectors and Sub-Inspectors in limited numbers and all manufactured post-1893. Nonetheless, the presence of .44"-40 ammunition at Eyres Creek **and Boralga suggests that Robinson's date is erroneous. While the presence of a single .44"-40 cartridge at Eyres Creek is ambiguous, Boralga contained significant numbers of such ammunition (n=41). Moreover, their headstamps indicate production dates between 1874–1919 and 1886–1928 (cf. Harding 2006:149). As the Boralga finds derive from NMP-era archaeological contexts, their presence suggests they date to the very end of the site's life until 1894, suggesting the NMP were issued with the Winchester lever-action rifles earlier than previously thought.**

While the Queensland government supplied ammunition to the NMP, they also parsimoniously provided the components for re-loading cartridges. This practice is largely ignored in historical records, leaving archaeological finds as the only source of evidence. The idea that cartridges were being re-loaded at Boralga is cemented by a clustered group of unfired casings without **bullets and a single unfired .44"-40 bullet from the troopers' area. It is also worth noting that, proportionally, more than 50% of fired .44"-40 cartridges were missing their primer (n=13, 31.7%) (Table 7-11), suggesting either that the primer had been accidentally dislodged or that spent cartridge cases were deliberately retained for re-loading. The reloading of the .44"-40 cartridges suggests this practice was potentially undertaken with a range of calibres.**

Who used 12-gauge shotguns?

**Along with the .577" Snider and .442" revolver ammunition, the only other cartridges** located at every site were 12-gauge shotgun cartridge heads and birdshot. Ammunition for 12-gauge shotguns amounted to 19.9% of all finds (Table 6-1). While it is possible that all shotgun ammunition post-dates NMP occupation, it is also possible that these weapons played a more significant role in the life of NMP camps than has been previously considered.

**Table 6-1 Comparing the distribution of .577" Snider and 12-gauge shotgun ammunition across for four study sites.**

Site	.577 Snider	12-gauge shotgun	Other	Total
Belyando	2	1	7	10
Boulia	34	19	50	103
Eyres Creek	36	36	44	116
Boralga	43	43	183	269
<b>Total</b>	<b>115</b>	<b>99</b>	<b>284</b>	<b>498</b>

There has been no archival evidence located by Robinson (1997) or the author for the purchase of 12-gauge shotguns by Queensland government authorities or connecting the use of this weapon to the NMP. However, there are two notable references. In 1878, in reply to the Colonial Secretary, Seymour (1878) listed the gunsmiths and the number and type of arms they possessed. All had double-barrel shotguns in stock, with the greatest range of weapons and ammunition available from B.T. Gartside of Brisbane. Robinson (1997:38) noted that in **October 1885 the Government Resident of Thursday Island returned 'four fowling pieces, 20**

**bore' to the government store, intending they be exchanged for 'two 12-bore breech loading pieces' from 'Gartside and Co'. This suggests that police and Gartside had done business** previously and possibly in relation to 12-gauge shotguns. Although this cannot be corroborated at present, a circumstantial case based on frequency, dating, and archaeological association with the NMP can be mounted to establish a nexus between 12-gauge shotguns and the NMP.

The shotgun cartridge heads indicate that only two manufacturers produced all the finds: Eley Brothers and Kynoch, both of whom have well established dates for their products (Harding 2006, 2009):

- 11 March 1866–1874 (“ELEY BROs” and “E.B.”) (Eyres Creek);
- 1874–1919 (“ELEY No. 12 LONDON” and “ELEY LONDON No.12 GASTIGHT”) (Boulia, Eyres Creek, and Boralga); and,
- early 1860s–1888 (“KYNOCH BIRMINGHAM No 12”) (Boulia, Eyres Creek, and Boralga).

These dates place production within NMP occupation periods for all study sites. Cementing the connection between the NMP and 12-gauge shotguns is the presence of ammunition for this weapon at all four sites—only replicated by two other weapons known definitively to have been **issued to the NMP: the .577” Snider and .442” revolver. Significantly, as previously discussed,** Boralga clearly connects the 12-gauge shotgun to activities of the NMP because finds were associated with NMP-era structures via archaeology. The question now becomes why did the NMP possess and use 12-gauge shotguns?

One plausible explanation is that camp life included hunting of game to supplement **government rations. The three extant camp keepers' journals reveal that troopers left the camp** to hunt every few weeks, amounting to a total of 58 days over three years (Queensland State Archives ID86146 1880, 1881, 1882). Though it is unknown what troopers were hunting, how successful they were, or what weapons they used, it is probable that hunting involved both firearms and traditional methods. It is also conceivable that the camp keeper was required to ensure adequate provisions for the detachment and other residents if rations were insufficient or otherwise unavailable. Camps were strategically located adjacent to permanent waterholes,

which would attract an abundance of wildlife and the 12-gauge shotgun loaded with 'birdshot' was the ideal weapon for hunting small animals and birds.

Archaeologically, the Boralga and Boulia NMP camps included both introduced and native faunal remains (Artym 2019:142; Bateman 2020:239). At Boralga 29% of the assemblage was macropod (kangaroo and wallaby), followed by possum, rat, snake, birds, fish, and freshwater mussel, with 50% of these taxa recovered from the troopers' area (Bateman 2020:223–238). The officers' area contained equal quantities of cow, kangaroo/wallaby, and birds (n=15). This suggests that both troopers and officers were supplementing their official rations, though troopers moreso. The Boulia faunal assemblage (1177.35 g) included mussels, emu eggs, various birds, reptiles, marsupials, and dingo, with all finds deriving from areas argued on the basis of oral history and archaeological evidence to have been occupied by troopers (Artym 2019:144–148). No non-European fauna was recovered from the areas associated with officers.

**Why were .380" and .450" revolver cartridges found at three sites?**

**The presence of .380" and .450" cartridges at Belyando, Eyres Creek, and Boulia suggests** that: (a) officers purchased their own revolvers; (b) the arms represent earlier model weapons that transitioned to the centrefire-era; or (c) they are non-NMP related finds.

By 1870 the government had committed to purchasing a single type of revolver with a ready supply of ammunition, meaning that officers did not have to purchase their own, an oftentimes unaffordable financial burden (e.g., Charters 1862). Although the P. Webley & Son catalogue of 1877 listed the price of a .450" revolver at 36/- (£1/16s), correspondence shows that the Queensland government paid 42/6 (£2/2s/6d) for a .442" revolver (Sargeant 1867a, 1867b) and, in 1873, offered Adams revolvers at £3 each (Office of the Crown Agents for the Colonies 1873). Based on relative income in 2020, Hutchinson and PloECKI (2021) calculated the price of a revolver at \$2132. In the 1870s a Sub-Inspector 2nd Class received an annual income of £180 (equivalent to \$21,560 in real wage terms) (Hutchinson and PloECKI 2021; Queensland State Archives 1879). Thus, purchasing a revolver would have been a substantial investment in an environment where the government could supply revolvers and ammunition and repair or replace weapons when needed.

**Before the introduction of the centrefire .442" revolver in the 1870s, officers relied on** percussion or converted percussion revolvers. Government stores issued percussion handguns such as the Colt Navy, Tranter, and Adams arms, all of which could be converted to **centrefire ammunition; two popular conversions were the .380" and .450" calibres (Barnes 2016:453; Dowell 1987:238, 252).** It is plausible that NMP officers possessed converted .380" and .450" calibre revolvers before the availability of the new .442" revolvers. Retaining a superseded revolver would mean officers would have needed to independently source ammunition. The paucity of finds from the four camps is consistent with the minimal or short-term use of an older weapon, though determining who discharged it is unclear. It is entirely **possible that the .380" and .450" ammunition were civilian, especially as the placement of camps on thoroughfares made them hubs for travellers. Camp keepers' journals also** demonstrate that cleanliness was a priority and as a consequence civilian and NMP debris could have been intermixed.

Aside from the nine weapons identified through historical records, it now appears that a least one, possibly two, additional weapons can be added to the list of arms issued to the NMP: the .44-40 Winchester repeating rifle and the 12-gauge shotgun. Both weapons are tied to NMP-structures at Boralga, meaning either camp residents or visitors used them during the period of NMP occupation of the site; circumstantially, the former seems more probable. The presence **of the .380" and .450" at all four sites supports the argument that NMP personnel had privately** purchased, or were issued with, Colt converted revolvers before the introduction of the standard issue .442 Webley RIC. Accepting these propositions means that 77.5% (n=386) of ammunition can be directly connected to the NMP, with 13% (n=65) finds unidentifiable, and 9.5% (n=45) resulting from either NMP or civilian activity.

The following section looks at the battlescape of each NMP camp through the KOCOIA model to explore patterns of behaviour at an intra- or detachment level. Attention is then given to following the movement of individual troopers by examining the firing pin impressions of discharged Snider cartridges to distinguish particular weapons. These data are then combined with the KOCOIA spatial analysis to view the battlescape as the trooper did. Finally, a coarse-grained analysis is adopted to elucidate trends observed across the study sites to provide insights into frontier conflict.

## Determining battlescape patterns using KOCOA

The battlescape is particularly relevant to understanding how both known terrain features (i.e. gullies and creeks) and unknown ones (i.e. buildings) in and around NMP camps could affect and contribute to the use of firearms within these spaces.

### Boralga

Although surface distribution patterns were not evident at Boralga, geophysical assessment cemented the location of buildings, while the archaeology defined officer, utility, and trooper areas, making its configuration the most complete and well understood of the study sites (Figure 6.1).

Knowing the position of structures allowed an estimation of a camp boundary of approximately 120 x 120 m (1440 m<sup>2</sup>; see Figure 6.2). A viewshed overlay revealed areas of visibility around the camp, but represents the battlescape devoid of vegetation. It is not possible to assess how much land was cleared when the NMP occupied the site, but it is suggested that there would have been less vegetation in the late 1800s than today, owing to the effects of clearing and occupation: a sequence of historic photographs of the Boralga site supports this proposition. Hence, the visible areas shown in Figures 6.2 and 6.3 are the maximum fields of vision without any cover. Overlaying a circle of fire, or the effective defensive range of the Snider carbine (200 m buffer), **visualises the weapon's effectiveness within this battlescape (Figure 6.3).**

No historical sources suggest palisades or other defensive structures at any NMP sites. Nonetheless, water provides a natural defensive barrier by impeding manoeuvres (Roscoe 2011:62). The most notable feature of Boralga is its position—adjacent to a river bend and a billabong, both of which could act as defensive barriers, at least when full. Placing the camp on high ground with a 360° view meant that the most accessible route to the camp was on the eastern flank (Figure 6.3). This made it well-positioned to defend, as well as protecting it from flooding, although water may have been less of a barrier for Indigenous people than Europeans. Indigenous people customarily swam and fled into rivers and billabongs to avoid pursuit, often to their detriment when the NMP were armed with carbines.

Historical documents suggest that Sub-Inspector O'Connor encouraged competitive shooting between his troopers (*Townsville Daily Bulletin* 1937:12), and as explored earlier, hunting was occurring, raising the question of where these activities were undertaken. In the absence of clustered ammunition casings left in situ, viewshed mapping shows areas and corridors of visibility where hunting and competitions could have occurred. Two such areas exist between **the troopers' area and the billabong; a third area is possible across the billabong and a fourth in a cleared area west of the officers' quarters (Figure 6.4).** Other areas suitable for hunting are in the vicinity of the billabong or along the Laura River (Figures 6.4).



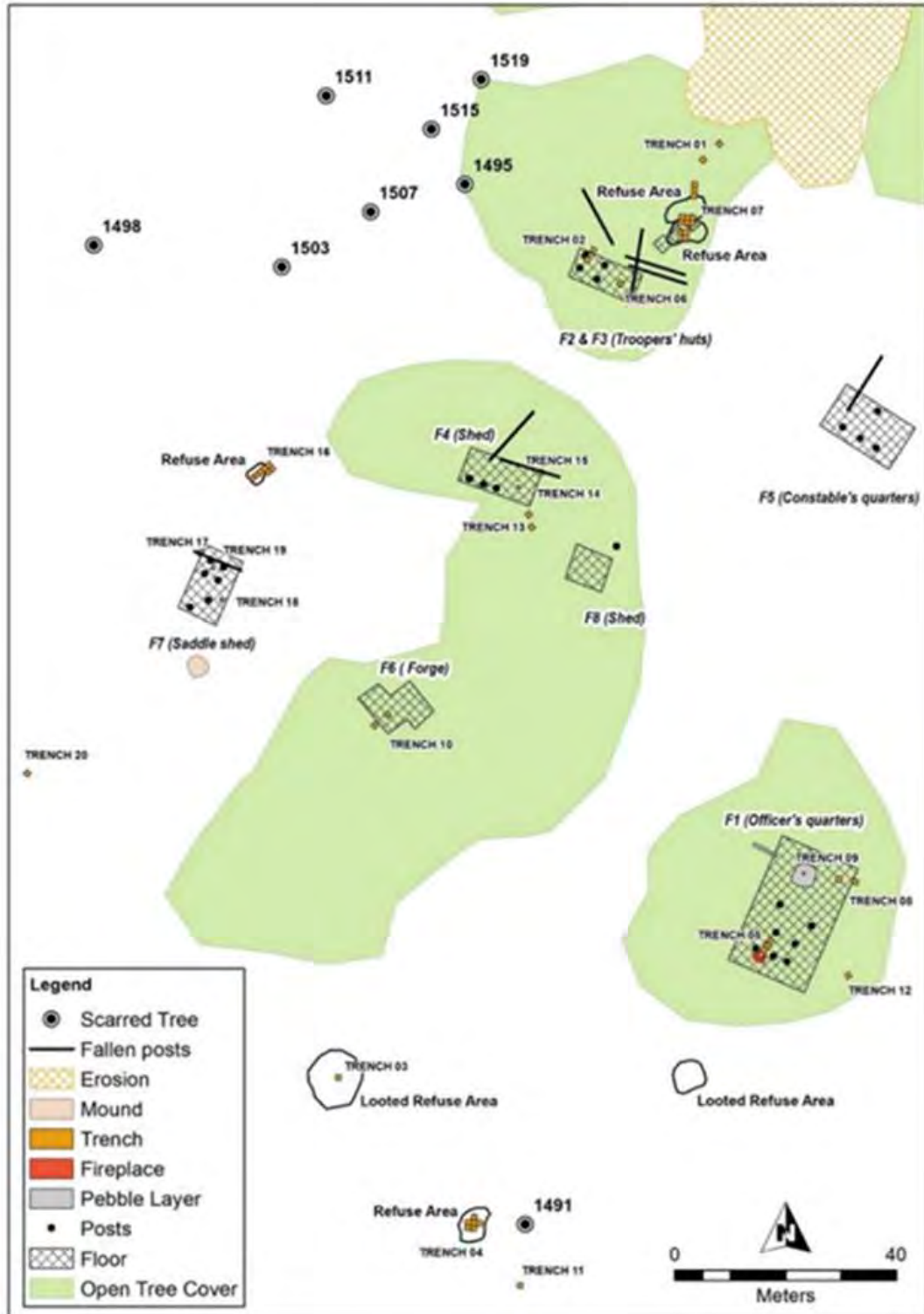


Figure 6.1 Boralga site plan showing the location of the buildings and ant bed floors (map from Bateman 2020:49).

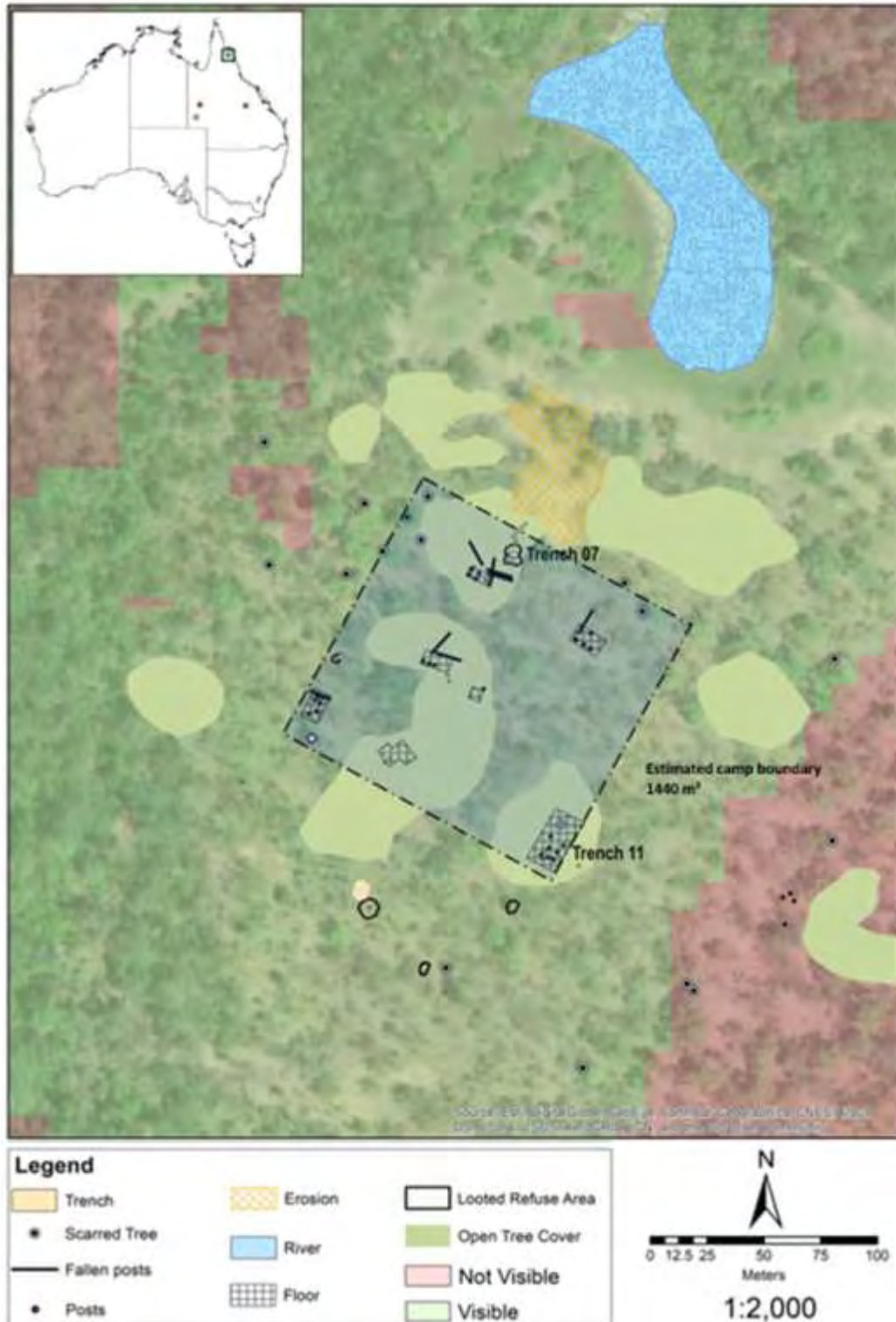


Figure 6.2 The Boralga battlescape. A georectified aerial image and viewshed layer are positioned over the site plan (map by Wayne Beck, modified by Tony Pagels).

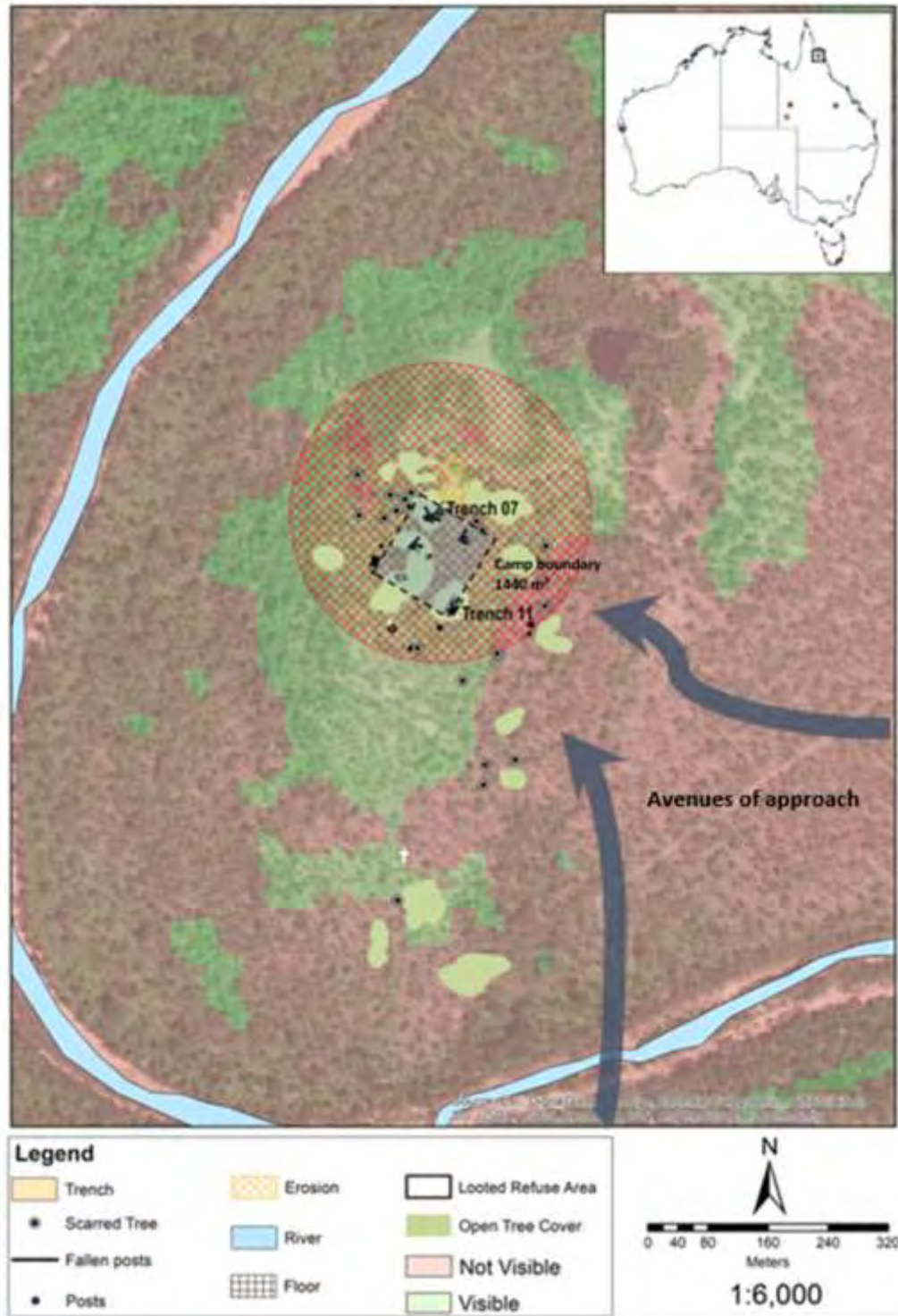


Figure 6.3 Map of Boralga displaying 200 m circle of fire, or the effective defensive range of the Snider carbine, visualising the weapon's effectiveness within the battlescape (map by Wayne Beck, modified by Tony Pagels).

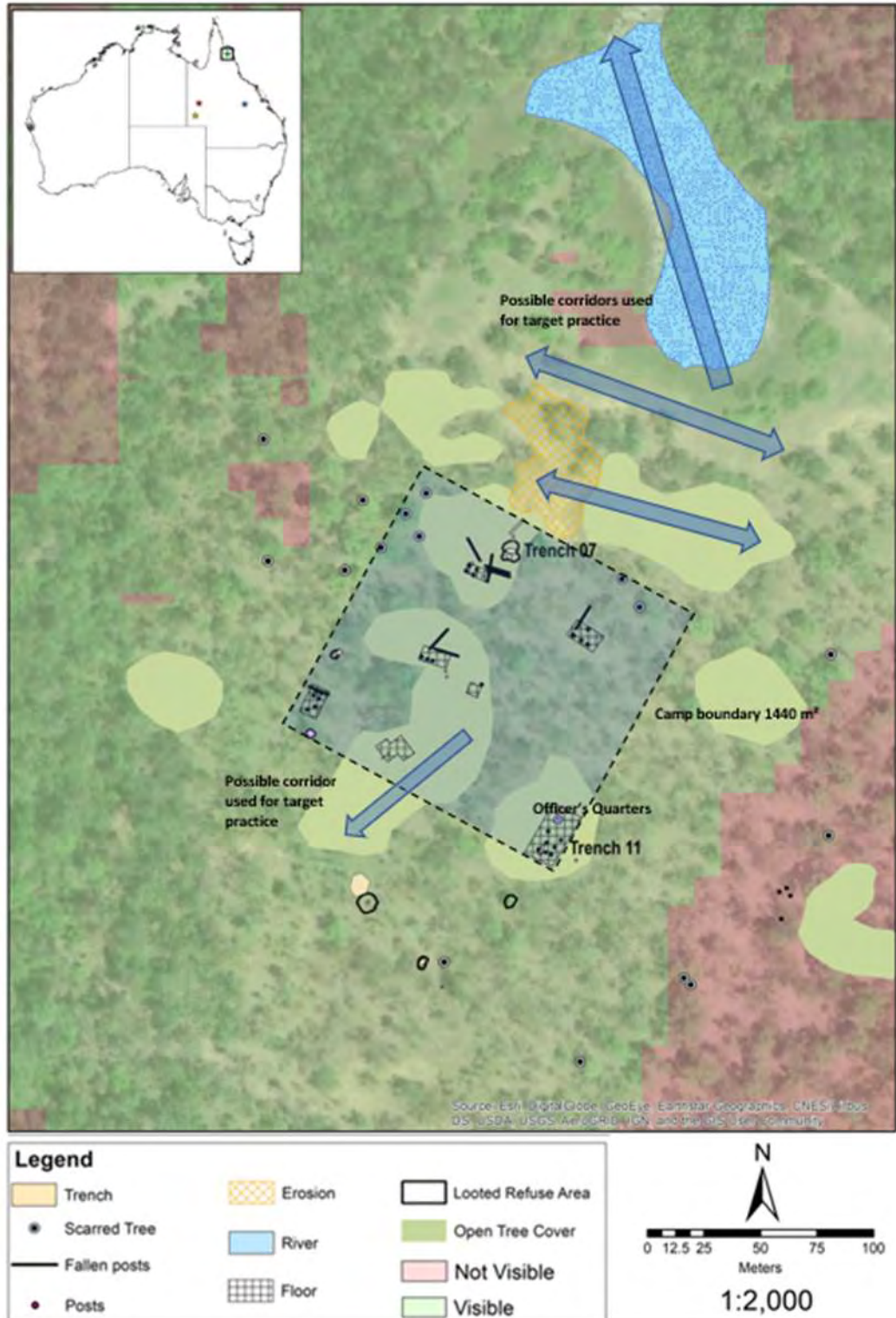


Figure 6.4 Boralga with suitable areas for target practice (i.e. corridors of clear ground) (map by Wayne Beck, modified by Tony Pagels).

## Belyando

The Belyando site was occupied for 13 years, but the surviving footprint and scant ammunition finds make drawing conclusions about local patterns of behaviour challenging. The only exception is the discharged .442" bullet in the vicinity of an Indigenous hearth (Figure 6.5). A circle of fire with a radius of 118 m gives a maximum distance a revolver could have been discharged for this bullet to land here (Figure 6.6). Although the precise camp layout is unknown, given its staffing and the archaeological footprint it was slightly smaller than Boralga. Considering that historical and archaeological information places buildings adjacent to and along the creek (see Figure 3.1), the revolver could have been fired anywhere on an almost 250° arc stretching from GSA01 to GSA02. Interpreting the battlescape to identify where the revolver was fired is subjective. For instance, the vegetation between the bullet and GSA01 could suggest this was a likely position if an officer was taking aim from a position of cover and concealment. Conversely, open ground from the northeast to the west could mean a revolver was fired anywhere on this arc. A viewshed overlay (Figure 6.7) suggests that it was unlikely for the revolver to have been fired from about half the area occupied by buildings, because this space was hidden from the hearth and otherwise placed the shooter near the hearth. Hence, the most unobstructed and likely position was somewhere in the open country to the west or north.

The viewshed overlay highlighting the gullies and hidden spaces shows how vulnerable this site would have been to attack. Flowing creeks impede movement, but when dry can conceal **invaders, as shown in Figure 6.7. Placing the officer's quarters closest to these wooded banks** and gullies meant they were at risk of a surprise assault. The absence of a permanent waterhole or watercourse also meant the site was less secure than other camps. This may be one factor, along with the availability of water and proximity to an Indigenous stone arrangement, behind the camp occupants experiencing strong harassment by local people (*Brisbane Courier* 1866:6; Murray 1864b, 1864c; *Rockhampton Bulletin and Central Queensland Advertiser* 1864:1).

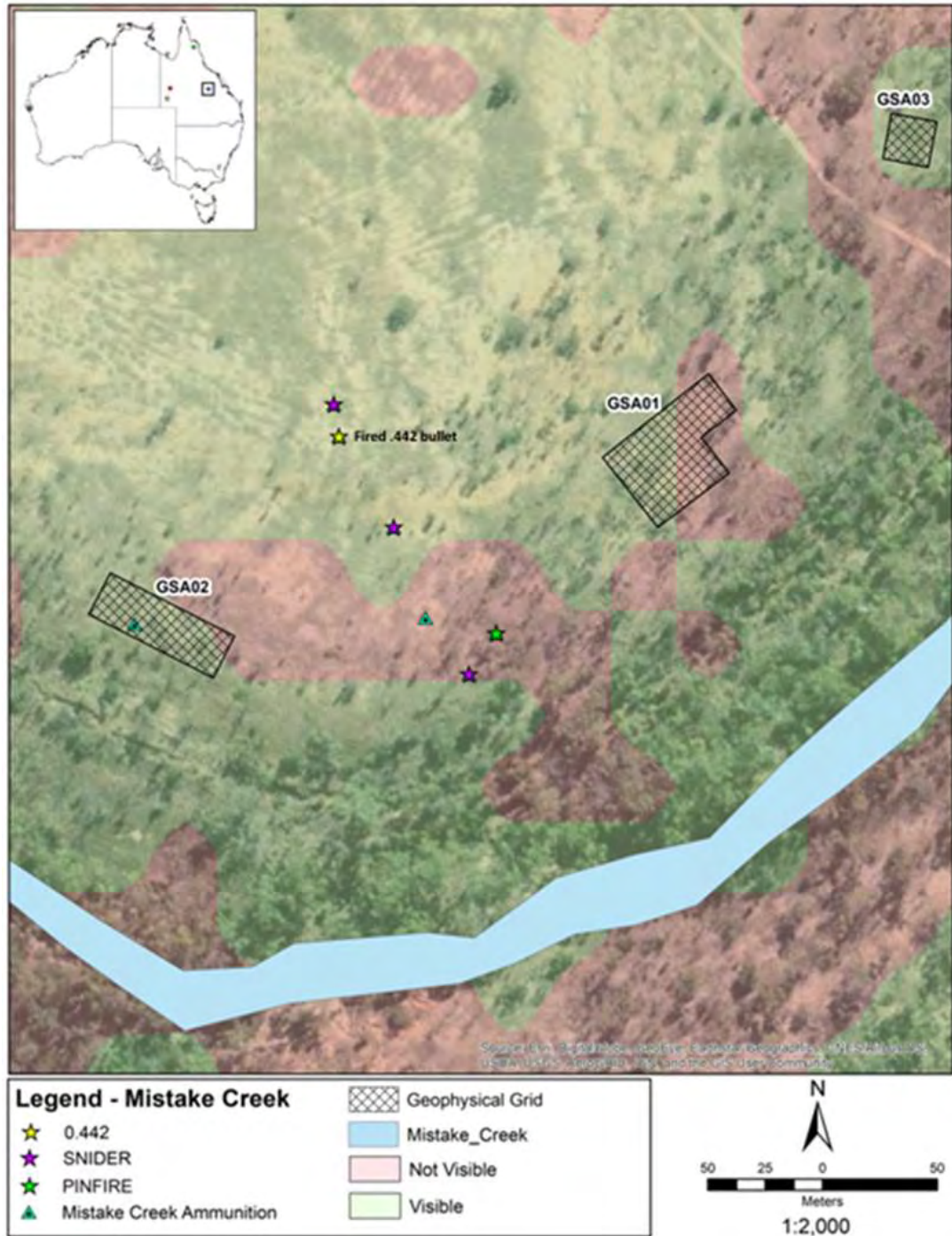


Figure 6.5 Locating a fired .442" bullet within the Belyando battlescape (map by Wayne Beck).

Compounding the defensibility of Belyando was the percussion weapons issued to the NMP pre-1870. These were slow to re-load, which increased opportunities for attackers to advance. Not surprisingly, by the early 1870s, coinciding with the introduction of the faster loading and more accurate Snider carbines, reports of hostilities at Belyando had ceased.

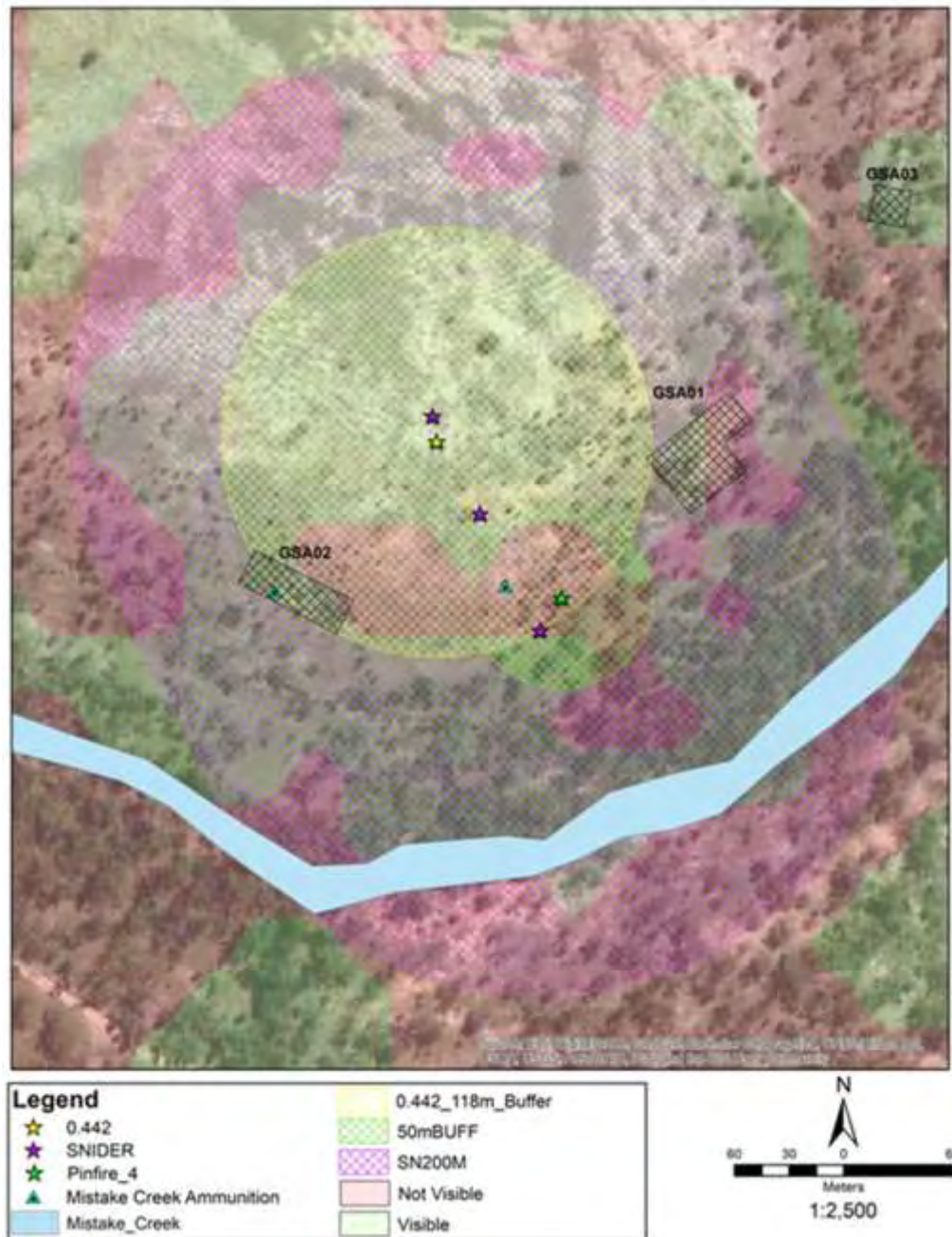


Figure 6.6 The Belyando battlescape with 118 m circle of fire overlay (map by Wayne Beck).

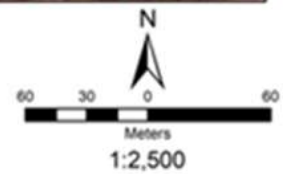
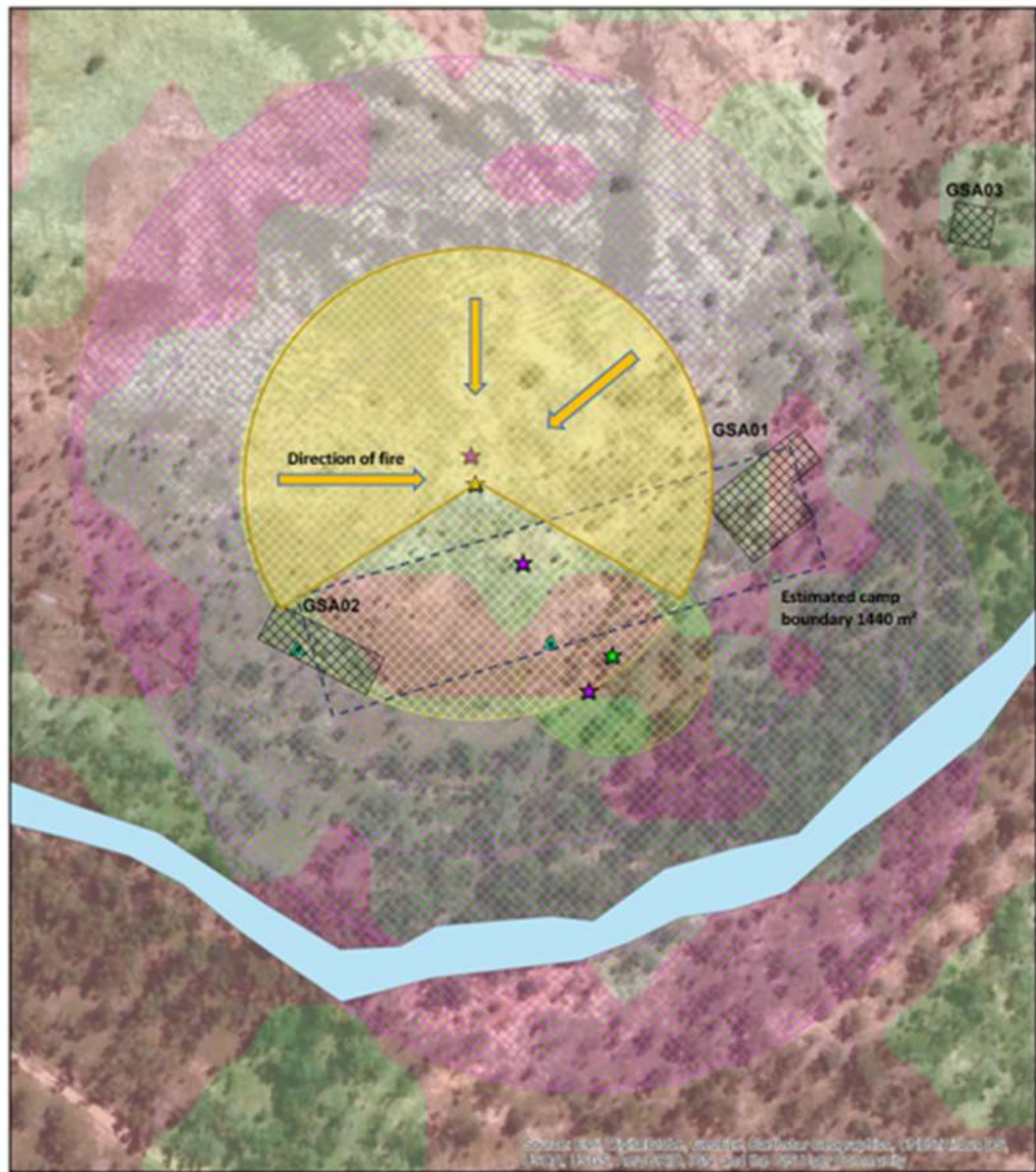


Figure 6.7 The Belyando battlescape with the possible directions of fire, estimated camp boundary, and viewshed overlays (map by Wayne Beck and modified by Tony Pagels).



Boulia (Burke River)

Physical and geophysical survey enabled the mapping of extant and potential structures at the Boulia camp (Figure 6.8). Again, a maximum size of 1440 m<sup>2</sup> has been assumed for this camp. The site layout is unknown, but the extant stone buildings suggest it was rectangular.

A noticeable feature of the Boulia camp is its landscape position on a low plateau, above and away from the adjacent vegetated gully and waterhole. This represents a sound defensive strategy, although it could also have been for flood mitigation reasons. The camp would have been highly conspicuous, and the surrounding open ground would have made an unannounced approach impossible, despite the hidden ground to the northwest.

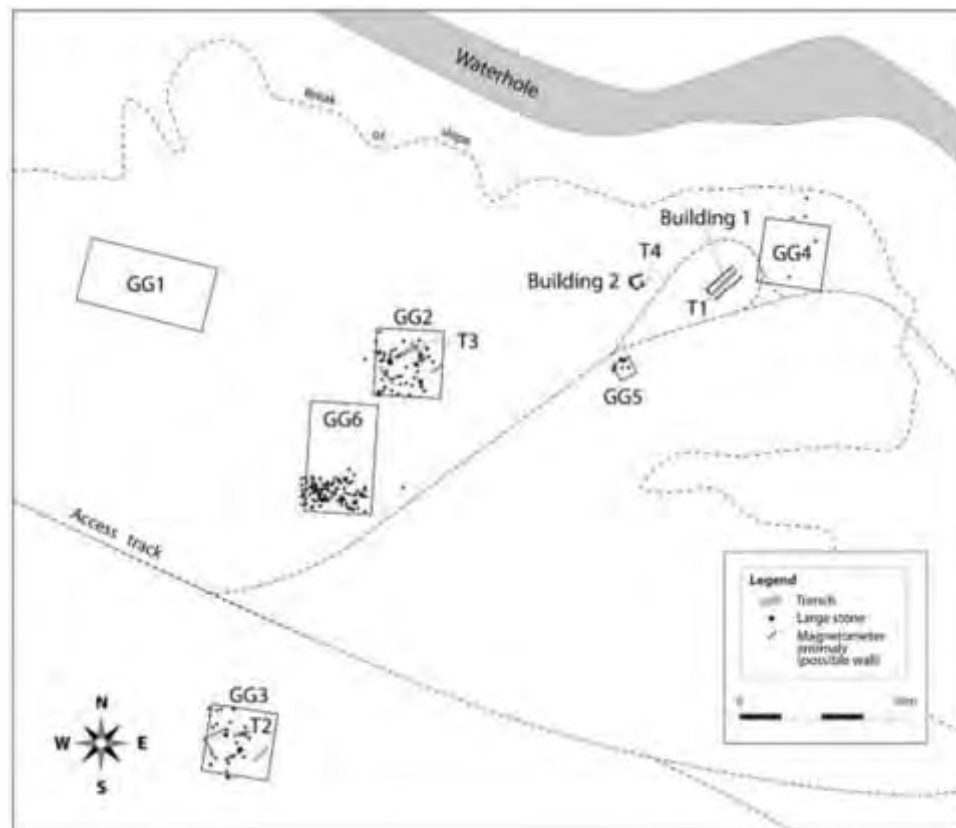


Figure 6.8 Boulia site plan depicting the location of geophysical grids and excavation trenches (from Artym 2018:61, drawn by Heather Burke).

Five Snider cartridges were located to the northeast between the camp boundary and the waterhole. There was a noticeable concentration of spent cartridges in grids GG2 and GG6 near the centre of the site, which are associated with a clustering of large stones. To the northeast of building 1 there were five Snider casings about 40 m apart and two .442" revolver casings. An isolated cluster of spent Snider cartridge cases was recorded at the southern limits of the site, connected to the GG3 anomaly and another cluster of large stones (Figure 6.9).

For the five Snider cartridges in the northeast, the KOCO analysis indicates that the direction of fire was away from the camp toward the waterhole (Figure 6.10). The paucity of Snider finds in this area compared to elsewhere suggests that it attracted little trooper attention, while the two revolver cartridges suggest the area had some connection with the officers; a substantial distance (~40–80 m) separates these two types of ammunition (Figure 6.10). This is not unexpected, as the Snider was intended for long-range, aimed shooting. These data suggest limited use of the Snider for the aimed shooting of game in the waterhole.

Aimed shooting appears to have been preferred on the plateau, where it was confined to the west and south of the camp (Figure 6.10). The clusters associated with GG2 and GG6 contain the greatest concentration (n=14, 41.2%) of Snider finds. A loose clustering of four Snider cartridges in GG2 is linked to GG6 by what appear to be nine randomly spaced cartridges. A tighter grouping of ten cartridges is present in GG6 (Figures 6.16). This artefact distribution indicates this was a favoured spot to discharge Snider carbines, most likely to the west and southeast (Figure 6.10). The loose shell distribution is more indicative of hunting than target practice, where tight clustering would be expected. It is unknown if the cluster of cartridges at GG6 contained multiple cartridges from different weapons but, as they appear to be within the stone building, it is possible they result from aimed shooting or were collected for re-loading.

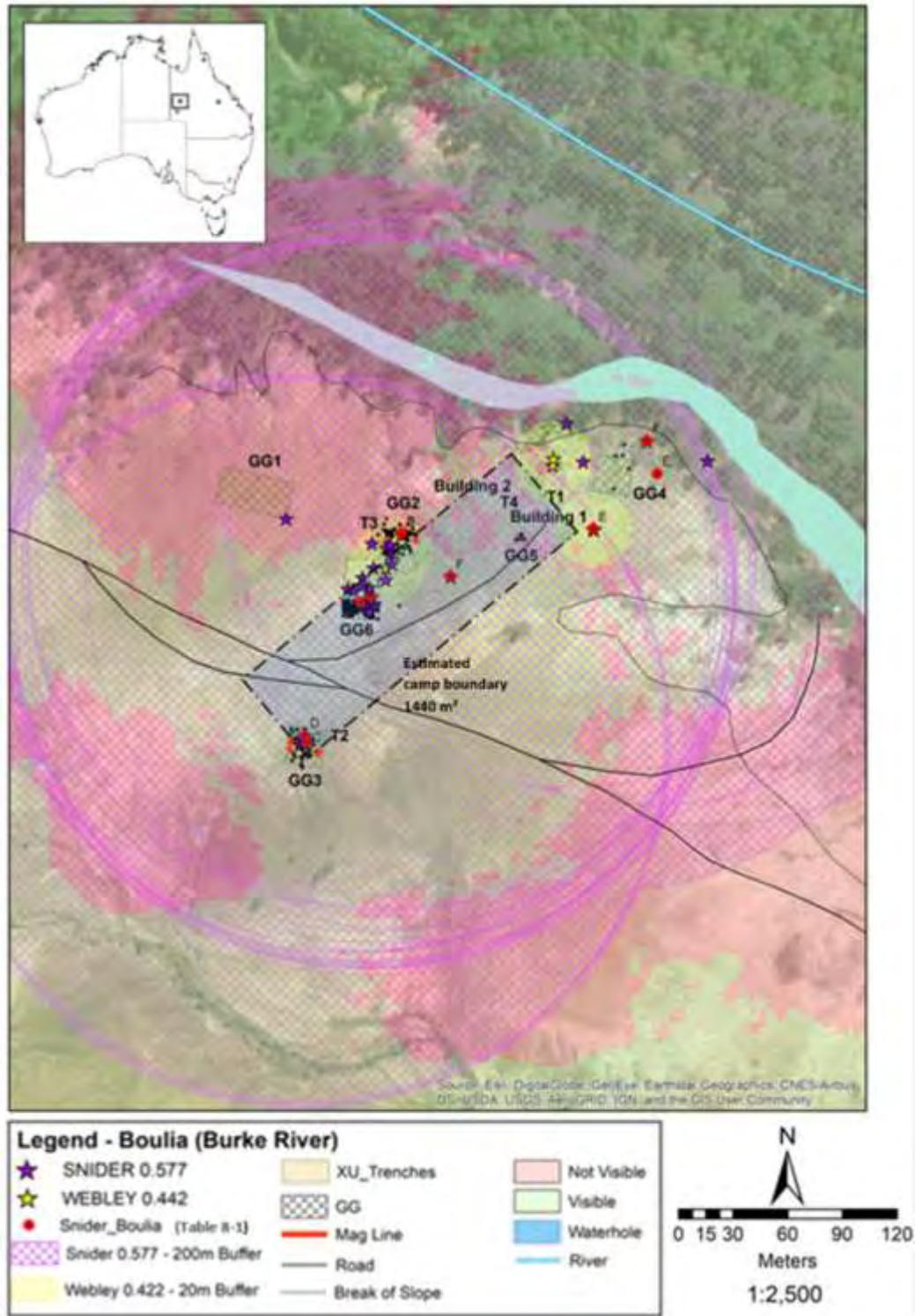


Figure 6.9 Map of Boulia showing the location of discharged Snider and .442" revolver cartridges combined with geophysical and georectified aerial images, circles of fire and viewed overlays added to Burke's site plan (map by Wayne Beck, modified by Tony Pagels).

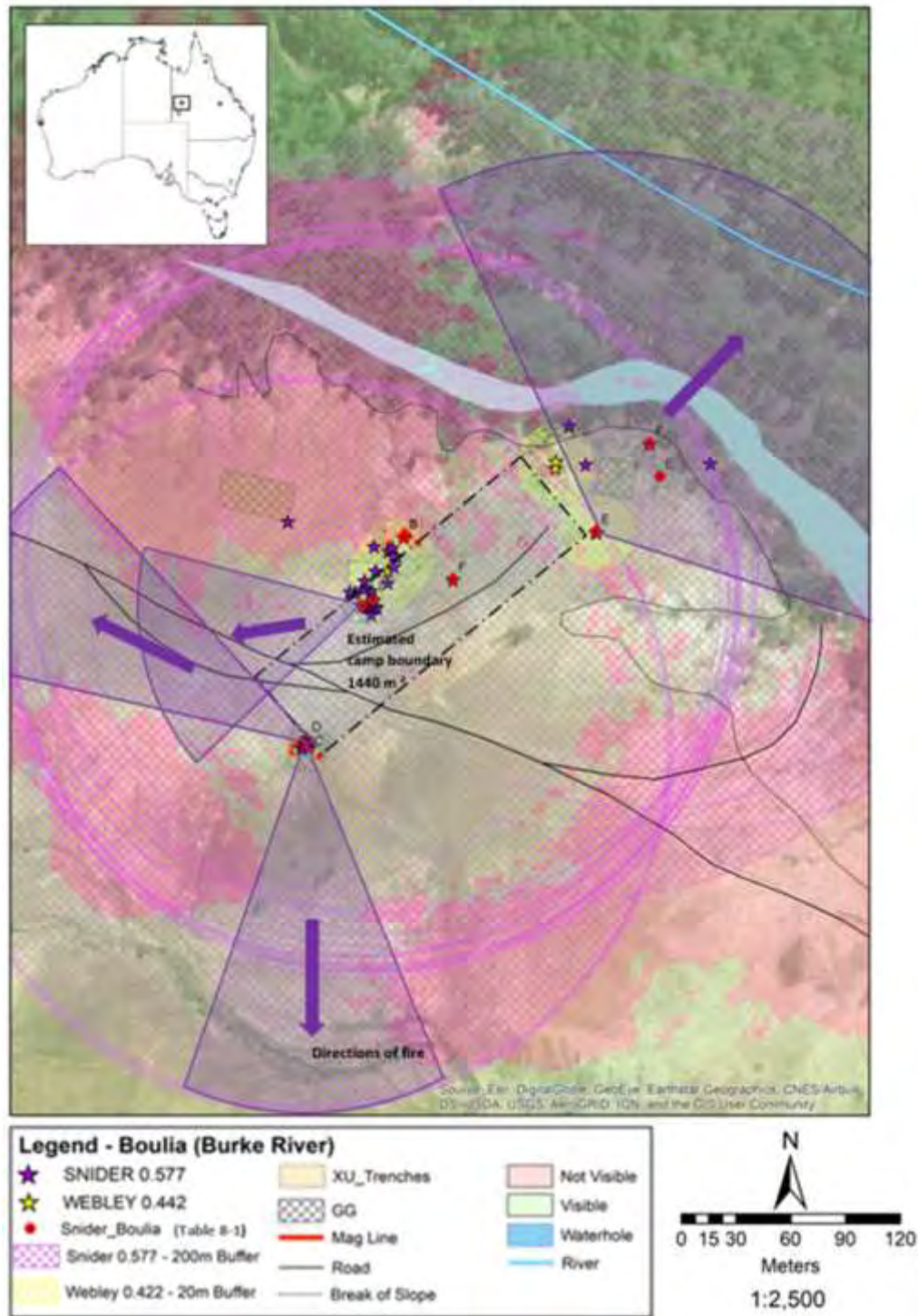


Figure 6.10 The circles of fire at Boulia are reduced to fields of fire by delineating visible areas, such as the view overlooking the waterhole or the corridors to the west and south. These corridors offer the least unobstructed view over the battlescape and are the most likely directions a weapon was fired (map by Wayne Beck, modified by Tony Pagels).

Conversely, GG3 has a tight grouping of five Snider cartridges within a ~4 m radius and within an almost square subsurface anomaly, and thus may represent a hunting or target practice cluster, although the collection of cartridges for re-use cannot be discounted. The combination of large stones and discharged cartridges indicates a structure connected to the NMP, despite its distance from other buildings.

### Eyres Creek

The Eyres Creek camp lacks the historical or geophysical detail of the other camps, though a rectangular arrangement of posts anchors the plan on the edge of ground that falls relatively steeply away to the east (Figure 6.11). A separation between officers and troopers would suggest Sharpe's (1883) and Britton's (1889) accounts of camp buildings would place officers' quarters on high ground at one end of the camp overlooking the troopers' thatched huts in a lower position; these posts may be all that remain of the officer's quarters. It is also possible that they post-date the camp, although the spatial arrangement of the discharged cartridges suggests a connection between this structure and the NMP.

The ammunition cartridges appear in two distinct areas, one associated with the posts, and a second south of the camp (Figure 6.11). Moreover, 72.3% (n=34) of the Snider, .442" revolver, and 20-gauge pinfire cartridges are east of a north-south axis parallel to the posts (Figure 6.11). This strongly indicates the location of the camp's eastern extent and suggests that there was a preference for shooting from positions of high ground towards the creek, which would have provided an abundance of game (Figure 6.11).

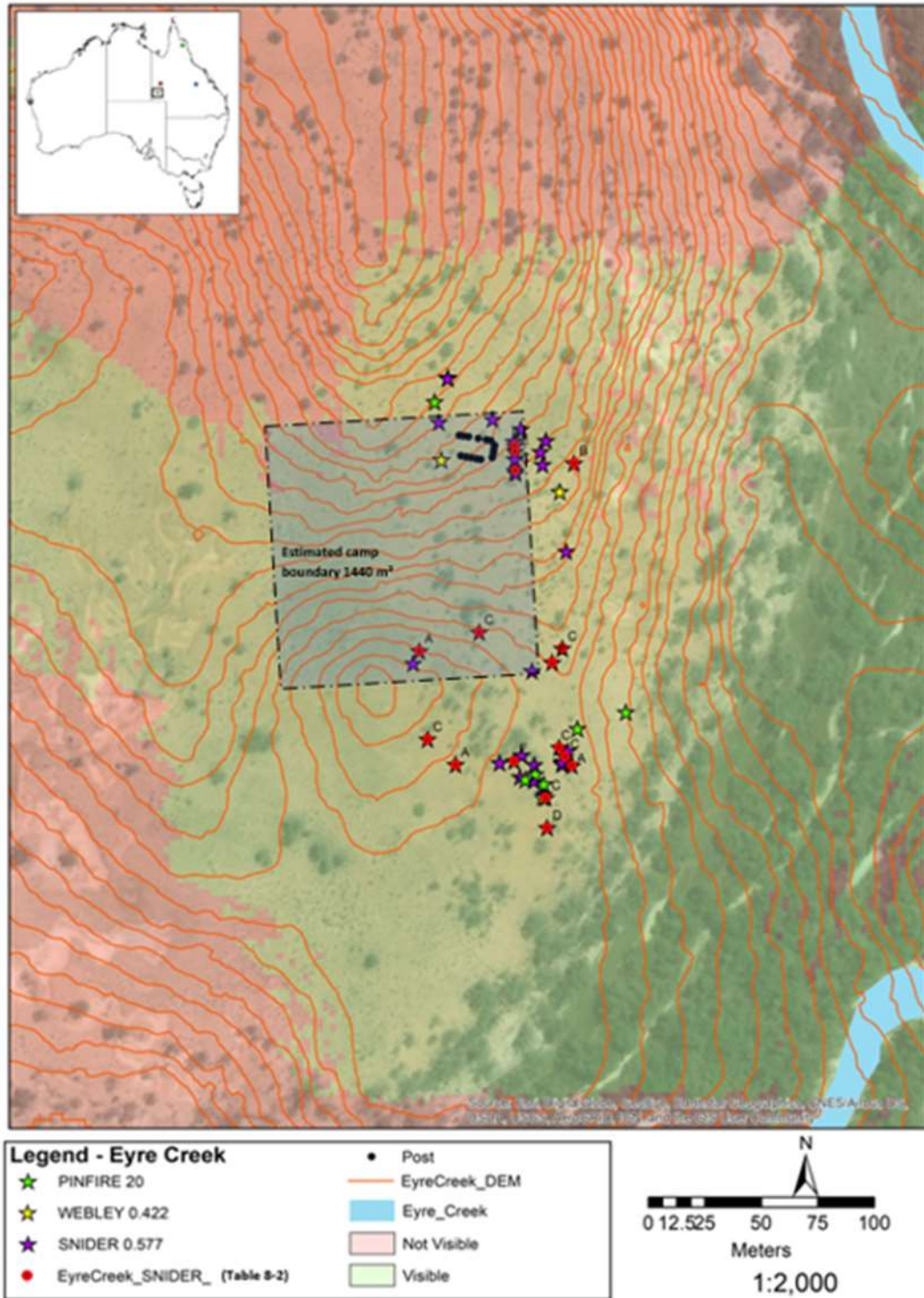


Figure 6.11 Eyres Creek battlescape, showing ammunition artefacts for Snider, 20-gauge pinfire, and .442” revolver cartridges plotted on a georectified aerial image with topographic, estimated camp area, and viewshed overlays (map by Wayne Beck).

A circle of fire overlay (Figure 6.13) shows the effective range of weapons at Eyres Creek, and Figure 6.14 the fields of fire. There are clear lines of sight suitable for aimed shooting, but there is no tight clustering of spent cases to hint at target practice per se; instead, sporadic hunting is indicated. A prominent corridor of clear ground to the west is also the most direct route to the site (Figure 6.13). The scarcity of Snider cartridges with a field of fire in this corridor suggests that it was rarely used for aimed shooting. The lower southwest region of the site is the most appropriate space for shooting as it is less undulating compared to the eastern portion of the site (Figure 6.13).

The direction of fire is not limited to the Snider carbines but equally applies to the 20-gauge pinfire and revolvers. This suggests that the two identified areas offered the best positions to take advantage of the terrain. Amongst the data there is one irregularity: a discharged revolver west of the posts. Although pointing south, shooting in this direction would possibly endanger and interfere with camp buildings, whereas the actual direction the revolver was fired would be toward clear ground across the slope to the west or east.

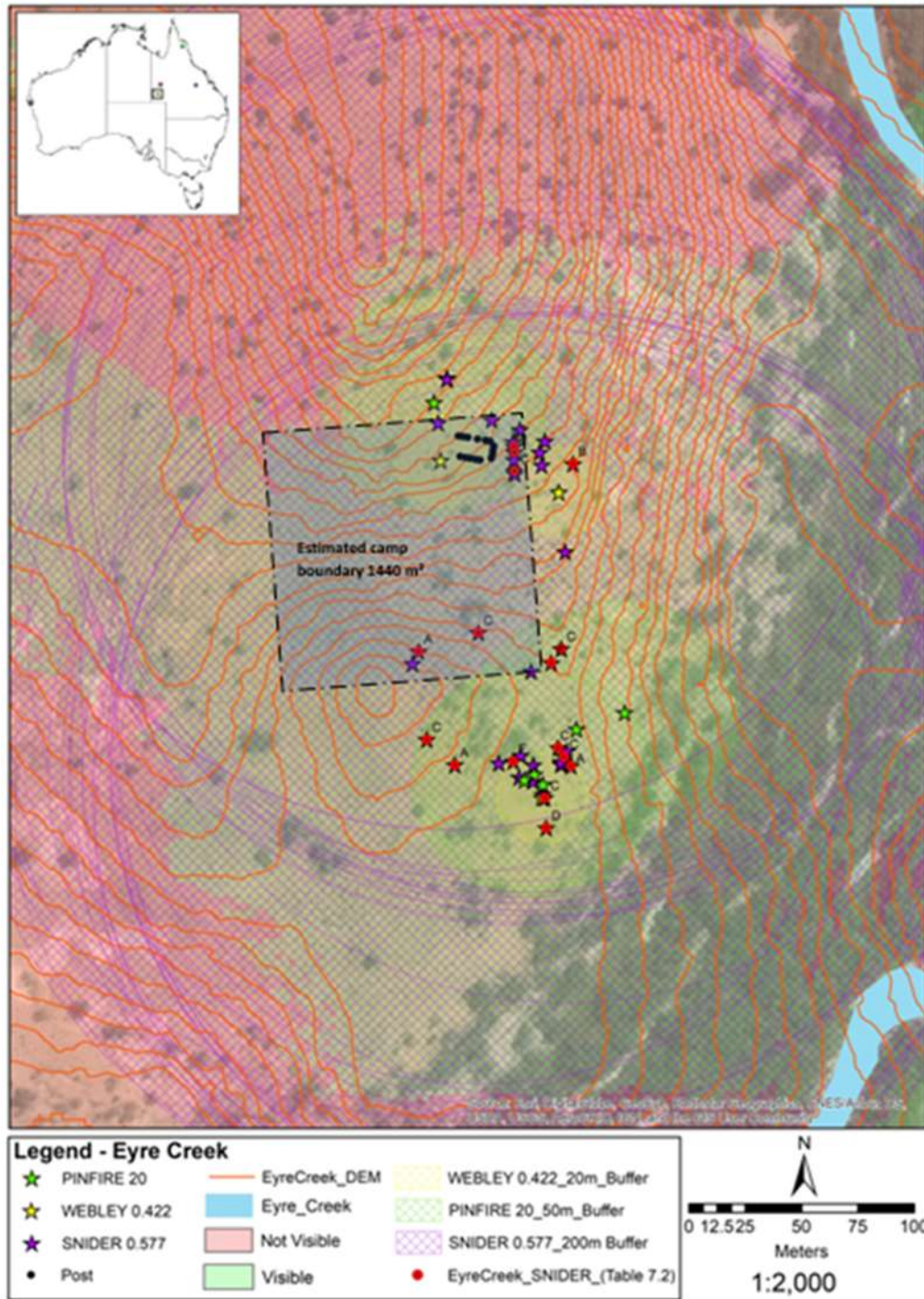


Figure 6.12 Eyres Creek battlescape with circles of fire layer added to show the effective range of a discharged Snider, 20-gauge pinfire, and .442" revolver (map by Wayne Beck).



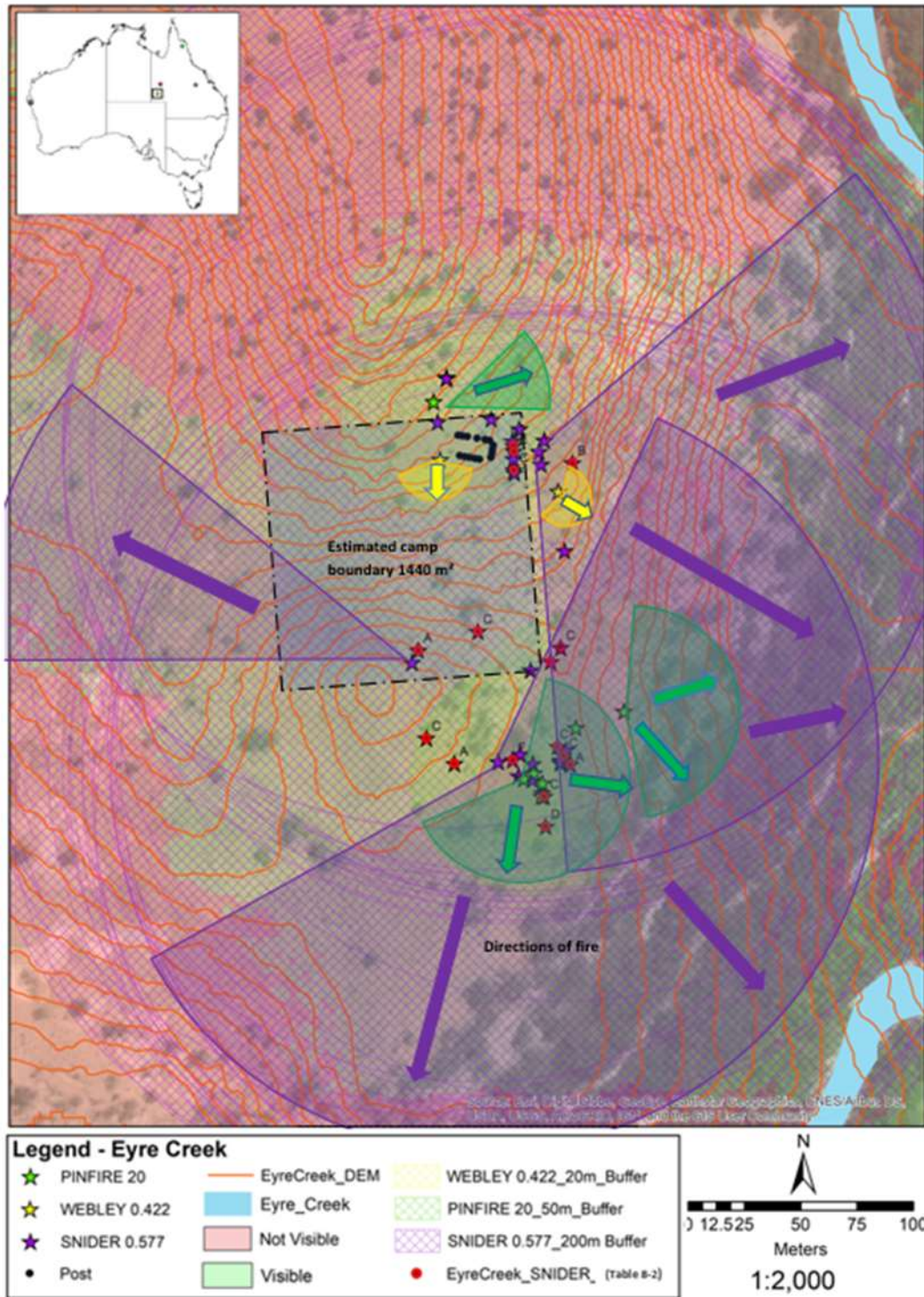


Figure 6.13 Fields of fire and the directions of fire at Eyres Creek (map by Wayne Beck and modified by Tony Pagels).

Individual patterns: Firing pin impressions

Forensic analysis of the firing pin impressions on discharged Snider cartridges was possible for comparison in 41% of the finds from Boulia (n=14) and 47% from Eyres Creek (n=17).

*Boulia*

Nine different weapons were identified from 14 discharged Snider cartridges, with three Sniders responsible for discharging more than one shot (Table 6-2, Figure 6.14). While 58.8% of Sniders cartridges were unsuitable for analysis, the nine Snider weapons represent a significant (~90%) number of the troopers gazetted to Boulia (see Table 3-7), with Sniders A, E, and F discharging two cartridges, and Snider G, three.

**Table 6-2 Snider weapons identified by firing pin impressions from the Boulia NMP camp.**

<b>Weapon</b>	<b>Artefact</b>	<b>Number</b>
Snider A	BOU 49201 & 2921	2
Snider B	BOU 26581	1
Snider C	BOU 26584	1
Snider D	BOU 26585	1
Snider E	BOU 20512 & 25499	2
Snider F	BOU 24155 & 24156	2
Snider G	BOU 29238, 29239 & 33687	3
Snider H	BOU 31601	1
Snider I	BOU31602	1
<b>Unsuitable for comparison</b>		<b>20</b>
<b>Total</b>		<b>34</b>

While two Sniders, E and F, were connected to the waterhole, the paucity of Snider cartridges in this vicinity reinforces the notion that aimed shooting was rarely linked to the waterhole (Figure 6.15). Here, a more appropriate weapon would be a shotgun loaded with birdshot. The spacing between Snider cartridges, as well as the three unknown casings, suggest hunting was the activity: Snider E engaged in this activity at least twice and Snider F once. The Snider F cartridge in the middle of the site stands alone. The camp plan is unknown, and, while the clusters of large stones suggest remnant buildings, the clear area around Snider F could mean it was safe to fire toward the southeast. Applying the KOCOA principles in this scenario cannot nominate a safe direction of fire; it is therefore likely the cartridge was dropped rather than discharged.

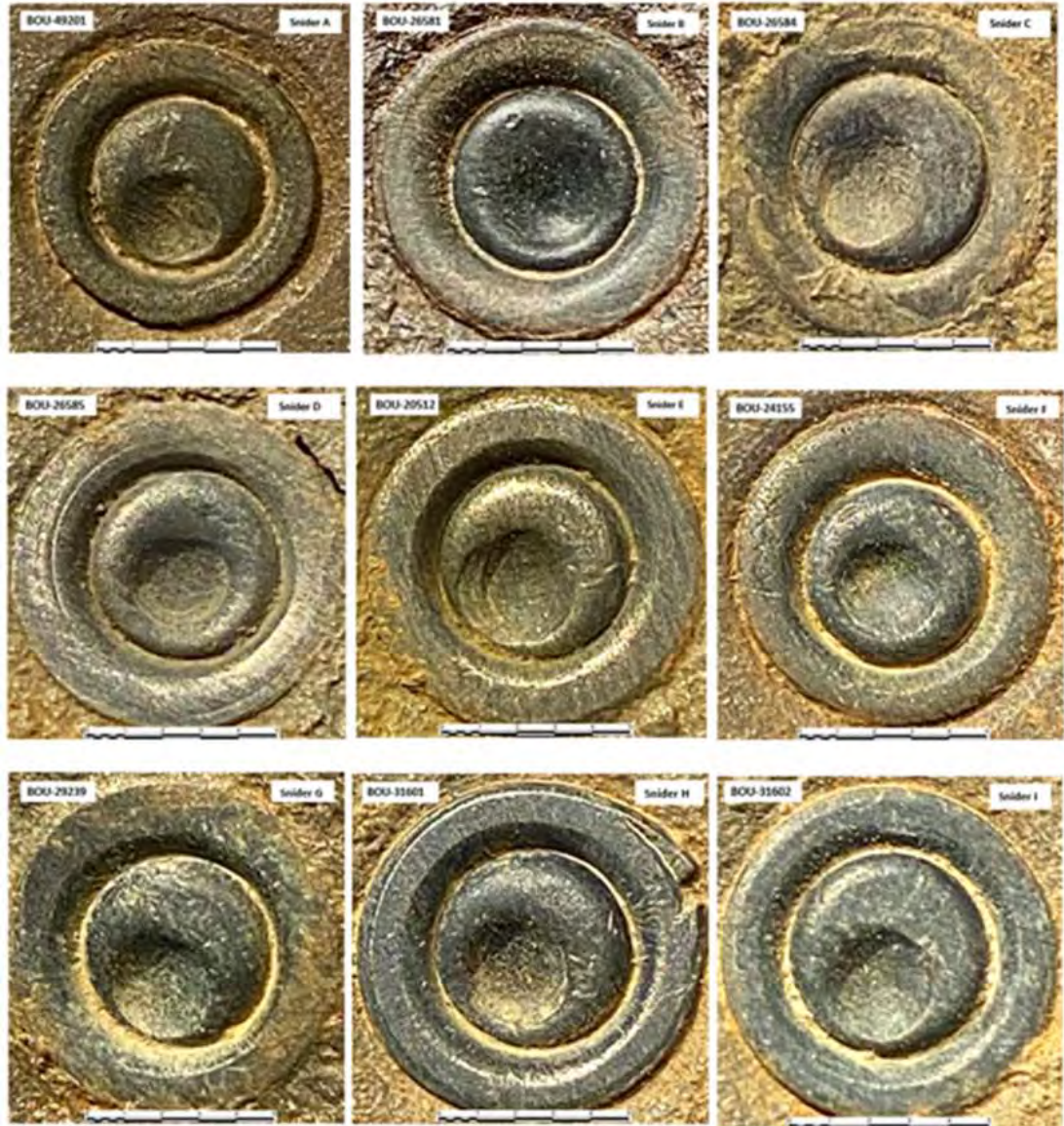


Figure 6.14 Examples of firing pin impressions from the nine Snider, A to I, recovered from Bouliia. The scale bar is in mm (images by Tony Pagels).

The ammunition between grids GG2 and GG6 is spaced more than 3.5m apart (Figure 6.16). Sniders responsible for discharging a single shot were identified in the vicinity of GG2 (Snider B) and clustering connected to GG6 (Sniders G and I). GG3 also had two Sniders identified, each responsible for discharging a single shot, making it impossible at this time to identify the movement of an individual.

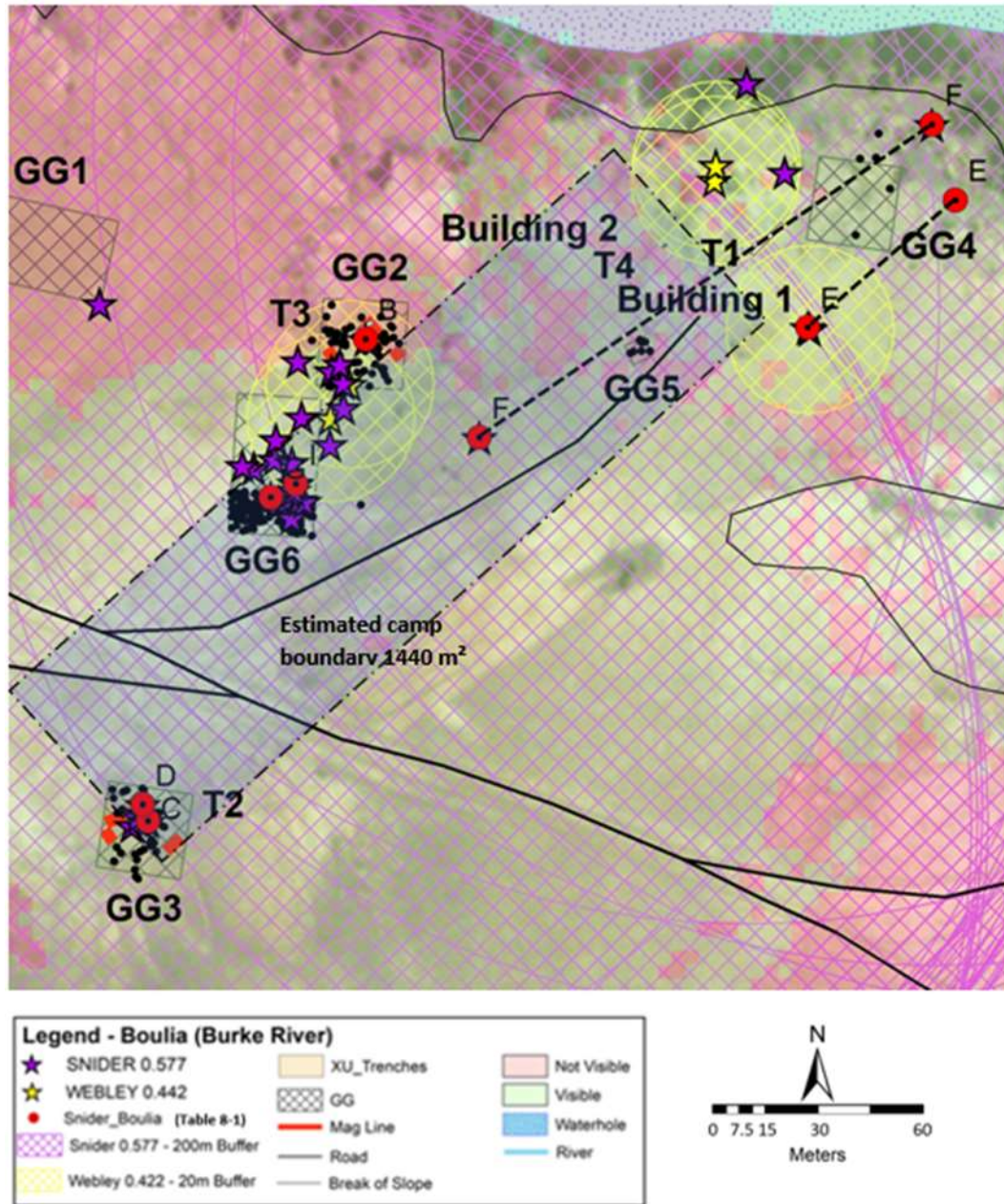


Figure 6.15 Extract from Figure 6.9 showing Sniders with known firing pin impressions to distinguish behaviour by individual troopers at Boulia (map by Wayne Beck, modified by Tony Pagels).

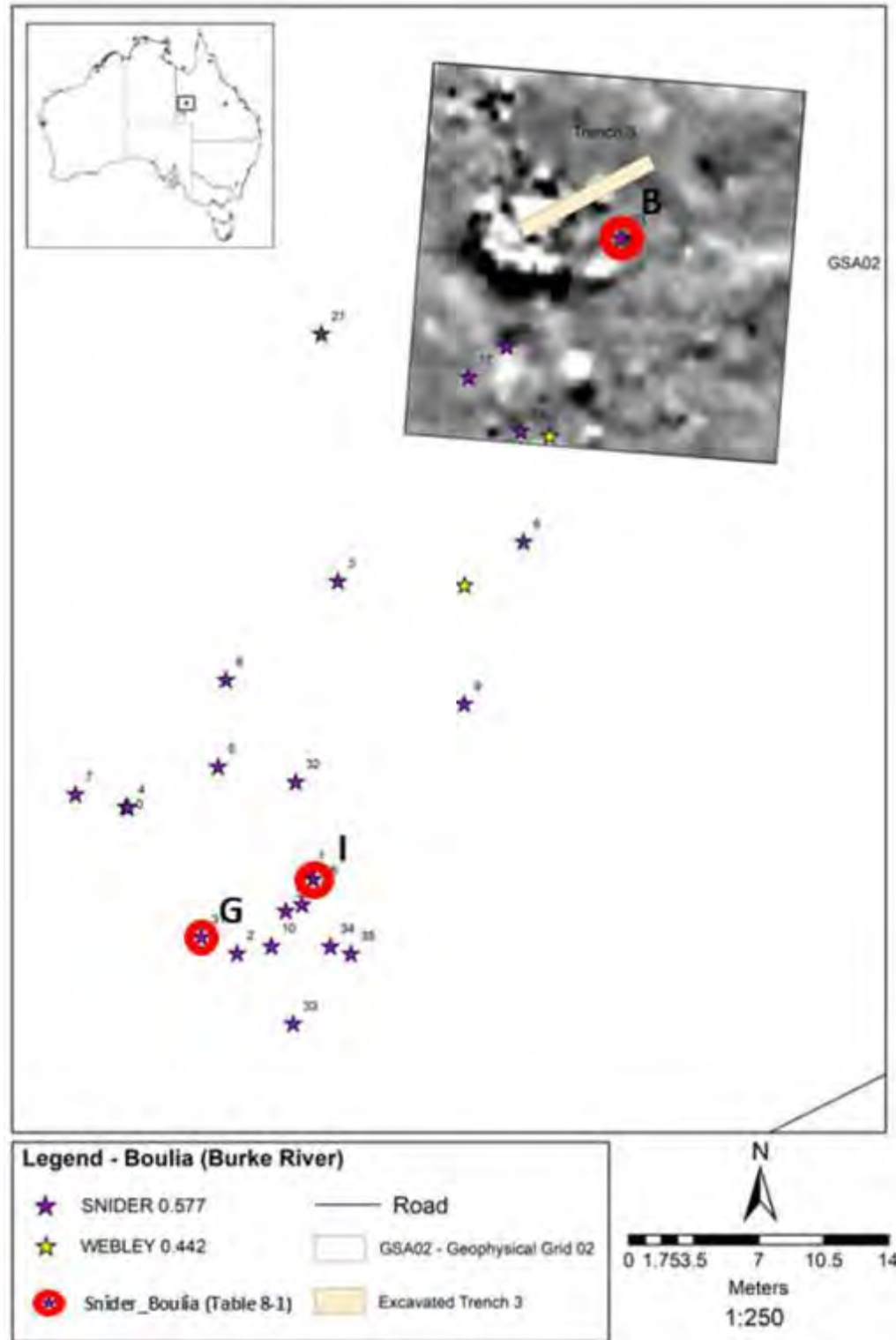


Figure 6.16 Snider and .442" revolver ammunition finds spatially located to GG2 at Boulia (geophysical image by Kelsey Lowe and map by Wayne Beck).

## *Eyres Creek*

The forensic examination of the 17 discharged Snider cartridges from Eyres Creek indicates six unique weapons (Table 6-3; Figure 6.17); these could have serviced 75% of the troopers gazetted there (see Table 3-9). Snider C could be matched to eight discharged cartridge cases, and three to Sniders A and B.

**Table 6-3 Snider weapons identified by firing pin impressions from the Eyres Creek NMP camp.**

<b>Weapon</b>	<b>Artefact</b>	<b>Number</b>
Snider A	EYR 16821, 16822 & 16837	3
Snider B	EYR 16843, 16767 & 16779	3
Snider C	EYR 16687, 16712, 16714, 16761, 16838, 16844, 16847, & 17076	8
Snider D	EYR 16755	1
Snider E	EYR 16836	1
Snider F	EYR 16708	1
<b>Unsuitable for comparison</b>		<b>18</b>
<b>Total</b>		<b>35</b>

Snider C was the most active weapon at the camp, with eight discharged cartridges, all grouped (with one exception) in the southeast (Figure 6.18). This suggests a trooper who favoured shooting south or east toward the river; a similar trend is observed with Snider A. In contrast, Snider B was used exclusively adjacent to the timber posts to shoot in an easterly direction toward the creek. Generally, the greatest concentration of ammunition was located south of the camp, suggesting it was a vantage point for shooting game, although target practice or dumping may also have occurred. The separation of clustered ammunition into two distinct areas continues the theme observed elsewhere: that officers and troopers had different activity spaces.

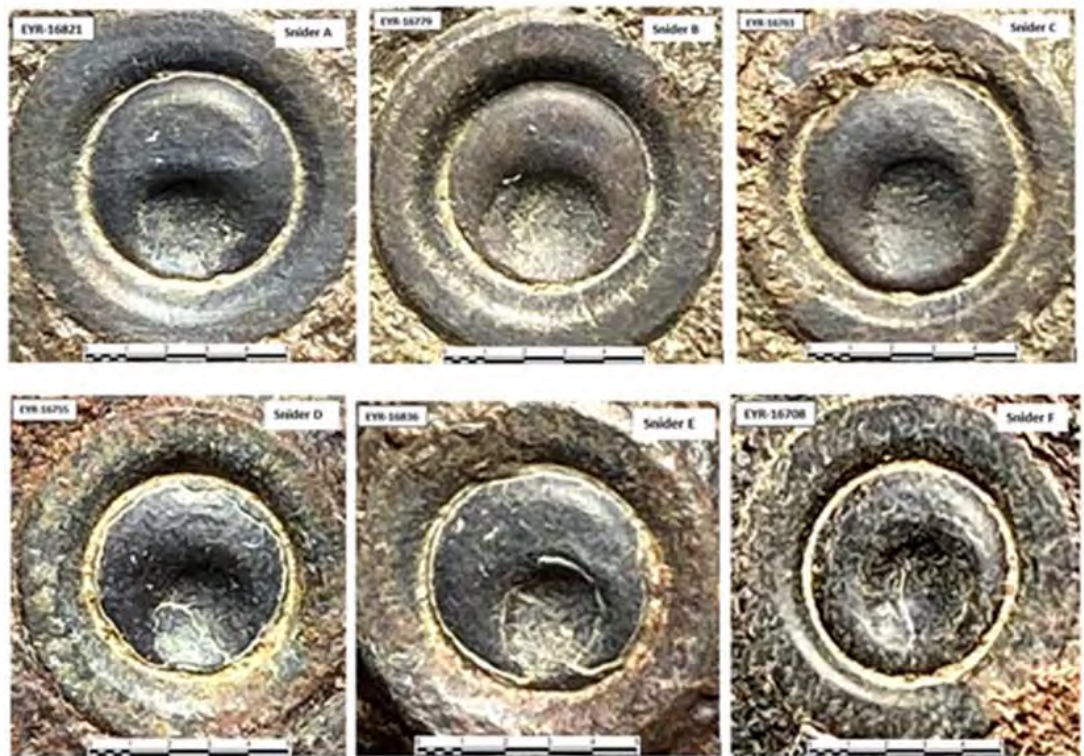


Figure 6.17 Examples of firing pin impressions from the six Sniders A to F, recovered from Eyres Creek. The scale bar is in mm (images by Tony Pagels).



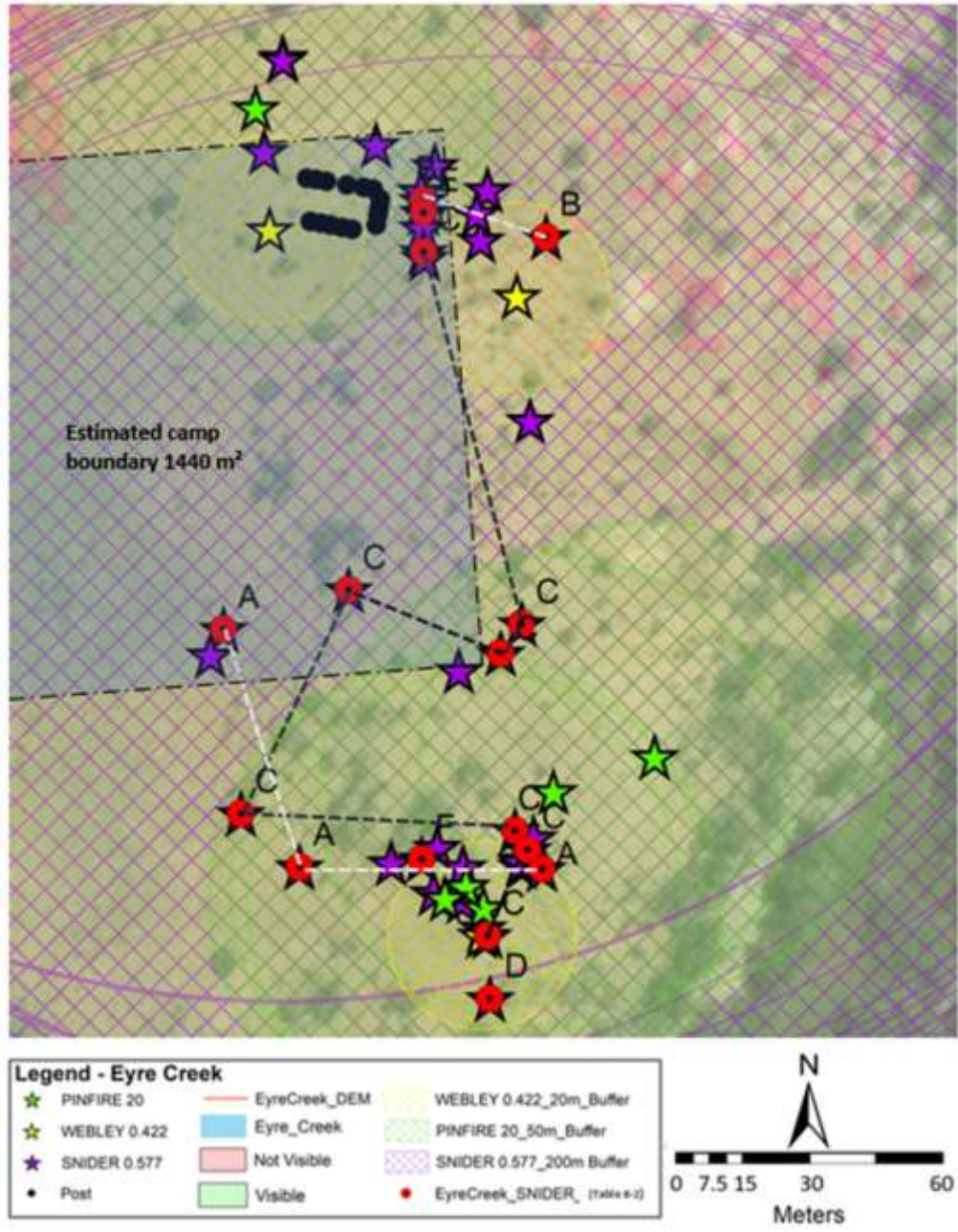


Figure 6.18 Extract from Figure 6.12, highlighting Sniders A to F to distinguish behaviour by individual troopers (map by Wayne Beck, modified by Tony Pagels).

## Target practice?

KOCCOA battlescape analysis revealed corridors across the terrain suitable for aimed shooting at each of the four NMP sites. While clustered ammunition occurred at Eyres Creek and Boullia, based on limited firing pin impressions these did not indicate a tight clustering of multiple cartridges from one or more weapons, as would be expected from group target practice. Therefore, at this time there is no definitive archaeological evidence to support the proposition that target practice was part of camp life. This suggests training was possibly considered unnecessary, as the troopers were already highly accurate marksmen. The frugality of the NMP and problems with regular resupply would also tend to suggest that any training with live ammunition would be minimised, further reducing the likelihood of ammunition artefacts entering the archaeological record through target practice. It is suggested that the spent cartridge cases are primarily the result of hunting activities since, apart from being central to food supply, hunting game is arguably an alternative to target shooting.

## Interspatial connections between the NMP and ammunition

Mapping the location of NMP camps by decade visualises the movement of the frontier (Figure 6.19). These radiating settlement zones can be aligned with changes in weapons technology; hence patterning within the material culture of these zones can be predicted. For example, in Figure 6.19 green correlates to camps established during the 1840s and 1850s, when weapons used percussion muzzle-loading technology. Conversely, later camps established during the 1870s should yield artefacts linked to pinfire and Snider carbines, and Webley RIC revolvers. The changes in weapons technology across the decades, especially those on issue to the NMP and what could be expected archaeologically, are shown in Table 6-4.

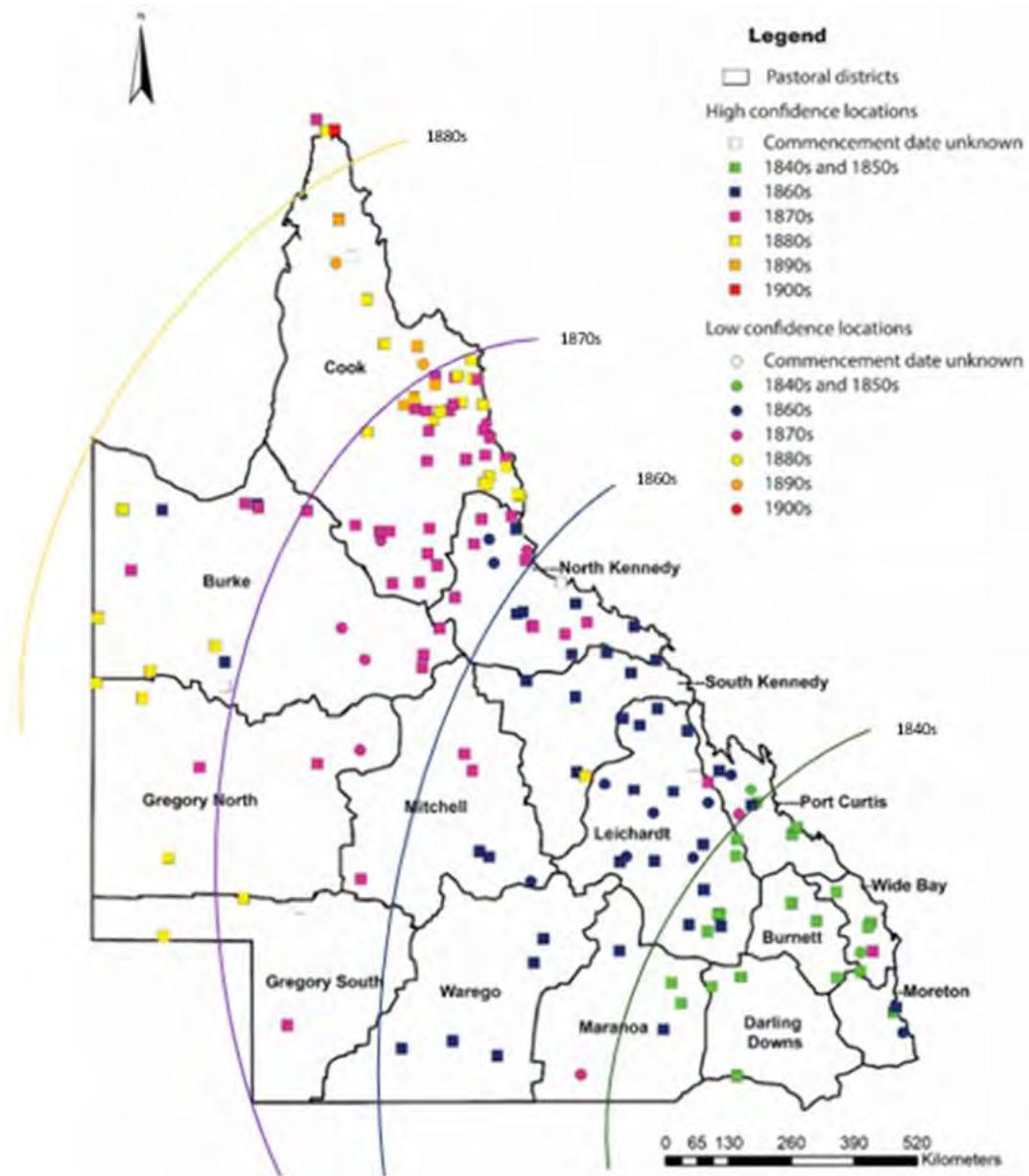


Figure 6.19 Expansion of NMP camps over time by decade and pastoral district. Note the generalised arches of expansion that correspond to shifts in firearm technology (base map by Wayne Beck using data from Burke and Wallis 2019).

Table 6-4 Correlation between period of occupation, weapons issued to the NMP and expected finds.

Period of operation	Weapons issued to the NMP	Weapons-related artefacts
1840–1850	Constabulary and Yeomanry percussion carbines	Metal firearm components (e.g. barrel, lockplates, trigger and screws). Percussion caps and 20-gauge lead balls.
1850–1860	Constabulary, Yeomanry and double barrel carbines	Metal firearm components. Percussion caps and 20-gauge lead balls.
1860–1870	Constabulary, Yeomanry and double barrel percussion carbines and double barrel pinfire carbines	Metal firearm components. Percussion caps, 20-gauge lead balls and pinfire cartridge heads
1870–1880	Double barrel pinfire carbines, Snider artillery carbine and Webley RIC revolver	Metal firearm components. 20-gauge lead balls and pinfire cartridge heads. .577" cartridge cases and bullets for Snider carbines and .442" cartridge cases and bullets for Webley RIC revolver.
1880–1890	Double barrel pinfire carbines, Snider artillery carbine, Webley RIC revolver and Martini-Henry carbine	Metal firearm components. 20-gauge lead balls and pinfire cartridge heads. .577" cartridge cases and bullets for Snider carbines and .442" cartridge cases and bullets for Webley RIC revolver and Cartridge cases and bullets for Martini-Henry carbine.
1880–1900	Snider artillery carbine, Webley RIC revolver and Martini-Henry carbine	Metal firearm components. .577" cartridge cases and bullets for Snider carbines and .442" cartridge cases and bullets for Webley RIC revolver and Cartridge cases and bullets for Martini-Henry carbine.

How did the weapons affect the functionality and effects of the NMP?

There is no doubt that criticism of the NMP's efficiency in 1861 spurred a realisation by government officials that the force required re-arming to be truly effective. Arguably, before the introduction of centrefire weapons in 1870, the NMP were tactically on an equal footing with Indigenous people. An Indigenous warrior could throw a spear faster than a trooper could reload a muzzle-loading weapon, although the consequence of being struck by a bullet, if not death outright, was severe injury, infection, or other serious complications, while spear wounds were often survivable (Burke and Wallis 2019). The double-barrel carbine introduced in the mid-1850s afforded the NMP a specific advantage, though were only issued to them in limited numbers (Robinson 1997:16, 17; Skennerton 1975:12, 13, 76).

Aimed shooting would have become more effective after the introduction of rifling and the arrival of the Snider artillery carbines in 1870. Trials had endorsed the Snider-Enfield as the best weapon available, a situation that did not change until the Martini-Henry was introduced in 1876 (Skenner 1975:103). However, despite the advantages of the Martini-Henry, these were not issued to the NMP until the late 1880s and, even then, only in limited numbers. For this reason, **the Snider became synonymous with the NMP; the force's 'effectiveness' would have been even more devastating had they been armed with the more accurate and faster loading Martini-Henry carbines.**

It is possible to take these data one step further. We know the NMP operated via raids and **ambushes governed by the terrain when executing "dispersals"**. In open country with limited cover, aimed shooting with the long-range Snider would have been the preferred method. Conversely, the less accurate double-barrel pinfire carbine would have been more effective when conducting raids involving close quarter operations. The absence of pinfire cartridges at Boulia suggests this detachment more readily adopted an ambush-centred strategy with aimed target shooting.

Various historical scholars have tackled the difficult task of quantifying Indigenous colonial deaths (e.g. Broome 1982, 1988; Evans 2010; Ørsted-Jensen 2011; Ørsted-Jensen and Evans 2014; Reynolds 1981, 1987; Reynolds and Loos 1976; Ryan 2012; Ryan et al. 2019). An early assessment argued there were ~1,000 non-Indigenous people killed in Queensland frontier conflicts (Reynolds and Loos 1976). Theorising a ratio of ten Indigenous people killed to each non-Indigenous person, they estimated the number of Indigenous people killed as 10,000. The ratio of 10:1 became a longstanding benchmark, though later drew criticism (Reynolds 2013:96). In a subsequent study, Ørsted-Jensen (2011:47–58, 178–179) argued that in Queensland the ratio could have been as high as 50:1, as asserted by Archibald Meston in 1889. Ørsted-Jensen and Evans (2014:2) argued the historical records were so **"purposefully incomplete as to render an overall body-count impossible"**. **Undeterred, they used Police Department and other departmental "reports and diaries" to create an alternative method** structured on the number of patrols per NMP detachment, the number of dispersals conducted per patrol, and the average number of Indigenous people killed during each dispersal. They concluded that the NMP conducted 6,000 patrols and 3,420 dispersal events and that during

each event an average of 12 Indigenous people were killed. Their final tally was 41,040 Indigenous people slain at the hands of the NMP between 1859 and 1897 (Ørsted-Jensen and Evans 2014:4).

This thesis steps away from such methods and takes an alternative approach, focusing on the weapons and ammunition used by the NMP. The estimate created here is weapons-based, using a known single weapon type, the quantity of ammunition issued to troopers, the gazetted strength of the NMP, and how efficient troopers were in using their weapons.

Although the NMP operated from 1848 to the early 1900s, this estimate covers only 1871–1890. Before 1870 the distribution of weapons and ammunition to the NMP is difficult to quantify, but the introduction of the Snider artillery carbine thereafter is quite clear and was only partially and selectively superseded by the Martini-Henry carbine from the mid-1880s. As a result, the Snider was still in widespread use by the NMP in 1890. This estimate therefore only concerns the Snider artillery carbine because it dominated NMP operations for the specified timeframe.

Determining the quantity of Snider-compatible ammunition expended is more difficult. An assessment by Robinson (1997:44–48) revealed that 97,000 rounds of Snider ammunition were purchased between 1871–1890. Although the *Native Police Regulations* are silent on the subject of ammunition (*Queensland Government Gazette* 1866[7]:258–261; see Appendix 2), the amount issued to each trooper on patrol can be estimated based on *The Rules and Regulations for the Guidance of the Queensland Police Force* (Anon. 1869: 9), which states that regular police were issued with 20 cartridges, with the requirement to report any expenditure before supplies were replenished. It is possible that the ammunition expenditure limits placed on regular police did not apply to the NMP. Nonetheless, NMP accoutrements, such as ammunition pouches and bandoliers, were manufactured to hold 20 cartridges. This would suggest troopers were also issued with 20 cartridges each, which would have been readily replenished as demand dictated. When Sniders were purchased they came with at least 20,000 rounds of ammunition, suggesting 1860s ammunition shortages were alleviated by the 1870s.

Thirdly, the number of NMP camps and personnel fluctuated; hence a calculation is made to establish an average number of NMP troopers for the specified time period. Figures for the necessary strength of the NMP are derived from *Pugh's Almanac* and data in Burke and Wallis (2019), and necessarily assumes the number of personnel assigned to each camp was constant (though we know from the few surviving camp diaries that it was often in flux). This shows that between 1871–1890 the minimum ratio of officers to troopers was 1:4, while the annual average strength of the NMP was 115.3 troopers per year. Allowing for discrepancies in these numbers (due death, desertion, illness, and recruiting), a conservative, random adjustment of around 4.5% reduces the mean to 110 troopers.

As for their efficiency, an assumption is made that the NMP troopers were accurate marksmen, armed with a weapon capable of hitting its mark at more than 500 yards (about 457 m) (Miller 1881:22). Although it is impossible to know how many bullets found their mark during dispersals, a highly conservative assumption has been made here that only one round per trooper per year would have hit its mark.

Using these variables, a means to estimate the number of Indigenous people shot (resulting in death or serious injury) by the NMP is via an uncomplicated equation: the mean number of NMP troopers (110) multiplied by the amount of ammunition each trooper expended that came in contact with a person (1 round in a year), multiplied by the number of years (n=20) in the specified period:

$$1 \times 110 \times 20 = 2200$$

Obviously, any increase in the number of people shot by a single trooper only raises this number. For example, using Ørsted-Jensen's and Evans' assumption that 12 Indigenous people were killed during each dispersal and assuming only one dispersal event per trooper per year, we have the equation:

$$12 \times 110 \times 20 = 26,400$$

This figure, if doubled, is higher than Ørsted-Jensen's and Evans' (2014:4) figure of 41,040 calculated over 40 years, but is still conservative because it does not consider the number of Indigenous people killed or seriously injured by the NMP between 1848 and 1870, the quantity

of pinfire carbine and revolver ammunition discharged between 1871 and 1890, or the quantities of Martini-Henry and Snider cartridges expended in the years after 1890. It also does not take into account any reprisal activity by non-NMP settlers. As a result, an estimate of 26,400 deaths at the hands of the NMP between 1871 and 1890 is perhaps not an unrealistic estimation of the carnage this force inflicted.

The final chapter pulls together the key areas presented in this thesis and offers concluding commentary, the importance of remembering, and avenues of future study.



# Chapter 7: What does the archaeology tell us about weapons used by the NMP?

Although the NMP's operation is not now easily reconstructed due to the inherent nature of the historical record, the AQNMP project has exposed a hitherto unexplored facet of the NMP by targeting the camps they established. This thesis contributes a small but integral component of our understanding of the NMP via their munitions.

While the historical material indicated that the NMP were issued with three specific weapons (the .577" Snider artillery carbine, 20-gauge pinfire carbine, and .442" Webley RIC revolver), the archaeological record divulged an alternative narrative. At the most simplistic interspatial level a correlation exists between weapons known to have been issued to the NMP and the **presence of certain weapons archaeologically. For instance, the .577" Snider was issued to the NMP from the early 1870s; hence, ammunition for this firearm could be expected at sites post-dating 1870 and, unsurprisingly, Snider ammunition was located at all study sites. However, the archaeology both corroborates and challenges the historical narrative, shedding new light on the distribution of weapons to the NMP, with key findings including:**

- 20-gauge pinfire ammunition present at three of the four sites (Boralga, Belyando, and Eyres Creek);
- Martini-Henry ammunition being sparse and only found at Boulia and Boralga;
- .44"-40 ammunition abundant at Boralga;
- Equal quantities of 12-gauge shotgun and .577" Snider ammunition at all sites; and,
- Ammunition for a range of handguns and longarms being recovered.

The abundance of Snider-related artefacts at NMP camps reinforces historical reports of the NMP being armed with a single type of longarm and revolver post-1870. Nonetheless, the same government issue Snider cartridges were used in the rifle and carbine models, leaving

us to rely on historical sources to identify artillery carbines as the weapon of choice for the NMP (Sargeaunt 1872, 1872a, 1872b; Seymour 1872, 1875).

While the archaeology supports the widespread distribution of the Snider artillery carbine and **.442” revolver, there remains the question of whether the NMP were issued with any other** identifiable arm, such as the 20-gauge pinfire carbine (a breech-loading shotgun) or Martini-Henry carbine, the latter of which had also been suggested in historical sources as being synonymous with the NMP (e.g., Richards 2008:56).

In reference to the first, archaeology revealed that 20-gauge pinfire cartridge heads were intermixed with other material at Belyando, Eyres Creek, and Boralga. Previously, Robinson had suggested that just 71 pinfire carbines were distributed to Queensland regular police in 1868–1869, and he was not convinced that many, if any, of these weapons were issued to the NMP (Robinson 1997:36–38), despite historical documents specifying they were purchased specifically for them in 1867 (Sargeaunt 1867, 1867a). The presence of pinfire cartridges at the three sites suggests that their distribution to the NMP was more widespread than historical **documents or Robinson’s work indicate, while at the same time hinting at some complexities in** this story.

Two telling letters to the Colonial Secretary noted the arms distribution, but also suggested that **the pinfire carbines be sold because “... we have no means of making use of them in the colony”** (Clerk-in-Charge of the Colonial Store 1869). Although ambiguous, it is possible that only the weapon had been supplied and not the ammunition, rendering the weapons useless. This raises two possibilities for the distribution of these arms to the NMP: that they were issued to them in 1868/69 when the original batch arrived, but this was not recorded in available historical documents; or, unable to sell them, the Government issued them at a later date to the NMP when ammunition had become available. The date ranges for the three camps containing pinfire ammunition were 1863–1879 (Belyando), 1883–1889 (**Eyre’s Creek**), and 1875–1894 (Boralga). Pinfire cartridges are very late objects in the context of both Eyres Creek and Boralga, suggesting that the second option is the more likely.

As for the distribution of the Martini-Henry carbine, although the Queensland police department possessed large numbers of them, it appears that they were not destined for use by the NMP

until very late. Robinson (1997:59) tallied 299 Martini-Henry rifles and 449 Martini-Henry carbines in possession of the Queensland police between 1885 and 1895, with Richards (2008:56) asserting that many of these arms ended up in NMP camps. In 1894, Inspector Stuart, when conducting inspections of NMP camps in far north Queensland, noted that Coen, Laura, and Musgrave had Martini-Henry carbines on hand, but noted in the margin of his report **that the “M.H. [Martini-Henry] carbines are not intended for the N.P. Substitute Snider [and] give M.H. to station police” (Stuart 1894). Only seven spent Martini-Henry cartridges were recovered (one at Boulia and six from Boralga), supporting Stuart’s comments and** contradicting Richards' claims. Corroborating this hypothesis, a recently discovered document from 1902 referred to the Nigger Creek Camp keeper returning his equipment, including a Martini-Henry carbine and an unknown type of revolver (Heenan 1902).

**An unexpected archaeological outcome was the presence of 41 .44”-40 Winchester repeating rifle cartridges at Boralga.** These finds were unexpected because the cartridges were produced for the Winchester Model 1873 lever-action repeating rifle, only a small number of which, according to Robinson (1997:69–70), were purchased for the Queensland police, and which he argued were manufactured in America post-**1893. The presence of .44”-40** ammunition at NMP sites could arguably mean that there were additional purchases of .44”-40 rifles. These .44”-40 rifles would have been manufactured between 1873 and when they were issued to police c.1883—a decade earlier than Robinson realised from the historical records—and were specifically issued to NMP personnel at Boralga. Such weapons were rare, however. Given the increased rapidity of fire and accuracy of the Martini-Henry carbines and Winchester repeating rifles, it can be speculated that, had they been more common, the consequences would have been even more severe for Indigenous peoples.

According to historical records, there were no known purchases of breech-loading 12-gauge shotguns for the Queensland police and thus another unexpected result was the presence of a substantial number of 12-gauge shotgun cartridge heads at all four sites. Such finds accounted for 19.0% of the total ammunition-related finds, almost equaling the quantity of Snider cartridges (23.1% of total). The commonality between the two aforementioned arms suggests they were equally important to camp life. An explanation for the high proportion of 12-gauge shotgun cartridges is that, while food rations were supplied to NMP personnel, they were

inadequate. A means of securing additional food was therefore via hunting with firearms, a proposition supported by the few surviving camp journals and faunal remains retrieved from excavation. Given the considerable quantities of shotgun cartridges at all camps, however, it appears that hunting was an activity carried out by camp keepers as well as troopers, suggesting that shotguns played a more significant role in the life of an NMP camp than has previously been considered.

The material culture also revealed ammunition-related artefacts representing weapons that **may or may not have been connected to the NMP. For example, .380" and .450" revolver** cartridges were found at three sites (except Belyando), small calibre handgun rounds were **located at Boralga, and seven assorted .22" rimfire cartridges were located at Boulia and Eyres Creek.** Although the sample size was small (n=23 or 4.6% of the total finds), their connection to the NMP needs to be considered. We know the NMP was issued with a range of percussion **revolvers. Although we cannot be sure, the .380" and .450"** revolver cartridges may have been for earlier model percussion revolvers that were converted for centrefire ammunition. The presence of such objects within the environs of an NMP camp may mean that NMP officers followed the military practice of purchasing their own sidearms.

**The small calibre .30" rimfire and 9 mm pinfire cartridge rounds from Boralga were not seen** elsewhere. The 9 mm pinfire cartridge is for an older model revolver, but there is insufficient **material to say more on the matter. The .30" cartridge** is suitable for a range of small, easily concealed weapons, typically carried by miners and women because of their portability (Silva 2011:68; Swinfield 2009:11). On the frontier the ability for women to be armed in their **husband's absence had its** advantages, and hence the presence of these small handguns suggests that white women may have been armed.

## Understanding the frontier battlescape

This research has demonstrated that viewing camps through the eyes of NMP personnel is informative at the inter- and intraspatial levels. While a broad-brush analysis tells us that weapons technology is connected to the period that a camp operated, the artefact assemblage has shown differences between the activities of troopers and officers, while spatial analysis

has suggested explanations for why activities were conducted in given areas. The recognition of officer and trooper activities was difficult at Eyres Creek, Boulia, and Belyando, but the distribution of archaeological material at Boralga suggested reloading as an activity conducted by both troopers and officers for the 12-gauge shotgun.

Additionally, this research reinforces the notion that KOCOIA is a valuable tool for archaeologists to visualise the battlescape through the ammunition-related assemblage. The use of KOCOIA demonstrated how features around NMP camps could affect and contribute to how a firearm was used within these spaces. Applying the KOCOIA principles established how a trooper could identify battlescape features as obstacles or places of ambush, spaces of clear ground, and visibility, as well as pathways for movement. At the same time, the application of a viewshed analysis demonstrated their practical combative strategy, which maximised the advantage of terrain features when troopers were hunting.

While this pattern might be attributed to a shortage of ammunition, I have argued instead that it is more likely to derive from NMP troopers being skillful marksmen owing to their lifetime **experience of hunting. Understanding troopers' skills in this light contextualises their activities** as soldiers, as well as people existing between two worlds. They were simultaneously disconnected from their original country and culture and co-opted into white standards and practices of warfare, adopting to a life that was neither customary nor civilian White. NMP troopers were Indigenous, but they were hunters first, acquiring a suite of skills learnt from childhood that enabled them to then serve as deadly agents of the colonial government.

## NMP functionality and government accountability.

A larger question that arises from such analyses is how much responsibility did the Government of the colony bear for the activities of the NMP? Chapter Two considered the role of the military and the authorities who expedited the colonisation process. Situated between these actors was the NMP, a militarised force responsible for policing what Kraska (2007:501) described as the blurred arenas of war and law enforcement. Colonial authorities considered **the only effective means of pacifying Indigenous people to be through "teaching the natives a lesson" with violence** (Nettelbeck and Ryan 2018:58). Conventional State military tactics were

no match for the expertise of non-State-based Indigenous warriors, however. Instead, overthrowing the traditional landowners required adopting tactics more commonly employed in irregular warfare. This was achieved not by training European soldiers but by recruiting Indigenous men familiar with the subtleties of such warfare, which had antecedents and parallels in Indigenous hunting. These Indigenous soldiers were divorced from the British imperial system and outside the usual military processes. While the role of regular police was (and still is) to serve and protect citizens within the limits of metropolises, the militarised and well-armed NMP functioned on the Australian frontier (Dukova 2020:6; Grey 2008:13). The withdrawal of the last British soldiers in 1870 left the colonies without internal defences, a gap filled by the NMP (Grey 2008:22).

The Queensland government cemented the NMP as a militarised force with the 1863 appointment of **Lieutenant David Seymour as Police Commissioner. Under Seymour's tenure**, both the NMP and regular police were re-armed with the most fit-for-purpose carbine and revolver. In the 1860s, technological developments transitioned from percussion to more accurate and reliable breech-loading weapons and, while the expense of re-arming the NMP may not have been a priority for the fledgling Queensland government, it became a primary concern later in the decade and into the 1870s. Steering this re-positioning was ever-increasing colonial expansion, including an influx of colonists.

Between 1870 and 1883, despite broader financial burdens, the Queensland Government purchased 1000 Snider carbines with at least 97,000 rounds of ammunition, and 750 Webley **RIC .442"** revolvers with 51,000 rounds of ammunition. The tally of Snider cartridges purchased, assuming the minimum quantities issued to the NMP remained constant, provides a highly conservative tally of 26,400 Indigenous people killed by the NMP using this weapon between 1871 and 1890 alone. This death toll is an estimate only, yet, coupled with NMP tactics and the knowledge that they rarely took prisoners, contextualises the enormity of frontier conflict in Queensland as a war. Indeed, some scholars would suggest that the dispossession, destruction of society and culture, and the deadly violence that followed was so endemic as to warrant describing it as genocide (Moses 2013:2; Tedeschi 2018:164; Wolfe 2006:403).

The notion of a war against Indigenous people was openly spoken of by both White and Indigenous people in 19th century Queensland (Ørsted-Jensen 2011:44). Despite the arrest of four officers—Joseph Harris, Frederick Wheeler, Marmaduke Richardson, and William Nichols—at different times for murder, no case against an NMP officer ever successfully proceeded to trial and NMP personnel avoided criminal proceedings. Genever et al. (2010:14) noted a loud applause came from the gallery following the release of William Nichols, and the presentation of a public donation to him followed his sacking. Given this, accountability for the carnage in Queensland rests squarely with the Government of the day and the vested, largely pastoral, interests that constituted both the government and the dominant economic regime.

## The importance of remembering

Chapter Two outlined the importance of consistent language and definitions in conceptualising **and shaping discussions on frontier conflict and defined war as “a violent activity carried out by members of one polity against members of a separate polity to achieve a primary purpose”**. Despite a failure by current governments and the Australian War Memorial to characterise frontier conflict as such, war was carried on across Australia, and particularly in Queensland, for more than 60 years (Australian War Memorial 2021). It can be considered a war on several grounds, including that, at the time, both Indigenous and non-Indigenous people considered they were fighting one. This was not the Western notion of war as an assault between States, but rather an asymmetric war fought between small groups of resistance fighters pitted against a comparatively well-equipped, Government-backed paramilitary force supported by an unending tide of supplanters. For Indigenous people, sovereignty has never been ceded or extinguished, and, as Reynolds (2021:190) reminded us, the frontier wars were about sovereignty, land, and the ownership and control of it (see also The Uluru Statement from the Heart).

This has significant repercussions for how Australians remember the NMP and picture the **frontier in the present. As ‘massacres’, battlefields, and significant places within the** battlescape of the frontier wars are identified, we have opportunities to establish memorials to peoples who lost their lives and, in this act of remembrance, advance the truth-telling process. The loss of life on both sides of the colonial frontier is undeniable; understanding the loss of

identity, society, and culture that followed for Indigenous people presents a greater challenge for non-Indigenous Australia. Archaeology can contribute to our understanding of remembered and forgotten history by building a bridge to move forward with the truth telling process .

## Future directions for study

While this thesis has identified several previously unknown weapons used by the NMP, more could be done to test the suggested hypotheses. For instance, the Boullia detachment did not appear to be issued with the 20-gauge pinfire carbine: is this reflected in cultural material associated with this cohort elsewhere? Were ambush or raiding tactics dictated by the availability of weapons and influenced by the terrain more broadly? Is there an identifiable distinction in NMP tactics across the frontier? The idea that camp keepers were issued with 12-gauge shotguns can be explored more completely by conducting firing pin analysis on 12-gauge finds to identify the number of weapons represented in the assemblage. Moreover, NMP camps can be re-visited with the view of identifying ammunition-related finds to test with greater certainty the distribution, not only of shotguns, but also of Martini-Henry carbines and Winchester repeating rifles.

For archaeologists, KOCOA terrain analysis is a relatively new method to interpret landscapes and a valuable tool with which to understand the importance of terrain features on movements of both attacking and defensive forces, as well as to elucidate patterns of behaviour and settlement. KOCOA can also be used as a predictive model; hence, accessing the battlescape to identify potential sites hidden within archival documents and oral testimony is one future use **of the model. KOCOA's demonstrated application to archaeology via this thesis has shown the** benefits to researchers investigating the NMP and colonial armaments. One obvious avenue for further work would be comparing and contrasting 3-D photogrammetric reconstructions of NMP camp sites to bring to life the subtle terrain features concealed on a two-dimensional surface.

Finally, archaeological sites of known attacks against Aboriginal people by NMP—if such are ever located—could also be examined by applying KOCOA and photogrammetry to the battlescape to understand better the tactical approach used by combatants. Emphasising



these locations as significant places of suffering for Indigenous people, with long term and lingering consequences, would educate the broader audience in the interests of truth-telling and reconciliation.

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# Appendix 1

## The Uluru Statement from the Heart, 2017:

We, gathered at the 2017 National Constitutional Convention, coming from all points of the southern sky, make this statement from the heart:

Our Aboriginal and Torres Strait Islander tribes were the first sovereign Nations of the Australian continent and its adjacent islands, and possessed it under our own laws and customs. This our ancestors did, according to the reckoning of our culture, from the Creation, according to the common law from **'time immemorial', and according to science more than 60,000 years ago.**

This sovereignty is a *spiritual notion: the ancestral tie between the land, or 'mother nature', and the Aboriginal and Torres Strait Islander peoples who were born therefrom, remain attached thereto, and must one day return thither to be united with our ancestors. This link is the basis of the ownership of the soil, or better, of sovereignty.* It has never been ceded or extinguished, and co-exists with the sovereignty of the Crown.

How could it be otherwise? That peoples possessed a land for sixty millennia and this sacred link disappears from world history in merely the last two hundred years?

With substantive constitutional change and structural reform, we believe this ancient **sovereignty can shine through as a fuller expression of Australia's nationhood.**

Proportionally, we are the most incarcerated people on the planet. We are not an innately criminal people. Our children are alienated from their families at unprecedented rates. This cannot be because we have no love for them. And our youth languish in detention in obscene numbers. They should be our hope for the future.

These dimensions of our crisis tell plainly the structural nature of our problem. This is the torment of our powerlessness.

We seek constitutional reforms to empower our people and take a rightful place in our own

country. When we have power over our destiny our children will flourish. They will walk in two worlds and their culture will be a gift to their country.

We call for the establishment of a First Nations Voice enshrined in the Constitution.

Makarrata is the culmination of our agenda: the coming together after a struggle. It captures our aspirations for a fair and truthful relationship with the people of Australia and a better future for our children based on justice and self-determination.

We seek a Makarrata Commission to supervise a process of agreement-making between governments and First Nations and truth-telling about our history.

In 1967 we were counted, in 2017 we seek to be heard. We leave base camp and start our trek across this vast country. We invite you to walk with us in a movement of the Australian people for a better future.

## Appendix 2

Rules for the general government and discipline of the Native Mounted Police Force, 1866.

Colonial Secretary's Office,  
Brisbane, 2nd March, 1866.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to direct the publication of the following Rules for the general government and discipline of the Native Mounted Police Force.

By His Excellency's Command,  
R. R. MACKENZIE.

THE following instructions are published for the information and guidance of the officers of the Native Mounted Police Force:—

2. It is impossible to give precise directions for the execution of every duty which the force may be required to perform, or to anticipate every difficulty which its members may have to encounter, as, from the nature of the service, its duties must vary, and consequently the mode of execution must vary with them, and be directed by the circumstances of each particular case. Each member of the force should therefore endeavor to become acquainted with the nature of every duty which he may be called on to perform, and by zeal, energy, discretion, and intelligence, make every effort to supply the unavoidable deficiency in general instructions.

3. The officers will, however, be held strictly responsible for the execution and observance of all orders and regulations; for any deviation from which, and for their own acts and orders in such cases as may not or cannot be provided for by these instructions, they will be held responsible.

4. In the performance of their duty they are distinctly to understand that their efforts should be principally directed to the *prevention* of crime, which will tend far more effectually towards the

Figure0.1 Rules and regulations for the NMP 1-4 (Government Gazette, 1866 7:258).

security of person and property than the *possid-  
ment* of those who have violated the laws; and the  
very best evidence that can be given of their effi-  
ciency will be the *absence of crime* in their districts.

3. All officers are studiously to observe a strict  
neutrality in political matters.

6. Every officer of the Native Mounted Police  
Force should bear constantly in mind how essential  
it is to cultivate a proper regard for the honor and  
respectability of the force, and should be governed  
by the principle that the more they can raise those  
above or below them in public estimation, the more  
they elevate their own official position, and with it  
the general character of the force.

7. All commands devolve on the senior officer  
present. As the responsibility attaching to a superior  
way at any time devolve on the next in rank, it is  
essential that the members of each grade be  
acquainted with the duties that circumstances may  
call on them to discharge, in order to guard against  
injury to the public service.

8. Every subordinate is to receive the lawful  
commands of his superior with deference and  
respect, and to execute them to the best of his  
power; and every superior, in his turn, is to give  
his orders in the language of moderation and of  
regard to the feelings of those under his command.

9. The obedience and respect which are here  
required must be observed throughout the force  
generally, and not be understood in any partial or  
confined sense.

10. The conditions of admission into the force  
are stated here that no reason for complaint may  
exist upon their being enforced. It is to be under-  
stood at the same time that the power is reserved  
to the Commissioner, subject to the approbation of  
His Excellency the Governor in Council, to alter  
or amend any of these conditions, and also to make  
such new rules as may be found expedient:—

- (1.) Every officer must devote his whole time  
to the service.
- (2.) He shall serve and reside wherever he is  
ordered.
- (3.) He shall promptly obey all lawful orders  
which he may receive from the persons  
placed in authority over him.
- (4.) He shall conform himself to all the regu-  
lations which may be made from time to  
time for the good of the service.
- (5.) Three months' notice of his intention to  
resign his appointment must be given to  
the Commissioner; and he shall, on no  
account, absent himself from his station,  
unless specially permitted by writing under  
the hand of his immediate commanding  
officer.
- (6.) Any officer who shall be dismissed cannot  
again be admitted into the Police Force,  
nor any other branch of the Government  
service.
- (7.) Every officer shall, before leaving the  
service, deliver up all Government property  
that may be in his charge; and any such  
property that may have been lost or  
damaged by the neglect of the officer in  
whose charge it was, will be made good by  
deduction from his pay.

11. The officers are not to allow any person  
unconnected with the Native Police Force to  
interfere with or accompany them, or give orders to  
any of the troopers under their command.

12. They must be very careful of the health of  
their men; not to allow them to wear their jackets  
in hot weather; not to allow them to put on their  
newly-washed clothes before they are dry; nor to  
camp in low spots conducive to fever and ague; nor  
to camp upon ground wet from rain, but cause them  
to strip back to put under them.

13. The arms, clothes, and accoutrements must  
be inspected as often as possible. No excuse will  
ever be admitted for dirty arms or accoutrements,  
as with a very little trouble they are easily kept  
clean.

14. Whenever an opportunity occurs, such as a  
day or two's rest, or a short stage, the officers are to  
practice the troopers in the usual drill and no  
other.

15. Before leaving the police station, the officer  
in command will see that such clothing as may not  
be wanted on patrol is carefully put away.

16. A daily account of all rations received and  
issued will be kept in a book supplied for the  
purpose.

17. The object in sending out patrol parties is  
principally that the hostile blacks, from the frequent  
visits of the police, may be deterred from murder  
and felony—this is the meaning of a preventive force.

18. It is however certain that, occasionally, the  
officers will have to endeavor to apprehend persons  
who have committed felony. When the officer  
holds a warrant his duty is very clear if he can  
identify the individual named therein, or has  
reasonable grounds to believe he can do so; and if  
he meets with resistance in the execution of such  
warrant, he is justified in making use of force  
against the man he wishes to apprehend, and any  
person assisting him. When he holds no warrant,  
if he can prove that a felony has been committed,  
and that he has reasonable cause to suspect an  
individual, he is justified in apprehending him, and  
using force if resisted. With white persons it is  
not difficult to prove all this, but blacks are so much  
alike, and the evidence is generally so faulty, that  
officers must be very cautious. It has been  
frequently found that the statements made by  
individuals differed very widely from the affidavits  
when made out on oath by the same persons.  
When an officer sees a felony or an assault being  
committed, as a matter of course, he is obliged to  
take all the offenders in charge. In every case the  
same law applies to blacks as to whites, and if the  
officers go beyond the law they do so at their own  
risk. The blacks cannot be considered as men  
armed for illegal purposes, because their weapons  
are their principal means of obtaining food.

19. The officers must be very particular in always  
avoiding indiscreet discussions.

20. Upon returning from patrol, officers in charge  
of parties will report to the officer in command of  
the district everything concerning any collision  
that may have taken place, and give him full infor-  
mation, in order that he may collect any necessary  
evidence.

21. When a trooper is transferred, a return is to  
be sent with him, signed by the officer who sends  
him, of the arms, accoutrements, clothing, &c., sent  
with him; this return is to be countersigned by the  
officer to whom the trooper is sent, and by him  
forwarded to the Inspector of the district.

22. Officers in charge of districts and detach-  
ments will be careful that under no circumstances  
are blacks, not being troopers, to be allowed in the  
police camp; and they will use every exertion to  
prevent the troopers from having any communication  
whatever with the aborigines of the district in which  
they may be stationed, or through which they may  
be passing; they will also be held responsible that  
no trooper keeps a gig without permission from  
head-quarters.

23. Every officer will keep a journal of all inci-  
dents happening in the course of public duty,  
whether during patrol or in camp, and of any  
circumstances that may have occurred within his  
district, in which he may have acted in his official  
capacity. He will also keep a diary of the duty  
performed on patrol, stating time of arrival at and  
departure from each station he may visit, to which,  
when possible, he will obtain the signature of the  
proprietor or person in charge.

24. He will be particular in collecting and for-  
warding, at the close of each month or quarter, all  
accounts against his own, or any outstanding  
accounts belonging to any other detachment that  
may have passed through his district; the accounts  
must be made out on proper vouchers, and officers  
must be very careful that all the necessary signa-  
tures are attached thereto.

25. He will be held responsible for the general  
duty of his detachment, and the proper fulfilment  
of the separate duties of the subordinate officers  
under his command.

26. He will be careful to instruct his acting Sub-  
Inspectors as to the duties they will be required to  
perform, which are principally as follows:—

Figure 0.2 Rules and regulations for the NMP 5–26 (Government Gazette, 1866 7:259).

- (1.) To take charge of the stores, and serve out rations to the troopers night and morning, and keep a strict account of all stores and rations issued to the detachment, to be laid before the officer in charge at any time he may wish to inspect the same.
  - (2.) To drill the troopers every day they are in camp, until they are perfect in their exercise, mounted or on foot.
  - (3.) And perform any camp duties which may be considered necessary by the officer in command.
27. Officers and troopers will at all times wear correct uniform when on parade, patrol, or other duty; and in this respect it is particularly necessary that the officers should be careful in showing a proper example: as thorough cleanliness in person, clothing, and accoutrements must be rendered compulsory on the part of the troopers, every indulgence should be held out to them to assume a smart and soldierlike appearance.
28. In no case are any of the native troopers to be allowed to take spirits from any one, except their officer or medical man in case of sickness.
29. No cartridges are to be expended by the troopers without the order of their officers.
30. The whole of the horses are to be mustered regularly every morning by the troopers in turn, and a note to be made in the officer's journal of any horses absent; their backs must be carefully attended to, and should always be washed upon the troopers dismounting, and well rubbed down before saddling; the saddles should be examined frequently by the officer in charge, and the saddle cloths and girths kept clean.
31. It is the duty of the officers, at all times and opportunities, to disperse a large assembly of blacks without unnecessary violence; such meetings frequently lead to depredations and murder, and mistaken kindness or misbehavior of the officers in command only serves to inspire the blacks with sufficient confidence to commit outrages. The officers will, therefore, see the necessity of teaching the aborigines that no outrage or depredation shall be committed with impunity, but, on the contrary, that retributive justice will speedily follow the commission of crime; nevertheless the officers will be careful in receiving reports against the blacks, as it frequently happens that mistakes are made as to the identity of the aggressors. In case of any collision with the aborigines a report is to be forwarded to the Commissioner without delay.
32. Officers in charge of districts and detachments will make themselves, as soon as possible, acquainted with the general features of the country in their respective districts and vicinities, so as to enable them to take every advantage of any information they may receive as to the route or hiding-places of any aborigines whom it may be necessary to apprehend, and to enable them to patrol their districts without keeping on the beaten tracks.
33. They will be careful to see the men's arms and ammunition placed where they can by their hands on them at night for attack or defence.
34. The greatest care is to be observed in the preservation of the men's arms and ammunition; and as much injury is done to the locks of the carbines by taking them to pieces, it is directed that this shall be done as seldom as possible, and always under the superintendance of an officer.
35. The men will be fully armed on all duties when mounted.
36. The men at out stations, when in quarters, will, invariably, parade on Sundays in full dress.
37. A compliance with this order will be entered in the monthly return of duties.
38. When in quarters, there will be a daily parade of horses; and officers will take advantage of those men who have been drilled to instruct their detachments in riding, as well as in the carbine, pistol, and sword exercises, on foot and on horseback.
39. The Native Mounted Police will at all times afford the magistrates and constables a ready assistance in the execution of their duty; but it is to be distinctly understood that, except in cases of special necessity, they are not to be employed in performing any of the duties of ordinary constables.
40. When escorts or orderlies are furnished by the Native Mounted Police, they will always, when practicable, be relieved at the nearest stations.
41. Whenever men die or become non-effective, the officer in charge of the station will immediately take charge of the spare horses, arms, and appointments, and preserve them in the best order.
42. Officers commanding stations will inspect all return patrols, and immediately report any irregularity they may observe in men or horses arriving at their posts.
43. The men of the Native Mounted Police are forbidden to appear in the streets unless dressed strictly according to order, and at all times they are expected to be smart and clean.
44. When not interfering with duty, each officer is permitted to employ a trooper as groom, but it is to be understood that he is to be always armed, appointed, and ready for any service that may be required. He is not on any account to be dressed in livery, or to be employed in any way unconnected with the officer's duties.
45. Every trooper shall have two horses, suited to his weight, sold off to him, for which he will be held responsible in all respects. The trooper is not to be deprived of his horses, except for misconduct; nor are they to be changed, except on urgent necessity, without previous reference to head-quarters.
46. Officers in charge of detachments will be held responsible that the saddles are kept in good repair, and fit the horses so as not to injure their backs.
47. Upon the exertion and example of the officers mainly depends the efficiency of the force; their duties are never ending; their presence is required everywhere, and it is solely by their intelligence, unceasing vigilance, and watchful superintendence of the men, that the protection, which is the main object of the force, can be afforded. This can in no way be more effectually carried out than by the constant personal supervision of their different stations on the part of the Inspectors in command of districts, and more than ordinary care in visiting and patrolling the haunts of the aborigines by the officers in command of detachments.
48. When any trooper has been incapable of duty for a considerable time from sickness, a special report must be made, in order to his being brought to head-quarters for medical treatment, or removed from the force.
49. The particular attention of officers is directed to the different returns required to be furnished to head-quarters. If those returns are not carefully prepared, it is impossible to arrive at a correct knowledge of the state of the force, as well as of the stores, ammunition, equipments, and supplies required.
50. All returns and reports are to be made as full as possible, so as to afford every information.
51. In the monthly return of duties performed, the number of men on duty each day, the place visited, the number of miles travelled, as well as the nature of the duty on which employed, whose order, and any occurrence of an extraordinary nature, are to be entered.
52. The expenses of the corps must be kept within the narrowest limits consistent with efficiency. No expense, except of the most trivial nature, or under circumstances of emergency to justify it, is to be incurred without previous application to and authority from head-quarters; and in making requisitions the probable amount is to be stated, as well as the work required to be performed.
53. It is expected that the fences of the paddocks as well as the barracks, will, in a great measure, be kept in order by the men themselves.
54. On the first of each month every officer in command of a detachment will send to head-quarters a copy of the diary kept by himself, according to form, stating where he has been each day during the preceding month, the duties performed, occurrences, and any steps taken in consequence, detailing what stations he has visited during the month, the state of work, the condition of the horses, and if any of them are lame or otherwise.

Figure 0.3 Rules and regulations for the NMP 26–54 (Government Gazette, 1866 7:260).

wise inefficient, the state of the arms, ammunition, appointments, clothing, and necessaries, the general conduct and discipline of the troopers, and if they appear to have been attentive to their duties and careful of their horses.

55. Officers in charge of detachments are not to hand over their detachments without written authority.

56. Officers, except on duty, will not quit their districts without leave of absence, obtained in writing.

57. Applications for leave of absence are to be made in time to allow an answer to be returned before the leave requested shall commence.

58. The Government horses are to be kept strictly for the use of troopers.

59. When horses are taken to the forge, an officer is always to accompany them.

60. All saddlery repairs must be inspected, in order to ascertain that the charge is fair and reasonable.

61. The following returns will be sent to the officers in command of divisions, immediately after the first of the month, or quarterly:—

- (1.) Return of horses, half-yearly.
- (2.) Return of rations issued, monthly.
- (3.) Officer's diary, monthly.
- (4.) Return of arms, stores, &c., quarterly.

62. And whereas it is essential to the good government and discipline of the Native Police Force to prevent and punish certain offences, and that the following rules should be in force for the purposes aforesaid:—

- (1.) Any person who shall by any means wilfully induce, or attempt to induce any trooper of the Native Police Force to desert from the service, or who shall knowingly harbor, aid, or assist any trooper of the Native Police Force who shall desert, or attempt to desert from the service, or who shall by any means wilfully interfere with, or obstruct the discipline of the Native Police Force, shall be liable to pay a penalty not exceeding £20, and in default of payment thereof to be imprisoned with or without hard labor for any period not exceeding three calendar months, or at the discretion of the justices before whom any such complaint shall be heard, to be imprisoned without fine for any such period as aforesaid.
- (2.) It shall be lawful for any two or more Justices of the Peace to hear and determine in a summary way any complaint under the preceding section.

63. The following are the Dress Regulations:—  
**DRESS REGULATIONS.**

When officers attend, as spectators, any review or public ceremony at which His Excellency the Governor is present, they are to appear in uniform.

Officers are not required to procure the full dress, but they will not be permitted to ornament the undress in any way.

Officers in mourning, when dressed in uniform, are to wear a piece of black crape round the left arm above the elbow.

**DISTINCTIONS OF RANK.**

- Commissioner.*—Sleeve ornament in treble cord.  
*Inspector.*—Sleeve ornament in double cord.  
*Sub-Inspector.*—Sleeve ornament in single cord.

**FULL DRESS.**

*Jacket.*—Dark blue cloth, Garibaldi pattern; standing collar, rounded in front, and edged all round with round gold cord; two rows of round gold cord down the front, one-quarter inch apart; Austrian knot of round gold cord on sleeve; round gold cord shoulder-straps.

*Trousers.*—Dark blue cloth, with two stripes of gold lace, oak leaf pattern, half an inch wide and quarter an inch apart, down outer seam.

*Boots.*—Wellington.

*Spurs.*—Steel, crane neck.

*Sword.*—Light cavalry, scabbard steel.

*Sword-knot.*—Gold cord, with acorn end.

*Sword-belt.*—Cavalry pattern, pale Russia leather, snake clasp.

*Pouch-belt.*—Pale Russia leather, two and a-half inches wide.

*Pouch-kn.*—Pale Russia leather, Q.P. in gilt on flap.

*Sabre-sheath and three Slings.*—Pale Russia leather, Q.P. in gilt.

*Gloves.*—White leather.

*Head Dress.*—Blue cloth forage cap, with black oak leaf band, Q.P. in gilt in front, straight peak.

**UNDRESS.**

*Jacket.*—Same as full dress, except that red cord is substituted for gold.

*Trousers.*—Dark blue cloth, with two stripes of red cloth, half an inch wide, quarter an inch apart, on outer seam.

*Or.*  
*Pantaloon.*—Drab cord.

*Boots.*—With trousers, Wellington boots, with box spurs, steel crane neck; with pantaloons, Napoleon boots and hunting spurs.

*Sword-knot.*—Black leather.

*Sabre-sheath.*—None.

*Head-dress.*—Same as full dress.

*Gloves.*—White leather.

**HORSE FURNITURE.**

*Saddle.*—Hunting.

*Holster andlets.*—Brown leather.

*Bridle.*—Brown leather, cavalry pattern.

*Log-chain.*—Plaited green hide, steel swivels and rings.

*Breastplate and Crupper.*—Brown leather with leather harts.

*Saddle cloth.*—Blue cloth.

Patterns of the above are deposited at the office of the Commissioner of Police.

Acting Sub-Inspectors are to wear the uniform provided by Government.

Colonial Secretary's Office,  
Brisbane, 9th March, 1866.

**NOTICE** is hereby given, that Tenders will be received at this Office, until Twelve o'clock, on SATURDAY, the 31st day of March next, for furnishing for the Colonial Service in the several districts the Supplies undermentioned, in such quantities as may be required for the period commencing 1st June and ending 31st December, 1866, upon the conditions hereafter specified.

Printed forms of Tender may be obtained at this Office, and from the Clerks of Petty Sessions in the several districts; and at the foot of every Tender there must be a memorandum signed by the party tendering and two responsible persons as sureties, agreeing to be responsible for the due performance of the Contract in the event of the Tender being accepted, and undertaking in that event that they will severally execute and deliver within one month from the usual notification of acceptance, a Bond to Her Majesty for securing such performance, otherwise such Tender will not be taken into consideration. The Tenders to contain the names of the Tenderers and their Sureties, and place of residence at length. Each Tender must be in the proper printed form, and marked "Tender for Provisions, &c."

Further particulars and information may be obtained on application at this Office, and to the several establishments for which the supplies are required.

Separate Tenders will be required for the articles enumerated under Nos. 1, 2, 3, and 4, respectively.

It is to be distinctly understood that the Government will not necessarily accept the lowest or any Tender.

The towns and places for which Contracts will be required are as follows:—

- |              |                 |
|--------------|-----------------|
| " Brisbane " | " Dalby "       |
| " Ipswich "  | " Maryborough " |
| " Drayton "  | " Rockhampton " |
| " Warwick "  | " Bowen "       |
|              | " Woongaroo "   |

\* From 1st September to 31st December 1866 only.

Figure 0.4 Rules and regulations for the NMP 54–63 (Government Gazette, 1866 7:261).



# Appendix 3

## Weapons and Ammunition recording form

<b>Weapons and ammunition</b>	<b>Native Mounted Police in Queensland</b>	
Form produced by Heather Burke on 12-Jan-2022		
<b>Basic details</b>		
<b>01. Catalogue number [required]</b> <i>This gets automatically generated for new records. It can be edited afterwards if required. Any text can be entered.</i>		
<b>02. Total station object number</b> <i>A whole number. Decimal points are not allowed.</i>		
<b>03. Related site [required]</b> <i>The system has too many available options to list out. Provide the answer(s) below, with reference to the options available in the system.</i>		
<b>04. Related excavation context</b> <i>The system has too many available options to list out. Provide the answer(s) below, with reference to the options available in the system.</i>		
<b>05. Object</b> <i>A list of items is presented in a drop down box. A single item can be selected from the list.</i>		
<input type="checkbox"/> Cleaning tool	<input type="checkbox"/> Gun flint	<input type="checkbox"/> Gun manufacturing tool
<input type="checkbox"/> Gun/component (weaponry)	<input type="checkbox"/> Gunpowder flask	<input type="checkbox"/> Maintenance tool
<input type="checkbox"/> Other	<input type="checkbox"/> Percussion cap	<input type="checkbox"/> Projectile mould
<input type="checkbox"/> Projectile/component (ammunition)	<input type="checkbox"/> Reloading tool	
<b>06. Completeness</b> <i>A list of items is presented in a drop down box. A single item can be selected from the list.</i>		
<input type="checkbox"/> Complete (95-100%)	<input type="checkbox"/> Fragment (0-50%)	<input type="checkbox"/> Fragment (51-95%)
<b>07. Material</b> <i>Provide a check next to all suitable answers. More than one answer can be provided.</i>		
<input type="checkbox"/> Brass	<input type="checkbox"/> Copper	<input type="checkbox"/> Iron
<input type="checkbox"/> Lead	<input type="checkbox"/> Other	<input type="checkbox"/> Steel
<b>08. Length (units: mm)</b> <i>Any numeric value.</i>		

**09. Width (units: mm)**

Any numeric value.

**10. Thickness (units: mm)**

Any numeric value.

**11. Weight (units: g)**

Any numeric value.

**12. Weight (grains) (units: grains)**

Conversion - 1 gram = 15.4324 grains

Any numeric value.

**13. Gun part**

Provide a check next to all suitable answers. More than one answer can be provided.

- |                                      |  |                                  |
|--------------------------------------|--|----------------------------------|
| <input type="checkbox"/> Barrel band | <input type="checkbox"/> Barrel/muzzle       | <input type="checkbox"/> Bayonet |
| <input type="checkbox"/> Butt/stock  | <input type="checkbox"/> Lock/trigger/breech | <input type="checkbox"/> Other   |

**14. Crown/head stamps**

Text can be entered into the area provided. Tools presented above the area are used to format and layout the text.

**15. Other trademarks**

Any text can be entered.

**16. Description/General notes**

Text can be entered into the area provided. Tools presented above the area are used to format and layout the text.

**17. Date range**

Any text can be entered.

**18. References**

Text can be entered into the area provided. Tools presented above the area are used to format and layout the text.

**19. Photograph**

A file path is expected. An image file (jpg, gif, tif, png) can be selected by clicking the 'Browse' button. The selected file can reside on the local computer, external hard drive, SD card or USB stick prior to uploading.

Filename/Id:

Device/Source:

**Projectiles**

**20. Projectile type**

Provide a check next to all suitable answers. More than one answer can be provided.

- |  |  |                                |
|--|--|--------------------------------|
| <input type="checkbox"/> Cartridge case only (fired cartridge) | <input type="checkbox"/> Conical projectile (bullet) | <input type="checkbox"/> Other |
| <input type="checkbox"/> Spherical projectile (ball, shot)     |  |                                |

**21. Deformation**

A list of items is presented in a radio button list. A single item can be selected.

N/A                       No                       Unknown  
 Yes

**22. Rifling grooves**

A list of items is presented in a radio button list. A single item can be selected.

N/A                       No                       Unknown  
 Yes

**23. Mould seams (sprue marks)**

A list of items is presented in a radio button list. A single item can be selected.

N/A                       No                       Unknown  
 Yes

**24. Number of grooves**

Any numeric value.

**Cartridges**

**25. Base**

A list of items is presented in a drop down box. A single item can be selected from the list.

Flat base                       Hollow base

**26. Body**

A list of items is presented in a drop down box. A single item can be selected from the list.

Bottle necked                       Straight walled

**27. Firing mechanism**

A list of items is presented in a drop down box. A single item can be selected from the list.

Centre fire                       Pin fire                       Rim fire

**Status**

**Activity**

Recorded by: \_\_\_\_\_ Date: \_\_\_\_\_  
Entered by: \_\_\_\_\_ Date: \_\_\_\_\_

**Sharing**

General public                       View    Edit                      NMP Project team                       View    Edit  
Users                       View    Edit                      Public                       View    Edit

# Appendix 4

## **Weapons of the Queensland Native Mounted Police 1859–1904**



By Tony Pagels

Graduate Diploma Archaeology and Heritage Management student

21/07/2019

This report has been produced as a part of the assessment for ARCH8404 Directed Study in Archaeology graduate topic in the Department of Archaeology, Flinders University.

## WARNING

This report includes references to Aboriginal and Torres Strait Islander people who have passed away and includes racist language and expressions. No offence or disrespect is intended towards any person living or deceased.

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### Cover Image

Native Mounted Police at Coen, North Queensland c1896. The weapons are Snider artillery carbines (Image courtesy of the Queensland Police Museum reference: PM0635).

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# Executive Summary

The aim of this project is to determine the weapons utilised by the Queensland Native Mounted Police (NMP) during their period of operation —1859–1904.

This report is one component of a larger collaborative project between researchers based at Flinders University, the University of Southern Queensland, the University of New England, James Cook University and Aboriginal communities, titled: *The Archaeology of the Queensland Native Mounted Police: Aboriginal – European Interactions on the Queensland Frontier*. This research was supervised by Chief Investigators, Associate Professor Heather Burke and Dr Lynley Wallis.

The study involved a review of primary and secondary sources, archival research, physical examination of arms held in museum and private collections, the analysis of artefacts recovered from NMP camps at Boralga in Cape York Peninsula, Boulia and Eyres Creek in west Qld, and Mistake Creek in Central Qld, and consultation with weapons and ballistic experts in order to determine the weapons utilised by the NMP.

The results show that the distribution and type of weapons used by the NMP from 1859 transitioned from a small selection of muzzle-loading percussion weapons to breech-loading arms with centrefire cartridge ammunition in 1870. The NMP continued to use breach-loading weapons until 1904.

In 1859 the weapons used by the NMP were antiquated single and double barrel muzzle-loading percussion arms, such as the 'Cape' pattern and Constabulary carbines. The appointment of David T. Seymour as Commissioner of Police in 1864 marked a new beginning in the administration—including the approach to sourcing and provisioning of weapons—of the NMP. Sporadic purchases of breech-loading percussion longarms, such as Potts & Hunt double barrelled carbines and revolvers, continued until 1869. A shipment of 200 Westley Richards & Co. double barrel 20G pinfire carbines, purchased specifically for the NMP, arrived in Qld in 1867. However, only a small number were distributed before

they were replaced from 1870 with Snider artillery carbines, along with the introduction of Webley & Son Royal Irish Constabulary (R.I.C.) revolvers.

This research establishes the intent by Seymour to re-arm the NMP with a single type of longarm and handgun, eliminating confusion with ammunition for the multiple weapons on issue. In 1870 the first purchase of Snider artillery carbines MkIII and Webley & Son Royal Irish Constabulary (RIC) .442 calibre revolvers signalled the weapons of choice for the NMP. It was found that between the period 1870–1883 the Qld Government purchased 1000 Snider carbines and 750 Webley revolvers. Not all of these arms were issued to the NMP, but many were, and the reliable supply of trouble-free Snider carbines and Webley revolvers and their ammunition enabled the NMP to operate more efficiently.

The Snider rifle was intended to be a 'stop gap' weapon pending its replacement by the Martini-Henry rifle which was introduced to Qld authorities in 1877. There were considerable purchases of Martini-Henry rifles and carbines; however, the Defence, Volunteer and regular Police forces were the recipients of these arms. The Martini Henry carbine appears only to have been allocated to the NMP in limited numbers during the late 1880s.

Archaeological fieldwork conducted during 2016–2018 recovered in excess of 440 ammunition and weapons-related artefacts from several NMP sites, including a range of government and non-government issue cartridges for longarms and revolvers. The presence of government issue Westley Richards 20g pinfire spent cartridge cases, and Snider and .442 calibre spent cases and projectiles corroborates the use of these arms by the NMP. The presence of non-government issue revolver ammunition casings at NMP sites may indicate the Imperial practice of purchasing private handguns. Spent ammunition cases for shotguns and rifles were also recovered, suggesting the NMP may have been in possession of, or had access to, commercially produced arms. Alternatively, it could be suggested the presence of non-government issue ammunition is the result of activity by non-NMP personnel or unrelated individuals contemporaneously or at a later date.

Further research conducted at individual sites may determine spatial patterns to arms use and provide interpretation of site arrangement and activity areas. The analysis of such

patterns may provide evidence to correlate NMP activity areas on a broader scale, as well as practices within the detachment, further enhancing our understanding of frontier interactions between the NMP and Aboriginal people.



## Acknowledgements

I would like to thank my supervisors, Associate Professor Heather Burke and Dr Lynley Wallis, who work tirelessly on the project and imparted a wealth of knowledge plus have been an inspiration on campus and in the field as well as being extremely supportive of the research. Professor Bryce Baker has also been an inspiration during fieldwork and whilst conducting research in Qld.

The outcomes from this research could not have been achieved without the assistance of individuals and institutions allowing access to various collections of weapons, accoutrements and files. Obtaining access to this material was crucial to the research and I would like to thank Lisa Jones, Curator of the Queensland Police Museum, for enabling access to inspect a range of weapons and accoutrements on display and held in the museum repository. Lisa also provided access to a range of files and photographs held in their collection. Thank you to Judith Hickson, Curator, Social History Cultures and Histories Program and Peter Volk, Assistant Collection Manager, Cultures and Histories from the Queensland Museum, who arranged access to inspect an assortment of longarms and handguns for comparison held in the museum collection. The permission given to examine weapons in these collections established the necessary nexus with the written record, hence cementing an integral component of the project.

The plethora of material generated by eminent weapons expert Ian Skennerton is astonishing, and without this material, which forms a cornerstone in all research on the Snider rifle, this project would not have been possible. Ian has been generous with his time, answering emails and providing useful material and files. Importantly, Ian also arranged the viewing of a private collection of Snider rifles and carbines, explaining the subtle variations in the Mk's. I would also like to thank weapons expert Brian Labbuda for his contribution and enthusiasm plus the great lengths he went to in organising access to an assortment of Snider rifles and carbines, in particular the two Westley Richards & Co. 20g pinfire carbines.

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The ballistic detail of the weapons and ammunition used by the NMP was enhanced by the assistance of ballistics expert Sergeant Alan Pringle and staff at the Victoria Forensic Science Centre, Ballistics Unit, who provided access to the weapons and reading libraries, weapons database and guidance in the examination of ammunition artefacts.

Eight days were spent at the Qld State Archives where I pestered staff each day with my questions, sometimes repeatedly — a big thank you to the patient and professional staff at the Qld State Archives.

This project has been thought-provoking and introduced the author to several people who have made this journey extraordinarily rewarding. Thank you to the Traditional Owners who have shared their Country with me, the QNMP project team and my fellow students.

I would be remiss to not thank my partner, Rachel Watson, and my daughter, Lilian, who have supported the research, and on a broader level my tertiary studies, for their indulgence and providing an opportunity for me to pursue my passion for archaeology.

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# Introduction

## Project Aims and Objectives

The broad aim of this project is to consider the weapons issued and utilised by the Queensland Native Mounted Police (NMP) during their period of operation from 1859 through to the disbandment of the force in 1904.

Three objectives are explored. Firstly, the development and manufacture of ordnance during this period was rapid, providing a selection of suitable weapons for the NMP. I examine variables that influenced the selection and purchase of weapons, plus identify the arms distributed to, as well as available to, NMP members. Secondly, having established the weapons assigned to the NMP, the particulars for each arm and the ammunition are described to identify characteristics distinguishing the ordnance. The combined study of arms and ammunition bridges the gap that currently separates the two areas of research. Thirdly, desktop research is compared against the analysis conducted on arms and ammunition retained in various collections and artefacts recovered during fieldwork to validate NMP activity at nominated sites and corroborate historical material.

This report is one component of a broader collaborative project between Flinders University, the University of Southern Queensland (Qld), the University of New England, James Cook University and Aboriginal communities titled *The Archaeology of the Queensland Native Mounted Police: Aboriginal – European Interactions on the Qld Frontier*.

This project is conducting the first broad-scale and systematic investigation of the archaeological evidence relating to the NMP. The project is led by Associate Professor Heather Burke, Professor Bryce Barker and Dr Lynley Wallis, who manage a team of cross-disciplinary experts conducting research with the assistance of Traditional Owners, PhD candidates and university students.

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## Study Location and Description

The NMP were responsible for quelling disturbances by Aboriginal people against white settlers across Qld and their camps and patrols extended to every corner of the state, from the coast to the harshest and most inhospitable areas of Qld. The project investigated the camps which covered the vast expanse of Qld, however, this study examined weapons and ammunition artefacts recovered during fieldwork within three main regions: Cape York, Western Qld and Central Qld (Figure 1).



Figure 1 The State of Queensland depicting the three areas of concentrated study by 'The Archaeology of the Queensland Native Mounted Police: Aboriginal – European interactions on the Queensland frontier' (QNMP) project.

The three regions provide geographically distinct areas: tropical, semi-arid and arid zones of Qld. Through historical research, a total of 192 NMP camps have been identified

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strategically located across Qld. The accessibility to these sites varies, from easily accessible sites located on private property but close to major centres and roads, to remote sites accessible only by 4WDs along undefined routes across sand dunes, stony terrain and woodlands. The camps at 30 locations have been visited to date, and excavations conducted at eight of these. From these in excess of 440 artefacts relating to weapons and ammunition have been recovered, with the majority from four sites: Boralga (northeast of Laura in Cape York Peninsula), Boulia (Burke River) and Eyre's Creek (south of Bedourie) in the far west, and Mistake Creek (north west of Emerald) in Central Qld. The artefacts are predominantly spent (used) ammunition cartridges, along with some intact and damaged projectiles.

A number of longarms and revolver weapons were inspected during the course of this project. The objects form part of official collections held variously at the Qld Museum, Qld Police Museum, and Victoria Police Ballistics Department, as well as in private collections. These objects are discussed later in the report.

## Relevant Legislation

There are seven legislative acts of relevance to this project: three Federal and four State:

- Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Federal)
- Native Title Act 1994 (Federal)
- Work Health and Safety Act 2011 (Federal)
- Queensland Heritage Act 1992 (State)
- Explosives Act 1999 (State)
- Explosives Regulation 2017 (State)
- Weapons Act 1990 (State)

These Acts are intended to protect sites and objects from damage and disturbance, to provide a safe work environment, and manage the handling of firearms and ammunition.

## Methods

The research for this report commenced in July 2017 following archaeological fieldwork conducted at the Boulia NMP camp in west Qld following recognition of a gap connecting the development of weapons during the 19th century to arms acquired by Qld authorities that were then issued to the NMP. Archaeological investigations were conducted by the project team at sites unequivocally identified as NMP camps, including Boralga, Boulia, Eyres Creek and Mistake Creek from 2016 to 2018. With the exception of surface site recording at Boralga by Cole (2004), there had been no previous archaeological fieldwork conducted at these sites prior to the project. Likewise, prior to this project, archaeological investigation had been undertaken at two massacre sites, Woolgar and Irvinebank. The aforementioned archaeological investigations sought to locate artefacts associated with massacres, specifically remnants of arms and ammunition. No such objects were located at Woolgar (Wallis et al. [2005] as cited in Litster [2006]). In contrast, Genever (1996) identified Snider cartridges and bullet fragments during surface collection at the Irvinebank massacre site.

The importance of locating 'definitive' artefacts — derived from arms issued to the NMP — is fundamental to corroborating the historical and ethnographic record. However, importantly, failing to locate arms and ammunition artefacts at massacres sites does not alter acknowledging that the killings occurred. The ability to detect small artefacts such as bullets is affected by 'visibility', potentially making them more difficult to locate. This does not negate their existence but simply indicates they were not observed (Burke et al. 2017:96). It is for this reason that Barker (2005:12) suggests a holistic approach — connecting the historical record, ethnographic accounts and tangible material — to provide a greater appreciation of the interaction between the NMP and Aboriginal people.



The enormity of arms and ammunition products has caused a diverse approach to the study of ordnance, including by interest, type and calibre, as well as a combination of these examined within a defined period. It is the latter approach that was adopted for this research; scrutinising weapons produced between 1840 to 1904.

The background research on the NMP was sourced in the first instance from Bottoms (2013), Richards (2004, 2008) and Skinner (1975) who defined the NMP as a paramilitary force organised and sanctioned by the Government and tasked with suppressing and dispersing Aboriginal people, ensuring that settlers were able to remain on the land, as well as protecting property from reprisals by Aboriginal people. These sources along with historical documents, on the project database provided reference to the arms used by the NMP; however, the references were nondescript describing the weapons as a 'rifle' or 'carbine' with limited reference to Sniders

The identification of weapons issued to the NMP originated with Robinson's (1997) book, *Arms in the service of Queensland 1859-1901*. The text provides a comprehensive chronological account of weapons purchased for police, volunteers and the defence forces in Qld. However, the work is not focused on the NMP or the particulars of ammunition, hence this report builds upon the work by Robinson to bridge this gap.

There is an immense amount of material produced by all manner of organisations and individuals, including government authorities, manufacturers, ordnance experts, sporting associations, collectors and amateurs. The accuracy of information derived from such diverse sources includes factual details and subjective opinion. Several recognised texts were consulted to familiarise and describe discernible features for the assorted arms and the respective ammunition included in this report. The prominent references for the Snider arm were obtained from Flatnes (2013), Heptinstall (2016), Purdon (1990) and Skennerton (1975, 2003, 2005). The arms requiring extensive research included percussion carbines, Westley Richards & Co. pinfire carbines, P. Webley & Son revolvers and the Martini-Henry arms. Details on the earlier weapons were obtained from historical texts by Jervis-White (1854), Jewitt (1860), Majendie (1872), and the *Treatise on ammunition* (British Government 1877, 1887), along with material held at the British Patent Office. Authors who

have specialised in a particular arm or period include: Dowell (1987) – Webley revolvers; Crudgington (1989, 2011) – shotguns; Black et al. (2007), Pegler (2017) and Prescott (2014) – revolvers; Heptinstall (2016), Skennerton (2007), Temple and Skennerton (1989, 1996) – Martini-Henry. The material gleaned from the longarms and revolvers was combined with details on the ammunition. The major works consulted relating to ammunition included Harding (2006, 2007) – Eley and the Birmingham manufacturers, Temple (1977) – Snider and Martini-Henry; Barnes (2016), Hoyem (1982, 2005), Mattenheimer (1868), Waterworth (1961) – ammunition description, as well as elements from ammunition catalogues by Eley Brothers Ltd (1880, 1886, 1893, 1899 and 1907–1908) and Kynoch (1884 and 1898–1899), in addition to weapons catalogues by Westley Richards (1912) and P. Webley & Son (1877, 1888).

In order to determine the weapons utilised by the NMP between 1859–1904, a holistic approach involving a review of available literature, examination of primary and secondary material, physical examination of arms held in museum and private collections, analysis of artefacts recovered from various NMP camps and consultation with weapons and ballistic experts was conducted.

The NMP had operated under the control of NSW until 1859, when the regulation of the force transferred to Qld; therefore, this date was set to begin the study. Familiarisation of ordnance available prior to 1859 was conducted to provide context to the weapons and influences affecting the directions in arming the NMP.

The identification of weapons issued to the NMP originated from the findings by J.S. Robinson (1997). Initially a chronology was established to identify weapons that may have been purchased or at the disposal of the NMP from primary sources identified by Robinson. Focussing on these arms, retrieval of primary material was undertaken over eight days at the Qld State Archives in Brisbane. The primary material in question is extensive and collected from multiple agencies, thus prohibiting the retrieval of all the documents of interest; where primary source material could not be obtained, Robinson's text provided an explanation.

A short list of weapons was formulated before returning to Robinson (1997), Skennerton (1975, 2003, 2005, 2007, 2009) and other references to identify the weapons more specifically. A process of elimination reduced the list of potential longarms and revolvers, but these weapons were not definitively issued to the NMP. The identifying of the weapons more specifically was then aided by weapons experts providing details of specific features to discern variations in a weapons evolution combined with the physical inspection or viewing images of numerous weapons held in museums, private collections and auction houses. Examples of the longarms, pistols and revolvers available to the NMP are held in the Qld Police and Qld museum, Lithgow Small Arms Factory Museum, Vic museum, Vic Police repository, as well as private collections and offered for sale by auction. In excess of 200 weapons including Constabulary, Yeomanry and Enfield (rifles and carbines, Snider (rifle, artillery and calvary carbines), Martini-Henry (rifle, artillery and calvary carbines), Westley Richards & Co pinfire 20g carbines, , Martini-Enfield (rifles and carbines), Lee-Metford rifles, as well as a range of pistols and revolvers by Tranter, Webley & Son, Beaumont-Adams and Colt, were examined and the distinguishing features of each arm were compared. These features included the shape of the hammer, government stamps, lockplate stamps and construction, loading mechanisms and configuration of hardware and accessories. An understanding of the subtle variations in the models of Enfield, Snider, Martini-Henry, Martini-Metford and Martini-Enfield's rifle and carbines was gleaned from weapons experts Ian Skennerton and Brian Labbuda, which proved invaluable when identifying weapons.

The examination and viewing images of cased revolvers held with auction houses provided not only an example of the arm, but also the available accoutrements such as percussion caps, powder flasks, bullets, shot, bullet moulds, wads, oil bottles, tools and cleaning rods. A comparison between these weapons, along with primary source material also contributed to the identification and description of the revolvers available to the NMP.

Several documentary sources that contained references to the NMP and weaponry of the colonial period (1788–1901) were also consulted, such as the Archaeology on the Frontier database, Trove, British Patent records, online historical literature, firearms and

ammunition on-line forums and associations, Qld Police and Government gazettes and documents held at the Qld State Archives.

Information on cartridge and weapon nomenclature was obtained from a range of texts written contemporaneous to the manufacture of firearms and ammunition through to the current day, including the ammunition catalogues by Eley Brothers (1880, 1886, 1893, 1899, 1907–1908) and Kynoch (1884, 1898–1899), the *Treatise on ammunition* (British Government 1877; Hawkins 1887), as well as weapons catalogues by Westley Richards (1912) and P. Webley & Son (1877, 1888). The results at this point provided a refined list of longarms and handguns that would have been issued to, or been at the disposal of, the NMP.

The final phase of the project was to compare the identified types of weapons to artefacts recovered during archaeological fieldwork. A total of 371 weapon and ammunition artefacts were recovered from four NMP camps: Boralga (n=146) in Cape York, Boulia (n=101) and Eyres Creek (n=114) in the west, and Mistake Creek (10) in Central Qld. The Victoria Forensic Science Centre provided ballistic expertise, as well as access to their weapons and research libraries, enhancing the data and matching weapons to the recovered artefacts.

The interaction between individuals, government departments, and occurrences in Britain and abroad, coupled with the rapid advances in weapons and ammunition technology and production during the 19<sup>th</sup> century were integral in the decision to select a particular weapon for issue to the NMP. A sequence of processes preceded the adopting of any arm — development, design, production, trial and modification. Parallel to these processes were variables such as economics, politics, war, distance and demand. The influence of these interconnected factors on the selection of an arm for the NMP are considered. The material is arranged chronologically based on the development of weapons. However, an overlap exists in the development, production and introduction of each arm, due to the continuously accelerating pace of advances in weapons technology and production during the 19<sup>th</sup> century. Technological advances delivered arms which became progressively

more lethal due to increased range, accuracy and rapidity of fire, but this did not necessarily dictate the use of more modern weapons by the NMP.

Having identified an arm, a synopsis of the weapon and its ammunition provides a correlation to the Qld context. The dividing of arms by type, i.e. longarms and revolvers, further simplifies the discussion. The one exception relates to the Snider artillery carbine and Webley R.I.C. revolver. The invention of the Boxer cartridge insured the success of these arms. Therefore, an examination of the cartridge design and function occurs before the weapons. Also, the purchase of these weapons was in tandem, and for that reason, their review occurs concurrently to minimise confusion. The deciphering of events can be confusing; consequently, each arm is discussed individually before proceeding to the next. Finally, there is a comparison made between the weapons studied, and the archaeological artefacts retrieved from the NMP camps.

## Limitations

Identifying arms issued to troopers was problematic due to the lack or poor record keeping by the NSW and Qld Colonial Storekeepers. The registers of government correspondence at the Qld State Archives demonstrate the short comings in the recording of government correspondence during the founding years of the colony. Registers lacked detail, contained unclear entries and the lack of or missing records highlighted discrepancies in the number and type of arms on issue to the Qld Government forces. The recording of communications did become more organised, unfortunately, there are voids in the surviving government files which are challenging.

A second problem was an ad hoc approach to applying a government stamp to weapons. Before 1869, the marking and recording of arms generally within Qld were ad hoc. Improved recording and marking of arms would have eased the administrative burden when balancing the ledger for arms on hand or dispensed. As such, Robinson (1997:41, 46) stated the Colonial Storekeeper directed in March 1869 that all future arms be marked,

yet, despite this, some arms continued to remain unmarked. The recording of a weapon's serial number and distribution would also safeguard the accountability for a particular weapon. To date, Robinson (1997) and this study have uncovered no documents that systematically record the movement of arms.

## Results: A Question of Necessity

Who were the NMP, what was their role and how did they effect their purpose? The answers to these questions will assist to determine what weapons were used and at the disposal of the NMP.

During the 1700s–1800s, Britain was a leading international power, having secured power by the forceful military occupation of foreign lands. The occupation of new colonies, including Australia, may have initially been with little bloodshed. This position would soon change when the Indigenous population was stripped of their lands and resources, overrun by settlers and controlled by governing bodies and individuals with a Darwinist view of Aboriginal people (Bottoms 2013:24).

Following the arrival of the First Fleet in 1788, conflict between Aboriginal people and settlers increased, and by the 1840s the European invasion and expansion of the colony had slowed, particularly in the north towards what would become Qld in 1859. In 1839, the Border Police had been established in two districts of Qld before separation—Moreton Bay and Darling Downs—to manage the conflict issue, operating until 1846 (Skinner 1975:18–19). Conflict continued nonetheless, and consequently in 1848 the NSW Government legislated the formation of a Corps of Native Police — mounted Aboriginal troopers under the Command of Frederick Walker — to curb frontier violence in the north (Richards 2005:179; Skinner 1975:26). Following Walker's dismissal in 1854 a Parliamentary Select Committee enquiry investigated the behaviour of the NP in 1856 and, as a result, on 2 May

1857 Edric Norfolk Vaux Morisset was recommended and appointed Commandant and Inspector of Police (Skinner 1997:225,229).

Qld separated from NSW in 1859, becoming self-governing. It inherited the existing Corps of Native Police, who were retitled the Native Mounted Police (NMP). The NMP was established to be responsible for the eradication of the Aboriginal population by engaging in military-type operations, and this was achieved by the use of military tactics and aided by the employment of personnel with a military background (Richards 2008:7–8), policing experience or a willingness to learn (De Leiuén 2019).

The NMP was a paramilitary force organised and sanctioned by the Government. They were tasked with suppressing and dispersing Aboriginal people, ensuring that settlers were able to remain on the land, and protecting property from reprisals by Aboriginal people (Richards 2008:9; Bottoms 2013:25). For the NMP, the use of lethal force to quell Aboriginal resistance to European invasion was perfectly lawful if the 'dispersal' was conducted in the defence of settlers and their assets (Richards 2008:24).

NMP personnel consisted of European officers with command over a small group of Aboriginal troopers. The officers included a small proportion of former members of the British armed forces and police with experience in conflicts abroad. In the first ten years of the Force's operation the Aboriginal troopers were selected from the southern areas of NSW and northern Victoria, the border country of NSW and Qld as far south as the Clarence River, as well as the area of Wide Bay, to minimise desertion and avoid lineal connection with the Aboriginal people to be dispersed (Richards 2008:121–128). Their role was not sedentary but based in remote camps and focussed on mounted patrol to respond to incidents of unrest between settlers and Aboriginal people. The NMP continued to operate until the force was disbanded in 1904.

An article by an unknown author described the NMP in part as being:

... clothed in a uniform of blue with scarlet relief, armed with Snider rifles, drilled in semi-military fashion, and officered by gentlemen to whom the life must be supposed to be congenial. Each station is, or should be, formed in a spot sufficiently within reach of mail or telegraphic communication to receive the earliest news of an outrage; wood, water,

and grass are indispensable requisites, and a central position is desirable, to command the district to be patrolled (*Brisbane Courier* 15 June 1878:3).

In 1861, a second Parliamentary Select Committee enquired into the activities of the NMP and conditions of Aboriginal people, the Government acknowledging that 'disperse' did not mean to separate or spread out, but 'shooting to kill' (Queensland Legislative Assembly 1861 Report from the Select Committee on the Native Police Force and the Condition of the Aborigines Generally together with the proceedings of the Committee and minutes of evidence. p.17, 99). In 1860 John Hardie, a squatter from Fassifern, wrote to NMP Lieutenant Frederick Wheeler requesting him to disperse the Aborigines on his property. At the Select Committee hearing on 6 May 1861 Wheeler was questioned about the deaths of Aborigines on Hardie's property, giving the following answers:

Q34. What was the nature of those orders?

A I told them to surround that camp of Teleton blacks, and to disperse them.

Q35. What do you mean by dispersing?

A Firing at them. I gave strict orders not to shoot any gins, It is only sometimes when in the dark, that a gin is mistaken for a blackfellow, or might be wounded inadvertently (Wheeler 1861).

When Hardie was questioned about those same deaths on 20 June 1861 he recounted:

Q53. Is not the common acceptance of the term "dispersing" in reference to the blacks, "firing at them"?

A Well, you may disperse them without firing at them

Q54. Yes, but is not that the general acceptance of the word?

A I believe it is (Hardie 1861).

The Select Committee enquiry in 1861 also included some commentary on arms issued to the NMP. To understand this, however, these must be set against the background of the arms available to the colony of Queensland which, in turn, requires a return to NSW and 1788.



## Weapons of the early colonial period 1788 – 1860

Aboriginal people had occupied Australia for at least 65,000 years (Clarkson et al. 2017) when in January 1788 the First Fleet, eleven ships under the command of Captain Arthur Phillip, sailed into Port Jackson (Sydney Harbour). Phillip had brought with him more than 1300 people — more than half of them convicts (Perkins and Langton 2010:4), but also including 213 Royal Marines under the command of Major Robert Ross. They were armed with the Marine and Militia Pattern flintlock muskets that were known as the 'Brown Bess' (Skenneron 1975:1, 5).

### Flintlock Smoothbore muskets: 'Brown Bess'

The relevance of the smoothbore<sup>1</sup> 'Brown Bess' musket to the NMP is not immediately obvious. The traits of this arm as being unreliable, slow to load and inaccurate, however, become significant in the subsequent selection of arms for the NMP.

'Brown Bess' was the name given to a smoothbore flintlock musket. It was muzzle loading and .75 calibre with a triangular bayonet. Variations included the Short Land Pattern, India Pattern and New Land Pattern Light Infantry models (Skenneron 1975:5, 66–69). These muskets used a paper cartridge containing ball and powder (Figure 2) that could be produced in the field. For expediency the ball could be used 'naked' or wrapped in cloth (Figure 3).

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<sup>1</sup> The bore (aka 'gauge') refers to the diameter of the barrel and is determined by the number of lead balls with the same diameter as the barrel that it would take to weigh one pound (453.59 g or 6999.96 grains) (Gunther and Gunther 1935:6). For example, a 20 gauge has a barrel diameter of .615-inch (15.621 mm), therefore 20 lead balls each .615-inch in diameter would be required to weigh one pound. A solid ball of lead .615-inch diameter would weigh 22.68 g (350 grains).



Figure 2 An example of an 18 bore (.69") paper musket cartridge (image courtesy of Flatnes 2013:117).



Figure 3 (Left) musket ball shown 'naked' or (right) wrapped in cloth for loading in a musket (images courtesy of Flatnes 2013: 125, 153).

The firing a musket was a time consuming and unreliable process, involving tearing the end off the paper cartridge, placing powder on the pan, and then forcing the remaining powder and ball down the barrel. The hammer held a flint that struck the frizzen (the L-shaped bracket locking over the pan), causing a spark that ignited the powder on the pan (if the powder was not damp) which in turn ignited the powder in the barrel to discharge the shot (Flatnes 2013:72–77,105). A hammer with flint hitting against the frizzen is shown in Figure 4.



Figure 4 India Pattern 'Brown Bess' musket. Shown is the flint striking the frizzen above the pan to cause a spark igniting the powder in the pan and chamber to discharge the shot. The unreliable action coined the phrase 'a flash in the pan' (image courtesy <<https://goo.gl/images/BQxMP2>>).

There were slight variations in the size and weight of the powder and ball in the paper cartridges. Generally, British musket cartridges contained 8 drams (220 grains) of powder, enough for the pan and discharge load, and although the barrel was .75-inch (19.05 mm) in diameter, the ball only measured .685" (17.4 mm) and weighed 36.1 g (Flatnes 2013:106,107; Hoyem 2005:6,28). The disparity in the diameter of the barrel and the shot allowed the surrounding bulk of the cartridge paper or cloth to fit down the barrel, however, this contributed to the weapon's inaccuracy. The smoothbore musket had one quality that soldiers particularly valued: the paper cartridge could be made to contain a 'buck and ball' load which contained a regular size ball plus two or more buckshot, (.30 calibre or 7–8 mm) thereby off-setting the muskets' inaccuracy by increasing the chances of striking a target (Flatnes 2013:115,121).

Although large numbers of flintlock muskets, including the Brown Bess<sup>2</sup>, were on issue in Tasmania, Victoria and NSW during the nineteenth century, despite their popularity they

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<sup>2</sup>And also including so-called Baker rifles.

appear not to have been used by the NMP. Robinson (1997:17) clarified this by questioning William Meagher during a Select Committee hearing on the Victoria Defence Force in 1871:

Q.669 Out of the 7000 are there any that are commonly referred to as Brown Bess?

A. No, but there are 349 double barrel guns in addition.

Q.670 Are they rifled?

A. No

Q.671 Where did they come from, do you know?

A. Yes, I was armourer in the police when they were? sent down, at the first formation of the Volunteers. I think they were the arms brought out for the police. I think a similar arm is used in Pentridge at the stockade. They were in the police and when the volunteers were short of arms they sent them down, and since, they sold some to the Queensland Government.

This suggests that the NMP would not have been in possession of Brown Bess muskets and identifies the first weapons requested by the first Governor of Queensland, George Ferguson Bowen in January 1860, as being 'double barrel carbines' (Robinson 1997:16).

In summary, the Brown Bess flintlock musket and its variations were by all accounts unreliable, slow to load and inaccurate, yet remained in use by the British forces until the mid-1800s despite advancements in weapons technology (Flatnes 2013:106–113).

## Percussion Muzzle Loaders

The mass production of the 19th century saw three significant technological advances in weaponry and ammunition: how the powder was delivered and ignited, how the shot was loaded and the accuracy of the shot. These advances resulted in the replacement of

flintlock muzzleloaders with percussion cap muzzleloaders. In 1807 Scottish Reverend Alexander J. Forsyth patented a percussion lock to replace the flintlock system (Hoyem 2005:15), and in 1822 Englishman Joshua Shaw patented the percussion cap in America (Hoyem 2005:15). The percussion cap was a hollow copper cap filled with fulminate (detonating) mixture. The cap was placed by hand over a 'nipple', which screwed into the barrel. The hammer would strike the cap, causing ignition of the powder in the barrel to discharge the shot (Hoyem 2005:15). The image in Figure 5 depicts the hammer and percussion lock which replaced the flintlock.

Another significant development was 'rifling' —spiralling grooves inside the barrel — that caused the ball to spin after firing, thereby improving accuracy (Flatnes 2013:129). The British 'Minié' rifled musket was adopted in 1851 and marked the major transition from smoothbore to rifled muskets. Followed by the Pattern 1853 (P1853) Enfield rifled musket with a smaller .577-inch calibre, three-groove rifled barrel (Skenneron 1975:77); this weapon was commonly known as 'The Enfield' and was produced at the Royal Small Arms Factory in Enfield, UK. Introduced during the Crimean War, the 3-groove rifling increased accuracy and heralded the turning of a soldier into a marksman (Flatnes 2013:237). This change drove a range of linked social developments, including the demand for arms, the formation of volunteer units and promoted sporting competitions, along with the establishment of rifle associations (Skenneron 1975:7).

Improvements to the composition and manufacture of gunpowder also meant less powder was required to discharge the shot. The musket load required a charge of 8 drams (220 grains), which was able to be reduced to 4.5 drams (124 grains) following the introduction of the .685-inch ball contained in a paper cartridge used for the percussion musket (Flatnes 2013:107). Hence, while the paper cartridges for percussion weapons appear similar to those used in flintlock musket cartridges, they are, in fact, shorter (Hoyem 2005:21).



Figure 5 Potts & Hunt single barrel percussion carbine. A percussion cap is placed over the nipple and struck by the hammer causing a spark to ignite the powder in the breech. The carbine is from the Queensland Museum collection catalogue number: H1480 (image by Tony Pagels).

A major drawback to implementing any new technology is the inherent expense. By 1822 British stores were full of flintlock muskets and the development of the percussion lock and cap offered a cheap and effective means to convert these weapons (Jervis 1854:vi). Unlike the Americans, however, the British were slow to accept the percussion lock, with the introduction of percussion muskets not occurring until 1839; they remained in service until the introduction of the Minié rifle in 1851 (Anonymous 1899:14). Skennerton (1975:8—17, 70—89) described the range of percussion muzzleloaders and rifled muskets produced and distributed during the early 1800s to the emerging colonies of Tasmania, Western Australia, South Australia and NSW. The arms most commonly encountered included smoothbore Pattern 1839 and Pattern 1842 muskets, Constabulary 1840 and Pattern 1844 Yeomanry carbines, as well as 7 grooved Baker rifles, 2 grooved Brunswick rifles, 4 grooved 'Minié' rifles and 3 grooved Pattern 1853 Enfield rifles. Importantly, there was considerable variation in the bore (calibre) of these weapons, with the size of the ammunition varying from .568—.753-inch for smoothbore muskets, and .577—.704-inch for

rifled muskets. The variations in these weapons, calibre and the ammunition proved contributing factors influencing the selection of arms, as well as the efficiency of the NMP. The assortment of weapons and ammunition caused confusion when selecting the correct ammunition (Barron 1873; Seymour 1875), therefore, by re-arming the NMP with a single type of weapon would remove any ambiguity and increase efficiency, by ensuring they were well-armed.

## The Colony of Queensland 1859

### Factors Affecting the Supply of Arms

Weapons and ammunition were designed for war, and with innovations occurring at a rapid pace, an arm could be outdated before its introduction into service. The British War Office selected weapons for the British troops, which dictated the arms suitable for use by colonial forces. This selection process took time, and the introduction of a weapon was influenced by the complex interconnections between events occurring locally and abroad, availability and supply, the tyranny of distance and communication along with misguided beliefs.

Weapons were produced more efficiently through mass production, but the major drawback to implementing any new technology was the inherent expense. The British War Office sought to reduce costs by modifying weapons on hand: converting flintlocks to percussion arms and modifying percussion rifles to become breech loaders pending the development of the perfect weapon for the infantry (anonymous 1899:14). The colonies in Australia were reliant on the purchase of weapons and stores from Britain, which due to distance and communication by letter, meant it took several months or years to arrange and finally receive provisions. Furthermore, Britain's involvement in a range of conflicts abroad meant the War Office directed resources to these campaigns in preference to the supply of arms to the colonies. During the early and mid-19th century Britain had been

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involved in the Napoleonic Wars (1802–1813), the Crimean War (1853–1856) and the Indian Mutiny (1857–1858), all of which required the War Department to concentrate on providing weapons and resources (Flatness 2013:237, 241). British arms manufacturers were then further inundated by a demand for P1853 Enfield rifles for use in the American Civil War (1861–1865) (Flatness 2013:241). Consequently, the British government stores were unable to accommodate the requisitions for arms and ammunition by the Qld Government. As a result, they were leaving Qld, along with the other colonies, to negotiate the purchase of arms and ammunition, from commercial manufacturers and private contractors in Britain or elsewhere, in line with or comparable to weapons approved by the British War Office.

A further increase in demand for arms by the colonies occurred the British Government announced the intention to withdraw all troops by 1859 — the last troops did not leave until 1870 — and recommended the colonies form volunteer forces to counter a Russian or French invasion (Skenneron, 1975:1,2).

Ultimately, weapons and ammunition came from Britain, causing the delay of supplies due to the tyranny of distance. Plus, communication was by letter, therefore it took several months or years to arrange and finally receive provisions. Consequently, a weapon or ammunition could be outdated or no longer manufactured by the time they reached the shores of Qld.

By the late 1850s the development of superior breech-loading weapons and self-contained centrefire ammunition had changed the face of conflict. Nevertheless, the British War Office was reluctant and slow to embrace the new technology, fearing soldiers would expend their ammunition too quickly and believed ammunition was unsafe and liable to accidental detonation. (Majendie 1872:18).

It is with consideration to these factors that place the selection of weapons for the NMP in context.



## Arming the Forces

The colony of NSW incorporated Victoria until 1851 and Qld until 1859. Prior to 1859 servicemen, weapons and ammunition were under the authority of NSW, with stores dispensed by the Colonial Storekeeper in Sydney. Unfortunately, the absence of detail in the NSW records is problematic for identifying arms distributed to what would later become Qld (Robinson 1997:16).

The arming and establishment of a police force for the protection of settlers was a necessity for the fledgling Qld government, but was not the only reason for establishing a police force. The British Government had announced they were withdrawing troops by 1859 and recommended that each Colony form a volunteer force to replace them in order to repel any threats from foreign powers (Skenneron 1975:1,2). An international threat was unlikely, though the conflict with Aboriginal people was a reality.

Administration of the new Qld colony was placed in the hands of the first Governor, George Ferguson Bowen, along with his private secretary, Robert George Wyndham Herbert, who was appointed Colonial Secretary (*Qld Government Gazette* 17 December 1859 p.5) and later Premier from 1860–1866 (Joyce 1969). There were no soldiers in Qld when Bowen arrived in 1860, and he quickly deployed the NMP, established a 'regular' Police Force and formed the Volunteer Defence Force comprising 25 mounted infantry and 100 riflemen, to defend the colony (Robinson 1997:14; *The Moreton Bay Courier* 9 February 1860:2).

The efficiency of the new armed forces would be enhanced when equipped with the most technologically advanced weapons available. Instead, Bowen requested 12 outdated double barrel carbines from the NSW Colonial Storekeeper in January 1860 (Robinson 1997:16). Morisset possibly guided this decision since the NMP were already issued with these and other arms, all of which were antiquated single- and double-barrel smoothbore muzzle-loading percussion carbines and pistols. Robinson (1997:16) and Skenneron (1975:8—17,74,75,80,89—91) suggested more advanced weapons would have been

available such as the 'Minié rifles in 1851 (Flatnes 2013:373; Skennerton 1976:14,77), P1853 Enfield rifle and carbines (Skennerton 1976:14,80,89) as well as the Calisher & Terry capping breech-loader (Flatnes 2013:527; Skennerton 1976:14,90,91).

In early 1860, the Qld Government was endeavouring to obtain clothing and equipment, including firearms and ammunition for the regular police and the NMP. In February 1860, the *Qld Government Gazette* advertised for tenders to supply clothing for the foot police, white mounted police, camp sergeants and native police (*Qld Government Gazette* 29 February 1860 p.98).

The *Qld Government Gazette* (3 March 1860, p.98; 17 March 1860 p.110—111; 29 March 1860, pp.115,116; 31 March 1860, pp.119; 7 April 1860, pp.130,131) advertised tenders to supply equipment for Qld's police forces, including 20 bayonets with scabbards, 20 carbines, 20 cartouche pouches, 12 pistols, 10,000 round ball cartridges, 2,500 blank round ball cartridges, 15,000 percussion caps and other accoutrements. Under-Colonial Secretary Abram Orpen Moriarty was unable to secure a supply of the tendered firearms and ammunition locally, and they were subsequently sourced from the NSW and Victorian Colonial Stores (Robinson 1997:17). There is no definitive description of what arms were supplied as a result, but Robinson (1997:18) and Skennerton (1975:11,74,75) argue they were Constabulary and/or Yeomanry carbines because they were widespread amongst the Colonies and well suited for use by mounted troops.

Meanwhile, on 2 February 1860, 2<sup>nd</sup> Lieutenant John Darley of the NMP was sent to Sydney to secure clothing and arms (Robinson 1997:19), while at the same time Mr Wallace of Sydney offered Enfield rifles to the Qld government, with the sale to be negotiated by Messrs Buttrey & Co (Buttrey & Co.1860a; Wallace 1860). Darley inspected the Enfield rifles in Sydney before notifying Morisset on 14 March 1860 that these were the same as those on issue to the 12th Regiment soldiers in Sydney. There were 24 rifles on offer and Darley, understanding the importance of securing both ammunition and arms, took the initiative of ordering a '6-hole bullet mould' (Darley 1860). A letter from Morisset to the Colonial Secretary in April 1860 advised of Darley's investigation. A relevant notation in the margin states that the Enfield rifle was "suitable (tho' rather heavy) for foot volunteers"

(Morisset 1860). The purchase was approved and on 14 May 1860, Messrs Buttrey & Co informed Darley that the Enfield rifles, along with 10,000 military caps and the bullet mould, had been shipped to Qld aboard the *Yarra-Yarra* (Buttrey & Co. 1860b).

An inference can be drawn from the fact that this early arms purchase noted that the Enfield rifles were the same as those on issue to the 12<sup>th</sup> Regiment. It is possible that this similarity was deliberate and that plans were afoot to allow NSW soldiers to provide military support to Qld, as less than 12 months later on 13 February 1861, Lieutenant David Seymour — later to become Qld Commissioner of Police — arrived in Moreton Bay with 25 soldiers of the 12<sup>th</sup> Regiment equipped with Enfield rifles (Robinson 1997:14). This further suggests the purchase of the “suitable (tho’ rather heavy)” Enfield rifles were intended for Seymour’s regiment, the foot police or volunteers, rather than the horse-mounted NMP.

In December 1860, the *Qld Government Gazette* (29 December 1860 p.534,535) called for two tenders: the first to supply ammunition and accoutrements specifically to the NMP; and the second to supply weapons and clothing to all of the Qld police forces, including the NMP. The first, NMP-specific tender required the supply of 10,000 rounds of ball cartridges, 2,500 rounds of blank ball cartridges, 15,000 percussion caps, 10 cleaning rods, 9 cavalry swords, 1 wad-cutter (for carbines) and 180 badges. The second tender required the supply of 5,000 rounds of ball cartridges, 8,000 rounds of blank ball cartridges, 42 double-barrelled carbines, 120 light cavalry swords, 20 holster pistols, 10,000 percussion caps, 22 worms, 30 lock cramps, 30 three-arm nipple wrenches with turnscrews and 50 spare nipples, along with 16 carbine buckets, 45 cartridge pouches, each containing 10 rounds, 25 frogs for bayonets and 16 handcuff cases (*Qld Government Gazette* 29 December 1860 p.535). Obtaining the supplies of arms and ammunition from local merchants proved difficult; therefore, again, a request was made to the NSW Colonial Stores, which provided all the articles apart from the double-barrel carbines (Robinson 1997:19).

## The NSW Connection: The Double Barrel 20 bore, Constabulary and Yeomanry Percussion Carbines.

The adoption of the double barrel smoothbore carbines by the NSW (later Qld) NMP dates to 1839 when Christian L.J. De Villiers, who had experience with the native Hottentot police in South Africa, was engaged by the NSW government to offer advice on the establishment of a native police force (Skinner 1975:25). The double barrel carbine was highly effective in quelling the skirmishes in South Africa and perhaps De Villiers' influence, as well as the parallels in circumstances between South Africa and the Australian colonies, suggested the double barrel carbine would be equally effective in NSW. The arm is referred to as the 'Cape' pattern carbine as used in South Africa by a unit not dissimilar to the NMP, a para-military frontier armed mounted police unit, known as the Cape Mounted Riflemen (Ex C.M.R.1881:3). The arms, however, differ, as the Qld weapon has two smoothbore barrels while the South African design consists of one smoothbore and one rifled barrel (Robinson 1997:17) originally intended for hunting large game (Greener 1871:96). A letter written to the Governor General of NSW, Sir William Thomas Denison, by Governor Bowen on 18 January 1860 requested the supply of 12 double barrel carbines (Robinson 1997:16). As mentioned, Morisset's connection with the NP and experience with the double barrel carbine may have influenced Bowen's decision to acquire more of these arms. Robinson (1997:16-17) connected this request with the comments made by William Meagher during the 1871 Select Committee hearing — 'some double barrel carbines were sold to the Qld government' — which Robinson (1997:16,17) identified as a portion of the shipment sent to NSW in 1855. Robinson (1997), following the physical inspection of one of these arms, has defined it more completely as a 20 bore double barrel percussion carbine with side bar and travelling ring for securing the arm on horseback. The muzzle has a trumpet shape guard for the ramrod and a scrolled shaped extension to the trigger guard. These are marked on the lock at the rear of the hammer with a crown over V.R. and 'Tower 1854', as well as with 'T. Turner' under the fore-end of the barrels (Robinson 1997:17).

The double barrel carbine had the advantage of being one of the shortest arms in the colony at the time, with an overall length of 41.6-inches (105.66cm). Fitted with the travel bar for cavalry use, these features were advantageous when operators were on horseback (Figure 6) (Robinson 1997:17). Other available weapons were longer, single barrel arms, effectively making them useless once discharged and extremely difficult to reload on horseback.



Figure 6 Double barrel 20-gauge cavalry carbine also known as the 'Cape' pattern carbine with the trumpet bracket for the ramrod and the scrolled trigger guard extension (Robinson 1997:17) (image courtesy of Skennerton 1975:76).

The double-barrel carbine was a percussion smoothbore weapon and therefore, like the musket, gave troopers the option to prepare paper cartridges in the field by casting lead balls in various sizes to create a single shot or 'buck and ball' loads or use the ball 'naked' or wrapped in cloth. The diameter of the barrel is .653-inch (16.586 mm) discharging a .615-inch (350 grain) solid lead ball. Alternatively, the weapon could discharge a 'buck and ball' load containing two or more buckshot with a diameter of .30-inch (7.62 mm) and weighing 40.5 grains (2.62 g).

Surviving old photographs can provide direct evidence, as well as corroborate historical documents, to clarify the weapons used by the NMP. For example, the double barrel carbine is shown in a photograph taken in c1860s which depicts Inspector George Murray along with two Inspectors and two NMP troopers, Carbine and William Nimble (Figure 7). Carbine and Nimble are to the left and right of the image, respectively, standing to

attention and each is supporting a double barrel carbine which appear to be the 'Cape' pattern with trumpet bracket muzzle and scrolled trigger guard as described and shown in Figure 6. The double barrel carbines held by Carbine and Nimble may have been weapons transferred with the troopers from the NSW Native Police or part of Bowen's 1860 requisition.



Figure 7 NMP troopers Carbine and William Nimble, on the far left and far right respectively, are supporting 'Cape' double barrel carbines characterised by the ramrod bracket and scrolled trigger guard extension. Originally from the James Grant Pattison collection (courtesy Judy Baldwin, Mackay Historical Society Museum). Original caption on rear reads: 'Left to right. Tracker. Inspector John B D. Marlow, Inspector John Murray [sic], Inspector Compigne, Tracker. John Murray avenged the Mount Larcom murders in 1856.' (image courtesy of State Library of Queensland. Negative Number 147045; Accession number D2-8-87).

A second photograph of Murray with his detachment of NMP troopers along with their weapons was taken in Rockhampton on 12 January 1864 (Figure 8). NMP trooper Carbine, standing far left, is again pictured with the same pattern double barrel carbine shown in Figure 7. This image is important because it also depicts seated NMP troopers holding a different weapon to Carbine. Although the image is well preserved, the breech and muzzles held by the seated troopers are obscured by their hands, affecting the certainty with which these weapons can be identified. However, the weapons appear to be more akin to the Constabulary carbine than the Yeomanry carbine, having the shorter fore-end timber and protruding ramrod rather than the heavier timber fore-end and ramrod terminating near the muzzle. The Constabulary carbine is shown in Figure 9 while Figure 10 depicts the Yeomanry carbine. A photograph depicting two NMP troopers holding Yeomanry carbines is shown in Figure 11. This image visibly portrays the distinctions in the arm's length, fore-end terminations and ramrod design to the Constabulary carbine as described by Skenneron (1975:74,75) and shown in Figures 9 and 10.



Figure 8 George Murray and his detachment of Native Mounted Police, 12 January 1864. Inscription on verso. "To Miss Minnie Murray Warrawang from your affectionate brother G.P.M. Murray, Lieut. Comm. of 1<sup>st</sup> Division Native Mounted Police. Headquarters, Rockhampton, January 12, 1864". Back row, left to right: Carbine, 1st Lieutenant, 2nd Lieutenant, Sergeant, Corporal Michael Front row, left to right: Barney, Trooper Hector, Trooper Goondallie, Trooper Balantyne, Trooper Patrick. Carbine, standing far left is supporting a double barrel carbine while the seated troopers appear to be armed with Constabulary carbines (image courtesy of Mitchell Library. State Library of New South Wales and the Murray family [PXE1635/Folder 4, 1]).



Figure 9 Pattern 1840 Constabulary carbine .653-inch smoothbore were issued in NSW, Victoria, Tasmania and Western Australia. A 13" triangular blade bayonet was available for this weapon (Skenneron 1975:74) (image by Tony Pagels).



The Yeomanry carbine is shorter than the Constabulary carbine at 36-inches (914.2 mm) and 42.5-inches (107.95 mm) respectively. Both weapons are .653-inch (16-20 bore) smoothbore percussion arms. The ramrod for loading the Constabulary carbine is completely removed from the arm when loaded, as opposed to the 'captive' ramrod fitted to the Yeomanry carbine. The 'captive' ramrod swivels on a mount below the muzzle to prevent loss while reloading on horseback (Skenneron 1975:74,75).



Figure 10 Pattern 1844 Yeomanry carbine .653-inch smoothbore were issued in NSW. An example of this carbine is described by Skenneron (1975:75) to have Qld government marks. The Yeomanry carbine has a swivel ramrod to prevent loss while reloading on horseback (image by Tony Pagels).



Figure 11 Detail from a photograph depicting two NMP troopers holding Yeomanry carbines. The original photograph shows the two unnamed troopers with four white officers (Cahill, Power, Julian). The date is unknown, however, Andrew Cahill's appointment to the NMP spanned from 1867 to 1891, comparing the uniforms shown in Figure 8 suggests the images dates to the 1860's (image courtesy of the Qld Police Museum reference PM0680a).

### Problems maintaining supply of up to date weapons

The proceedings of a Select Committee enquiry conducted in mid-1861 enlighten us as to the poor resourcing of the NMP, as well as confirming the weapons on issue (Queensland Legislative Assembly 1861:2). During the proceedings Commandant Edric Morisset and Acting Commandant John O'Connell Bligh described the weapons carried by the NMP as 'single- and double-barrel carbines', with no mention or reference to pistols or revolvers (Qld Legislative Assembly 1861:149,157). Given how rapidly weapons and ammunitions were developing internationally, it is clear that by 1861 the QNMP arms were extremely outdated.

The Select Committee was critical of the Secretary John McDonnell, who was responsible for ensuring troops had sufficient supplies, including clothing and ammunition, the latter of which was sorely lacking:

Q.52 Since you have been in the office- about a year and a half- has any ammunition been sent to the third division?

A. No, none.

Q.53 During that period you have never been able to send any?

A. No.

Q.54 They have been left to their own resources?

A. Yes, to whatever they had on hand: there has been no ammunition in the Colony at all

Q.70. Do you think the Native Police Force is almost useless without sufficient ammunition?

A Certainly: but this Colony has been in a peculiar condition with regard to stores: there have been no stores to fall back on, and it has been impossible to get ammunition (McDonnell 1861).

McDonnell stated that tenders had been sought unsuccessfully to supply ammunition and as a result ammunition was ordered from the Colonial Storekeeper of NSW on 25 April 1860. However, the ammunition had still not arrived by the start of the hearing on 1 May 1861. Morisset stated, that in the absence of a regular supply of ammunition, troopers were making their own cartridges, and purchasing ammunition from 'different places all through the country', which was adding to Force expenses. The committee also sought clarification from Morisset about the condition and suitability of the firearms on issue:

Q.245 What description of firearms are used – would you suggest any improvement in the firearms?

A. Yes, if it were possible to arm all the men with Terry's breech-loaders, I think it would be desirable to do so, particularly in new country; the double-barreled are very good.

Q.246 Are not the present firearms very old and inferior?

A. Some are; we have two descriptions of carbines – single and double; the double-barrelled are very good.

Q.247 Only some of the divisions have the double-barrelled carbines?

A. Only a few troopers of the first division are armed with them.

Q.248 The third division have not got them?

A. No.

Q.249 You would recommend the issue of an improved description of carbine?

A. Yes, if you could get Terry's breech-loaders; otherwise I recommend all the troopers should be provided with double-barrelled carbines such as some of them have at present (Morisset 1861).

When Bligh was asked for his opinion on the NMP weapons he suggested the only improvement would be to issue all personnel with double barrel carbines.

Q.154 Do you think there ought to be a superior sort of carbine to the old single-barrelled carbine?

A I think the only improvement would be to have double-barrelled carbines of the same description.

Q.155 How do the troopers usually carry their carbines?

A In a bucket.

Q.156 Can you suggest any better mode?

A No. I think that is the best way. The barrels are not long enough to admit of their being carried as the Cape Mounted Rifles carry their pieces with the butts downwards (Bligh 1861).

Morisset and Bligh conceded that the lack of ammunition was untenable and agreed the establishment of a Colonial Storekeeper based in Brisbane would alleviate the problem. They both suggested another appropriate measure would be to supply all NMP personnel with the same arm, either the 'Terry breech loader'— otherwise known as the Calisher &

Terry 30 bore capping breech loader — or the double barrel, muzzle loading carbine currently on issue to some troopers (Bligh 1861; Morisset 1861).

### Percussion Breech-Loaders: Calisher & Terry 30 bore capping breech loader

The transition from muzzle loading to breech loading rifles was one of the major improvements in weapons technology. It required the development of a reliable gas-tight seal in the breech to prevent the explosive gases blowing back and injuring the shooter (Flatnes 2013:26), which was achieved in 1856 by William Terry, who then patented his breech loading single barrel percussion rifle<sup>3</sup>. To use the weapon a folding sliding block handle was pulled backward and upwards to the rear exposing the chamber, a paper cartridge was then inserted into the chamber before returning the bolt to its original position, and then a percussion cap placed over a nipple used to ignite the cartridge in the chamber (Terry 1856). A section diagram of the loading mechanism is shown in Figure 11, when the chamber stopper, marked 'd', was locked in place it created the gas-tight seal.

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<sup>3</sup> This functioned in a similar manner to current bolt action rifles.



Figure 12 Section diagram of the Calisher & Terry capping breech-loader with the bolt withdrawn to show the cartridge in the chamber. The paper cartridge is loaded from the right side through the opening marked 'h' and the gas-tight seal is achieved when the stopper, 'd', is locked in place (Walsh 1859:333).

The first pattern Calisher & Terry rifle was .56 calibre and had three groove rifling — from 1860 the Pattern No.2 was produced with modifications reducing the bore to .539 calibre (30 bore), the rifling increased to five grooves with right hand twist, and a barrel band removed (Skennerton 1975:91). The rifle had an overall length of 128.27 cm (50.5"), and the carbine version (which simply had a shorter barrel) an overall length of 95.25 cm (37.5"), making them well suited for mounted troops (Skennerton 1975:90,91). An example of a NSW police issue Pattern No.2 Calisher & Terry carbine examined by the author is shown in Figure 13; this is the same pattern as the Qld purchased arms (Skennerton 1975: 91).



Figure 13 Calisher & Terry .54 (30 bore) single barrel capping breech loading carbine. This weapon is a Pattern No.2 and NSW police issue marked P173 on the tang and is the same pattern purchased for Qld (image courtesy Australian Arms Auctions. Retrieved from <https://www.findlotsonline.com/auction-lot-details/12445/>).

The cartridge for this weapon was a special, consumable, nitrate-treated paper cartridge patented by Terry in 1855:

I take the hollow conical or other bullet, and place it in the mould, having formed around it the case to contain the charge, which may be made of two, three or four folds or coils of the proper and suitable strong paper. The case is filled in the usual way, rammed up, and the ends of the case turned over and secured upon a cardboard or other thin disc or wad, to which is attached the thick felt or other wad, which completes the cartridge, ready for packaging or immediate use (Terry 1855, patent No.812).

The unique nature of this ammunition and breech system lay in the thick wad of greased felt at the rear of the cartridge. The wad had a dual function: firstly, to seal the end of the chamber preventing the escape of gas and secondly, to clean it. The latter was achieved through the following process: once the bullet was discharged the wad was left in the barrel and a fresh cartridge was then inserted behind it, the discharge of which would expel the wad, thereby cleaning the chamber of normal fouling plus lubricating the bore (Wolff 1961:12). A cross-section diagram of the Terry cartridge is shown in Figure 14 the left image depicts the thick felt wad at the base of the cartridge Harding (2006:63), while the image on the right is an example of an unfired cartridge from Hoyem (2005:230).



Figure 14 (Left) Illustration of a Calisher & Terry .544 cartridge in section and complete from an ammunition manufacturer, Eley Brothers, flysheet published sometime between 1870–1874 (image courtesy of Harding 2006:63). (Right) Example of a Calisher & Terry unfired cartridge (image courtesy of Hoyem 2005:230).

The bullet has been described in different sources as either the Pritchett with clay plug (e.g. Harding 2003:63; Majendie 1872:11), or a Pritchett conical projectile with deep hollow base (e.g. Jewitt 1860:35; Mattenheimer 1868:9, 12, 18) at 34.34 g (530 grains) as used for a short time in the Enfield rifle (as shown in Figures 14 and 15). The original bullet design had a shallow depression as its base to promote expansion on discharge. A later design modification to ensure the bullet expanded rapidly and was forced into the rifling on discharge was the addition of an iron base plug, replaced in 1856 with boxwood and in the 1860s with clay (Figure 15) (Majendie 1872:8–11).





FIG. 15.—BULLET USED IN ENFIELD RIFLE.

Figure 15 Diagram of the Pritchett bullet as used in the Enfield rifle and later the Calisher & Terry cartridges. The later produced bullet for the Calisher & Terry is marginally smaller to suit the reduced .539-inch barrel. The base plug was initially iron, replaced in 1856 with boxwood and in the 1860s with clay (Majendie 1872:11).

Although the bullet for the Enfield rifle and Calisher & Terry were the same design they can be distinguished by the external measurements and post firing rifling marks. The Enfield rifle would leave 3-groove rifling impressions on a .568-inch (14.43mm) diameter bullet, compared to 5-groove rifling impressions on the later .539-inch (13.39 mm) bullet from a Pattern No.2 Calisher & Terry carbine (Hoyem 2005:51,72,98; Skennerton 1976:79,80,90,91).

The 'Terry breech loader' had received praise from several quarters, including Jewett (1860:32) in England, who considered it:

... [a] powerful and well-constructed breech-loader ... one of the most simple in construction, and yet most highly effective as a rifle arm, especially for cavalry purposes, of all the varieties now in use (Jewett 1860:32).

In 1860 the Qld authorities obtained a sample 'Terry' rifle and carbine (along with sword) from Jacob Montefiore. Following deliberations, it was agreed, in July 1860, that the Terry rifle with sword bayonet at £9, plus the carbine at £6/15/- would be purchased (Robinson 1997:21,22). Monsset's comment that 'all men' should be armed with the 'Terry breech loader' suggests this was his preferred weapon for the NMP, if not the double-barrel carbine would suffice. The first shipment of Calisher & Terry weapons arrived in 1861. Coupled with additional purchases, this meant that Qld had acquired a total of 207 rifles and 164 carbines (Robinson 1997:26). These have been identified as the 1860 Pattern

No.2, which were manufactured and marked on the lock plate 'CALLISHER & TERRY, LONDON. The barrel was marked 'CALLISHER & TERRY MAKERS TO H.M. WAR DEPARTEMENT' and 'TERRY'S PATENT — 30 BORE', and a local issue number can be found on the top of the butt plate tang (Skenneron 1975:14,18,91).

Although some of the arms were later issued to the Qld Police, the vast majority were destined for the Volunteer Forces (Robinson 1997:21,26). The total number of weapons supplied to the police is unclear and they were most probably the carbine model based on Jewett's (1860:32) comment. Sources indicate 40 or 50 Calisher & Terry carbines were issued to police in May 1865 after they were returned to the stores from disbanded volunteer groups, followed by a request in 1866 to supply the police with an additional 20 carbines, which was denied (Robinson 1997:27; Qld Government 2019). The vague nature of these reports causes speculation as to which Police received these carbines. NMP personnel may have received all or a portion of them, alternatively, they may have all gone to members of the regular police; to date there is no evidence either way.

Use of the Calisher & Terry weapons and ammunition was not without controversy after it was discovered the majority of the paper cartridges held in Qld stores were affected by damp, rendering them inoperable. Having sought an explanation from Calisher & Terry, it was 18 months later (in November 1863) that a reply was received, attributing the fault to the ingredients in the wad and lubricant (Robinson 1997:26,27). The ammunition was not the only cause for concern, as reports were received of breakages to the stock at the wrist (i.e. between the butt and breech), the long percussion hammer, and to the bolt handle and shaft (Robinson 1997:27,216). In order to remedy faults to the arm, Henry Calisher (1866) registered patent No.1932 'Certain improvements to the fire-arm', but the modifications were not enough to prevent Calisher & Terry going out of business in 1870, due in part to the inability to convert the arm to accept the newly invented metal cartridge ammunition.

## Return of the Double Barrel Carbines

Given that the Terrys proved so problematic and it is unclear whether any were issued to the NMP, whereas the double barrel carbines continued to be the weapon of choice for the NMP throughout the early 1860s. Colonial Secretary Herbert had commenced advertising for tenders to supply arms and ammunition in the *Qld Government Gazette* from 29 December 1860 (p534,535), although Robinson (1997:19) has suggested that the prior situation remained unchanged, i.e. no suitable person(s) could be found to supply the weapons and cartridges as per the government contract. Consequently, in April 1861 the NSW Government Storekeeper was again approached but was unable to provide the carbines. The task was then left with the international Agents, Messrs Mangles & Co in London to organise the purchase and shipment of 50 double barrel carbines and 50 single barrel carbines to Qld (Robinson 1997:31).

Mangles & Co called for tenders in London to supply 50 smoothbore foot police carbines with bayonets, 50 scabbards and frogs and 50 smoothbore double barrel Cape mounted pattern carbines (Robinson 1997:31). Three quotes were received, with Potts & Hunt of 33 Leman Street, London, awarded the contract. On 26 July 1862 a shipment arrived consisting of two cases of small arms, argued by Robinson to be the 50 single barrel smoothbore foot police carbines (Robinson 1997:31; see Figure 16 and Figure 5).



Figure 16 Potts & Hunt percussion single barrel, 0.635 calibre smooth bore foot police carbine held in the Qld Museum collection reference: H1480 (image by Tony Pagels) Although this weapon may appear long, and is longer than other carbines that appear later, it is still shorter than the rifle. Hence would still have been referred to as a carbine. A carbine is not defined by a set measurement of barrel/weapon length, but the earlier rifles had three bands as opposed to carbines which had two or one.

On 26 August 1862 F. Mangles & Co forwarded a letter to the Colonial Secretary informing him that, of the 50 double barrel carbines ordered in December 1861, 40 of the Cape mounted pattern plus 50 cleaning rods for pistols and 150 slings for carbines had been shipped aboard the vessel '*Wansfell*', in case numbers 222 and 223. Mangles & Co. (1862a) stated the remaining 10 carbines would be shipped as soon as possible but provided no explanation for the delay, with the bill of lading and accompanying letter listing the total cost at £240. A month passed before Mangles & Co. wrote again on 26 September 1862 informing the Colonial Secretary that the remaining 10 double barrel carbines had been shipped aboard the '*Flying Cloud*' in case number 224. Attached was a letter from Potts and Hunt dated 28 August 1862 which offered the following explanation for the delay:

... for many years the War Department have not had any arms of this description made, to ... our machinery so have to be arranged before we could commence them, much delay would not again occur, so? that any future order could be executed much more readily, the remaining ten arms will be ready in a few days (Potts and Hunt 1862)

The letter from Potts & Hunt (1862) portrays the 'Cape' pattern double-barrelled carbine as superfluous by the British War Office and required Potts & Hunt to customise machinery

before commencing production. The Volunteers were to receive the progressive Calisher & Terry arms; therefore, implying the out-dated 50 double-barrelled percussion carbines were for the NMP, as proposed by Bligh (1861) and Morisset (1861).

## Handguns: Pistols and Revolvers

The development of handguns was interwoven with the advances made in longarm design and function: transitioning from flintlock to percussion muzzle-loading pistols before the development of the revolver. Early muzzle-loading longarms and pistols provided the shooter with a single shot before requiring reloading via the muzzle. Reloading while on horseback was justifiably impractical, plus the inaccuracy of the pistol dictated it was only suitable for close quarter combat (Flatness 2013:167; Robinson 1997:28). As such, in 1828 it was recommended the pistol be withdrawn from use by the British cavalry, though it remained in service until trials by the British army in 1851 replaced it with the revolver (Flatness 2013:170,208).

Handguns were also available in the colony and theoretically been available for use by the NMP. The *Qld Government Gazette* (3 March 1860, p.98; 17 March 1860 p.110—111; 29 March 1860, pp.115,116; 31 March 1860, pp.119; 7 April 1860, pp.130,131) advertised tenders to supply equipment for Qld's police forces, including 12 pistols. Robinson (1997:17) stated were obtained from NSW stores. There is no description of the pistols, and their distribution is unknown. During the 1861 Select Committee enquiry, there is no mention of revolvers or pistols being issued or utilised by the NMP. However, this does not mean NMP officers were not issued pistols or adopted the Imperial practice of purchasing pistols for themselves privately (Flatnes 2013:18). Hayes and Skennerton (2007:10) and Robinson (1997:15) stated prior to 1864 police were possibly issued with the Customs & Sea service muzzle-loading smoothbore pistol, the Enfield muzzle-loading .577-inch single shot 'Lancers' pistol or the Pattern 1842 Land Transport & Police 17 bore, smoothbore, percussion single shot pistols. The next recorded purchase of handguns occurs in 1864

when 50 Sharp's repeater, four-barrel, pocket pistols were distributed to detectives and sub-inspectors and discussed in Appendix D (Robinson 1997:33,33).

## Transitional Birmingham Revolver

The evolution of handguns in Australia is closely tied to gold rushes, when the need for personal protection was greatly increased. In Qld this did not occur until 1867 yet Seymour, previously realising that the single shot pistol was inadequate for the protection of the police who required a multi-shot weapon, introduced the 'Transitional Birmingham revolver' in 1865 (Robinson 1997:28)<sup>4</sup>. Seymour obtained a sample of this revolver from Brisbane-based merchants and importers Joseph Kohn & Co. He presented the revolver to the Executive Council, asserting the purchase of 100 such weapons at £3/5/- each would remove the need to issue officers with both a single shot pistol and a carbine, providing a saving of £2/-/- for the pistol along with £3/-/- for the carbine. The Executive Council agreed, and authority was given to order 100 revolvers around July 1864. They arrived in April 1865 and were issued to every police station the same year (Robinson 1997:30; Qld Government 2019). It cannot be determined at this time whether any of these arms were issued to officers in the NMP, although it is possible.

The Transitional Birmingham Revolver was described by Prescott (2015:11) as poorly designed, inaccurate and prone to multiple discharges due to the lack of partitions between percussion nipples, though it was cheap compared to other available handguns and had one major advantage: 6-shots, a far cry from the single shot pistols otherwise available. These benefits made it very popular and well distributed throughout all the colonies

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<sup>4</sup> Shortly after Seymour was appointed Commissioner in 1864, he introduced the 'Transitional Birmingham revolver' the first purchase of a handgun intended for mounted police constables (Figure 16; Robinson 1997:28,29). Seymour had a vision to re-arm the forces with a single type of revolver and a single type of longarm to alleviate the issues that had beset them previously (Barron 1873; Seymour 1875) and facilitate the reliable supply of weapons to replace damaged or otherwise unserviceable arms as required. This re-arming would take four years to achieve (Barron 1873).

(Robinson 1997:30). The revolver was available in three different calibres, including .44-inch (Figure 17), .387-inch and .36-inch, with a 6-shot capacity discharging a round, solid lead projectile.



Figure 17 An example of a percussion Transitional Birmingham revolver, .44 calibre (54 bore), 6 shot, non-fluted cylinder with a 153 mm (6") barrel (image courtesy of Australian Arms Auction retrieved from <https://www.australianarmsauctions.com/wp-content/uploads/2019/03/0743-AAA-190318-040.jpg>).

The bullet was a round lead ball<sup>5</sup>, either .44 calibre (54 bore) weighing 8.28 g (127.8 grains) or .387 calibre (80 bore) weighing 5.33 g (82.3 grains) and .36 calibre (90 bore) weighing 5.18 g (80 grains)..

#### Additional revolvers available from Qld Government stores.

Despite the documentary evidence to support the availability of an assortment of weapons from the Qld Government store, the disparity in archival records raises more questions than are answered. For example, in 1865 the Qld Colonial Secretary, Herbert, stated that there were 31 revolvers of various makes, including Colt, Deane & Adams, Tranter,

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<sup>5</sup> The weight of the round lead ball is taken from known standard calculation tables

Webley and some others, along with cases, spare chambers for Colts and ammunition held in store (Robinson 1997:30). The archival documents uncovered by Robinson (1997:40) stated the Colonial Storekeeper, on 30 September 1869, was in receipt of 529 pistols: this number did not include the 100 Transitional revolvers. However, documents detailing the weapons and the quantity supplied are unaccounted for, along with any record of their distribution (Robinson 1997:40,41). These gaps expose the deficiencies in the surviving documents to determine precisely what revolvers and pistols were on hand, and conversely, their allocation to the NMP is consequently problematic.

As such, an appraisal of the percussion, Colt Navy, Beaumont Adams and Tranter, revolvers will be on the basis they were on hand with the Colonial Storekeeper in 1865, according to Herbert (Robinson 1997: 30). Therefore, these arms were obtainable by police and potentially NMP troopers or officers. In comparison, the purchase of centrefire Webley revolvers was in conjunction with Snider artillery carbines and therefore examined separately.

### Model 1851 and Model 1861 Colt Navy revolvers and the Police Colt.

The name 'Colt' is recognised and associated with handguns the world over, with a myriad of material documenting all facets of Colt firearms. It is beyond the scope of this report to discuss Colt in any further detail than to provide an overview which places the two models discussed here, the Model 1851 and Model 1861 Colt Navy revolvers, in the context of the Qld police.

Samuel Colt did not invent the revolver, but he did patent a significant design feature to the percussion revolver cylinder which prevented cross ignition between the chambers (Pegler 2017:18,19). This meant that Colt monopolised revolver design until the expiration of the patent. Further, Colt introduced mass production to arms manufacturing, making parts that could be easily exchanged (Pegler 2017:23–26; see Figure 18). Following Colt's success



at the Great Exhibition of 1851 in London, he opened a factory at Pimlico, London, producing revolvers from 1853. Prescott (2014:14) described Colt's totally mechanised production process which produced assorted parts for assembling to complete a revolver.



Figure 18 A dismantled Colt Navy, demonstrating the simple construction, with parts easily interchanged (image courtesy of Prescott (2013:27).

The Colt London factory ceased production in 1858, but Colt still maintained an office and outlet in Pall Mall until 1913 (Pegler 2017:79). British troops had used the Colt 1851 Navy revolvers during the Crimean War (1853–1856), along with percussion revolvers manufactured by the companies of Tranter and Adams. It was Adams who made improvements to Colt's design to later produce superior revolvers (Flatnes 2013:208; Pegler 2017:79; see later).

As shown in Figure 19, the Model 1851 Navy revolver is a single action (the hammer requires cocking between shots) percussion, .36-inch calibre, 6-shot revolver with 19cm (7.5-inch) barrel and designed to discharge a conical lead bullet at 9.07 g (140 grain) or

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5.18 g (80 grain) round ball with a diameter of .38-inch (9.652 mm) (Pegler 2017:32; Flatnes 2013:226). The Model 1851 was later replaced by the Model 1861 Navy model, also a .36 calibre, 6-shot with a 19cm (7.5-inch) barrel (Pegler 2017:38).



Figure 19 An example of a Model 1851 Colt Navy single action percussion revolver, .36 calibre. The cylinder is marked with London proof marks and the top strap marked '→ ADDRESS. COL; COLT. LONDON←'. The serial number 35112 is marked on the underside of the frame, identifying the arm as a Third London model (Prescott 2012014:27). This revolver is held in the Queensland Museum collection H2012 (image by Tony Pagels).

The Model 1861 Colt Navy was produced as a new Model 1862 Colt Police revolver. The police model was still .36 calibre, but it was available with a 6.5-inch or 3.5-inch barrel and was not as heavy as the Colt Navy. An example of the Model 1862 Police Colt is shown in Figure 21 (Pegler 2013:38–40).



Figure 20 An example of Model 1862 Colt Police single action percussion revolver .36 calibre, 6-shot with the shrouded creeping loading lever, plus this model was available with 6.5-inch and 3.5-inch barrel. Basically, a smaller version of the Model 1861 Colt Navy which may be the model Seymour and Challenger were advocating in 1869 (image courtesy of Pegler 2017:38–40).

The Colt Navy Model 1851, Model 1861 and Model 1862 Colt Police revolvers were designed to discharge a .36-inch (90 bore) conical lead bullet weighing 9.07 g (140 grains), and as with the muzzle loading muskets and carbines, the conical bullet was available in a paper, animal skin or foil-wrapped cartridge (Figure 22) is pushed into the cylinder. This combustible cartridge was the result of a joint patent by William Eley and Samuel Colt obtained on 9 June 1855 patent number 1324 (Eley and Colt 1855). Attached to the patent are specification drawings — a portion of the drawings depicting the cartridge construction are shown in Figure 21 — and the letters of patent describe the purpose of the design: to protect the cartridge from damp and remove the necessity to bite or tire off the end of a cartridge. The patent states a foil of tin or skin is formed, filled with powder and attached to the bullet (fig 2). A piece of string or tape is attached to the rear of the case (fig 6) which is pulled immediately before loading the cartridge to tear the case and expose the powder. Alternatively, the cartridges can be made or wrapped in paper (fig 7) and (fig 8) (Eley and Colt 1855)

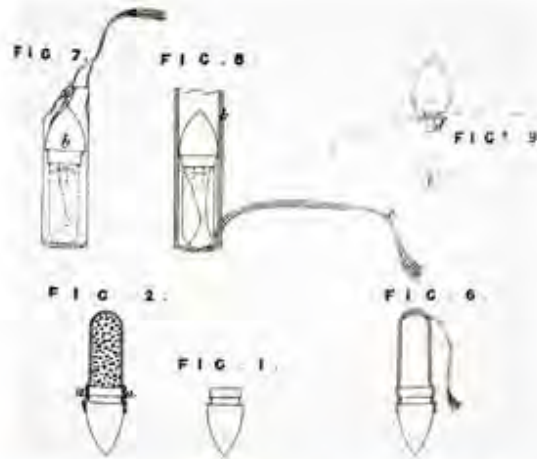


Figure 21 Detail of the specification drawings from William Eley and Samuel Colt, British Patent of 1855 patent No. 1324 dated 9 June 1855. This patent design is to protect the cartridge from damp and remove the necessity to bite or tear off the end of a cartridge. A foil of tin or skin is formed, filled with powder and attached to the bullet (fig 2). A piece of string or tape is attached to the rear of the case (fig 5) which is pulled immediately before loading the cartridge to tear the case and expose the powder. Alternatively, the cartridges can be made or wrapped in paper (fig 7) and (fig 8) (image from English patents of inventions, specification: 1855, 1293–1350).

Ammunition manufacturer Eley Brothers used this method to produce cartridges for the range of Colt, Tranter, Adams, Deane and Kerr's revolvers as shown in an Eley Bros flysheet of circa 1859/1860 (Figures 22 & 29) (Harding 2006:39–41, 124) and were advertising 'cartridges and caps for Colt's, Adams' and other revolvers, in the *Moreton Bay Courier* from 8 June 1859. Figure 22 (right) is an example of a Colt .36 calibre paper-wrapped cartridge with an orange base and marked 'Eley London'.



Figure 22 (Left) A portion of a flysheet by ammunition manufacturer Eley Brothers, circa 1859/1860 advertising Colt Navy skin cartridges. (Right) A Colt .36 calibre paper wrapped cartridge with an orange base and marked 'Eley London' (images courtesy of [left] Harding 2006:124, [right] Tony Pagels).

An alternative method of loading the cylinder was 'naked' when a measure of powder is poured into each chamber before a bullet or ball are firmly rammed down. The tight-fitting bullet or ball prevents them from falling from the cylinder, which may also be sealed with grease to lubricate and prevent cross-firing of the chambers (Pegler 2017:32,113,114). When ammunition was in short supply, a bullet mould, with provision to cast both lead conical and round ball projectiles (Figures 23 and 24) could be used,



Figure 23 (Left) An example of a seamless skin .36 Colt cartridge. (Right) example of conical bullet and round lead ball mould for Colt Navy .36 calibre (images courtesy of [left] <http://www.horsesoldier.com/products/firearms/cartridges-and-gun-tools/18822>, [right] Tony Pagels).



Figure 24 An example of .36 bullet mould for the Colt revolvers. The mould provides casting for the lead conical bullet and round ball (image by Tony Pagels).

The Colt was a popular revolver in all the colonies and had been available since early 1860; however, the existing archival documents suggest the Qld Government was slow to buy the Colt, not acquiring them until 1868.

Robinson (1997:38,39) stated that the Qld Government was first offered a full range of Colt's revolvers at substantial savings in November 1863. However, in reply, it was noted, 'arrangements had already been made for the supply of all such articles' (Robinson 1997:39). Suggesting the selection of a revolver was already arranged, or Seymour organised the purchase of the Transitional revolvers without approval of the Executive Council. The offer was rejected, although we can only speculate why this was the case.

It is not until 27 July 1868 that 80 Colt Navy revolvers are confirmed as ordered for the Qld Police. They were duly supplied and received from Henry Challener, a Sydney based merchant and gunsmith and paid for on 4 September 1868 (Robinson 1997:39), although it is unknown which Colt models were supplied on this occasion.

In December 1869, in a letter to the Qld Colonial Secretary Challener stated that he had previously supplied Colt revolvers to the Qld Government. At the time he had 85 on offer, along with 24 with 6-inch barrels. Challener also offered Calisher & Terry, and Wilson rifles, as well as Westley Richards breech loading carbines and ammunition (Challener 1869). A memo from Seymour (1870) stated;

Notations on Seymour's (1870) memo discuss the numbers of 'quite useless' revolvers, with an assessment from the Colonial Storekeeper stating there were 12 revolvers regarded as 'useless' and seven as 'serviceable'. As there were only 12 revolvers requiring replacement, the Colonial Secretary rejected Challenger's offer (Robinson 1997:40). It is suspected the 24 Colt revolvers with 6-inch barrels were the lighter Model 1862 Police Colt handguns advocated by Seymour. Robinson (1997:39) stated he had inspected Model 1851 and 1861 Colt Navy revolvers with colonial markings (i.e. Q↑G on the frame), suggesting there may have been earlier purchase/s of Model 1851 revolvers before the 1868 transaction. Challenger was selling weapons as early as 1855 (Empire 11 August 1855 p.6), and by early 1860 was advertising the sale of Enfield rifles and Tranter revolvers (Empire 24 January 1860), with the first advertisement for Colt revolvers appearing in June 1860 (Empire 2 June 1860). Challenger was still advertising in August 1860 but with no mention of Colt revolvers, implying they sold out quickly or there was limited stock (Empire 25 August 1860 p.8). Twelve months later, in mid-1861, Challenger was offering Colt and a range of revolvers including Tranter and Deane & Adams, along with Terry breech loaders and Enfield rifles (Empire 18 July 1861 p.8). The popularity of Colt revolvers may mean that the Qld Government purchased more than current documents suggest, although it is not possible to know whether any were issued to the NMP.

### Beaumont-Adams percussion revolver

The Great Exhibition London in 1851 not only showcased the Colt revolvers, it included a display by Adams & Deane (Robert Adams and John Deane). The success attained from the exhibition resulted in the British Government Committee on Small Arms comparing the performance of the Adams and Colt revolvers. The Adams revolver outperformed the Colt, but the Board of Ordnance selected neither weapon for the lucrative army service contract (Prescott 2014:39).

In June 1852, Adams secured loans to commence a weapons manufacturing plant in London and along with his partners traded as Deane, Adams & Deane, continuing to produce revolvers until 1856. At this time, Adams obtained a patent by Lieutenant Beaumont which improved the revolver's internal mechanism, dissolved his partnership with Deane, Adam & Deane, and began a new company — the London Armoury Company (LAC) — and commenced the manufacture of the double-action Beaumont-Adams revolver. Adams' tenure as manager at LAC was short-lived, and he resigned in 1858 (Prescott 2014:39,40).

The Beaumont-Adams revolver comprised of a single solid frame, with a lever fitted to improve loading, as well as introducing the 'double-action': the manual pulling back of the hammer cocked the arm followed by a squeeze of the trigger causing the hammer to fall to discard the weapon, alternatively pulling the trigger in a one action automatically caused the hammer to rise and fall to discharge the shot. These improvements made the arm more appealing than the single-action Colt (Prescott 2014:39) and resulted in purchases by the War Department (Prescott 2014:39).

Prescott (2014:39–64) uses further improvements and variations made to the revolver's design to differentiate between the models. Primarily, the revolver is a solid framed, five-shot percussion revolver with 3- or 5-grooved clockwise rifling and produced with barrels ranging from 7.5 inches to 4.5 inches in length along with bore sizes: 38, 54 and 56 (holster models), 80 and 90 (belt models) or 120 (pocket models)(Prescott 2014:53). An example of a Beaumont-Adams double action, 54 bore, 5-shot percussion revolver is shown in Figure 25.



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Figure 25 An example of a circa 1862 Beaumont-Adams percussion double action, .54 bore, five shot revolver, marked 'CALISHER & TERRY MAKERS HM WAR DEPARTMENT' on the top strap (image courtesy of Ozgunsales.com retrieved 6 May 2019 from [http://www.ozgunsales.com/listing/64800/re\\_blued\\_adams\\_by\\_calisher\\_terry\\_c1862.html](http://www.ozgunsales.com/listing/64800/re_blued_adams_by_calisher_terry_c1862.html)).

The War Department continued purchasing the Beaumont-Adams revolver until 1861, following which production was dispersed, with manufacturers such as Tranter, Deane, Adams & Dean, LAC, Massachusetts Arms Company, Pryse & Redman, Calisher & Terry, and manufacturers in Leige and others all producing the Beaumont-Adams revolver under license (Prescott 2014:40). These revolvers are produced to the Beaumont-Adams pattern, but could be variously described as the 'Adams' revolver or by the manufacturer's or merchant's name marked along the top strap (Figure 26).

For example, Robinson (1997:28) noted that only one return makes any mention of revolvers being issued to police. The document mentions a Calisher & Terry in possession of police, along with four Tranter revolvers. The Calisher & Terry revolver would have been a Beaumont-Adams model produced under licence. In Robinson (1997:29) is an image of the revolver, and a further example is shown in Figure 25, along with Figure 26 which depicts the stamp 'CALISHER & TERRY MAKERS HM WAR DEPARTMENT' marked on the top strap. Robinson does not make any further mention of the Beaumont-Adams revolvers in his text nor have we discovered any further reference or connection to the NMP.

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Figure 26 Detail depicting 'CALISHER & TERRY MAKERS HM WAR DEPARTMENT' marked on the top strap of the circa 1862 Beaumont-Adams percussion double action, 54 bore, five shot revolver in Figure 26 (image courtesy of Ozgunsales.com retrieved 6 May 2019 from [http://www.ozgunsales.com/listing/64800/re\\_blued\\_adams\\_by\\_calisher\\_terry\\_c1862.html](http://www.ozgunsales.com/listing/64800/re_blued_adams_by_calisher_terry_c1862.html)).

The ammunition for the Beaumont-Adams revolver was an improvement on the patented ball cartridge developed by Adams in 1852, the so called 'Dustbin Cartridge', where a round lead ball with a tang had a container attached filled with the charge (Figure 28) (Adams 1852).



Figure 27 (Left) Portion of patent drawing for Robert Adams lead round ball with tang for his 'dustbin cartridge' Patent 1 of 1852 (1853) dated 1 October 1852. (Right) An example of the assembled cartridge. (image [left] from English patents of inventions, specification: 1852 (1853) 1 – 50 and [right] Tony Pagels).

In December 1853 William Tranter's patent 2921 of 1853 designed a bullet with a recessed groove around the base designed to be filled with a lubricant (see Figure 30). William Eley's patent 2487, dated 24 November 1854, advanced Tranter's design to incorporate a tang that was used to attach a greased wad and a paper cartridge containing the charge. The letters of patent describe the paper cartridge construction:

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A projecting tang is cast, on such tang a paper or flexible case is fixed, by means of a perforated disc placed on the tang ... Prefer a felt wad attached to the ball, the case placed on the ball, the powder is added to the case and the end of the case is then folded over – ball cartridge complete, the case is made of thin or weak paper rendered waterproof with varnish. A tape is attached to the end of the case which is pulled prior to inserting the ball into the chamber to release the power (Eley 1854).

The concluding page of the patent contains the specification drawings for the invention depicting the paper cartridge and the tanged bullet (Figure 28) (Eley 1854).



Figure 28 Patent drawing for William Eley's paper ball revolver cartridge Patent 2487 of 1854 dated 24 November 1854 (image from English patents of inventions, specification: 1854, 2471 –2520).

William Eley and Samuel Colt's patent (Figure 21) was in full production by 1859, when Eley Bros were advertising the skin cartridges for Colt (Figure 22). Other similar used skin cartridges, such as Beaumont-Adams, Deane Adams, Deane, Tranter and Kerr revolvers in bore sizes; 38,54,80 and 120 (Harding 2006:124) (Figure 29 left). Figure 29 (right) is an example of the paper wrapped skin cartridge for the 54 bore Adams and similar chambered revolvers with a blue base marked 'Eley London'.



Figure 29 (Left) Adams revolver .442 calibre (54 bore) skin cartridges as advertised on an Eley flysheet circa 1859/1860. The same cartridge was used for several revolvers (Right) Adams / Tranter cartridge with blue base marked Eley London (images courtesy of [left] Harding 2006:124, [right] Tony Pagels).

### Tranter Double Trigger percussion revolver

William Tranter had been involved in the gun trade from an early age, commencing an apprenticeship with Hollis Bros. & Company in 1830. Tranter spent the period 1839 to 1846 employed in the Birmingham gun trade before returning as a partner with Hollis Bros. & Company until 1848 (Black et al. 2007:5). At this time Tranter commenced his own arms manufacturing operation in Birmingham. Prescott (2014:65) describes Tranter not only as a gunmaker, but also an inventor and astute businessman. By 1853 he was producing Adams's self cocking revolvers under license, along with becoming a high-volume supplier of frames, lock components, and complete revolvers to Robert Adams.

Tranter developed his double trigger revolver (Prescott 2014:65), patent No. 212, in 1853 (Tranter 1853). This weapon has no hammer spur, instead, to cock the hammer the operator needs to squeeze the trigger below the guard. Pulling the upper trigger inside the guard releases the hammer and fires the weapon. For more rapid firing, the upper trigger could be held back so that when the lower trigger was pressed the weapon could be fired multiple times. (Tranter 1853). This mechanism is sometimes referred to as the 'hesitation'

action because of the pause and is not a true 'double action' mechanism (Prescott 2014:66).

The double trigger revolvers were configured the same as the Beaumont-Adams revolver — a five-shot percussion revolver with 3- or 5-grooved clockwise rifling and produced with barrels ranging from 7.5 inches to 4.5 inches in length along with bore sizes: 38, 54, 56 (holster models), 80, 90 (belt models) or 120 (pocket models)(Prescott 2014:65–72).

An example of the Tranter double trigger revolver from the Qld Museum is shown in Figure 30. Immediately obvious is the elongated double trigger extending below the guard, along with the absence of a spur on the hammer. On the left side of the frame is the distinctive, inverted 'Y' safety catch and loading lever as shown in Figure 33.



Figure 30 An example of a Tranter double trigger, 54 bore percussion revolver. Immediately obvious are the two triggers along with the absence of a spur on the hammer. This revolver is held in the Qld Museum collection H2227 (image by Tony Pagels).

Tranter's double trigger first and second model revolvers were produced from 1853, with a third model beginning production in 1860. A single trigger, double action percussion revolver with a hammer spur and without the inverted 'Y' safety catch was also released in

1860 and referred to as the 4<sup>th</sup> model. This is very similar in appearance to the Beaumont-Adams revolver (Figure 25) (Prescott 2014:65–72).

Tranter's 1853 patent for the double trigger revolver also referred to the cartridges that should be used with his revolvers:

..so as to have a percussion cap inserted in the end opposite to the ball, by which necessity for removing it ordinarily closed end may be obviated. (Tranter 1853:5).

Tranter is possibly referring to the 'dustbin cartridge' patented by Adams three months earlier. However, on 16 December 1853 Tranter had improved on the bullet design with his own patent 2921. In this Tranter described the introduction of a groove around the base of the bullet to be filled with grease; pressure exerted against the base of the bullet caused the grease to press out into the barrel, thereby providing lubrication (Tranter 1853a 2921:5). Below, Figure 31 (left), depicts a circular tin labelled 'W. Tranter's patent lubricating bullets previously adapted for W. Tranter's patent double-trigger revolver' and containing examples of the bullets.

William Eley's patent No.2487 dated 24 November 1854 advanced Tranter's design to incorporate a tang that was used to attach a greased wad and a paper cartridge containing the charge. Figure 31 (right) is detail of the bullet design from the patent drawing by Eley, with a section and profile drawing of the constructed paper cartridge shown in Figure 32 (left) (Eley 1854).

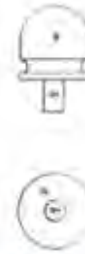


Figure 31 (Left) Image of Tranter's lubricating bullet for the double trigger percussion revolver. (Right) Detail of bullet design from the patent drawing for William Eley's paper revolver cartridge Patent 2487 dated 24 November 1854 (images from [left] Andrew Bottomley auctions retrieved from <https://www.andrewbottomley.com/xxx-sold-xxx-english-double-trigger-tranter-patent-percussion-revolver-cased-with-tranter-patent-accessories-exceptional-condition-ref-8085-1172-p.asp> [right] English patents of inventions, specification: 1854, 2471 –2520).

The image in Figure 32 (centre) depicts the Tranter revolver .442 calibre (54 bore) skin cartridges as advertised on an Eley Bros flysheet circa 1859/1860 (Harding 2006:124) and Figure 32 (right) is an example of Tranter paper cartridge skin cartridge with blue base marked 'Eley London'. The invention of this cartridge, as previously discussed in reference to the Colt Navy revolvers, was the result of the joint patent by Eley and Colt, British patent No.1324 of 1855.



Figure 32 (Left) Detail of bullet and paper cartridge design from the patent drawings for William Eley's paper revolver cartridge Patent 2487 dated 24 November 1854. (Centre) Tranter revolver .442 calibre (54 bore) skin cartridges as advertised on an Eley Bros flysheet circa 1859/1860. (Right) Tranter cartridge with blue base marked Eley London (images courtesy of [left] English patents of inventions, specification: 1854, 2471 –2520 [centre] Harding 2006:124, [right] Tony Pagels).

Importantly, a feature of the Tranter and Adams' designed revolvers was that they could easily be converted from a percussion arm by interchanging the cylinder to accommodate centrefire cartridge ammunition. (Prescott 2014:65).

The appearance of Tranter revolvers in Qld is first discussed by Robinson (1997:28) with regard to a payment voucher for 'one Tranter's best revolver' and issued on the 10 February 1864 by the Colonial Secretary Robert Herbert. This arm was acquired from Perry Bros by a Mr. Charters at a cost of £10/10/10. Given that the cost of various revolvers was in the order of £2 to £3 (Robinson 1997:28), this purchase was probably for a cased revolver. Cased revolvers included additional supplies, such as bullets, a projectile mould, wads, caps, spare nipples, powder flasks, cleaning rods and tools all partitioned in a locking timber case. An example of a cased Tranter double trigger revolver with accessories is shown in Figure 33.





Figure 33 An example of a cased Tranter double trigger revolver and accessories including bullets and projectile mould, wads, caps, spare nipples, powder flasks, cleaning rods and tools all partitioned in a locking timber case (image courtesy of Andrew Bottomley auctions retrieved from <https://www.andrewbottomley.com/xxx-sold-xxx-english-double-trigger-tranthers-patent-percussion-revolver-cased-with-tranthers-patent-accessories-exceptional-condition-ref-8085-1172-p.asp>).

The model of the Tranter revolver purchased by Herbert in 1864 is not identified; therefore it could have been any one of the four models in production at the time, also, as it was a cased arm, it was most probably intended as a personal item or gift. Robinson's examination of the records identified four Tranter revolvers in possession of the police. In 1877, the Magistrate on Thursday Island, H.M. Chester, provided an inventory of the arms at hand that included four Tranter revolvers (Robinson 1997:213). The paucity of archival documents pertaining to handguns fails to provide any further reference to Tranter revolvers or definitive evidence of issuing the Tranter or Adams arms to the NMP.

Robinson (1991:213,214) regarded the 1870s inventory of the government stores on Thursday Island as typical for the period. Importantly, the inventory details the assortment of percussion arms previously discussed: 4 Colt revolvers, 12 (6 unserviceable) double barrel carbines, 3 single barrel carbines and a Terry breechloading carbine that was

unserviceable. The author and Robinson (1997:214) believe the double- and single-barrel carbines are possibly from the Potts & Hunt shipment.

The assortment of arms on Thursday Island also reflects the advances made in weapons development. The selection was not only antiquated percussion weapons but included the innovative needle guns (pinfire carbines) as well as contemporary centrefire Snider carbines and Webley revolvers (Robinson 1997:213,214).

### Westley Richards & Co. 20-gauge pinfire double-barrelled carbines

Following the purchase of double-barrelled, muzzle-loading percussion carbines from Potts & Hunt in 1862 there were no further purchases of carbines for the NMP until 1867. The timely acquisition of contemporary arms for Qld's forces was directed and influenced by occurrences and individuals in Britain. As such, arranging requisitions of arms for Qld would require a level of harmony and co-ordination between parties in Qld and Britain. A strained working relationship may have interfered with the procurement process. The promoting of the colony of Queensland in England and the selection of immigrants was the responsibility of Qld's first Agent-General in London, Henry Jordan, appointed in 1860 and accountable to Colonial Secretary Robert Herbert (Lack 1965:84). Jordan and Herbert had a turbulent working relationship, resulting in Jordan's resignation, though he was later reinstated. The conflict between the two offices did not change with the appointment of subsequent officials, with subsequent controversy, scandal, and clashes of personality between Agent-Generals John Douglas, Richard Daintree and Arthur Macalister and the Colonial Secretary's Office (Lack 1965:81–109). The deterioration of relations between the Agent-General's and Colonial Secretary's offices may have contributed to delays in the selection and procurement of weapons.

In 1864 the enthusiasm of the Qld authorities to obtain the best arms available for the NMP, police and volunteers was put to the test by Mr William Rigg, an Ironmonger, from Melbourne. In a letter to the Colonial Secretary, dated the 30 May 1864, he offered 40 long

Enfield rifles and ammunition at a very cheap price. Rigg suggested the Enfield's would be a suitable arm for 'a young colony'. As Rigg was from Melbourne, his offering them to Qld might suggest they were outdated and no longer used by other more established colonial forces. We know the Qld authorities did not purchase these outdated arms because on the rear of this letter is a notation to inform Mr Rigg 'the gov't has no use for Enfield rifles and decline this offer' (Rigg 1864).

In the five years between 1862 and 1867 development in small arms and ammunition capability had advanced at a rapid pace, and muzzle-loaders had become antiquated, as breech-loaders employing self-contained pinfire, needle and centrefire cartridges became the norm. In 1867 the Westley Richards & Co. breech-loading, double-barrelled, 20-bore, Lefauchaux-action, pinfire carbine became the first weapon known to have been specifically purchased for the NMP (Figure 34). This weapon possessed a number of advantages over the percussion single- and double-barrel, muzzle-loading carbines the NMP were using at the time.



Figure 34 Two Westley Richards & Co. breech loading, double barrelled, 20 bore, Lefauchaux-action, pinfire carbines from a private collection in Queensland (image by Tony Pagels).

How this arm differed from the older muzzle-loading carbines requires some explanation. In 1834 Casimir Lefauchaux of France patented a breech-loading drop barrel for shotguns, along with the specifically designed pinfire cartridge in 1836 (Carrington and Baker 2011:16,17). The drop barrel meant the barrel and stock were hinged at the breech,

allowing the barrel to pivot downward. The cartridge could then be easily loaded and unloaded into the breech (Figure 35).



Figure 35 Westley Richards & Co. breech loading double barrel carbine, 20g with Lefauchaux-action. The action is open to illustrate the design of the drop breech and slot in the top of the barrel to accommodate the pin of the cartridge. With the breech closed the pin protrudes into the slot and on being struck by the falling hammer is pushed inward igniting the percussion cap and power to discharge the bullet (images by Tony Pagels)

The ease with which this could be done on horseback, and its reduced weight, made it a far superior weapon to the double-barrel muzzle-loaders previously on issue to the NMP.

The Westley Richards pinfire carbine had two barrels side by side and each barrel was 20-bore. The pinfire carbine in modern terms is a 20-gauge shotgun with a smaller diameter barrel and less recoil than the commonly seen 12-gauge shotguns of today. Hoyem (2005:117) provided a description and explanation of the distinctive round known as the 'pin-fire' cartridge. The cartridge comprised a simple cardboard tube with a metal head. Protruding from the side of the head was a pin that extended into the cartridge to a percussion cap set inside the head. With the cartridge in the closed breech the pin remained exposed and, when struck by the falling hammer, detonated the percussion cap and powder to discharge the bullet. The open breech shown in Figure 36 depicts the slot in the top of the barrel that aligns with the cartridge pin shown in Figures 36 and 37.

Following several design improvements to the cartridge William Thomas Eley took out a

patent (no.916) to manufacture pinfire shotgun cartridges in April 1861 (Harding 2006:50; see Figure 36).



Figure 36 Specification drawing from British Patent No. 916 of 1861 dated 14 April submitted by William Eley for improvements to the design of breech loading cartridges (image courtesy of Newcomer 2019:18).

The manufacture and advertising of the pinfire cartridges by Eley Bros commenced in 1861 and examples of later Eley Bros pinfire cartridges are shown in Figure 37 (left) and a portion of a pre-1874 Eley Bros advertisement depicting the internal mechanism and pinfire cartridges for sale (Figure 37 [right]).



Figure 37 (Left) Examples of Eley pinfire cartridges, earlier cartridges were constructed on a plain brown cartridge tube; (Right) A pre 1874 portion of an Eley Bros advertisement depicting the internal mechanism and pinfire cartridges for sale (images [left] by Tony Pagels [right] from Harding 2006:61,62).

Eley Bros 20-gauge pinfire cartridges were available loaded with shot or a bullet (Harding 2006:62,64). Using standard shot and ball sizing under British specifications they provided a range of variously sized projectiles. Cartridge projectiles could be a combination of variously sized lead balls starting with the smallest, 'birdshot' (defined by letters) and culminating in the largest, 'buckshot' (which were numbered). Harding (2006:167,168) provided a description of the various shot sizes used by Eley, although these sizes differed between countries (Appendix A). A visual comparison is shown in Figure 38 of similar present day shot which may have been used in the 20-gauge pinfire cartridges.



Figure 38 A visual comparison of various sized projectiles for a 12-gauge shotgun cartridge (image by Tony Pagels).

It is unclear who instigated the recommendation to re-arm the NMP with Westley Richards pinfire carbines, but the impetus was probably determined by their continued need to be armed with modern, accurate, more reliable and quicker to reload weapons. A letter dated 19 June 1867 from William Sargeant to the Qld Colonial Secretary, Robert Mackenzie, with an annexed letter from Westley Richards & Co. dated 12 November 1866, provides an explanation for the decision to replace muzzle-loaders with the more expensive Westley Richards breech-loading, double barreled, 20-bore, Lefauchaux-action, pinfire carbine:

In your deciding upon ordering these arms to the breach loaders we think you get a greater advantage for the extra cost. First the arms if taken in warfare or meeting cannot not be turned against the force after the usual number of service rounds issued have been expended[,] 2ndly the ammunition cases can be loaded 2 or 3 times and it can also be filled with shot instead of Ball making the arm a very good "Birding Gun", 3rdly the arms when on ... other duty, can be loaded and unloaded as often as necessary without discharging ... whereas in muzzle loaders if once loaded, then the arm must either be discharged or withdrawn at a waste, for if allowed to remain in the barrel it corrodes (Sargeant 1867).

Once Sargeant had decided on the weapon the other necessary equipment for their function was finalised. Annexed to the letter from Sargeant to the Colonial Secretary is an invoice dated 18 April 1867 from Westley Richards & Co. detailing the final items ordered (Sargeant 1867):

#1 to 10. 200 double breechloading Carbines, 25in barrel Lefauchaux action with loop for sling and cartridge extractor in tin lined cases.

#11. 200 sets patent leather police belts with brass snake furniture and twenty round cartridge pouches set in 1 case lined with tin.

#12 &13. 2,000 rounds of best quality ball cartridges in two cases.

#14. 5000 best cartridges cases 20 gauge in steel case lined with tin.

#15. 15,000 felt wads, 15,000 cloth wads, 15,000 caps for recapping, 100 bullet moulds, 200 cartridge extractors, 10 re-capping instruments, 20 cartridge fillers, 20 cartridge turners and 12 patch cutters in steel case lined with tin.

A second invoice was attached from Westley Richards & Co. dated 20 May 1867 (Sargeaunt 1867). Listed on this invoice is:

#16. 10,000 metal lined cartridge cases 20g steel [sic] case lined with tin.

J. & A.B. Freeland (Ship and Insurance Brokers and Commission Merchants of London) facilitated the transport of the carbines to Qld aboard the *Salween* on 25 April 1867. However, cases 12 and 13, containing the 2000 rounds of best quality ball cartridges, were included on a bill of lading that was subsequently crossed out. Case 16, containing 10,000 metal-lined 20 g cartridge cases, was listed on the bill of lading to be shipped but it is unclear if case 16 was originally included or added after cases 12 and 13 were removed (Sargeaunt 1867). Sargeaunt, in correspondence with the Colonial Secretary dated 19 June 1867, confirmed the shipping of the 200 carbines, accoutrements and cartridge cases and specified that cases 12 and 13 were to follow on the next ship (Sargeaunt 1867a), the *Winterthur*, at the end of August 1867 (Robinson 1997:36). It may be that the cartridges were still in production at the Eley brother's factory and not available at the time the *Salween* set sail, so they simply missed the boat and were crossed off the docket.

While the ability for arms manufacturers to supply arms in a timely manner was important, the supply of carbines could not have been expedited, as the manufacture of small arms in Britain was at capacity (Sargeaunt 1867a). The first and very eagerly awaited breech-loading centrefire Snider rifles and carbines had been delivered in August 1866 (Skenneron 2003:129) and cartridge manufacturer Eley Bros, who held the patent for the



production of pinfire cartridges, were busy producing 8 million Snider centrefire cartridges for the British army (Harding 2006:50,55; Temple 1977:10,19). As a result, they only had the capacity to supply the components for the cartridges to the Qld authorities, who then had to arrange the production of bullets to load the 15,000 cartridge cases themselves. One can speculate that this possibly did not sit well: having purchased an expensive arm there was further delay in deploying it, meaning that the carbines were not sent to the NMP until 1868 (Robinson 1997:36).

The distribution of the pinfire carbines is intriguing because they were purchased expressly for the NMP., all records indicate that they were issued to ordinary police or jailors. The distribution of all but 12 of the carbines can be accounted for, issued variously to the police at St Helena (9) in 1869, Gympie (6) and Roma (4). In 1869, St. Helena acquired an additional 13 carbines, and the jails at Brisbane, Toowoomba and Rockhampton received 26 in total. Of the remainder, 112 were still in the store, 12 were unaccounted for, and seven were sent to Melbourne, Sydney and New Zealand. Unfortunately, this is where the allocation records end (Robinson 1997:36) and there is no way of knowing who, if anyone, received any of the remaining carbines in store. The correspondence states quite clearly that the carbines issued to the jailors should have been issued to the NMP as intended. It is possible that the 12 unaccounted carbines were issued to the NMP in the first instance, although there is an unspecified number not marked that should have been recalled.

Certainly by 1869, less than two years after receiving the pinfire carbines, the weapons were classed as being of no further use. In March 1869 the Clerk in Charge of Colonial Stores forwarded a letter to the Colonial Secretary, Arthur Hodgson, stating that there was no use for the pinfire carbines and suggested they be forwarded to Sydney and Melbourne for disposal:

Sir, I have the honor, by your direction, to report upon certain Needle Guns, now in store, sent to the Government by the Crown Agent for the Colonies, and call attention to the fact, that with the exemption of a few we have no means of making use of them in the Colony; fifty have been marked with the broad arrow and the letters QG underneath for the intended purpose of issue to the warders and turnkeys of H.M. Gaols, Water Police and Penal Settlement; a few unnumbered have already been issued, and I would

suggest that they be recalled and the branded ones sent in their place. The Gaols are at present issued with the Double Barrel'd Native Police Carbine, which are heavy to carry and fitted for horseback use with steel guard and travelling ring; they would be most useful to use for the purpose of issuing to the Native Mounted Police.

With regard to the remainder of the Needle Guns, I would respectfully suggest that as there is no market for any quantity of these articles in Queensland, that they be sent proportionately to both Sydney and Melbourne to respectable and well known Firms who would be willing to put them on commission, or perhaps take a number of them upon valuation, on their account; I do not see any other way of making use of them unless they could be returned to the Crown Agents and exchanged for a more useful weapon (Clerk in Charge Colonial Stores 1869).

Frustratingly, the letter does not explain why there was limited use for these weapons, or why they were not distributed to the NMP as intended, given the pinfire carbines and cartridges had several advantages over the older muzzle-loading arms. Pinfire carbines were generally held in high regard, evident in the presentation of one of these weapons to Commissioner Seymour (Robinson 1997:36) and reflected in the comments by ex-Sub-Inspector Robert Arthur Johnstone (1904). Johnstone was the officer in charge of 13 NMP troopers on George Dalrymple's expedition to Cooktown in 1873. Johnstone stated:

Thirteen native police troopers were armed with Snider carbines. Total, 26 all told. The crews were armed with smooth-bore muzzle-loaders, and the officers and Government boatmen with Westley Richards double-barrelled pinfire carbines, a most useful and serviceable weapon; in fact, some of them are in use now (1904) but converted to centre fire (Johnstone 1904).

The archaeology confirms the distribution of at least some pinfire carbines to the NMP, although the numbers are far less than the 200 ordered. It is possible that these were issued at a later date from those that were available in store in 1869 without records surviving. Another possibility is that the original NMP issue of 12 were all that the NMP actually required. Early photographs certainly suggest that only one or two troopers were armed with double-barrelled weapons (close quarter combat) while the remainder were armed with single shot arms (long range weapons): a sound military practice. Based on the number of officers (142), if broken into divisions of one officer and c8-10 troopers, the NMP

would only require 15 pinfire carbines, and therefore even the small number of 12 may have signified that they were adequately armed in the first instance. Alternatively, they may have been superseded by the arrival of the first Snider carbines in July 1870. Indeed, the introduction of the Snider rifle and shotgun is the most likely factor in the relatively quick depreciation of the pinfire carbine, since the Snider used a modern, self-contained centrefire cartridge (Hoyem 1982:37–38).

In March 1869 the Executive Council approved the decision to sell 100 of the pinfire carbines (Clerk in Charge of Colonial Stores 1869a). The disposal of the pinfire carbines was arranged through potentially three firms, Mr John Keep, a Wholesale Ironmonger in Sydney, Messrs. Henry Box and Son in Melbourne and Messrs. Bucholz & Co in Auckland, New Zealand (Clerk in Charge of Colonial Stores 1869a). On the 29 April 1869, Keep wrote to the Colonial Secretary of Qld stating he had received a case of carbines and offered one hundred carbines with ball cartridges, cases for filling and instruments to complete the task to the NSW Government. Yet, despite Keeps efforts, he was unable to sell them (Keep 1869). The absence of documents verifying the sale of 100 pinfire carbines suggests the Qld Government retained them, a concept bolstered by the purchase of 20,000 Westley Richards pinfire cases in 1877 (Robinson 1997:38). There are only two further documented references to pinfire carbines uncovered. Firstly, Chester's 1877 inventory of the arms at Thursday Island, which included five 'needle-guns'<sup>6</sup> (Robinson 1997:213) and secondly, in 1885, four, 20 bore fowling pieces (aka pinfire carbines) from Thursday Island were returned to the government store because the distinctive ammunition was not available, rendering them unserviceable (Robison 1997:38).

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<sup>6</sup> The term 'needle gun' refers to a distinctly different cartridge and mechanism to the 'pinfire'; however, it was commonplace to interchange the terms when referring to the Westley Richards pinfire double barreled carbines.

## Breech-loaders and Self-contained ammunition.

The selection of the most suitable handguns and longarms for the NMP was interconnected with advances in small arms technology. In 1866 a significant advance in ammunition technology saw the introduction of self-contained cartridges and breech-loaders to the British Service, heralding a new era in weapons development and firepower. The self-contained cartridge provided a means to contain the necessary components of the ignition device, powder and bullet in a single package (aka cartridge). No longer did the soldier need to form/build his cartridges: manufacturers such as Eley Brothers of Birmingham produced high quality, reliable ammunition. Importantly, the breech-loading system and self-contained cartridges increased the rate of fire: a weapon (longarm or handgun) could now be loaded, aimed, fired, and reloaded more quickly.

Despite these desired attributes the British authorities were slow to embrace the superior weapons and ammunition. Part of the delay was attributed to fear that soldiers would expend their ammunition too quickly, leaving themselves without rounds at the critical moment; this could be resolved with discipline and training. There was a misguided belief that breech-loading ammunition was unsafe and liable to accidental detonation, potentially triggering an on-mass explosion of cartridges with disastrous consequences (Majendie 1872:18). This fear was overcome with the selection of Britain's first general issue breech-loader: the Snider-Enfield rifle utilising the Boxer centrefire cartridge — adopted by the British War Department in 1866 (Temple, 1977:104). The following year, in 1867 the Snider artillery carbine MkII\*\* was approved (Skenneron, 2003:156) and gunmaker Philip Webley & Son of Birmingham introduced a centrefire revolver that was adopted by the Royal Irish Constabulary (RIC) and became known as the Webley RIC model.

Seymour elected to re-arm the NMP and regular police with the Snider artillery carbine and the P. Webley & Son RIC revolver. The process would take four years to achieve through the connections and co-ordinated transactions between the small arms manufacturers, P. Webley & Son of Birmingham and Trulock & Harriss —also referred to as Truelock & Harris— of Dublin, Qld authorities, Commissioner Seymour and the Agent-General in

London. Together this relationship resulted in the NMP being issued with a reliable supply of robust, trouble-free, Snider Artillery Carbines MkIII (Figure 39), Webley RIC revolvers (Figure 46), and ammunition.

The development and acquisition of the Snider and Webley arms is intricately interwoven because they were purchased together from the one supplier. Discussing the acquisition separately for these arms may become confusing; therefore, the development of the Snider breech-loading system, variations in the weapon and ammunition, along with the differences in Webley RIC revolver models will be reviewed before examining the surviving historical documents detailing their procurement.

### Adoption of Snider's Pattern Breech-loader

The Snider artillery carbine with a self-contained centrefire .577 calibre cartridge (Figure 39) was the weapon of choice selected by the Qld Government for use by the NMP. An overview of the evolution of the Snider-Enfield arms and the Boxer cartridge provides context for this choice.



Figure 39 Snider artillery carbine MkIII pattern, manufactured by Webley & Son and marked QJG on the lockplate. This weapon is in the Queensland Police Museum collection (image by Tony Pagels).

This breech-loader was named after its American inventor, Jacob Snider Jnr, who first patented his hinged-block breech-loading mechanism in 1862 (Skenneron 2003:9; see

8)

Figures 39, 40, and 41). The Snider action was intended as a 'stop-gap' conversion for the British Armies Pattern 1853 (P1853) Enfield rifled muzzle-loading muskets pending the introduction of a purpose-built weapon (Skenneron 2003:43,133).

The use of breech-loading weapons was nothing new on the continent, with their successful use by the Prussian army in 1848 (Purdon 1990:3). During the Crimean War (1853–1856), British forces used muzzle-loading arms, and on recognising the benefits of breech-loading weapons, following the French decision to issue breech-loaders to their troops (Skenneron 2003:42), a Committee was established in 1864 to find a replacement for their inferior P1853 Enfield rifles used by the infantry (Purdon 1990:3).

The Ordnance Select Committee recommended a two-phase approach: determine the quickest and cheapest way to convert the existing Pattern 1853 (P1853) Enfield rifled muskets and then conduct a thorough investigation to determine what would be the perfect arm to replace them (Skenneron 2003:43). In 1864, a series of trials to find the best conversion of the P1853 resulted in the selection of the Montgomery Storm system: a forward opening hinged chamber was loaded with an animal skin cartridge then closed on the breech, a percussion cap ignited the powder to discharge the shot. However, the animal skin cartridges proved costly and difficult to source, plus a percussion cap was still required; consequently, the Committee re-evaluated the Snider system (Heptinstall 2016:26—30).

Jacob Snider Jnr's system was simple, a side opening hinged-block breech-loading mechanism or receiver (metal housing containing the working parts of the firing mechanism). There was no need to remove any wood from the stock. A portion of the barrel is cut off and the 'shoe' (aka receiver) shown in Figure 40 and marked (i), holds the block (h) which forms the breech. The mechanism is easy to operate: the breech is opened to insert the cartridge (Figure 41) then closed and the hammer pulled back to a cocked position (shown in Figure 40). By pulling the trigger, the hammer falls pushing a firing pin (Figure 40[k]) into the primer at the rear of the cartridge, igniting the powder in the cartridge to discharge the shot (Figures 41 and 42) (Purdon:9; Schneider and Snider 1862; Skenneron 2003:57).

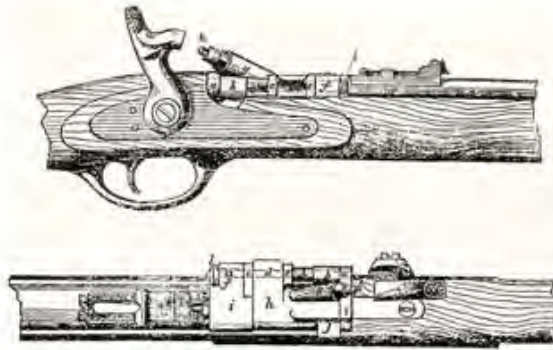


Figure 40 A Woodcut illustration of the Snider conversion to a Pattern 1853 Enfield rifle. This conversion is described in LoC 1327 and dated 18 September 1866 (image courtesy of Purdon 1990:9).



Figure 41 Loading a Boxer cartridge of rolled sheet brass construction into the Jacob Snider Jnr designed hinge-block breech loading action of a Snider-Enfield rifle, the precursor to modern-day breech loading and centre-fire cartridge ammunition weapons (image by Tony Pagels).

The original hinged-breech block receiver was not perfect and subsequently underwent modifications and improvements. Skennerton (2003:75—117) described the five variations

produced; MkI, MkI\*, MkII\*, MkII\*\* and MkIII. There are subtle differences between the Mk's, in addition to more distinct features. The MkI and MkII versions were conversions of the P1853 Enfield rifle. The MkI to MkI\* hammer face was flat and there is no locking latch to hold the breech closed (Figure 41). The MkII\*\* introduced the cupped hammer, a safety feature to keep the breech closed following reports of the breech blowing open.

By 1869 the stocks of Enfield rifles for conversion were exhausted resulting in the establishing of the new MkIII with steel barrel (contrary to iron barrels of the Enfield), spring loaded locking latch and the return of a flat faced hammer. (Figure 42) (Skenneron 2003:132-137).



Figure 42 Snider artillery carbine MkIII depicting the closed hinged block breech. The MkIII is fitted with the spring-loaded locking latch, on the left side of the block. This Snider artillery carbine is held in the Queensland Police Museum collection (image by Tony Pagels).

Variations in the length of the Snider weapons, namely; rifles, short rifles, as well as carbines, with a range of design features, provided a range of weapons suitable for the infantry, artillery, cavalry, navy, prison wardens and police (Skenneron 2003:132-181). The variation selected for the NMP was the Snider artillery carbine MkIII (Figure 30 and 43). Figure 43 is a photograph depicting Kenneth D.T. McKenzie (seated second from the left) with part of a Native Police detachment at Cloncurry in the 1880s. McKenzie and the



troopers are holding Snider artillery carbines with their bandoleers filled with cartridges (image courtesy of Qld Police Museum reference PM0193).



Figure 43 Kenneth D.T. McKenzie (seated second from the left) with part of a Native Police detachment at Cloncurry in the 1880s. McKenzie and the troopers are holding Snider Artillery Carbines with the bandoleers are filled with Snider cartridges (image courtesy of Qld Police Museum reference PM0193).

## The Boxer rolled brass cartridge

The Snider mechanism performed admirably during the trials of the converted Enfield's; however, the shortcomings of the ammunition proved the downfall to the Snider's non-selection. Subsequently, Colonel Edward M. Boxer, Superintendent of the Royal Laboratories at Woolwich, had been working to improve the Snider ammunition. Ultimately, it was the development of the ammunition that provided the success of the Snider breech-loading system (Majendie 1872:23).

Generally, muzzle-loading arms were of a larger bore with an undersized bullet; conversely, the breech-loaders were a smaller bore and the bullet the diameter of the bore or larger. As such, the two systems required different bullets (Temple 1997:29). Boxer's experimentation with projectile and cartridge designs produced a bullet with a hollow nose which lengthened without increasing the weight of the bullet. The smaller diameter longer bullet was more stable in flight, therefore increasing accuracy, plus the powder charge was not increased, reducing the recoil when fired (Temple 1997:28–33). This first approved bullet matched the accuracy of the Enfield P1859 bullet, plus Boxer's cartridge design using coiled brass maximised strength using minimal metal, consequently reducing production costs. The bullet was also more lethal, as the hollow nose would expand on impact, causing considerably more severe injuries (Majendie 1872:26,28). On 9 October 1865 Boxer announced he had also succeeded in making a coiled brass cartridge for the Snider converted rifle that was capable of outperforming the accuracy of the P1853 Enfield at 500 yards, a feat not previously achieved (Temple 1977:10). The ammunition became known for its design after the inventor as the Pattern 1 'Boxer Cartridge' (Figure 44 [left]) and is described in Boxer's British patent No.137 dated 15 January 1866 (Boxer 1866).

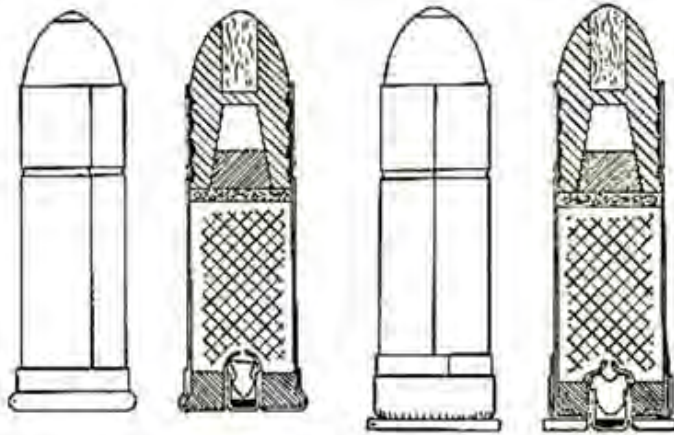


Figure 44 (Left) Boxer cartridge Pattern I with the round base disc approved 20 August 1866; (Right) Boxer cartridge Pattern II approved 8 December 1866 depicting changes including, a new safety anvil and improved base construction and square-edged base disc (images courtesy of Temple 1977:44).

Boxer's improvements to the ammunition warranted further trialling of the Snider system, which commenced in February 1866 (Skenneron 2016:61). Reports stated that the operation of the Snider breech was straightforward, and after firing 1000 rounds, without cleaning, the Snider's accuracy and reloading were unaffected (Heptinstall 2016:30). Such a resounding endorsement culminated in the Ordnance Select Committee officially recommending the adoption of the Snider conversion in May 1866 (Heptinstall 2016:19,31), scrapping the Montgomery Storm. The first converted Enfield's were known as the Snider-Enfield Mk1 and were adopted for the service of British troops on 18 September 1866 (Skenneron 2016:133).

However, the Pattern I Boxer cartridge drew complaints during field trials, causing Boxer to redesign the cartridge and produce the Pattern II — British Patent No.2653 dated 13 October 1866, which became the basis for future Boxer Cartridge designs (Figure 44[right]) (Boxer 1866a; Temple 1977:39).

The Boxer cartridge and bullet underwent various improvements and modifications over the next five years. The cartridges evolved from the Pattern MkI through to Mk IX, as well as providing a choice of blank and buckshot rounds (Temple 1977:39–58). All Boxer cartridges were constructed in a similar manner, using a coiled brass case and base disc: an unabridged description of the MkVIII Boxer cartridge is found in Majendie (1872:26–28):

..consisting of thin brass, .005 inch thick, rolled into a cylinder, and covered with paper, by which the coil is cemented together. The coiled case is fitted into a double base-cup of brass, with an iron disc forming the end of the cartridge which abuts against the breech-block of the rifle. The case is secured in its position by means of rolled paper wad inside, which is squeezed out with great force against the sides of the case. The iron disc base is attached to the cartridge by means of the copper 'cap-chamber', which contains detonating arrangement; the cap-chamber, being riveted over at each end, holds the base tightly to the cartridge (Majendie 1872:26).

This method of construction was effective and cheap (Temple 1977:85). The coiled case gave the ammunition further advantages of rapid expansion and contraction on firing preventing gases escaping toward the breech and enabled extraction, while the solid end disc and brass cups provided strength to the portion of the cartridge subject to the most force upon firing (Majendie 1872:28,29).

### The Boxer .577-inch Cartridge Bullet.

The Pritchett bullet for the Enfield rifle was the basis for the Boxer bullet used in the .577-inch cartridge for the Snider. Modifications and continuous trials to the Boxer bullet saw it refined through seven variations, from Type 1 to Type 7. The first bullet, Type 1, retained the pressed clay base plug used in the Pritchard design to force the expansion of the bullet into the rifling, simultaneously preventing the escape of gases towards the breech and cleaning the barrel of residue. The diameter of the bullet was increased to 0.573-inch, with the addition of four cannelures filled with beeswax to replace the paper patch, and a wooden plug was inserted in the nose to lengthen the bullet without adding to its weight.

The Type 1 bullet was matched to the MkII cartridge and introduced in August 1867 (Temple 1977:33–35). However, the performance of the bullet and cartridge was inconsistent in Sniders with varying barrel lengths. As a result, the bullet and cartridge continued to evolve through a process of modification and assessment.

The need for a single cartridge capable of performing equally in the long rifle and shorter carbine weapons was paramount. The bullet and cartridge design advanced through to the Type 4 and MkVI respectively by March 1868. The Type 5 bullet was introduced with the MkVII cartridge, removing the wooden nose plug, and the nose of the bullet spun over to reduce weight, retaining the four saw shaped cannelures which improved the retention of the beeswax.

The final variations—and potentially the most common in the context of the NMP—are the Type 6 bullet in the MkVIII cartridge and the Type 7 bullet in the MkIX cartridge introduced in late 1869 and 1871 respectively (Temple 1977:36). The Type 6 bullet was essentially the same as the Type 5 — weighing 480 grains, a diameter of 0.573-inches, the nose spun over a hollow cavity, four saw cannelures and pressed clay base plug — except it was marginally longer at 1.065-inches (Figure 45) (Temple 1977:36). The MkVIII cartridge (Figure 45) originated due complaints of ammunition becoming damp and inoperable in tropical conditions (Robinson 1997:52,214). It was thought that by lining the inside of the case with shellac-covered paper, changing the primer pocket to copper, coating the bullet in lacquer and cementing the overlap with shellac, this would waterproof the cartridge and prevent corrosion. It was subsequently discovered that lacquering the bullet was unnecessary and this practice ceased in March 1871. The MkVIII cartridge was wrapped in brown paper with two black rings to distinguish it from the previous Mk's and the later MkIX cartridge (Temple 1977:42–49).

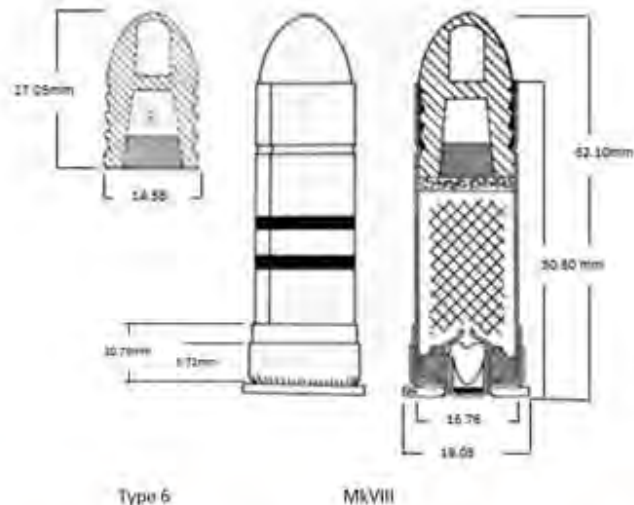


Figure 45 (Left) Boxer Type 6 bullet — 480 grain, 1.065-inch long, 0.573-inch diameter with spun nose cavity, four saw cannellures and pressed clay base plug, (Right) Boxer Cartridge MkVIII — Type 6 bullet, overall length 2.445-inch, case length 2.00-inch, copper primer pocket and base cup heights of 0.250 and 0.425-inch and the case wrapped in brown paper with two black bands. The cartridge was designed for tropical conditions with a shellac paper liner, copper primer pocket and lacquered bullet. After 1871 the bullet was no longer lacquered (Temple 1977:33–49) (image courtesy of Temple 1977:38,48).

The MkIX cartridge came with the Type 7 bullet. This bullet was similar to the earlier Type 3, but had a spun nose cavity, weighing 480 grains, had a diameter of 0.573-inches and a pressed clay base plug. The Type 7 bullet was shorter than the Type 6 at 1.04-inches and had three saw cannellures, (Figure 46) (Temple 1977:36,37). The MkIX cartridge differed by having a brass primer pocket and an increased height for the inner base cup of 0.500-inches. The MkIX cartridge was wrapped in brown paper with a single red ring (Figure 46 and Figure 47). All Snider arms could use both the MkVIII and MkIX cartridges: the Snider and MkIX cartridge remained in service post-1906 (Temple 1977:43,49).

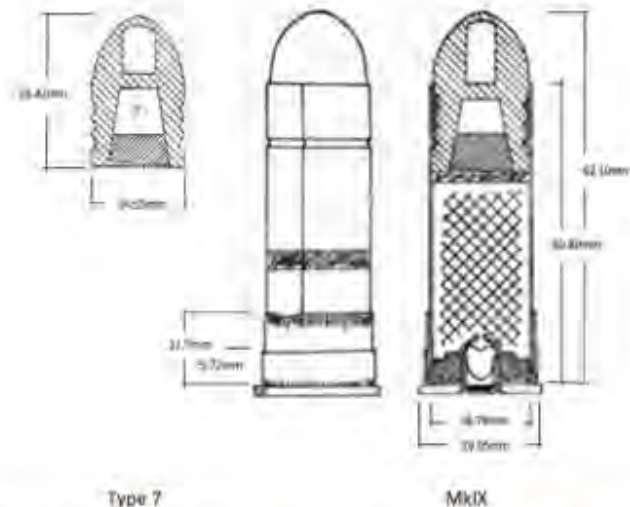


Figure 46 (Left) Boxer Type 7 bullet— 480 grain, 1.040-inches long, 0.573-inch diameter with spun nose cavity, pressed clay base plug, and three saw cannellures. (Right) Boxer MkIX cartridge; Type 7 bullet, overall length 2.445-inch, case length 2.00-inch, brass primer pocket and base cup heights of 0.250 and 0.500-inch, plus the case was wrapped in brown paper with a single red band (Temple 1977:38,43, 49). (images courtesy Temple 1977:38,49).

Production of the Snider rifle and Boxer cartridge ammunition occurred for the commercial sporting fraternity. Temple (1977: 121–124) described the commercially available cartridge referred to as the Colonial Contract Cartridge Pattern 1. The cartridge is lighter in construction than the military cartridge shown in Figure 47 (left) with a brass case wrapped in paper and inserted into a single base cup (Figure 47(right)). Visually the cartridges are distinguished by the presence of a red band and double base cups of the military cartridge verse the plain paper and single base cup of the commercial cartridge. Temple (1977:121) stated this commercial cartridge was officially issued to the cadets and the Qld police, however, further details are unknown. The cartridge was possibly first produced by the Colonial Ammunition Company in New Zealand post-1886 (Temple 1977:123). Before 1886, we know the ammunition used by the NMP was the military cartridge: confirmed by Genever (2010:10) during his investigation into the Irvinebank massacre of 1884. The

atrocities resulted in the death of innocent Aboriginal people killed by NMP troopers armed with Snider carbines. On 19 October 1884, the morning following the killings, a group of men including George Seaman, were led to the scene. Seaman gave evidence at the subsequent inquest that he found "empty cartridge cases which bore red band denoting that they were government issue" (Genever 2010:10). This contemporaneous account by Seaman is referring to the MkIX cartridge shown in Figure 47 (left). During this study, all Boxer cartridges recovered and examined for the Snider carbines are government issue with the double base cups.

Other ammunition for the Snider arms included blank and buckshot cartridges plus the solid drawn brass cartridge (Figure 47), introduced in 1885, marking the next transformation in cartridge construction (Temple 1997:49). The blank cartridge was modified through to a MkIV, which was introduced for use in the Snider and Martini-Henry arms (Temple 1977:52). The Buckshot cartridge was introduced in January 1868 and issued to prison guards and was also recommended for use in riots. The shot was intended to be effective at 150 yards (137.16 m) and would inflict substantially greater injuries than a bullet (Temple 1977:55). The MkI cartridge was loaded with 16 balls at 32 grain (2.74 g) and 0.275-inches (6.99 mm) in diameter, the MkII, introduced in 1874, contained 13 balls and the MkIII, introduced by 1899, contained 28 balls of 'aaa' size (Temple 1977:55).





Figure 47 (Left) .577 Boxer cartridge MkIX introduced in 1871. (Right) .577 solid brass drawn cartridge introduced in 1885. Both cartridges could be used in all variations of the Snider (Right) Colonial Contract Cartridge Pattern 1, produced for the commercial market (Temple 1997:49). (images by Tony Pagels).

Other ammunition for the Snider arms included blank and buckshot cartridges plus the solid drawn brass cartridge (Figure 48), introduced in 1885, marking the next transformation in cartridge construction (Temple 1997:49). The blank cartridge was modified through to a MkIV, which was introduced for use in the Snider and Martini-Henry arms (Temple 1977:52). The Buckshot cartridge was introduced in January 1868 and issued to prison guards and was also recommended for use in riots. The shot was intended to be effective at 150 yards (137.16m) and would inflict substantially greater injuries than a bullet (Temple 1977:55). The MkI cartridge was loaded with 16 balls at 32 grain (2.074 g) and 0.275-inches (6.99 mm) in diameter, the MkII, introduced in 1874, contained 13 balls and the MkIII, introduced by 1899, contained 28 balls of 'aaa' size (Temple 1977:55).

## Boxer Self-contained revolver cartridges.

The innovations introduced by Boxer for longarm cartridges were adapted to produce cartridges for revolvers. The rolled brass cartridge for the Snider arms required the addition of base cups for strength, but the explosive pressure of a revolver cartridge is not as forceful, eliminating the need for base cups. The revolver cartridge consisted of an elongated cup riveted to the base disc by the wad and primer pocket (Figure 48) (Temple 1977:104–107).

Introduced in 1867, was a Boxer cartridge designed specifically for the F. Webley & Son .442-inch revolver; this revolver was adopted a short time later by the Royal Irish Constabulary (R.I.C.) with their formation in 1868 (Temple 1977:104–106). The cartridge for the R.I.C. revolver utilised 0.010-inch thick brass, a brass base disc and primer pocket with a copper primer. The cartridge case was 0.065 – 0.670-inches (16.51–17.01 mm) in length, 0.450-inch (11.43 mm) in diameter and the base disc 0.500-inch (12.70mm) in diameter. The bullet was conical with a flat base and one cannelure, weighing 219 grains (14.19 g), 6.75-inch (17.15mm) long and a diameter of .442-inches (11.23mm). The case was crimped below the cannelure to hold the bullet in the case, and the exposed cannelure filled with beeswax (Figures 48 and 49) (Dowell 1987:63; Temple 1977:104–107).

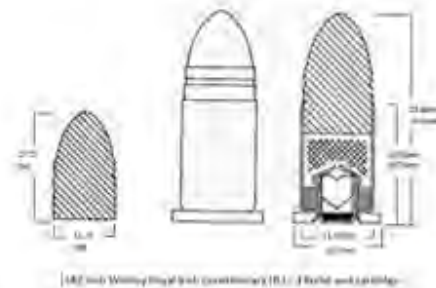


Figure 48 .442-inch Webley R.I.C. bullet, cartridge and cartridge cross-section (Temple 1997:112,120)



Figure 49 Examples of .442-inch cartridges produced by Eley Brothers (left) post 1874 and (right) pre 1874 after the formation of Eley Brothers Ltd. Note the slight variations in the case crimping, cannelure and bullet definitions (image by Tony Pagels).

Essential to this study is the Snider ammunition was unique to the arm, although used in either the rifle or carbine whereas the Boxer .442-inch cartridges were not exclusive to the Webley RIC revolver.

The introduction of the Webley RIC revolver and Boxer constructed metal cartridges in 1868, provided the opportunity for earlier model revolvers, such as the Tranter and Adams, to convert from percussion to centrefire breech-loaders (Prescott 2014:65). An additional advantage with both the Beaumont-Adams or Tranter revolvers was they utilised the Webley R.I.C. 442 calibre or 54 bore cartridge. The Webley R.I.C., Tranter and Adams revolvers were made in a wide range of calibres including .442-inch, .450-inch and .455-inch (Black et al. 2007:6; Dowell 1987:62; Prescott 2014:122—125). The .450-inch cartridge was designed for the Adams revolver and introduced as the British service sidearm in 1869 (Dowell 1987:238). Figure 50 provides a visual comparison of the three cartridges is shown in Figure 50— (left) .442-inch Webley R.I.C. cartridge produced by Eley post-1874, (centre) .450 Adams cartridge stamped 'Eley Bros' produced between 1868 to 1874, (right) .455 cartridge stamped Kynoch.



Figure 50 Three revolver cartridges - (left) .442-inch Webley R.I.C. cartridge produced by Eley post-1874, (centre) .450 Adams cartridge stamped 'Eley Bros' produced between 1868 to 1874, (right) .455 cartridge stamped Kynoch (image by Tony Pagels).

## P. Webley & Son RIC revolvers and Snider Artillery Carbines

The first revolver, No. 1 First Pattern, comprised a single solid frame, double action, six-shot, .442-inch calibre revolver discharging a centrefire Boxer cartridge. The barrel was 4.5-inch in length with five grooved clockwise rifling. Additional identifying features were bolt slots at the front of the cylinder and fitted with a one-piece grip. The method to eject spent cartridges was with a rod fixed under the barrel inside the hollow arbor (rod securing the cylinder to the frame). This revolver remained in production until at least 1885 (Prescott, 2014:94). As we have seen, the design of a gun is not static, but continuously refined to perfect the features of a model. The Webley R.I.C. revolver was no different, produced with subtle variations between models — No.1 first and second patterns, No. 2, No.3 first and second patterns, plus additional models as described by Prescott (2014:94–104). These three R.I.C. revolvers establish the pattern and features of the R.I.C. revolvers purchased by the Qld Government and available to the NMP.

Prescott (2014:94–104) and Dowell (1987: 62–68) described the variations between the model and patterns. The R.I.C. No.1 Second Pattern was primarily the same as the First Pattern with modifications including a raised horn on the butt, two-piece grip, raised

projections at the rear of the cylinder and a 4-inch long barrel. This revolver was in production between 1868—1881.

The R.I.C. No.2 differed with the cartridge case ejector mounted on the frame, the barrel length was 2¼, 3 or 4-inch and either a five or six shot, as well as seven grooved clockwise rifling for the .442-inch cartridge.

The R.I.C No.3 First and Second Patterns reflect the features and alterations made to the No.1 First and Second Patterns. The primary distinction between the two models, No.1 and No.3, is the method for ejecting spent cases. The No.1 cylinder pivots in the frame while the No.3 cylinder is removed for loading and unloading: the cylinder is held to the frame by the arbor rod. Removing the cylinder requires a locking latch to be depressed releasing the arbor pin, pulling out the pin frees the cylinder. Figure 54 depicts a No.3 First Pattern with the arbor pin and cylinder removed for loading and unloading. The grip is one piece, and the cylinder has bolt slots at the front. Figure 51 depicts a No.3 Second Pattern with the projection or horn and the two-piece butt, with raised cylinder bolt projections at the rear of the cylinder (Prescott 2014:94–104). Both revolvers are held in the Qld Museum collection accession numbers H1829 and H1909 respectively. Prescott (2014:96) suggested the No.3 Second Pattern without the under-barrel case ejector was considered a cheaper model — ideal for police. Purchases of Snider Artillery Carbines and Webley RIC Revolvers

The first purchase of Snider artillery carbines and Webley R.I.C. revolvers occurred in 1870. Robert Kellet — stock and station and general commission agent, wool broker and auctioneer — supplied the Qld Government with fifty Snider artillery carbines and fifty Webley R.I.C. .442 calibre revolvers marked Q†G and ammunition (Robinson, 1997:42–43). This marked the beginning of a series of transactions between the Qld Government, Trulock & Harriss and P. Webley & Son for the supply of Snider artillery carbines and Webley R.I.C. revolvers. In October 1871, a requisition was forwarded to the Crown Agents to the Colonies in London to acquire uniform caps, pistols and carbines for the police department (Sargeaunt 1872). In May 1872 the Crown Agent W. Sargeaunt

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informed the Colonial Secretary the revolvers were in production; however, they would differ from a sample revolver. Sargeaunt described the sample revolvers, whose:

... handle has a projection or horn whilst the handle of those about to be shipped has none and is made in one solid instead of two pieces... (Sargeaunt 1872a),

The description of the revolvers identifies this revolver as the Webley R.I.C No.1 second pattern (Prescott, 2014:94–96). The differences in the grip and cylinders are shown in Figures 51, 52, 54 and Figure 55.



Figure 51 Webley R.I.C. No.3 Second Pattern six-shot revolver. This revolver is from Trulock Bros. and not numbered. The 'No.3' features include the removable arbor and the arbor release mechanism. The 'second Pattern' features included the projection or horn and the butt, which is made of two pieces of chequered walnut and the raised cylinder bolt projections at the rear of the cylinder. The frame is marked "C.I.B. 1005", and ↑ over Q.G. This revolver is held at the Queensland Museum collection no. H1909 refers (image by Tony Pagels).



Figure 52 Depicts the top strap of the Webley R.I.C. No.3 Second Pattern six-shot revolver in Figure 51 marked with the name 'TRULOCK BROS. 11 ESSEX BRIDGE DUBLIN'. The cylinder is smooth and visible on the right side behind the cylinder is a protruding latch to load the cylinder via a swinging gate. The raised cylinder bolt projections can be seen at the rear of the cylinder. The top of the loading gate is on the right behind the cylinder. This revolver is held at the Queensland Museum collection no. H1909 refers (image by Tony Pagels).

The only surviving document for the requisition in October 1871 is a consignment note (Figure 54) from Crown Agent W. Sargeant listing 5 cases of carbines, 2 cases of revolvers and 2 cases of cartridges were shipped aboard the *Winifred* in July 1872 as supplied by Messrs. Blakemore of London (Sargeant 1872b). Robinson (1997:44) calculated, based on the similar cost for the arms purchased from Kellet in 1870, that the order comprised 50 Snider carbines and 50 Webley revolvers.

No. DL 7/53

ORIGINAL

OFFICE OF THE CROWN AGENTS FOR THE COLONIES.

London 2<sup>d</sup> July 1872

By *31-12-72*

2669  
2299

Shipment of Carbinos etc

We have to acquaint you that the undermentioned Stores consigned to the Office Administering the Port of Tasmania have been shipped on board the Warped and we enclose the documents specified below relative thereto.

We have the honor to be,  
Your obedient Servants

To  
The Colonial Secretary  
S. S. S.  
Tasmania

Thomas B. Sargeant,  
W. G. Sargeant, } Secy Agents

NUMBER OF PACKAGES &c.	ARTICLES AND QUANTITIES	ATTACHED
5	Cases contg Carbinos	Sol. Sargeant letter dated 30 October 1872
2	Do Do Revolvers	
1	Do Do Caps	
2	Do Do Cartridges	

ENCLOSURES

Bill of Lading dated the 29 May 1872  
Shipping Agents freight & c/o £5. 8. 8  
Invoice - Messrs Blakemore - £398. 10. 0  
To Colonial Storekeeper  
date No. 115 282  
1.9.72

Figure 53 The Consignment note dated 2 July 1872 from the Crown Agent in London, W. Sargeant for the shipment of five cases of carbines and two cases of revolvers, caps and cartridges as supplied by Messrs. Blakemore. The carbines were Snider artillery carbines, and the revolvers were Webley R.I.C. .442 six-shot revolvers (Sargeant 1872, 1872a, 1872b) (image of QSA 72/2299 by Tony Pagels).



The Qld Police Museum had a Webley revolver stamped Q†G, No.6793 and marked J.R. Blakemore, London on the top strap (Robinson, 1997:44) unfortunately we were unable to inspect this weapon. However, the Qld Museum has a Webley R.I.C stamped No.6787 and marked V & R. Blakemore, London on the top strap — (Qld Museum accession H1829). The numerical sequence and a slight variation of the V to read as a J suggest both arms are from the 1872 Blakemore shipment. The Webley revolver No.6787 is a No.3 model, without the case-ejector rod as described by Sargeant (1872a) in his letter to the Colonial Secretary on the 2 May 1872, the handle is one piece and without a projection (Figure 54 and Figure 55).



Figure 54 Webley R.I.C. No.3 first pattern serial number: 6787. Removing the arbor (pin holding the cylinder to the frame) releases the cylinder for loading and unloading, and the handle is made of a single piece of chequered walnut without the horn projection. This revolver is held at the Queensland Museum collection no. H1829 refers (image by Tony Pagels).



Figure 55 Webley R.I.C. No.3 first pattern six-shot revolver serial number: 6787. This image depicts the top strap marked with the name "V&R BLAKEMORE LONDON". The cylinder is smooth, apart from the bolt slots can be seen at the front of the cylinder. Visible on the right side behind the cylinder is the protruding latch to load the cylinder via a swinging gate, an adaption from the No.1 First Pattern. This revolver is held at the Queensland Museum collection no. H1829 refers (image by Tony Pagels).

During 1872 Commissioner Seymour was on leave in Ireland when he received correspondence requesting, he arranges another shipment of Snider carbines and 'Trulock' revolvers (Seymour 1872). What better way to cement business relations than through face-to-face negotiations and devoid of the restraints imposed through the tyranny of distance?

On 23 September 1872 Seymour replied to the Colonial Secretary informing him 200 revolvers had been arranged with Trulock & Harris, as supplied to the Dublin Police to be stamped Q+G and numbered 1-200. Seymour stated he was continuing negotiations for the supply of 200 Snider carbines — with steel furniture for the NMP (Seymour 1872). The fiasco over the purchase of the Wesley Richards pinfire carbines must have been in the back of everyone's minds as the Agent-General to Qld Richard Daintree left the decision to Seymour to decide which variation of the Snider rifle would be best for the NMP (Robinson, 1997:45). The negotiations concluded with Webley agreeing to supply 200 Snider carbines without swords and 50 carbines with swords (Robinson 1997:46).

On 24 January 1873, Daintree acknowledged receiving 29 cases that had arrived aboard the 'Glenista'. Importantly, the invoice identifies the serial numbers of the revolvers: 7590, 7593, 7594, 7596, 7597, 7598, 7599, 7600 to 7659 and 7670 to 7801, plus they were marked Q†G and numbered 1– 200. Figure 56 below depicts examples of these revolvers (Robinson, 1997:46)

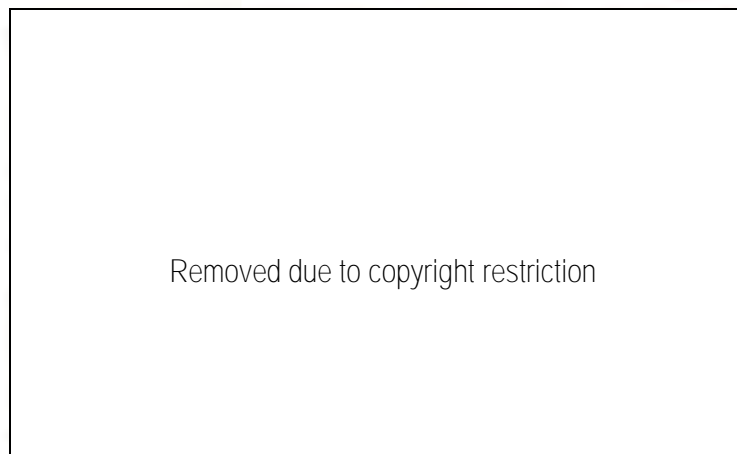


Figure 56 (Left) Webley Royal Irish Constabulary (R.I.C.) No.3 First Pattern, .442 calibre centrefire, double-action revolvers. Both revolvers are marked Q†G, and the top revolver is numbered: 108. The No.3 first pattern features include: single piece checked walnut grip without projection or horn, the plain cylinder with bolt slots at the front of the cylinder and the arbor to remove the cylinder. (Right) Detail of the forward section of the frame of a second revolver from the 1873 delivery depicting the markings: Q†G and numbered '188' below is the serial number: 7787 above the Webley trademark of a winged bullet over W&S and the 'WEBLEY PATENT' stamp (images from Robinson 1997:42).

Hayes and Skennerton (2007:14–15,520–521) provided details and images of Webley R.I.C. revolvers including a selection marked Q†G. A revolver referred to as A-7 is described as a Webley No.3 marked Q†G, 129 and serial number: 7728 (Hayes and Skennerton, 2007:14). These details identify the arm as part of the 1873 consignment.

Seymour's vision to re-arm the police was recorded in the 1873 Police Commissioners Annual report;

The police have hitherto been armed with a variety of weapons of different bores which caused confusion in the ammunition issued. This is being remedied by the issue of the same class of carbine to all and breech loading revolvers of one description and bore only (Barron 1873).

Acting Commissioner W.H. Barron submitted the report on behalf of Seymour as the latter was still in Ireland. The reported strength of the NMP at this time was 145 and the total number of police as 485 (Barron 1873).

When Seymour returned in 1873, he erroneously notified the Agent-General Richard Daintree in London that Webley & Son had not marked and numbered the Snider carbines. Robinson (1997:46) states it was determined through correspondence between the Agent-General, Colonial Secretary and Webley & Son that Seymour had only requested the revolvers be stamped and numbered, not the Sniders (Robinson 1997:46). Had the Snider carbines been numbered and recorded, the Colonial Storekeeper and researchers could account for their distribution with ease. An example of a Snider artillery carbine MkIII with sword bar and full steel furniture is shown in Figure 57. The lockplate is marked 'P. WEBLEY & SON' below the breech and the patent symbol of a winged bullet over W&S is seen behind the hammer. Stamped on the right side of the timber butt is '†' over 'Q P'. This Snider is held in the Qld Museum collection number: H1354 refers.



Figure 57 Snider artillery carbine MkIII with sword bar and full steel furniture. (Left) Detail of the lockplate marked 'P. WEBLEY & SON' below the breech and the patent symbol of a winged bullet over W&S is seen behind the hammer. (Right) Detail of the † over Q P stamped to the right side of the timber butt. This Snider is held in the Qld Museum collection no. H1354 refers (images by Tony Pagels).

The next order in 1874 was for 300 Snider artillery carbines, 100 to be supplied with swords and to be marked Q†P and not Q†G, plus 2000 ball cartridges (Robinson, 1997:46) and intended for the police. Robinson (1997:46) also states there has been no documentation found that confirms the shipment (Robinson 1997:46); however, Snider artillery carbines, MkIII and marked on the lockplate 'P. WEBLEY & SON, LONDON & BIRMM', over 1874 and stamped Q†P on the lockplate behind the hammer, have been inspected are present in collections at the Qld Police Museum (Figure 58) and at the Qld Museum.



Figure 58 Snider artillery carbine MkIII without sword bar and full steel furniture. Detail of the lockplate marked P. WEBLEY & SON over LONDON & BIRMM over 1874 below the breech and stamped † over QP on the lockplate behind the hammer. This weapon is also stamped † over QP in the timber on the right of the butt. This Snider is held in the Queensland Police Museum collection and a second example of a Snider artillery carbine stamped in this manner is held in the Queensland Museum collection no. H1351 refers (image by Tony Pagels).

Significantly, the absence of a date and '†' over 'Q.P.' on the lockplate on the arm, shown in Figure 57, suggests this arm is from a pre-1874 shipment received in either 1872 or 1873.

In 1874 Seymour reiterated his position to issue a single pattern carbine and revolver in correspondence to Webley & Son. Webley & Son had forwarded two sample revolvers of different quality for assessment (Webley & Son 1874). Seymour (1875) replied 26 February 1875 and was critical of their quality stating, '...not as strong, not as well finished and liable to get out of order'. Seymour also suggested it was better to not have two patterns in use and recommended any future purchases should be the same pattern as previously supplied in 1873 along with an inspection by Mr Harris of Trulock & Harris before being dispatched. Seymour was clearly pleased with the Snider artillery carbines issued to the NMP stating, '... although many of the carbines (those supplied to Native

Police) have had some rough treatment but none have been reported as unserviceable.' (Seymour 1875).

The file also contained a requisition dated 26 February 1875 and an accompanying order for Webley & Son dated 1 March 1875 for 150 Trulock revolvers to be marked Q†G, numbered from 201 to 350 and inspected by Mr Harriss of Trulock & Harriss before shipment (Seymour 1875a). Again, no documents have been identified confirming this delivery, but it would be highly unlikely they were not received (Robinson 1997:47). The purchase of Snider artillery carbines and Webley R.I.C. revolvers did not stop there with further purchases identified in 1877 and 1883. On 27 March 1877, the Agent General ordered 300 Snider carbines (50 were with swords) along with 200 revolvers plus ammunition (Robinson 1997:47).

The last known purchase of Webley RIC revolvers occurred in 1883, but unlike previous consignments they were not inspected by Mr Harris: these weapons were scrutinised by an officer of the Secretary of State for War (Robinson 1997:47). The deviation from Harris inspecting the arms can be elucidated by knowledge of the Agents-General's office at the time. A period of mismanagement had plagued the Agent-Generals Office in the late 1870s (Lack, 1966:94–100), plus a decision to appoint an ex-Acting Inspector of the NMP — Charles Shortt Dicken — as Secretary to the Agent-General was both controversial and his capabilities questionable (*Western Star and Roma Advertiser*, 1880:3). Dicken was responsible for arranging the purchase of 50 Snider carbines and 100 Webley revolvers in 1883, which he mistakenly requested through the War Office. Dicken was apparently unaware the arms were not a store item but supplied through the trade by P. Webley & Son. Subsequently, Dicken raised the requisition directly with P. Webley & Son who confirmed the arms were the same as previous supplied, describing the revolvers as No.3 pattern, .442 calibre, with a 4-inch barrel and marked Q † G (Robinson, 1997:47). These revolvers are marked 'P. WEBLEY & SON' on the top strap, stamped '†' 'Q.G' on the left side of the frame forward of the cylinder, as well as stamped with winged bullet trade mark along with 'WEBLEY'S R.I.C. NO 3 .442 C/F' on the right side of the frame. An example of

this revolver is shown in Figure 59. The serial number for this revolver is '34457' and is held in a private collection.



Figure 59 An example of .442 Webley RIC .442-inch revolver potentially ordered by Agent-General Dicken in 1883 from P. Webley & Son. The top strap is stamped 'P. WEBLEY & SON', the left side of the frame forward of the cylinder is stamped 'J. Q.G.'. On the right side of the frame is stamped with the winged bullet trademark along with 'WEBLEY'S R.I.C. NO 3 .442 C/F', the serial number is 34457 (image courtesy of Australian Arms Auction <https://www.australianarmsauctions.com/on-line-catalogue-3/>).

While Dicken was negotiating with Webley & Son for the arms and ammunition, he sought a quote for cartridges from Eley Brothers which he accepted, initiating the purchasing of ammunition directly from the manufacturer, Eley Bros Ltd of London (Robinson, 1997:47).

The solid drawn brass cartridge for the Webley RIC revolver was introduced in 1893 (Temple 1977:113) with the Qld Government quick to acquire the new rounds. In September 1894 saw a requisition placed with Eley Bros for 5000 solid drawn brass .442-inch cartridges for the Webley Truelock revolver (Robinson, 1997:48).

There has been mention of gun makers Trulock & Harriss of 9 Dawson Street Dublin and Trulock Bros of 11 Essex Bridge Dublin. Mr Harriss was called upon to inspect the

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weapons before they were shipped to Qld, these weapons may have originated with 'Trulock & Harriss' though it is known Webley R.I.C. revolvers were marketed by Trulock Bros, as shown in Figure 53. At the time Robinson (1997) was conducting his research, Mr Harriss may have appeared to be related to Trulock Bros. Current research indicates, there is no apparent genealogical connection between the two Trulock families although there appears to have been a business connection (<http://www.trulock.info>). The two families may be confused when assessing markings on revolvers or references to 'Trulock' in the past and future studies.

Confirmation that Snider artillery carbines and Webley RIC .442-inch revolvers were on issue to the NMP comes not from documents recording the serial number and movement of weapons, but from historical photographs, official reports and references in secondary sources. Images depicting NMP troopers with their Snider artillery carbines include the image on the cover of this report depicting a detachment of NMP troopers in Coen in 1896; Figure 43 showing McKenzie with troopers at Cloncurry in the 1880s; Figure 60 below depicting the NMP troopers sent to Victoria to assist in the tracking of the Kelly Gang c. March 1879 (State Library of Qld 9044693), and Figure 61, an enlarged portion of an image depicting NMP troopers holding weapons resembling Snider artillery carbines at Turnoff Lagoon in 1898 (Qld Police Museum PM934).



Figure 60 Stanhope O'Connor and NMP troopers sent to track the Kelly Gang, c March 1879. The Troopers are holding Snider artillery carbines (image courtesy of State Library of Qld 9044693).



Figure 61 Detail image depicting NMP troopers holding weapons resembling Snider artillery carbines at Turnoff Lagoon Lawnhill Road, 1898 (image courtesy of Qld Police Museum PM0934).

Unfortunately, no photographs have come to light depicting the NMP or police with Webley RIC revolvers, although official reports confirm their distribution to the NMP. A report submitted by Travelling Inspector John Ahern following the inspection of Stewarts Creek NMP camp on 19 November 1891, included a description of the arms and ammunition on hand:

Arms & appointments. There were... five small Snider rifle carbines and 87 rounds of ammunition on hand. There were three Webley Revolvers & 92 rounds of ammunition. (QSA290310 1891 Report of Inspection Stewarts Creek Native Police Camp 16 December, Johnstone River, Gullands Selection Station file).

The Queensland Police Gazette (6 September 1876:110; 6 December 1876:143) stated a Qld Aboriginal NMP trooper deserted taking with him "a Government revolver, " Webley's Patent," branded broad-arrow over QG, number not known". The obvious lack of any serial number on this weapon suggests that this omission was common practice, and it is possible that documents detailing the distribution of arms to the NMP never existed. Although the practice may have commenced following this incident, there is no evidence to suggest this was the case.

Dated documents support the proposition that a single type of longarm and revolvers was issued to the NMP from the 1870s—1890s. Between 1870–1883, surviving documents particularise orders placed with Webley & Son and culminated in the supply of 1000 Snider artillery carbines and 750 Webley R.I.C. revolvers, as well as 82,000 rounds and 20,000 cases of .577 Boxer cartridges and 51,000 rounds of .442 cartridges. Clearly, the NMP did not take delivery of all these weapons or ammunition, but the quantities of arms and ammunition received enabled Commissioner Seymour to re-arm the NMP and guarantee a reliable supply and store of trouble-free Webley R.I.C. No.3 pattern, .442 calibre revolvers, Snider artillery carbines MkIII and ammunition, ensuring the NMP were adequately armed.

## The Martini-Henry

The intention by the British War Office to replace the 'stop-gap' Snider-Enfield's with a weapon developed for the infantry led to the introduction of the Martini-Henry rifle in 1871 (Temple and Skenneron 1996:1,85). The development of the rifle commenced in 1866 when the Martini action and the Henry barrel were combined to construct the Martini-Henry rifle (Heptinstall 2016:58–75), although it was not until 1880, after the development of the MkIII model, that Qld received the first Martini-Henry rifles (Skenneron 1975:32).

The Henry barrel had a 0.45-inch bore with a seven groove, right hand twist (aka Henry's Rifling)(Temple and Skenneron 1996:29) and the Martini designed breech mechanism

(Temple and Skennerton 1996:33) combined a single shot, lever action and rear hinged falling block (Skennerton 1975:25,103). The Martini-Henry combined cocking and extraction by opening the breech and cocking the arm with a single lever action, making it more efficient to load and unload the arm (Majendie 1872:26).

The Mk I first pattern were distinguished by the date marked on the receiver (metal housing containing the operating parts of the firing mechanism [Figure 62 right]), as 1871 or 1872 (Manning 2013:16). Modifications were made to improve the trigger system in the MkI second pattern, which were date marked on the receiver 1872–1874. However, it was not until the refinements of the MkI third pattern that the arm was finally approved and issued to British troops on the 12 October 1874 (Temple and Skennerton 1996:96) through to 1877 (Manning 2013:22).

The MkI continued receiving criticism from a list of reported faults and complaints discussed in detail by Manning (2013:16–21), as well as Temple and Skennerton (1997:96–110). Following more than ten alterations, the Martini-Henry MkII pattern was approved for service on 25 April 1877 and was the most produced and widely encountered of the Martini-Henry weapons (Manning 2013:21) The MkII was produced by the Royal Small Arms Factory

(RSAF), Enfield, from 1877–1880. After this date production was shifted from Enfield to the Birmingham Small Arms (BSA) Co. in 1886, 1887 and 1890 (Manning 2013:22). This shift was due to the introduction of the Martini-Henry MkIII, approved on 22 August 1879, which required modifications to the machinery, therefore orders for the MkII were completed by the trade (Temple and Skennerton 1996:119). Between 1880 and 1890, 232,320 Martini-Henry MkIII's were produced (Manning 2013:28). An example of a Martini-Henry MkI pattern rifle converted to a MkII pattern and stamped with Qld Government marks is held at the Qld Police Museum (Figures 62 and 63). The conversion from MkI to MkII is identified by the off-set numbering below the date on the receiver. The MkI stamp is central to the letters and numerals above; an additional 'I' was stamped offsetting the 'I' (Figure 63 right).



Figure 62 Martini-Henry rifle Mk I converted to Mk II Pattern and marked on the right-side receiver with the Royal cypher over Enfield 1874 II along with Q†G 7749. The right side of the butt is stamped Q†G 7749, the makers mark and 1901. This arm is held in the Queensland Police Museum collection (image by Tony Pagels).



Figure 63 (Left) Martini-Henry rifle MkI converted to Mk II Pattern. Detail of the right side of the butt, stamped Q†G 7749, the makers mark and 1901. (Right) Detail of the right-side receiver, with the Royal cypher over Enfield, 1874, and II along with Q†G 7749. This arm is held in the Queensland Police Museum collection (images by Tony Pagels).

As with the Snider-Enfield, the Martini-Henry was available in shorter and more versatile artillery and cavalry carbine configurations. The cavalry carbine was approved on 24 September 1877; 25,000 of these arms were produced in 1878 (Temple and Skennerton 1996:127). The artillery carbine was approved on 9 April 1878, with production commencing in 1879 (Temple and Skennerton 1996:129,130). An example of the Martini-Henry cavalry carbine stamped with Qld Government marks is shown in Figure 64. The right-hand side of the butt is stamped, Q†G over P, suggesting the weapon was initially issued to Qld government forces before it was transferred to the police. The right-hand side receiver is marked with the 'VR' Royal cypher and 'Enfield 1888 I.C.1.' Skennerton (1975:31) states the significance of 'I.C.1' is undefined, but possibly designates that this is

a Mk1 carbine of 1<sup>st</sup> class or an interchangeable carbine 1<sup>st</sup> class (an interchangeable carbine signified suitability for use by either cavalry or artillery forces [Temple and Skennerton 1996:128]) (Figure 64).



Figure 64 Martini-Henry Calvary carbine marked VR Royal cypher Enfield 1888 I.C.1 on the right hand side receiver and stamped with Qld Government marks on the right hand side of the butt, Q+G over 'P' suggesting the weapon was initially issued to government forces before it was transferred to the police. (image courtesy of Australian Arms Auction 29 April 2019).

The ammunition for the Martini-Henry rifle and carbines was a Boxer-constructed rolled brass bottleneck cartridge combined with a Henry's bullet in a .450-inch calibre (aka Boxer-Henry cartridge) (Temple 1977:60). The Henry bullets were produced in two weights: Types 1 and 2, which were 480 grain and 1.27-inches long and with one or two cannelures for use in the Martini-Henry rifle cartridge; and the lighter and shorter Type 3, which was 410 grain and 1.115 inches long, with two cannelures for the carbine cartridges, with a diameter of .0450-inches (Figure 65). The function of the cannelures was no longer to hold wax, but to crimp and secure the bullet to the case. The production of bullets was either cast (lead is poured into a mould) or swaged (lead is rammed into a bullet shaped die). The Henry bullets were swaged, a quicker process that gave a more perfect and uniform projectile (Temple 1977:82,83).



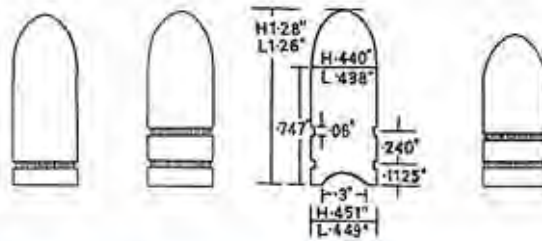


Figure 65 Henry Bullets from left to right. The length of the Type 1 and 2 bullets is 1.270 inches and weighs 480 grains. Type 1, single cannelure, for rolled brass rifle cartridges Mk's I and II and were in use between 1869 -1872; Type 2, two cannelures, for rolled brass rifle cartridges MkIII in use from 1873; Type 2 dimensions; Type 3, two cannelures, for rolled brass carbine cartridges, Mk I and MkII in use from 1878 and the Mk III from 1879. The length of the Type 3 bullet is 1.115 inches and weighs 410 grains (Temple 1977:82,83) (images Temple 1977:82,83)

Comparatively, the Snider and Martini-Henry ammunition were both charged with 85 grains of black powder and a bullet of the same weight (480 grains); the Martini-Henry bullet, though, had a smaller diameter which resulted in a flatter trajectory and greater range and accuracy (Majendie 1872:33).

The ammunition initially trialed for the Martini-Henry was a long, straight-sided cartridge referred to as the Boxer-Henry 'Long Chamber' cartridge (Temple 1977:60, 61). This elongated cartridge was easily damaged until the problem was resolved by William T. Eley, who patented a 'bottleneck' cartridge (British Patent No. 166 of 18 January 1869). This was shorter in length, and the shape made it stronger. A larger .577-inch diameter portion of the case contained the charge, with the case reduced to .450-inch diameter to embrace the Henry bullet (Figure 67) (Temple 1977:63, 78; British Patent No. 166 on 18 January 1869). This larger case had been initially chosen to avoid costs from altering machinery, and it provided the advantage of interchanging the Snider-Enfield and Martini-Henry cartridges (Temple 1977:64).

The cartridge for the Martini-Henry rifle was issued in several different configurations as rifles and carbines required different cartridges. Conversely, the Snider-Enfield had the one pattern for both the rifle and carbine. The ammunition produced for the Martini-Henry included ball, blank, buckshot and proof rounds. The rifle and carbine cartridges were produced in three variations, MkI, MkII and MkIII, while the buckshot cartridge had two (Temple 1977:84—87). The variations may have been available in the colonies during the years of production, but the Qld Government was most likely to have produced the Boxer-Henry rolled brass rifle Mk I and Mk III along with the carbine Mk III cartridges. The MkII rifle cartridge was not issued as a service round, and while the MkI was standard until 1881, the MkIII rifle and carbine cartridges were the most widely used during the service life of the Martini-Henry (Temple 1997: 84—96).

The Boxer-Henry rolled brass rifle Mk I cartridge (Figure 67, left) had a single base cup with a depth of 0.020-inches (.508 mm) and a total length of 3.150-inches (80.01 mm) including the white paper-patched bullet. This cartridge was in use between 1 October 1874 and 1 December 1881 when it was declared obsolete, and the British War Office ordered all stores to be destroyed. The Boxer-Henry rolled brass rifle Mk III cartridge (Figure 66) had double base cups with a depth of 0.020 inches (.508 mm) and 0.010-inches (.254 mm), and the total length of the cartridge with a white paper-patched bullet was unchanged at 3.150-inches (80.01 mm). This cartridge was introduced on 1 October 1873 and remained in service into the early 1900s, despite the introduction of the solid brass drawn cartridge in 1885 (Temple 1977:84—96). A diagram with dimensions of the components for the Boxer-Henry rifle Mk III cartridge is shown in Appendix B.

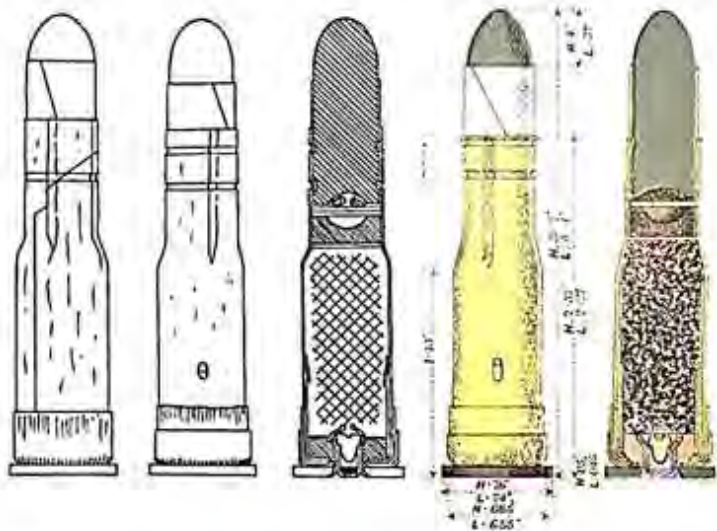


Figure 66 Left to right. Boxer-Henry rolled brass cartridges, Mk I with single base cup, in use from 1874 to 1881 at which time it was declared obsolete and all stores were ordered to be destroyed. Boxer-Henry rolled brass cartridge Mk III with double base cups, in use from 1873 and remained in service for the life of the Martini-Henry rifle. Cross-section of Boxer-Henry MkIII and dimensions. The Boxer-Henry MkIII case was used for the Boxer-Henry Mk I, MkII and Mk III carbine cartridges with the 70/410 grain charge and bullet (Temple 1977:84–96).

Temple (1977:87, 92) discussed the last of the Boxer-Henry rifle cartridges, the rolled brass 'Contract E' cartridge, introduced on 1 March 1888 (Figure 67 [centre]). This cartridge is presumed to have been manufactured by Eley Brothers under contract and differed from the MkIII externally by the absence of the inspection hole. The cartridge retained the two base cups, and therefore cannot be confused with the single cup MkI and MkII cartridges. Temple (1997:87) states the cartridge was supplied for special contracts, however, its use is unknown.

The carbine cartridge utilised the Boxer-Henry MkIII case for each of the three Mk's ( Mk I, MkII and Mk III), but with a reduced 70/410 grain charge and bullet. The carbine cartridge retained the double base cups at 0.020-inches (.508 mm) and 0.010-inch (.254 mm) deep, and with the shorter bullet the overall length was reduced to 2.980-inches (75.69 mm). The

case length is 2.320-inch (58.92 mm) had a strengthening sleeve inserted and hole punched in the outer casing to enable inspection of the sleeve. The MkI and MkII carbine cartridges were issued from 1 December 1877 and 1 May 1878, respectively, and included a white paper-patched bullet. The MkIII was issued as of 1 October 1879 and differed from the Mk II by having three cuts in the paper patch, along with changing it to red to distinguish it from the rifle round (Temple 1977:84–96).

The next major technological change was the introduction of a solid drawn brass cartridge. The cartridge construction differed: no longer was a foil of brass coiled to form the case, but a disc of brass was drawn up into a cup before being forced through a die under high pressure to extend the case. This process was repeated to elongate the case until it reached the desired dimensions. Further refinements were made to the shape of the base and neck of the cartridge before the charge and projectile could be loaded. This process was more expensive and required ammunition manufacturers to purchase new machinery, but it brought a period of rapid growth to the industry, supported by armies the world over changing to solid drawn brass cartridges (Harding 2006:61,66). The solid drawn brass cartridge was introduced for the Martini-Henry rifle in 1885 and the carbine on 1 March 1887 (Temple 1977: 84–96). Figure 67 depicts three variations of the Boxer-Henry cartridges: (left) solid drawn brass cartridge, available post-1885, (centre) Eley rolled brass 'Contract E' after 1888, (right) rolled brass carbine MkIII introduced post-1879.



Figure 67 Left to Right. (Left) Boxer-Henry brass drawn rifle cartridge, in use from 1885; (Centre) Boxer -Henry rolled brass rifle Eley 'Contract E', in use from 1888 with white paper patch and 85/480 grain charge and bullet, without inspection hole; (Right) Boxer-Henry rolled brass carbine cartridge Mk III and in use from 1879 with red paper patch and 70/410 grain charge and bullet, with inspection hole. The brass drawn carbine cartridge (not pictured) was introduced in 1887 (Temple 1977:88, 93-96) (image by Tony Pagels).

The last of the Martini-Henry cartridges to be discussed is the shot cartridge. This replaced the Snider shot cartridge, which was issued to prisons to control riots and had limited wartime application (Temple 1977:100). There were two patterns, although the first—the Mk I—was never approved. The second, the Mk II was introduced on 1 January 1886. This used a longer Mk III rolled brass case that was 2.320 inches (58.92 mm) in length and contained eleven buckshot balls, each 0.275-inch diameter (6.985 mm) and weighing 30 grains, with a charge of 54 grain black powder (Temple 1977:100-103). The MkII shot cartridge could be used in either the rifle or carbine and were issued primarily to the prisons department (Temple 1997:100).

## The Jervois Report

The development of the Martini-Henry was an important step in evolution of weapons and ammunition. By 1877 both the Snider rifle and artillery carbine were being issued to the police. The recommendation to introduce the Martini-Henry to Qld came from Sir William F. Drummond Jervois and Lieutenant Colonial P. Scratchley, who, in 1877, assessed the defences required to protect the colony from invasion (Robinson 1997:53).

An appendix in Jervois and Scratchley's report on their assessment lists the weapons necessary to bolster Qld's defences, and recommended the purchase of 500 Martini-Henry rifles and 250,000 rounds of ammunition (Robinson 1997:53). The recommendation of the Jervois report to acquire the Martini-Henrys was immediately accepted, with 500 Martini-Henry rifles ordered in 1878, and substantial numbers continuing to be purchased over the following years. Robinson (1997:53–62) particularises the events and transactions around Qld's adoption of the Martini-Henry rifles and carbines. Between 1885 and 1895 299 Martini-Henry rifles and 449 Martini-Henry carbines were issued to the police, although Robinson's records do not indicate any obvious issue to the NMP. At least some Martini-Henry rifles and carbines were issued to the NMP, as can be gleaned from Travelling Inspector John Stuart's letters to the Commissioner in February 1894. Stuart conducted inspections at Coen, Musgrave and Laura, reporting on the number of arms and ammunition on issue. Coen held in store 455 rounds of Martini-Henry carbine ammunition, 787 rounds for the Snider-Enfield's, and 89 rounds for the revolver; Musgrave held 230 rounds for the Martini-Henry carbine, 170 rounds for the Snider carbine and eight rounds for a revolver (Stuart 1894), while Laura held 12 Snider carbines, four Martini-Henry carbines and three revolvers, along with 170 rounds for the Sniders, 140 rounds of rounds of Martini-Henry carbine ammunition and 50 revolver rounds (Stuart 1894a). However, a notation in the margin of the Musgrave NMP report reads:

M.H. Carbines not intended for the N.P. Substitute Snider & give M.H. to white police'  
'Advise Inspector' 'Accolly [initials] 28.2.94 'What Revolver ammunition has he in the  
dist?' '2779 rounds [initials] 24.3.94's (Stuart 1894).

The notation came from the Police Commissioner's office. The justification for Coen and Laura to retain the Martini-Henry carbines and not Musgrave is perplexing: although there were white police stationed at both Coen and Laura (Terminus) stations Stewart's reports are clearly labelled as inspections of the NMP camps.

Stuart's report is consistent with the premise that the Martini-Henry rifle was distributed to regular police, whereas the NMP received carbines. Although the make of the revolvers in Cape York was not specified, Stuart's report also noted that the revolvers at this camp were 'Webley' pattern (Stewart 1894) as described by Ahern (1891). Although this description lacks detail, the arms are almost certainly the Webley RIC .442-inch revolvers, 750 of which were purchased by the Qld Government by 1883.

### **The Martini-Enfield and Lee-Metford**

By 1888 technological advances in arms development were occurring at an explosive rate. The Martini-Henry had proved a powerful and accurate arm but lacked the necessary rate of fire (Flatnes 2013:374). The focus of arms development shifted to reducing the weight of the ammunition, increasing the number of rounds that could be carried and introducing magazines for loading the breach to increase the rate of fire (Robinson 1997:61-62). The solid brass drawn cartridges that had been introduced with the Enfield-Martini were replaced by the new .303-inch Lee-Metford magazine rifle in 1888 (Flatnes 2013:372; Manning 2013:37).

The .303-inch cartridge was originally loaded with black powder and performed dismally (Robinson 1997:63); though the performance of the cartridge was greatly improved when the charge was replaced with cordite, a smokeless powder, in 1891 (Flatnes 2013:375). The abundance of Martini-Henry arms, plus the expense associated with purchasing the Lee-Metford weapons, led to the ingenious idea to convert the Martini-Henry MkII to deploy the .303-inch cartridge (Robinson, 1997:64-65). From 1896 the conversion of the Martini-Henry MkII was achieved by configuring the arm with the Enfield .303-inch, 5-grooved, left

hand twist rifled barrel. This new arm was confusingly named the Martini-Enfield MkI and MkII (Heptinstall 2016:92, 93; Skennerton 1975:35).

Robinson (1997:64–65) argued that throughout the 1890s the Martini-Enfield rifles were supplied or converted in large numbers to the Qld authorities, including the Police Force. The lack of records detailing such transactions, however, makes it problematic to determine the extent to which the Martini-Enfield's were distributed (Robinson 1997:65; Skennerton 1975:35).

The potential for modifying the Martini-Henry (Figures 62 and 63) was taken advantage of again when this weapon was converted from the MkII to a Martini-Enfield rifle and chambered for the .303-inch cartridge (Figure 68 and 69). Figures 68 and 69 show the left side of this arm marked with the Royal cipher over 1899, M.E., 303, II. over I (Figure 69) denoting the conversion. An example of a .303 drawn brass cartridge is shown in Figure 70, together with an Eley Bros 'E' Martini-Henry spent cartridge for comparison.



Figure 68 Martini-Henry 1874 MkI converted to MkII and marked on the right-side of the receiver with the Royal cipher over Enfield 1874 II along with Q+G 7749. The right side of the butt is stamped Q+G 7749, the makers mark and 1901 (Figures 62 and 63). The left side of this receiver is marked with the Royal cipher over 1899 M.E., 303, II. over I. Indicating the arm was again converted to accommodate the .303-inch cartridge in 1899. This arm is held in the Queensland Police Museum collection. (photograph by Tony Pagels).





Figure 69 Detail of the marks on the left side of the receiver on the M.E. .303-inch (Figure 69) converted M.H MkII (Figures 62 and 63). The receiver is marked with the Royal cipher over 1899 M.E., 303, II. over I. Indicating the arm was converted on a second occasion to accommodate the .303-inch cartridge in 1899. This arm is held in the Queensland Police Museum collection. (photograph by Tony Pagels).

Had the NMP been issued with Martini-Enfield's it would be expected it was a carbine and not a rifle. Skennerton (1975:35) states that Qld intended to arm the police, military and voluntary forces with Martini-Enfield's by 1899, purchasing 10,000 arms for issue to 5,355 soldiers, 500 police and 4,000 rifle club members. Whether the Martini-Enfield carbine was distributed to the NMP is currently unknown.



Figure 70 (Left) Eley Bros Contract 'E' spent Martini-Henry cartridge produced post 1888. (Right) .303-inch British spend solid brass drawn cartridge produced post 1890 (image by Tony Pagels).

The .303-inch, magazine loading, bolt-action, Lee-Metford rifle MkI was introduced in 1890. As with previous arms a series of modifications occurred before the introduction of the MkII in 1892 (Heptinstall 2016: 132). Robinson (1997: 67,68) stated the Police Department received 100 Lee-Metford magazine rifles in 1894, but within 12 months the arms were described as 'unsuitable for mounted police duties' and were transferred to the Defence Forces, along with the ammunition, in 1895.

In 1895 Archibald Meston was appointed a Special Commissioner to provide a report on the NMP. The recommendations of this report reflected a changing position on the treatment of Aboriginal people. The tenure of the NMP was ending, with Meston recommending their total abolition, and suggesting that the white police replace them assisted by Aboriginal trackers. Meston's recommendations were adopted in the Aboriginals Protection Act 1897, and he was appointed southern Qld's Protector of Aborigines from 1898 to 1903 (Stephens 1974). In June 1895 Seymour retired as Commissioner of Police. The police force at that date totalled 907 members, including 104

members of the NMP (Stewart 1976).

### **The Winchester and other arms**

Robinson (1997:69, 70) suggested the Qld Police force did not confine its purchases to the Martini-Enfield rifles, having identified the purchase of six model 1873 Winchester, lever action, repeating rifles, and 600 cartridges in July 1894. The calibre would have been 44-40. These would have been issued to Inspectors or Sub-Inspectors, possibly to provide travelling Inspectors with a repeating rifle. The Winchester had proven success as a rapid-fire weapon, as well as being commercially available. In the absence of a paper trail Robinson (1997:70) asserted that there would have been other small purchases of arms from local suppliers, as seen in May 1899 when a Winchester repeating rifle and 100 Winchester .44 cartridges were purchased for the Charleville Police district from Perry Brothers in Brisbane.

The allocation of the Winchester rifles is undetermined, although a photograph Frederic Urquhart holding a Winchester type repeating rifle in company with three Aboriginal troopers exists (Figure 71). We can speculate officers of the NMP were issued with these arms or purchased them privately. Additional research may establish the circulation of this arm.



Figure 71 Frederic Urquhart with three Aboriginal troopers. The weapon Urquhart is holding appears to be a repeating rifle or a single barrel shotgun. The date the photograph was taken is unknown, however, it supports the distribution of non-government issue arms to Sub-Inspectors of the NMP. Alternatively, the arm may have been purchased privately (image courtesy of State Library of Queensland reference OM29234 Box 17712).

In relation to the supply of modern revolvers, Robinson (1997:70–72) indicated that, during 1885, the Defence Force and Navy, non-commissioned officers and special troops were issued with the Enfield Mark II .476 calibre revolvers. It is unknown if any of these were transferred to the Police Force. There were three purchases of the modern revolvers for the latter: in 1899 for 25 Webley Mark IV revolvers, in 1900 for 100 Webley Mark III revolvers and a month later for 100 Webley Mark IV revolvers. The possibility that these revolvers were issued to the NMP is unlikely following the recommendations of the Meston report.

## The Recovered Artefacts

The archaeological fieldwork conducted during 2016-2018 recovered in excess of 440 ammunition and weapons related artefacts from several NMP sites. The weapons related artefacts included, percussion hammers, a ramrod, lockplates and a receiver, along with ammunition artefacts consisting of complete cartridges, bullets and spent cartridge cases. Preliminary analysis has matched a significant proportion of the artefacts to the weapons discussed in this study. For this reason, the archaeological evidence supports the surviving historical records to define the weapons on issue to the NMP. Although there are a limited number of weapons related artefacts recovered (n=5), the artefact analysis confirms a compelling connection to the weapons issued to the NMP. These artefacts correspond to components from three weapons reviewed; the percussion double-barrel, Constabulary and Snider artillery carbines. The artefacts include a percussion hammer for the left side of a receiver MIS-041296, and the remnants of a breech mechanism SPR-052825 for a double-barrel carbine. The comparative analysis of the dimensions and features of a ramrod, SPR-052848, correspond to specifications of the ramrod for the Constabulary carbine. An upper barrel band and sling loop BOU-026478 and two lockplates with hammers, BAR-016983 and BAR-016982, display deteriorated marks for P. Webley & Son 1874 revealing they originated most probably from Snider artillery carbines. The examination of the 373 plus individual ammunition artefacts recovered from the NMP sites is ongoing. Currently, the tally of spent cartridges identified are: Snider weapons (n=37); 20-gauge pinfire arms (n=19); and .442-inch revolvers (n=15). The remaining artefacts requiring further analysis include: Snider or Martini-Henry (n=88); unknown revolver (n=42); Martini-Henry (n=2); lead shot (n=58) of various diameter; shotgun (n=87) and unidentified (n=112). It is anticipated further analysis will be more defining with a proportion presenting as nondiagnostic.

Examination of these artefacts is continuing to match the artefacts to a type of weapon. A method of matching ammunition to a weapon is through the information gleaned from the

cartridge headstamp (markings various symbols, numbers, letters or words that can identify the manufacturer, a date range and the calibre) (Barnes 2016:13). An example of a headstamp significant to this study is the 20G pinfire cartridge case heads embossed with 'Eley Bros' and 'EB' which were produced by ammunition manufacturer Eley Brothers from 11 March 1866 until 1874 (Harding 2006:61,149). Although, the casings cannot tell us who or when they were fired, they confirm an occurrence connecting the weapon to the site.

Importantly, spent ammunition cases for Snider weapons, 20-gauge pinfire arms and .442-inch revolvers are well represented in the artefact assemblage, which in combination, provide definitive evidence of NMP activity. In isolation the Snider military pattern Boxer cartridges and the 20-gauge pinfire cartridges produced by Eley Bros., are specific to weapons issued to the NMP, and therefore are most probably the result of actions by NMP personnel. The .442-inch ammunition artefacts could be discharged from the Webley RIC revolver issued to the NMP and additional revolvers including the Beaumont-Adams and Tranters sidearms issued to police. The presence of .442 ammunition artefacts as described, are more probable than not the result of NMP activity. The presence of all three types of ammunition artefacts are unequivocal identification of NMP activity areas.

The presence of non-government issue revolver ammunition casings at NMP sites may indicate NMP personnel adopted the Imperial practice of purchasing their own handguns. Spent ammunition cases for shotguns and rifles were also recovered, suggesting the NMP may have been in possession or had access to commercially produced arms. Alternatively, it could be suggested that the presence of non-government issue ammunition is the result of activity by non- NMP personnel or unrelated individuals. At this stage it is impossible to tell.

In essence, the weapons discussed in this study are represented in the archaeological record, and in the absence of a paper trail linking the movement of arms, supports the historical documents to define the weapons on issue to the NMP.

## Conclusion

The colonial occupation of Qld has been described as a war between invading Europeans usurping the land and the Aboriginal people who occupied it. The NMP was the paramilitary force organised and sanctioned by the Qld Government and was responsible for the subjugation of the Aboriginal population (Bottoms 2013:25; Richards, 2005:63, 2008:9). The ability of the NMP to efficiently 'disperse' Aboriginal people was achieved by arming the NMP with lethal, robust, reliable weapons. The early percussion weapons issued to the NMP were antiquated, inaccurate and difficult to reload on horseback. The introduction of the Snider and Martini-Henry carbines with greatly increased accuracy over longer distances, were efficient, easy to load, with increased rates of fire and were intended as weapons of war. The introduction of these more lethal weapons was delayed by circumstances abroad and within the colony. Had the Snider and Martini-Henry arms been issued at the earliest opportunity, the outcome of NMP 'dispersals would have been considerably more severe.

The NMP operated during a period crucial in the development of arms and ammunition, with their weapons transitioning from percussion muzzle loaders to breech-loaders, which were in turn superseded by centrefire breech loading arms using self-contained cartridges. These technological advances delivered progressively more lethal results, with increased range, accuracy, rapidity of fire and ability to inflict more brutal injuries. The reliability and quality of weapons similarly improved, along with the ease of operation; in addition, they were more effective in the hands of trained marksmen.

However, innovations in weaponry and ammunition did not necessarily dictate the use of the more modern weapons by the NMP, as advances in design in the UK and USA occurred at such speed that an arm was often outdated before it could be introduced into service, especially in remote, colonial Qld. Rather, the selection and introduction of an arm was influenced by a complex interconnection between weapon design and production, events occurring locally and abroad, the ability for the authorities and manufacturers in

Britain to accommodate requisitions for arms and ammunition by the Qld Government, and delays in supply, aggravated by problems of distance and communication. The demand for arms and ammunition abroad often left the colonial outposts in Qld, and elsewhere in Australia, to their own devices and forced them to acquire arms from the 'trade'.

The identified longarms and handguns acquired by Qld authorities can be assigned to one of three categories: arms definitely issued to the NMP; arms available to police and potentially available to NMP personnel; and available arms not issued to the NMP.

The arms identified as **definitely (or most probably\*)** on issue to the NMP are:

- Constabulary 1840 20-gauge single barrel percussion carbine, \*
- Yeomanry 1844 20-gauge single barrel percussion carbine, \*
- 'Cape' pattern 20-gauge double barreled carbine,
- Potts & Hunt 'Cape' pattern 20-gauge double barreled carbine,
- Westley Richards & Co. 20-gauge double barrel pinfire carbine,
- Snider artillery MkIII .577-inch centrefire breech loading carbine,
- P. Webley & Son No 3 .442-inch centrefire revolver, and,
- Martini-Henry .450-inch centrefire breech loading carbine.

Figure 72 below summarises the acquisition of the weapons known to be issued to the NMP. A summary of the arms identified as available to police, and therefore potentially available to NMP troopers or officers (Figure 76), along with a summary of the weapons purchased by Qld authorities and issued to soldiers or police but not issued to the NMP (Figure 77), is contained in Appendix E.

The identification of weapons issued to the NMP provides a foundation for future research. The analysis of spatial patterning in the artefact assemblage would provide an interpretation of site arrangement and activity areas. The analysis of individual site patterns may provide evidence to correlate NMP activity areas on a broader scale, further enhancing our understanding of the frontier interaction between the NMP and Aboriginal people.



Date requisitioned	Date received	Weapon	Quantity	Notes	
-	March 1860	Constabulary carbine 6/10 Yaomanny carbine	20	Initially used by NFP on transfer from NSW Order supplied from NSW stores	
-	January 1860	Cape Pattern 20-gauge double barrel carbine	12	Acquired from NSW Storekeeper	
December 1861	September 1862	Potts & Hunt 'Cape' pattern 20-gauge double barrel carbine	40		
-	October 1862		10		
Nov 1866	April 1867	Westley Richards & Co 20-gauge double barrel pinfire carbine	200	Arms arrived without ammunition.	
-	July 1870	P. Webley & Son Snider artillery carbine MkII: 577-inch centrefire single barrel carbine	50		
Oct 1871	Post Jul 1872		50		
Post Sep 1872	24 Jan 1873		250		50 with swords
Mar 1874	1874		300		Q+P 100 with swords
27 Mar 1877	-		300		100 with swords
21 Jun 1883	Post Nov 1883		80		Q+G
-	July 1870	P. Webley & Son RIC No.3 442-inch centrefire revolver	50		
Oct 1871	Post Jul 1872		50		
Post Sep 1872	24 Jan 1873		200		Q+G Numbered 1 to 200
26 Feb 1875	-		150		Q+G Numbered 201 to 350
27 Mar 1877	-		200		-
21 Jun 1883	Post Nov 1883		100		Q+G
Post 1879	-	Martini-Henry MkII: 450-inch centrefire breechloading single barrel carbine	500	1 <sup>st</sup> order For Volunteers	
-	B/w 1885 to 1895		200 rifles 44g carbines	issued to police	

Figure 72 A summary of the acquisition of weapons known to be issued to the NMP.

## Appendix A

Comparison Bore, Diameter and Weight					
Bore Gauge	Diameter		Weight		grams
	inches	mm	grains	grams	
10	.775	19.802			
11	.751	19.563			
12	.729	18.52	563		37.80
16	.682	16.815	437.5		28.35
20	.616	15.62	350		22.68
24	.579	14.708	292		19.90
25	.577	14.656			
25	.571	14.50	287.04		18.80
28	.550	13.97	250		16.20
30	.537	13.64			
32	.524				
43	.476	12.09			
51	.450	11.43			
54	.442	11.23			
60	.387	9.83			
6000	.38	9.65	70		4.52
80	.372	9.45	80		5.18
100/ #000	.360	9.144	70		4.53
129#00	.33	8.38	53.8		3.52
142#00	.32	8.13	48		3.12
#1	.30	7.62	40.5		2.62
#2	.27	6.86	29.4		1.91
AAA	.203	5.16			
BBB	.18	4.53	10.3		66

Figure 73 Comparison Bore to Diameter and weight. The table is for estimating historical weapons utilising a round ball of lead, and not a conical ball. Manufacturing tolerances will vary between companies and shot cast in the field (Barnes 2016:629–634; Dowell 1987:298–302; Harding 2006:167; Robinson 1997:228).

Conversion table			
Grains	Grams	Drams	Pounds
1	.064	.036	.00014
15.432	1	.564	.0022
27.343	1.771	1	.0039
437.5	28.35	16	.025
7000	453.592	256	1

Figure 74 Conversion table: Grains to Grams to Drams to Pounds (Robinson 1997:228)

## Appendix B

### Specification Drawing for Martini-Henry MkIII rifle cartridge.

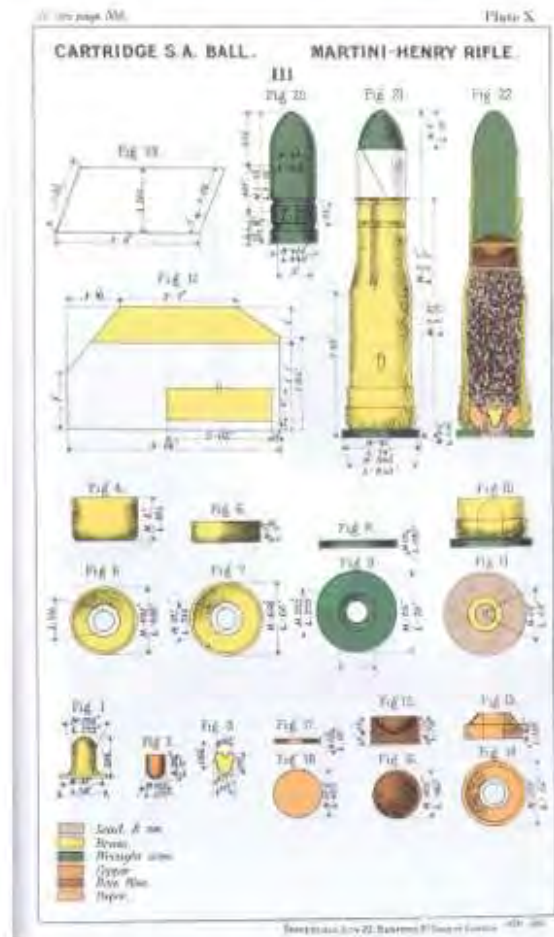







Figure 75 Boxer-Henry Mk III rolled brass cartridges for Martini-Henry rifle. The case was also used for the MkI, MkII and MkIII Boxer-Henry carbine cartridges replacing the 80/480 grain with 70/410 grain charge and bullet (Temple 1977:82-92). (image courtesy of Treatise of Ammunition 1887:308).

## Appendix C


### Appendix C






#### Ammunition dimensions

Weapon	Bore mm (calibre) (bore)	Length mm (inches)	Diameter mm (inches)	Weight grams (grains)	Ammunition description image	Date
<b>English musket 'Brown Bess'</b>	19.05mm (.75") (11 bore)				Percussion muzzle loader Smoothbore Solid round lead ball	Intro. 1550-1760
Bullet - solid (Flintlock 2013-106)	7.62mm (.30 bore)		17.8mm (.693")	26.1g (1007 grains)		
Buck shot (Flintlock 2013-120)			7.6mm (.295-.315")	1.9-3.2g (25-50 grains)	Paper cartridge 	
<b>Constabulary carbine Pattern 1840</b>	16.51mm (.651") (25 bore)		15.63mm (.615")	22.68 g (350grain)	Percussion muzzle loader Smoothbore Solid round lead ball Paper cartridge, patched or naked As above	Intro. 1840
<b>Yeomanry carbine Pattern 1844</b>	18.29mm (.693") (25 bore)		15.43mm (.615")	22.68 g (350grain)	Percussion muzzle loader Smoothbore Solid round lead ball Paper cartridge, patched or naked As above	Intro. 1844
<b>Cape pattern double barrel carbine</b>	16.51 (.651) (25 bore)		15.63mm (.615")	22.68 g (350grain)	Percussion muzzle loader Smoothbore - 1840 4-grooved - 1854 Solid round lead ball Paper cartridge, patched or naked As above	Intro. 1840 Intro. 1854





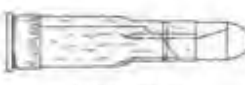
Weapon	Case mm inch	Length mm inch	Diameter mm inch	Weight grams grains	Ammunition	Date
<b>Enfield rifled Pattern 1853</b>	14.25mm (.57") (20 lines)				Percussion muzzle loader 3-groove Enfield rifling	into 1854
<b>Bullet</b> (Larvis 1854-62)		14.17mm (.56")	14.17mm (.56")	33.88g (520 grains)	Conical Pritchett bullet 1st bullet depressed 1853 2" iron plug 2" Boxwood plug 1856 4" clay plug 1860's	Issued to NSW 12th Regiment under command of D. Seymour
(Hoyem 2005:51)			14.43mm (.568") To 14.43mm (.568")	33.7g (520 grains) To 34.34g (520 grains)		Issued to Old police 1860
<b>Cartridge</b> (Hoyem 2005:51)					Early bullet later changed to the Pritchett bullet shown below under Calisher & Terry (Stannerton 1975:81)	
(Majanda 1872:12)		79.25mm (3.12")				
(Hoyem 2005:57:51)		79.25mm (3.12")				
						
<b>Calisher &amp; Terry</b>	79mm No. 2 13.68mm (.538") (30 lines)				Percussion breech loader 1860 5-grooved rifling R-R. twist	1861 Intro to the Volunteers
<b>Bullet</b> Conical (Meyerson 1977:11)		27.87mm (1.095")	13.67mm (.537") 13.68mm (.537")	34.34g (520 grains)	Conical Pritchett bullet 1st bullet depressed 1853 Boxwood plug 1856 clay plug 1860's Pritchett bullet	1868 50147 arms transferred to the police
(Hoyem 2005:98)			14.6mm (.577") To 13.67mm (.537")			1870 at that time Calisher & Terry were out of business as the arm act, not suitable to convert to cartridge arms

Weapon	Bore mm inch	Length mm inch	Diameter mm inch	Weight Grams	Ammunition	Date
					Paper wrapped Thick felt wad at base 2 <sup>nd</sup> pattern bullet with clay plug	
<b>Cartridge</b> Paper (Hoyem 2005-72.98)		58.83 (2.31) To 48.25mm (1.90")			 (Hoyem 2005-230) (Hoyem 2006-63)	
<b>Weedley Richards &amp; Co.</b> <b>20-gauge pinfire</b>	15.5mm (.613") (20 gauge)				Pinfire brass loader Solid head shell/curtain  Case was impressed with E S Eley Bros Eley Bros London Between 11/03/1898 to 1874 (Harding 2006-148)	200 Purchased specifically for the M&P arriving on 10/09/1967
<b>Bullet</b> Round ball or shot  (standard conversion table figures)		15.83mm (.615")	22.68 gm (.850grain)	Post 1874 Case was impressed with Eley London (Brass was removed from the headstamps)		01/03/1868 to 1874  Produced by Eley Bros Ltd From 1874 Trading as Eley Bros Ltd To 1918
<b>Cartridge</b> Brass head with cardboard body						Followed J&A(N&S)C with Eley Bros produced b/w 1861 and 1874  Post 1874 Eley Bros Ltd To 1918 Mirrored with Noble and Kynoch

Weapon	Groove mm inch	Length mm inch	Diameter mm inch	Weight Grains Oz/oz	Ammunition	Date
					 <p>Enfield headstamp 11/5/1866 to 1874</p> <p>Impressed headstamp post 1874</p> <p>Enfield headstamp 11/5/1866 to 1874</p>	
<b>Snider artillery Carbine Mini</b>	14.5mm (.577") (24 lines)				<p>Break loader Centrefire 5-groove R-R twist Enfield rifling</p>	Approved 1866 Issued 1870 Last purchase 1883
<b>Bullet</b>					<p>4 cannelures</p>  <p>17 lines 3.8mm</p>  <p>Type 6 bullet</p>	1869 - Span nose press clay plug. 4 x mm cannelures into with the M/VII cartridge bullet was (scoured) unit 3503/1871 4 cannelures
<b>Type 6 Conical (Temple 1277-28)</b>		27.0mm (1.063")	14.5mm (.577")	31.10g (480 grain)		M/VII 4 cannelures
<b>Type 7 Conical (Temple 1277-34)</b>		28.4mm (1.117")	14.5mm (.577")	31.10g (480 grain)	<p>3 cannelures</p>  <p>16 lines 3.8mm</p>	1868 Span nose press clay plug 3 x mm cannelures into with M/VII cartridge







Weapon	Case mm inch	Length mm inch	Diameter mm inch	Weight Grams grain	Ammunition	Date
						Type 7 5 rounds/clip
<b>Cartridge</b> Coiled Boxer or Drawn Brass						
<b>Mk VII</b> (Temple 1972.48)						
Overall length		82.1mm (3.233")				Mk VII into 1906
Case length		50.3mm (2.00")				
Case diameter			16.26mm (.640")			
Rim diameter			18.06mm (.710")			
Base cup depth			10.79mm (.425")			
Inner case				5.72mm (.225")		
Outer cup						
<b>Mk IX</b> (Temple 1907.49)						
Overall length		82.1mm (3.233")				Mk IX also 1921
Case length		50.3mm (2.00")				
Case diameter			16.26mm (.640")			
Rim diameter			18.06mm (.710")			
Base cup depth			10.79mm (.425")			
Inner case				5.72mm (.225")		
Outer cup						
						
					Mk IX base cup	






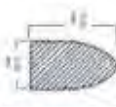



Weapon	Bore mm inch	Length mm inch	Diameter mm inch	Weight Grams grain	Ammunition	Date
<b>Martini Henry Cavalry / Artillery carbine</b> (Skinner 1975:105-108)	11.43mm (.450") (51)				Break loader Cartridge 7-groove R.H twist Henry rifling	Role Mill Approved 1875 Cavalry Approved 1877 Artillery approved 1878
<b>Bullet Rifle Conical or shot (Temple 1977:82,83)</b>						Info: 1869 - 1 x carbazine Mk (2 Paberm) Mk V Obsolete 1811/1881
<b>Mk I</b>		22.26mm (.877")	11.43mm (.450")	31.1g 480 grain		01/10/1875 - 2 x carbazine Mk II
<b>Mk II</b>		22.26mm (.877")	11.43mm (.450")	31.1g 480 grain		01/10/1875 - 2 x carbazine Mk II
<b>Carbine Mk I, Mk II &amp; Mk III</b>		28.52mm (1.122")	11.43mm (.450")	38.57g 590 grain		2 x carbazine Info: 1875 - Mk I & Mk II Info: 1875 - Mk III
<b>Cartridge Boxer-Henry Rolled brass (Temple 1977:88-92)</b>						
<b>Mk I</b>						
Overall length		90.16mm (3.550")				Info: 07/10/1874 Obsolete 1811/1881
Casing length		59.14mm (2.328")				
Case diameter			18.75mm (.738")			
Base dia diameter			19.05mm (.750")		Single brass cup with Mk bullet	Info: 1875 (1) Volunteers
Base cup depth		13.75mm (.541")				Info: 1881 - 1885 250 rifles & 448 carbines consigned to police Woburn 1987-88

Weapon	Bore mm inch	Length mm inch	Diameter mm inch	Weight Grams grain	Ammunition	Date
<b>M&amp;B</b> (Temple 1977-80)						M&B rifle intro 1/10/1873
Overall length		58.61mm (2.31")				
Case length		58.52mm (2.31")				
Case diameter			16.76mm (.66")			Case has inspection hole
Base disc diameter			10.05mm (.75")			
Base disc depth inner cup		16.79 mm (.663")				
Outer cup		8.72mm (.343")				
					M&B above M&B, M&B & M&B carbine use the M&B rifle case Differs with the use of the shorter carbine bullet & from M&B carbine had a red paper patch shown below	
						
Solid drawn Brass rifle						Drawn brass from 1885
Rifled brass rifle Carbine E cartridge produced by Eley - no handwriting or inspection hole						M&B rifle intro 1/10/1873 Carbine E from 01/03/1888 Carbine intro White patched M&B (1/2/1877 White patched M&B carbine 10/01/1878 Red patched M&B carbine intro 01/10/1879
Rifled brass carbine Red paper patch intro 1/10/1879						
Rifled brass carbine						

Weapon	Size mm inch	Length mm inch	Diameter mm inch	Weight Grams grain	Ammunition	Date
<b>Transitional Revolver Percussion</b>	11.23 (.442) (.44)				Percussion muzzle loader Available in a variety of bore sizes Data obtained for standard weights and measure and will vary with manufacturer tolerances.	100 intro by Septima along with 50 Terry cartons to police in 1855
<b>Bullet</b>			9.14mm (.36") 50 bore	5.18g (80 grain)	standard calibers later — either .44 calibre (54 bore) weighing 9.29 grams (127.8 grains) or .387 calibre (50 bore) round lead ball weighing 5.33 grams (82.3 grains) and .36 calibre (50 bore) round lead ball weighing 5.18 grams (80 grains)	
<b>Solid Ball</b>			9.03mm (.357") 50 bore	5.29 g (127.8 grain)		
			11.18mm (.44") 54 bore	127.8g (19.69grain)		
<b>Cartridge</b> Paper or metal						
<b>Colt Navy Revolver Model 1851 &amp; Model 1861</b>	9.14mm (.36") (.40)				Percussion muzzle loader Available in a variety of bore sizes Data obtained for standard weights and measure and will vary with manufacturer tolerances.	1850-1861 & 1861
<b>Bullet</b>			9.14mm (.36")	9.27g (140 grain)		27/06/1868
<b>Conical</b> (Pegler 2017:32; Fialoni 2013:228)			9.14mm (.36")	9.27g (140 grain)		50 involved supplied by H Chalmer in 1868
<b>Ball</b> (Pegler 2017:32; Fialoni 2013:228)			9.03mm (.36")	5.18g (80 grain)	Bullet could be purchased or produced with a mould in conical or ball form	
<b>Cartridge</b> Paper, metal or lead or others						
						50y Sim. Lyford c. 1859/1860 (Harding 2006:124)
						Ball cartridge
			9.14mm (.36")	10.54mm (.415")		Paper wrapped cartridge

Weapon	Bore mm inch	Length mm inch	Diameter mm inch	Weight Grams grains	Ammunition	Date
<b>Adams Revolver Percussion</b>	11.20 (.442) (.54)				Percussion muzzle loader 3-grooved or 5-grooved R.F.L. lead filling Available in a variety of bore sizes Data obtained for standard weights and measure and will vary with manufacturer's tolerances.	From 1858
<b>Bullet</b>						
Conical bullet or						From 1854
Round ball			11.23mm (.442")	8.28g (127.5 grain)	Produced by Eley Bros post 1854	
<b>Cartridge</b>						
paper						From 1854 Eley paper ball cartridge
						From 1888 Eley Cutt steel cartridge
					Produced by Eley Bros post 1854	
<b>Adam revolver Centrefire Conical bullet</b>					(Identical to the Eley cartridge produced for the Webley RC .442 revolver)	
442"				14.19g (218 grain)		From 1888 Sower Webley RC .442 cartridge
450"				14.58g (223 grain)		
					See Webley .442 dimensions	
<b>Tranter Revolver Percussion (Preston 2014.53)</b>	11.23mm (.442") (.54)				Percussion muzzle loader 3-grooved or 5-grooved R.F.L. lead filling Available in a variety of bore sizes Data obtained for standard weights and measure and will vary with manufacturer's tolerances.	From 1858
<b>Bullet</b>						
Conical bullet or (Preston 2014.53)						
Round ball			11.23mm (.442")	8.28g (127.5 grain)		

Weapon	Bore mm inch	Length mm inch	Diameter mm inch	Weight Grains grams	Ammunition	Date
Cartridge Paper	11.23mm (.442") (54)					From 1854 Eley paper ball cartridge
						From 1855 Eley Colt skin cartridge
						From 1858 Baker Wadley RIC .442 cartridge From 1854
Eley paper ball cartridge						
<b>Tranter Centrifuge</b>						
Bullet Cartridge (Temple 1877 112)		17.15mm (.675")	11.23mm (.442")	14.16g (218 grain)		Into 1868 - 1890 Centrifuge cartridge same as Wadley RIC round
Cartridge (Temple 1877 120)						
					See Wadley .442 dimensions	
<b>Wadley RIC No.3</b>	11.23mm (.442") (54)				Centrifuge brass casing Engraved RH, lead rifling	Into 1868 - 1890 First into it 1870 with arrival of Zinier Artillery Cartriges Last purchase 1883
Bullet Cartridge (Temple 1877 120)		17.15mm (.675")	11.23mm (.442")	14.16g (218 grain)	1 cartridge 	From 1868
						

Weapon	Case mm inch	Length mm inch	Diameter mm inch	Weight Grams grains	Ammunition	Date
<b>Cartridge</b>						
Bowen brass cartridge (Temple 1977.123)						Bowen cartridge Intro 1868
Overall length		29.5mm (1.161)				
Case length		16.75mm (.661)				replaced with down brass cartridge in 1897
Case diameter			11.43mm (.452)			
Base diameter			12.7mm (.500)			Discontinued obsolete in 1927 along with the Down brass cartridge
					Headstamps witnessed with: E. S. Eley Bros. Eley Bros London Produced between 1/10/1868 to 1874 (Harding 2008.140)	
					Head 11/24 Headstamp was impressed with Eley London (Bros. was removed from the headstamps)	
						
					Disco 1874 production	

## Appendix D

### Sharps 4" barrel .31 calibre rimfire breech loading pistol

The inclusion of this pistol is not because it was issued to the NMP but based on the connections between arms makers Tipping & Lawden, Potts & Hunt, and Webley & Son. Robinson (1997:32,33) detailed the events from August 1864 when it was established that detectives and sub-inspectors required a concealable multi-shot pistol. The purchase was left with agents Mangles & Co to arrange by tender. Mangles & Co again awarded the contract to Potts & Hunt — suppliers of the single- and double-barrel carbines in 1862. The pistol supplied by Potts & Hunt was a Sharp's 4-barrel .31 calibre rimfire breech loading pistol, made. The pistol was not made by Sharp in the USA, but under licence by Tipping & Lawden of Birmingham. The pistols were shipped in November 1864 and it is unclear exactly when they arrived, however, Robinson (1997:33) stated it was well known they arrived and were distributed to detectives and sub-inspectors.

Tipping & Lawden held the licence to produce the Sharp's pistol, but they also held a licence to use an extraction mechanism patented by revolver manufacturer, William Tranter. In 1877 Tipping & Lawden were taken over by P. Webley & Son and the Tranter extraction mechanism was used on their Webley RIC revolvers which will be discussed later (Black et al 2007:16).

Also of interest, this was to be the last arms consignment arranged by Mangles & Co. on behalf of the Qld government, because the decision had been made in late 1864 to accept the offer of the Crown Agents for the Colonies in London to act as agents on behalf of the Qld Government (Robinson 1997:33).

## Appendix E

Date requisitioned	Date received	Weapon	Quantity	Notes
July 1880	1881	Casimir & Terry Patent No 2 20-bore single barrel casing breech loader 1884 Carbine with or without Jubbs	207 184	Purchased for the Volunteers Transferred to Police
1881	28 July 1882	Fox & Hunt 20 gauge single barrel carbine	85	Five police
July 1884	April 1885	Traveling percussion revolver	100	Even police stores
	1885	Colt Navy Model 1851 28-bore percussion revolver		1855 left-revolvers in store
27 July 1885	September 1885	Colt Navy Model 1851 28-bore percussion revolver	80	
12 Feb 1884	1885	Beaumont-Adams 34 bore percussion cartridge revolver	1 year	Best & Adams revolvers in store
	1885	Turner double trigger 24 bore percussion cartridge revolver		Turner-revolvers in store
	Four 1886 to 1889	Marion-Enfield .303-mch calibre	300	10,000 purchased in total
	1884	Lee-Webley .25-bore magazine rifle	100	Returned to Gov. Store in 1880—equipment in mounted police

Figure 77 A summary of the weapons identified as available to police and potentially available to NMP troopers or officers.

Date requisitioned	Date received	Weapon	Quantity	Notes
April 1880	May 1880	Pattern 1853 Enfield Rifle	24	Four police & volunteers
	1884	Sharps 21 calibre rifle breech loading patrol	50	Defence and Sub-Inspection
		Snider ammunition cartridge		240 rounds
	1884	Woolwater Model 44-40 repeating rifle	8	Inspector or Sub-Inspection
	1890		1	
	1885	Enfield MKI .475-calibre percussion revolver	100	Defence Forces
	1899	Wetley MKIV revolvers	25	Defence Forces / police
	1900		100	
	1900	Wetley MK6 revolvers	100	Defence Forces / police

Figure 78 A summary of the weapons purchased by Qld authorities and issued to soldiers or police but were not issued to the NMP.



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# Appendix 5

## Effective range

Determining the precise, effective, and extreme range a bullet will travel are beyond the scope of this thesis. Nonetheless, there is sufficient ballistic information available to make robust assumptions on the effective range of the Snider carbine, pinfire carbine, and .442 revolver. For instance, the Snider is a long-range weapon suitable for aimed shooting. Establishing the effective range of the Snider carbine at 200 m is considered a conservative estimate of an **NMP trooper's abilities, the Snider artillery carbine's accuracy, and the ballistic performance of the bullet.** The pinfire carbine (or shotgun) is a short-range reactive weapon, while the revolver is intended as a close-quarter reactive weapon for short distance aimed shooting. The effective range of a pinfire carbine discharging a single lead ball has conservatively been set at 50 m. The revolver has the shortest effective range, which has been conservatively set at 20 m. Figure 4.8 illustrates the difference between the effective and extreme ranges for the Snider artillery carbine, pinfire carbine, and .442 revolver.

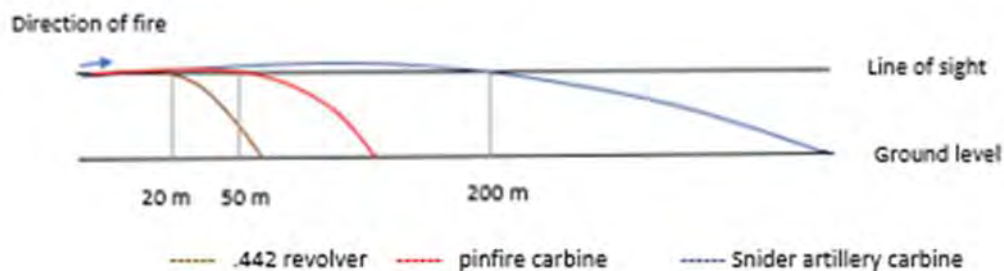


Figure.1 This diagram illustrates the trajectory of a bullet from a .442 revolver, pinfire carbine and Snider artillery carbine when discharged along the line of sight so it would hit the target. The effective range is the maximum distance a bullet may travel accurately and retain sufficient energy to do its job, which is 20 m, 50 m, and 200 m, respectively. The extreme range is the distance the bullet will travel before striking the ground. Diagram is not to scale (Drawn by Tony Pagels).