



Historic Artillery in British Columbia: APPENDICES

*Dale Mumford
Fort Rodd Hill National Historic Site
October 2006*

Historic Artillery in British Columbia: Appendices

In this file:

- *Appendix A - Notes on nomenclature used.*
- *Appendix B - Notes on Ranges of Guns and Rates of Fire*

➤ Appendix A - Notes on nomenclature used.

Through out this paper I have used a common set of nomenclature for clarity's sake. This is based on that used by the British and Canadian military for the most part, but I have used a less telegraphic form and I have given mark numbers in Arabic rather than Roman numerals. Thus for example rather than say, Ordnance BL 6 inch gun Mk VI on carriage garrison disappearing BL 6 inch Mk IV, I have written 6-inch BL Mk.6 gun on a Mk 4 disappearing carriage. I hope purists will forgive me for this.

Throughout this work I have used the British terms QF (Quick Firing) and BL (Breech Loading) as they were used in the British and Canadian army (and navy) to signify a gun that used a brass cartridge casing (QF) or that used a cloth cartridge bag (BL). These were the two major types of gun in use from the time breech loading was adopted in the 1880's.

I have used the abbreviation "RML" to signify Rifled Muzzle Loading guns. (Some writers use the abbreviation MLR in describing these guns, but RML is the most common abbreviation found in original military manuals etc. and is used by the leading writers on British artillery). The abbreviation "RBL" is most often used to describe the Armstrong Breech Loading guns that were manufactured from 1859 to 1864. A few of these guns were mounted on naval vessels serving in BC waters, but there is no record of this type of gun ever being used ashore in British Columbia. They were not successful and were quickly replaced by RML guns in British service from 1865 on. Finally I have used the abbreviation "SB" when referring to smooth bore artillery.

I have expressed the weights of guns in the now archaic hundredweight (cwt). A hundredweight is one twentieth of a British long ton (2,240 pounds) or 112 pounds. I have done so, not to be pedantic but because this often was used as part of the official name of a

gun, especially when more than one type of gun of the same calibre was in service. Thus for example there were 12- pounder QF guns of 8 cwt., 12 cwt, and 18 cwt, all in service at the same time. For consistency where tons are used for larger guns, these are British long tons. (For those keen on metric conversion, a long ton is quite close to a metric ton, which converts to 2,204.62 pounds, and a hundredweight is just under 51 kilograms.)

In most places where guns are designated by the weight of shot or shell they fired, I have written out “pounder” in full. There are two accepted abbreviations for pounder: “pr”, which was used by the military, and is stamped on guns, and used in military manuals up to about World War II; and “pdr”, which was most often used during World War II and after, and is the most common version listed in dictionaries. However, as most people have never seen either of these abbreviations, I have avoided using them altogether. Using “pound” or the abbreviation “lb.” with reference to the size of a gun (eg. a 3-pound smooth bore gun) is an incorrect usage and should be shunned (along with writers that use it) at all cost.

Appendix B - Notes on Ranges of Guns and Rates of Fire

Two areas in the discussion of artillery for which conflicting information can often be found is in any discussion of the range of a piece of ordnance and its rate of fire. Ranges given are usually the maximum range of the gun at the optimum angle of elevation.

Even when this is specified, the maximum range can change, even for the same gun, over time. For example military manuals for the period at the beginning of World War I will show the 6- inch BL Mk. 7 gun on Mk 2 barbette carriage as having a maximum range of 11,600 yards while manuals from World War II give the maximum range of the same gun as 14,500 yards. In this example the difference is probably explained by the development of ballistic caps for 6-inch shells between the wars which improved their aerodynamics. Different shells would also have slightly different ballistic properties, so that, for example, an armour piercing shell with a base fuse could be slightly more streamlined than a high explosive shell with a nose fuse. In the period prior to the introduction of cordite, gradual improvement in the manufacture of black powder such as the development of prismatic powders led to more powerful combustion and sometimes greater ranges. After cordite was introduced, various marks of cartridges were produced and in some cases super charges were developed for some of the largest calibre guns. Thus for example one of the last tables of ranges for 9.2-inch BL guns on the Mk 7 barbette mounting gives a maximum range of 29,600 yards with normal full charge, and 31,300 yards with a super charge.

Rates of fire could also change over time. The fitting of single-motion breeches to BL guns originally outfitted with three-motion breeches in the early 1900s was one example where technology improved the rate of an otherwise identical gun. Rates of fire were always based on a fully satisfactory performance by a well trained gun crew, but gunners were always trying to exceed the established firing rate. Early manuals for the Twin 6-pounder 10 cwt QF gun give the rate of fire as 70 rounds per minute. A manual from 1953 gives the rate of fire for this gun as 72 rounds per minute. Presumably, in this case experience over a few years showed that well trained crews could regularly achieve 72 rounds a minute, and the firing rate

was increased in the manual accordingly.

Where I have quoted ranges and rates of fire above I have tried always to use ranges quoted in manuals for the period being discussed. Thus for example, because there were no 6-inch BL Mk. 7 guns in the Victoria and Esquimalt Defences until 1938, I use the maximum range for these guns quoted in World War II period manuals.

Because all coast artillery gun ranges during the period up to 1956 when coast artillery was declared obsolete in Canada were given in yards, I have quoted the ranges in yards in this paper. I have usually followed this with an approximate equivalent in metres or kilometres in parentheses to provide a more readily understood range for modern Canadian audiences. (At Fort Rodd Hill National Historic Site we often still give ranges in yards or miles if we know we are speaking to visitors from the United States). Ranges for anti-aircraft guns were given as the maximum ceiling in feet. Thus, for example, the Bofors 40 mm light anti-aircraft gun had a maximum ceiling of 18,000 feet. This reflected its targets, as the maximum ceiling of aircraft was also given in feet in British, Canadian and US manuals at this time.

