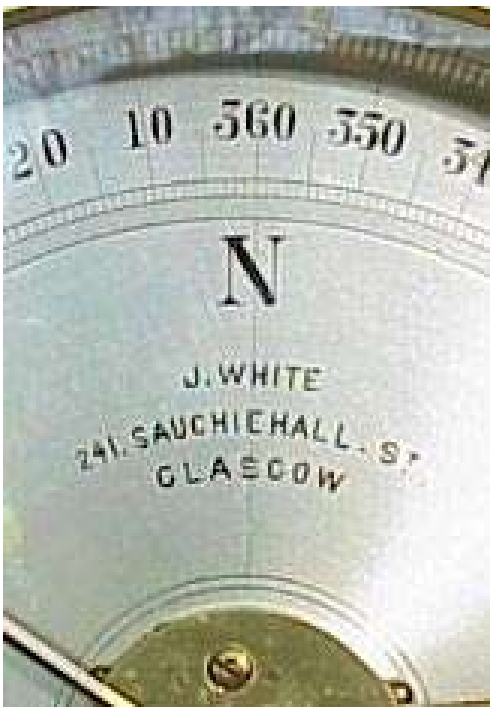
Two Engraved Mine Surveying Compasses

by Dave Johnson

Finding mining artifacts for one's collection is always exciting but finding mining artifacts that have provenance linking them to a specific mine or mining company is doubly exciting. The two mine surveying compasses pictured and described here are two such artifacts.

The first of these is a beautiful presentation brass mine surveying vernier compass manufactured by J. White of Glasgow, Scotland, dated 1877. The compass housing is 6" in diameter, with a 6" bar needle, 5" folding sight vanes, and measures 10 " in overall length. The outstanding feature of this piece is the engraving on the vernier arm which reads: "Presented to Wm. Smith, Manager by the Workmen at Allanton Collieries, Morningside Nov. 30th, 1877".



Allanton Collieries was owned by the Morningside Coal Co., Newmains, Lanarkshire, Scotland, located southeast of Glasgow. A report dated 1896 states that the mine had 110 underground workers and 20 surface workers at that time and the mine manager was John Gray.

Apparently this compass was presented to manager William Smith when he left the Allanton Colliery. He is later recorded as being manager for Rhymney Iron Co. Ltd., colliery proprietors and coal exporters operating the Rhymney, Pontlottyn, George Inn and Gilfach Collieries. An 1896 report finds William Smith listed as manager of the Glasgow Iron & Steel Co. Ltd. Wishaw Colliery at Wishaw, Scotland, employing 169 underground and 37 surface workers.

The second piece is a brass mine surveying compass by T.B. Winter. An 1893 advertisement reads "T.B. Winter, Manufacturer of Nautical, Philosophical, and Optical Instruments, 21 Grey St. Newcastle-on-Tyne. Spectacles to suit all sights". The firm later became T.B. Winter & Son. The Compass housing is 5" in diameter, with a 4" bar needle, 5" folding sight vanes and measures 12" in total length. The outstanding feature of this piece is the engraving "North Bitchburn Coal Co." on the frame.

The North Bitchburn Coal Co. operated many collieries in County Durham for more than 100 years. The earliest reference I could find was the sinking of the North Bitchburn Colliery, in 1845, on the 6' Brockwell Seam, but also came across a reference to the company producing coal in 1840 with no specifics.

The Whellan's Directory of County Durham for 1894 states that the Bitchburn Colliery was the principle colliery in the area and drew workers from the villages of High Grange, North Bitchburn, Quarryburn and Valley Terrace in Witton-le-Wear Township. The colliery was located 8 _ miles southwest of Durham. In 1894 they were working the 2'4" Harvey Seam, 2' Constantine Seam, 1'8" Ballarat Seam 2'8" Five Quarter Seam and the then 4'3" Brockwell Seam. Production was 700 tons /day, all converted to coke. Clay was also mined from the same facility by the North Bitchburn Fireclay Co., owned by the North Bitchburn Coal Co., and was used to produce firebrick and vitrified clay sewer pipe. The colliery and fireclay operation employed 700 men and boys in 1894.

Overall, in 1896, the North Bitchburn Coal Co. employed a total of 2,348 men and boys at the Brockwell, Constantine, Evenwood, Five Quarter, Gordon House, Howden, Randolph, Rough Lea, Thrushwood and Storey Lodge Collieries. In 1902 they operated 9 collieries with 2,576 employees. By 1914 they were operating 6 collieries with a total employment of 4,131 men and boys. Annual output in 1923 was 600,000 tons. The start of the Depression in 1930 found them operating the Gordon House, North Bitchburn, Randolph and Thrislington Collieries with 1658 employees.

The North Bitchburn Colliery escaped Nationalization in 1947 due to it reportedly having less than the requisite 30 employees which was the maximum number of employees allowed in privately owned mines. However, in 1966 they were employing 59 underground and 8 surface workers, well beyond the 30 employee limit for Nationalization.
What were these compasses used for? A surveyor uses a compass to determine the direction of a line. The needle points to the magnetic North Pole and by turning the compass in the direction of the line being surveyed, the direction of the line can be determined. Compasses are divided into two main categories, "plain" and "vernier". The plain compass has no adjustment capabilities and always reads magnetic north. The vernier compass has an adjustable scale that allows for the "setting off" of the magnetic declination, allowing the compass to then directly read true north.