Miners at the Front in World War 1 (Part 1) - an introduction

by Mavis Dixon

Before I read the novel “Birdsong” by Sebastian Faulks. I never realised that we asked men to take the First World War underground. This was a harrowing tale of digging and building mine shafts with the constant fear of the roof caving in, danger from gas or meeting your fellow German tunnellers and having to fight underground. If they were successful they would lay charges under the German trenches or in a German tunnel then hope to escape. Of course many miners were killed and injured in fighting underground and in many accidents. Their contribution has been documented in an excellent book by Alexander Barrie called “War Underground – The Tunnellers of the Great War” and their bravery is without question.

I feel more people should know about the conditions they worked under and decided to concentrate on this aspect. I hope to link this to Durham miners but this is proving more difficult. Letters which I have written to the Imperial War Museum, The Royal Engineers Museum and the D.L.I. Museum may throw up a lead or two for me.

Miners at the Front in World War 1 (Part 2) - Trench Warfare and the Tunnellers

Trench warfare and the stalemate in France and Flanders caused both sides to embark on mining operations in a determined struggle for tactical superiority in those areas suitable for mining i.e. where opposing lines were relatively close together and the geology was suitable.

Tunnelling Companies were formed using “clay kickers” or “working on the cross”. These men had worked on sewers and the underground in Manchester and London.

Ex-miners were later recruited. Tunnelling companies sought ways to place mines under the enemy and developed ways of detection of enemy mines and their destruction. There were
many underground encounters between foes, sometimes hand to hand close quarter fighting in the dark. Mines were blown then the infantry developed tactics to rush and capture the resulting crater. The earth thrown up by the explosion could be used as high ground to observe the enemy. Mines became larger and larger. A 91,111 lb mine at Spanboekmolen created a hole that measured 430ft from rim to rim. Now known as the Pool of Peace it is large enough to house a 40ft deep lake. Simultaneous explosions of the mines under Messines took place at 3.10 on 7th June 1917 and could be heard in London.

Miners at the Front in World War 1 (Part 3) - Training of tunnel rescue workers

After the formation of Tunnelling Companies many accidents occurred from explosions, cave-ins and gases so that in June of 1915 Mr Arthur B Clifford was appointed to the rank of Lance Corporal and sent out to begin training officers and men in the use of mine rescue apparatus and was solely responsible for this work until October 1915. He was asked to train 3000 mine rescuers in a month with only 36 sets of PROTO (self-contained breathing apparatus) being available in the country at the time.

In September 1915 Captain D. Dale Logan was appointed as advisor to GHQ on all matters connected with the health of the men in the Tunnelling Companies. His task was to organise a system of rescue work and protection against gas. L/Cpl. Clifford began training in the yard of the Royal Engineers Park at Strazeene then a sub-station was started at Berguette, which became the First Army Mine-Rescue School. This developed into the setting up of the Second Army Area School at Armentieres.

Rescue Schools trained men in mine rescue work and to repair, test and maintain a reserve stock of rescue apparatus. They trained personnel in the use of mine listening instruments and their testing and repair. Their officers were trained in advanced mining tactics and trench surveying. Men were trained in teams in the use of boring machines. Explosives, new instruments and engineering appliances were tested and demonstration was taught. Officers
and other ranks of other units were trained to construct mined dugouts and to detect and remove enemy traps. L/Cpl Clifford was awarded the Meritorious Service Medal in 1917 for his intimate knowledge of the equipment and his devotion to his training work.

**Miners at the Front in World War 1 (Part 4) - Specialised Skills of Miners**

The war on the Western Front was bogged down into siege conditions by November 1914 and both sides needed to break through the enemy’s defensive entrenched positions. Mining under the enemy lines, placing explosives and blowing them up seemed a solution but, whereas some Royal Engineers received limited training in the subject, there was no specific organisation for carrying out this task.

Specialised Tunnelling Companies were quickly formed from men called ‘clay kickers’ who were sewer drivers, then coal, tin and slate miners volunteered. These men were given rudimentary military training then sent to France with very little idea about what they had volunteered for. Many ex-miners, already serving, transferred from their units also.

One of these was George Henry Waters of 22 Montrose Terrace, Copley Butterknowle, County Durham. He was a hewer at a local coalmine and was killed at the age of 26 while serving as a Sapper in 256th Tunnelling Company Royal Engineers.

Tunnelling could commence wherever trenches were close enough together and the geology was suitable. There was an acute shortage of equipment at first so Mining Companies became inventive. Means of detecting enemy mine systems were also devised. One method was to drive a stick into the ground and hold the other end between the teeth and feel any underground vibration. Another method involved sinking a water-filled oil drum into the floor of the trench and the soldiers took turns to kneel in the mud and lower an ear into the often freezing water to listen for any noise being made by enemy tunnellers. Short sticks each with a single vibrating wire-type earphone attached, as used by Water Board
inspectors, became popular as did using heavy French water-bottles filled with water and laid flat on their sides in pairs so they could be listened to through medical stethoscopes. However, the geophone was the most reliable. It consisted of two wooden discs filled with mercury, faced with mica and bearing nipples to which a stethoscope could be plugged.

When detected, an enemy tunnel would be destroyed by exploding a small charge called a camouflet, preferably without destroying one’s own system or breaking the surface. However, miners and their officers sometimes used to use enemy tunnels for reconnaissance work on German positions and tunnels before blowing them. Tunnel entrances were a closely guarded secret. Miners worked with candles and in near silence so as not to be detected. They would often have to fight underground with picks, shovels, timber and fists in the dark and foul air if they broke into the enemy’s tunnel or the final partition of earth between them collapsed. Rifles were used if they could be and men had been trained to use them.

A Mine Rescue School was formed in 1915. Natural gases and gases given off as a result of explosions could ignite, poison or asphyxiate. In one month, a company had 12 killed by gas, 28 sent to hospital and 60 minor cases retained with the unit. Collapsing tunnels were also a danger.

Men often worked in a foot or more of water for up to 12 hours at a time, short of air, frozen whenever they stopped digging and prone to illness. Bad food lowered their resistance and fatigue did the rest. A regular rum ration was issued as it was thought to keep out the cold and by arranging rotas and billeting those not on duty quite far back, there was some alleviation of the problem, but casualties were still proportionately high.

Miners were used later on in the conflict in creating underground subways for infantry to shelter in and to reach the front lines more safely. These subways contained Headquarters,
dressing stations with operating tables, stores, kitchens and latrines and were lit by electric light. Trench building was another job they excelled in.

Mention should be made of the ‘Miners’ Friends’. Mice and small birds, such as canaries are highly susceptible to gas, so they were issued to the Tunnelling Companies as an official item. Many were to die and so give warning to diggers with them. Many were gassed but recovered and one company is said to have kept a record of the gassings so that the creatures did not have to endure more than three times before being pensioned off to an aviary. They are honoured upon the Scottish War Memorial in Edinburgh.

Knowing a tunnelling company was nearby made the troops nervous. They felt that not only were they in danger from above the ground but they could be blown up from below! Also, a tunnelling company in the area could draw attention from German troops. Although mining activity was not popular, the infantry and Field Marshall Haig had the highest regard for the bravery and skill of the tunnellers.

_Digitised by Mr & Mrs Trotter_

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