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**INSTRUCTIONS FOR FIRING WITH**  
**"GREEN - CROSS" (GAS) SHELL**  
**FROM LIGHT FIELD HOWITZERS**  
**ON THE AREA NORTH OF ARTILLERY RAVINE AND MAMETZ WOOD.**

1. There are 7,000 rounds available for the bombardment.
2. The following batteries will take part :—
 

7th and 9th Batteries	...	233rd Fd. Art. Regt., 16th Division.
4th, 5th and 6th	„	78th Fd. Art. Regt., 24th Division.
7th and 9th	„	18th Res. Fd. Art. Reg., 24th Division.

 Each battery is allotted 1,000 rounds.
3. The area to be shelled is divided into six rectangles. Rectangle "A" will be fired on by two batteries, each of the other rectangles by one battery. (For proposed distribution, see Map.)\*
4. Each battery will ascertain the range to the centre of the rectangle allotted to it. Registration should, if possible, be carried out by day with Long shell. "Green-cross" shell range about 150 metres shorter than Long shell, the ranges as ascertained by registration or otherwise (see Para. 5) should therefore be increased by 150 metres.
5. Batteries which are unable to register should take the range from the map. The angle of sight will be ascertained from the contours with the assistance of the range table. (The point of junction of Shell Ravine and Artillery Ravine is + 89 metres). The range taken from the map should be corrected, as far as possible, by making the necessary corrections for the error of the day. The difference between the range on the map and the range for which the sights should be adjusted, having regard to the atmospheric conditions, must either be obtained from another battery which can register with observation or be ascertained by firing at a point which can be observed and lies at about the same distance from the battery as the actual target.
6. In order to form a thick gas cloud, it is necessary to fire in bursts of about 100-120 rounds in half an hour. There should be pauses in the firing to prevent damage to the guns. After these pauses, fire should be reopened with the maximum intensity with a view to surprising the enemy when not wearing gas masks.
7. The fire of each battery will be evenly distributed over a width of 150 metres (164 yards); if the width of the area allotted as objective is wider than this, it will be shelled in sectors. In order to obtain a continuous gas cloud across the whole front of the objective, after each burst of fire (see Para. 6) the guns will, without altering the range, be traversed as necessary, until eventually the whole width of the target has been covered, when the range will be altered. Each battery will fire at three ranges differing by 100 metres (110 yards); the middle range will be the one ascertained as laid down in Paras. 4 and 5. The rounds of each burst of fire (see Para. 6) will be fired with the same elevation.
8. In order to increase the effect, the area will also be shelled with T-shell (lachrymatory); this fire will be opened an hour before the bombardment with "Green-cross" shell begins. It is not advisable to employ H.E. shell at the same time, as this would dissipate the gas cloud too much.
9. In case of heavy rain, the batteries will, without waiting for orders, immediately cease firing with "Green-cross" shell and will not resume this nature of fire until the rain stops.
10. Orders will be issued regarding the date and time of the bombardment.
11. The attached lists of questions\* are to be filled in and returned as soon as possible.
12. Any ammunition left over is not to be fired without permission, as success can only be obtained by means of large quantities of "Green-cross" ammunition. Improper use of this ammunition may, especially with the wind in its present direction, endanger our own infantry.
13. The infantry must be informed of the bombardment.

(Signed) FROLACHER,  
Colonel.