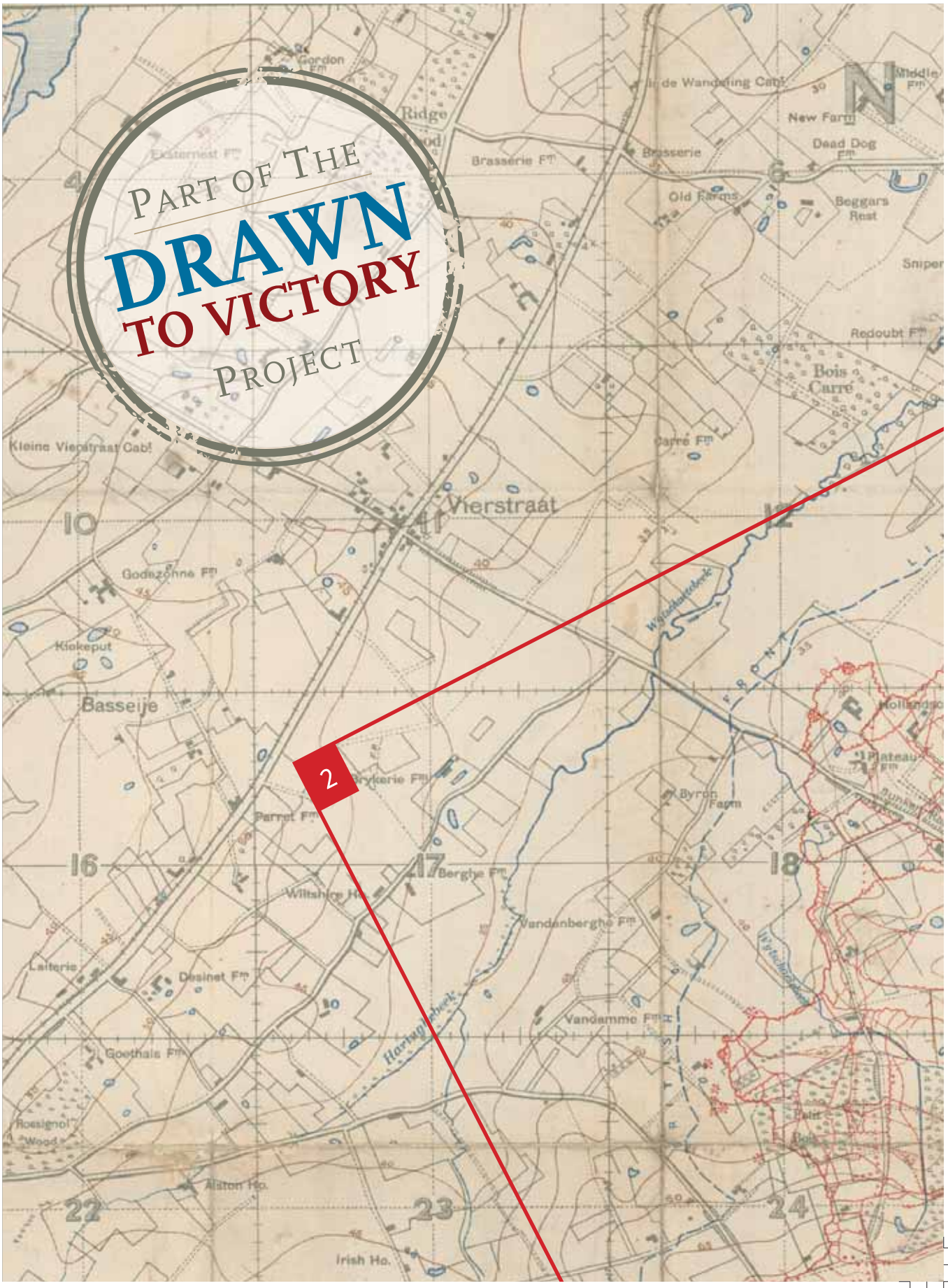

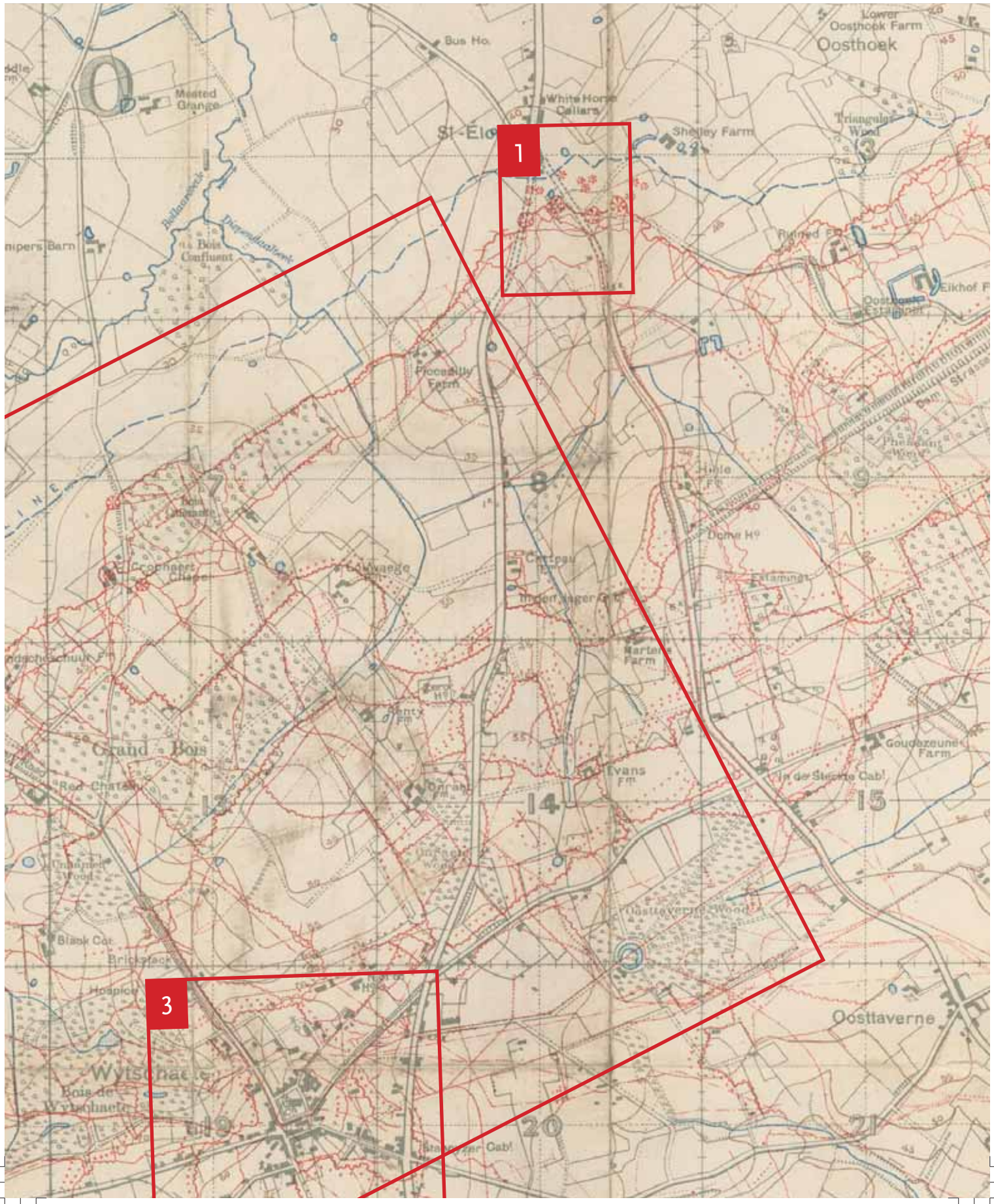

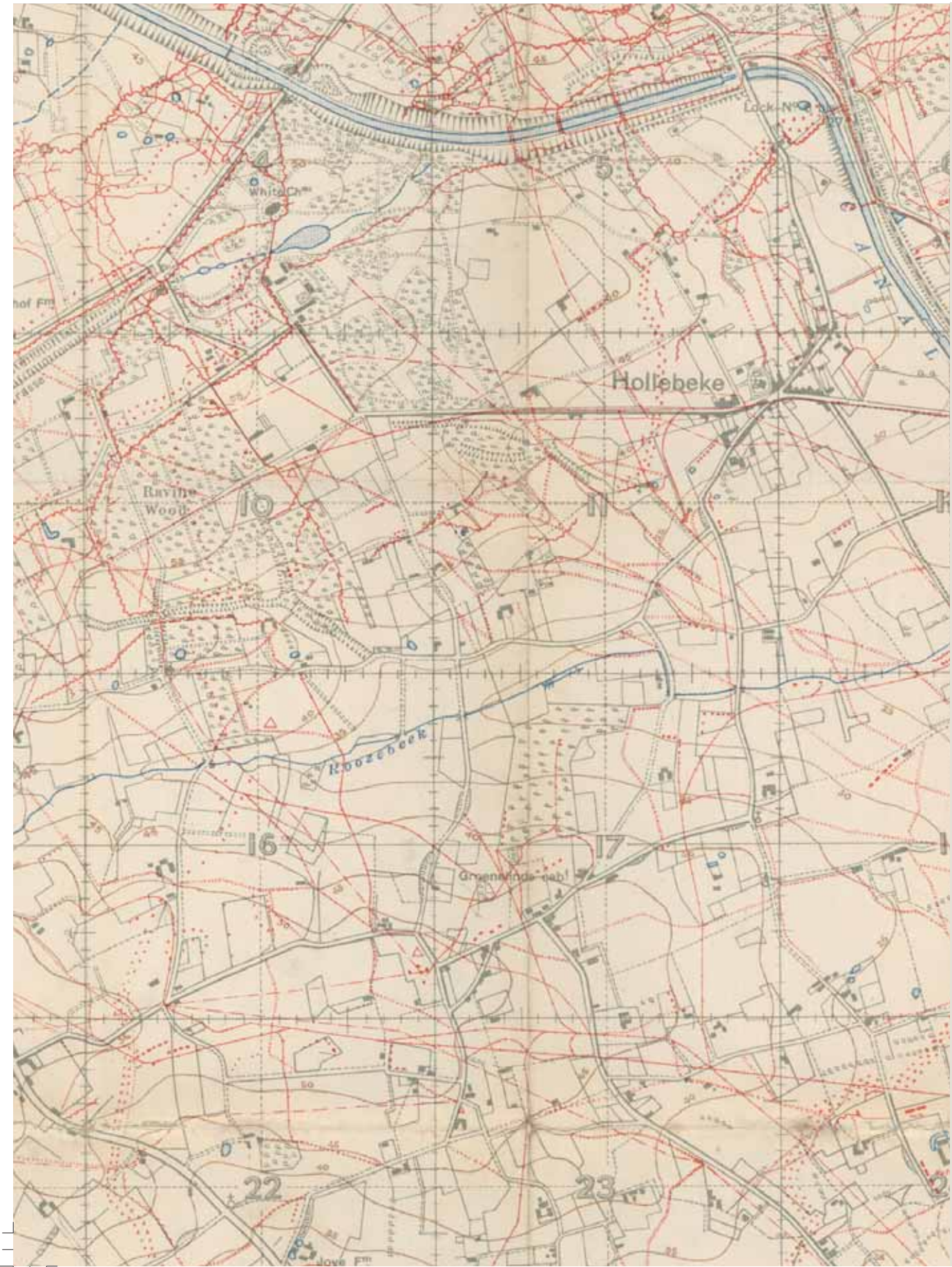

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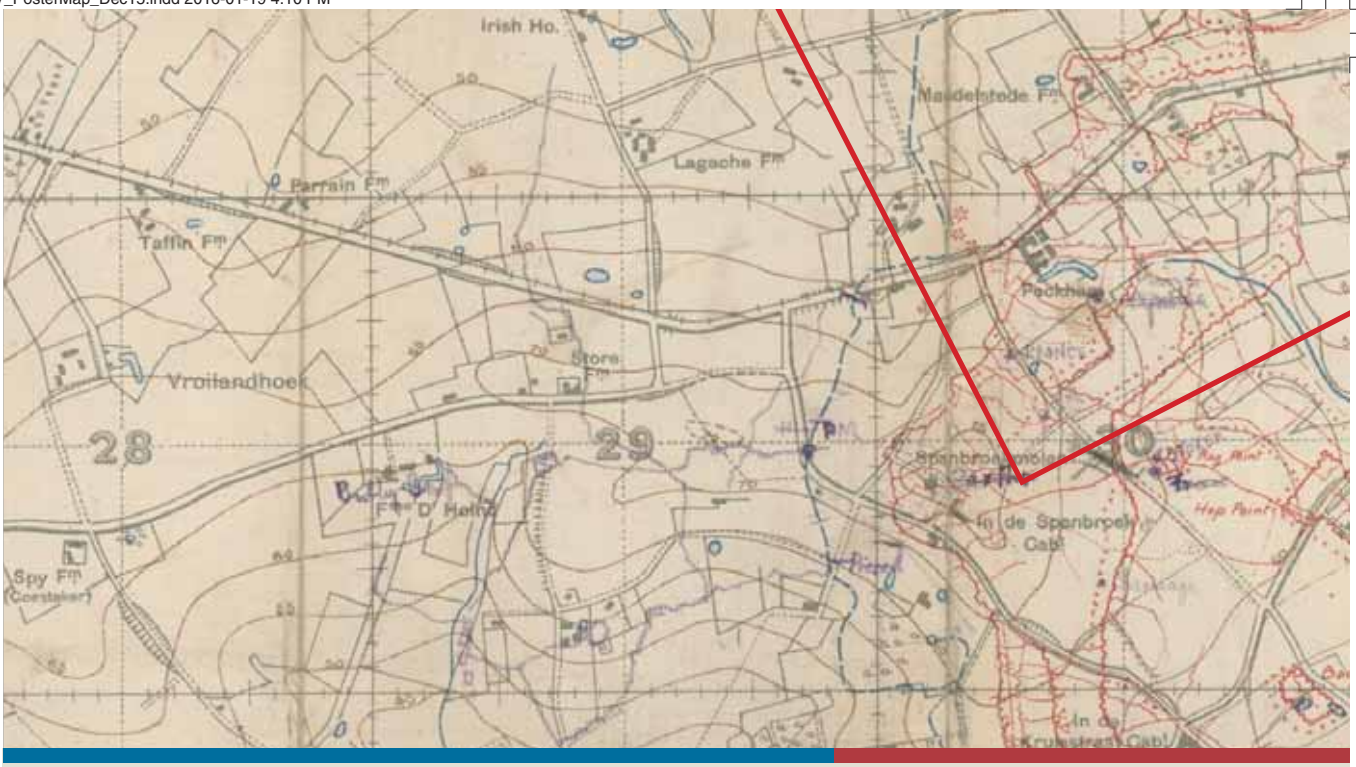

Charting victory

Aerial photography, and maps created from it, helped win the First World War

BY NICK WALKER

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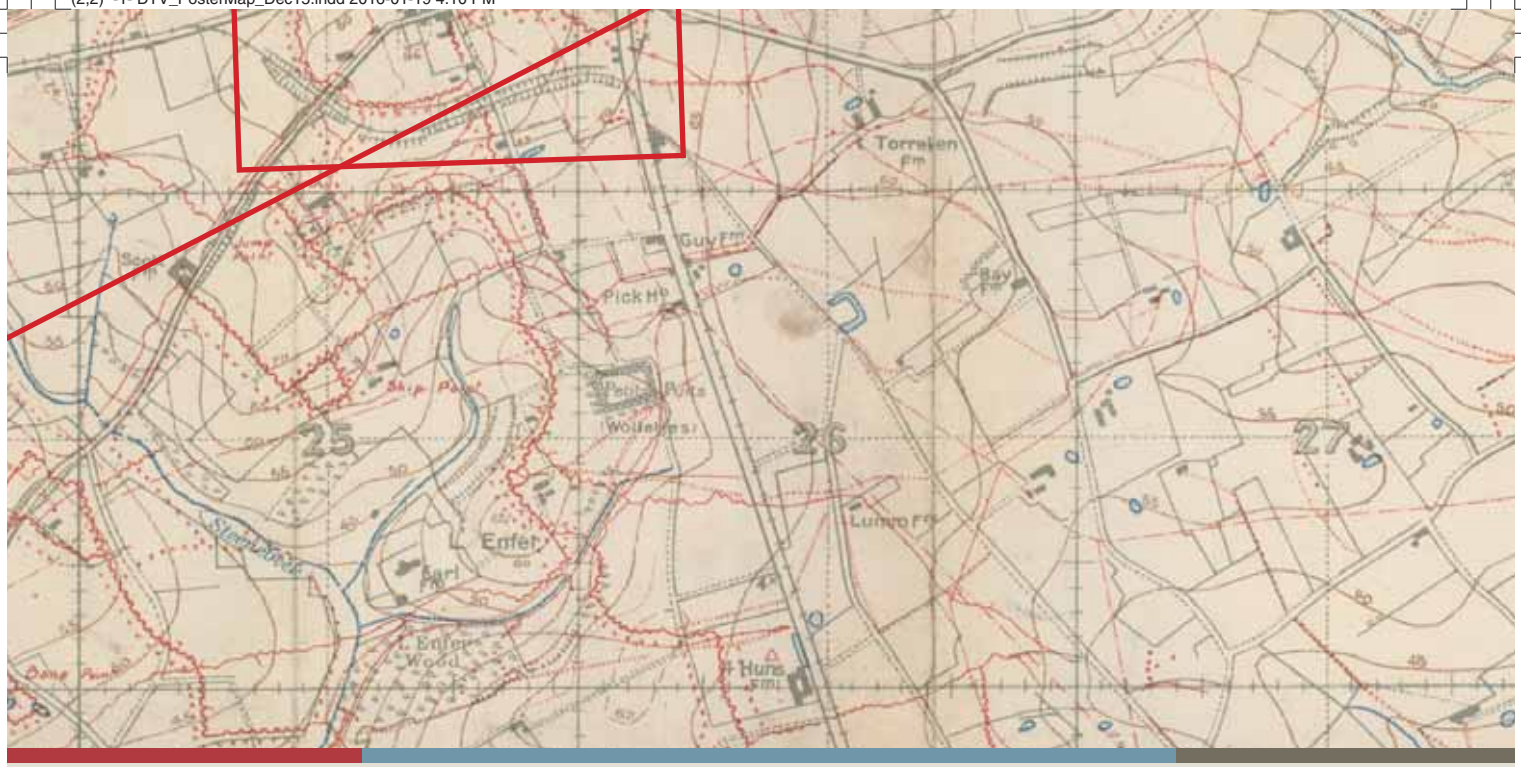

The Battle of St-Éloi Craters, in western Belgium, was a muddy debacle. When the 2nd Canadian Division (in its first engagement in the First World War) relieved British troops on April 3, 1916, the front line was a series of fresh craters created by British mines. Rain, sleet and wind were incessant, the muck was deep, and the reshaped, poorly understood terrain made combat confusing. Over two weeks, 1,370 Canadians were killed or wounded. When aerial photography of the area showed they were in an unwinnable position, they made a crawling retreat.

The bird's-eye-view image of that landscape shown here (IMAGE 1) was taken from a plane on March 1916. Gord Beck, a map specialist from McMaster University in Hamilton, Ont., says it's possible that this photograph was used to assess the extent of damage, locate enemy positions or to eventually help create more accurate maps of the front — maps like the one above, of the trench systems around the town of Wytschaete (now Wijtschate), dated October 1916.

Indeed, maps quickly became critical tools during the war. With accurate maps, you could calculate direction, distance and elevation. You could also locate and destroy the enemy artillery by "map shooting," a tactic used a year later at Vimy.

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At the start of the v
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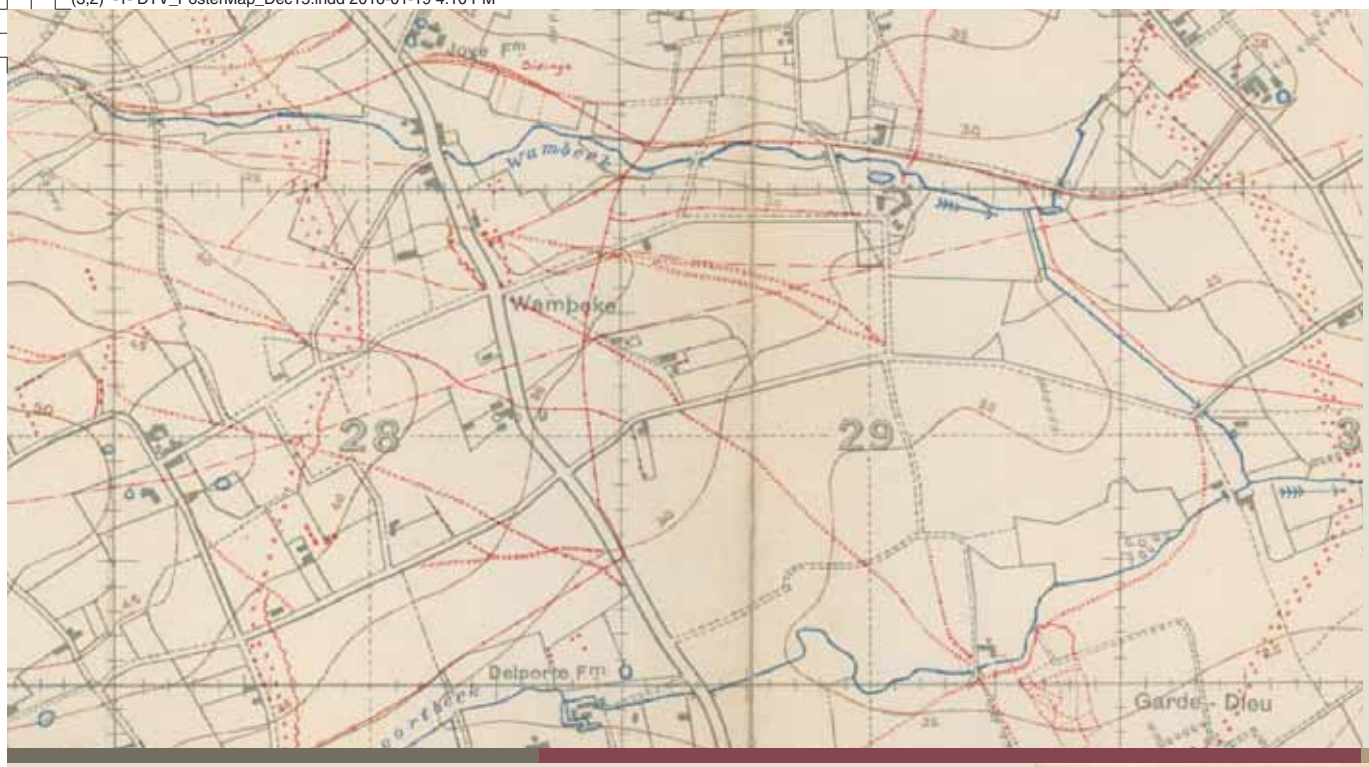
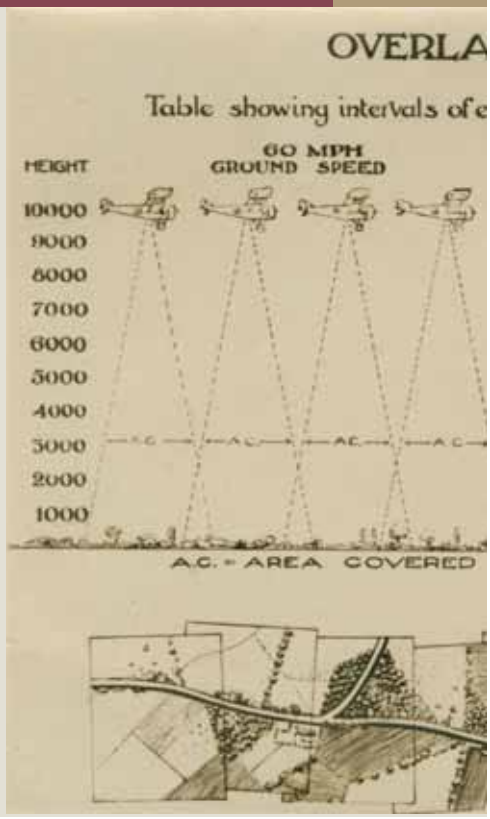
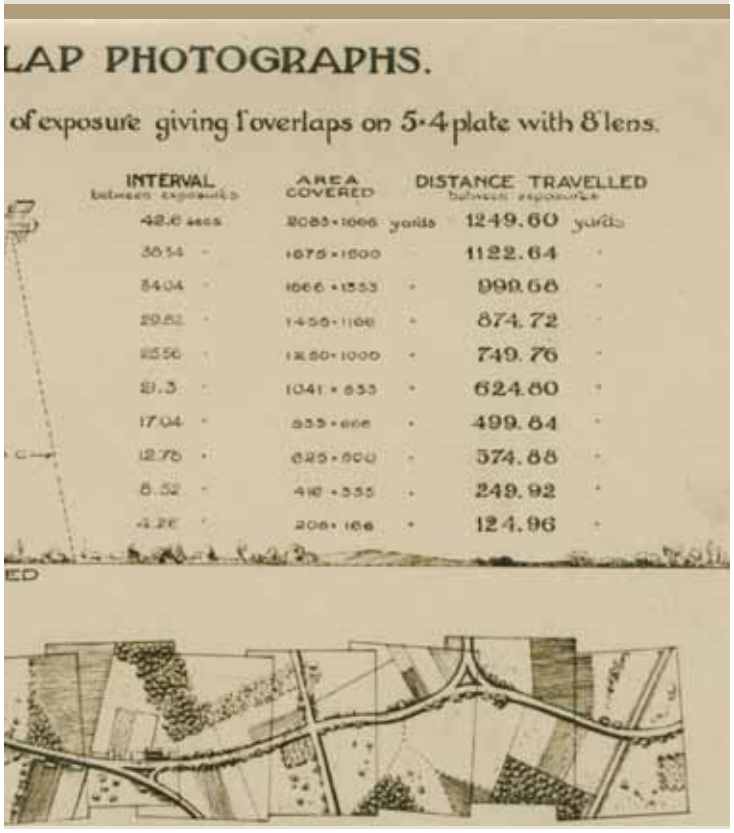


July 19

accurately targeting the enemy guns using the new maps," says
destroyed 83 per cent of the German guns — key to giving their
ng chance of crossing no man's land."
tly invented airplane providing widespread photographic coverage
ny millions of pictures (see IMAGES 2 and 3, for example) were col-
together to help create topographical maps in newly standardized
who were more likely to plan large movements, used 1:40,000; the
tillery was 1:20,000; and infantry needed 1:10,000, the scale used on
here. As it shows, the British drew German trenches in red and their
ss detail, in blue. Their French allies, meanwhile, did the reverse,
nonwealth cartographers flipped their colour scheme to match.
he war, the British High Command, confident the existing maps of
nce would suffice, had one officer and one clerk stationed in the Maps
arters in France; cartographers and surveyors, meanwhile, had been
egular combat units. By 1918, about 5,000 people worked in map
e British forces, and had produced more than 32 million maps.



y 1915



LAP PHOTOGRAPHS.

of exposure giving 1 overlaps on 5·4 plate with 8 lens.

INTERVAL between exposures	AREA COVERED	DISTANCE TRAVELLED between exposures
42.6 secs	2085 × 1666 yards	1249.60 yards
35.54 "	1875 × 1500 "	1122.64 "
24.04 "	1666 × 1333 "	999.68 "
29.52 "	1458 × 1166 "	874.72 "
25.56 "	1250 × 1000 "	749.76 "
21.3 "	1041 × 833 "	624.80 "
17.04 "	833 × 666 "	499.84 "
12.78 "	625 × 500 "	374.88 "
8.52 "	416 × 333 "	249.92 "
4.26 "	208 × 166 "	124.96 "

IMAGES & MAP: COURTESY LLOYD REEDS MAP COLLECTION, MCMASTER UNIVERSITY