Survey and Mapping ANZAC Sector Gallipoli Peninsula 1915

By Peter Jensen
Background

• 4 August 1914 – war declared – France/Belgium front, Australian force of 20,000 promised
• 31 October 1914 – Ottoman Empire joined Germany and closed the Dardanelles
• November 1914 – AIF and NZEF departed Australia for England
• December 1914 – AIF and NZEF disembarked in Egypt
• November – March 1915 – British Navy failed to open Dardanelles
• February 1915 – British War Council decided (!) to commit military force to help Navy force Dardanelles
• February 1915 – ANZAC formed and started planning military campaign around Dardanelles
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- Mid-March 1915 – Mediterranean Expeditionary Force formed - ANZAC incl Indian Mountain Artillery Brigade, 29 Inf Div (Brit), RNavy Div, French Div all trained at Lemnos Greece
- January-April 1915 – Turks improved defences of Gallipoli Peninsular with German assistance and evacuated many civilians mostly Greeks
- 25 April 1915 – ANZAC started campaign in surprise predawn attack mid-Gallipoli Peninsula. Stopped less than 2 miles from Z Beach – field commanders recommended withdrawal. British and French attack south at Cape Helles faired no better
- 20 December 1915 – force withdrawl after few gains
- 1916- 1919 Dardanelles Royal Commission, senior commanders were less than honest with advice of intelligence available for campaign planning – mapping was used as a scapegoat for poor planning by the high command
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Gallipoli Peninsular

- Gallipoli
- Suvla Bay
- Anzac Cove
- Cape Helles
- Dardanelles
- Lemnos 60 miles
- Imbros 15 miles
- Tenedos 10 miles
1876 scale 1 inch to 1 quarter of a mile reconnaissance map from field surveys by Captain CE Grover, Royal Engineers, 10 foot contour interval – part of his appreciation of how to seize and hold the Gallipoli Peninsula. The ANZAC plan was essentially Grover’s
1908 – 1 inch to 1 mile map 1:63,360

MAP OF THE
PENINSULA OF GALLIPOLI
and the
ASIACTH SHORE OF
THE DARDANELLES

Scale 43/36 or 1 Inch to 1 Mile

REFERENCE TABLE OF FORTS

1. Cape Helles
2. Cape Helles, Fort Gaba
3. Cape Helles, Fort Leslie
4. Cape Helles, Fort McKeown
5. Cape Helles, Fort Bartlett
6. Cape Helles, Fort Otto
7. Cape Helles, Fort Companion
8. Cape Helles, Batteries
9. Cape Helles, Batteries
10. Cape Helles, Batteries
11. Cape Helles, Batteries

REFERENCE

Australian War Memorial

G7432G1565111B

AUSTRALIAN WAR MEMORIAL
“Here, at present, Gallipoli looks a much tougher nut to crack than it did over the map in your office”

– General Hamilton, Commander in Chief Mediterranean Expeditionary Force to Lord Kitchener, Secretary for War – 18th March 1915 – after reconnaissance by ship
Timeline – survey and mapping

• August 1914 – British Geographic Section General Staff arranged for the Survey of Egypt to map Middle East theatre

• February – March 1915
  – Survey of Egypt – Director General Mr Dowson, produced operations map 1:40,000
  – GHQ MEF Maps Officer Lieutenant Nicholas
  – GHQ Egypt Maps Officer Lieutenant Lawrence
  – ANZAC Printing Sect formed in Egypt – Mr Cairns

• Early April 1915
  – ANZAC and GHQ MEF Printing Sect from Egypt to Imbros Is
  – Royal Navy Air Service – air reconnaissance
  – No dedicated survey element in ANZAC
  – ANZAC units prepare their own landing maps
First operations map

Derived from 1908 1 mile map from 1854 French 1:50,000 10m contours

Scale 1:40,000

100 foot contour interval

Naval 675 yard grid (1/3 nautical mile) and aligned true north – early gunfire support by Navy

Compass rose with magnetic variation

Naval chart soundings and landing places

Feature names from 1 mile map transliterated from Turkish

Purple overprint cultural update

notes about distortions introduced and use with protractors to measure bearings
ANZAC sector - intelligence at 18th April
New Zealand Brigade landing map
25\textsuperscript{th} April - “For military operations the country is difficult in the extreme. The map issued gives a general idea of the topography but is inaccurate in the detail” - Major-General Bridges Commander 1\textsuperscript{st} Australian Division
Survey and mapping developments after landings

- adhoc surveys, plans and diagrams to satisfy unit requirements using surveyors and draughtsmen wherever they were
- use of captured Turk maps
- utility of air photography
- appointment of survey officer to coordinate work across all sectors
- production of a new operations map
- appointment of an ANZAC survey officer
- surveys linked to others in the sector and to the other sectors
- compilation of large scale trench maps of ANZAC and Turk areas
• 29th April – plan of 2nd Aust Field Company Engineers water supply system Hell Spit and Brighton Beach south of Anzac Cove
• 19th May – Turk map captured by Australians, scale 1:25,000, 10m contour interval, completed after landings
June 1915 – 1:10,000 map, 40ft contours, compiled by GHQ MEF Printing Sect from captured Turk 1:25,000 map
Timeline – survey and mapping

• June
  – establishment of GHQ MEF Survey and Map Section
  – responsible for coordination of survey and mapping of all of Gallipoli
  – appointment of Captain Nugent, British topographic surveyor and artillery officer having been in the Helles sector since 25th April
Mid-May 1915 - RNAS photography of firing line, loan French camera, focal length 30cm, format 120x170mm, fiducial marks, flying height 7,000 ft
July 1915 – 1:10,000 ANZAC and Turk trench diagram from air reconnaissance and air photos.
Timeline – survey and mapping

- 31st July - for the August offensives (Lone Pine, The Nek, Chunuk Bair, Hill 971, British landing at Suvla)
  - new operations map scale 1:20,000
  - approved by GHQ only after continuous urgings of Nugent and Nicholas
  - retained names in common use (eg Hill 971 although the revised height was 1000 feet)
New operations map – effective midnight 31st July

Derived from captured Turk 1:25,000 maps

Scale 1:20,000

Same sheet lines as the Turk map

An Army 600 yard grid as much of the main gunfire support was then artillery

New grid square numbering system

Grid aligned magnetic north, compass rose with magnetic variation

10 metre contour interval, heights in metres

Feature names Turk and Anzac
New operations map – effective midnight 31st July
Timeline – survey and mapping

- September - December
  - ANZAC appoint one officer to coordinate survey and mapping, Major Newcombe, RE topographic surveyor Officer Commanding 4th Aust Field Company Engineers
  - survey assistance from Survey of Egypt
  - engineer and infantry unit surveyors and draughtsmen improve trench, tunnel and mining surveys and plans/maps
  - new trench maps series scale 1:1,800 (1 inch to 50 yards) on the campaign wide grid
Survey and mapping methods

- Engineer plans scale 1:180 (1 inch to 5 yards) to 1:360 (1 inch to 10 yards)
  - compass, surveyors tape and inclinometer surveys connected to surveys through the firing line
- Other special purpose diagrams at scale 1:720 (1 inch to 20 yards)
  - reduction of 1:360 plans
Survey and mapping methods

- Trench maps scale 1:1,800 (1 inch to 50 yards)
  - all larger scale plans brought up to date and reduced to 1:1,800
  - field surveys of ANZAC area connected to other Gallipoli areas
  - plane-table (small board and telescopic legs) intersections from triangulation and tacheometer points, of conspicuous features identifiable on air photography in the Turk area, sometimes using precision periscopes
  - 20 foot contours from Turk 10 metre contours, with 10 foot contour infil of Turk areas using Abney level
  - 1:20,000 operations map grid with supplementary grid to report coordinates direct to 12.5 yards
- these methods became the standard and integrated with operations maps in France/Belgium 1916/1918
October – Trench Map series 1:1,800 – field survey and air photography
Mapping after the evacuation

- ANZAC evacuated by 20th December 1915
- Turkish War Office mapping 1916 – the scale 1:25,000 topographic maps were enlarged to produce a series at scale 1:5,000 for Turkish graves and memorials works and military history projects
- In February 1919 these 1:5,000 maps were offered to the Imperial War Graves Commission and to the Australian Gallipoli Mission then working on recording the history of the campaign – “to solve the riddles of Anzac” - Charles Bean
Conclusion

• not all available topographic information was used in the campaign planning, nor was the lack of it the cause of the campaign failure

• topographical information essential for ANZAC was collected through – collaboration with other Services and Allies, best use of available knowledge and skills, innovative survey methods, rapid adoption of new air photography technology, adaption of captured maps, organisational improvements

• “Mapping the ANZAC sector was extremely difficult because of the rugged, tangled terrain and limited perimeter, any attempt at forward mapping using normal ground survey techniques would be greeted with ferocious sniper and shrapnel fire” Chasseaud and Doyle 2005
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Total Gallipoli casualties: 129,000
dead all nations including 8,709
Australians and 2,701 New
Zealanders; 25,000 Australians and
New Zealanders wounded/prisoners

Lest We Forget