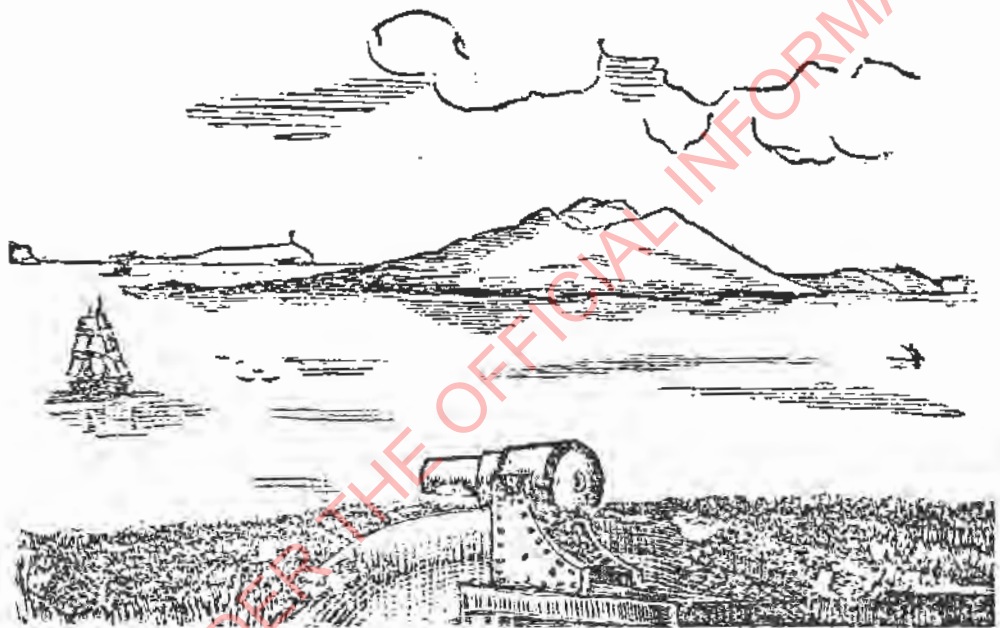


# NORTH HEAD EXCAVATION PROPOSAL



CHELTENHAM BEACH BATTERY.

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CONSERVATION  
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## NORTH HEAD PROPOSAL

This proposal has been prepared at the request of J Daniels, Manager, Historic Resources, Head Office. He requested that this be done confidentially.

There is as yet no programme for it's implementation and no funding available within existing conservancy budgets. The implementation of this proposal would therefore be dependant largely on outside funding. A six week lead time would be needed after confirmation of the availability of funding.

### 1 OBJECTIVE

The objective of this excavation proposal is to determine,

- a Whether North Head contains a number of tunnels and underground structures that are no longer visible, and do not appear in the maps and records of the fort, and
- b Whether these 'hidden tunnels' contain aircraft and or aircraft parts, specifically the remains of the two Boeing B and W sea planes.

### 2 HISTORY OF WORK TO DATE

The work on both the question of tunnels and aircraft has been conducted in two ways; archival research and physical investigation at North Head.

For obvious reasons most of the work on the aircraft has been archival. Lieutenant Commander Peter Dennerly, the Naval Historian, has prepared a file on the history of the aircraft (Official Defence File 7735/2). From this archival material he argues that the complete Boeing sea planes did not ever reach North Head. It is, however, possible to determine from the archive documents that the Boeing engines and possibly engine spares and other aircraft parts from the Boeings were purchased and probably taken and stored at North Head.

The physical investigations at North Head have been undertaken by two groups, the armed forces and Mallard Productions, a film company run by Mr John Earnshaw, and established with the express purpose of locating the Boeing aircraft.

The investigations at North Head have been carried out at both Torpedo Bay and on the Head itself.

The main investigations at Torpedo Bay were carried out in 1980 by Major Stevenson (Official Defence File 7735/2) and consisted of drilling holes in the walls of buildings up against the cliff face to determine whether these concealed tunnel entrances. Mr Earnshaw subsequently re-investigated these areas and a number of other locations in Torpedo Bay. No evidence of hidden tunnels was discovered.

- (i) Static water tank/ 8" gun pit
- (ii) Structure on Western slope
- (iii) Possible entrance above searchlight 4A

## KEY

- 1 Fort Cautley/Summit battery
- 2 North battery
- 3 South battery
- 4 12pr battery
- 5 6" Mk VII battery
- 6 6 pr battery
- 7 Boom battery
- 8 Minefield defence battery
- 9 The Quarry
- 10 Tennis Court
- 11 Helicopter pad
- 12 Magazine
- 13 Test/Generator Room
- 14 Generator Room
- 15 Searchlights
- 16 Old Searchlights 1 & 2
- 17 Generator room foundation
- 18 Minefield defence control
- 19 Gunnery training area
- 20 Annie's Cave



Figure 1: North Head, location of major installations and areas for investigation

10 0 20 40 60 80 100m

SCALE

Figure 2: North Head Aerial View 1958, showing possible entrance and area of 8" summit emplacement



(Reproduced by permission of the Whites Aviation)

Major Stevenson also conducted a ground search on North Head itself checking all the existing tunnels for signs of bricked up entrances. Some holes were drilled. Stevenson reported that no signs of hidden tunnels were located during this search either.

Mr Earnshaw of Mallard Productions with help from the Army and Ministry of Works conducted both physical (i.e. drilling) and electronic testing at North Head and Torpedo Bay in 1988. The areas investigated were the static water tank (old 8" gun pit) on the summit and the buildings, walls and cliffs in Torpedo Yard. All this work was inconclusive.

A side-scan radar survey was later undertaken by the Government Communication Security Bureau in 1988, on the static water tank. This survey suggested that there is a tunnel entrance on the eastern side of the old gun pit.

Subsequent research has been undertaken by the Department of Conservation leading to the preparation of the report 'North Head: the Development of a Fort'. This is attached as Appendix 4. John Mitchell, a PhD student who is working at the Russian scare forts, including North Head has also done extensive archival research.

John Mitchell is excavating on North Head in January 1992 and plans to investigate both the static water tank and the structure on the western slope (see below). If this work is carried out then these areas can be removed from any future work programme.

### 3 PROPOSED ARCHAEOLOGICAL INVESTIGATION

#### a Areas to be Investigated by Excavation (See Figs 1 & 2)

##### i Static Water Tank, Summit Battery

Both the GCSB survey and the old Park Board map together with a large body of oral evidence suggest that there may be another entrance running off this installation. The proposal is to excavate down outside the perimeter of the water tank (in fact an old 8" gun pit) to try to locate the passage/entrance. A mechanical digger if used carefully, would be useful here.

##### ii The Structure on the Western Slope (See Figs 1 & 2)

This is the structure, possibly a tunnel entrance visible in aerial photographs up until the 1960's. The general area can be located by use of the photographs and hand trenching used to try to relocate this structure or its remains (see Veart 1990 North Head: The development of a Fort plates 9 and 10).

iii **Torpedo Bay Foreshore**

The area next to the slipway where the aircraft were allegedly burnt could be excavated and sieved to determine if any aircraft parts are still recoverable. This area is relatively sheltered and there is a good chance that some metal parts could remain. Locating of aircraft parts in this area could:

- 1 Show whether aircraft were burnt there.
- 2 If they were burnt then identification of the parts may be able to indicate what aircraft types they were.

iv **Area of Cliff Face Behind Toilet Block in Torpedo Yard**

This appears to be concreted over and as yet has not been drilled. This should be done to determine what is behind this material.

v **Possible Entrance on Eastern Cliff (See Figure 1)**

Possible tunnel entrance next to the track above the foundation of searchlight 4A. This entrance is described by Mr Ken Bartrum who says it is now covered by a slip. This could be removed. Similarly a survey of the cliff face to the north east of old searchlight No 2 can be undertaken to check reports of another entrance described by Mr Peter Hansen.

b **Areas to be Investigated by Sidescan Radar or Similar**

North, South and Summit Batteries could all be surveyed using equipment of this type.

There are stories that North Battery once had a tunnel leading down to the bank above Cheltenham Beach. There is also a drawing (1573 sheet 2, see Veart: 1990,72) of North Battery showing another underground installation to the west of the existing gun battery.

A sidescan radar survey of the battery could be used to locate this tunnel/installation if it exists.

c **Resistivity Surveying**

This has been used to relocate buried areas of Fort Resolution. A resistivity survey has been completed at North Battery and the results are being processed at present. Initial reports suggest some anomalies in the area to the east of the Battery. If this is so these can be checked by excavation.

d Use of Metal Detectors

The foreshore of Torpedo Bay down to the low water mark will be checked for aircraft remnants. An underwater metal detector can be hired and used also.

4 **OTHER RESEARCH**

a Archive Research

All available archive material has been checked and recorded by the Naval Historian, Lieutenant Commander Peter Dennerly; PhD student, John Mitchell and Department of Conservation Archaeologist, Dave Veart. The official archives may throw up new material, although this seems unlikely.

It may be possible however to trace the whereabouts of parts or engines from the Boeings that may have been sold separately. Further research in this area would be useful. One area that could be usefully followed up is historic power boat racing. Many of these used old aeroplane engines and some were built in Devonport, close to North Head.

b Oral History

Both John Mitchell and the Department of Conservation have been approached by people with stories to tell about North Head. The material they have offered has been noted. Mr Earnshaw has a great deal of oral history collected but he has not made all of this available for checking.

Two of Mr Earnshaw's informants, Mr Ken Bartrum and Peter Hansen have been interviewed on North Head and have indicated two areas where they say they entered an underground tunnel complex at times between the late 1940's until the early 1960's. These areas have been noted and can be further investigated.

5 **PERSONNEL**

A large number of people, both students and members of the public have volunteered to help. The problem here is lack of experienced supervision. To undertake an excavation of the scale proposed here would need at least six experienced archaeologists. These could be made up of departmental archaeological staff together with experienced outside help (*see* Appendix 2).



## 6 COSTING AND PROJECT MANAGEMENT

Calculating costs is difficult in that if aircraft or aircraft parts are found, conservation and analysis costs could be enormous. It is assumed, however, that if complete aircraft are found then private funding would be easily available. At this stage therefore analysis costing has been limited to any aircraft remains found during the shoreline excavation and searches as these seem the most likely to produce results. These of course would only be applicable if any material is found. The costs at this stage are; wages \$122,784.00 costs \$3,775.00.

A detailed breakdown of this costing can be found in Appendix 1.

### Project Management

The financial management of the project will be dealt with by Jan Coates with Dave Veart and Sarah MacCredy as field managers supervising excavation (See Appendix 2).

## 7. OUTCOMES

The principal outcome of this investigation will be the establishment of the existence or otherwise of "hidden" tunnels at North Head and whether these, if they exist, contain aircraft or parts of aircraft. Also by investigation of the Torpedo Bay foreshore it may be established whether aircraft were burnt here and, if this occurred, what aircraft types were involved.

The secondary outcome will be the presentation of the results of this investigation in written form, both in an excavation report and also in popular publication. It would be useful also to record the excavation and results by either film or video. This may include Mr Earnshaw or if he is not interested, a private company. No budget has been prepared for this although this could be done if all parties are agreeable.

## APPENDIX 1

## COSTING AND TIMETABLE

Excavationa **Static Water Tank Excavation**

John Mitchell attempted to excavate the outside of this feature. However as the wall of the tank/gunpit is over 2m thick it was decided that to prove conclusively one way or another whether another entrance exists it would be necessary to drain the tank and cut away the modern concrete cladding.

**Costs:**

2 archaeologists for 1 week	
2 x 40 hours @ \$63 per hour	\$5,040
Hire concrete cutter and materials for repair of water tank	\$1,500

b **The Structure on the Western Slope**

John Mitchell is intending to excavate this structure in January 1992. Therefore, this item can be removed from the budget.

c **Torpedo Bay Foreshore****Costs**

Two archaeologists for one week	
2 x 40 hours @ \$63 per hour	\$5,040

d **Cliff Face Behind Toilet Block in Torpedo Yard**

A timetable for this is difficult to determine. If drilling shows nothing behind the concrete facing then work could be abandoned. If, however, the area needs to be opened out this should be done with care as a road runs above this part of the cliff and supports may be needed.

**Costs**

Supervision of drilling	
8 hours @ \$63 per hour	\$504

If a tunnel entrance exists here then clearance and stabilising will be needed.

Four archaeologists for one week.

4 x 40 hours x \$63 per hour \$10,080

**e The Area Behind Searchlight 4A**

Mr Ken Bartrum has described a small entrance located here and currently covered by a slip. This soil could be removed to determine the truth of this report. The nature of this site means that machinery cannot be used. Site located on cliff face.

**Costs**

Two archaeologists for one week

2 x 40 hours @ \$63 per hour \$5,040

**f Sidescan Radar**

The cost of hiring this equipment is not available at present. The operator will, however, require archaeological supervision. It may be possible to use GCSB equipment and personnel.

**Costs**

One archaeologist for one week

40 hours @ \$63 per hour \$2,520

**g Resistivity Surveying**

This is being done on a voluntary basis at no cost.

**d Metal Detectors**

It may be possible to get a club to do this. If this is not possible then the machinery will need to be hired.

The cost of hire from Almaza Developments Limited is \$35 per day for a machine which is waterproof to 250 feet. This means a diver could be used to check areas off the end of Torpedo Bay Wharf.

**Costs**

Machine hire for one week \$175

A departmental diver could be used supervised by an archaeologist. Areas exposed by the tide can also be checked.

2 x 40 hours @ \$63 per hour \$5,040

Tank fills \$100

**e Further Research**

As stated above further research may prove fruitful in locating the whereabouts of engines and/or parts of the Boeings after the clearance and removal of the aircraft from both Kohimaramara and North Head.

Research and writing up

4 weeks at 40 hours per week @ \$63 per hour \$10,080

**f Analysis**

This will depend to some extent on the quantity and type of material recovered. It is expected that any aircraft parts recovered will consist mainly of alloy. These will need specialised conservation and identification by someone capable of recognising aircraft fittings of the First World War period.

**Estimated Cost**

300 hours at \$80 per hour \$24,000

**g Writing up**

The writing up and analysis costs are very much dependant on the material recovered. If little or no material is recovered it is estimated that writing up could be done in half this time. If however, the author has to deal with large amounts of recovered material then the full amount will be needed. Of course only the hours worked will be charged for.

20 weeks at \$2,520 \$50,400

**h Film, equipment costs \$1,000**

**Costs**

Wages \$122,784

Known Material Costs \$3,775

**Timetable**

Weeks 1 to 6 Research

Weeks 7 to 12 Excavation and inspection

Weeks 12 to 31 Analysis and writing up

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**APPENDIX 2**Conservancy Personnel

- Jan Coates:           Manager Historic Investigation Team, Department of Conservation, Auckland M.A. (Hons) in Archaeology 12 years experience in directing and managing archaeological excavation.
- Sarah MacCredy:      M.A. (Hons) London in Archaeology. Extensive experience in Europe and New Zealand in Historic Archaeology.
- Dave Veart:           LLB MA (Hons) in archaeology. Author of Departmental report "North Head, the development of a Fort". 10 years experience directing archaeological investigations.

### APPENDIX 3

#### Assessment of the possibilities for hidden tunnels

There is very little archival evidence for the existence of any extensive network of tunnels not visible at present. This however does not conclusively prove that nothing else exists. There is one factor in the history of North Head which may explain the disparity between the archival and oral evidence.

Up until the period of the First World War a number of prisoners were held in the summit area to work as labourers around the Fort. This ready access to 'free' labour meant that a number of building and tunnelling projects were started and then abandoned when the hardware to install in them was not forthcoming. Examples of this are the old engine room in the middle of the covered way, the 6 pounder emplacement above the old 1 and 2 searchlight positions and the abandoned 6 inch mark VII emplacement on the summit. On occasion the existence of earlier projects was forgotten. For example Annies Cave, a rock cut tunnel complex dating from the late 19th Century was 'lost' and not rediscovered until the building of the new searchlights in the late 1930s. It is possible that stories of the hidden tunnels may relate to similar abandoned projects.

There is some archival material which is suggestive of sealed off installations. A drawing of North Battery dating from the rebuilding in the late 1880s shows an underground structure, probably an engine room to the west of the gun (figure 3). This links up to a proposed searchlight emplacement on the point to the North of the gun. Nothing is visible here now. It is unclear whether this was ever built but may relate to Mr Ken Bartrums description of entering a tunnel in this area and coming out in North Battery. It is hoped the resistivity survey currently underway may be able to pick up traces of this structure if it exists.

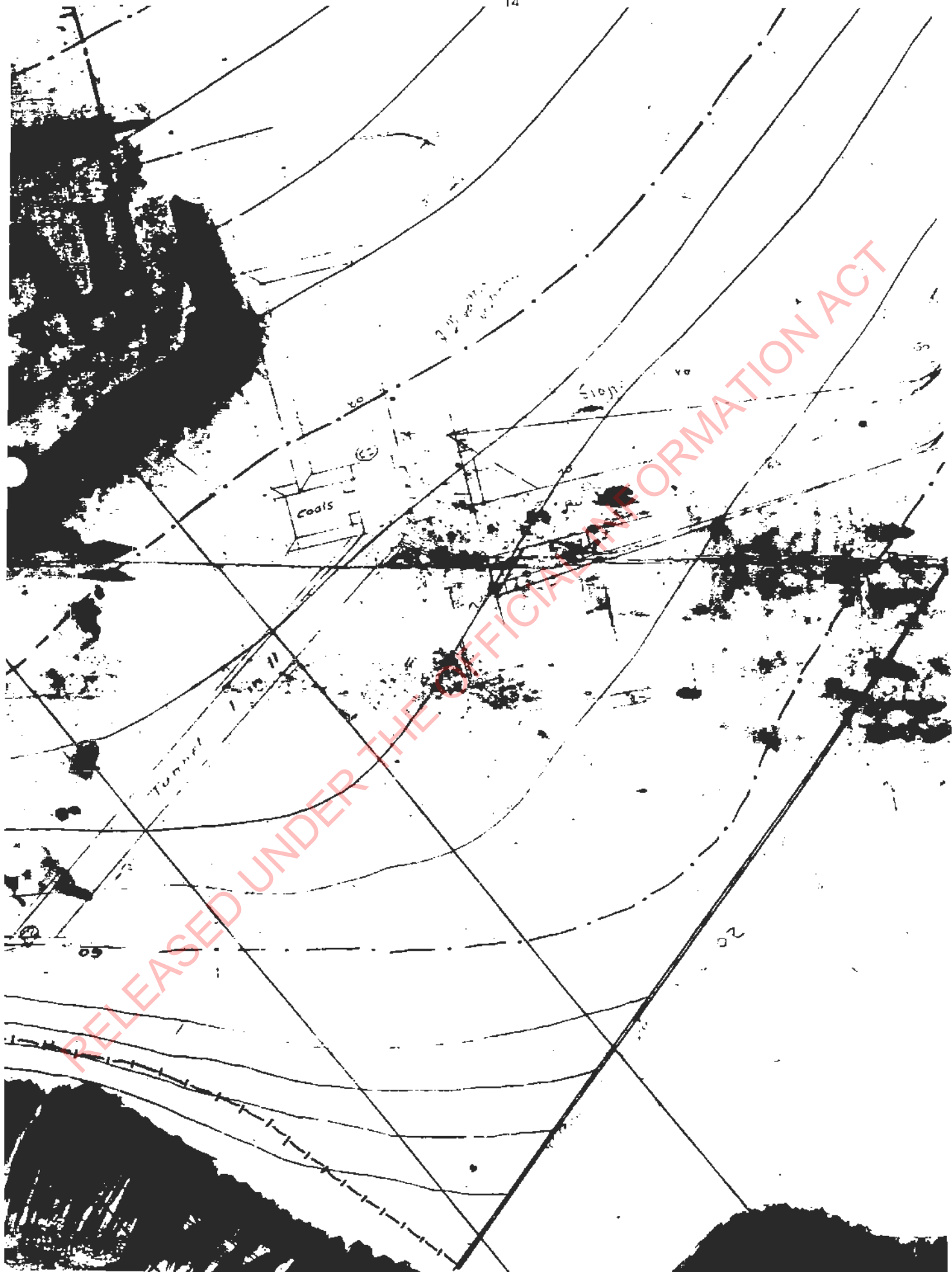


Figure 3: Drawing 1573-2 showing engine room complex to the West of the North Battery