

ARCHAEOLOGICAL WATCHING BRIEF

**Tilbury 2
Land at the Former RWE Power Station
Tilbury
Essex**

ASE Project No: 170367

Site Code: THTP17

ASE Report No: 2017190



April 2017

Archaeological Watching Brief

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Tilbury
Essex**

NGR: TQ 65700 75951

**ASE Project No: 170376
Site Code: THTP17**

**ASE Report No: 2017190
OASIS id: 283397**

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Date of Issue:	April 2017	
Revision:	Rev.2, 06/06/2017	

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Abstract

This report presents the results of archaeological monitoring of machine removal of contaminated ground within five separate areas within the Tilbury 2 Site at the former Tilbury Power Station, Tilbury, Essex. The archaeological work was commissioned by CgMs Consulting and undertaken by Archaeology South-East on 06 April and 20 April 2017.

Excavation of all five areas revealed modern made-ground overlying alluvium. The modern made-ground consisted of compacted gritty sand and gravel and was between 0.55m and 1m thick. It included infrequent to occasional pieces of metal scrap and concrete, but no pre-modern archaeological artefacts. This made-ground relates to construction of Tilbury Power Station A, on grazing land from reclaimed salt marsh between 1949 and 1957 and its subsequent development.

The underlying alluvium was not investigated but was observed to be in excess of 1m thickness. This deposit was not cut by any features, either archaeological or modern, and it contained no artefacts.

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1.0 INTRODUCTION

1.1 Site Background

1.1.1 Tilbury Power Station flanks the north side of the River Thames and is located within former marshland east of London and south-east of Tilbury (NGR TQ 6570075951; Figure 1). It is no longer in use and its site is proposed for redevelopment.

1.1.2 The purpose of the archaeological work was to monitor groundworks for the removal of previously identified contaminated ground within Areas 1, 2A, 2B, 2C and 3 if the Tilbury 2 Site, in the west half of the power station, for possible exposure of underlying, previously undiscovered, archaeological deposits, features and finds.

1.1.3 The wider purpose of the archaeological work was to obtain information so as to better inform future planning decisions.

1.1.4 Areas 1, 2A, 2B, 2C and 3 varied in size and plan. The extents of each are presented in Table 1 and their locations shown on Figure 2.

Area	Extent (m²)
1	260
2A	590
2B	110
2C	346
3	350

Table 1: Extents of individual watching brief areas

1.1.5 Previous investigations within the grounds of the power station and its surrounding area have revealed and recorded palaeo-environmental deposits of potential national and international academic interest (CgMs 2017).

1.2 Geology and Topography

1.2.1 Tilbury Power Station rest on Thames floodplain deposits of clay, silt, peat and sand above chalk (bgs.ac.uk). The south-side of the power station flanks the north side of the River Thames.

1.2.2 The current ground level of the power station is entirely a product of post-medieval and more recent reclamation and industrial development.

1.2.3 The topography of the power station and it surrounding area is flat, at c.2.5m AOD, and composed of existing and former marshland, beneath a man-made levelling deposit of compacted sand and gravel.

1.3 Aims and Objectives (Fig. 2)

1.3.1 The aim of the watching brief was to establish if Areas 1, 2A, 2B, 2C and 3 had any pre-modern archaeological remains and to report on its findings.

1.3.2 The objective of the archaeological work was to discover sediments with palaeoenvironmental remains, thereby enabling improved understanding of

the site's past environment.

1.4 Scope of Report

- 1.4.1 This report presents the results of an archaeological watching brief undertaken on groundwork for removal of sub-surface contaminated ground within five areas (Areas 1, 2A, 2B, 2C and 3) within the Tilbury 2 Site at the former Tilbury Power Station, Essex, in April 2017.
- 1.4.2 The report describes the watching brief results, assesses their significance and considers the archaeological implication for the wider site.

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 Overview

- 2.1.1 The main source of the following archaeological background information is derived from a desk-based assessment previously produced for the site (CgMs Consulting 2017).

2.2 Palaeolithic

- 2.2.1 The Gravel Terrace deposits of the Lower Thames Valley is a known productive area for Palaeolithic remains, including flint hand axes and other flint tools and debris.

2.3 Mesolithic to Iron Age

- 2.3.1 The River Thames underwent a gradual transition from a braided river system to a single meandering channel during the Holocene, during which thick layers of alluvium increasingly overlaid deposits of chalk and gravel due to relative sea-rise.
- 2.3.2 In some areas, where deep gravel deposits have been investigated, Mesolithic deposits of peat have been recorded underlying the alluvial sedimentation.
- 2.3.3 Peat horizons in the Tilbury area record further periods of stabilisation of the valley floor during the Holocene. They contain significant palaeoenvironmental information regarding past environmental and landscape change and are of international importance (Quest 2013).
- 2.3.4 Environmental evidence for prehistoric activity within the Lower Thames Valley during the later prehistoric period is currently poor, but nonetheless sufficient to indicate episodes of woodland clearance, cultivation and animal husbandry.

2.4 Roman

- 2.4.1 Roman remains have been found within the wider locality and include Roman graves and grave goods in West Tilbury, and Roman pot sherds from the foreshore of the nearby stretch of the River Thames. Remnants of a Roman settlement have also been found. They were discovered c.700m east of the power station and they included a trackway and ring-gullies defining roundhouses.

2.5 Saxon and Medieval

- 2.5.1 Tilbury was recorded as being the location of the palace of Bishop Cedda in c.692. The site of that palace is perhaps represented by a nearby series of earthworks, c.1.5km north of the power station.
- 2.5.2 The site consisted of uninhabited coastal marsh during the medieval and post-medieval periods. Part of a medieval sea wall is postulated to survive c.450m east of the site.

2.6 Post-medieval and Modern

- 2.6.1 Historic maps record the site to have been reclaimed from saltmarsh by the early 19th century and to have composed low lying pasture and arable fields separated by drainage channels.
- 2.6.2 Tilbury Power Station 'A' was built between 1947 and 1949. Its foundations consisted of 13000 precast concrete piles, and its boilers were designed to burn coal, gravity fed from bunkers via mills. Ships bringing oil and coal to the site were offloaded via a reinforced jetty.
- 2.6.3 Construction of Tilbury Power Station 'B' took place east of the site in the 1960s, during which time the site's jetty was lengthened.
- 2.6.4 Power station 'A' was partly demolished in 1999 and power station 'B' was converted to burn biomass in 2011. Both power stations were decommissioned in 2016.

2.3 Recent Archaeological Investigation

- 2.3.1 Archaeological investigations within or partly within the grounds of the site include archaeological monitoring of trial pits and groundworks in the north-east part of the application site, an archaeological aerial photographic and walkover survey (Cox 2010), monitoring of groundworks for the Stanford Le Hope STW water pipeline (ECC 2008) and archaeological trial-trenching and test-pitting ECC 2010. None of these works identified the presence of archaeological finds or features.

3.0 ARCHAEOLOGICAL METHODOLOGY

3.1 Fieldwork Methodology (Fig. 2)

- 3.1.1 A tracked excavator equipped with a broad toothless bucket was used by the groundworks contractor to strip Areas 1, 2A, 2B, 2C and 3 of their modern overburden. The surface of the underlying alluvium was then visually inspected for archaeological deposits, features and finds.
- 3.1.2 Details of each area and its contents were recorded on pro-forma watching-brief and context sheets. Digital photographs were taken of work in progress.
- 3.1.3 No modern artefacts were retained and no soil samples were collected because no datable pre-modern features containing deposits with potential for the survival of environmental remains were encountered.

3.2 Fieldwork Constraints

- 3.2.1 The only fieldwork constraint was that no excavation greater than c.1.2m was to be humanly accessed for reasons of safety.

3.3 Site Archive

- 3.3.1 The site archive consists of entirely of paperwork and digital files and will be deposited at Southend Museum, subject to agreement with the site's legal landowner. The contents of the site archive are tabulated below (Table 2).

Number of Contexts	3
No. of files/paper record	1 file
Plan and sections sheets	0
Colour photographs	0
B&W photos	0
Digital photos	50
Permatrace sheets	0
Trench Record Forms	5

Table 2: Quantification of site archive

4.0 RESULTS (Figs 2 to 4)

4.1 The recorded deposit sequences across the five areas were generally consistent and are described collectively below.

4.2 The groundwork for decontamination Areas 1, A, 2B, 2C and 3 revealed a simple sequence of modern-made ground [001] overlying alluvium [002] in all cases. The only other recorded deposit was a thin layer of topsoil [3] resting on modern-made ground in Area 3, on the western periphery of the site. No pre-modern modern deposits, features or finds were identified to overlie or cut into the deposit of alluvium.

4.1.1 The surface of alluvium [002] was level. This deposit consisted of grey, soft sandy silt with infrequent small stones. Although groundworks stopped at the top of this, where excavated deeper along one edge of Area 2C it was established to be in excess of 1m thick. No peat horizons were seen in this upper portion of the deposit.

4.1.2 The modern made-ground comprised compacted brownish orange friable to firm gritty sandy silt with variable amounts of gravel. Occasional modern artefacts were observed within it and included pieces of scrap iron and concrete. The thickness of the deposit varied between 0.55-1.0m across the five areas, but was greatest in Area 3 (Table 3).

Area	Context	Type	Interpretation	Deposit Thickness m
1	001	Layer	Made-ground	0.55
	002	Layer	Alluvium	0.05+
2A	001	Layer	Made-ground	0.60
	002	Layer	Alluvium	1.00+
2B	001	Layer	Made-ground	0.70
	002	Layer	Alluvium	0.30+
2C	001	Layer	Made-ground	0.70
	002	Layer	Alluvium	0.38+
3	001	Layer	Made-ground	1.00
	002	Layer	Alluvium	0.05+
	003	Layer	Topsoil	0.35

Table 3: List of recorded contexts

5.0 FINDS AND ENVIRONMENTAL REMAINS

5.1 Summary

- 5.1.1 The excavation of decontamination Areas 1, 2A, 2B, 2C and 3 revealed pieces of modern building materials, but no pre-modern artefacts. Due to their obviously modern date, none of these artefacts were collected and retained.
- 5.1.2 No deposits judged suitable for sampling for the presence of environmental remains were identified.

6.0 DISCUSSION AND CONCLUSIONS

6.1 Discussion

- 6.1.1 The watching brief undertaken on decontamination groundworks at the five locations within the Tilbury 2 Site has established that a consistent deposit sequence is present across the site. This comprises up to a 1.0m thickness of modern made-ground overlying an alluvial deposit of substantial thickness. A further modern topsoil layer was recorded over made-ground in Area 3, presumably reflecting the peripheral nature of this location on the western edge of the site.
- 6.1.2 The made-ground deposit is associated with the preparation/construction of the Power Station and has no archaeological significance. The underlying upper surface of the alluvium was observed to be flat and level, suggesting that some degree of horizontal truncation of this deposit has occurred as part of the preparation of the power station site. The extent of this truncation has not been established by these works.
- 6.1.3 The alluvium deposit has been established to be in excess of 1.0m thickness. Previous test-pit and borehole monitoring of this site recorded a similar deposit sequence and demonstrated the full thickness of the alluvium to be approximately 12m (Wessex Archaeology 2008). No artefacts were identified in, or extracted from, the exposed surface of the alluvium. It remains possible that significant palaeoarchaeological deposits (e.g. peat layers) are present at greater depth.
- 6.1.4 No archaeological features were found cutting into, or deposits overlying, the alluvium. While this may be due to truncation by power station construction-related activities, it is possible that this absence of archaeological remains is real and due to the site being located on reclaimed land (former saltmarsh) and that previous land use was of a wholly marginal nature (pastoral farming, etc).

6.2 Conclusion

- 6.2.1 The various areas of decontamination groundworks subject to this archaeological watching brief have been established to contain no surface/near-surface archaeological remains.
- 6.2.2 A consistent deposit sequence was recorded across all areas, comprising modern made-ground over alluvium. Although the top of the alluvium has been subject to modern truncation by power station construction, this Holocene deposit has been shown by a previous borehole survey to survive to a substantial thickness and it is possible that significant palaeoarchaeological deposits, such as peat horizons, survive at greater depth.

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ACKNOWLEDGEMENTS

Archaeology South-East thanks CgMs Consulting for commissioning the archaeological work and for its help and assistance. The archaeological work was managed by Andy Leonard and was undertaken by Mark Germany. The post-excavation process was managed by Mark Atkinson and figures 1 to 3 were drawn by Andrew Lewsey.

HER Summary

Site name/Address: Tilbury 2, Former Tilbury Power Station site , Fort Road, Tilbury	
Parish: Tilbury	District: Thurrock
NGR: TQ 65700 75951	Site Code: THTP17
Type of Work: Watching brief	Site Director/Group: Mark Germany Archaeology South-East
Date of Work: 6/4/17 & 20/4/17	Size of Area Investigated: 1656m ²
Location of Finds/Curating Museum: Thurrock Museum	Funding source: client
Further Seasons Anticipated?: No	Related HER No's:
Final Report: EAH roundup	OASIS No: 283397
Periods Represented: Modern	
<p>SUMMARY OF FIELDWORK RESULTS:</p> <p><i>Machine removal of contaminated land within five separate areas within the Tilbury 2 site at the former Tilbury Power Station revealed a consistent deposit sequence of modern made-ground overlying alluvium, but no pre-modern archaeological features or finds.</i></p> <p><i>Excavation of all five areas revealed modern made-ground overlying alluvium. The made-ground consisted of compacted gritty sand and gravel and was between 0.55m and 1m thick. It included infrequent to occasional pieces of metal scrap and concrete, but no pre-modern archaeological artefacts.</i></p> <p><i>The underlying alluvium was not investigated but was observed to be in excess of 1m thickness. This deposit was not cut by any features, either archaeological or modern, and it contained no artefacts.</i></p> <p><i>The layer of modern made-ground probably relates to construction of Tilbury power Station A, on grazing land from reclaimed salt marsh between 1949 and 1957. It provides a firm surface and it artificially raises the height of the site to prevent it from flooding. The underlying layer of alluvium is a Holocene deposit, but otherwise undated here.</i></p>	
Previous Summaries/Reports: None	
Author of Summary: Mark Germany	Date of Summary: April 2017

OASIS Form

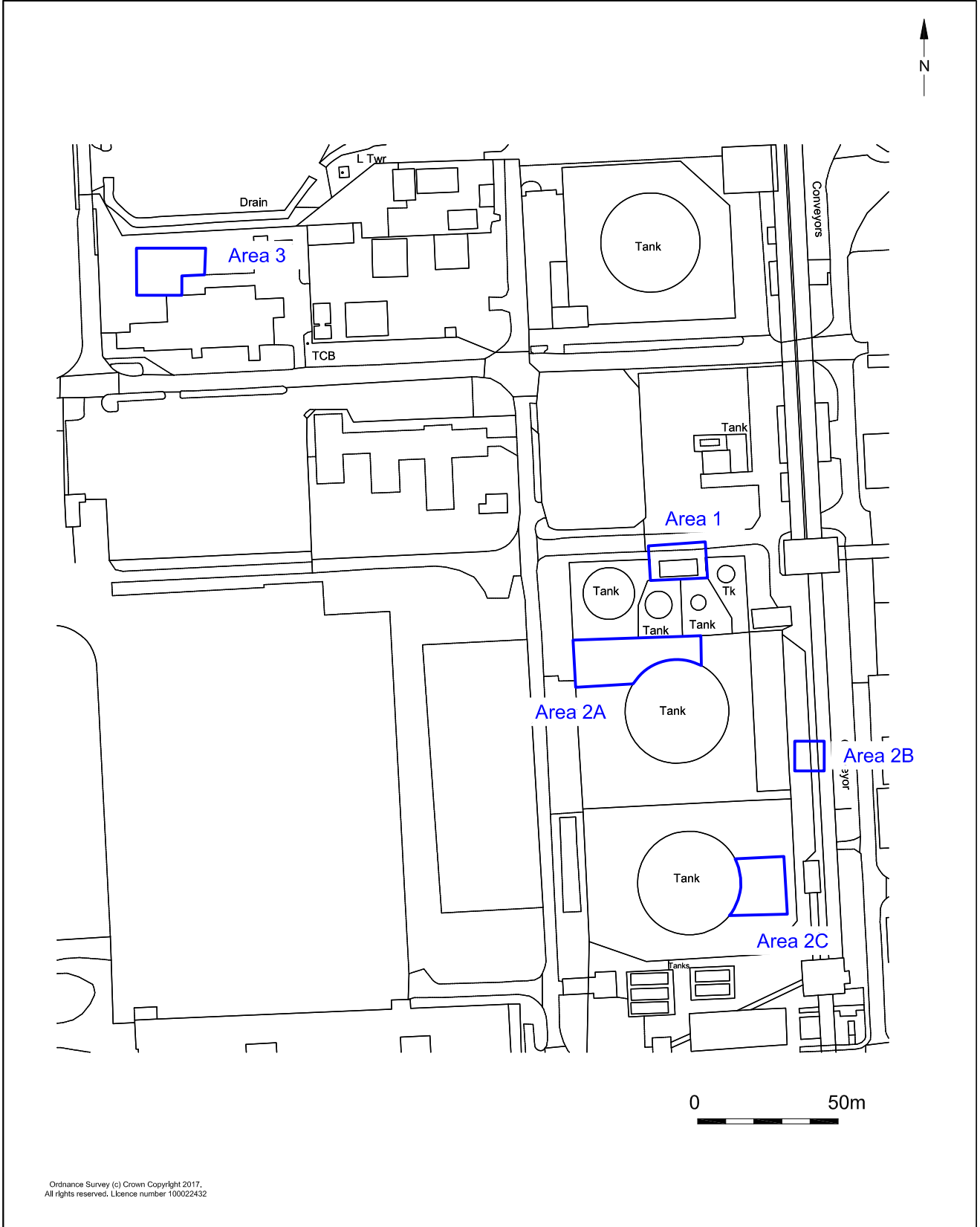
OASIS ID: archaeol6-283397	
Project details	
Project name	Tilbury 2, Former Tilbury Power Station, Tilbury, Essex
Short description of the project	Archaeological monitoring of machine removal of contaminated ground within five areas at the former Tilbury Power Station site, revealed modern made-ground overlying the Holocene alluvium deposit. No archaeological features or finds were identified.
Project dates	Start: 06-04-2017 End: 20-04-2017
Previous/future work	No / No
Any associated project reference codes	170367 - Contracting Unit No.
Type of project	Recording project
Site status	Listed Building
Current Land use	Transport and Utilities 3 - Utilities
Monument type	POWER STATION Modern
Monument type	ALLUVIUM Uncertain
Significant Finds	NONE None
Investigation type	""Watching Brief""
Prompt	Environmental (unspecified schedule)
Project location	
Country	England
Site location	ESSEX THURROCK EAST TILBURY Tilbury Power Station
Postcode	RM18 8UJ
Study area	81 Hectares
Site coordinates	TQ 65700 75951 51.457723284555 0.385349445632 51 27 27 N 000 23 07 E Point
Height OD / Depth	Min: 2m Max: 2.5m
Project creators	
Name of Organisation	Archaeology South East
Project brief originator	CgMs Consulting
Project director/manager	Andy Leonard
Project supervisor	Mark Germany
Type of sponsor/funding body	consultant
Name of sponsor/funding body	CgMs Consulting
Project archives	

Physical Archive Exists?	No
Digital Archive recipient	Thurrock Museum
Digital Contents	"Stratigraphic"
Digital Media available	"Images raster / digital photography","Text"
Paper Archive recipient	Thurrock Museum
Paper Contents	"Stratigraphic"
Paper Media available	"Context sheet","Photograph","Plan","Report"
Project bibliography	
Publication type	Grey literature (unpublished document/manuscript)
Title	Archaeological Watching Brief. Land at the former RWE power station, Tilbury, Essex
Author(s)/Editor(s)	Germany, M.
Other bibliographic details	2017190
Date	2017
Issuer or publisher	Archaeology South-East
Place of issue or publication	Witham
Description	A4. 13 pages of text and tables. 3 illustrations
Entered by	Mark Atkinson (mark.atkinson@ucl.ac.uk)
Entered on	26 April 2017



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© Archaeology South-East		Tilbury Power Station	Fig. 1
Project Ref: 170367	Apr 2017	Site location	
Report No: 2017190	Drawn by:		



© Archaeology South-East		Tilbury Power Station	Fig. 2
Project Ref: 170367	Apr 2017	Location of monitored areas	
Report Ref: 2017190	Drawn by: APL		



Area 1, looking west



Area 2A, modern-made ground, looking south



Area 2A, looking east



Area 2B, looking south



Area 2B, modern-made ground looking east

© Archaeology South-East		Tilbury Power Station	Fig. 3
Project Ref: 170367	Apr 2017	Photographs of Areas 1 - 2B	
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Area 2C, looking north



Area 2C, modern-made ground, looking east



Area 3, modern-made ground, looking south



Area 3, looking south

© Archaeology South-East		Tilbury Power Station	Fig. 4
Project Ref: 170367	Apr 2017	Photographs of Areas 2C - 3	
Report Ref: 2017190	Drawn by: APL		

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