



Coastguard Hut, Kimmeridge Bay, Purbeck, Dorset

Archaeological Observations and Recording



Report No. 53440/3/1

July 2015

Coastguard Hut, Kimmeridge Bay, Purbeck, Dorset

Archaeological Observations and Recording, July 2015

Report No. 53432/3/1

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Scheduled Monument: SM 29096 Alum works, other multi-period industrial remains and an associated group of jetties and breakwaters, Kimmeridge Bay Dorset.

Scheduled Monument Consent Ref: S00077119

Client: The Smedmore Estate

Agent: Chichesters Land Agents, The Reading Room, Winterborne Whitechurch, Dorset, DT11 0AE

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Project Report Summary Page

Project Details			
OASIS Reference	terraina1-216411		
Project Title	Coastguard Hut, Kimmeridge Bay, Dorset		
Short Description of Project	Terrain Archaeology observed the excavations for an enlarged concrete base for a replacement coastguard hut on the east side of Kimmeridge Bay. The ground works were minimal and exposed the top of the dumped burnt and unburnt shale deposits associated with the mid-late nineteenth century Kimmeridge shale mining activities.		
Project Dates	Start: 01-07-2015	End: 01-07-2015	
Previous/Future Work	No/No		
Project Code	53440		
Monument Type and Period	None		
Significant Finds	None		
Project Location			
County/District/Parish	Dorset/ Purbeck/ Kimmeridge		
Site Address	Kimmeridge Bay, Kimmeridge, Purbeck, Dorset, BH20 5PE		
Site Coordinates	SY 9089 7879		
Site Area	7 m ²		
Height OD	c. 4 m aOD		
Project Creators			
Organisation	Terrain Archaeology		
Project Brief Originator	Historic England		
Project Design Originator	Terrain Archaeology		
Project Supervisor	Peter Bellamy		
Project Manager	Peter Bellamy		
Sponsor or Funding Body	Client		
Project Archive			
Archive Type	Physical	Digital	Paper
Location/Accession No	No Archive	No Archive	No Archive
Contents	None	None	None

Coastguard Hut, Kimmeridge Bay, Purbeck, Dorset

Archaeological Observations and Recording, July 2015

1. Introduction

1.1 Project introduction

Terrain Archaeology was commissioned by Chichesters Land Agents, on behalf of the Smedmore Estate, to carry out archaeological observations and recording during the construction of an enlarged concrete base for a replacement coastguard lookout hut within the Scheduled Monument SM29096 *Alum works, other multi-period industrial remains and an associated group of jetties and breakwaters, Kimmeridge Bay Dorset*. Scheduled Monument Consent [Case No. S00077119] for the work was granted on 20 March 2014.

A planning application for the Replacement coastguard hut for use as ranger observation station (Application No. 6/2014/0035) was granted permission on 28 February 2014. A subsequent application (6/2014/0517) for a proposed non-material amendment of application 6/2014/0035 to change from block and timber construction on concrete base to a ready-made prefabricated hut in similar cladding was granted permission on 30 October 2014.

Fieldwork was carried out on 1st July 2015 by Peter Bellamy.

Terrain Archaeology wishes to acknowledge the cooperation and assistance of Piers Chichester, Ian Cuff and Ken Selby.

1.2 Brief

No written brief for the works was produced by or on behalf of the Smedmore Estate.

1.3 Site Location

The coastguard hut lies on the eastern side of Kimmeridge Bay, adjacent to the Marine Centre and some boat houses, at SY 9089 7879 (Figure 1). It lies on an area of reclaimed beach built up by a series of tips of nineteenth century and earlier shale waste.

1.4 Geology

The geology is mapped as mudstone of the Kimmeridge Clay Formation (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>). No superficial geology is recorded.

1.5 Historical Background

Kimmeridge Bay has been a focus of industrial activity from the Roman period onwards, but particularly from the late 16th to late 19th centuries.

Documentary sources indicate that manufacture of alum at Kimmeridge began when Lord Mountjoy and John Clavell (the owner of the Kimmeridge Estate) experimented using local shale in about 1569, but it was Clavell's son, Sir William Clavell, who commenced production on a commercial scale c. 1605 (Betley 2001, 7-8; Brachi 2008). However, this soon ran into legal difficulties as the Crown deemed the enterprise to be in breach of a previous monopoly issued by James I. Clavell gained permission to recommence alum production, but came into conflict with the Crown once again, after which his plant was forcibly closed. A surviving document details the legal arguments Clavell presented hoping either to be granted production rights or to be or be recompensed for his work. He states

that in the space of eight months he had built not only two alum houses but also a strong huge pier of stone, 100 ft long and 60 ft broad (Betty 2001, 7-8).

Clavell turned to salt manufacture and to glassmaking using local shale as fuel in 1617-1623. His glass house was found close to the quay and its remains have been excavated (Crossley 1987). Sir Robert Mansell had already unsuccessfully tried window glass manufacture at Kimmeridge in 1615.

Exploitation of the shales at Kimmeridge recommenced in the 19th century. In 1848 the 'Bituminous Shale Company' obtained a lease to quarry and ship oil shale to its works at Weymouth for the production of naphtha, varnish, grease, pitch, paraffin wax and paint. In 1849 the 'Mineral Spirit Company' built a factory at Wareham to produce oil, grease and manure from Kimmeridge Shale. The Weymouth factory was closed in 1854 and shortly afterwards the Wareham works were sold. In 1858, 'Wanostrocht & Co' obtained a contract to light the city of Paris with gas from Kimmeridge shale. They converted the factory at Wareham and extended shale extraction at Kimmeridge by driving adits into the cliffs, as well as constructing a stone pier and an iron jetty. By 1862, Wanostrocht & Co were in financial difficulties and sold the business to the 'Wareham Oil and Candle Company', who survived until 1872 when the factory was destroyed by fire. In 1883, the 'Kimmeridge Oil and Carbon Company' extracted shale to make filters for the purification of sewerage but this ended in 1890. Further leases were granted until 1916, when exploitation of the shale ceased (Brachi 2008; Mansel 2000, 24).

1.6 Previous Archaeological fieldwork

David Brachi undertook a lot of research into the Kimmeridge industries, but unfortunately most of this remains unpublished. He recorded a possible alum furnace exposed in 1976, during building work at the public toilets in the upper car park (Brachi 2008) and more recently investigated by the Poole Harbour Heritage Project in 2009 (Bellamy *et al.* 2014). He also identified and recorded a series of features on the shoreline and eroding out from the coastal cliff (Brachi 2008).

The former glass house was excavated in 1980-1 by David Crossley (Crossley 1987).

Limited investigations of the industrial deposits along the shoreline were undertaken by AC Archaeology in 1996 and 1999 (Valentin 1997; McMahon 1999).

More recently, the Poole Harbour Heritage Project undertook a series of investigations at Kimmeridge Bay as part of a project into the Alum and Copperas industries of Dorset in 2009-11 (Bellamy *et al.* 2014). This included excavation adjacent to the area of furnaces discovered by David Brachi, investigations along the shoreline, geophysical survey and earthwork survey. This revealed details of the former ponds and water management features for the alum works and further information on the shoreline structures and industrial deposits on the east side of Kimmeridge Bay.

In September 2013, Terrain Archaeology observed the groundworks for the construction of a new sea wall, about 14 m to the north of the present site (Trevvarthen 2013).

1.7 Aims and Objectives

1.7.1 Aims

- The aim of the Archaeological Monitoring is to ensure there is no alteration or damage to the heritage assets of the Scheduled Monument, beyond what has been agreed with Historic England.
- The aim of the Archaeological Observations and Recording is to observe and record the works within the Scheduled Monument and make this information publicly available.

1.7.2 Objectives

- To monitor all works within the Scheduled Monument area to ensure there is no alterations to the monument that has not been agreed with Historic England.

- To provide immediate on-site advice for the mitigation of direct impacts on the designated heritage assets.
- To record any archaeological features or deposits revealed during the works, to an appropriate professional standard.
- To present the results in a report to the appropriate standard.

1.8 Methods

The methodology, scope, aims and objectives of the works was set out in a Written Scheme of Investigation (WSI) produced by Terrain Archaeology in June 2015 (Terrain Archaeology document no. 3440/0/1).

All archaeological works were carried out in accordance with the Chartered Institute for Archaeologists' *Regulations for professional conduct* (CIfA 2014b)

The observation and recording of the groundworks was undertaken to the standards of the Chartered Institute of Archaeologists (CIfA 2014a), with an archaeologist in attendance during the groundworks to create a larger concrete base for the new hut.

A photographic record of the works was maintained in digital format.

1.9 Archive and Dissemination

1.9.1 Paper Archive

No physical archive will be retained once the report has been deposited with OASIS and the Dorset County Council Historic Environment Record.

1.9.2 Report

A paper and digital copy of this report will be lodged with Dorset County Council's Historic Environment Record (HER). The HER is a publicly funded and accessible resource, and deposition of the report will place it, and the project results, in the public domain.

A digital summary of the archive will be placed with the OASIS project (www.oasis.ac.uk) under the reference code *terrains1-216411*. A digital copy of this report will be uploaded for inclusion in the Archaeological Data Service (ADS) online 'grey literature' library.

2. Results

2.1 Introduction

The existing coastguard hut was demolished prior to the archaeological observations. The groundworks for the preparation of a larger concrete base to accommodate the new larger prefabricated hut comprised the machine excavation of a 0.8 m wide strip, 0.3 m deep along the west and south sides of the existing concrete base (Figure 2: Plates 2-3).

2.2 Exposed Deposits

The groundworks cut through a 0.2 m thick dark greyish-brown granular silty clay loam topsoil (101), containing frequent inclusions of shale, a few burnt limestone fragments and rare limestone pieces, into the top of a dark greyish-brown silty clay loam (102), which had inclusions of brick, coal and clinker, reddened burnt oil shale (up to 10 cm long), a few fragments of unburnt oil shale (up to 15 cm long) and occasional broken limestone cobbles.

The remains of a flagpole base were found about mid-way along the south side of the concrete base.

3. Finds

3.1 Finds Assemblage

Occasional modern finds were noted in topsoil 101, but not collected. A number of fragments of brick and an iron spike were noted in the upper part of 102, but were not collected.

4. Discussion and Conclusions

4.1 Discussion

The groundworks for the new coastguard hut were minimal and disturbed a very small part of the scheduled monument. The exposed deposit 102 can be equated with layer 520 recorded in the adjacent cliff exposure by the Poole Harbour Heritage Project (Bellamy *et al.* 2014). This deposit has been interpreted as a dump of burnt and unburnt shale waste associated with the mid-late nineteenth century industrial activity in this area.

4.2 Conclusions

The disturbance caused by the groundworks for the new hut was minor and exposed the upper part of a mid-late nineteenth century shale tip associated with the mining and quarrying of oil shale in this area. No significant new information on the formation and precise date of this deposit was found.

5. References

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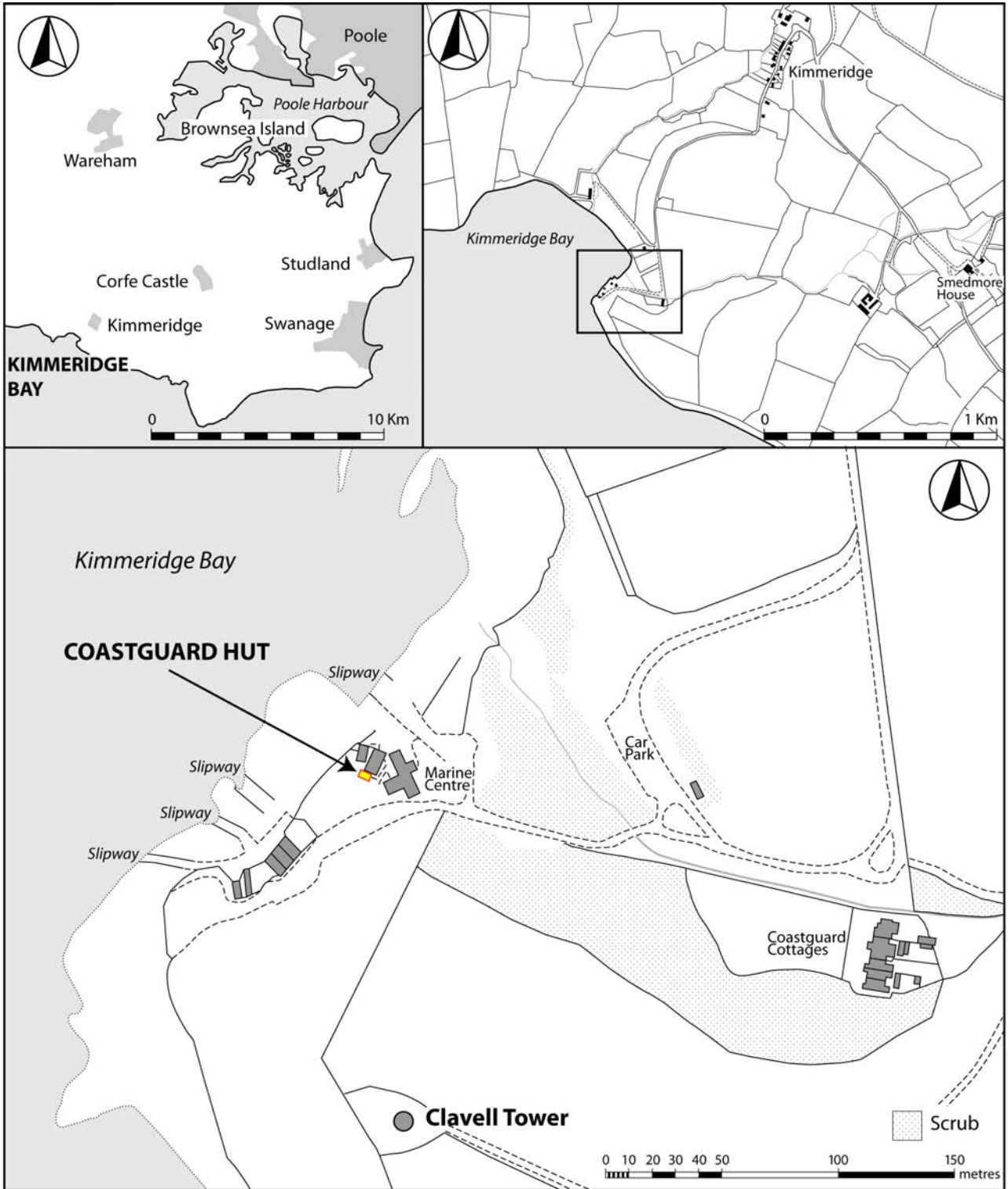


Figure 1 Location map.

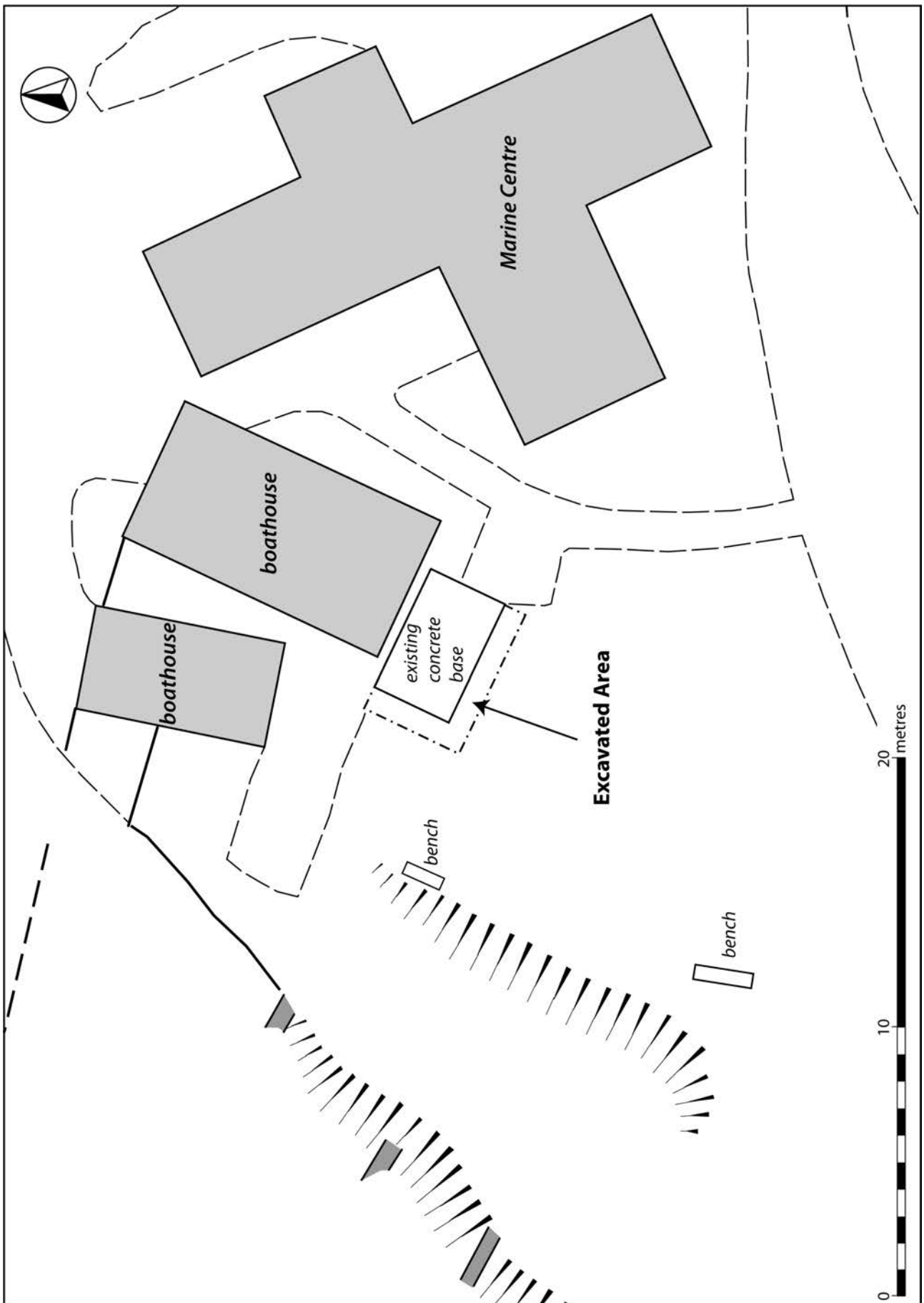


Figure 2: Plan of Site showing excavated area.



Plate 1: View of site before groundworks, viewed from south east.



Plate 2: West side of concrete base after excavation, viewed from south. 1m scale.



Plate 3: South side of concrete base after excavation, viewed from ESE. 1m scale.