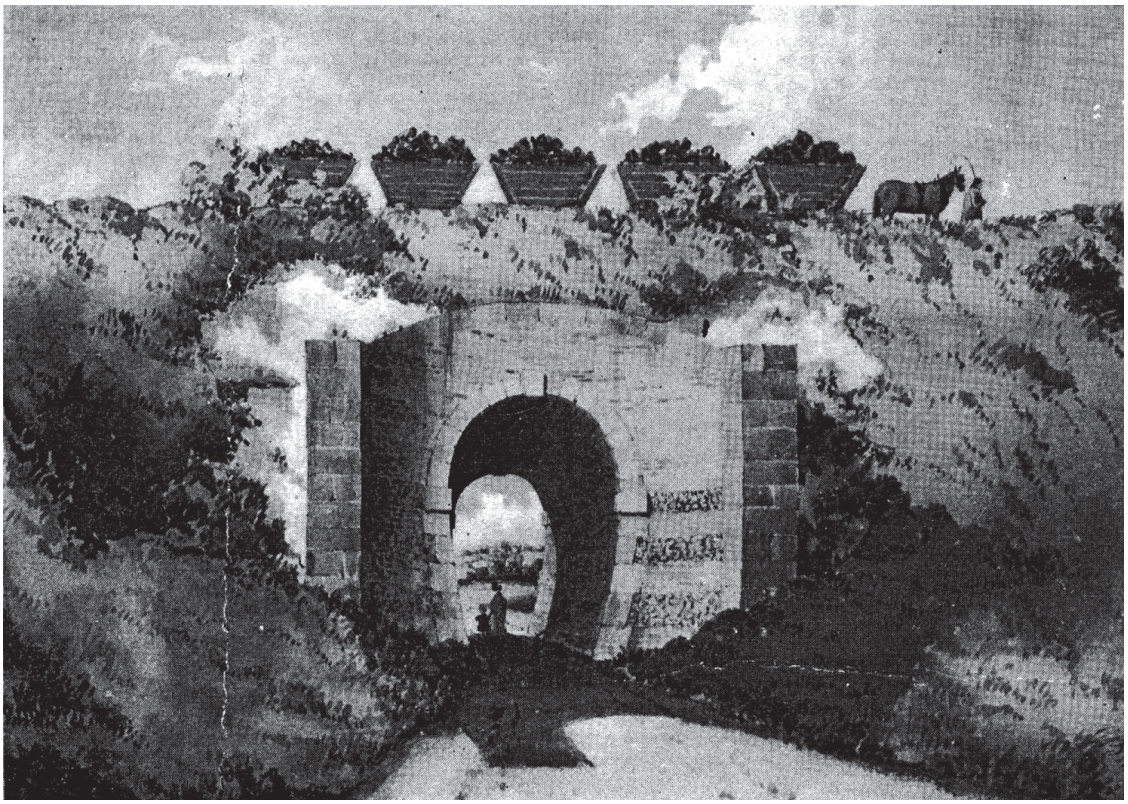

PROPOSED EDF SUBSTATION
Lion Green Road, Coulsdon, Surrey
London

London Borough of Croydon

Archaeological monitoring of geotechnical boreholes and test-pits
April 2011

MUSEUM OF LONDON ARCHAEOLOGY

REGISTERED ORGANISATION IfA

PROPOSED EDF SUBSTATION
Lion Green Road, Coulsdon, Surrey
London

London Borough of Croydon

Archaeological monitoring of geotechnical boreholes and test-pits

National Grid Reference: 529616 159437

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Summary (non-technical)

This report has been commissioned by UK Power Networks in order to record and assess the results of archaeological monitoring of five geotechnical boreholes and three test-pits carried out at the proposed site for the new sub-station at Lion Green Road, Coulsdon CR5 2NL. Site investigations on the proposed new substation site was monitored between the 29th of March and 1st of April 2011.

No archaeological deposits were recorded in any of the eight excavations. Natural ground (chalk) was observed at 79.70m OD in land adjacent to Well Cottage and at 79.50m OD below the garage hard-standing. An absence of any developed subsoil suggests that truncation of upper deposits may have previously occurred.

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List of Illustrations

Front cover: Water colour (1823) of the embankment (now a Scheduled Monument) and bridge (demolished 1840s/50s) over Chipstead Valley Road, c 20m to the south-west of the site (Croydon Local Studies and Archive Service, 385 –Surrey Iron Railway, Scan PH-07-758)

1 Introduction

1.1 Site background

The archaeological monitoring took place at the proposed site for the new sub-station at Lion Green Road Coulsdon CR52NL, hereafter called 'the site'. The site is located at Lion Green Road, Coulsdon, Surrey (NGR 529616 159437: Fig 1). The site is bounded to the north by Fourth Drive, Richmond Hall to the west, an existing sub-station and the grounds of Sovereign House to the south, and Well Cottages to the east (see Fig1). Modern ground level immediately adjacent to the site is 80m OD. The site code is LGS11.

A desk-based *Archaeological desk-based assessment* was previously prepared by MOLA, which covers the whole area of the site (MOLA, 2010). This document should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial assessment of its archaeological potential.

1.2 The planning and legislative framework

The archaeological legislative and planning framework was summarised in the *Archaeological desk-based assessment* (see Section 3, MOLA, 2010).

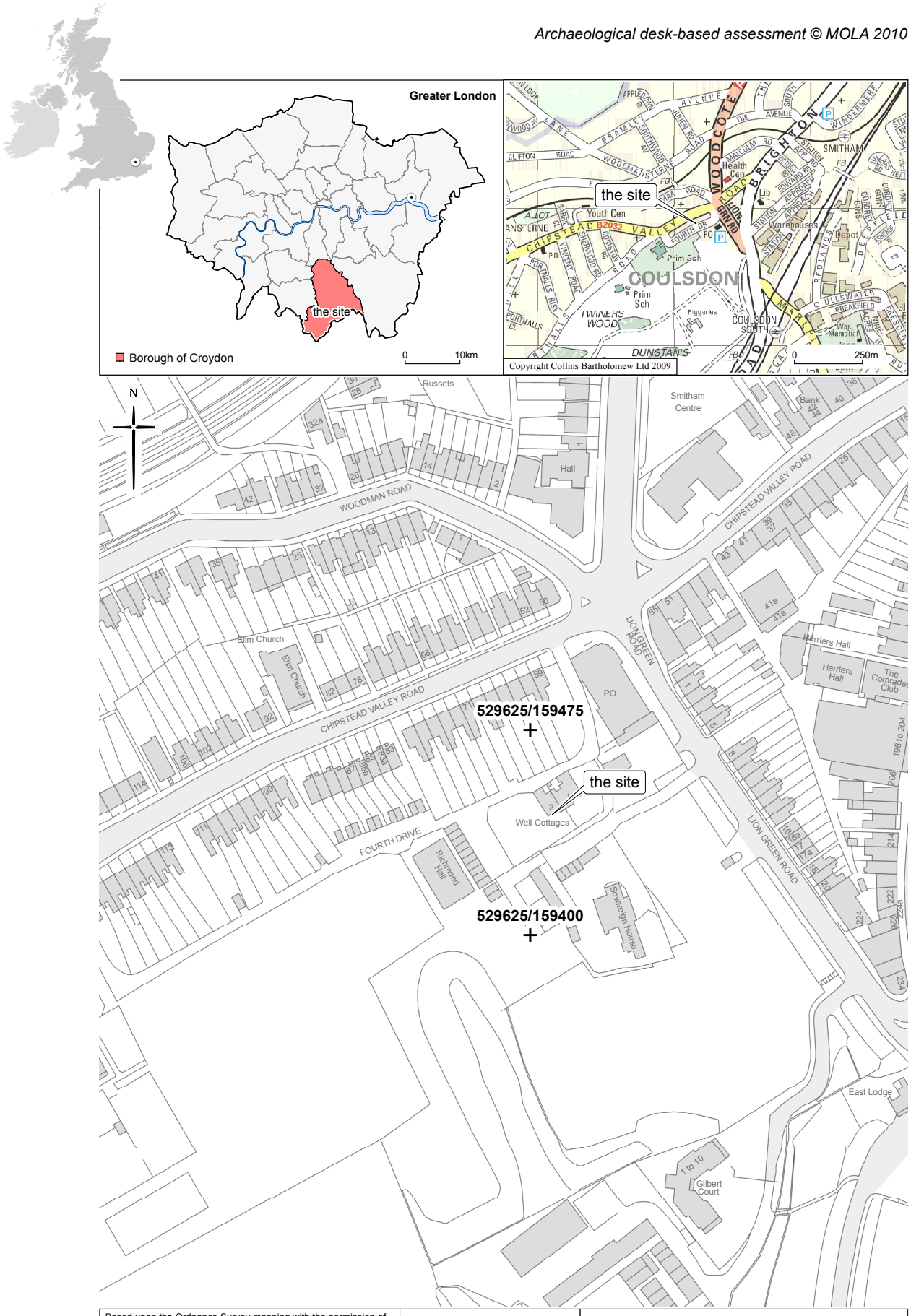
1.3 Planning background

On the basis of the archaeological assessment, English Heritage Greater London Archaeology Advisory Service recommended, in respect of a forthcoming planning application for the construction of a new substation, that on the basis of the potential for "… possible prehistoric evidence but primarily the possibility for Saxon period burials to occur", archaeological fieldwork would be required. It was suggested: "that the area of ground disturbance is stripped under pro-active archaeological control so that primarily any potential grave feature within the area can be identified, investigated, excavated and recorded ahead of the main redevelopment works." It is assumed that such mitigation would be secured by condition. The site investigation works reported on here, however, do not require planning consent, but it was decided that the archaeological results would be of assistance in determining the requirement for archaeological planning condition and the eventual form of required mitigation.

1.4 Origin and scope of the report

This report was commissioned by UK Power Networks and produced by Museum of London Archaeology (MOLA). The report has been prepared within the terms of the relevant Standard specified by the Institute for Archaeologists (IFA, 2001) and English Heritage (English Heritage Greater London Archaeology Advisory Service, 2009).

The purpose of the monitoring was to determine whether archaeological remains or features were present on the site, if so, to record the nature and extent of such remains and to ensure that archaeological remains of high significance were not destroyed or damaged during the geotechnical investigation. The purpose of the present report is to describe the results of monitoring in order to inform the planning process and any appropriate requirement for archaeological mitigation.



Scale 1:2,000 @ A4

Fig 1 Site location

1.5 Aims and objectives

Given that the archaeological brief was limited to monitoring of geotechnical investigations, only two research questions were identified:

- What is the level of truncation caused by earlier land use in this area?
- What is the nature and significance of the surviving archaeological remains?

All research is undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology*, 2002

2 Topographical and historical background

A brief summary of the background is included below. For a detailed account, refer to the previously prepared archaeological assessment (MOLA, 2010).

2.1 Topography

Ground level within the site if fairly level, at *c* 80m Ordnance Datum (OD). The site lies within Smitham Bottom, a dry valley base also known as the Chipstead Bourne, at its confluence with the Merstham Bourne. The typical geology filling these dry valleys is a colluvial sequence over river gravels and Upper Chalk. Dry valleys are so-called because they generally have extremely ephemeral flow, except during the most intense of storm events, when floods do occur. It is possible that colluvial deposits (hillwash) are present within the site although their thickness is unknown.

No geotechnical investigations have been undertaken in the site or the study area therefore the depth of the natural deposits is unknown. An archaeological evaluation *c* 600m to the south of the site noted the natural chalk *c* 0.50m below the modern ground surface. Given its location along the valley bottom, the colluvium on the site is likely to be thicker than further up the chalk escarpment.

2.2 Historical Background

The surrounding area is known to have been in use during the Prehistoric and Roman periods although no specific finds from these periods have been made from the site. During the early medieval period, the site was most likely located within farmland or woodland on the western outskirts of the manor of Coulsdon. A small settlement and wooden church are thought to have existed at this time, in the location of the modern parish church of St John in Old Coulsdon, *c* 1.8km east of the site. Skeletons with grave goods dating from the Saxon period were found at the Lion Green Road Car Park c 100m south-west of the site; and another small cemetery is reported at Cane Hill Hospital c 500m south-west of the site.

The CMG Railway was built in 1803–5 as an extension of the Surrey Iron Railway to transport goods from the Surrey Canal, allowing the safe passage of goods and materials from the Thames to Portsmouth, avoiding the English Channel and the threat of French warships. The track ran from the Croydon Canal basin down through Purley and Coulsdon, then on to the Merstham chalk and limestone quarries. Little now remains of the CMG Railway, but a section of the railway embankment is a Scheduled Monument *c* 20m south-west of the site, behind Lion Green car park.

3 The monitoring exercise

3.1 Methodology

All archaeological excavation and recording during the watching brief was done in accordance with the *Archaeological Site Manual* (MoLAS, 1994) and English Heritage guidance.

Five geotechnical boreholes were drilled by site investigation contractors. These works included hand dug start- pits. Three test pits were excavated by machine by the contractors. All work was monitored by a member of staff from MOLA. The locations of the areas of excavation were recorded by MOLA staff offsetting from adjacent standing walls. This information was then plotted onto the OS grid. The heights of observations and/or archaeological remains were recorded relative to Ordnance Datum.

The site has produced: 1 trench location plan and 8 trench sheets. The site finds and records can be found under the site code LGS11 in the MoL archive.

3.2 Results of the watching brief

In total, eight separate interventions were made, consisting of five small pits (0.3m x 0.3m) to facilitate the borehole sampling and three 1m x 3mx 0.8m deep test pits. There follows a brief description of the archaeological deposits as recorded. For all trench locations, see Fig 2.

3.3 Borehole pits

Since natural chalk deposits were encountered in the starter pits for the boreholes, the boreholes themselves were not recorded archaeologically.

3.3.1 BH1

Borehole starter pit 1	
Location	In garden of 2 Well Cottages. 18.8m west of Cottage wall, 3.5m south of access lane
Dimensions	0.3m by 0.3m ,0.5m depth
Modern ground level	80m OD
Base of topsoil	79.60m OD
Depth of archaeological deposits seen	None
Level of base of deposits observed	
Natural observed	79.60m OD

This starter pit revealed 0.4m of garden topsoil overlying a loose-lump chalk deposit in a silty clay matrix with some chalk crumb and occasional natural flints.

CROY1177GEO11#02

Fig 2 Location of excavations

3.3.2 BH2

Borehole starter pit 2	
Location	In garden of 2 Well Cottages. 6.5m west of Cottage wall, 5m south of access lane
Dimensions	0.3m by 0.3m ,0.5m depth
Modern ground level	80m OD
Base of topsoil	79.70m OD
Depth of archaeological deposits seen	None
Level of base of deposits observed	NA
Natural observed	79.60m OD

This starter pit revealed 0.3m of garden topsoil, overlying a loose-lump chalk deposit in a silty clay matrix with some chalk crumb and occasional flint pieces.

3.3.3 BH3

Borehole starter pit 3	
Location	In hardstanding east of garages, 19m south of access lane, 7m west of chainlink fence (east of garages)
Dimensions	0.3m by 0.3m ,0.5m depth
Modern ground level	80m OD
Base of slab	79.50m OD
Depth of archaeological deposits seen	None
Level of base of deposits observed	NA
Natural observed	79.50m OD

The pit revealed 0.2m of concrete overlying 0.3m of made-ground consisting of concrete lumps, bricks and chalk pieces. The small amount of natural visible appeared to be consistent with previous descriptions.

3.3.4 BH4

Borehole starter pit 4	
Location	In garden of 2 Well Cottages. 4.5m west of Cottage wall, 15m south of access lane
Dimensions	0.3m by 0.3m ,0.5m depth
Modern ground level	80m OD
Base of topsoil	79.70m OD
Depth of archaeological deposits seen	None
Level of base of deposits observed	NA
Natural observed	79.60m OD

Deposits observed were the same as at BH 2.

3.3.5 BH5

Window sample starter pit 5	
Location	In garden of 2 Well Cottages. 16.5m west of Cottage wall, 11.5m south of access lane
Dimensions	0.3m by 0.3m ,0.5m depth
Modern ground level	80m OD
Base of topsoil	79.70m OD
Depth of archaeological deposits seen	None
Level of base of deposits observed	NA
Natural observed	79.60m OD

Deposits were same as observed in BH2.

3.4 Test pits

3.4.1 Test pit 1

Test pit 1	
Location	10m west of 2 Well Cottages (western property wall,) 6m north of southern fenceline. NW-SE
Dimensions	1m by 3m by 0.9m depth
Modern ground level/top of slab	80m OD
Base of modern topsoil	79.70m OD
Depth of archaeological deposits seen	NA
Level of base of deposits observed	79.10 m OD
Natural observed	79.70m OD

The north-facing section revealed 0.3m of garden topsoil, overlying a deposit of loose-lump chalk in a silty clay matrix. There was some mixing of the topsoil with the chalk immediately below, which may have been caused by garden digging, root/ worm action, but no developed sub-soil was present. Some variations within the chalk deposit were evident including some indistinct layers of smaller chalk crumb, larger lumps of chalk and occasional patches of dark-brown clay- with- flint, at 0.5 and 0.8m below the surface.

3.4.2 Test pit 2

Test pit 2	
Location	Garden of Well Cottage, 5m south of access rd, 5m east of eastern boundary link fence. SW-NE
Dimensions	1m by 3m by 0.5m
Modern ground level/top of slab	80m OD
Base of modern fill/slab	79.50 OD
Depth of archaeological deposits seen	none
Level of base of deposits observed	NA
Natural observed	NA

This trench was excavated at the western edge of the garden, but compacted concrete and chalk lumps were present to at least 0.5m below ground level and the small machine provided was unable to safely excavate the ground below this depth.

After establishing that the concrete extended at least 5m inside the western edge of the garden the trench was abandoned.

It is thought that the western side of the garden was utilised when creating the garages and hard-standing area and either the area of hardcore laid down exceeded the area required for the garages or excess hardcore was laid down for vehicle use and was simply top-soiled over.

3.4.3 Test pit 3

Test pit 3	
Location	Garden area close to 2 Well Cottages 10m south of access lane, 3m west of property wall. E-W
Dimensions	1m by 3m by 0.8m depth
Modern ground level/top of slab	80m OD
Base of modern topsoil	79.70m OD
Depth of archaeological deposits seen	none
Level of base of deposits observed	79.2m OD
Natural observed	79.7 OD

The north facing section revealed a similar sequence to that shown in Test pit 1, with topsoil overlying a loose chalk-lump deposit. A slightly more distinct subsoil was observed between 0.3 and 0.4m below the surface, but this may have been created by waterlogging, as the trench was excavated adjacent to a corrugated zinc soakaway, taking rainwater from a downpipe. Some larger lumps of chalk, up to 0.18 m, formed an indistinct undulating layer between 0.5m and 0.7m below the surface, which was a natural variation in the chalk deposit.

4 Potential of archaeology

No archaeological deposits or features were observed during any of the excavations. It appears that truncation of upper deposits has taken place, but, if this is the case, there is potential for deep cut features to survive on site but shallower features are likely to have been removed.

4.1 Original research aims

- *What is the level of truncation caused by earlier land use in this area?*

The lack of a developed subsoil suggests that upper deposits, which may have consisted of a sub-soil, a finer chalky-clay hillwash deposit or gravel deposits, may have been truncated, either during quarrying activity, the construction of the embankment or other projects including the creation of the garages. The extent of truncation is unknown, but truncation would have removed shallow archaeological deposits and features.

- *What is the nature and significance of the surviving archaeological remains?*

No archaeological deposits or features were observed during any of the excavations.

4.2 Significance of the data

Whilst the information gained is of limited local significance there is nothing to suggest that it is of regional or national importance.

5 Publication and archiving

Information on the results of the watching brief will be made publicly available by means of a database in digital form, to permit inclusion of the site data in any future academic researches into the development of London.

The site archive comprising original records will be stored with the Museum of London within 12 months of the end of the investigation.

In view of the limited potential of the material and the limited significance of the data (Section 4) it is suggested that a short note on the results of the watching brief should appear in the annual round up of the *London Archaeologist*.

6 Conclusions

As no sub-soil or overlying deposits such as colluvium (hillwash) were present in any of the excavations, it is possible that truncation by earlier quarrying, the building of the railway embankment and/or the surrounding houses has taken place and may have removed archaeological deposits, if present. The construction of the garages to the west of the site has also resulted in more recent truncation. It is concluded that shallow archaeological features or deposits are unlikely to have survived on the site. The Saxon burials recorded in the vicinity were found up to 0.9m below ground surface, but the actual depth of previous truncation could not be ascertained from the geotechnical investigation, therefore deeper cut features may survive.

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8 Oasis Form

8.1 OASIS ID: molas1-104222

Project details	
Project name	UK POWER NETWORKS SUBSTATION Lions Green Road Coulsdon
Short description of the project	Site investigations on the proposed new substation site was monitored between the 29th of March and 1st of April 2011. No archaeological deposits were recorded in any of the eight excavations. Natural ground (chalk) was observed at 79.70m OD in land adjacent to Well Cottage and at 79.50m OD below the garage hard-standing. An absence of any developed subsoil suggests that truncation of upper deposits may have previously occurred.
Project dates	Start: 29-03-2011 End: 01-04-2011
Previous/future work	No / Not known
Any associated project reference codes	LGS11 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 5 - Garden
Monument type	NONE None
Significant Finds	NONE None
Investigation type	'Watching Brief'
Prompt	Electricty Act 1989 Section 36

Project location

Country	England
Site location	GREATER LONDON CROYDON COULSDON UKPN substation, Lions Green Road Coulsdon CR52NL
Postcode	CR52NL
Study area	400.00 Square metres
Site coordinates	TQ 29616 59437 51.3187362352 -0.139795122540 51 19 07 N 000 08 23 W Point
Height OD / Depth	Min: 79.00m Max: 80.00m

Project creators

Name of Organisation	MOLA
Project design originator	UK Power Networks
Project director/manager	Robin Nielsen
Project supervisor	Gabby Rapson
Type of sponsor/funding body	Electricity Authority/Company
Name of sponsor/funding body	UK Power Networks

Project archives

Physical Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	UK Power Networks Lion Green Road, Coulsdon CR5 2NL.
Author(s)/Editor(s)	Rapson, G
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