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Boxford Research Site Infrastructure 2008

Groundwater Resources Programme

Open Report OR/08/67

BRITISH GEOLOGICAL SURVEY

GROUNDWATER RESOURCES PROGRAMME

OPEN REPORT OR/08/67

Boxford Research Site Infrastructure 2008

D Allen and D J Allen

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The Boxford site.

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British Geological Survey offices

BGS Central Enquiries Desk

☎ 0115 936 3143 Fax 0115 936 3276
email enquires@bgs.ac.uk

Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG

☎ 0115 936 3241 Fax 0115 936 3488
email sales@bgs.ac.uk

Murchison House, West Mains Road, Edinburgh EH9 3LA

☎ 0131 667 1000 Fax 0131 668 2683
email scotsales@bgs.ac.uk

London Information Office, Natural History Museum, Cromwell Road, London SW7 5BD
SW7 2DE

☎ 020 7589 4090 Fax 020 7584 8270
☎ 020 7942 5344/45 email bgslondon@bgs.ac.uk

Columbus House, Greenmeadow Springs, Tongwynlais, Cardiff CF15 7NE

☎ 029 2052 1962 Fax 029 2052 1963

Forde House, Park Five Business Centre, Harrier Way, Sowton EX2 7HU

☎ 01392 445271 Fax 01392 445371

Maclean Building, Crowmarsh Gifford, Wallingford OX10 8BB

☎ 01491 838800 Fax 01491 692345

Geological Survey of Northern Ireland, Colby House, Stranmillis Court, Belfast BT9 5BF

☎ 028 9038 8462 Fax 028 9038 8461
www.bgs.ac.uk/gsni/

Parent Body

Natural Environment Research Council, Polaris House, North Star Avenue, Swindon SN2 1EU

☎ 01793 411500 Fax 01793 411501
www.nerc.ac.uk

Website www.bgs.ac.uk
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Foreword

This report results from the activities of the British Geological Survey (BGS) between 2002 and 2008 at the Boxford Research site on the River Lambourn. The aim of the report is to provide a record of the infrastructure at the site as of December 2008.

Acknowledgements

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1 Introduction

The Westbrook Farm research site at Boxford is situated by the River Lambourn close to Boxford in Berkshire, at approximately SU 4280 7230 (Figure 1.1). The site was originally set up as a research facility as part of the Natural Environment Research Council's Lowland Catchment Research (LOCAR) Thematic Programme (Wheater and Peach, 2004). This was created to improve the science required to support current and future management needs for permeable lowland catchments through an integrated and multi-disciplinary experimental and modelling programme. As part of the LOCAR work an infrastructure of long-term facilities was established in three catchments, the Pang-Lambourn, Frome-Piddle and Tern (Adams et al., 2004). This infrastructure had the dual objectives of augmenting the existing monitoring networks within the catchments to provide baseline data to support the current and future research programmes, and of providing a range of facilities for hydrological and hydrogeological research. The Boxford site was one of several sites selected in the Pang-Lambourn catchment.

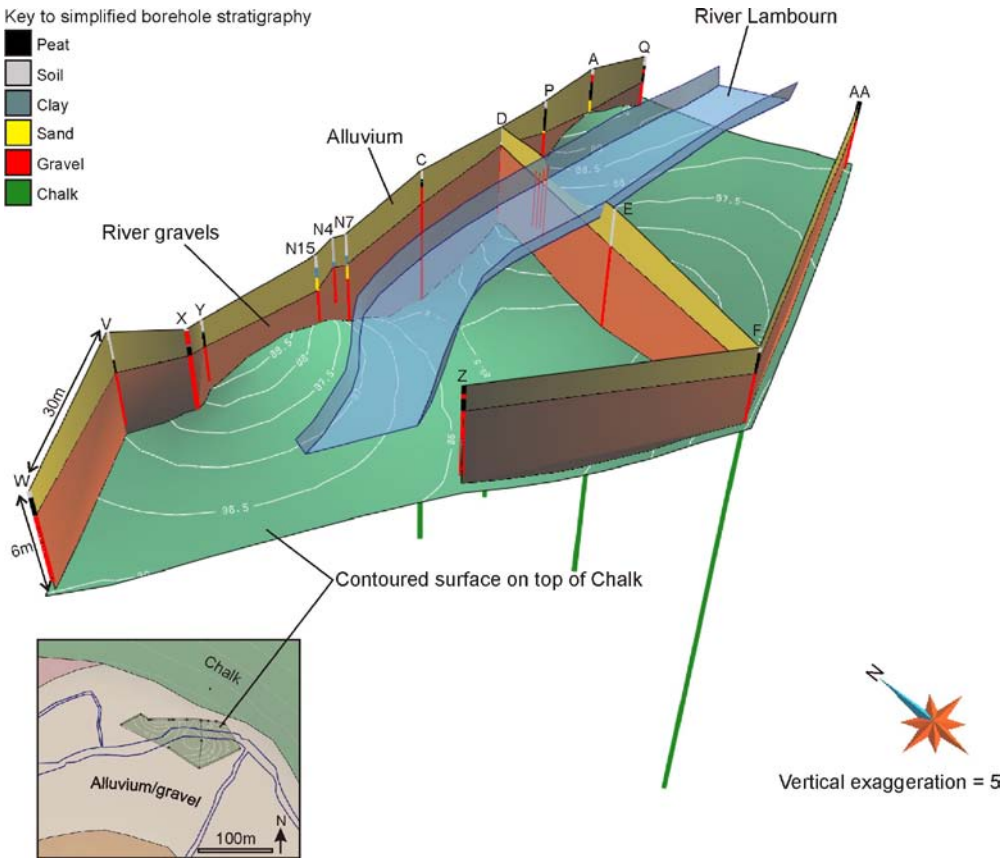

Figure 1.1 Boxford Research site geology.

During 2002 a total of eight LOCAR infrastructure boreholes were drilled at the site (Adams et al., 2004). Many of the boreholes were completed with multiple piezometers. A further three boreholes were drilled in 2003 for a LOCAR research project (Wheater et al., 2006). In 2007 two boreholes were drilled for the Groundwater-Surface Water (GW-SW) Interaction project (E2069S81), and three piezometers and a stilling well were installed in the river bed. A further six boreholes were drilled for the GW-SW project in 2008. Table 1.1 summarizes the different phases of installation. Figure 1.1 shows the location of and the relationship between the riverside boreholes and the underlying geology at the site.

Table 1.1 Summary of installation dates and major changes to infrastructure

Borehole ID	Piezometer ID	Date of completion	Date of modification	Lithology
PL26A		19/10/2002		
	PL26A-1		25/09/2008 (piezo extension)	Chalk
	PL26A-2			Sand
PL26B		Abandoned		
PL26C		19/10/2002		
	PL26C-1			Chalk
	PL26C-2			Gravel
PL26D		19/10/2002		
	PL26D-1		25/09/2008 (piezo extension)	Chalk
	PL26D-2			Gravel
PL26E		03/10/2002		
	PL26E-1			Chalk
	PL26E-2			Gravel
PL26F		19/10/2002		
	PL26F-1			Chalk
PL26G		08/11/2002		
	PL26G-1			Chalk
	PL26G-2			Chalk
	PL26G-3			Chalk
PL26H		22/10/2002		
	PL26H-1			Chalk
	PL26H-2			Chalk
	PL26H-3			Chalk
PL26I		25/10/2002		
	PL26I-1			Chalk
	PL26I-2			Chalk
	PL26I-3			Chalk
PL26N4		13/08/2003	25/07/2008 (casing extension)	Gravel
PL26N7		20/08/2003	25/07/2008 (casing extension)	Putty Chalk
PL26N15		11/08/2003	25/07/2008 (casing extension)	Chalk
PL26P		20/02/2007		Gravel/Sand
PL26Q		22/02/2007		Sandy Gravel
PL26R		22/03/2007		Gravel
PL26S		22/03/2007		Gravel
PL26T		22/03/2007		Gravel
PL26U		22/03/2007		Stilling well
PL26V		10/01/2008		Gravel
PL26W		14/01/2008		Gravel
PL26X		21/01/2008		Chalk
PL26Y		23/01/2008		Gravel
PL26Z		30/01/2008		Gravel
PL26AA		01/02/2008		Gravel

A surface geophysical survey was carried out at the site. The techniques used were resistivity tomography, ground conductivity – EM and ground penetrating radar. The results of these surveys are contained in the TerraDat report (TerraDat, 2002).

The purpose of this report is to describe the infrastructure available at the research site as at December 2008 and to summarise the work undertaken on the installations between 2002 and 2008. The structure of the report is as follows:

(i) In Section 2 borehole and piezometer information is summarized and tabulated.

(ii) In Section 3 individual descriptions for each installation are presented.

(iii) Associated driller's logs or completion reports for boreholes are provided in Appendix A.

(iv) Appendix B contains all the Geological logs for the site

(v) Appendix C is a list of chemical sampling dates per borehole and hydrochemical batch numbers per year.

Thus basic details for the installations may be obtained from Section 2, while more detailed descriptions are given in Section 3 and the appendices.

The following publications have all been produced directly from work carried out at the Boxford site: Abesser et al (2008), Goody et al (2006), Lapworth et al (2009), Pretty et al (2006), Wheater et al (2006) and Wheater et al (2007).

2 Infrastructure summary.

Figure 2.1 shows the layout of the boreholes at the site. The infrastructure forms two main transects, one running approximately parallel to the river (W- Q) and the other across the river and up the hill to the north (F – G).

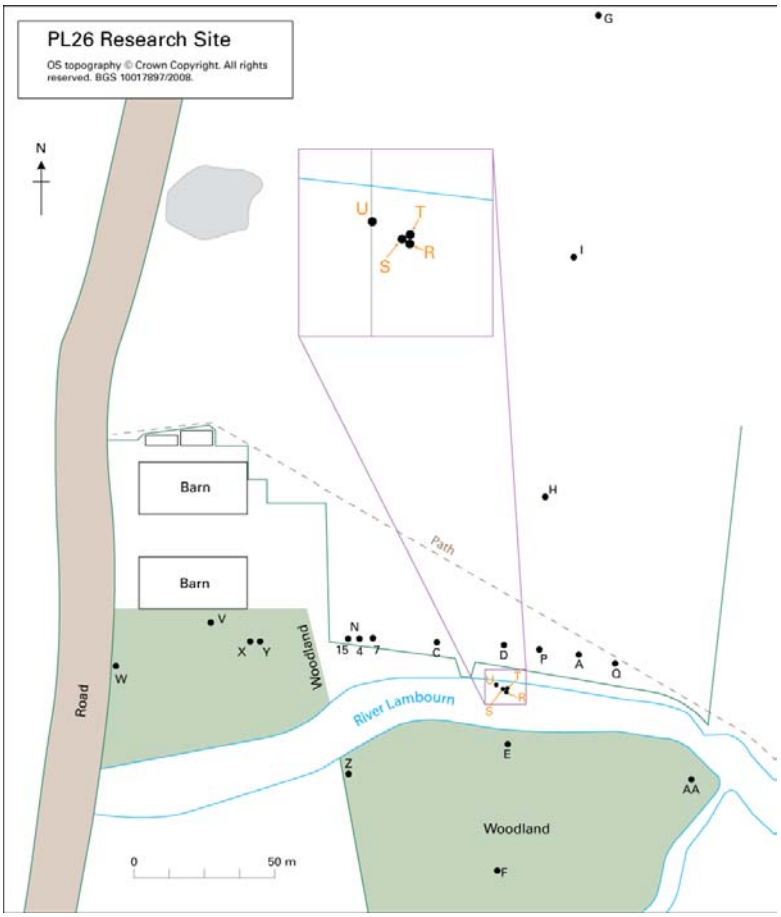

Figure 2.1 Site installation layout.

Summarised information for the installations shown in Figure 2.1 is presented in Table 2.1.

Table 2.1 Summary information for the Westbrook Farm site.

Borehole ID	Piezometer ID	Co-ordinates	Datum point	Elevation of datum	Total drilled depth	Depth at time of mini troll inst	Top of casing	id	od	material	Minitroll	Diver at 31/12/08	Response zone	Changes made to construction	Comments
				m aOD	m bgl	m bgl	m agl	mm	mm				m bgl		
PL26A		442823 172295	toc	92.36	25		0.65	180	223	plastic					
	PL26A-1				24.02	24.01		80	90	plastic	yes	57276	13.2-25.0	Piezometer extended	
	PL26A-2				1.78	1.79		80	90	plastic	yes	57241	wt-1.78		
PL26B					3										abandoned[A]
PL26C		442783 172298	toc	92.38	25		0.63	185	230	plastic					
	PL26C-1				23.9	23.88		80	90	plastic	yes	no	11.4-25		
	PL26C-2				4.7	4.73		80	90	plastic	yes	57261	wt-4.8		
PL26D		442802 172297	toc	92.01	25		0.6	180	223	plastic					
	PL26D-1				25.13	25.04		80	90	plastic	yes	no	10.7-25.35	Piezometer extended	
	PL26D-2				3.64	3.63		80	90	plastic	yes	no	wt-3.8		
PL26E		442804 172269	toc	92.17	25		0.9	180	223	plastic					
	PL26E-1				25.2	25.29		80	90	plastic	yes	no	11.15-25.2		
	PL26E-2				4.4	4.6		80	90		yes	no	wt-4.7		

Borehole ID	Piezometer ID	Co-ordinates	Datum point	Elevation of datum	Total drilled depth	Depth at time of mini troll inst	Top of casing	id	od	material	Minitroll	Diver at 31/12/08	Response zone	Changes made to construction	Comments
PL26F		442800 172232	toc	91.96	34.8		0.76	250	280	steel					
	PL26F-1				28.94	25.07		200	225	plastic	yes	B2869	10.86-34.0		
PL26G		442829 172478	gl	114.5	100		-0.1	125	142	steel					
	PL26G-1				90.3	90.5		50	62	plastic	85	57251	50.5-100.0$_B$		
	PL26G-2				41	41		34	43	plastic	36	no	27.63-48.5$_B$		
	PL26G-3				26.5	26.6					25	no	18-26.5		annulus
PL26H		442814 172340	gl	97.52	30		-0.2	200	220	steel					
	PL26H-1				29	28.97		80	90	plastic	yes	57268	25.03-30.0		
	PL26H-2				22.1	22.07		80	90	plastic	yes	57232	20.0-24.0		
	PL26H-3				19	18.7					16	57240	2.2-19.0		annulus
				m aOD	m bgl	m bgl	m agl	mm	mm				m bgl		
PL26I		442822 172409	gl	107.43	52.3		-0.18	200	220	steel					
	PL26I-1				50	44.27		80	90	plastic	yes	no	39.4-52.3		
	PL26I-2				32.34	32.3		80	90	plastic	yes	57239	30.0-35.0		
	PL26I-3				29	28.88					26	no	15.0-29.0		annulus
PL26N4		442762 172298.7		92.08$_C$	3.70			80	90	plastic		no	2.66-3.63	Casing extended	
PL26N7		442765.9 172298.2		91.78$_C$	7.90			80	90	plastic		no	6.9-7.83	Casing extended	

Borehole ID	Piezometer ID	Co-ordinates	Datum point	Elevation of datum	Total drilled depth	Depth at time of mini troll inst	Top of casing	id	od	material	Minitroll	Diver at 31/12/08	Response zone	Changes made to construction	Comments
PL26N15		442758 172298.8		91.78$_C$	15.40			80	90	plastic		no	6.6-15.4	Casing extended	
PL26P		442812 172296	toc	92.05	3.90			50	60	plastic		B3013	1.6-3.3		
PL26Q		442834 172292	toc	91.95	3.90			50	60	plastic		A1446	1.4-2.5		
PL26R		442800 172286	toc	*91.78*					2”	steel		61571	1.94-2.14 below piezo top		
PL26S		442801 172285	toc	*91.84*					2”	steel		61865	3.01-3.21below piezo top		
PL26T		442802 172285	toc	*91.94*					2”	steel		61873	4.05-4.25 below piezo top		
PL26U		442800 172285	toc	*91.84*					2”	steel		61818	Stilling Well		
PL26V		442719 172305	toc	93.02	5.50			52	60			61812	2.30-5.30		
PL26W		442692 172291	toc	92.21	5.70			52	60			61972	1.50-5.56		
				m aOD	m bgl	m bgl	m agl	mm	mm				m bgl		
PL26X		442730 172298	toc	92.58	9.7			52	60			61980	6.3-9.7		
PL26Y		442733 172298	toc	92.53	3.55			52	60			61891	1.50-3.55		

Borehole ID	Piezometer ID	Co-ordinates	Datum point	Elevation of datum	Total drilled depth	Depth at time of mini troll inst	Top of casing	id	od	material	Minitroll	Diver at 31/12/08	Response zone	Changes made to construction	Comments
PL26Z		442758.6 172260.1	toc	91.91	6.40			52	60			D0891 61809	1.50-5.90		
PL26AA		442855 172258	toc	91.72	3.70			52	60			B3014	1.00-3.58		

Notes:

A - PL26B was abandoned during drilling when the drill bit was lost in the hole and could not be retrieved.
B - PL26G1 breaches bentonite seal between the two piezometers compromising PL26G2.
C - pre-extension
toc = Top of casing
gl = ground level

2.1 RIVER BED PIEZOMETERS

Three stainless-steel piezometers were driven into the bed of the River Lambourn (PL26R, PL26S, PL26T) with screened sections centred at 0.5 m, 1.5 m and 2.5 m below the top of the gravels. The screened section consists of 8 evenly spaced rows of 6mm holes over a 200 mm length (Figure 2.2). A stilling well (PL26U) was also installed in the river, next to the river bed piezometers. Stainless steel blanked cylinders was subsequently inserted into piezometer R and U to displace water in the dead space between the piezometer tip and the screen.

Figure 2.2 Piezometer T detail

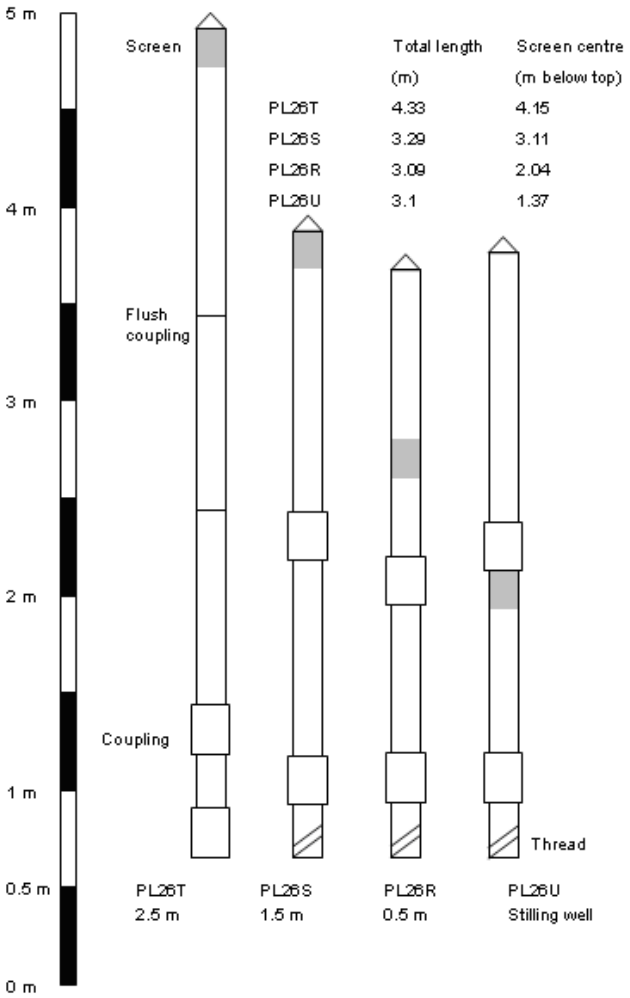

Figure 2.3 Drive-in piezometers and stilling well specifications.

Figure 2.4 Installation of river piezometers.

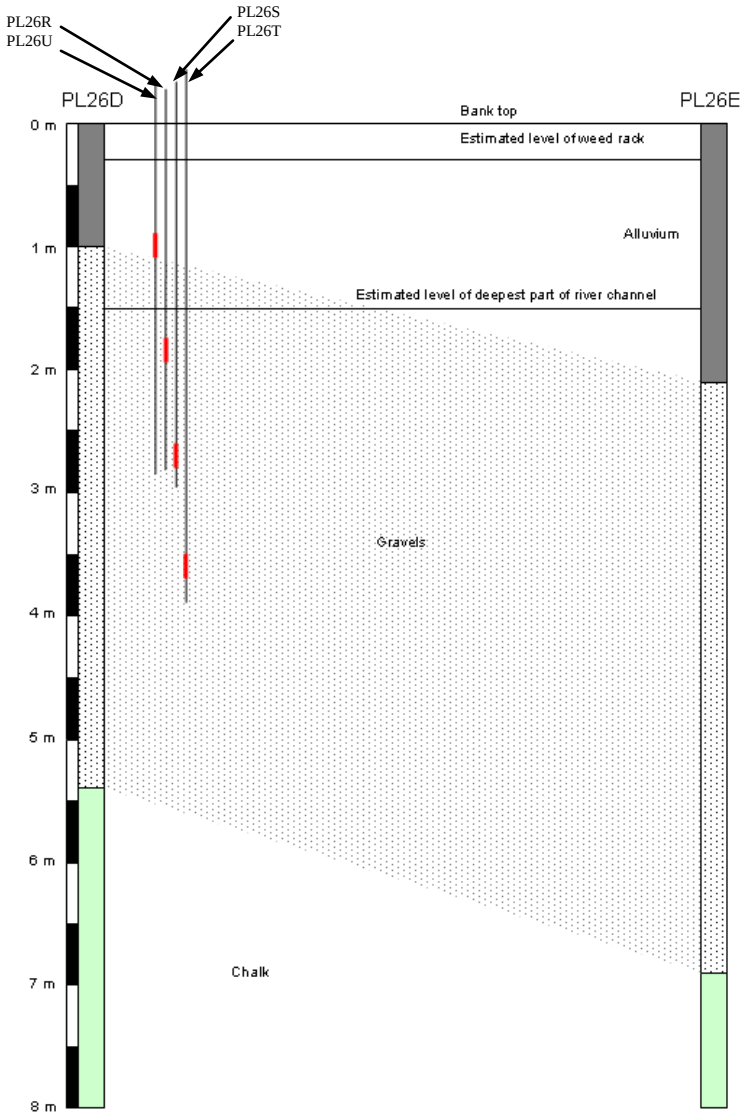

Figure 2.5 Estimated placement depths of piezometers.

2.2 SAMPLING DATES

Water samples for hydrochemical analysis were taken at intervals from individual boreholes and piezometers. Sampling dates are shown graphically in Figure 2.6 (dates are given in Appendix C) and a graphical summary of manual water level dip dates is given in Figure 2.7.

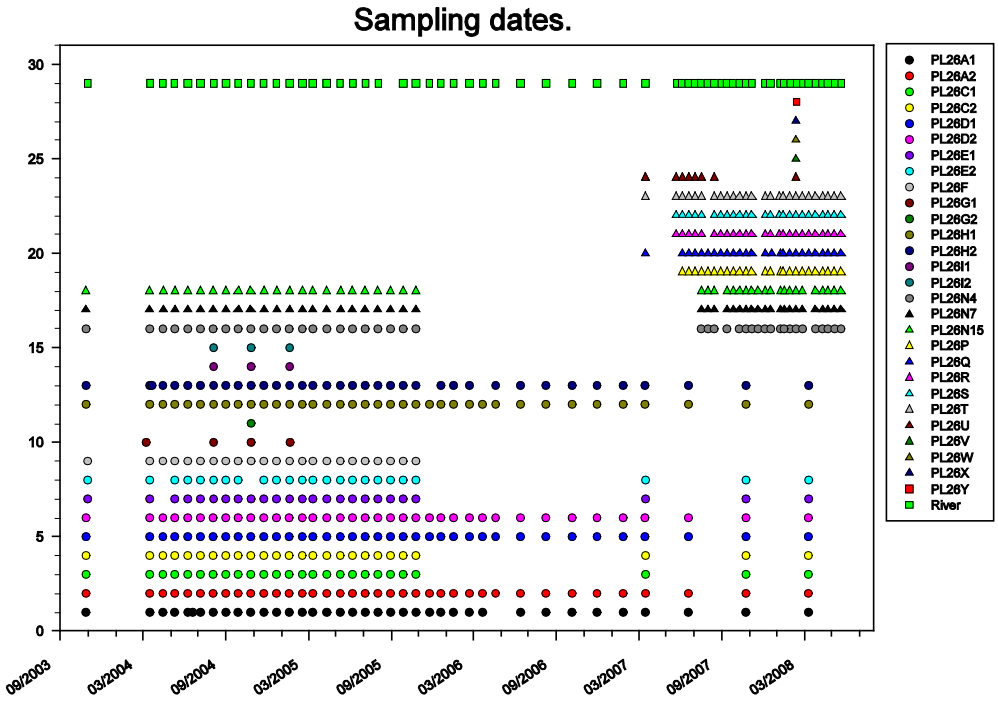

Figure 2.6 Summary of chemistry sampling dates.

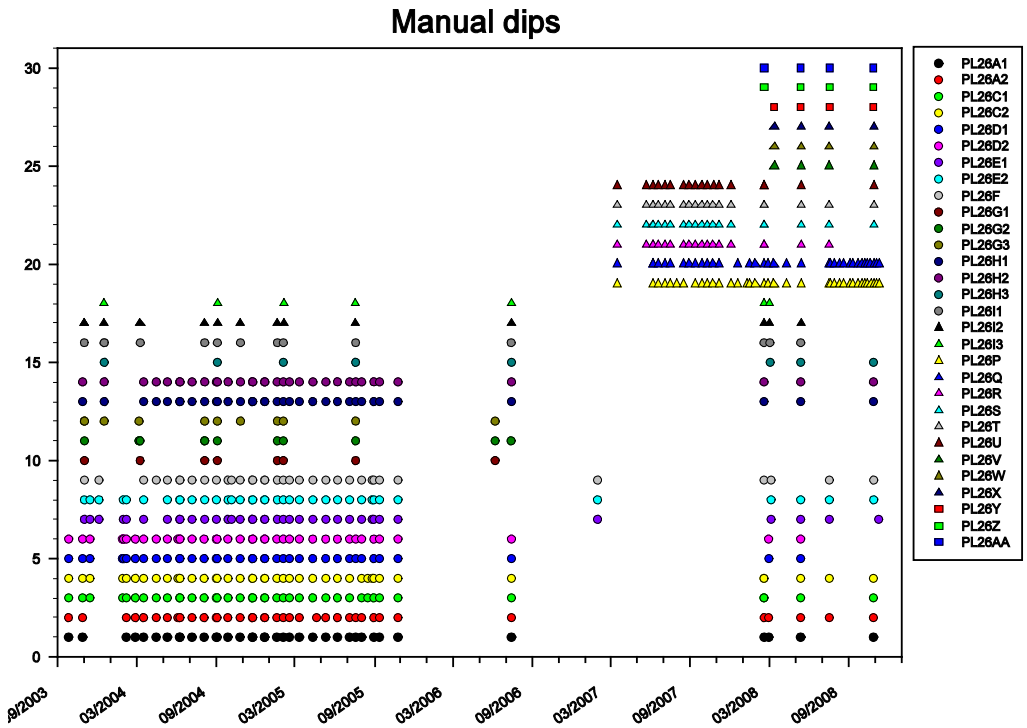

Figure 2.7 Summary of manual water level dip.

3 Available information Summary Section

In this section single-page descriptions are presented for each borehole.

Key:

DA	Debbie Allen
MC	Mike Cheetham
IW	Ian Woods

Note: The serial numbers of the minitrolls are those installed after completion in 2002. The minitroll may have been changed since then or have been removed and this data is included in the report.

Borehole ID	***PL26A***		
Previous names:	*n/a*	Grid Reference:	*442823 172295*
Datum point:	*Toc*	Datum elevation:	*92.36*
Total depth:	*25 m bgl*	ID/OD:	*180 mm/ 223 mm*
Height of stick-up:	*0.60 m*	Construction:	
Date of drilling		Limestone chips: from base to 13.2m bgl 12.8 to 2.45m bgl, 1.78 m bgl to top	
start: *03/09/2002*	End: *5/09/2002*		
Completion:	*19/10/2002*	Bentonite: 13.2 to 12.8 m bgl, 2.45 to 1.78 m bgl	
Geophysics:	*ERT cable with 50 electrodes in array spaced at 0.50m attached to PL26A1. Electrode number 1 at 24 m bgl, electrode 48 at 0.42 m bgl* *Downhole geophysical fluid logs: 23/09/2002, Fluid temp, EC, tempQ, ECQ. Diffntl temp, EC, Q. Flowmeter and flowmeter Q.*		
Comments:	*5.5 inch extension to raise lower piezometer to same height as higher one IW 25/09/09*		
Piezometer ID	***PL26A1***	**Piezometer ID**	***PL26A2***
Total Depth	*24.02 m bgl*	Total Depth	*1.78 m bgl*
ID/OD	*80 mm/ 90 mm*	ID/OD	*80 mm/ 90 mm*
Screened section		Screened section	
from 23.1 m bgl	*to 23.57 m bgl*	*from 1 m bgl*	*to 1.78 m bgl*
Open in	*chalk*	Open in	*Sand*
Stick-up:	*0.56 m agl*	Stick-up	*0.50 m agl (pre 25/9/08)*
Minitroll	*ID:10589*	Minitroll	*ID: 10445 installed 25/09/03*
Water level diver	*ID: 57276 installed 06/11/07*	Water level diver	*ID: 57241*
Comments: Minitroll replaced by diver. IW 25/09/08 – 5.5 inch extension to raise to same height as PL26A2.		Comments	

Borehole ID	*PL26C*		
Previous names:	*n/a*	Grid Reference:	*442783 172298*
Datum point:	*toc*	Datum elevation:	*92.38*
Total depth:	*25 m bgl*	ID/OD:	*182mm / 210mm*
Height of stick-up:	*0.60 m agl*	Construction:	
Date of drilling		Limestone chips: from 23.9 to 11.4 m bgl 11.06 to 5.3 m bgl, 4.8 to top (inc collapse material)	
start: *9/09/02*	end: *11/09/02*		
Completion:	*19/10/02*	Bentonite, 11.4 to 11.06 m bgl, 5.3 to 4.8 m bgl	
		Grout at top	
Geophysics:	*A total of 49 ERT electrodes spaced 0.50 m apart. Electrode 1 at 23.5 m, electrode 47 at 0.53 m.* *Downhole geophysical fluid logs: 23/10/2002, Fluid temp, EC, tempQ, ECQ. Diffntl temp, EC, Q. Flowmeter, flowmeter Q and water quality.*		
Comments:	Identity tags have been lost for these piezometers.		
Piezometer ID	*PL26C1*	**Piezometer ID**	*PL26C2*
Total Depth	*23.9 m bgl*	Total Depth	*4.7 m bgl*
ID/OD	*80 mm/ 90 mm*	ID/OD	*35 mm/ 42 mm*
Screened section		Screened section	
from 23.67 m bgl	*to 22.98 m bgl*	*from 4.5 m bgl*	*to 3.8 m bgl*
Open in	*chalk*	Open in	*gravels*
Stick-up:	*0.13 m agl*	Stick-up	*0.24 m agl*
Minitroll	*ID: 10583 installed 25/09/03*	Minitroll	*ID: 10525 installed 25/09/03 replaced by 10982 26/08/05*
Water level diver	57243 from 23/10/07 to 18/02/08	Water level diver	*57261 installed 07/11/07*
Comments:		Comments	
This is the 'short' piezo. Minitroll and diver.		This is the 'tall' piezo. Minitroll replaced by diver	

Borehole ID	*PL26D*		
Previous names:	*n/a*	Grid Reference:	*442802 172297*
Datum point:	*top of casing*	Datum elevation:	*92.01*
Total depth:	*25 m*	ID/OD:	*180 / 223 mm*
Height of stick-up:	*0.47 m agl*	Construction: Limestone chips: 25.35 to 10.7 m bgl 10.3 to 4.15 m bgl, 3.8 to 0.7 m bgl Bentonite: 10.7 to 10.3 m bgl, 4.15 to 3.8 m bgl.	
Date of drilling			
start: *12/09/02*	end: *18/09/02*		
Completion:	*19/10/02*		
Geophysics:	*A total of 50 ERT electrodes spaced 0.50 m apart. Electrode 1 at 25.0 m, electrode 50 at 0.45 m.* *Gamma ray and density logging 24/09/02*		
Comments:			
Piezometer ID	*PL26D1*	**Piezometer ID**	*PL26D2*
Total Depth	*25.13 m bgl*	Total Depth	*3.64 m bgl*
ID/OD	*80 / 90 mm*	ID/OD	*80 / 90 mm*
Screened section		Screened section	
from 25.13 m bgl	*to 24.3 m bgl*	*from 3.64 m bgl*	*to 2.8 m bgl*
Open in	*chalk*	Open in	*gravels*
Stick-up:	*0.18 m agl after extension*	Stick-up	*0.34 m a gl*
Minitroll	*10529 installed 25/09/03*	Minitroll	*10585 installed 25/09/03*
Water level diver	*n/a*	Water level diver	*n/a*
Installation date		Installation date	
Comments:		Comments	
IW 25/09/08 – extension to raise to same height as PL26D2.			

Borehole ID	*PL26E*		
Previous names:	*n/a*	Grid Reference:	*442804 172269*
Datum point:	*top of casing*	Datum elevation:	*92.17*
Total depth:	*25.2 m bgl*	ID/OD (mm):	*180 / 223*
Height of stick-up:	*0.85 m agl*	Construction:	
Date of drilling		*Limestone chips: 25.2 to 11.15 m bgl, 10.66 to 5.15 m bgl, 4.7 to top.*	
start: 18/09/02	end: 22/09/02		
Completion:	*3/10/02*	*Bentonite: 11.15 to 10.66 m bgl, 5.15 to 4.7 m bgl*	
Geophysics:	*A total of 50 ERT electrodes spaced 0.50 m apart. Electrode 1 at 25.0 m, electrode 50 at 0.42 m.* *Gamma ray and density logging only 24/09/02*		
Comments:	*Cored and sampled.*		
Piezometer ID	*PL26E1*	**Piezometer ID**	*PL26E2*
Total Depth	*25.2 mbgl*	Total Depth	*4.4 mbgl*
ID/OD (mm)	*80 / 90*	ID/OD (mm)	*80 / 90*
Screened section		Screened section	
from 25.2 mbgl	*to c24.5 mbgl*	*from 4.4 mbgl*	*to c3.7 mbgl*
Open in	*chalk*	Open in	*gravels*
Stick-up:	*0.75 m agl*	Stick-up	*0.73 m agl*
Minitroll	*10554 installed 31/10/03*	Minitroll	*10604 installed 31/10/03*
Water level diver	*n/a*	Water level diver	*n/a*
Installation date		Installation date	
Comments:		Comments	

Borehole ID	*PL26F*		
Previous names:	*n/a*	Grid Reference:	*442800 172232*
Datum point:	*toc*	Datum elevation:	*91.96*
Total depth:	*drilled 34.8 mbgl*	Outer casing ID/OD	*250/ 280mm*
Height of stick-up:	*0.8 m agl*	Piezometer ID/OD:	*200 / 225 mm*
Date of drilling		Screened section:	
start: 22/09/02	end: 30/09/02	from 28.94 *mbgl*	to 11.07 *mbgl*
Completion date:	*19/10/02*	Open in	*chalk*
Water level diver	ID: *B2869*	Minitroll	ID*:10317*
Installation date		Installation date	*31/10/03*
Geophysics:	*Downhole geophysical fluid logs: 8/10/2002, Fluid temp, EC, tempQ, ECQ. Diffntl temp, EC, Q. Flowmeter, flowmeter Q and water quality.* *Gamma ray and Resistivity (16R/64R).08/10/02*		
Construction:	*Gravel pack: 34.0 to 10.86 m bgl.* *Grout: 10.86 to ground level*		
Comments:	*CCTV (11/10/02) showed polymer sitting in borehole below 25.1 m and also evident in slots above this from c18m.*		

Borehole ID	***PL26G***		
Previous names:	*n/a*	Grid Reference:	*442829 172478*
Datum point:	*manhole cover*	Datum elevation:	*114.5*
Total depth:	*100 m bgl*	ID/OD (mm):	*250 / 280*
Height of stick-up:	*-0.1 m*	Construction:	
Date of drilling		*gravel from base to 50.5 m bgl, 48.5 to 27.63 m bgl*	
start: *25/09/02*	end: *20/10/02*	*Bentonite: 50.5 to 48.5 m bgl*	
Completion:	*8/11/02*	*Grout: 27.63 to 26.5 m bgl, 18 m bgl to surface.*	
Geophysics:	*Optical imaging (9/10/02). gamma ray, resistivity (IRES) (24/10/02, 18/11/02) borehole obstructed* *Fluid temp and EC, Diffntl temp and EC (24/10/02)* *Fluid temp and EC (19/11/02)*		
Comments:	***PL26G3*** *is the open annulus from 26.5 to 18 m bgl. Minitroll: 11094 installed 31/10/03* *Core sampled for physical properties and pore water chemistry.*		
Piezometer ID	***PL26G1***	**Piezometer ID**	***PL26G2***
Total Depth	*90.3 m bgl*	Total Depth	*41 m bgl*
ID/OD (mm)	*50 / 62*	ID/OD (mm)	*34 / 43*
Screened section		Screened section	
from 90.3 mbgl	*to 44.3 mbgl*	*from 41 mbgl*	*to 28.3 mbgl*
Open in	*chalk*	Open in	*chalk*
Stick-up:		Stick-up	
Minitroll	*10628 installed 31/10/03*	Minitroll	*11049 installed 31/10/03*
Water level diver	*57251 installed 7/11/07*	Water level diver	*n/a*
Comments: Piezo breaches the seal due to installation problems. Therefore cross -flow between the two piezos. Minitroll replaced by diver 7/11/07.		Comments	

Borehole ID	***PL26H***		
Previous names:		Grid Reference:	*442814 172340*
Datum point:	*manhole cover*	Datum elevation:	*97.52*
Total depth:	*30 m bgl*	ID/OD (mm):	*200 / 220*
Height of stick-up:	*n/a*	Construction:	
Date of drilling		Gravel: 30 to 25.03 m bgl, 24 to 20 mbgl Bentonite: 25.03 to 24 m bgl, 20 to 19 mbgl Grout 2.2 m bgl to top. hole open from 19 m bgl to top	
start: *26/09/02*	end: *8/10/02*		
Completion date:	*22/10/02*		
Geophysics:	*Downhole geophysical fluid logs: 10/10/2002, Fluid temp, EC, tempQ, ECQ. Diffntl temp, EC, Q. Flowmeter, flowmeter Q and water quality.* *Caliper, gamma ray, resistivity (16R, 64R) (10/10/02)*		
Comments:	***PL26H3*** *is the open annulus from 19 to 2.2 m bgl. Minitroll 10671 installed 27/10/03 replaced by Water level diver: 57240 7/11/07.*		
Piezometer ID	***PL26H1***	**Piezometer ID**	***PL26H2***
Total Depth	*29 m bgl*	Total Depth	*22.1 m bgl*
ID/OD (mm)	*80 / 90*	ID/OD (mm)	*80 / 90*
Screened section		Screened section	
from 29 mbgl	*to 28 mbgl*	*from 22.1 mbgl*	*to 21.1 mbgl*
Open in	*chalk*	Open in	*chalk*
Stick-up:		Stick-up	
Minitroll	*10517 installed 27/10/03*	Minitroll	*10547 installed 27/10/03*
Water level diver	*57268 installed 7/11/07*	Water level diver	*57232 installed 7/11/07*
Comments:		Comments	
Minitroll replaced by diver.		Minitroll replaced by diver.	

Borehole ID	***PL26I***		
Previous names:		Grid Reference:	*442822 172409*
Datum point:	*manhole cover*	Datum elevation:	*107.43*
Total depth:	*52.3 m bgl*	ID/OD (mm):	*200 / 220*
Height of stick-up:	*n/a*	Construction:	
Date of drilling		*Gravel: 52.3 to 39.4 m bgl*	
start: *4/10/02*	end: *7/10/02*	*Limestone chips: 39.4 to 37.1 m bgl, 35 to 30 m bgl,*	
Completion date:	*25/10/02*	*Bentonite: 37.1 to 35 m bgl, 30.0 to 29.0 mbgl*	
		Hole open from 29 m bgl to15 m bgl	
		Grout: 15 m bgl to surface..	
Geophysics:	*Downhole geophysical fluid logs: 10/10/2002, Fluid temp, EC, tempQ, ECQ. Diffntl temp, EC, Q. Flowmeter, flowmeter Q and water quality.*		
	Caliper, gamma ray, resistivity (16R, 64R), optical (9/10/02)		
Comments:	***PL26I3*** *is the open annulus from 29 to 15 m bgl. Open in the chalk. Minitroll 79795 installed 31/10/03.*		
Piezometer ID	***PL26I1***	**Piezometer ID**	***PL26I2***
Total Depth	*50 m bgl*	Total Depth	*32.34 m bgl*
ID/OD (mm):	*80 / 90*	ID/OD (mm):	*80 / 90*
Screened section		Screened section	
from 49.91 mbgl	*to 41.4 mbgl*	*from 32.25 mbgl*	*to 31.3 mbgl*
Open in	*chalk*	Open in	*chalk*
Stick-up:		Stick-up	
Minitroll	*10475 installed 31/10/03*	Minitroll	*10047 installed 31/10/03*
Water level diver	*n/a*	Water level diver	*57239 installed 06/11/07*
Comments:		Comments	
		Diver replaced minitroll 6/11/07.	

Borehole ID	*PL26N4*		
Previous names:	*PL26K (A Dixon)*	Grid Reference:	*442762 172298.7*
Datum point:	*toc before extension*	Datum elevation:	*92.08*
Total depth:	*3.70 m bgl*	Drilled Diameter:	*250 mm*
Height of stick-up:	*see below*	Piezometer ID/OD:	*80 mm/ 90 mm*
Date of drilling		Screened section:	
start: *12/08/03*	end: *13/08/03*	from *2.66 mbgl*	to *3.51 mbgl*
Completion:		Open in	*gravel*
Water level diver	n/a	Minitroll	ID*: n/a*
Installation date			
Construction:	*bentonite surface to 2.00 m bgl*		
Geophysics:			
Comments:	*Borehole casing extended 25/07/2008 to Stick-up of outer casing 0.70 m agl; inner casing 0.60 m agl.*		

Borehole ID	*PL26N7*		
Previous names:	*PL26L (A Dixon)*	Grid Reference:	*442765.9 172298.2*
Datum point:	*toc before extension*	Datum elevation:	*91.78*
Total depth:	*7.90*	Drilled Diameter:	*250 mm*
Height of stick-up:	*see below*	Piezometer ID/OD:	*80 mm/ 90 mm*
Date of drilling		Screened section:	
start: *14/08/03*	end: *20/08/03*	from *6.90 m bgl*	to *7.66 m bgl*
Completion:		Open in	*Putty chalk*
Water level diver	n/a	Minitroll	ID*: n/a*
Installation date			
Construction:	*bentonite surface to 2.20 mbgl, 5.00 to 6.87 m bgl.* *natural pack to 5.00 m bgl* *90 mm OD (inside 165mm without pack/ seal) to 6.90 m bgl* *90 mm OD screen 6.90 to 7.66 m bgl* *90 mm OD casing 7.66 to 7.83 m bgl*		
Geophysics:			
Comments:	*Borehole casing extended 25/07/2008 to Stick-up 0.69 m agl; outer casing 0.56 m ag;, central casing 0.43 m agl.*		

Borehole ID	*PL26N15*		
Previous names:	*PL26J (A Dixon)*	Grid Reference:	*442758 172298.8*
Datum point:	*toc before extension*	Datum elevation:	*91.78*
Total depth:	*15.40 m*	Drilled Diameter:	*250 mm*
Height of stick-up:	*see below*	Piezometer ID/OD:	*80 mm/ 90 mm*
Date of drilling		Screened section:	
start: 29/07/03	end: 11/08/03	from *13.53 mbgl*	to *15.25 mbgl*
Completion:		Open in	*Chalk*
Water level diver	n/a	Minitroll	ID*: n/a*
Installation date			
Construction:	*bentonite pellets surface to 2.50 m bgl, natural pack 2.50 to 3.80 m bgl, bentonite pellets 3.8 to 6.60 m bgl* *165 mm OD PVC casing, surface to 6.60 m bgl.* *90 mm OD casing inside 165mm without pack/seal from surface to 6.60 m bgl* *90 mm OD casing surface to 13.53 mbgl* *90 mm OD screen 13.53 to 15.25 mbgl* *90 mm OD casing 15.25 to 15.40 mbgl*		
Geophysics:			
Comments:	*Core sampled.* *Borehole casing extended 25/07/2008: stick-up 0.71 m agl; outer casing 0.61 m agl, inner casing 0.51 m agl.*		

Borehole ID	***PL26P***		
Previous names:	*PL26M*	Grid Reference:	*442812 172296*
Datum point:		Datum elevation:	*92.05*
Total depth:	*3.9 mbgl*	Drilled Diameter:	*150 mm*
Height of stick-up:	*0.37 m agl inner casing 0.21 m agl.*	Piezometer ID/OD:	*50 mm/ 60 mm*
Date of drilling		Screened section:	
start: *19/02/07*	end: *20/02/07*	from *2.54 mbgl*	to *3.30 mbgl*
Completion:	*20/02/07*	Open in	*sands and gravels*
Water level diver	ID:*61571 replaced with B3013 (2008)*	Minitroll	ID*: n/a*
Installation date	*19/07/08*		
Completion:	*concrete surface to 0.60 m bgl* *bentonite 0.60 to 1.40 m bgl, 3.40 to 3.70 m bgl* *pack (natural and pea gravel) 1.40 to 3.30 m bgl* *pea gravel 3.30 to 3.40 m bgl*		
Geophysics:			
Comments:	*Wire snapped and diver fell to bottom of the borehole. Both wire and diver were replaced (DA 19/07/08).*		

Borehole ID	*PL26Q*		
Previous names:	*PL26N*	Grid Reference:	*442834 172292*
Datum point:	*toc*	Datum elevation:	*91.95*
Total depth:	*3.9 mbgl*	Drilled Diameter:	*150 mm*
Height of stick-up:	*0.30 m agl, inner casing 0.24 m agl.*	Piezometer ID/OD:	*50 mm/ 60 mm*
Date of drilling		Screened section:	
start: *21/02/07*	end: *22/02/07*	from *1.56 mbgl*	to *2.33 mbgl*
Completion:	*22/02/07*	Open in	*sands and gravels*
Water level diver	ID: *B0766 and baro A1446*	Minitroll	ID*: n/a*
Installation date	*??/??/07*		
Completion:	*concrete surface to 0.40 m bgl* *bentonite pellets 0.40 to 1.30 m bgl, 2.40 to 2.80 m bgl* *pack (natural and pea gravel)1.30 to 2.30 mbgl* *pea gravel 2.30 to 2.40 m bgl*		
Geophysics:			
Comments:	*Baro was submerged due to borehole becoming artesian. A1446 installed 05/06/07 when previous baro stopped working.*		

Borehole ID	*PL26R*		
Previous names:	*Shallow or 0.5m*	Grid Reference:	*442800 172286*
Datum point:	*toc*	Datum elevation:	*91.78 m AOD*
Total depth:	*see below*	Length of piezometer:	*3.09 m*
Height of stick-up:		Piezometer ID/OD:	*2"*
Date of drilling		Screened section: #	
start: *21/03/2007*	end:	*1.94-2.14 m below piezo top*	
Completion:	*22/03/2007*	Open in	*gravels*
Water level diver	ID: *61805/ 61571*	Minitroll	ID*: n/a*
Installation date			
Construction:	*Two inch stainless steel piezometer sections driven into river bed.*		
Geophysics:			
Comments:	*# Screened section consists of 8 evenly spaced rows of 6 mm holes over a distance of 200 mm.* *Piezo test zone centre.0.5m below river bed* *Diver 61805 could not be read 28/10/08 and was replaced by 61571*		

Borehole ID	***PL26S***		
Previous names:	*intermediate or 1.5 m*	Grid Reference:	*442801 172285*
Datum point:	*toc*	Datum elevation:	*91.84 m AOD*
Total depth:	*see below*	Length of piezometer:	*3.29 m*
Height of stick-up:		Piezometer ID/OD:	*2"*
Date of drilling		Screened section:#	
start: *21/03/07*	end:	*3.01-3.21 m below piezo top*	
Completion:	*22/03/07*	Open in	*gravels*
Water level diver	ID: 61865	Minitroll	ID*: n/a*
Installation date			
Construction:	*Two inch stainless steel piezometer sections driven into river bed.*		
Geophysics:			
Comments:	*# Screened section consists of 8 evenly spaced rows of 6 mm holes over a distance of 200 mm.* *Piezo test zone centre c. 1.5 m below river bed*		

Borehole ID	*PL26T*		
Previous names:	*deep or 2.5m*	Grid Reference:	*442802 172285*
Datum point:	*toc*	Datum elevation:	*91.94 m AOD*
Total depth:	*see below*	Length of piezometer:	*4.33 m*
Height of stick-up:		Piezometer ID/OD:	*2 "*
Date of drilling		Screened section:	
start: *21/03/07*	end:	*4.05-4.25 below piezo top*	
Completion:	*22/03/07*	Open in	*gravels*
Water level diver	ID: 61873/ 61571	Minitroll	ID*: n/a*
Installation date			
Construction:	*Two inch stainless steel piezometer sections driven into river bed.*		
Geophysics:			
Comments:	*# Screened section consists of 8 evenly spaced rows of 6 mm holes over a distance of 200 mm.* *Piezo test zone centre c. 2.5 m below river bed* *Diver 61873 replaced with 61571 in 2008.*		

Borehole ID	*PL26U*		
Previous names:	*stilling well*	Grid Reference:	*442800 172285*
Datum point:		Datum elevation:	*91.84 m AOD*
Total depth:	*see below*	Length of piezometer:	*3.1 m*
Height of stick-up:		Piezometer ID/OD:	*2 “*
Date of drilling		Screened section:	
start: *21/03/07*	end:	from *mbgl*	to *mbgl*
Completion:	*22/03/07*	Open in	*river*
Water level diver	ID: 61818	Minitroll	ID*: n/a*
Installation date			
Construction:	*Two inch stainless steel piezometer sections driven into river bed.*		
Geophysics:			
Comments:	*# Screened section consists of 8 evenly spaced rows of 6 mm holes over a distance of 200 mm.* *Stilling well, screened section above river bed*		

Borehole ID	*PL26V*		
Previous names:	*n/a*	Grid Reference:	*442719 172305*
Datum point:	*toc*	Datum elevation:	*93.02 m AOD*
Total depth:	*5.50 m bgl*	Drilled Diameter:	*150 mm*
Height of stick-up:	*0.59 m agl inner casing 0.48 m agl*	Piezometer ID/OD:	*52 mm/60 mm*
Date of drilling		Screened section:	
start: *07/01/08*	end: *10/01/08*	from *4.35 mbgl*	to *5.20 mbgl*
Completion:	*10/01/08*	Open in	*gravels*
Water level diver	ID: *61812*	Minitroll	ID*: n/a*
Installation date	*19/07/08*		
Completion:	*concrete surface to 0.30 m bgl* *bentonite 0.30 to 2.30 m bgl* *Pack (natural) 2.30 to 5.30 m bgl*		
Geophysics:			
Comments:			

Borehole ID	*PL26W*		
Previous names:		Grid Reference:	*442719 172391*
Datum point:	*toc*	Datum elevation:	*92.21 m AOD*
Total depth:	*5.70 m bgl*	Drilled Diameter:	*200 mm*
Height of stick-up:	*0.46 m agl inner casing 0.40 m agl*	Piezometer ID/OD:	*52 mm/ 60 mm*
Date of drilling		Screened section:	
start: *10/01/08*	end: *14/01/08*	from *3.60 mbgl*	to *5.46 mbgl*
Completion:	*14/01/08*	Open in	*gravels*
Water level diver	ID: 61972	Minitroll	ID*: n/a*
Installation date	*19/07/02*		
Completion:	*concrete surface to 0.30 m bgl* *bentonite 0.30 to 150 m bgl* *pack (natural) 150 to 5.56 m bgl*		
Geophysics:			
Comments:			

Borehole ID	*PL26X*		
Previous names:		Grid Reference:	*442730 172298*
Datum point:	*toc*	Datum elevation:	*92.58 m AOD*
Total depth:	*9.70 mbgl*	Drilled Diameter:	*200 mm*
Height of stick-up:	*0.55 m agl inner casing 0.24 m agl*	Piezometer ID/OD:	*52 mm/60 mm*
Date of drilling		Screened section:	
start: *15/01/08*	end: *21/01/08*	from *7.75 mbgl*	to *9.60 mbgl*
Completion:	*21/01/08*	Open in	*chalk*
Water level diver	ID: *61980*	Minitroll	ID*: n/a*
Installation date	*19/07/08*		
Completion:	*concrete surface to 0.5 m bgl* *bentonite 0.5 to 1.5 m bgl, 4.70 to 6.30 m bgl* *pack (natural) 1.5 to 4.70 m bgl* *pack (3-6 mm) 6.30 to 9.70 m bgl*		
Geophysics:			
Comments:	*Particle size analysis carried on recovered bagged samples.*		

Borehole ID	*PL26Y*		
Previous names:		Grid Reference:	*442733 172298*
Datum point:	*toc*	Datum elevation:	*92.53 m AOD*
Total depth:	*3.55 mbgl*	Drilled Diameter:	*200 mm*
Height of stick-up:	*0.55 m agl inner casing 0.48 m agl*	Piezometer ID/OD:	*52 mm/60 mm*
Date of drilling		Screened section:	
start: *22/01/08*	end: *23/01/08*	from *2.61 mbgl*	to *3.46 mbgl*
Completion:	*23/01/08*	Open in	*gravels*
Water level diver	ID: *61891*	Minitroll	ID*: n/a*
Installation date	*19/07/08*		
Completion:	*concrete surface to 0.30 m bgl* *bentonite 0.30 to 1.50 m bgl* *pack (natural) 1.50 to 3.55 m bgl*		
Geophysics:			
Comments:			

Borehole ID	*PL26Z*		
Previous names:		Grid Reference:	*442758.6 172260.1*
Datum point:	*toc*	Datum elevation:	*91.91 m AOD*
Total depth:	*6.40 mbgl*	Drilled Diameter:	*200 mm*
Height of stick-up:	*~0.40 m agl, inner casing 1 cm below*	Piezometer ID/OD:	*52 mm/60 mm*
Date of drilling		Screened section:	
start: *25/01/08*	end: *30/01/08*	from *2.65 mbgl*	to *4.54 mbgl*
Completion:	*30/01/08*	Open in	*gravels*
Water level diver	ID: *D0891/ 61809*	Minitroll	ID*: n/a*
Installation date	*19/07/08*		
Completion:	*concrete surface to 0.30 m bgl* *bentonite 0.30 to 1.50 m bgl, 5.90 to 6.40 m bgl* *pack (natural) 1.50 to 5.90 m bgl* *sump at base of screen 4.54 to 4.62 m bgl no casing below this hole filled with gravel and bentonite to base (as above).*		
Geophysics:			
Comments:	*Area around borehole casing is very uneven. Height of stick-up measured from the lock.*		

Borehole ID	*PL26AA*		
Previous names:		Grid Reference:	*442856 172258*
Datum point:	*toc*	Datum elevation:	*91.72 m AOD*
Total depth:	*3.70 mbgl*	Drilled Diameter:	*200 mm*
Height of stick-up:	*0.46 m a gl inner casing 0.43 m agl.*	Piezometer ID/OD:	*52 mm/ 60 mm*
Date of drilling		Screened section:	
start: *31/01/08*	end: *01/02/08*	from *2.64 mbgl*	to *3.49 mbgl*
Completion:	*01/02/08*	Open in	*gravel*
Water level diver	ID: *B3014*	Minitroll	ID*: n/a*
Installation date	*19/07/08*		
Completion:	*concrete surface to 0.30 m bgl* *bentonite 0.30 to 1.00 m bgl* *pack 1.00 to 3.58 m bgl*		
Geophysics:			
Comments:			

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Appendix A: Drillers logs and completion reports.

Contents

Borehole ID	Drillers ID	Drillers Log	Construction report
PL26A		X	X
PL26B		X	X
PL26C		X	X
PL26D		X	X
PL26E		X	X
PL26F		X	X
PL26G		X	X
PL26H		X	X
PL26I		X	X
PL26N15	PL26J	X	
PL26N4	PL26K	X	
PL26N7	PL26L	X	
PL26P	PL26M	X	
PL26Q	PL26N	X	
PL26R			
PL26S			
PL26T			
PL26U			
PL26V		X	
PL26W		X	
PL26X		X	
PL26Y		X	
PL26Z		X	
PL26AA		X	

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B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	(PL26A)

Rig No.	PUMTEC
Date	2.9.02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						MOVE ALL EQUIPMENT			
						& R.S FROM			
						FRILSHAM MEMBER			
						TO BOXFORD			
						SKIP OFFHIRED			
						SECURITY FENCE OFFHIRED			
	TOTALS								

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S. LEIVERS	DR	12
M EVANS	H	12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

B D DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 A

Rig No.	PUNTEL
Date	3-9-02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						SET UP COMPOUND :- MOVING			
						EQUIPMENT & MATERIALS INTO			
						COMPOUND & FENCH OFF			
						SET UP RIG OVER HOLE A			
						SET COMPRESSOR UP FOR AIR DRILLING			
A	0.00	0.30	0.30			SOIL R.B.	9 5/8		
	0.30	0.70	0.40			~~SANDY~~ BOULDER CLAY			
	0.70	1.70	1.00			PEAT			
	1.70	2.30	0.60			SAND (WET)			
	2.30	5.90				CHALK (WET)			
						INSTALL CASING		8 5/8	5.80
	5.90	7.57				CHALK WET R.B.	7 5/8		

TOTALS						HOURS		WATER	
MOVES	SITE TO SITE			Mls.		DRILLING		USED	Gals.
	HOLE TO HOLE			Yds.		CASING		HYDRANT LOCATION	
	HOLE TO HOLE			Yds.		MOVING		SUPPLY COMPANY	
	HOLE TO HOLE			Yds.		STANDING OUR			
CREW	NAMES		Class	Hours		STANDING YOUR			Driller
	S LEIVERS			12		TRAVELLING			
	M EVANS			12					P.O. or R.E.
						TOTAL	12		Supervisor

REMARKS START DRILLING :- 1.45pm STOPED AT 2.10pm SET UP SYKES PUMP FOR WATER DISTRIBUTION, START DRILLING AT 3.15pm STOPED AT 3.45pm INSTALL CASING TO 5.80mtrs, START DRILLING AT 17.20pm - 19.00pm

GA386

B O DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 A

Rig No.	PUNTER
Date	4.9.02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DEPTH TAGGED AT 6.47 mtrs			
						INSTALL 1.50 mtrs CASING		8 5/8	7.40
26A	7.57	9.00	1.43			CHALK WET RB	7 5/8		
						STOPPED DRILLING DUE TO VOLUME			
						OF WATER OUT OF HOLE			
						SET UP 2nd SYRED PUMP	0800	09.30	
	9.00	10.57	1.57			CHALK, WET			
						STOPPED DRILLING VOLUME OF			
						WATER OUT OF HOLE TOO MUCH.			
						SET UP FOR WATER DRILLING	0930	11.00	
	10.57	14.70	3.83			CHALK WET SOFT			
	14.40	14.70	0.30			CHALK FLINT HARD WET			
	14.70	17.10	2.40			CHALK WET SOFT			
	17.10	17.90	0.80			CHALK FLINT HARD			
	17.90	25.00	7.10			CHALK FLINT BANDS HARD/SOFT			
						DEVELOPING	1500	19.00	

TOTALS			
MOVES	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
CREW	NAMES	Class	Hours
	S LEIVERS		12
	M EVANS		12

HOURS		
DRILLING		5
CASING		1
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		4
SET UP TIME		3
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

G Whitehead ..... Supervisor

REMARKS

GA386

B ○ DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 A

Rig No.	PUNTER
Date	5-9-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DEPTH TAGGED 20.51			
						INSTALL TEMPORARY CASING		8⅝	130m
						DRILL DOWN TO 25 mtrs	7⅝		
						AIR FLUSH AT BOTTOM - 25 mtrs			
						DEVELOPING AT DIFFERENT			
						DEPTHS 16m 18m 21m 25m			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
M EVANS		12

HOURS		
DRILLING		
CASING		3
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		9
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

A Whitehead ..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 A

Rig No.	PANTEL
Date	14-10-02.
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE A TAGGED AT 24.35m			
						INSTALL PIEZO N°1 WITH			
						ERT CABLE ATTACHED			
						BACK FILL TO 13.20 - LIMESTONE			
						BENTANITE SEAL - 13.20 - 12.80			
						BACK FILL TO 13 mtrs LIMESTONE			
						PULL 4 mtrs 8⅝ CASING		8⅝	9mtrs
						BACK FILL TO 9 mtrs LIMESTONE			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALATION		12
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 A/26 H

Rig No.	PUNTEL
Date	15-10-02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE A CONTINUED			
						PULLED 1.50 8⅝ CASING		8⅝	7.50
						BACK FILL LIMESTONE TO 7.50			
						PULL BACK CASING TO 2.20 mts		8⅝	
						BACK FILL LIMESTONE - 2.20 -			
						BENTANITE SEAL 2.20 - 1.80			
						INSTALL PIEZZO N°2 AT 1.80			
						BACK FILL TO 80 cm BELOW GROUND			
						2nd PIEZZO & BENTANITE INSIDE CASING			
						PULL REST OF 8⅝ CASING			
						NOTE :- 2nd PIEZZO & BENTANITE SEAL DROPPED DOWN TO 2 mts, PULLED PIEZZO UP TO 1.80 & BACK FILLED TO 80cm WITH LIMESTONE			
TOTALS									

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALATION		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
S DUNKALFE		12

..... Driller

..... P.O. or R.E.

K H ..... Supervisor

REMARKS MOVE RIG TO HOLE 26 H - CUT CASING 8⅝ TO 15cm BELOW GROUND

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	

Rig No.	PUNTER
Date	19-10-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						COMPLETE HANDWORKS			
						ON HOLES PL26A			
						MATERIALS 1SX LIMESTONE CHIPS			
						PL26 C			
						MATERIAL 1SX LIMESTONE CHIPS			
						PL26 D			
						MATERIALS 17SX LIMESTONE CHIPS			
						+ 4SX CEMENT.			
						3x PVC STAND PIPES + 3 LOCKS			
						PL26I			
						DIG OUT HOLE AFTER MANHOLE			
						CHIP GROUT FROM AROUND CASING			
						PL26F CUT CASING TO LOWER			
						FOR MANHOLE.			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D. NIXON	DR	12
S. DUNCALFE	HP	12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	12
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

D Nixon ..... Driller

..... P.O. or R.E.

for M Lewis.
Whitehead ..... Supervisor

REMARKS SEEKING OXYGEN TO CUT CASING BEYOND GROUND LEVEL

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26 B

Rig No.	PLANTEX
Date	6-9-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DE RIG & MOVE TO HOLE B		0700	0830
						SET UP EQUIPMENT FOR AIR		0830	1200
						DRILLING			
						DRILL DOWN 0 3mtrs			
26	0.00	0.40	0.40			SOIL RS	12¼		
	0.40	0.48	0.08			SOIL CHALKY SAND FLINTS			
	0.48	0.58	0.10			SOIL, PEAT			
	0.58	0.62	0.04			ALLUVIUM CLAY BAND			
	0.62	0.90	0.28			SOIL & PEAT			
	0.90	1.50	0.60			SOIL & FLINT GRAVEL WET			
	1.50	1.70	0.20			ALLUVIUM & GRAVEL		1200	
	1.70	3.00	1.30			GRAVEL, CHALKY FLINTS		[redacted]	1400

TOTALS					
MOVES	ITE TO SITE		Mls.		
	HOLE TO HOLE		Yds.		
	HOLE TO HOLE		Yds.		
	HOLE TO HOLE		Yds.		
CREW	NAMES	Class	Hours		
	S LEWERS		10		
	M EVANS		10		

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		10

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVERY OF PVC CASING FROM MGS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	226 B + 26C

Rig No.	PUNTER
Date	9-9-02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						12⅝ ROCK BIT RETRIVAL (BHB)			
						Borehole B abandoned - D is substitute			
						DERIG & MOVE			
						SET UP RIG (BHC)			
						SET UP FOR DRILLING WITH AIR			
						DRILL DOWN TO 3 MTRS 9⅝" RB			
26c	0.00	1.86	1.86			SOIL FLINT			
	1.86	1.96	0.10			CLAY FLINT			
	1.96	3.00	1.04			GRAVEL FLINT SOFT			
						INSTALL 8⅝ CASING		8⅝	3.00

TOTALS					

HOURS		
DRILLING		2½
CASING		1
MOVING		3½
STANDING	OUR	
	YOUR	
TRAVELLING		
RETRIVAL		5
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW NAMES	Class	Hours
S LEWERS		12
M EVANS		12

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVERY : DIESOL 894 ltrs

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	226 ~~BB~~ + 26C

Rig No.	PUNTIZL
Date	9-9-02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						12¼ ROCK BIT RETRIVAL (BHB)			
						DERIG & MOVE			
						SET UP RIG (BHC)			
						SET UP TO DRILLING WITH AIR			
						DRILL DOWN TO 3 mtrs 9⅝" RB			
26c	0.00	1.86	1.86			SOIL FLINT			
	1.86	1.96	0.10			CLAY FLINT			
	1.96	3.00	1.04			GRAVEL FLINT SOFT			
						INSTALL 8⅝ CASING		8⅝	3.00
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEWIS		12
M EVANS		12

HOURS		
DRILLING		2½
CASING		1
MOVING		3½
STANDING	OUR	
	YOUR	
TRAVELLING		
LUNCH		5
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVERY : DIESEL 894 ltr

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	R26 C

Rig No.	PUNTILL
Date	10-9-02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE PL 11 C			
				07.00	08.00	INSTALL 1.50mts CASING		8⅝	4.50
				08.00	09.00	DRILL DOWN [redacted] WITH AIR			
	3.00	6.30	3.30			GRAVEL, FLINT. WET RB	7⅝		
						HOLE CALLAPSING			
						DRILL BIT & REIMER CAUGHT			
				09.00	—	UNDERNEATH CASING - PULL OUT			
					10.00	RODS CASING & RB			
				10.00	11.00	INSTALL 10⅝ CASING		10⅝	3mtrs
						INSTALL 8⅝" CASING			
				11.00	14.30	DRILL DOWN CASING 6 mtrs		8⅝	6mtrs
						10⅝" CASING DROPPED DOWN			
						TO 3mts BELOW GROUND			
				14.30	18.00	PULL OUT ALL CASING			
						GRAVEL TOO LOOSE			
				18.00	19.00	SET UP FOR WATER DRILLING			

TOTALS				HOURS		WATER	
MOVES	SITE TO SITE		Mls.	DRILLING	4½	USED	Gals.
	HOLE TO HOLE		Yds.	CASING	7½	HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING		SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING OUR			
CREW	NAMES	Class	Hours	STANDING YOUR			Driller
	S LEIVERS		12	TRAVELLING			
	M EVENS		12				P.O. or R.E.
				TOTAL	12.		Supervisor

REMARKS DUE TO GROUND CONDITIONS INSTALLATION OF CASING SLOW. FROM 3 mtrs - 6 mtrs - GRAVEL & FLINT
DELIVERY :- AIR LIFT EQUIPMENT

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 C

Rig No.	PLINTEL
Date	11-9-02.
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
				07.00	11.00	INSTALL CASING		8 5/8	7.50
				11.00	17.00	DRILLING :- RB	7 5/8		
	6.30	7.50				GRAVEL FLINT WET			
	7.50	13.40				CHALK WET			
	13.40	13.85				FLINT CHALK WET (HARD)			
	13.85	17.05				CHALK WET			
	17.05	17.30				FLINT CHALK WET (HARD)			
	17.30	22.70				CHALK WET			
	22.70	23.05				FLINT CHALK WET			
	23.05	25.00				CHALK WET			
						PULL RODS OUT OF HOLE			
				17.00	18.00	SET UP FOR AIR FLUSH -			
				18.00	19.00	DEVELOPING			

TOTALS				HOURS		WATER	
MOVES	SITE TO SITE		Mls.	DRILLING	6	USED	Gals.
	HOLE TO HOLE		Yds.	CASING	4	HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING SET UP	1	SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING OUR			
CREW	NAMES	Class	Hours	STANDING YOUR			Driller
	S LEIVERS		12	TRAVELLING			
	M EVANS		12	DEVELOPING	1		P.O. or R.E.
				TOTAL	12		Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 C/D

Rig No.	PUNTEL
Date	12-9-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	~~Core Recovery~~	~~Penetration Time~~	FORMATION	Core Size	CASING Size	CASING To
				TIMES.		DEVELOPING :-			
11C				0700	15.00	DIFFERENT DEPTHS			
11D				15.00	15.30	DE RIG & MOVE TO 11D			
				15.30	–	SET UP RIG & EQUIPMENT FOR			
				–	17.00	DRILLING WITH AIR			
				17.00	18.00	DRILL DOWN 3 mtrs RB	12¾		
	0.00	1.00				SOIL			
	1.00	3.00				GRAVEL FLINT WET			
				18.00	18.30	INSTALL 3 mtr CASING		10¾	3mtrs
						SET UP FOR DRILLING WITH			
				18.30	19.00	~~AIR~~ WATER			
TOTALS						HOURS		WATER	

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	S LEIVERS		12
	M EVANS		12

HOURS		
DRILLING		1
CASING		½
MOVING		2½
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		8
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 C

Rig No.	PRINTEL
Date	9-10-02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						MOVE RIG TO HOLE 26C			
						STANDING FOR CONFORMATION			
						AS TO ~~THERE~~ WHAT DEPTH			
						SLOTTED PIEZOMETER TUBE			
						SHOULD GO			
						INSTALL PIEZO WITH ERTS			
						ATTACHED TO A DEPTH OF			
						23.90.			
						BACK FILL TO 11.40			
						WITH LIMESTONE CHIPPINGS			
						BENTANITE PELLETS 11.40-11.10			
						LIMESTONE CHIPPINGS 11.10-7.30			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LIMBERT		12
M EVANS		12

HOURS		
DRILLING		
CASING		
MOVING		1
STANDING	OUR	6
	~~YOUR~~	
TRAVELLING		
INSTALLATION		5.
TOTAL		12.

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

E Whitehead ..... Supervisor

REMARKS

GA386

BOB DRILLING

SHEET (1) OF (2)

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 C/D

Rig No.	PUNTER
Date	10-10-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
HOLE 26C		PIEZO 1		PIEZO 2		INSTALATION:- HOLE 26C			
		0.50				PULL OUT 1.42 CASING		8 5/8	5.28
		1.35		LIMESTONE		BACK FILL TO 5.10 mtrs			
				CALLAPSE		BENTANITE SEAL - 5.10-4.80			
						INSTALL 2nd PIEZO AT 4.80			
		3.80		LIMESTONE		LIMESTONE CHIPPINGS - 3.80			
		4.80		BENTANITE		TO COVER SLOTTED PIEZO			
		5.10		LIMESTONE		SECTION (ALL INSIDE 8 5/8 CASING)			
						PULL OUT REST OF CASING			
		11.06		BENTANITE		CALLAPSE TO 1.35 mtrs			
		11.40				LIMESTONE CHIPPINGS - 1.35-0.60			
				LIMESTONE		DE RIG & MOVE TO HOLE 26D			
						INSTALE PIEZO WITH E.R.T. CABLE			
						TO 25.13			
						BACK FILL LIMESTONE CHIPPINGS			
						TO - 22.80			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING			USED	Gals.
	HOLE TO HOLE		Yds.	CASING			HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING			SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR			Driller
	S LIVERS		12	TRAVELLING				
	M EVANS		12	INSALATION		12		P.O. or R.E.
								Supervisor
				TOTAL		12		

REMARKS

SHEET (1) OF (2)

PL26C 40 SX LIMESTONE CHIPS 1 SX BENTONITE PELLETTS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	

Rig No.	PUNTER
Date	19-10-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						COMPLETE HAND WORKS			
						ON HOLES PL26A			
						MATERIALS 1SX LIMESTONE CHIPS			
						PL26C			
						MATERIAL 1SX LIMESTONE CHIPS			
						PL26D			
						MATERIALS 17SX LIMESTONE CHIPS			
						+ 4SX CEMENT.			
						3x PVC STAND PIPES + 3 LOCKS.			
						PL26I			
						DIG OUT HOLE AREA MANHOLE			
						CHIP GROUT FROM AROUND CASING			
						PL26F CUT CASING TO LOWER			
						FOR MANHOLE.			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D. NIXON	DR	12
S. DUNCALFE	HP	12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	12
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

D Nixon ..... Driller

..... P.O. or R.E.

for N Lewis
Whitehead ..... Supervisor

REMARKS SEEMING OXYGEN TO CUT CASING BELOW GROUND LEVEL

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 C/D

Rig No.	PUNTEL
Date	12-9-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	~~Core Recovery~~	~~Penetration Time~~	FORMATION	Core Size	CASING Size	CASING To
				TIMES.		DEVELOPING :-			
11C				07.00	15.00	DIFFERENT DEPTHS			
11D				15.00	15.30	DE-RIG & MOVE TO 11D			
				15.30	–	SET UP RIG & EQUIPMENT FOR			
				–	17.00	DRILLING WITH AIR			
				17.00	18.00	DRILL DOWN 3 mtrs RB	12¾		
	0.00	1.00				SOIL			
	00	3 00				GRAVEL (NOT WET			
				12.00	18.30	INSTALL 3 mtr CASING		10¾	3 mtrs
						SET UP FOR DRILLING WITH			
				18.00	19.00	~~AIR~~ WATER			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING		1	USED	Gals.
	HOLE TO HOLE		Yds.	CASING		½	HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING		2½	SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR			
	S LEIVERS		12	TRAVELLING			..... Driller	
	M EVANS		12	DEVELOPING		8	..... P.O. or R.E.	
				TOTAL		12	..... Supervisor	

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	Boxford
Contract Number	

Site Name	Boxford
Site Number	PL 11D

Rig No.	Punter
Date	13-9-02
Shift	Friday

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DRILLING WITH WATER :-		10⅝"	3.00
				TIME					
11D	3.00	5.40	2.40	0700	0800	GRAVEL LOOSE WET RO	9⅝		
	5.40	7.50	2.10	0800	0830	CHALK SOFT WET			
				0830	1030	INSTALL 8" CASING		8⅝"	7.50
				1030	11.00	INSTALL 10" CASING		10⅝	3.61
	7.50	13.35	5.85	11.00	1430	CHALK SOFT WET			
				1430	15.00	CLEAN SITE UP FOR WEEKEND			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	P Lewers		8
	M Evans		8

HOURS		
DRILLING		5
CASING		2½
MOVING	SITE SAFETY DAY	½
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 11 D

Rig No.	PUNTER
Date	16-9-02.
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
				TIME		DRILLING WITH WATER :-			
11D	13.35	15.55	2.20	07.00	—	CHALK WET			
	15.55	15.68	0.13			FLINT, CHALK, WET			
	15.68	17.60	1.92			CHALK WET			
	17.60	17.90	0.30			FLINT, CHALK, WET			
	17.90	19.05	1.15			CHALK, WET			
	19.05	19.25	0.20			FLINT CHALK WET			
	19.25	25.00	5.75	—	13.00	CHALK, FINE GRAVEL & FLINT WET			
				13.00	13.30	PULL RODS OUT			
				13.30	—	INSTALL 8" CASING		8"	12.07
				—	15.00	INSTALL 10" CASING		10 3/8"	4.12
						RUN RODS BACK DOWN HOLE			
						TO CLEAR OUT DEBRIS			
				15.00	15.30	PULL OUT RODS			
				15.30	16.00	SET UP FOR AIR FLUSH			
				16.00	19.00	AIR FLUSH			
TOTALS									

MOVES			
TE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEWERS		12
C JAMES		

HOURS		
DRILLING		6
CASING		1½
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		3
[illegible]		1½
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 D

Rig No.	PUNTER
Date	17-9-02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DEVELOPING			
						PULL OUT AIR FLUSH EQUIPMENT			
						TAGGED DEPTH AT 22.70			
						HOLE CALLAPSING - FINE, FLINT			
						GRAVEL CHALK			
						DRILLED DOWN TO 25 mtrs RB	7⅝		
						PULLED RODS OUT STILL -			
						CALLAPSING TO 22.50			
						INSTALL CASING		8⅝	22.50
						DRILL DOWN TO 25 mtrs RB	7⅝		
						WASH OUT			
						TAGGED AT 22.50 : CALLAPSING			
						INSTALL CASING		10⅝	5.56
						INSTALL CASING		8⅝	25.00
						DEVELOPING HOLE (WASH OUT)			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	S LIVERS		12
	C JAMES		12
	M EVANS		

HOURS		
DRILLING		1½
CASING		6
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		4½
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26D/E

Rig No.	PUNTEL
Date	18-4-02.
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26D						PULL RODS OUT OF HOLE 26D			
						DE RIG & MOVE			
						SET UP RIG & EQUIPMENT AT HOLE 26E			
						SET UP FOR DRILLING WITH AIR			
						DRILL DOWN 3 mtrs RB	12⅝		
26E	0.00	2.10	2.10			SOIL & PEAT HIT WATER AT 0.40			
	2.10	3.00	0.90			GRAVEL, FLINT WET			
						INSTALL CASING		10⅝	3 mtrs
						SET UP FOR DRILLING WITH WATER			
						DRILL DOWN 5 mtrs RB	9⅝		
	3.00	5.00	2.00			GRAVEL FLINT WET			
						INSTALL CASING		8⅝	4.37

TOTALS			
MOVES	TE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
CREW	NAMES	Class	Hours
	S LEVERS		12
	M EVANS		12

HOURS		
DRILLING		2½
CASING		3½
MOVING & SET UP		6
STANDING	OUR	
	YOUR	
TRAVELLING		
~~STANDBY~~		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVERY :- NOTTINGHAM - (1) CORE BOXES, CASING, CORE LINER HEAD with (2) PERCO TUBES 90mm

GA386

BOB DRILLING SHEET (2) OF (2)

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 D

Rig No.	PUNTEL
Date	10-10-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26D INSTALLATION			
						PULL OUT CASING FROM 25 mts =		8⅝	166
						-23.34			
						TAGGED DEPTH AT 23.20			
						PULL OUT CASING -23.34 -			
						21.18		8⅝	150
						BACK FILL TO 21.65			
						BUT PULLED PIEZZOMETER			
						UP 14cm			
						PULL OUT CASING 1.85 = 21.18		8⅝	1.85
						-19.33			
						TAGGED DEPTH AT 21.20mts			
						BACK FILL TO 20mts			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEWIZEL		12
S LEWIZEL		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALLATION		12
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 D

Rig No.	PUNTEL
Date	11-10-02.
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26D		8⅝	19.33
						PULL OUT CASING 3mtrs x 3		8⅝	10.33
						BACK FILL LIMESTONE - 10.70mtrs			
				LIMESTONE		BENTANITE SEAL - 10.70 TO 10.30			
		3.80		3.80		PULL OUT CASING		8⅝	5.80
		4.15		BENTANITE		BACK FILL LIMESTONE - 5.80.			
				LIMESTONE		PULL OUT REST of 8⅝ CASING			
		10.30				PULL OUT 60cm - 10¾ CASING		10⅝	4.96
		10.70		BENTANITE		BACK FILL - LIMESTONE - 4.15mtrs			
						BENTANITE SEAL - 4.15 - 3.80			
						INSTALL 2nd PIZZO AT 3.80mtrs			
				LIMESTONE		BACK FILL LIMESTONE TO 2.80 TO			
						COVER SLOTS (NOTE :- 2nd PIZZO			
						AND BACK FILL INSIDE 10¾ CASING)			
	25.13					PULL REST OF 10¾ CASING			
						BACK FILL LIMESTONE UP TO 70cm			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING			USED	Gals.
	HOLE TO HOLE		Yds.	CASING			HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING			SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR			Driller
	S LEWIS		8	TRAVELLING				
	M BUNNS		8	INSTALLATION		8		P.O. or R.E.
				TOTAL		8		Supervisor

REMARKS MATERIALS :- LIMESTONE :- 56 BAGS
BENTANITE PELLETS :- 2 "

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	

Rig No.	PUNTER
Date	19-10-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						COMPLETE HEADWORKS			
						ON HOLES PL26A			
						MATERIALS 1SX LIMESTONE CHIPS			
						PL26 C			
						MATERIAL 1SX LIMESTONE CHIPS			
						PL26 D			
						MATERIALS 17SX LIMESTONE CHIPS			
						+ 4SX CEMENT			
						3x PVC STAND PIPES + 3 LOCKS			
						PL26 I			
						DIG OUT HOLE AFTER MANHOLE			
						CHIP GROUT FROM AROUND CASING			
						PL26F CUT CASING TO LEVEL			
						FOR MANHOLE.			
TOTALS						HOURS		WATER	

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D. NIXON	DR	12
S. DUNCALFE	HP	12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	12
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

D Nixon ..... Driller

..... P.O. or R.E.

for M Lewis
Whitehead ..... Supervisor

REMARKS SEEKING OXYGEN TO CUT CASING BELOW GROUND LEVEL

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26D/E

Rig No.	PUNTEL
Date	18-9-02.
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26D						PULL RODS OUT OF HOLE 26D			
						DE RIG & MOVE			
						SET UP RIG & EQUIPMENT AT HOLE 26E			
						SET UP FOR DRILLING WITH AIR			
						DRILL DOWN 3 mtrs RB	12 1/8		
26E	0.00	2.10	2.10			SOIL & PEAT HIT WATER AT 0.40			
	2.10	3.00	0.90			GRAVEL FLINT WET			
						INSTALL CASING		10 5/8	3 mtrs
						SET UP FOR DRILLING WITH WATER			
						DRILL DOWN 5 mtrs RB	9 5/8		
	3.00	5.00	2.00			GRAVEL FLINT WET			
						INSTALL CASING		8 5/8	4.37

TOTALS			
MOVES	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
CREW	NAMES	Class	Hours
	S LEIVERS		12
	M EVANS		12

HOURS		
DRILLING		2 1/2
CASING		3 1/2
MOVING SET UP		6
STANDING	OUR	
	YOUR	
TRAVELLING		
BREAK		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVERY :- NOTTINGHAM - ① CORE BOXES, CASING, CORE LINER (20)
② PERCO TUBES 90mm

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 E

Rig No.	SUNTRIC
Date	19.9.02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DRILLING 26E WATER) RB	7⅝		
	5.00	6.90	1.90			GRAVEL, FLINT			
	6.90	16.42				CHALK			
	16.42	16.78				FLINT CHALK			
	16.78	18.50				CHALK			
	18.50	18.70				FLINT CHALK			
	18.70	20.43				CHALK			
	20.43	25.00				CHANGE IN WATER RETURN :-			
						GRAVEL, FLINT, CHALK, VERY FINE			
						DRILLING VERY SLOW			
						INSTALL CASING WHEN AT		8⅝	7.37
						7.50 mtrs			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING		9½	USED	Gals.
	HOLE TO HOLE		Yds.	CASING		2½	HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING			SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR		..... Driller	
	S LEIVERS		12	TRAVELLING				
	M EVANS		12				..... P.O. or R.E.	
				TOTAL		12	..... Supervisor	

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26E

Rig No.	PUNTRELL
Date	20-9-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26E						HOLE TAGGED AT 14.00 mtrs			
						INSTALL CASING		8"	13.37
						RUN RODS BACK DOWN HOLE TO CLEAR 25 mtrs			
						CHANGE OF WATER RETURN AT 20 mtrs - FINE GRAVEL & FLINT			
						PULL RODS OUT & STAND HALF HOUR			
						TAGGED HOLE AT 19.40 mtrs			
						INSTALL MORE CASING BUT 10" CASING GOING DOWN WITH 8" CASING. PULL OUT 10" CASING			
						DRILL DOWN 8" CASING		8"	16.37
						RUN RODS DOWN HOLE TO CLEAR 25 mtrs			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S. SILVER		12
A. EVANS		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS CASING HAS TO BE DRILLED DOWN TO 25 mtr DUE TO THE GROUND CONDITIONS

GA386

BOR DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	926 E

Rig No.	PUNTEL
Date	21-9-02. ~~SATURDAY~~
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DEPTH TAGGED AT AT 19.50			
						DRILL CASING DOWN - 3 mtrs		8⅝	19.37
						CONN VISCOW			
						RUN RODS DOWN TO CLEAR 25 mtr	7⅝		
						DRILL CASING DOWN - 1.50 mtrs		8⅝	21.87
						V' [illegible]			
						RUN RODS DOWN TO CLEAR -			
						25 mtrs			
						DRILL DOWN CASING - 1.37 mtrs		8⅝	22.24
						RUN RODS DOWN TO CLEAR - 25 mtrs			
						DRILL DOWN CASING - 131		8⅝	23.54
						RUN RODS DOWN TO CLEAR.			
						25 mtrs			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	S LEIVERS		12
	M EVANS		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BO DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	26E 26F

Rig No.	PANTIL
Date	22-9-02
Shift	SUNDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26E						HOLE 26E TAGGED AT 25 mtrs			
						DEVELOPE HOLE FROM 23.54 –			
						25 mtrs			
						PULL OUT RODS			
						DE RIG MOVE TO 26F			
						SET RIG UP & EQUIPMENT			
						SET UP FOR DRILLING WITH AIR			
						DRILL DOWN 3 mtrs RB	12⅝		
26F	0.00	0.30				SOIL			
	0.30	1.50				PEAT SOIL FLINT			
	1.50	3.00				ROCKS & FLINT			
	3.00	3.16				WATER RETURN CHANGE COLOUR			
						ORANGE (SANDY)			
						WATER HIT AT 150 mtrs			
						RISING TO 0.40 mtrs WHEN STANDING			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
M EVANS		12

HOURS		
DRILLING		1½
CASING		1½
MOVING & SET UP		5½
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		5
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS SAMPLES TAKEN EVERY 1 mtr

GA386

IBDF

COLWICK, NOTTINGHAM
Tel: (0115) 9611300

DAILY DRILLING REPORT

BOREHOLE No. 26 F/E REPORT No.
DAY & DATE TUESDAY 1-10-02
CLIENT
CONTRACT
PLACE BOXFORD
DEPTH AT START OF DAY

PLANT DESCRIPTION: PLANT
Transport Commenced
Drilling Commenced

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	Bit/Cr'n. No.	Footage
DG	[illegible]				HOLE 26 F		
HLS	M EVANS				GRAVEL PUMPED DOWN HOLE TO		
		[illegible]	1230		TOP OF SCREEN & 8" O CASING	—	11 03 mts
		1230	[illegible]		MOVE RIG TO HOLE 26 E		
		[illegible]	[illegible]		SET UP RIG OVER HOLE TO INSTALL		
		[illegible]	1640		PUMPED IN 8" CASING TIME TO —		25 20 mts
		1640	1730		BACK FILL WITH LIMESTONE CHIPPING —		23 30 mts
		[illegible]	1830		PULL CASING 8" 1 31 mt.		
		[illegible]	1900		BACK FILL - LIMESTONE		
					NIGHTSHIFT PROGRESS		
					MATERIALS USED —		
					HOLE 26 F - GRAVEL PACK 46 BAGS		
					26 E - LIMESTONE 10 BAGS		

From	To	STRATA Description	Rec.

Casing O.D.	Depth Head	Depth Shoe

PROGRESS in 24 Hours
TOTAL DEPTH

STOCKS

Bits	Crown (No.s)	Chemicals

CUMULATIVE HRS. RUN OF PLANT

WHICH ENGINE	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
LIGHTING SET	Hrs.	Plant No.

GENERAL REMARKS

SG6624

Boremaster [signature] Engineer [signature]

BRITISH DRILLING AND FREEZING COMPANY LIMITED

COLWICK, NOTTINGHAM
Tel: (0115) 9611300

DAILY DRILLING REPORT

BOREHOLE No. 26 E REPORT No.

DAY & DATE WEDNESDAY 2-10-

CLIENT

CONTRACT

PLACE BOXBORO

DEPTH AT START OF DAY

PLANT DESCRIPTION ..

PLANTEL

Transport Commenced

Drilling Commenced

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	Bit/Cr'n. No.	Footage
D.R	S LOWRY	0700			HOLE 26 E CONTINUED PULLING		
HLR	M BURNS				CASING & BACK FILLING THROUGH		
					TARMAC UP TO - 11.15 mtrs		
					HOLE COLLAPSING WHILE PULLING		
					CASING TOPPED UP WITH LIMESTONE		
					CHIPPINGS		
					BENTONITE PELLETS 11.15 - 10.6 mtrs		
					INSIDE CASING		
					PULL BACK CASING TO 5.15 mtrs		
					ADDED LIMESTONE TO BACK FILL		
					~~NIGHTSHIFT PROGRESS~~		
					BENTONITE SEAL 5.15 - 4.70 mtrs		
					INSTALL 2nd PIEZO SUSPENDED		
					AT 4.60 mtrs		
					LIMESTONE CHIPPINGS ADDED		
					TO 3.60 (ALL INSIDE CASING FROM		
					5.15 mtrs - 3.60)		
					PULL CASING OUT.		
			1900	12	2nd PIEZO RAISED 20cm		
					WHILE PULLING OUT.		

From	To	~~STRATA~~ Description	Rec.	Casing O.D.	Depth Head	Depth Shoe
MATERIALS USED :-						
		26E - LIMESTONE - 15	BAGS			
		BENTONITE - 1	BAGS			

PROGRESS in 24 Hours

TOTAL DEPTH

STOCKS

Bits	Crown (No.s)	Chemicals

CUMULATIVE HRS. RUN OF PLANT

WHICH ENGINE	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.

IBDF

COLWICK, NOTTINGHAM
Tel: (0115) 9611300

DAILY DRILLING REPORT

DAY & DATE THURSDAY 3-10-02

CLIENT

CONTRACT

PLACE BONFORD

DEPTH AT START OF DAY

PLANT DESCRIPTION: PUNTEL

Transport Commenced

Drilling Commenced

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	Bit/Cr'n. No.	Footage
DR	BLEWES	07.00			HOLE 26E CONTINUED BACKFILLING		
HELPER	M EVANS				UPTO 50cm BELOW GROUND		
					WITH LIMESTONE CHIPPINGS (25 BAG)		
					INSTALL PLASTIC HEADWORKS TO 50cm		
					BELOW GROUND - LIMESTONE CHIPPINGS		
					TO 40cm B.GROUND		
					MIX GROUT & POUR MOUND		
			11.00		HEAD WORKS TO GROUND LEVEL		
		11.00	11.45		MOVE RIG TO NEXT HOLE		
					~~NIGHTSHIFT PROGRESS~~		
					HOLE 26F - SET UP RIG OVER		
					HOLE		
		11.45			FREE OFF 10¾" CASING		
					MIX GROUT POUR DOWN CASING		
					BETWEEN 10¾" STEEL CASING & 8⅝"		
					PLASTIC ID CASING		
					PULL 10¾" CASING OUT OF HOLE		
					TO 3 mts WITH 80cm STICK UP		
					MIX GROUT TOP UP INSIDE 10¾" CASING		
			16.00		AND MOUND CASING		

~~Event~~	~~To~~	~~Description~~	Rec.	Casing O.D.	Depth Head	Depth Shoe
COMPRESSOR STEADY HIRE						
DELIVERED TO SITE						
SERVICE (NOT DELIVERED)						
TO SITE SEE 23/9/02						
SITE IN WOODED AREA						
CLEARED FOR REMOVAL OF						
TRACK.						
TIME FROM 16.00-19.00						
MATERIALS USED :-						
LIMESTONE - 25 BAGS						
BENTONITE POWDER - 1 BAGS						
CEMENT - 15 BAGS						

PROGRESS in 24 Hours

TOTAL DEPTH

STOCKS

Bits	Crown (No.s)	Chemicals

CUMULATIVE HRS. RUN OF PLANT

WHICH ENGINE	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
LIGHTING SET	Hrs.	Plant No.

GENERAL REMARKS

Boremaster [signature] Engineer [signature]

SG8524

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	26E 26F

Rig No.	PENTICE
Date	22-9-02
Shift	SUNDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26E						HOLE 26E TAKEN AT 25 mtrs			
						DIVERTOR HOLE FROM 23 34 —			
						25 mtrs			
						ADD ONE ROD			
						DE RIG MOVE TO 26F			
						SET RIG UP & EQUIPMENT			
						SET UP FOR DRILLING WITH AIR			
						DRILL DOWN 2mtrs RB	12⅛		
26F	0 00	0 30				SOIL			
	0 30	1 50				PEAT SOIL & FLINT			
	50	3 00				ROCK & FLINT			
	3 00	3 16				WATER RETURN - LIME COLOUR			
						(LIMEY SANDY)			
						WATER HIT AT 150 mtrs			
						SLOW DOWN & WAIT STANDING			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING		12	USED	Gals.
	HOLE TO HOLE		Yds.	CASING		—	HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING		5½	SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR			Driller
	3 LEWERS		12	TRAVELLING				
	1 EVANS		12	WALKING		5		P.O. or R.E.
				TOTAL		12		Supervisor

REMARKS ONE SAMPLE TAKEN EVERY 1mtr

GA306

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 F

Rig No.	PUNTIRL
Date	23-9-02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26F			
						CHANGE TO DRILLING WITH WATER			
						DRILL DOWN TO 3.50 mtrs			
26F	3.16	3.50				ROCKS & FLINTS HARD RB	9⅝		
						INSTALL 10⅝ CASING		10⅝"	3.50
						STOPPED DUE TO G. LOGGERS			
						LOGGING OTHER HOLES			
						MOVE SITE COMPOUND FOR			
						LAND OWNER			
						RESTART DRILLING AT 4.30pm			
						NOT ABLE TO DRILL BELOW 3.50mtrs			
						WITH WATER CHANGE BACK TO AIR			
						DRILL DOWN TO 4.00 mtrs			
26F	3.50	4.00				FLINT ROCKS HARD. RB	9⅝		

TOTALS			
MOVES	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
CREW	NAMES	Class	Hours
	S LEIVARD		12
	M EVANS		12

HOURS		
DRILLING		1½
CASING		1
MOVING	SET UP	1
STANDING	OUR	
	YOUR	8½
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS SAMPLES TAKEN EVERY 1mtr.

GA386

BOB DRILLING SHEET 1 OF 2

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 F

Rig No.	PLANTEL
Date	24-9-02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26F			
						DRILL DOWN TO 4.50 mtrs RB 9⅝"			
26F	4.00	4.50	.50			LARGE STONES & FLINT			
						DRILL DOWN 10⅝ CASING		10⅝"	4.75
	4.50	4.95	.45			LARGE FLINTS CHALK V LOOSE			
						DRILL DOWN TO 6.20 RB 9⅝"			
	4.95	6.20	1.25			CHALK FLINTS STONE. V LOOSE			
						DRILL DOWN CASING		10⅝"	6.07
						CHANGE TO WATER DRILLING			
						DRILL DOWN 9.16 RB 9⅝			
	6.20	9.16	2.96			CHALK, FLINTS			
						INSTALL CASING (DRILLED DOWN)		10⅝"	9.20
						DRILL DOWN RB 9⅝			
	9.16	13.05	3.89			CHALK			
	13.05	13.25	.20			FLINTS CHALK HARD WET			
	13.25	13.80	.55			CHALK			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS SHEET 1 OF 2

GA386

BOB DRILLING

SHEET (2) OF (2)

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 F

Rig No.	PUNTEL
Date	24-9-02
Shift	TUESDAY [redacted]

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26 F RB 9½			
	13.80	14.00	.20			FLINT CHALK HARD WET			
	14.00	15.20	1.20			CHALK			
	15.20	15.55	.35			FLINT CHALK HARD WET			
	15.55	21.35	5.80			CHALK			
	21.35	21.45	.10			FLINT CHALK HARD WET			
	21.45	27.60	6.15			CHALK			
	27.60	27.85	.25			FLINT CHALK HARD WET			
	27.85	30.00	2.15			CHALK			
						VERY FINE GRAVEL & FLINT CHALK			
						AT 23 mtrs			
						WASHING OUT AT BOTTOM OF			
						HOLE WITH CLEAN WATER.			
						RODS STUCK FAST IN HOLE			
						AT 29 mtrs TRY PULL OUT			
						RODS WITH AIR & WATER VERY			
						SLOW GOING HOLE COLLAPSING			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
M EVANS		12

HOURS		
DRILLING		7
CASING		5
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA306

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26F

Rig No.	PLINTEL
Date	25-9-02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26F TAGGED AT 18mtrs			
						USE 7 & RB WITH WATER			
						TO REOPEN HOLE			
						DRILLED DOWN 31 mtrs			
						DEVELOPING WITH CLEAN			
						WATER FOR HALF AN HOUR			
						PULL RODS BACK OUT OF HOLE			
						DIP HOLE - DEPTH AT 25.10mtrs			
						RIG INSPECTION FOR 1 HOUR			
						RUN RODS BACK DOWN HOLE			
	30.00	34.80	4.80			DRILL DOWN TO 34.80 CHISEL			
						WASH OUT WITH CLEAN WATER			
						PULL RODS OUT OF HOLE			
						STAND OVERNIGHT			
TOTALS									

MOVES	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
CREW	NAMES	Class	Hours
	S LEIVERS		12
	M EVANS		12

HOURS		
DRILLING		2
CASING		
MOVING		
STANDING	OUR	1
	YOUR	
TRAVELLING		
DEVELOP/CLEANOUT		9
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

Driller

P.O. or R.E.

Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 F/26 H

Rig No.	PLANTEL
Date	26 mtr ~~28~~ 9-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26F						HOLE 26F DEPTH TAGGED			
						AT 26 mtrs			
						RUN RODS DOWN TO 31 mtrs			
						USE POLYMER TO KEEP OPEN			
						DEVELOPING WITH CLEAN WATER			
						PULL RODS OUT.			
26H						DE RIG & MOVE TO HOLE 26H			
						SET UP RIG & COMPRESSOR			
						FOR DRILLING WITH AIR			
	0.00	1.00				SOIL RB 9 5/8			
	1.00	1.75				SOIL FLINTS			
	1.75	2.80				CLAY SUBSTANCE SAMPLES			
	2.80	5.20				CHALK TAKEN			
	5.20	5.50				FLINT EVERY			
	5.50	9.38				CHALK 1 mtr			
						INSTALL CASING		8 5/8	9.07
						WATER HIT AT 7.60 mtrs			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
M EVANS		12

HOURS		
DRILLING		1½
CASING		1½
MOVING & SETUP		5
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		4
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26F/26 H

Rig No.	PLANTEL
Date	26-9-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26F						HOLE 26F TAGGED AT 26 mtrs			
						RUN RODS TO 34.80 mtrs			
						USE POLYMER WATER TO CLEAR			
						PULL RODS OUT & DE RIG & MOVE			
						TO 26 H			
						SET UP RIG & EQUIPMENT 26 H			
						DRILLING WITH AIR RO 9⅝			
26H	0.00	1.00	100			SOIL			
	1.00	1.75	0.75			SOIL FLINTS			
	1.75	2.80	1.05			DAMP CHALK/CLAY?			
	2.80	5.20	2.40			CHALK			
	5.20	5.50	.30			FLINT			
	5.50	7.60	2.10			CHALK			
	7.60	7.60	—			HIT WATER			
	7.60	15.00	7.40			CHALK			
						INSTALL CASING		8⅝	15.00
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEWERS		8
M EVANS		8

HOURS		
DRILLING		2
CASING		2
MOVING		3
STANDING	OUR	
	YOUR	
TRAVELLING		
SITE SECURE		1
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

Driller

P.O. or R.E.

Supervisor

REMARKS: SAMPLES TAKEN EVERY 1 mtr
5⅝ PVC + GRAVEL PACK DELIVERED TO SITE.
8x SL 1x CLAMP
5x PL 1x CLAMP 1 TON GRAVEL PACK
1x LIFTING PIECE.

GA386

COLWICK, NOTTINGHAM
Tel: (0115) 9611300

DAILY DRILLING REPORT

DAY & DATE MONDAY 30.9-02
CLIENT
CONTRACT
PLACE BOXFORD
DEPTH AT START OF DAY 25 34

PLANT DESCRIPTION PUNTEL
Transport Commenced
Drilling Commenced

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	Bit/Cr'n. No.	Footage
					MOVE RIG & EQUIPMENT BACK		
DR	BLENDBY	07.00	10.30	3½	TO HOLE 26F FROM 26H		
DR	DAVISON	10.30	11.00	½	SET UP OVER HOLE		
					TAGGED AT 25 34		
		11.00	13.00	2	RUN RODS DOWN TO 34 mtrs	9⅝RB	34 mtrs
		13.00	14.30	1½	WASH OUT WITH POLYMER & WATER		
		14.30	15.00	½	PULL RODS OUT		
		15.00	18.00	3	RUN 8⅝ PLASTIC ID CASING DOWN		29.11 mt.
		18.00	19.00	1	POUR GRAVEL DOWN HOLE 10 BAGS		
		TOTAL		12			
					NIGHTSHIFT PROGRESS		
					USED 10 Bags of GRAVEL		

From	To	STRATA Description	Hec	Casing O.D	Depth Heart	Depth Shoe

PROGRESS in 24 Hours
TOTAL DEPTH

STOCKS Bits	Crown (No s)	Chemicals

CUMULATIVE HRS RUN OF PLANT

WHICH ENGINE	Hrs	Plant No.
PUMP	Hrs.	Plant No
PUMP	Hrs	Plant No
PUMP	Hrs.	Plant No.
LIGHTING SET	Hrs.	Plant No.

GENERAL REMARKS

BDF
BRITISH DRILLING AND FOUNDATION COMPANY LIMITED

COLWICK, NOTTINGHAM
Tel: (0115) 9611300

DAILY DRILLING REPORT

BOREHOLE No. 26 F/E REPORT No

DAY & DATE TUESDAY 1-10-02

CLIENT

CONTRACT

PLACE BOXFORD

PLANT DESCRIPTION

PLINTEL

Transport Commenced

Drilling Commenced

DEPTH AT START OF DAY

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	Dil/Cr'n. No	Footage
DR	B Lowes				HOLE 26 F		
HLP	M Evans				GRAVEL POURED DOWN HOLE TO		
		0700	1230		TOP OF SLOTTED 8" ID CASING	—	11 03
		1230	1300		MOVE RIG TO HOLE 26 E		
		1300	1330		SET UP RIG OVER HOLE TO INSTALL		
		1330	1640		PIZZED WITH ERT CABLE SINK TO —		25 20
		1640	1730		BACK FILL WITH LIMESTONE CHIPPINGS —		23 20
		1730	1830		PULL CASING 8" 1 31 mts		
		1830	1900		BACK FILL - LIMESTONE		

NIGHTSHIFT PROGRESS

MATERIALS USED :-
HOLE 26 F - GRAVEL PACK 46 BAGS
26 E - LIMESTONE 10 BAGS

From	To	STRATA Description	Hec	Casing O D	Depth Head	Depth Shoe

PROGRESS in 24 Hours

TOTAL DEPTH

STOCKS

Bits	Crown (No s)	Chemicals

CUMULATIVE HRS. RUN OF PLANT

WHICH ENGINE	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
LIGHTING SET	Hrs.	Plant No.

GENERAL REMARKS

Tel: (0115) 9611300

DAILY DRILLING REPORT

DAY & DATE THURSDAY 3-10-0.

CLIENT

CONTRACT

PLACE BOXFORD

DEPTH AT START OF DAY

PLANT DESCRIPTION .. PUNTEL

Transport Commenced

Drilling Commenced

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	BM/Cr'n No.	Footage
DR	SILVERS	07.00			HOLE 26 E CONTINUED BACK FILLING		
HLPa	MEVANS				UPTO 50cm BELOW GROUND		
					WITH LIMESTONE CHIPPINGS (25 BAGS)		
					INSTALL PLASTIC HEADWORKS TO 50cm		
					BELOW GROUND - LIMESTONE CHIPPINGS		
					TO 40cm B.GROUND		
					MIX GROUT & POUR AROUND		
			11.00		HEAD WORKS TO GROUND LEVEL		
		11.00	11.45		MOVE RIG TO NEXT HOLE		
					~~NIGHTSHIFT PROGRESS~~		
					HOLE 26 E - SET UP RIG OVER		
					HOLE		
		11.45			FREE OFF 10⅝" CASING		
					MIX GROUT POUR DOWN CASING		
					BETWEEN 10⅝" STEEL CASING & 8⅝"		
					PLASTIC ID CASING		
					PULL 10⅝ CASING OUT OF HOLE		
					TO 3 mtrs WITH 80cm STILL UP		
					MIX GROUT - TOP UP INSIDE 10⅝ CASING		
			16.00		AND AROUND CASING		

Event	To	~~Description~~	Rec	Casing O.D.	Depth Head	Depth Shoe
COMPRESSOR SPEEDY HIRE DELIVERED TO SITE						
GROUT MIX DELIVERED TO SITE = 80 x 25kg SX						
SITE IN WOODED AREA CLEARED FOR REMOVAL OF TRACK.						
TIME FROM 16.00 - 19.00						
MATERIALS USED :-						
LIMESTONE - 25 BAGS						
BENTONITE POWDER - 1 BAGS						
CEMENT - 15 BAGS						

PROGRESS in 24 Hours

TOTAL DEPTH

STOCKS

Bits	Crown (No.s)	Chemicals

CUMULATIVE HRS. RUN OF PLANT

WHICH ENGINE	Hrs	Plant No.
PUMP	Hrs	Plant No.
PUMP	Hrs	Plant No
PUMP	Hrs.	Plant No
LIGHTING SET	Hrs	Plant No.

GENERAL REMARKS

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	

Rig No.	PUNTER
Date	19-10-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						COMPLETE HEADWORKS			
						ON HOLES PL26A			
						MATERIALS 1SX LIMESTONE CHIPS			
						PL26C			
						MATERIAL 1SX LIMESTONE CHIPS			
						PL26D			
						MATERIALS 17SX LIMESTONE CHIPS			
						+ 4SX CEMENT.			
						3x PVC STAND PIPES + 3 LOCKS			
						PL26I			
						DIG OUT HOLE AFTER MANHOLE			
						CHIP GROUT FROM AROUND CASING			
						PL26F CUT CASING TO LEVEL			
						FOR MANHOLE.			

TOTALS						HOURS			WATER	
MOVES	SITE TO SITE				Mls.	DRILLING			USED	Gals.
	HOLE TO HOLE				Yds.	CASING			HYDRANT LOCATION	
	HOLE TO HOLE				Yds.	MOVING			SUPPLY COMPANY	
	HOLE TO HOLE				Yds.	STANDING	OUR	12		
CREW	NAMES		Class	Hours			YOUR			
	D. NIXON		DL	12		TRAVELLING				
	S. DUNCALFE		HP	12						
						TOTAL		12		

D NIXON ..... Driller

..... P.O. or R.E.

for N Lewis

..... Supervisor

REMARKS SEEKING OXYGEN TO CUT CASING BELOW GROUND LEVEL

GA386

B D DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G.

Rig No.	D4
Date	25/9/02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
								8 5/8	6.00
	0.00	0.30	0.30			CLAY			
	0.30	4.50	4.20			CHALK & FLINTS. (DAMP)			
						INSTRUCTED TO START COREING AT 4.50 MTRS			
						INSERT 4.50 MTRS 8 5/8 CASING			
	4.50	6.00	1.50	1.30		CHALK & FLINTS.			
						ADVANCE CASING FROM 4.50 TO 6.00 MTRS			
						GROUT CASING 40 LTRS GROUT			
						2 BAGS CEMENT			
TOTALS									

MOVES			
TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A. MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		8
CASING		
MOVING		
STANDING	OUR	
	YOUR	4
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

K Griffin ..... Supervisor

REMARKS

iA 75093—1370

B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	26/9/02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
	5 60	6 00	0 40			GROUT	5 3/8	8 5/8	6 00
	6 00	7 50	1 50	1 10		CHALK + FLINTS	SF		
	7 50	10 10	2 60	1 70		" "			
	10 10	11 95	1 85	1 20		" "			
						10 30 TO 11 00 VERY SOFT			
						UNABLE TO ADVANCE PAST 11 95 MTRS			
	11 95	12 15	0 20			INSERT R/BIT O/H TO 12 15 MTRS	7 7/8		
	12 15	14 65	2 50	2 50		CHALK + FLINTS			
	14 65	17 65	3 00	1 80		" "			
	17 65	20 65	3 00	1 20		" "			
	20 65	22 65	2 00	1 00		" "			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		12
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

A 75093—1370

B ○ DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	27/9/02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
	22.65	24.15	1.50	1.50		CHALK & FLINTS	SF	8 5/8	6.00
	24.15	25.15	1.00	0.60		-- -- B/H WET AT 25 METRES			
	25.15	26.65	1.50	1.30		-- --			
	26.65	28.15	1.50	1.50		-- --			
	28.15	29.65	1.50	1.50		-- --			
	29.65	31.15	1.50	1.50		-- --			
TOTALS									

MOVES			
	E TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		8
	M TINSLEY		8

HOURS		
DRILLING		8
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA 75093—1370

B ○ DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26G

Rig No.	D4
Date	30/9/02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
	31.15	32.65	1.50	1.30		CHALK & FLINTS (WET)	SF	8 5/8	6.00
	32.65	34.15	1.50	1.50		" " "			
	34.15	37.00	2.85	2.65		" " "			
	37.00	40.00	3.00	3.00		" " "			
	40.00	41.60	1.60	N/R		NO RECOVERY LOST CORE 1.60			
						UNABLE TO ADVANCE PAST 41.60			
						INSERT R/B OPENHOLE TO 41.90	7 7/8		
	41.90	43.05	1.15	0.80		CHALK & FLINTS (WET)			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A. HASSEY		12
M TINSLEY		12

HOURS		
DRILLING		12
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Hassey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA 75093—1370

B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	1/10/02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						REAM B/H OUT TO 43.20 MTRS	7 7/8	8 5/8	600
	43.20	44.75	1.55	1.20		CHALK & FLINTS (WET)			
	44.75	47.75	3.00	0.30		-- -- --			
	47.75	50.55	2.75	1.80		-- -- --			
	50.55	53.55	3.00	2.60		-- -- --			
	53.55	56.25	2.70	0.20		-- -- --			
						COMPRESSOR B/DOWN			
	TOTALS								

MOVES			
	...E TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		12
	M TINSLEY		12

HOURS		
DRILLING		11
CASING		
MOVING		
BREAK DOWN STANDING	OUR	1
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA 75093—1370

3 DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	2/10/02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						REAM B/H OUT TO 56.25 MTRS	7 7/8	8 5/8	6.00
	56.25	59.25	3.00	2.80		CHALK & FLINTS (WET)	SF		
						UNABLE TO ADVANCE PAST 59.25			
	59.25	59.75	0.50			INSERT 7 7/8 R/BIT O/H TO 59.75			
	59.75	60.55	0.80	0.80		CHALK & FLINTS (WET)			
						UNABLE TO ADVANCE PAST 60.55			
	60.55	61.05	0.50			INSERT 7 7/8 R/BIT O/H TO 61.05			
	61.05	64.05	3.00	2.80		CHALK & FLINTS (WET)			
	64.05	67.05	3.00	3.00		" " "			
	67.05	69.65	2.60	1.00		" " "			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		12
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

A 75093—1370

B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	3/10/02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						REAM B/H OUT TO 69.65 MTRS	7 7/8	8 5/8	6.00
	69.65	70.25	0.60	0.60		CHALK & FLINTS (WET)	SF		
						UNABLE TO ADVANCE PAST 70.25			
	70.25	70.75	0.50			INSERT 7 7/8 R/BIT O/H TO 70.75			
	70.75	72.25	1.50	0.30		CHALK & FLINTS (WET			
	72.25	72.75	0.50	0.50		" " "			
						UNABLE TO ADVANCE PAST 72.75			
	72.75	73.25	0.50			INSERT 7 7/8 R/BIT O/H TO 73.25			
	73.25	74.25	1.00	1.00		CHALK & FLINTS (WET)			
	TOTALS								

MOVES			
	...E TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		12
	M TINSLEY		12

HOURS		
DRILLING		12
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

K Hyffman ..... Supervisor

REMARKS

3 ○ DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	4/10/02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						UNABLE TO ADVANCE PAST 74.25 MTRS	7 7/8	8 5/8	6.00
	74.25	76.25	2.00			INSERT 7 7/8 R/BIT O/H TO 76.25 MTRS			
	76.25	79.25	3.00	2.60		CHALK & FLINTS (WET)	SF		
	79.25	80.75	1.50	0.20		" " "			
						UNABLE TO ADVANCE PAST 80.75			
	80.75	83.00	2.25			INSERT 7 7/8 R/BIT O/H TO 83.00	7 7/8		
	83.00	86.00	3.00	1.50		CHALK & FLINTS (WET)			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
M MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		12
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

M Massey ..... Driller

..... P.O. or R.E.

PP E Whitehead (for K Griffiths) ..... Supervisor

REMARKS

A 75093—1370

B ○ DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	5/10/02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
	86.00	89.00	3.00	1-10		CHALK & FLINTS (WET)	SF	8 5/8	6.00
						UNABLE TO ADVANCE PAST 89.00			
	89.00	94.00	5.00			INSTRUCTED TO O/H TO 94.00	7 7/8		
	94.00	95.00	1.00	0.20		CHALK & FLINTS (WET)			
						INSTRUCTED TO O/H TO 100.00 MTRS			
TOTALS									

MOVES			
TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		12
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

pp (for K. Griffiths) E Whitehead ..... Supervisor

REMARKS

A 75093—1370

3 DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	6/10/02
Shift	SUNDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
	95.00	100.00	5.00			INSTRUCTED TO O/H TO 100 MTRS	7 7/8	8 5/8	6.00
						25 CORE BOXES USED			
						DEVELOPING B/H			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		2
CASING		
MOVING		
STANDING DEVELOPING	OUR	
	YOUR	10
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

pp C Whitehead (Kate Griffiths) ..... Supervisor

REMARKS

A 75093—1370

B ○ DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	7/10/02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DEVELOPING B/H		8 5/8	6.00
						~~REAMING B/H AND~~ FLUSHING.			
						AT DIFFERENT LEVELS			
						CLEANING SITE			
TOTALS									

MOVES			
E TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

E Whitehead ..... Supervisor

REMARKS

A 75093—1370

B ○ DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G.

Rig No.	D4
Date	8/10/02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Pene-tration Time	FORMATION	Core Size	CASING Size	CASING To
						CLEAN OUT TRIALHOLE FOR			
						MANHOLE TO BE BUILT.			
						MOVING EQUIPMENT			
						FITTER ON SITE TO CHANGE			
						ALTERNATOR ON DANDO			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
CREW	NAMES	Class	Hours
	M MASSEY		12
	M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

P Whitehead ..... Supervisor

REMARKS

A 75093—1370

3. DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G.

Rig No.	D4
Date	9/10/02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						GEOLOGER UNABLE TO GET			
						DOWN B/H			
						REAMING B/H TO 100 MTRS			
						MOVING EQUIPMENT AND			
						CLEANING SITE			
TOTALS									

MOVES			
TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

A Whitehead ..... Supervisor

REMARKS

A 75093—1370

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26 G

Rig No.	PUNTEL
Date	20/10/02
Shift	SUNDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						MOVING CASING ON SITE			
						MOVING EQUIPMENT ON SITE			
						START REAMING AND			
						FLUSHING B/H PL26			
						BIT BLOCKED TWICE 35 MTRS			
						TWICE PULLED RODS TO			
						UNBLOCK BIT			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A. MASSEY		12
	D. NIXON		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

for M. Lewis
..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	PLINTEL
Date	21/10/02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						REAMING B/H DOWN TO 41 MTRS			
						BIT BLOCKED PULLED RODS			
						UNBLOCKED BIT			
						REAM B/H DOWN TO 100 MTRS			
						FLUSHING B/H			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A. MASSEY		12
S DUNCALFE		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

Whitehead ..... Supervisor

REMARKS

NOTE: Unable to install piezometers in PL26G as PVC tubing has not arrived (was due on Friday)

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	PUNTEL
Date	22nd 21/10/02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						FLUSHING B/H OUT			
						REAMED ROD'S OUT OF B/H			
						FROM 100MTRS			
						BUILD HEADWORKS ON B/H PL26H			
						NOTE: Unable to install piezometers			
						in PL26G as PVC tubes			
						have not been delivered			
						EOW			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
S. DUNCALFE		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

A Whitehead ..... Supervisor

REMARKS

18 BLOCKS DELIVERED

2 TON OF GRAVEL PACK & PVC DELIVERED

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26 G

Rig No.	PUNTER
Date	23 ~~22~~.10.02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						NO DRILLING.			
						WAITING FOR PLASTIC.			
						CLEAN UP SITE.			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D. NIXON	DR	12
S. DUNCALFE	HP	12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	12
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS TAKING CASING & CORE EQUIPMENT ON PICK UP FROM BOXFORD TO FROGMORE FARM

PVC DELIVERED (NOTE - not until afternoon EDW)

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G (100m CORE)

Rig No.	PUNTER
Date	24.10.02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						RUN BACK IN HOLE STOP			
						UP AT 30.50m			
						REAM FLUSH TO BASE			
						100m			
						START TO PULL OUT.			
						12.30 INS TOOL TO WAIT			
						ITS LOGGER NOW COMMING			
						TO LOG HOLE			
						PULL OUT OF HOLE			
						LOGGER ON HOLE			
TOTALS									

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D. NIXON	DR	12
S. DUNCALFE	HP	12

Driller

P.O. or R.E.

Supervisor

REMARKS

SITE VISIT TO PUNTER'S NEXT SITE

PVC DELIVERED

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	269

Rig No.	PUNTER
Date	25-10-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						NO DRILLING.			
						26I			
						BUILD MANHOLE.			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D NIXON	DR	8
S. DUNCMLFC	HP	8

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
		8
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVER DIESEL TO D4

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	PUNTER
Date	28·10·02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						Rig Down			
						MOVE Rig & EQUIPMENT			
						READY FOR SITE			
						MOVE			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING			USED	Gals.
	HOLE TO HOLE		Yds.	CASING			HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING		12	SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR		..... Driller	
	D. DIXON	DR	12	TRAVELLING				
	S. DUNCLIFF	HP	5½				..... P.O. or R.E.	
				TOTAL		12	..... Supervisor	

REMARKS

ONE FENCE PANEL DAMAGED BY FALLEN TREE.
(HIRE)

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	(PL26G)

Rig No.	D4
Date	1.11.02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						SITE MOVE FROM FROGMORE FARM TO BOXFORD.			
						MOVE RIG AND COMPRESSOR TO B/H POSITION			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		12
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G.

Rig No.	D4
Date	2-11-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						SET RIG UP ON B/H			
						TRANSPORT 100 MTR CASING			
						FROM FARM TO B/H			
						RECASE B/H TO 88 MTRS		5½ OD	100
TOTALS									

HOURS		
DRILLING		
CASING		9
MOVING		2
SET UP RIG	OUR	1
STANDING	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

MOVES		
SITE TO SITE		Mls.
HOLE TO HOLE		Yds.
HOLE TO HOLE		Yds.
HOLE TO HOLE		Yds.

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD.
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	3 11 02
Shift	SUNDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						RECASE B/H FROM 88 MTRS		5½ OD	96.00
						TO 96 MTRS			
						TAGED WATER LEVEL AT 22 MTRS			
						TAGED BOTTOM OF B/H AT 99.2 MTRS			
						INSERT 1ST PIEZOMETER AT			
						97.30 MTRS INSERT GRAVEL UPTO			
						95 MTRS, PULL 6 MTR CASING OUT			
						INSERT GRAVEL, TAGED AT 87.80			
						PULL 6 MTR CASING OUT, INSERT			
						GRAVEL, TAGED AT 83.30 PULL			
						6 MTR CASING OUT, TAGED AT			
						77.60 PULL 6 MTR CASING OUT			
						CASING AT 72 MTRS			
						41 BAGS GRAVEL USED			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		
CASING		1
MOVING		
STANDING	OUR	
	YOUR	11
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 266

Rig No.	D4
Date	4.11.02
Shift	MONDAY.

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						INSERT GRAVEL TO 72.10 PULL			
						6MTR CASING TO 66MTRS INSERT			
						GRAVEL TO 65.80 PULL 6MTR			
						CASING TO 60MTR. INSERT GRAVEL			
						TO 59.50 PULL 6MTR CASING TO 54MTRS			
						INSERT GRAVEL TO 53.20. PULL 6MTR			
						CASING TO 48MTR. INSERT GRAVEL			
						TO 50.50			
						INSERT TREMMY PIPE TO 45.60			
						INSERT BENTONITE THROU TREMMY			
						TAGED B/H AT 48.50.			
						80 BAGS GRAVEL USED			
						7 BAGS BENTONITE			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		12
	M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

DELIVERY OF 2" PVC PIPE 3 TON GRAVEL

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	5.11.02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						TAGED B/H AT 48.50			
						PULL TREMMY PIPE OUT OF B/H			
						INSERT 1 BAG GRAVEL. TAGED B/H			
						AT 48.30			
						INSERT 2ND PIEZOMETER AT 48.30			
						INSERT GRAVEL TO 47.15. PULL 6MTR			
						CASING TO 42.00. INSERT GRAVEL			
						TO 41.70 PULL 6MTR CASING TO 36MTR			
						INSERT GRAVEL TO 35.40 PULL 6MTR			
						CASING TO 30MTR			
						2 PIEZO'S CAME UP WITH CASING			
						6MTR'S. CUT PIEZO'S TO GET CASING			
						OUT OF MAST.			
						CASING AT 30MTR			
						32 BAGS 25KLO GRAVEL USED			
						16 BAGS 50KLO GRAVEL USED			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	4
Date	6-11-02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						PULL 12 MTR CASING TO 18 MTRS			
						TAGED GRAVEL AT 35.40			
						1ST PIEZO TAGED AT 91.80			
						2nd PIEZO TAGED AT 44.00			
						WAITING FOR INSTRUCTIONS ON			
						B/H.			
						COMPLETE HEADWORKS ON B/H			
						AT BECHE PARK WOODS			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		12
	M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	D4
Date	7.11.02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						INSERT 18 MTRS TREMMY PIPE			
						INSERT 4.9 BAGS OF GRAVEL			
						TAGED B/H AT 28.63 MTRS			
						INSERT 1/2 BAG BENTONITE			
						TAGED B/H AT 28.65 MTRS			
						INSERT 50LTR GROUT (CEMENT &			
						BENTONITE POWDER			
						BURN OFF 8 5/8 CASING BELOW GROUND			
						LEVEL			
						DELIVERY OF CLAMP FOR 5 1/2 CASING			
						4.7 BAGS GRAVEL USED			
						1/2 BAG BENTONITE PELLETS			
						3 BAGS CEMENT			
						1 CLAMP FOR 5 1/2 CASING			
						18 MTRS 5 1/2 OD CASING LEFT IN B/H			
TOTALS									

MOVES			
	TE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		12
	M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

for R. Marks.
E Whitehead ..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26G.

Rig No.	D4
Date	8-11-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						BUILD MANHOLE & REINSTATE			
						AROUND HEADWORKS			
						MOVE EQUIPMENT FROM B/H TO			
						FARM YARD			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		8
	M TINSLEY		8

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	8
TRAVELLING		
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

for R. Marks
E Whitehead ..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	OXFORD
Contract Number	

Site Name	BOXFORD
Site Number	(PL26G)

Rig No.	D4
Date	11.11.02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						LOAD RIG & EQUIPMENT			
						ONTO LOWLOADER			
						MOVE EQUIPMENT FROM B/H			
						TO FARMYARD			
						DISMANTLE SAFETY FENCE FOR			
						COLLECTION			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
A MASSEY		12
M TINSLEY		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A. Massey ..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 F/26 H

Rig No.	PLINTRL
Date	26 ~~28~~ 9-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26F						HOLE 26F DEPTH TAGGED			
						AT 26 mtrs			
						RUN RODS DOWN TO 31 mtrs			
						USE POLYMER TO KEEP OPEN.			
						DEVELOPING WITH CLEAN WATER			
						PULL RODS OUT.			
26H						DE RIG & MOVE TO HOLE 26H			
						SET UP RIG & COMPRESSOR			
						FOR DRILLING WITH AIR			
	0.00	1.00				SOIL RB 9 5/8			
	1.00	1.75				SOIL FLINTS			
	1.75	2.80				CLAY SUBSTANCE SAMPLES			
	2.80	5.20				CHALK TAKEN			
	5.20	5.50				FLINT EVERY			
	5.50	9.38				CHALK 1 mtr			
						INSTALL CASING		8 5/8	9.07
						WATER HIT AT 7.60 mtrs			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING		1½	USED	Gals.
	HOLE TO HOLE		Yds.	CASING		1½	HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING		5	SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR			
CREW	NAMES	Class	Hours		YOUR			Driller
	S LEWERS		12	TRAVELLING				
	M EVANS		12	DOWNTIME		4		P.O. or R.E.
				TOTAL		12		Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26F/26H

Rig No.	PLANTEL
Date	26-9-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
26F						HOLE 26F TAGGED AT 26 mtrs			
						RUN RODS TO 34.80 mtrs			
						USE POLYMER WATER TO CLEAR			
						PULL RODS OUT & DE RIG & MOVE			
						TO 26H			
						SET UP RIG & EQUIPMENT 26H			
						DRILLING WITH AIR RD 9 5/8			
26H	0.00	1.00	1.00			SOIL			
	1.00	1.75	0.75			SOIL FLINTS			
	1.75	2.80	1.05			DAMP CHALK/CLAY?			
	2.80	5.20	2.40			CHALK			
	5.20	5.50	.30			FLINT			
	5.50	7.60	2.10			CHALK			
	7.60	7.60	—			HIT WATER			
	7.60	15.00	7.40			CHALK			
						INSTALL CASING		8 5/8	15.00
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW NAMES	Class	Hours
S LAWRENCE		8
M EVANS		8

HOURS		
DRILLING		2
CASING		2
MOVING		3
STANDING	OUR	
	YOUR	
TRAVELLING		
SITE SECURE		1
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS SAMPLES TAKEN EVERY 1mtr

5x PVC + GRAVEL PACK DELIVERED TO SITE.

8x SL 1x CLAMP

5x PL 1x CLAMP 1TON GRAVEL PACK

1x LIFTING PLUG.

GA386

IBDF

COLWICK, NOTTINGHAM
Tel: (0115) 9611300

DAILY DRILLING REPORT

DAY & DATE MONDAY 30 9-02

CLIENT

CONTRACT

PLACE BOXFORD

DEPTH AT START OF DAY 25 34

PLANT DESCRIPTION: PUNTEL

Transport Commenced

Drilling Commenced

Status	Name	Start	Finish	Hours	DAYSHIFT PROGRESS	Bit/Cr'n. No.	Footage
					MOVE RIG & EQUIPMENT BACK		
DC	BLUNDY	07:00	10 30	3½	TO MOVE 26F FROM 26H		
DC	[illegible]	10:30	11 00	½	SET UP OVER HOLE		
					TAGGED AT 25 34		
		11:00	1300	2	RUN RODS DOWN TO 34 mtrs	9⅝ RB	34 mtrs
		13 00	14 30	1½	WASH OUT WITH POLYMER & WATER		
		14:30	15 00	½	PULL RODS OUT		
		15 00	18:00	3	RUN 8⅝ PLASTIC ID CASING DOWN		29.11 mtrs
		18:00	19:00	1	POUR GRAVEL DOWN HOLE 10 BAGS		
		TOTAL		12			
					NIGHTSHIFT PROGRESS		
					USED 16 bags of GRAVEL		

From	To	STRATA Description	Rec.

Casing O.D.	Depth Head	Depth Shoe

PROGRESS in 24 Hours

TOTAL DEPTH

STOCKS

Bits	Crown (No.s)	Chemicals

CUMULATIVE HRS. RUN OF PLANT

WHICH ENGINE	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
PUMP	Hrs.	Plant No.
LIGHTING SET	Hrs.	Plant No.

GENERAL REMARKS

SG6624

Boremaster [signature] Engineer [signature]

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	[illegible]
Contract Number	

Site Name	[illegible]
Site Number	[illegible]

Rig No.	[illegible]
Date	[illegible]
Shift	[illegible]

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						WATER [illegible]			
						[illegible]		[illegible]	[illegible]
						[illegible]			
						[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]			[illegible]			
		[illegible]				[illegible]			
	[illegible]	[illegible]	[illegible]			[illegible]			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
[illegible]		12
[illegible]		12

HOURS		
DRILLING		1
CASING		
MOVING		[illegible]
STANDING	OUR	
	YOUR	
TRAVELLING		
[illegible]		[illegible]
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

[signature] Driller

..... P.O. or R.E.

[signature] Supervisor

REMARKS

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 H

Rig No.	PUNTEL
Date	8-10-02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DRILLING HOLE 26 H RB	7⅝		
						DEPTH OF HOLE TAGGED AT 17.10 mts			
						INSTALL CASING 8⅝ 3mtrs		8⅝	18mts
						RUN RODS DOWN TO CLEAR CASING			
						AND START DRILLING			
26	18.00	30.00	12.mts			CHALK & FLINT			
						START DEVELOPING AT 14.00hrs			

TOTALS					
MOVES	SITE TO SITE			Mls.	
	HOLE TO HOLE			Yds.	
	HOLE TO HOLE			Yds.	
	HOLE TO HOLE			Yds.	
CREW	NAMES		Class	Hours	
	S LEIVERS			12	
	M EVANS			12	

HOURS		
DRILLING		5½
CASING		1½
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		5
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

Whitehead ..... Supervisor

REMARKS

SHIP EMPTIED & RETURNED

TRACKING REMOVED FROM WOODED AREA

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	[illegible]
Contract Number	

Site Name	[illegible]
Site Number	[illegible]

Rig No.	
Date	[illegible]
Shift	[illegible]

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						[illegible]			
						[illegible]		[illegible]	[illegible]
						[illegible]			
						[illegible]		[illegible]	[illegible]
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						[illegible]			
						NOTE - [illegible]			
						[illegible] DROPPED DOWN			
						TO 2 m/s [illegible] SPEED UP			
						TO 80 & BACK FILL TO 50m			
						[illegible]			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	[illegible]		12
	[illegible]		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALLATION		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

[illegible] Driller

..... P.O. or R.E.

[illegible] Supervisor

REMARKS [illegible]

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 H

Rig No.	PANTEL
Date	16-10-02
Shift	WEDNESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
PL	26 H	PIEZO 1		PIEZO 2		HOLE 26 H TAGGED AT 31.35m			
						INSTALL PIEZO TUBE No 1 AT			
						29 mtrs			
						BACKFILL GRAVEL - 25.03m			
						BENTANITE SEAL - 25.03m - 24.0m			
						INSTALL 2nd PIEZO AT 22.10m			
						BACK FILL GRAVEL - 20.0m			
		19.0				BENTANITE SEAL - 20.0 - 19.0			
		20.0		BENTANITE					
						DIG AROUND TOP OF 2⅜ CASING			
				GRAVEL PACK		1mtr x 1mtrs AND DIG DOWN			
		22.10				1mtr, PUT CASING CLAMP			
		24.0		BENTANITE		60cm FROM TOP OF CASING			
		25.03				GROUT UP TO 30cm BELOW			
				GRAVEL PACK		GROUND			
		29.0							
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEWRY		12
S DUNCALIFE		

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALATION		12
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26G

Rig No.	PLANTEL
Date	22nd 21/10/02
Shift	TUESDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						FLUSHING B/H OUT.			
						REAMED RODS OUT OF B/H			
						FROM 100MTRS.			
						BUILD HEADWORKS ON B/H PL26H.			D
						NOTE: Unable to install piezometers			
						@ PL26G as PVC tubes			
						have not been delivered			
						EJW			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	A MASSEY		12
	S DUNCALFE		12

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	12
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

A Massey ..... Driller

..... P.O. or R.E.

A Sutcliffe ..... Supervisor

REMARKS

18 BLOCKS DELIVERED

2 ton of GRAVEL/SAND & PVC DELIVERED

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	Boxford
Contract Number	

Site Name	Boxford
Site Number	PL26I

Rig No.	Puntel
Date	4-10-02
Shift	Friday

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						SET RIG & COMPRESSOR FOR			
						DRILLING WITH AIR			
26I	0.00	0.50	.50			SOIL RB	4 5/8		
	0.50	1.20	.70			CHALK (DAMP) FLINTS			
	1.20	1.40	.20			FLINT			
	1.40	1.60	.20			CHALK (DAMP			
	1.60	1.70	.10			CHALK, ORANGE COLOUR WATER RETURN			
	1.70	2.50	.80			FLINT			
	2.50	5.30	2.80			CHALK (DAMP)			
	5.30	6.00	.30			FLINT CHALK			
						INSTALL CASING		8 5/8	6 mtrs
	6.00	9.00	3.00			CHALK (DAMP) RB	7 5/8		
						INSTALL CASING		8 5/8	8.75
	9.00	12.30	3.30			CHALK FLINTS			
						INSTALL CASING		8 5/8	12 mtrs
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S Leluzias		12
M Evans		12.

HOURS		
DRILLING		7½
CASING		4½
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

PP E Whitehead (Kate Gritkins) ..... Supervisor

REMARKS HARDLY ANY RETURNS WHEN DRILLING DOWN BECAUSE CHALK DAMP & LIKE CLAY, V/SLOW PULLING RODS OUT OF HOLE. SAMPLES TAKEN EVERY 1mtrs

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 I

Rig No.	PUNTEL
Date	5-10-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DRILLING RB	7 5/8		
26I	12.30	15.80				CHALK FLINT			
						INSTALL CASING		8 5/8	15 mts
						CASING DRILLED DOWN TO 30cm			
						BELOW GROUND			
						DRILLED DOWN TO CLEAR			
						INSIDE CASING & 50cm BELOW			
						MIX GROUT POUR DOWN INSIDE			
						HOLE & AROUND OUTSIDE			
						DIG AROUND CASING 1mix 1mt			
						AND 80cm DOWN MIX MORE			
						GROUT ~~&~~ POUR IN HOLE AROUND			
						CASING TO 10cm BELOW CASING			
						LET STAND			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	S LRIVERS		12
	M EVANS		12

HOURS		
DRILLING		4
CASING		2½
MOVING		
STANDING	OUR	
	YOUR	4
TRAVELLING		
MIX GROUT		1½
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

PP E Whitehead (for K Griffiths)
..... Supervisor

REMARKS CEMENT 10 BAGS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 I

Rig No.	PUNTER
Date	6-10-02
Shift	SUNDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DRILLING RO 7 5/8			
	15.00	15.50				DRILL OUT CEMENT			
	15.50	19.07				CHALK			
		19.07				HIT WATER			
	19.07	39.80				CHALK 39.80 DRANK WATER RIN			
	39.80	50.00				CHALK FLINTS			
						DRILL & 1mtr JUMP.			
						DEVELOPING from 16.00 hrs			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
M EVANS		12

HOURS		
DRILLING		9
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		3
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

pp E Whitehead (for K Griffiths) ..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 261/H

Rig No.	PLANTEL
Date	7-10-02
Shift	MONDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						DEVELOPING HOLE 26I AT			
						DIFFERING DEPTHS THEN			
						BACK TO 50mtrs FOR FURTHER			
						DEVELOPMENT			
						PULL RODS OUT & DE RIG			
						MOVE RIG & COMPRESSOR TO			
						HOLE 26 H			
						SET UP FOR AIR DRILLING			
						SET UP SYKES PUMP FOR			
						WATER DISTRIBUTION			
						CASING ALREADY AT 15 mtrs		8 5/8	15 mtrs
						RUN RODS DOWN TO 15 mtrs			
						START DRILLING RB 7 5/8			
26H	15.00	16.15	1.15			LOOSE CHALK FLINT			
		16.15	—			ORANGE COLOUR WATER RTN.			
	16.15	19.50	3.35			LOOSE CHALK FLINT			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LEIVERS		12
M EVANS		12

HOURS		
DRILLING		1
CASING		
MOVING		2
STANDING	OUR	
	YOUR	
TRAVELLING		
DEVELOPING		9
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL26 I

Rig No.	PLANTEL
Date	17-10-02
Shift	THURSDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						MOVE RIG TO HOLE 26 I			
						TAGGED AT 52.50 mtrs			
						INSTALL PIEZO Nº 1 AT 50 mtrs			
						WITH SLOTTED SECTIONS AS FOLLOWS :-			
						50-49, 48-47, 44-43,			
						42-41			
						BACKFILL WITH GRAVEL TO			
						39.40 USE LIMESTONE			
						UP TO 37, 37-10			
						BENTANITE SEAL AT 37m-35.			
						INSTALL 2nd PIEZO AT 32.32.			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
S LRIVERS		12
S DUNCALF.?		

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALLATION		
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

for K Griffiths
E Whitehead
..... Supervisor

REMARKS

DELIVERY OF CEMENT & BLOCKS

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 26 I

Rig No.	PANTIZL
Date	18-10-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						HOLE 26 I			
						CONTINUE INSTALLATION			
						PIEZO2AT 32.32			
						BACK FILL LIMESTONES			
						TO 30 mtrs			
						BENTONITE SEAL TO 29 mtrs			
						MOVE RIG TO NEXT HOLE.			
						MOVE COMPRESSOR & EQUIPMENT			
						TO HOLE & Rig up.			
TOTALS									

MOVES			
	SITE TO SITE		Mls.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.
	HOLE TO HOLE		Yds.

CREW	NAMES	Class	Hours
	S LRIVERS		8
	S DONCALION		12
	D. DIXON		12

HOURS		
DRILLING		
CASING		
MOVING		2½
STANDING	OUR	
	YOUR	
TRAVELLING		
INSTALLATION		9½
TOTAL		12

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS 8 MATERIALS USED :- GRAVEL - 37 BACK
LIMESTONE - 15
BENTONITE 4

GA386

B B DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	

Rig No.	PUNTER
Date	19-10-02
Shift	SATURDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						COMPLETE HEADWORKS			
						ON HOLES PL26A			
						MATERIALS 1SX LIMESTONE CHIPS			
						PL26 C			
						MATERIAL 1SX LIMESTONE CHIPS			
						PL26 D			
						MATERIALS 17SX LIMESTONE CHIPS			
						+ 4SX CEMENT.			
						3x PVC STAND PIPES + 3 LOCKS			
						PL26 I			
						DIG OUT HOLE AFTER MANHOLE			
						CHIP GROUT FROM AROUND CASING			
						PL26F CUT CASING TO LEVEL			
						FOR MANHOLE.			

TOTALS				HOURS			WATER	
MOVES	SITE TO SITE		Mls.	DRILLING			USED	Gals.
	HOLE TO HOLE		Yds.	CASING			HYDRANT LOCATION	
	HOLE TO HOLE		Yds.	MOVING			SUPPLY COMPANY	
	HOLE TO HOLE		Yds.	STANDING	OUR	12		
CREW	NAMES	Class	Hours		YOUR		J D Nixon ..... Driller	
	D. NIXON	DR	12	TRAVELLING				
	S. DUNCALFE	HP	12				..... P.O. or R.E.	
							for H Lewis	
				TOTAL		12	..... Supervisor	

REMARKS SEEKING OXYGEN TO CUT CASING BELOW GROUND LEVEL

GA386

BOB DRILLING

DAILY DRILL SHIFT REPORT

District	BOXFORD
Contract Number	

Site Name	BOXFORD
Site Number	PL 269

Rig No.	PORTER
Date	25-10-02
Shift	FRIDAY

Hole No.	FOOTAGE From	FOOTAGE To	Thickness	Core Recovery	Penetration Time	FORMATION	Core Size	CASING Size	CASING To
						NO DRILLING.			
						26I			
						BUILD MANHOLE.			
TOTALS									

MOVES			
SITE TO SITE		Mls.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	
HOLE TO HOLE		Yds.	

CREW NAMES	Class	Hours
D NIXON	DR	8
S. DUNCALFE	HP	8

HOURS		
DRILLING		
CASING		
MOVING		
STANDING	OUR	
	YOUR	
TRAVELLING		
		8
TOTAL		8

WATER	
USED	Gals.
HYDRANT LOCATION	
SUPPLY COMPANY	

..... Driller

..... P.O. or R.E.

..... Supervisor

REMARKS DELIVER DIESEL TO D4

GA386

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26J (N15)
		Sheet 1 of 3

Equipment & Methods	Location
Pilcon Wayfarer 1500 shell and auger rig Temp 250 mm casing to 6.7 Installed 150mm at 6.6 Temp PW casing to 15.4	BOXFORD Westbrook Farm
Water levels Water struck at c 2.00 m BGL and rose to 0.70 m RWL 31/07/03 = 0.90 mBGL with casing at 3.47m WL 31/07/03 =2.1 mBGL after bailing with casing at 4.6 m RWL 01/08/03 = 0.92 mBGL with casing at 5.1 RWL 04/08/03 = 0.66 m BGL with casing at 6.45 RWL 05/08/03 = 0.70 m BGL (in 150 mm pvc) RWL 06//08/03 = 1.11 m BGL with casing at 8.04 RWL 08/08/03 = 0.6 m BGL with casing at c 12.8 RWL 11/08/03 = 0.48 m BGL with casing at 14.0	**Grid Reference** **Datum level**

Carried out for	Date	Ground level
British Geological Survey **Drilled by** Centre for Ecology and Hydrology	29/07/03 – 11/08/03	

Description	Thickness	Depth	Reduced level
Strong brown (7.5YR5/6) clay SOIL	0.60	0.60	
Very dark greyish brown (10YR3/2) clay SOIL with chalk rubble	0.06	0.66	
Becoming dark greyish brown (2.5Y4/2) clayey SILT	0.59	1.25	
Soft light brownish grey (10YR6/2) fine sandy SILT becoming more sandy at 1.33	0.75	2.00	
GRAVEL	1.80	3.80	
CHALK	11.60	15.40	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26J (N15)
		Sheet 2 of 3

Completion		
Bentonite pellets	2.50	
Natural pack	3.80	
Bentonite pellets	6.60	
165 mm OD x 150 mm ID PVC casing	6.60	
90 mm OD PVC casing (inside 165 mm without pack / seal)	13.53	
90 mm OD PVC screen (with 1mm slots?)	15.25	
90 mm OD PVC casing	15.40	

Grab / bulk samples

Sample No		
PL26J/4	2.20-3.15	Bulk sample (gravel)
PL26J/5	3.20-3.90	Bulk sample (gravel)

U100 samples

Sample No	Top of liner	Base of liner / top of shoe	Base of shoe	Lost core	No of sinkers	No of valvators	No of blows
PL26J/1	0	0.40	0.54	0.54-0.66	1	1	38
PL26J/2	0.80	1.25	1.50		1	2	10
PL26J/3	1.50	1.97	2.20		1	2	20
PL26J/4 (U150)	2.60	2.85		2.85-3.10	2	1	80
PL26J/5A	3.20	3.45		3.45-3.65			
PL26J/5B	3.45	3.90			2	2	80
PL26J26J/6	3.95	4.40	4.60		1	2	150
PL26J/7	4.70	5.15	5.30		1	2	40
PL26J/8	5.40	5.85	5.95		1	1	30
PL26J/9	6.00	6.52	6.70		1	1	34
PL26J/10	6.70	7.22	7.40		1	1	80
PL26J/11	7.40		7.90	hydraulicing	1	1	250
PL26J/12	7.90	8.38			2	1	150
PL26J/13	8.55	9.03	9.20				
PL26J/14	9.20	9.68	9.85				
PL26J/15	9.80	10.25	10.40		2	1	138
PL26J/16	10.40	10.79		10.79-11.00			

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26J (N15)
		Sheet 3 of 3

U100 samples cont

Sample No	Top of liner	Base of liner / top of shoe	Base of shoe	Lost core	No of sinkers	No of valvators	No of blows
PL26J/17	11.00	11.45	11.65				150
PL26J/18	11.60	12.05	12.20		2	1	128
PL26J/19	12.20	12.65	12.80		2	1	138
PL26J/20	12.80	13.23	13.40		2	1	
PL26J/21	13.45	13.90	14.05		2	1	150
PL26J/21	14.05	14.50	14.65		2	1	

Shoe samples

0.40-0.54	Strong brown (7.5YR5/6) clay SOIL
1.25–1.50	Soft light brownish grey (10YR6/2) fine sandy SILT becoming more sandy at 1.33
1.97-2.20	Yellow (10YR7/6) clayey coarse GRAVEL
2.85	Coarse black flint GRAVEL with cobbles
3.90	GRAVEL on top of putty chalk (gravel pushed into putty chalk?)
4.40-4.60	Putty chalk (>50%) with fragments of unweathered chalk
5.15-5.30	Putty chalk with fragments of unweathered chalk
6.52-6.70	Becoming less putty chalk and more chalk fragments
11.45-11.65	Large chalk fragments in iron stained putty chalk matrix. Also smaller chalk fragments in matrix. Manganese flowers.
12.05-12.20	Less weathered chalk. Chalk fragments white and larger. No iron staining

Water samples

PL26JW1	30/07/03 at 15:00	Casing at 2.20.
PL26JW2	31/07/03 at 14:00	Casing at 3.80
PL26JW3	31/07/03 at 16:00	Casing at 4.50
PL26JW4	01/08/03 at 16:30	Casing at 5.10 (borehole at 5.50)
PL26JW5	06/08/03	8.8
PL26JW6	07/08/03	10.85
PL26JW7	07/08/03	12.00
PL26JW8	08/08/03	12.80
PL26JW9	08/08/03	14.00
PL26JW9	11/08/03	14.00 – 14.65

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26K (N4)
		Sheet 1 of 1

Equipment & Methods	Location
Pilcon Wayfarer 1500 shell and auger rig 250 mm diam	BOXFORD Westbrook Farm
Water levels	**Grid Reference**
RWL 12/08/03 = 0.48 mBGL RWL 13/08/03 = 0.82 mBGL with casing at 3.20	**Datum level**

Carried out for	Date	Ground level
British Geological Survey **Drilled by** Centre for Ecology and Hydrology	12/08/03-13/08/03	

Description	Thickness	Depth	Reduced level
MADE GROUND soil with brick and putty chalk at base	1.30	1.30	
Soft very dark grayish brown (10YR3/2) CLAY with small pieces of putty chalk	0.30	1.60	
Light yellowish brown (10YR5/4) very clayey gravelly SAND with yellow (10YR7/6) mottling becoming sandy GRAVEL with depth	2.10	3.70	
CHALK			
Completion Bentonite pellets 90 mm OD PVC casing 90 mm OD PVC screen (with 1mm slots?) 90 mm OD PVC casing		 2.00 2.66 3.51 3.63	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26L (N7)
		Sheet 1 of 2

Equipment & Methods	Location
Pilcon Wayfarer 1500 shell and auger rig Temp 250 mm casing to 6.87 Installed 150mm at 6.87 Temp PW casing to 7.90	BOXFORD Westbrook Farm
Water levels	**Grid Reference**
Seepage at 1.4 mBGL (14/08/03) Water struck below 1.7m and rose immediately to 0.8 mBGL (14/08/03) RWL 15/08/03 = 1.47 with casing at 3.31 mBGL RWL 18/08/03 = 0.79 with casing at 6.76 m BGL RWL 19/08/03 = 0.76 with casing 3.19 m BGL RWL 20/08/03 = 0.73 with casing at 7.92 mBGL	**Datum level**

Carried out for	Date	Ground level
British Geological Survey **Drilled by** Centre for Ecology and Hydrology	14/08/03-20/08/03	

Description	Thickness	Depth	Reduced level
MADE GROUND very dark greyish brown (10YR3/2) soil with concrete and brick	1.20	1.20	
Soft very dark greyish brown silty clay	0.20	1.40	
Very soft dark brown (7.5YR4/2) silty CLAY with chalky patches	0.10	1.50	
Becoming very soft light grey (5Y7/1) very sandy silty CLAY	0.20	1.70	
White (5Y8/1) very gravelly SAND with some strong brown (7.5YR5/8) mottling	0.80	2.50	
Becoming sandy GRAVEL	2.50	5.00	
CHALK	2.90	7.90	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26L (N7)
		Sheet 2 of 2

Completion		
Bentonite pellets	2.20	
Natural pack	5.00	
Bentonite pellets	6.87	
165 mm OD x 150 mm ID PVC casing	6.87	
90 mm OD PVC casing (inside 165 mm without pack / seal)	6.90	
90 mm OD PVC screen (with 1mm slots?)	7.66	
90 mm OD PVC casing	7.83	

Grab / bulk samples

Sample No ?		

U100 samples

Sample No	Top of liner	Base of liner / top of shoe	Base of shoe	Lost core	No of sinkers	No of valvators	No of blows
PL26L/1	5.00			Flint blockage			
PL26L/2	5.75		6.40		2	1	45
PL26L/3	6.40	6.85	7.10				45
PL26L/4	7.25	7.70	7.90		2	2	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26M (P)
		Sheet 1 of 1

Equipment & Methods	Location
Forager 55 shell and auger rig 150 mm diameter	BOXFORD
Water levels Water struck at between 1.4 – 1.7 mBGL and rose to 0.55 m in 15 mins RWL on 20/02/07 = 0.6 mBGL with casing at 3.7 m	**Grid Reference** **Datum level**
Carried out for British Geological Survey	**Date** 19/02/07 – 20/02/07

Description	Thickness	Depth	Ground level / Reduced level
MADE GROUND soil, stone and brick	0.50	0.50	
MADE GROUND Chalk rubble	0.10	0.60	
Moderately humified dark reddish brown (5YR3/2) PEAT	1.00	1.60	
Pale brown (10YR6/3) clayey GRAVEL / SAND	0.60	2.20	
Becoming light yellowish brown (10YR6/4) GRAVEL, sandy towards base. Gravel mainly coarse with cobbles	1.10	3.30	
Chalk GRAVEL with some putty chalk	0.60	3.90	
Completion			
Concrete		0.60	
150 mm protective casing with lockable sliding top plate			
Bentonite pellets		1.40	
Pack (natural & pea gravel)		3.30	
Pea gravel		3.40	
Bentonite pellets		3.70	
60mm OD x 50 mm ID casing		2.54	
60mm OD x 50 mm ID screen (1mm slots)		3.30	
60mm OD x 50 mm ID casing (sump)		3.80	

Bulk samples			
2.30 – 2.80	2.80 – 3.30		

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26N (Q)
		Sheet 1 of 1

Equipment & Methods	Location
Forager 55 shell and auger rig 150 mm diameter	BOXFORD
Water levels Water struck at c 1.4 and rose to 0.8	**Grid Reference**
	Datum level

Carried out for	Date	Ground level
British Geological Survey	21/02/07 – 22/02/07	

Description	Thickness	Depth	Reduced level
SOIL Grey (5Y5/1) clay with some stones	0.50	0.50	
Moderately-highly humified dark reddish brown (5YR3/2) PEAT	0.20	0.70	
Soft grey (5Y5/1) CLAY	0.20	0.90	
Moderately-highly humified dark reddish brown (5YR3/2) PEAT	0.50	1.40	
Pale brown (10YR6/3) very sandy GRAVEL. Gravel: coarse with fine-medium flint. Sand: fine-coarse	1.00	2.40	
Very pale brown (10YR8/3) CHALK with putty chalk	0.40	2.80	
Chalk GRAVEL with some putty chalk	0.60	3.90	

Completion		
Concrete	0.40	
150 mm protective casing with lockable sliding top plate		
Bentonite pellets	1.30	
Pack (natural & pea gravel)	2.30	
Pea gravel	2.40	
Bentonite pellets	2.80	
60mm OD x 50 mm ID casing	1.56	
60mm OD x 50 mm ID screen (1mm slots)	2.33	
60mm OD x 50 mm ID casing (sump)	2.43	

Bulk samples			
1.40 – 2.20	2.20 – 2.80		

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26V
		Sheet 1 of 2

Equipment & Methods	Location
Forager 55 shell and auger rig 150 mm diameter	BOXFORD Woodland behind barn at Westbrook Farm
Water levels Water = 1.1m BGL with casing at 1.6 and hole at 2.6 m BGL (8/01/08) Water = 1.1m BGL at 4.5m BGL (9/01/08)	**Grid Reference** **Datum level** Well top = 0.45m AGL Protective casing = 0.57m AGL

Carried out for	Date	Ground level
British Geological Survey	07/01/08-10/01/08	

Description	Thickness	Depth	Reduced level
Brown (10YR4/3) SOIL	0.40	0.40	
MADE GROUND Chalk gravel in chalky matrix	1.60	1.60	
Very dark grey (5YR3/1) PEAT	0.70	2.30	
Dense grey (10YR6/1) fine – coarse flint GRAVEL	0.70	3.00	
Dense reddish yellow (7.5YR6/6) sandy fine – coarse flint GRAVEL	0.50	3.50	
Dense yellow (10YR7/6) sandy fine – coarse flint with chalk GRAVEL	0.50	4.00	
As above but more chalk fine gravel and coarse sand	0.50	4.50	
Dense very pale brown (10YR7/6) very sandy flint with chalk GRAVEL	0.50	5.00	
As above but more chalk fine gravel and coarse sand	0.30	5.30	
Chalk GRAVEL	0.20	5.50	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26V
		Sheet 2 of 2

Completion		
Concrete	0.30	
150 mm protective casing with lockable sliding top plate	0.43	
Bentonite pellets	2.30	
Pack (natural)	5.30	
60mm OD x 52 mm ID MGS GEOCASING	4.35	
60mm OD x 52 mm ID MGS GEOSCREEN (1mm slots)	5.20	
60mm OD x 52 mm ID sump at base of screen	5.30	

Samples			
0.4-1.3	2.3-3.0	4.0-4.5	5.3-5.4
1.3-1.6	3.0-3.5	4.5-5.0	
1.6-2.3	3.5-4.0	5.0-5.3	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26W
		Sheet 1 of 2

Equipment & Methods	Location
Forager 55 shell and auger rig 200 mm diameter	BOXFORD Woodland behind barn at Westbrook Farm
Water levels Water struck at 1.5m and rose to 0.4m BGL	**Grid Reference** **Datum level** Well top = 0.45m AGL Protective casing = 0.46m AGL
Carried out for British Geological Survey	**Date** 10/01/08-14/01/08

Description	Thickness	Depth	Ground level / Reduced level
Brown (7.5YR4/2) peaty clay SOIL	0.40	0.40	
Soft very dark grey (5YR3/1) moderately humified PEAT	0.20	0.60	
Strongly humified PEAT with some flint gravel increasing with depth	0.90	1.50	
Medium dense - dense reddish grey (5YR4/2) peaty sandy GRAVEL	0.50	2.00	
Medium dense -dense reddish yellow (7.5Y5/6) very sandy fine – coarse flint GRAVEL with cobbles	1.00	3.00	
Dense very pale brown (10YR7/3) sandy fine – coarse flint with chalk GRAVEL	2.00	5.00	
Medium dense – dense pale brown (10YR7/4) GRAVEL / SAND	0.50	5.50	
Medium dense – dense pale brown (10YR7/4) very gravelly SAND	0.10	5.60	
Very pale brown (10YR8/3) chalk GRAVEL and putty chalk.	0.10	5.70	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26W
		Sheet 2 of 2

Completion		
Concrete	0.30	
150 mm protective casing with lockable sliding top plate	0.54	
Bentonite pellets	1.50	
Pack (natural)	5.56	
60mm OD x 52 mm ID MGS GEOCASING	3.60	
60mm OD x 52 mm IDMGS GEOSCREEN (1mm slots)	5.46	
60mm OD x 52 mm ID sump at base of screen	5.56	

Samples			
0.2-0.6	2.0-2.5	3.5-4.0	5.0-5.5
0.6-1.5	2.5-3.0	4.0-4.5	5.5-5.6
1.5-2.0	3.0-3.5	4.5-5.0	5.6-5.7

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26X
		Sheet 1 of 2

Equipment & Methods	Location
Forager 55 shell and auger rig 200 mm diameter	BOXFORD Woodland behind barn at Westbrook Farm
Water levels Water = 0.60m BGL on 16/01/08 Water = 0.90m BGL on 17/01/08 with casing at 3.8 m (sealed in putty chalk) Water rose between 4.5 – 4.7m BGL Water = 0.62m BGL on 18/01/08	**Grid Reference** **Datum level** Well top = 0.24m AGL Protective casing = 0.56m AGL

Carried out for	Date	Ground level
British Geological Survey	15/01/08-21/01/08	

Description	Thickness	Depth	Reduced level
Very dark greyish brown (10YR3/2) humus	0.10	0.10	
Dense brownish yellow (10YR6/6) clayey very sandy GRAVEL becoming more clayey and chalky at base	0.50	0.60	
Becoming medium dense light yellowish brown (10YR6/3) more clayey very sandy GRAVEL	0.30	0.90	
Soft – firm olive grey (5Y4/2) slightly gravelly silty CLAY	0.10	1.00	
Very dark grey (5YR3/1) humified PEAT	0.30	1.30	
Brown (7.5YR4/4) humified PEAT	0.20	1.50	
Loose - medium dense brown (10YR5/2) GRAVEL / SAND	0.50	2.00	
Medium dense pale brown (10YR6/3) fine – coarse flint GRAVEL with occasional cobbles	0.50	2.50	
Medium dense .- dense brownish yellow (10YR6/6) fine – coarse GRAVEL with cobbles	0.50	3.00	
As above some fine chalk gravel	0.70	3.70	
Very pale brown (10YR7/3) GRAVEL in a putty chalk matrix	0.20	3.90	
Medium dense .- dense very pale brown (10YR8/3) fine – coarse GRAVEL with cobbles (largest = 0.23 x 0.13m)	0.80	4.70	
CHALK with flint 6.7- 7.2m and below 7.8m	5.00	9.70	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26X
		Sheet 2 of 2

PL26X Completion		
Concrete	0.50	
150 mm protective casing with lockable sliding top plate	0.44	
Bentonite pellets	1.50	
Pack (natural)	4.70	
Bentonite pellets	6.30	
Pack (3-6mm)	9.70	
60mm OD x 52 mm ID MGS GEOCASING	7.75	
60mm OD x 52 mm ID MGS GEOSCREEN (1mm slots)	9.60	
60mm OD x 52 mm ID sump at base of screen	9.70	

Samples			
0.1-0.6	2.0-2.5	3.9-4.0	
0.6-0.9	2.5-3.0	4.0-4.5	6.7-7.2
1.0-1.3	3.0-3.5	4.5-4.7	7.2-7.8
1.3-1.5	3.5-3.7	4.7-	7.8-8.7
1.5-2.0	3.7-3.9		8.7-9.5

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26Y
		Sheet 1 of 2

Equipment & Methods	Location
Forager 55 shell and auger rig 200 mm diameter	BOXFORD Woodland behind barn at Westbrook Farm
Water levels	**Grid Reference**
	Datum level Well top = 0.45m AGL Protective casing = 0.57m AGL

Carried out for	Date	Ground level
British Geological Survey	22/01/08-23/01/08	

Description	Thickness	Depth	Reduced level
Dark greyish brown (10YR4/2) SOIL	0.10	0.10	
MADE GROUND Chalk rubble becoming reddish brown (7.5YR7/8) ballast	0.50	0.60	
Soft – firm grayish brown (2.5Y5/2) CLAY	0.10	0.70	
Black (5YR2.5/1) humified PEAT becoming reddish grey (5YR4/2) below 1.0m BGL	0.80	1.50	
Medium dense – dense greyish brown (10YR4/2) mainly coarse black and patinated flint GRAVEL	0.50	2.00	
Medium dense – dense yellow (10YR7/6) mainly coarse flint GRAVEL with cobbles	1.50	3.50	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26Y
		Sheet 2 of 2

PL26Y Completion		
Concrete	0.30	
150 mm protective casing with lockable sliding top plate	0.43	
Bentonite pellets	1.50	
Pack (natural)	3.55	
60mm OD x 52 mm ID MGS GEOCASING	2.61	
60mm OD x 52 mm ID MGS GEOSCREEN (1mm slots)	3.46	
60mm OD x 52 mm ID sump at base of screen	3.55	

Samples			

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26Z
		Sheet 1 of 2

Equipment & Methods	Location
Forager 55 shell and auger rig 200 mm diameter	BOXFORD 8m from right bank of River Lambourn opposite Westbrook Farm
Water levels Water struck at 1.5m and rose to 0.4m BGL Water = 0.55m BGL on 28/01/08 Water = 0.30m BGL on 30/01/08	**Grid Reference** **Datum level** Well top = 0.40m AGL Protective casing = 0.40m AGL

Carried out for	Date	Ground level
British Geological Survey	25/01/08-30/01/08	

Description	Thickness	Depth	Reduced level
Black (5YR2.5/1) PEAT	0.50	0.50	
Loose very pale brown (10YR7/4) very sandy GRAVEL	0.30	0.80	
Dry black (5YR2.5/1) PEAT	0.30	1.10	
Moist PEAT and GRAVEL	0.40	1.50	
Medium dense very dark greyish brown (10YR3/2) peaty flint GRAVEL becoming light yellowish brown (10YR6/4) sandy GRAVEL with depth	0.50	2.00	
Medium dense – dense yellow (10YR7/6) sandy fine – coarse flint GRAVEL	0.20	2.20	
Medium dense – dense yellowish brown (10YR6/4) very clayey very sandy GRAVEL	0.20	2.40	
Medium dense – dense yellow (10YR7/6) sandy fine – coarse flint GRAVEL	0.10	2.50	
Medium dense – dense very pale brown (10YR7/4) sandy fine – coarse flint GRAVEL	0.50	3.00	
Dense yellow (10YR7/8) fine – coarse sandy flint GRAVEL with cobbles	1.00	4.00	
Dense yellow (10YR7/8) fine – coarse sandy flint GRAVEL with cobbles and fine chalk gravel	1.00	5.00	
Medium dense – dense very pale brown (10YR8/3) very sandy fine with coarse flint and chalk GRAVEL. Note some coarse chalk gravel	0.50	5.50	

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26Z
		Sheet 2 of 2

As above with more chalk gravel	0.40	5.90	
As above with more larger chalk fragments. Note rounded fine chalk gravel	0.40	6.30	
CHALK fragments and putty chalk	0.10	6.40	
PL26X Completion			
Concrete		0.30	
150 mm protective casing with lockable sliding top plate		0.60	
Bentonite pellets		1.50	
Pack (natural)		5.90	
Bentonite pellets		6.40	
60mm OD x 52 mm ID MGS GEOCASING		2.65	
60mm OD x 52 mm ID MGS GEOSCREEN (1mm slots)		4.54	
60mm OD x 52 mm ID sump at base of screen		4.62	

Samples

0.5-0.8	3.0-3.5	5.5-5.9	
0.8-1.1	3.5-4.0	5.9-6.3	
1.5-2.0	4.0-4.5	6.3-6.4	
2.0-2.5	4.5-5.0		
2.5-3.0	5.0-5.5		

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26AA
		Sheet 1 of 2

Equipment & Methods	Location
Forager 55 shell and auger rig 200 mm diameter	BOXFORD 8m from right bank of River Lambourn downstream from PL26Z
Water levels Water = 0.75m with casing at 1.5m (31/01/06) Water rose to 0.20m BGL with casing at 1.9m Water = 0.12m BGL on 01/02/08	**Grid Reference** **Datum level** Well top = 0.43m AGL Protective casing = 0.46m AGL

Carried out for	Date	Ground level
British Geological Survey	31/01/08-01/02/08	

Description	Thickness	Depth	Reduced level
Very soft very dark grey (5YR3/1) PEAT	0.10	0.10	
Loose greenish grey (10Y6/1) very gravelly sandy PEAT with bricks	0.20	0.30	
Soft dark grey (5Y4/1) highly humified PEAT	0.40	0.70	
Soft olive grey (5Y5/2) clayey PEAT with sand laminae	0.30	1.00	
Loose light brownish grey (2.5Y6/2) peaty clayey GRAVEL / SAND	0.50	1.50	
Medium dense very pale brown (10YR8/4) very sandy GRAVEL	0.50	2.00	
Medium dense very pale brown (10YR8/4) GRAVEL	0.50	2.50	
Medium dense yellow (10YR7/6) very sandy GRAVEL	1.00	3.50	
Strong buff sarsen stone cobble / boulder	0.20	3.70	
Borehole terminated at 3.70			

Groundwater Monitoring and Drilling Ltd	BOREHOLE LOG	BOREHOLE No PL26AA
		Sheet 2 of 2

PL26AA Completion		
Concrete	0.30	
150 mm protective casing with lockable sliding top plate	0.54	
Bentonite pellets	1.00	
Pack (natural)	3.58	
60mm OD x 52 mm ID MGS GEOCASING	2.64	
60mm OD x 52 mm ID MGS GEOSCREEN (1mm slots)	3.49	
60mm OD x 52 mm ID sump at base of screen	3.58	

Samples			
0.3-0.7	2.5-3.0		
0.7-1.0	3.0-3.5		
1.0-1.5	3.5-3.7		
1.5-2.0			
2.0-2.5			

BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL26 A **Wellmaster No.:** SU47/154 **SOBI No.:** SU47SW185

Location : BOXFORD
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S. LEIVERS
Date Drilling Commenced : 3.9.02
Date Drilling Completed : 5.9.02
Date Borehole Completed : 19.10.02
BGS/WMC Supervisor : E. WHITEHEAD
K. GRIFFITHS

Borehole Construction Details		**Construction Materials**	
Bottom of borehole (as drilled)	25 m bgl	Casing material:	
Borehole diameter	(7 5/8") 190 mm	Screen material:	
Top of backfill (in base of borehole)	m bgl	Slot size:	mm
Bottom of piezometer*	(1) 24.02 (2) 1.78 m bgl	Screen/casing diameter:	mm
Bottom of screen*	(1) 23.87 (2) 1.98 m bgl	Backfill material:	
Top of screen*	(1) 23.1 (2) 1 m bgl	Filter pack material:	limestone chips (6mm)
Top of filter pack†	(1) 13.2 (2) m bgl	Seal material:	bentonite pellets
Top of seal†	(1) 12.8 (2) m bgl	Grout material:	
Top of grout†	m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure			

Surface Completion 223mm plastic casing above ground with flange plate @ 0.65m agl

Type (circle one):	A (small) B C D	Height of top of manhole cover above ground level: Top of casing below top of manhole cover:	m m

Notes:

ERT array

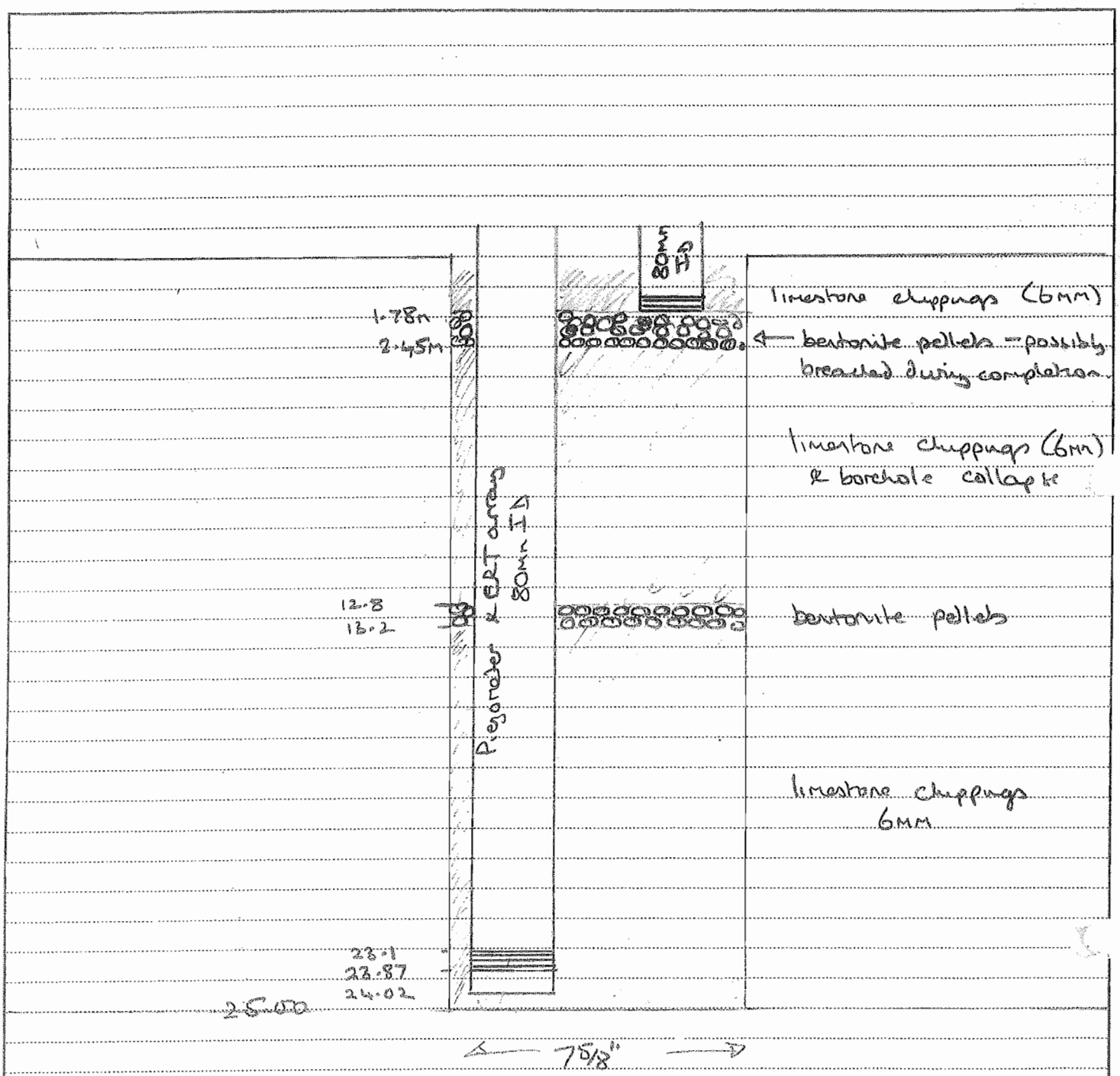
50 electrodes in array spaced @ 0.5m

Electrode 1 @ 24.0m

Electrode 48 @ 0.42m.

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL26B **Wellmaster No.:** SU47/185 **SOBI No.:** SU47SW/186

Location : BOXFORD
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S LEWERS
Date Drilling Commenced : 6.9.02
Date Drilling Completed : 9.9.02
Date Borehole Completed :
BGS/WMC Supervisor :

Borehole Construction Details		**Construction Materials**	
Bottom of borehole (as drilled)	m bgl	Casing material:	
Borehole diameter	mm	Screen material:	
Top of backfill (in base of borehole)	m bgl	Slot size:	mm
Bottom of piezometer*	m bgl	Screen/casing diameter:	mm
Bottom of screen*	m bgl	Backfill material:	
Top of screen*	m bgl	Filter pack material:	
Top of filter pack†	m bgl	Seal material:	
Top of seal†	m bgl	Grout material:	
Top of grout†	m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure			

Surface Completion

Type (circle one):	**A** (small)	**B**	Height of top of manhole cover above ground level:	m
	C	**D**	Top of casing below top of manhole cover:	m

Notes

9 5/8" Drill bit lost @ c. 3m.
Hole abandoned & bit left in situ as could not be retrieved

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM

BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL26C **Wellmaster No.:** SU47/156 **SOBI No.:** SU47SW/187

Location : BOXFORD
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S LEIVERS
Date Drilling Commenced : 9.9.02
Date Drilling Completed : 12.9.02
Date Borehole Completed : 19.10.02
BGS/WMC Supervisor : J. COBBING
E. WHITEHEAD

Borehole Construction Details		**Construction Materials**
Bottom of borehole (as drilled)	25 m bgl	Casing material:
Borehole diameter	(7 5/8") 190 mm	Screen material:
T of backfill (in base of borehole)	m bgl	Slot size: mm
Bottom of piezometer*	(1) 23.9 (2) 4.7 m bgl	Screen/casing diameter: mm
Bottom of screen*	(1) 23.67 (2) 4.5 m bgl	Backfill material:
Top of screen*	(1) 22.98 (2) 3.8 m bgl	Filter pack material: limestone chips 6mm
Top of filter pack†	(1) 11.4 (2) m bgl	Seal material: bentonite pellets
Top of seal†	(1) 11.06 (2) m bgl	Grout material:
Top of grout†	m bgl	
* Measurement based on total length of pipe. † Measured with a weighted tape measure		

Surface Completion 223mm plastic casing above ground with flange plate @ 0.62m a.gl.

Type (circle one): ~~A (small)~~ ~~B~~ ~~C~~ ~~D~~

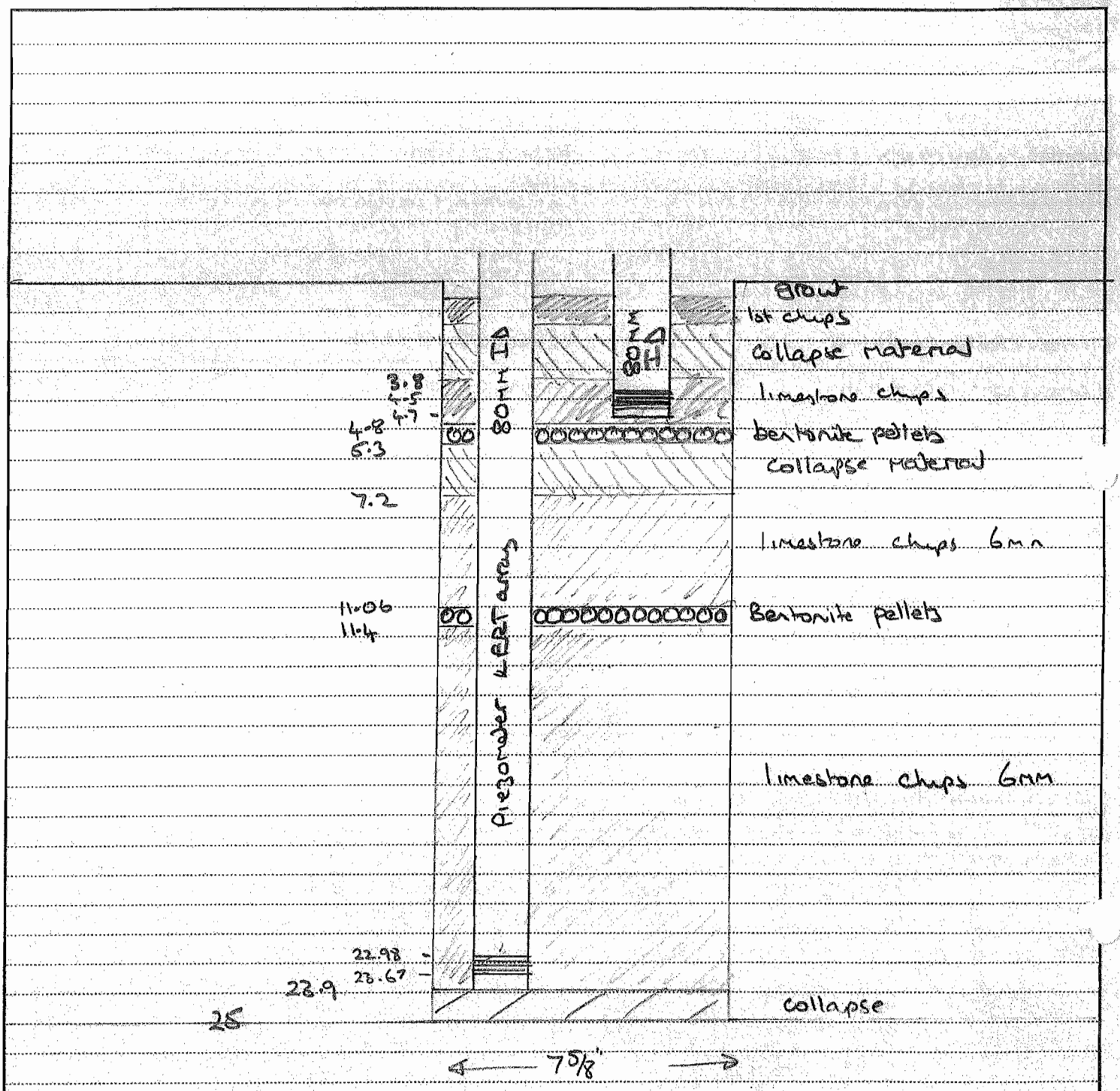
Height of top of manhole cover above ground level: ~~m~~
Top of casing below top of manhole cover: ~~m~~

ERT array:

49 electrodes in array spaced @ 0.5m
electrode 1 @ 23.5 m
electrode 47 @ 0.53 m

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL26D **Wellmaster No.:** SU47/157 **SOBI No.:** SU47 SW 188

Location : BOXFORD
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S LEVERS
Date Drilling Commenced : 12.9.02
Date Drilling Completed : 18.9.02
Date Borehole Completed : 19.10.02
BGS/WMC Supervisor : J. COBBING
E. WHITEHEAD

Borehole Construction Details			**Construction Materials**	
Bottom of borehole (as drilled)	25	m bgl	Casing material:	
Borehole diameter	(7 5/8") 190	mm	Screen material:	
T backfill (in base of borehole)		m bgl	Slot size:	mm
Bottom of piezometer*	(1) 25.13 (2) 3.64	m bgl	Screen/casing diameter:	mm
Bottom of screen*	(1) c 25.13 (2) c 3.64	m bgl	Backfill material:	
Top of screen*	(1) c 24.3 (2) c 2.8	m bgl	Filter pack material:	limestone chips (6mm)
Top of filter pack†	(1) 10.7 (2) 0.7	m bgl	Seal material:	bentonite pellets
Top of seal†	(1) 10.3 (2)	m bgl	Grout material:	
Top of grout†		m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure				

Surface Completion 223mm plastic casing above ground with flange plate @ 0.60m agl

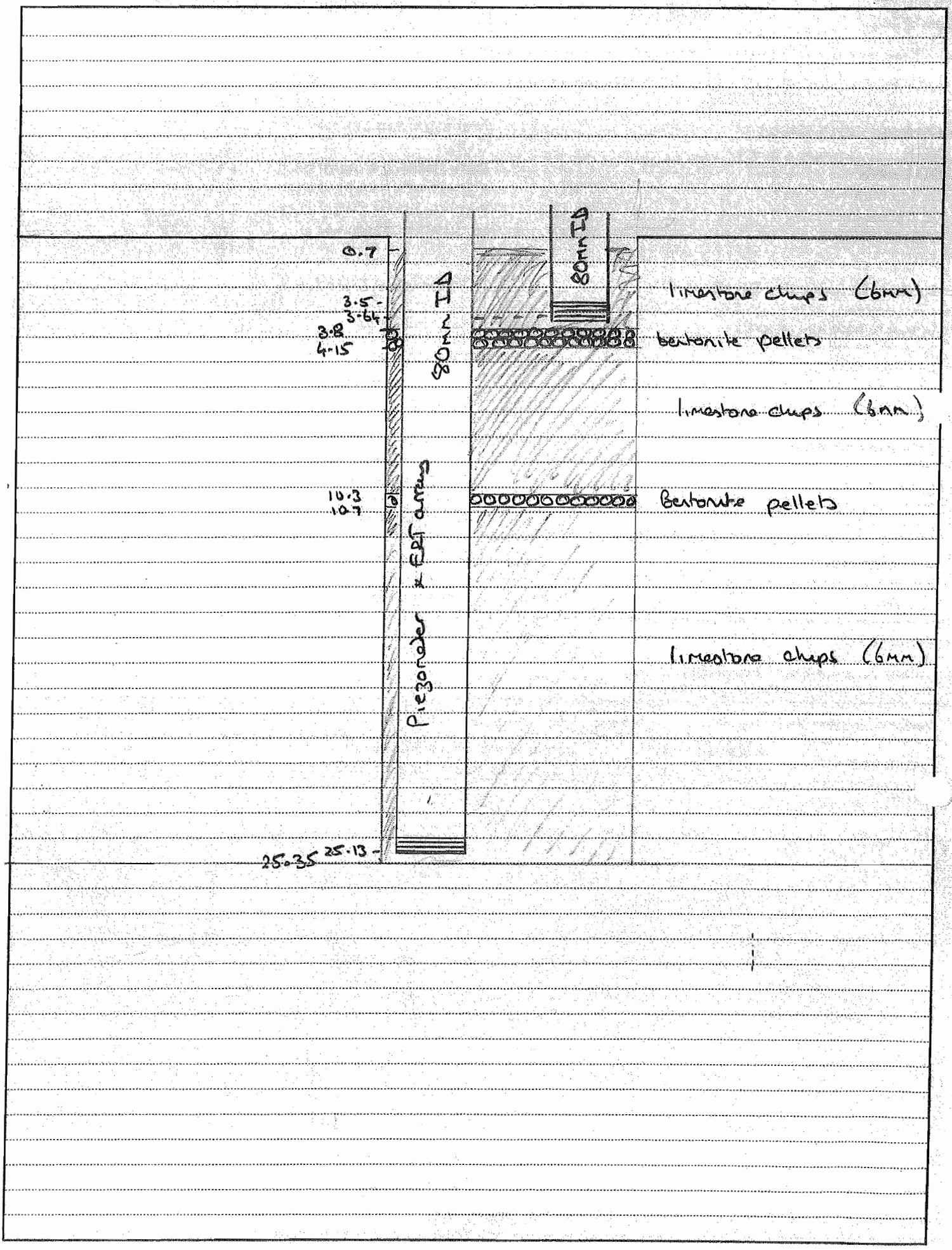
Type (circle one):	A ~~(small)~~ B C ~~D~~	Height of top of manhole cover above ground level: Top of casing below top of manhole cover:	~~m~~ ~~m~~

ERT array:

50 electrodes @ 0.5m spacing
electrode 1 @ 25.0m
electrode 50 @ 0.45m

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL 26E **Wellmaster No.:** SU 47 /158 **SOBI No.:** SU47 SW 189

Location : Boxford
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S. LEIVERS
Date Drilling Commenced : 18.9.02
Date Drilling Completed : 22.9.02
Date Borehole Completed : 3.10.02
BGS/WMC Supervisor : J. COBBING
E. WHITEHEAD

Borehole Construction Details			**Construction Materials**	
Bottom of borehole (as drilled)	25.2	m bgl	Casing material:	
Borehole diameter	(7 5/8") 190	mm	Screen material:	
Tr backfill (in base of borehole)		m bgl	Slot size:	mm
Bottom of piezometer*	(1) 25.2 (2) 4.4	m bgl	Screen/casing diameter:	mm
Bottom of screen*	(1) 25.2 (2) 4.4	m bgl	Backfill material:	
Top of screen*	(1) c24.5 (2) c3.7	m bgl	Filter pack material:	limestone chips (6mm)
Top of filter pack†	(1) 11.15 (2)	m bgl	Seal material:	bentonite pellets
Top of seal†	(1) 10.66 (2)	m bgl	Grout material:	
Top of grout†		m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure				

Surface Completion 223 mm plastic casing above ground with flange plate @ 0.90 m agl

Type (circle one): ~~A (small)~~ ~~B~~ ~~C~~ ~~D~~
Height of top of manhole cover above ground level: ~~m~~
Top of casing below top of manhole cover: ~~m~~

No

ERT array:

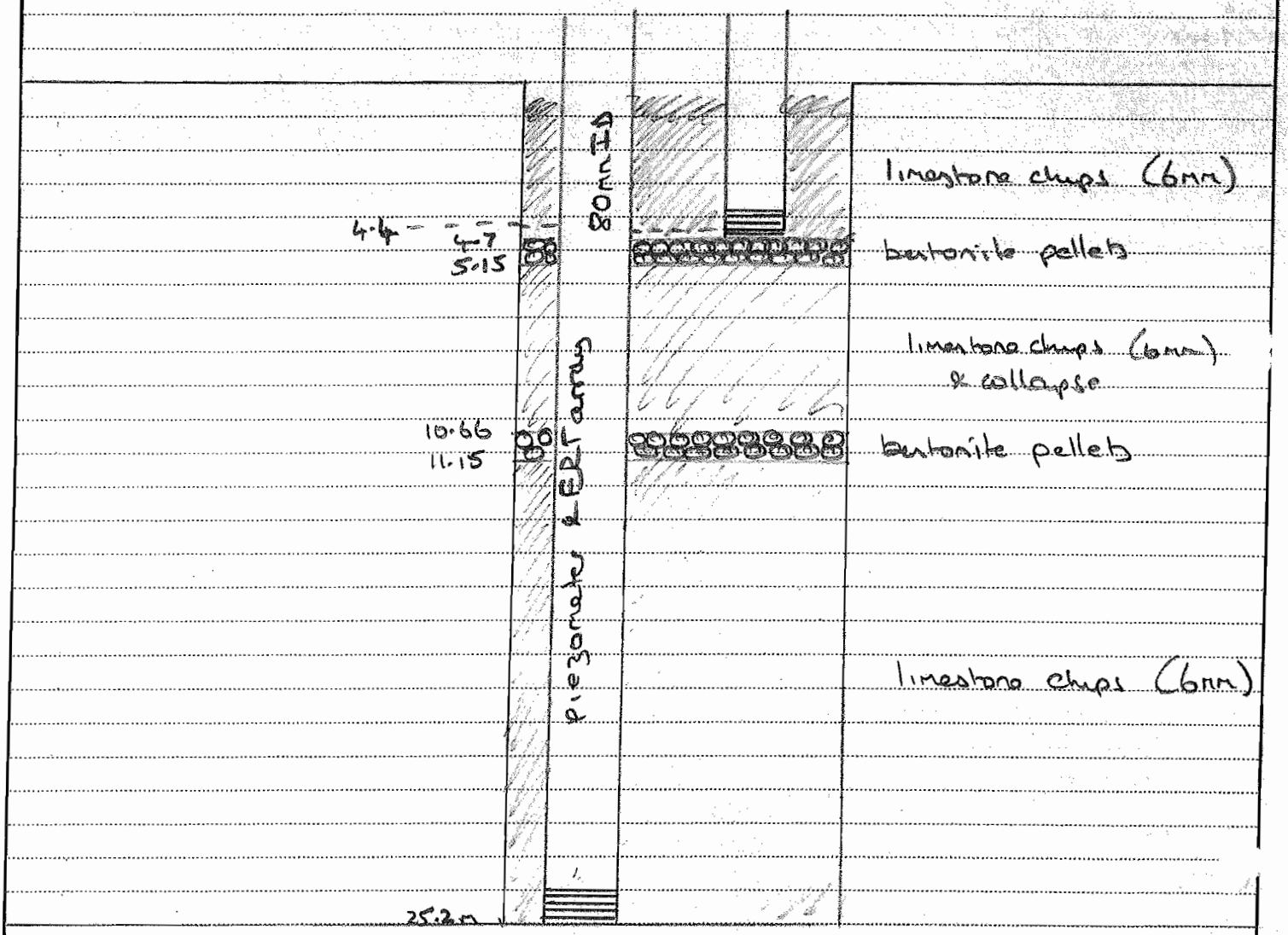
50 electrodes spaced @ 0.50 m.

electrode 1 @ 25.0 m

electrode 50 @ 0.42 m

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



BRITISH GEOLOGICAL SURVEY
LOCAR

BOREHOLE/PIEZOMETER COMPLETION INFORMATION

LOCAR No.: PL26F **Wellmaster No.:** SU47/159 **SOBI No.:** SU47SW190

Location : BOXFORD
NGR : 44271722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : SLEIVERS
Date Drilling Commenced : 22.9.02
Date Drilling Completed : 30.9.02
Date Borehole Completed : 19.10.02
BGS/WMC Supervisor : K. GRIFFITHS, J. COBBING

Borehole Construction Details			Construction Materials		
Bottom of borehole (as drilled)	34.8	m bgl	Casing material:	Plastic 8 5/8"	
Borehole diameter	(9 5/8") 240	mm	Screen material:	Plastic 8 5/8"	
Top of backfill (in base of borehole)		m bgl	Slot size:	1mm	mm
Bottom of piezometer*		m bgl	Screen/casing diameter:	(8 5/8") 215	mm
Bottom of screen*	28.94	m bgl	Backfill material:		
Top of screen*	11.07	m bgl	Filter pack material:	6mm gravel	
Top of filter pack†	10.86	m bgl	Seal material:		
Top of seal†		m bgl	Grout material:		
Top of grout†	c. Surface	m bgl			

* Measurement based on total length of pipe.
† Measured with a weighted tape measure

Surface Completion 10" Steel casing with flange plate c. 0.8m agl.

Type (circle one): ~~A (small)~~ B C ~~D~~

Height of top of manhole cover above ground level: ~~m~~
Top of casing below top of manhole cover: ~~m~~

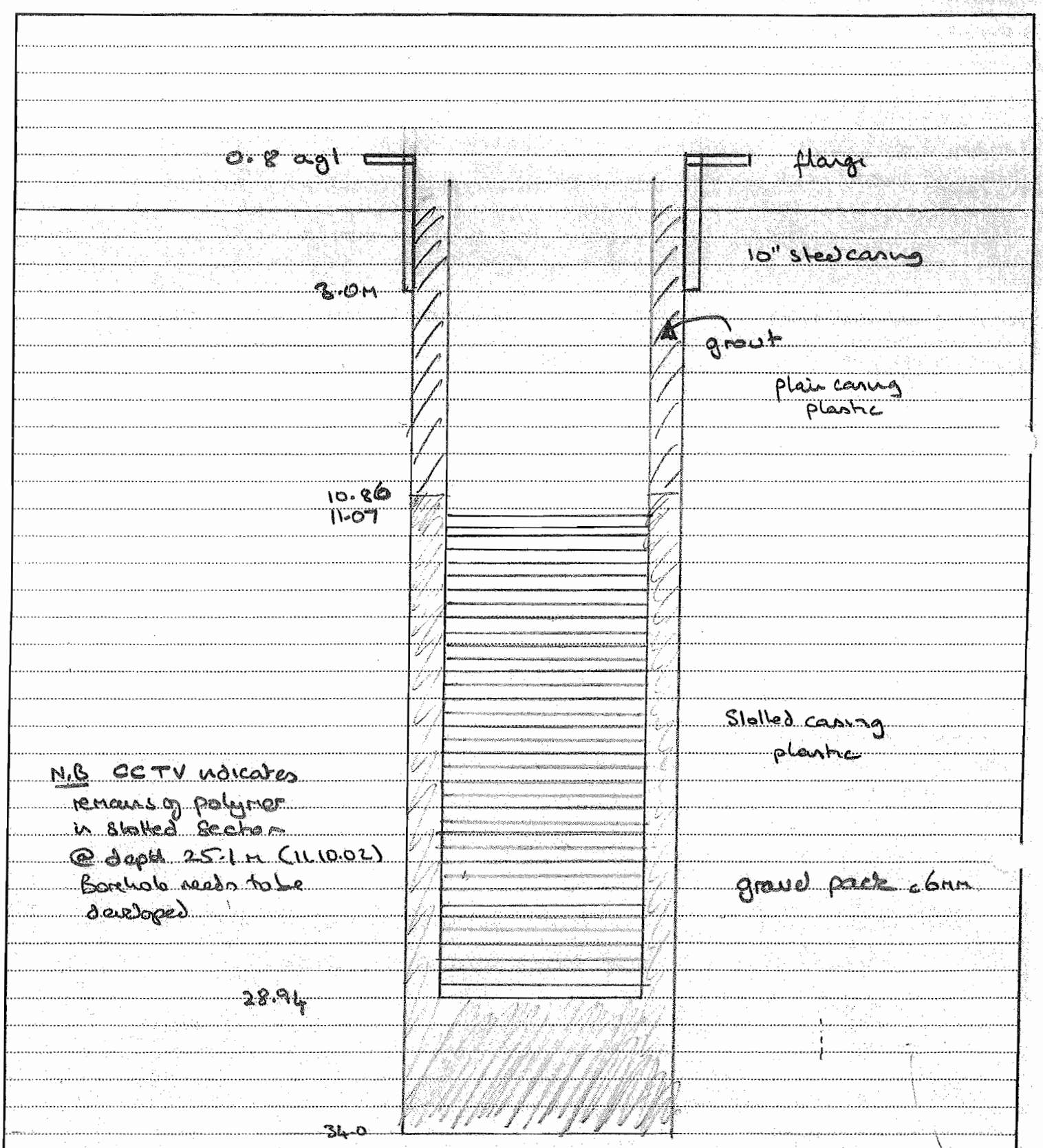
Notes:

CCTV (11.10.02) shows polymer setting in borehole below 25.1m and also evident in slots above this from c. 18m.

Borehole requires further development – not carried out as part of LOCAR groundwater installation BJ. 19.2.03

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL26G **Wellmaster No.:** SU47/160 **SOBI No.:** SU47SW191

Location : Boxford
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : A. Massey
Date Drilling Commenced : 25.9.02
Date Drilling Completed : 20.10.02
Date Borehole Completed : 8.11.02
BGS/WMC Supervisor : K. Griffiths, E. Whitehead, R. Marks

Borehole Construction Details			**Construction Materials**	
Bottom of borehole (as drilled)	100	m bgl	Casing material: Steel to 18m depth	
Borehole diameter	(7 7/8") 195	mm	Screen material:	
T[illegible] of backfill (in base of borehole)		m bgl	Slot size:	mm
Bottom of piezometer*	(1) 90.3 (2) 41	m bgl	Screen/casing diameter:	mm
Bottom of screen*	as above	m bgl	Backfill material:	
Top of screen*	(1) 44.3 (2) 28.3	m bgl	Filter pack material: 6mm gravel	
Top of filter pack†	(1) 50.5 (2) 27.63	m bgl	Seal material: bentonite pellets	
Top of seal†	(1) 48.5 (2) 26.5	m bgl	Grout material:	
Top of grout†	26.5	m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure				

Surface Completion Manhole cover @ surface

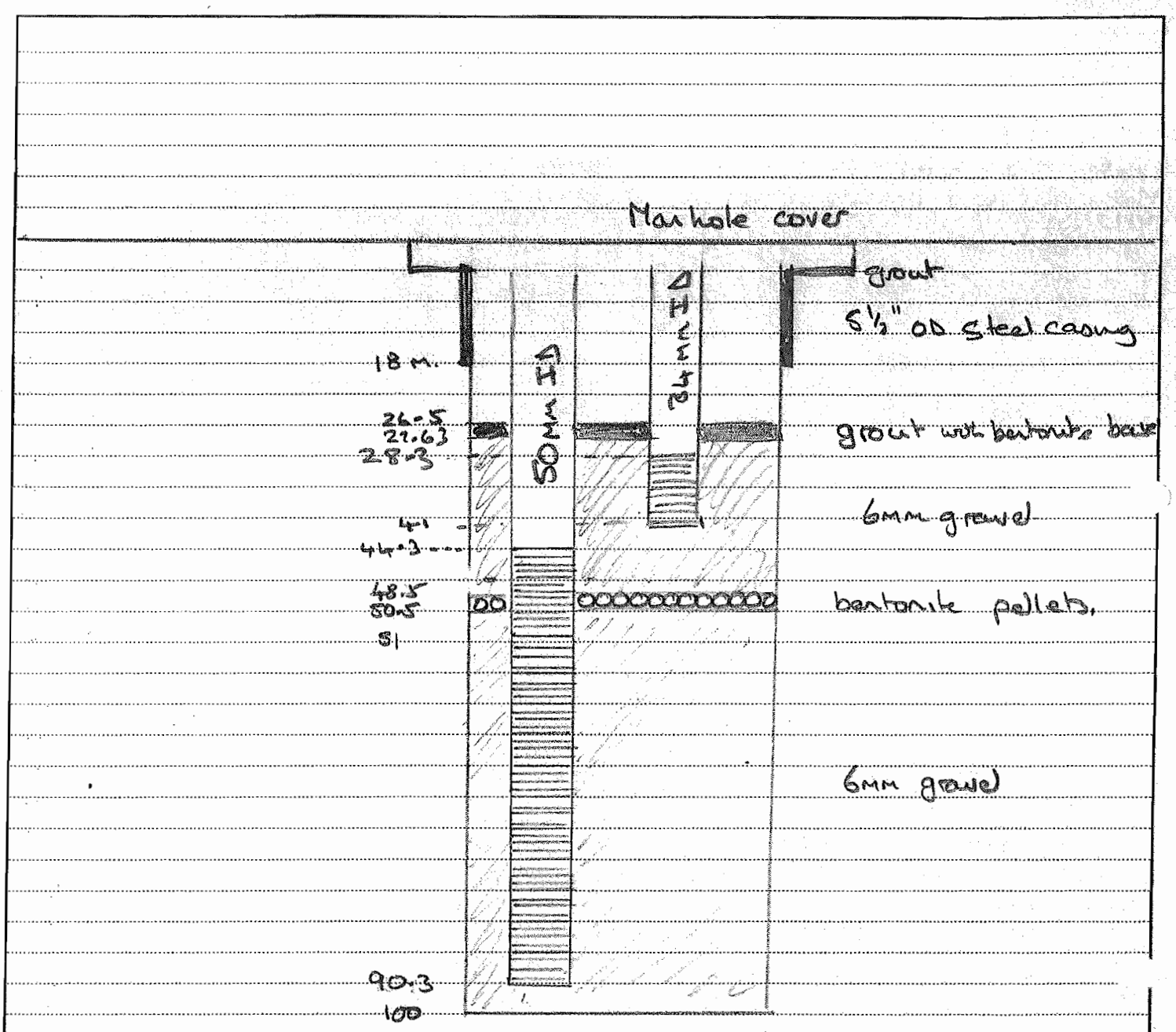
Type (circle one): **A** (small) **B** **C** **D**

Height of top of manhole cover above ground level: gl. m
Top of casing below top of manhole cover: m

Notes:

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



N.B base of piezo 1 originally @ 96.7.
However while pulling out temporary casing during installation of piezo 2, both piezos were pulled up the hole. Thus final position of piezo 1 is as shown — breaching the upper seal.

BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: 2626 H **Wellmaster No.:** SU 47 /161 **SOBI No.:** SU47 SW 192

Location : Boxford
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S. LEIVERS
Date Drilling Commenced : 26.9.02
Date Drilling Completed : 8.10.02
Date Borehole Completed : 22.10.02
BGS/WMC Supervisor : K GRIFFITHS
E WHITEHEAD

Borehole Construction Details			**Construction Materials**	
Bottom of borehole (as drilled)	30	m bgl	Casing material:	
Borehole diameter	(7 5/8") 190	mm	Screen material:	
T of backfill (in base of borehole)		m bgl	Slot size:	mm
Bottom of piezometer*	(1) 29 (2) 22.1	m bgl	Screen/casing diameter:	mm
Bottom of screen*	(1) 29 (2) 22.1	m bgl	Backfill material:	
Top of screen*	(1) 28 (2) 21.1	m bgl	Filter pack material:	6mm gravel
Top of filter pack†	(1) 25.03 (2) 20.0	m bgl	Seal material:	bentonite pellets
Top of seal†	(1) 24.0 (2) 19.0	m bgl	Grout material:	
Top of grout†		m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure				

Surface Completion Manhole @ surface

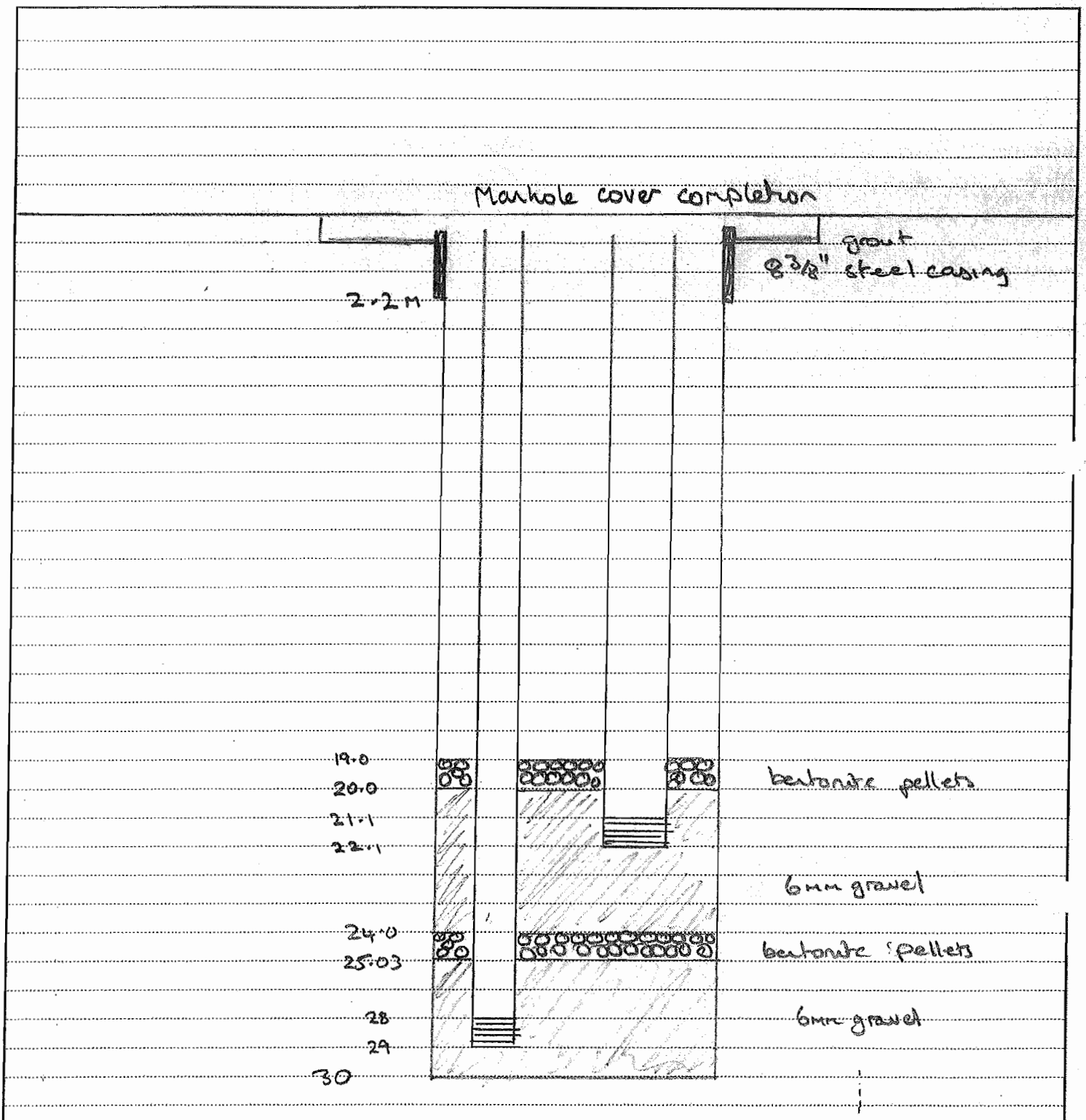
Type (circle one): ~~A (small)~~ ~~B~~ ~~C~~ ~~D~~

Height of top of manhole cover above ground level: 0 m
Top of casing below top of manhole cover: m

No. 3:

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



BRITISH GEOLOGICAL SURVEY **LOCAR**	**BOREHOLE/PIEZOMETER COMPLETION INFORMATION**

LOCAR No.: PL26I **Wellmaster No.:** SU47/162 **SOBI No.:** SU47 SW 193

Location : BOXFORD
NGR : 4427 1722
OD Levels :
at top manhole cover (m OD)
at top casing (m OD)
other (specify) (m OD)

Drilling Company : BDF
Driller : S WEIVERS
Date Drilling Commenced : 4.10.02
Date Drilling Completed : 7.10.02
Date Borehole Completed : 25.10.02
BGS/WMC Supervisor : E WHITEHEAD K GRIFFITHS & R MARKS

Borehole Construction Details		**Construction Materials**	
Bottom of borehole (as drilled)	52.3 m bgl	Casing material:	steel
Borehole diameter	(7 5/8") 190 mm	Screen material:	
T backfill (in base of borehole)	m bgl	Slot size:	mm
Bottom of piezometer*	(1) 50m (2) 32.34 m bgl	Screen/casing diameter:	mm
Bottom of screen*	(1) 49.91 (2) 32.25 m bgl	Backfill material:	
Top of screen*	(1) 41.4 (2) 31.3 m bgl	Filter pack material:	gravel & limestone chips @ 6mm
Top of filter pack†	(1) 37.1 (2) 30. m bgl	Seal material:	bentonite pellets
Top of seal†	(1) 35 (2) 29 m bgl	Grout material:	
Top of grout†	m bgl		
* Measurement based on total length of pipe. † Measured with a weighted tape measure			

Surface Completion

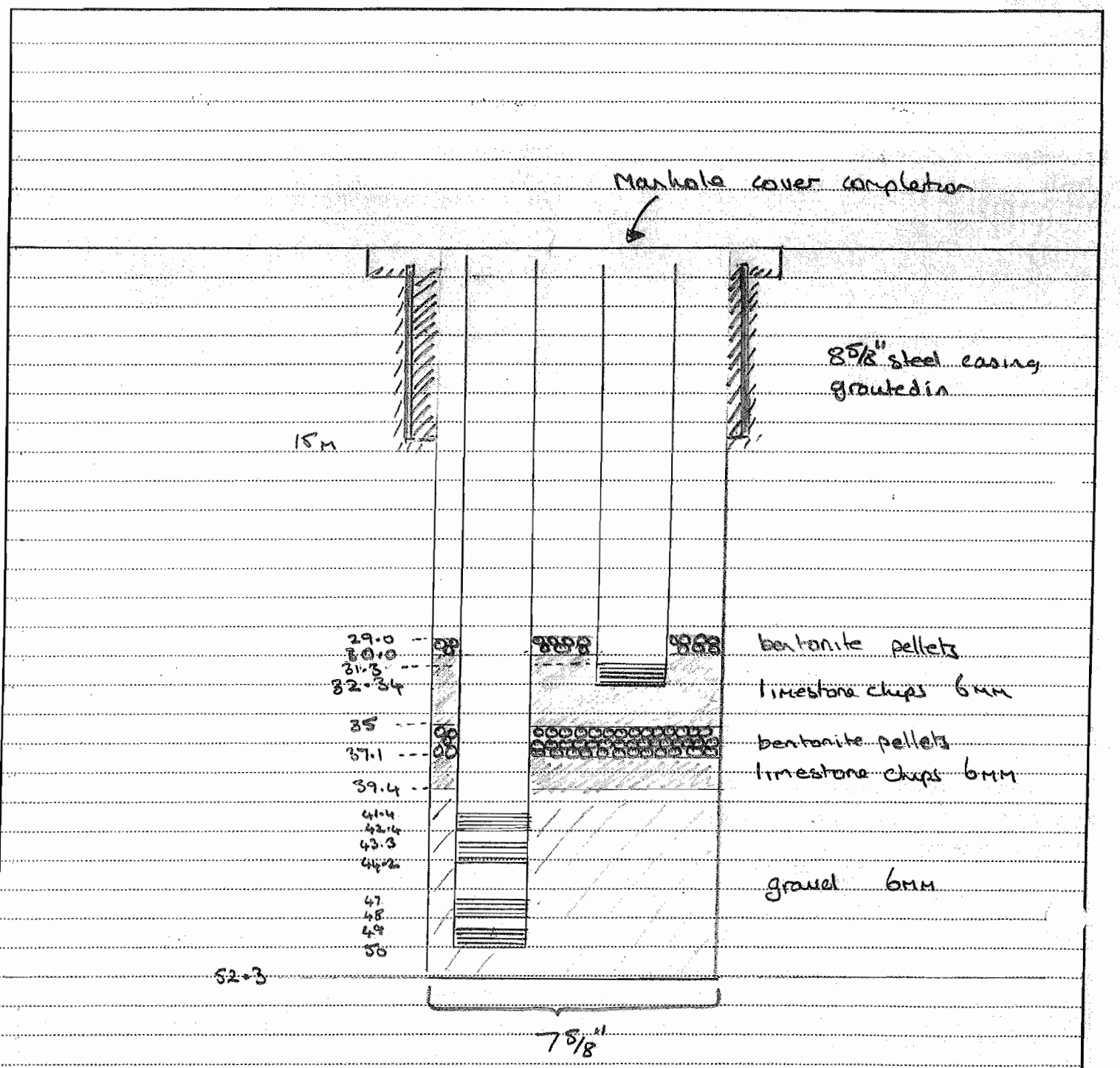
Type (circle one): ~~A (small)~~ ~~B~~ ~~C~~ ~~D~~

Height of top of manhole cover above ground level: 0 m
Top of casing below top of manhole cover: m

N...

BOREHOLE CONSTRUCTION DIAGRAM ON REVERSE

BOREHOLE CONSTRUCTION DIAGRAM



Appendix B: Geological logs.

Contents

Borehole ID	Drillers ID	Geological Log
PL26A		
PL26B		
PL26C		
PL26D		X
PL26E		X
PL26F		X
PL26G		X
PL26H		X
PL26I		
PL26N15	PL26J	
PL26N4	PL26K	
PL26N7	PL26L	
PL26P	PL26M	
PL26Q	PL26N	
PL26R		
PL26S		
PL26T		
PL26U		
PL26V		
PL26W		
PL26X		
PL26Y		
PL26Z		
PL26AA		

Lithostratigraphical Log

Borehole Name:	Boxford (PL 26G)
NGR:	SU 428 725
BGS Reference Number:	SU47SW 191

Notes on the Boxford Borehole (PL 26G)

The cored succession is inferred to contain the following intervals and thicknesses:

Seaford Chalk Formation: c. 66.5 m

Lewes Nodular Chalk Formation: ? 28 m

The thickness of the Lewes Chalk assumes that the formation continues to the base of the cored succession. However, there is extensive core loss from 86 m and the base of the cored succession at 95 m, and lithological evidence suggests that this interval might include several metres of New Pit Chalk Formation. Unfortunately this could not be verified from geophysical log data, which were unavailable at the time of logging.

From the lithological log, the 'Chalk Rock' occurs from 86-89 m.

In the absence of unequivocal evidence of the basal Newhaven Chalk Formation, the highest part of the cored succession is questionably assigned to the Seaford Chalk Formation. Comparison of the Boxford and Broadfield Cottages boreholes suggests that the top of the cored successions in each of these might be of similar age. Microfossil samples could be used to resolve this correlation and confirm the age of the youngest chalk in these boreholes.

For continuity of sample depths, core loss assumptions on the attached lithological log mostly follow those made on the hydrogeological log.

The term 'marl' on the attached lithological log means clay-rich chalk.

Key to symbols used on lithological log

nodular flint

sheet flint

marl

shell fragments

nodular chalk

Zoophycos

spongiferous chalk

fault or fracture

stylolitic marl

strongly indurated

bioturbation (where especially conspicuous)

strongly iron-stained chalk

glauconitised clast

phosphatic clast

hardground

sandy chalk

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PLZ6G
	Locality Name: Boxford	Sheet: 1 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
0.0						No Core	
1.0							
2.0							
3.0				White Chalk Subgroup	? Seaford Chalk		
4.0							
5.0	① 4.5 – 6.0					nodular flint occupying full core diameter	

Comments: Assumptions about core loss follow those made on the hydrogeological log

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project LOCAR	Borehole No. PL26G
	Locality Name Boxford	Sheet 2 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by MAW / Scale 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
5.0				White Chalk Subgroup	? Seaford Chalk	Weak smooth-textured white CHALK with small, medium and large nodular flints. Higher part of run (down to 5.54) comprises very weak, 'purry' Chalk. Small oyster fragments	
6.0	② 6.0–7.50						
7.0						Moderately weak, smooth-textured, white CHALK, with medium and large sized flint fragments. Locally pale yellowish-white Chalk at 7.20.	
8.0	③ 7.50–10.10						
9.0						Small nodular flint fragments preserving inoceramid shell. Oyster fragments at 8.80 & 9.12.	
10.0						Moderately weak, smooth-textured white CHALK with pale yellowish-orange banding running through it. Very large flint at 9.50. Fragments of large nodular flint. Core much more fragmented from 9.50–10.10. Locally comprises 'purry' Chalk.	

Comments: Core remains from sampled interval at 5.24–5.41

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Project: LOCAR		Borehole No.: PL26G	
Locality Name: Boxford		Sheet: 3 of 19	
Start date / End date	Client	Borehole diameter	NGR/lat & long / Ground level
Drilling method		Casing details	Logged by: MAW / Scale: 20cm = 5m

Depth (m) below Ground level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
10.0							
	④ 10.10 – 11.95						
11.0				White Chalk Subgroup	? Seaford Chalk	Moderately weak, smooth-textured, white CHALK with locally developed pale orangey-yellow discolouration. Small nodular flint fragments. Occasional oysters. Very fractured core from 11.30 – 11.80	
12.0						No Core	
	⑤ 12.15 – 14.65					Moderately weak, smooth-textured white flinty CHALK with locally developed pale orangey-yellow bands of discolouration. Massive flint at 12.80, 70mm thick & occupying full width of core.	
13.0							
14.0							
	⑥ 14.65 – 17.65						
15.0							

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 4 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
15·0							
16·0				White Chalk Subgroup	? Seaford Chalk	Core run highly fractured, with bands of 'putty' Chalk. Moderately weak, smooth-textured, white flinty CHALK. Local bands of pale yellowish-orange discolouration. Very poorly fossiliferous.	
17·0							
18·0	7 17·65 – 20·65						
19·0							
20·0						Moderately weak, smooth-textured white chalk. Very poorly fossiliferous. A few inoceramid shell fragments	

Comments: Core remains from sampled interval at 16·83 – 16·96

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 5 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
20.0						that might represent Platyceramus	
21.0	(8) 20.65 – 22.65			White Chalk Subgroup	Cenomanian Stage of Boxford		
22.0						massive flint c. 100mm thick occupying full core width Moderately weak, highly fractured, flinty CHALK. Locally 'putty' Chalk. Pale orange-yellow staining becomes stronger down to 22.55.	
						very strongly orange-stained chalk from 22.55–22.65, then becoming less orange-stained to 23.30m. Below 23.30m patchy orange-stained Chalk occurs.	
23.0	(9) 22.65 – 24.15					Core remains highly fractured down to 24.15. Very poorly fossiliferous. Locally (e.g. 22.65–22.80) Chalk appears completely destructured. Small fragments of very hard Chalk around 23.20.	" "
24.0	(10) 24.15 – 25.15						
25.0						Destructured and highly fragmented pale yellowish-white CHALK.	

Comments: Core remains from sampled interval at 22.96–23.08

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 6 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
25.0							
	(11) 25.15 – 26.65					Highly fragmented & locally destructured CHALK down to 26.30. Much more fossiliferous, with Volviceramus involutus at 25.60 & Platyceramus at 26.47. Local patches of strong Chalk. Very thin wispy grey marl	
26.0				White Chalk Subgroup	Seaford Chalk Fm		
						Below 26.30, Chalk forms more intact core. More intact core in lower part of run comprises moderately weak to moderately strong, pale orangey-yellow colour banded CHALK.	
	(12) 26.65 – 28.15					broken-up nodular flint fragments. Destructured Chalk in top of run, becoming moderately intact core from 26.97–27.18. Below 27.18 highly fragmented core. Chalk fragments comprise moderately weak to moderately strong, smooth-textured Chalk, with locally developed pale orange colour banding. Thin marl plexus at 27.13.	
27.0							
28.0						Thick shelled Platyceramus (>5mm thick). Core much more intact than seen previously above. Moderately weak to moderately strong, smooth-textured flinty CHALK. Locally developed pale yellow-orange colour banding.	
	(13) 28.15 – 29.65					Very thin wispy marl	
29.0						large Platyceramus shell fragment. Core very orange-stained around 29.10	
	(14) 29.65 – 31.15					large nodular flint c.7mm thick & occupying most of core diameter	
30.0							

Comments: NB: Core loss recorded on 'hydro' log at top of run 14 is not consistent with sample at stated depth of 30.38–30.63. This has been resolved by assuming core loss to be at base of Run 14 on the above log.

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name	Sheet: 7 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
30·0				White Chalk Subgroup	Culver Chalk	Core from 29·65–30·30 is highly fragmented. From 30·30 to base of run, core much more intact.	
						40mm marl	
						Moderately weak, yellowish-cream, flinty CHALK with well developed marl seams.	
						Chalk becomes rough-textured, below 30·70. Fragmented core in top of Run includes fragments of moderately strong Chalk.	
31·0						Common shell fragments of Platyceramus & locally Volvicetamus involutus.	
						50mm marl	
	(15)						
	31·15 – 32·65					Huge nodular flint (up to 150mm thick) occupying most of core diameter. Core highly fragmented from 31·70–32·0	
32·0						Locally very coarse-textured, weakly nodular horizon.	
						Moderately weak to moderately strong, pale, yellowish-cream, flinty CHALK.	
						Platyceramus shell fragments	
						Fragments of medium grey marl in sample from core catcher.	
	(16)						
33·0	32·65 – 34·15					Fragments of moderately strong, weakly nodular CHALK.	
						marly bioturbated chalk horizon →	
						70mm thick, medium-grey marl	
						Moderately strong, rough textured, weakly nodular, creamy-white CHALK, with flints & marl seams.	
34·0						Moderately weak, smoother-textured chalk below sampled interval to base of Run 16.	
	(17)						
	34·15 – 37·00						
35·0						Moderately strong, coarse-textured, weakly nodular horizon.	

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 8 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
35.0						Moderately strong to moderately weak, patchily spongiferous, pale yellowish-creamy coloured CHALK More indurated, weakly nodular horizon	
				White Chalk Subgroup	Seaford Chalk	Moderately intact core Stylolitic marl	
36.0							
						Platyceramus shell fragments in locally more indurated, patchily spongiferous chalk. Core becomes highly fragmented from 36.70 to base of run 17.	
37.0							
	(18) 37.0 — 40.0					Flint nodules in non-intact core Moderately strong, locally weakly nodular and spongiferous, creamy-white CHALK, with flints and common marl seams.	
38.0						Rough-textured, poorly nodular chalk. Moderately strong to strong CHALK. ?Platyceramus shell fragments Patches of more indurated chalk	
39.0						Volviceramus involutus? (fragment)	
40.0						Moderately strong, rough-textured, weakly nodular CHALK.	

Comments

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Project: LOCAR		Borehole No.: PL26G
Locality Name: Boxford		Sheet: 9 of 19
Start date / End date	Client	Borehole diameter
NGR/lat & long / Ground level		
Drilling method	Casing details	Logged by: MAW
Scale: 20cm = 5m		

Depth (m) Below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
40·0				White Chalk Subgroup	Seaford Chalk	No Core	
41·0							
42·0	20 41·90 – 43·05					Rubble of large nodular flint fragments overlying non-intact Chalk.	
43·0	21 43·05 – 44·75						
44·0						15mm medium grey marl seam. Very fragmented core. Individual fragments comprise moderately strong creamy-white CHALK.	
45·0							

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR Locality Name: Boxford	Borehole No. PL26G Sheet 10 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level

Drilling method	Casing details	Logged by	Scale
		MAW	20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
45.0	(22) 44.75 – 47.75			White Chalk Subgroup	Seaford Chalk		
46.0							
47.0						Rubble of large nodular flints (up to 150mm)	
48.0	(23) 47.75 – 50.55						
						Rubble of flint fragments (up to 80mm) and large fragment of strong rough-textured, creamy-white CHALK	
49.0						Highly fragmented core becoming less fragmented from 49.30–49.75, and then highly fragmented to base of Run 23. 20mm medium-grey plexus marl	
50.0						Intact core locally comprises moderately strong, rough-textured, creamy-white CHALK. No obvious fossils. Conspicuous iron-staining	Fe Fe Fe

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project LOCAR	Borehole No. PL26G
	Locality Name Boxford	Sheet 11 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by MAW / Scale 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
50·0							Fe
	24			White Chalk Subgroup	Seaford Chalk		
51·0	50·55 – 53·55					Rubble of flint fragments and fragments of moderately strong CHALK.	
						Most of core in Run 24 is highly fragmented. Larger fragments of core comprise moderately strong to moderately weak creamy white CHALK.	
52·0						Intact core below 53·30 is moderately strong CHALK	
						No obvious macrofauna	
						Wispy marl, c. 5mm thick Pair of hollow centred sheet flints.	
53·0							
	25						
54·0	53·55 – 56·25						
55·0							

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 12 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
55.0							
56.0				White Chalk Subgroup	Seaford Chalk	Rubble of flint fragments	
	26 56.25 – 59.25					Moderately weak to moderately strong creamy white CHALK with common marls and regular flint nodules. Sparse macrofauna. Core run is moderately intact Chalk, rather soft & smooth textured compared to that seen above. one or more well developed plexus marls. ? Cremnoceramus at 57.14. 35mm plexus marl	
57.0							
58.0						interval of thin wispy marl stringers	
59.0						25mm plexus marl	
						No Core	
60.0						Rubble of nodular flints. Moderately strong, roughly-textured, patchily yellow-orange stained, creamy-white CHALK; possible fragment of Cremnoceramus at 59.80.	

Comments

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Project	LOCAR	Borehole No.	PL26G
Locality Name	Boxford	Sheet	13 of 19
Start date / End date		Client	
Borehole diameter		NGR/lat & long / Ground level	
Drilling method		Casing details	
Logged by	MAW	Scale	20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
60.0	(27) 59.75 – 60.55			White Chalk Subgroup	Seaford Chalk	25 mm plexus marl	
						No Core	
61.0	(28) 61.05 – 64.05					Rubble of nodular and sheet flint fragments	
						Moderately weak to moderately strong creamy white chalk with thin marls and nodular flints; part of sheet flint up to 10mm thick	
62.0						Bands of more indurated and nodular chalk with softer, less nodular chalk in between; sheet flint c.7mm thick	
						120mm thick marl plexus	
63.0						Cremnoceramus at 63.24; locally conspicuous bioturbation	
						10mm dark grey marl seam underlain by thin stylolitic and wispy marls; 45mm thick plexus marl	
64.0						Cremnoceramus shell fragment at 64.0	
	(29) 64.05 – 67.05					Flint rubble	
						Very fragmented core down to 65.10, then much more intact below this to base of run 29. Thin, slightly stylolitic marls c.1mm thick	
65.0							

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 14 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level

Drilling method	Casing details	Logged by	Scale
		MAW	20cm = 5m

Depth (m) below Ground level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
65.0				White Chalk Subgroup	Lewes Nodular Chalk / Seaford Chalk	Moderately weak to moderately strong, rough-textured, weakly nodular, creamy white CHALK. Common marl seams and regular nodular flints patchily iron-stained, spongiferous chalk	
66.0							
						?Zoophycos preserved as pale grey marly infills. Becoming more indurated below. Well developed 35mm thick marl at 66.72 underlain by interval of thin unsp y marls	
67.0							
	(30)						
	67.05 – 69.65						
68.0							
69.0						Broken up flint fragments and fragmented CHALK.	
						Solid 40mm thick marl seam, underlain by thin, unsp y marls, small flint in base of marl. Moderately strong, rough-textured, weakly nodular creamy white CHALK. Patchily spongiferous.	
	(31)					Flint rubble and highly fragmentary CHALK. Chalk fragments are rough-textured and moderately strong with pale yellowish-cream colour.	
70.0							

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 15 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
70.0	69.65-70.25			White Chalk Subgroup	Lewes Nodular Chalk	Small interval (c. 120mm) of intact core at base of run. This Chalk is locally strong and weakly nodular	
						No Core	
71.0	(32) 70.75 — 72.25						
72.0						Flint rubble & ground-up 'putty' CHALK	
	(33) 72.25-72.75					Flint rubble, including v. large nodular flint fragment (>150mm). Ground up Chalk between flints	
73.0						No Core	
	(34) 73.25 — 74.25					Very fragmented core, comprising moderately strong to strong, rough-textured creamy-white, nodular CHALK. 60mm plexus marl at 73.65 nodular flint preserving inoceramid shell fragments. Patchily spongiferous chalk at 73.80.	
74.0						No Core	
75.0							

Comments

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 16 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level
Drilling method		Casing details	Logged by: MAW Scale: 20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
75.0							
76.0							
	35 76.25 – 79.25						
77.0						Rubble of flint fragments and extremely hard, orange-stained CHALK fragments. Core very fragmentary down to 77.38; intact core below to base of run. V. hard, iron-stained spongiferous nodular chalk above c. 5mm thick medium grey marl seam ? Zoophycos-rich interval, preserved as thin, medium-grey marly infills. Thin, laterally discontinuous marl wisps with ? C. walteradorfensis	
78.0						* Moderately strong to strong, nodular, creamy-white, rough-textured CHALK. 60mm plexus marl overlain by 40mm plexus marl (? might be one big plexus marl) 20mm plexus marl plexus marl, becoming stylolitic marl laterally Very indurated at 78.80 – 78.90; very spongiferous below this. end of Run 35 at 79.03, but 'hydro' log records 79.25. (Remnoceramus? at 78.86 (!!)	indurated v. indurated
79.0		*					
	36 79.25 – 80.75						
80.0							

Comments: * Cannot reconcile core with depths assigned on 'hydro' log for Run 35. Interval 'missing' at base of Run 35.

Lewes Nodular Chalk

White Chalk Subgroup

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Project: LOCAR		Borehole No.: PL26G	
Locality Name: Boxford		Sheet: 17 of 19	
Start date / End date	Client	Borehole diameter	NGR/lat & long / Ground level
Drilling method		Casing details	Logged by: MAW / Scale: 20cm = 5m

Depth (m) below Ground level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
80.0							
				White Chalk Subgroup	Lewes Nodular Chalk	Flint rubble	
81.0						No Core	
82.0							
83.0	(37) 83–86.0						
84.0							
85.0						large nodular flint – probably not in-situ Moderately strong to strong, rough-textured greyish/creamy-white nodular CHALK. 70mm thick marl plexus at 84.70	

Comments: * unable to reconcile core with stated core recovery & sampling recorded on 'hydro' log, gap in core is consistent with sample at 85.05–85.12, core below 85.12 is intact and does not agree with note on core recording 'core removed 85.05–85.62'

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	Project: LOCAR	Borehole No.: PL26G
	Locality Name: Boxford	Sheet: 18 of 19

Start date End date	Client	Borehole diameter	NGR/lat & long Ground level

Drilling method	Casing details	Logged by	Scale
		MAW	20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Stratigraphy (where known) Fmn.	Description	Legend
85.0			recorded as sampled, but core present	White Chalk Subgroup	Lewes Nodular Chalk	Highly fragmented core ?O. reedensis →	gl
						Strongly indurated nodular CHALK ?O. reedensis →	
86.0	38					Intensely hard, glauconitised hardground	gl
	86.0-89.0						
87.0							
88.0						glauconitised hardground Very strong, rough-textured, creamy-grey, nodular CHALK with glauconitised hardgrounds	gl
						Small brown phosphate? fragment ? glauconitised hardground →	ok gl
89.0						No Core	
90.0							

Comments

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Project	LOCAR	Borehole No.	PL26G
Locality Name	Boxford	Sheet	19 of 19
Start date / End date		Client	
Borehole diameter		NGR/lat & long / Ground level	
Drilling method		Casing details	
Logged by	MAW	Scale	20cm = 5m

Depth (m) below Ground Level	Run no. & Driller's depths	Core Loss	Sampled Intervals	Stratigraphy (where known) Grp.	Fmn.	Description	Legend
90.0				White Chalk Subgroup	New Pit Chalk / Lewes Nodular Chalk	No Core	
91.0							
92.0							
93.0							
94.0						Flint Rubble	
	(39) 94.0 - 95.0					(borehole uncored from 95 – 101.0m; Total Depth of borehole = 101.0m)	
95.0							

Comments

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26D.	
Locality Name: Boxford	Sheet 1 of 2	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by: E. Cullis — Scale:
Other tests	Orientation	Ground level

Depth (m)AL/ from to	Sample/core recovery: Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn.size. BS F M C G
0							V. soft, dark ~~green~~ brown soil.					
1							Loose, moderatly hard, brown gravels. contains flint nodules.					
2							mod. ~~soft~~ soft, light brown, med. grained sand. Flint nodules.					
3							light brown, med sand with coarse - med. gravels and flints. V. wet.		?			
4							loose, medium/fine sands. light brown/cream. well sorted. organics.					
5							Loose, med - fine sands. cream lots plant debris. well sorted.					
6							loose. med - fine. cream, chalky. lots plant debris. Well sorted.					
7							fine, cream CHALK with coarse sands + some organics.					
8							loose. coarse gravels. cream / brown. Well sorted.					
9							loose. coarse gravels. cream/ brown. well sorted.					
10							loose. coarse sand. Cream. CHALK. Well sorted.					
11							loose. coarse sand. Cream. CHALK. Well sorted					
12							loose. coarse - medium grains. CHALK. Well sorted.					
13							fine-medium CHALK. lots plant debris. flints.					
14							medium-coarse grained CHALK. lots plant debris					
15							medium-coarse grained CHALK. lots plant debris. flints.					
16							medium-coarse grained CHALK. Soft med-fine grained. lots					
17							plant debris. Well sorted.					
18							med-fine grained CHALK. Well sorted.					
19							med-coarse grained CHALK. flints.					
20												

Comments:

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26D.	
Locality Name: Boxford.	Sheet 2 of 2	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment / Other tests	Borehole diameter	Logged by: E. Cullis. / Scale:
Orientation	Ground level	

Depth (m)AL/ from to	Type / TCR	No / SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F/M/C; Av gn.size. F/F/M/C/C/G)
20						Med-coarse grained CHALK. Well sorted, angular. Flints.					
21						Med-coarse grained CHALK + flints. plant debris.					
22						Med-coarse grained CHALK white+brown. Flints.					
23						Med-coarse grained CHALK and flints. Some fine material chalk.					
24						Med. grained - white/brown CHALK and flints.					
25											
	Bulk sample of CHALK "GRAVEL".					Med-coarse grained gravel. mixture of CHALK and flints. Well sorted, angular grains.					

Comments:

SAMPLES. (2)

British Geological Survey	Project LOCAR	Borehole/Well No. PL26E
	Locality Name Boxford	Sheet 1 of 1
Start date End date	Casing diameter	NGR/lat &long
Drilling method Equipment	Borehole diameter	Logged by E Cullis. Scale:

Depth (m)AL/ from to	Sample/core recovery: Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Orientation	Ground level	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn size F F M C G
0									Loose, dark brown soil. lots organic material. Contains couple of larger ~~pebl~~ gravels, up to >1cm. Majority small, 2mm.					
1M									Loose, dark brown soil. lots organic material. V. fine except occasional larger material (~2mm)					
2M									Loose, brown sand. Small amount of organic material. Some flints - up to 2cm. generally coarse but some fines.					
3M									Loose. Gravels with couple large < 5cm flints.					
4M. ~														
20	collapsing material 20-23m.								Coarse grained, loose, white-brown material. Relatively consistent size ≈ 0.5cm.					
23														
23	air-lift developing only 23.54 - 25.20 of hole open.								(after ~15 mins develop) coarse grained. loose, white-brown material. Relatively constant size ≈ 0.5cm. (after ~25 mins develop). coarser grained (then 15 mins develop) esp. Chalk bits.					
26														

Comments:

SAMPLES.

British Geological Survey

Project LOCAR	Borehole/Well No. PH26F	
Locality Name Boxford.	Sheet 1 of 2	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by E. Cullis. / Scale:
Other tests	Orientation	Ground level

Depth (m)AL/ from to (bgl)	Sample/~~core recovery~~ Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size Carbonates E M C Av grn size F M C G
0							Soft, black, v. wet soil. v. few larger particles, Majority silty, with few sandier particles.					
1							loose, coarse sand. v. few organics.					
2							loose, medium grained sand. well sorted (layer clayey material sampled)					
							loose - coarse med. grained sand. Reasonably well sorted. Some finer material.					
4							loose, mainly gravels with some fine sands. few larger flints.					
5							loose gravels up to 2cm clasts surrounded by coarse sands.					
6							loose gravels up to 2cm clasts surrounded by coarse sands. large flint nodule (3cm long).					
7							loose, coarse sand. well sorted. contains lots plant debris.					
8							loose, coarse sand. well sorted. contains fewer plant debris.					
9							loose, med. sand. white, ~~clayey~~. Chalky. well sorted. some plant debris.					
10							loose, med sand. white. well sorted. rounded					
							loose, med sand. white. well sorted + rounded. Also clay flakes.					
12							loose, med - fine sand. white. lots organic material / plant debris.					
13							loose, med sand. white. well sorted / slightly rounded.					
14							loose, med. sand. white. well sorted / slightly rounded.					
15							loose med. sand. white. well sorted / slightly rounded. Some fine sands.					
16							loose, med. sand white. well sorted / rounded.					
17							loose, med sand. white. well sorted / rounded. Also fine silty white grains.					
18							loose, med sand. white + brown. good sorting + slightly rounded.					
19							loose, med sand. white + brown. well sorted.					
20												

Comments:

SAMPLES .

British Geological Survey	Project LOCAR	Borehole/Well No. PL 26F
	Locality Name Boxford .	Sheet 2 of 2
Start date End date	Casing diameter	NGR/lat &long
Drilling method Equipment	Borehole diameter	Logged by E. CULLIS — Scale:

Sample/core recovery: Depth (m)AL/ from to	Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	Other tests: SPT blows /N; Core size (mm)	Orientation	Ground level	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn.size BS F M C G
20								loose, med. sand 50% white, 50% brown particle. Well sorted. silty white particles also present.					
21								loose, med sand 50:50 white/brown well sorted/rounded.					
22								loose, coarse sand 50:50 white/brown. well sorted/rounded.					
23								loose coarse sand 50:50 white/brown. well sorted/rounded.					
24								loose coarse sand 50:50 white/brown. well sorted/rounded. wet.					
25								loose, coarse sand 50 50 white/brown. well sorted/slightly rounded					
26								loose, coarse sand 50:50 white/brown. well sorted.					
27								loose v. coarse sand 75:25 brown/white. well sorted/angular.					
28								loose, v coarse sand. 75:25 brown/white. well sorted.					
29								loose, v. coarse sand. Mainly brown particles. Well sorted.					
30								loose, v. coarse sand. 50:50 white brown. Well sorted.					
31													
32													

Comments:

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26G	
Locality Name: BOXFORD	Sheet 1 of 29	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by / Scale: 20cm = 5m
Other tests	Orientation	Ground level

Sample/core recovery: Depth (m)AL/ from to	Type / TCR	No / SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn size: F M C
0.0						NO CORE RECOVERY					
1.0											
2.0											
3.0											
4.0											
4.5											
RUN 1 BOX 1 T.D. 4.5 B.D 6.0						NO CORE RECOVERY LOSS ASCRIBED TO TOP OF RUN					
5.0						SEE OVER FOR CORE DESCRIPTION					

Comments:
1.50/1.10

British Geological Survey

Project	LOCAR
Borehole/Well No.	PL26G
Locality Name	BOXFORD
Sheet	2 of 2
Start date / End date	
Casing diameter	
NGR/lat &long	
Drilling method / Equipment	
Other tests	
Borehole diameter	
Logged by	JEC
Scale:	20cm = 5m
Orientation	
Ground level	

Depth (m)AL/ from to	Type TCR	Type SCR	No RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F L M C; Av gn size. F F M C C G)
5.00			5.24 / 5.41	PL26G/1		Very weak greyish white CHALK Putty chalk 4.90 – 5.20m Nodular flints at 5.07 and 5.19m Flint at 5.84m Broken at 5.83 to 5.89m					
6.0	RUN 2 BOX 1 TD 6.00 BD 7.50 1.50/1.00					NO CORE LOSS ASCRIBED TO TOP OF RUN					
7.0						Weak greyish white CHALK Flints at 6.50, 6.90 and 7.40m Brown staining on fractures at 7.38 to 7.42m					
8.0	RUN 3 BOX 2 TD 7.50 BD 10.10 2.60/1.56					NO CORE LOSS ASCRIBED TO TOP OF RUN. (7.50 – 8.54m) (8.54m)					
9.0						Weak grey-white CHALK (8.54 – 9.40m) Mineralised sediment filled fracture at 8.84m. (MnO mineralisation + fine clay infill) Dark brown fine sand in fracture. 9.40					
10.0				9.9 9.95 / PL26G/2 10.10		Very weak grey-white CHALK Small nodular flint at 9.40m Fracture at 9.80m.					

Comments:

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26G	
Locality Name: BOXFORD	Sheet 3 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by: JEC / MM — Scale: 20cm = 5m
Other tests	Orientation	Ground level

Depth (m)AL/ from to	Type TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F/M/C; Av gn.size BS F/M/C/G)
10.00				PL26G/2			(10.10m)					
	Box 3 Run 4						NO RECOVERY					
	TD = 10.10 BD = 11.95											
11.00	1.85/1.97						V. weak to weak yellowish white CHALK. Nodular flints @ top. 11.00 Fault with black specs. 11.25-11.42 Vt fractures with plenty of brown/black specs. soft to weak CHALK. V. broken CHALK.				DO?	Rubble; very fragmental almost pellets
12.00							NO RECOVERY					
	Box 4 Run 5						NO RECOVERY					
	TD = 12.15 BD = 14.65						Weak white CHALK, heavily broken, some fracture surface exhibit black spec (MnO?)					Rubble
13.00	2.50	12.97 / 13.09 / 2.09		PL26G/3			@ 12.80 Big flint with a flat top surface and a nodular bottom surface. 13.33 - 13.56 high angle fracture with red staining and black specs (MnO?)					
14.00												
	Box 5						NO RECOVERY					
15.00												

Comments: There is a note on Run 4 casing: "10.30 to 11.00" V. soft driller thinks losses probably occurred in this interval" => core loss assumed @ top.

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL 26G	
Locality Name: BOXFORD	Sheet 4 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by: M. M
Other tests		Scale: 20 cm = 5 m
Orientation: Vt	Ground level	

Depth (m)AL/ from to	Sample/core recovery: Type	No	TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av gn.size; F M C G)
15.00									No Recovery					
	Box 5 (cont'd) Run 6													
	TD = 14.65 BD = 17.65													
16.00	3.00	0.53 + 1.22 = 1.75							crushed v. weak white CHALK and flint chips. Almost plastic (putty chalk?)					
									weak to mod. weak white CHALK. Black specs on fracture surface. Broken.					
									putty chalk					
			16.83	16.96	PL 26G	4			Weak to mod weak white CHALK. Black specs on fracture surface. All core is broken.					
17.00														
	Box 6 Run 7								No Recovery					
18.00														
	TD = 17.65 BD = 20.65													
	3.00	1.20												
19.00														
			19.61	19.72	PL 26G	5			Weak white CHALK. Many fractures all have some black specs, some more heavily stained than others. @19.50 flints.				Rubble	
20.00														

Comments:
Box 5 core loss assumed @ top.
Box 6 core loss assumed @ top.

British Geological Survey

Project	LOCAR	Borehole/Well No.	PL 26 G
Locality Name	BOXFORD	Sheet	5 of 20
Start date / End date	logging 30.09.02	Casing diameter	NGR/lat &long
Drilling method / Equipment		Borehole diameter	Logged by: M.M / Scale: 20cm = 5m
Other tests		Orientation: vt	Ground level

Depth (m)AL/ from to	Sample/core recovery: Type / No / TCR / SCR / RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av grn size E F M C G)
20.00	Box 6 (cont'd)				Weak white CHALK, fragmented at the base. c. 20.45 distinct 5 line orangish ~ hs and below slight orange staining. Many fracture more a less stained with black spec	brown stain				
	Box 7				No Recovery					
21.00	Run 8 + 9 TD: 20.65 BD: 24.15									
22.00	Run 8 20.65 22.65 2.00 | 0.80				weak to soft, crushed in part yellowish white CHALK. Large black nodular flints (cms) @ 22.30 Orange staining (few cm) 22.55–22.65 orangish weak CHALK.					heavy fracture
23.00	Run 9 22.65 24.15 1.50 | 1.46	22.96 23.08	PL 26 8/6		Crushed yellowish white (putty?) CHALK. Numerous fractures, surfaces are heavily stained (black spots (MnO) sometime so many it's like coating) + orange to red staining. weak yellowish CHALK with black spots, thin black bed (flaser mat), orangish seam. orange zones around flints.					less fractured DR?
24.00	Box 8 Run 10 + 11 TD: 24.15 BD: 26.65				No Recovery					
25.00	Run 10 24.15 – 25.15				Non intact: white CHALK powder + water + flint chips.					

Comments: 1.00 \| 0.37 Run 8 core loss assumed @ top (flint) / 9 bottom (flint + crushed section) / 10 top

British Geological Survey

Project: LOCAR		Borehole/Well No.: PL 26 G	
Locality Name: BOXFORD		Sheet 6 of 20	
Start date: logging 30.09.02	Casing diameter	NGR/lat &long	
End date			
Drilling method / Equipment	Borehole diameter	Logged by: M.M	Scale: 20cm=5m
Other tests	Orientation: vt	Ground level	

Depth (m)AL/ from to	Sample/core recovery: Type / TCR / SCR / RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av grn size E F M C G
25.00	Box 8 (cont'd) Run 10				Non intact weak white CHALK some black spots surface.					Rubble
					No Recovery.					
	Run 11 25.15–26.65 1.50/1.12				Incoherent white CHALK (crushed blocks) chips and black flint chips.					
26.00		26.10 26.21	PL26	G/7	Gradually coherent soft to mod. weak white putty CHALK. – Black spots (MnO) on frac. surface (*) – Frac. mainly vt.					
	Box 9				No Recovery					
27.00	Run 12+13 TD = 26.65 RD = 29.65				Non intact weak white CHALK (crushed blocks)					
	Run 12 26.65–28.15 1.50/1.31				Weak broken white CHALK. heavily fractured, some orange staining and/or black specs. (MnO?) v. fractured.					
28.00					Weak to moderately weak white CHALK slightly more competent than previous run.					Rubble
	Run 13 28.15–29.65 1.50/1.46	28.61 28.74	PL26	G/8	@ 28.36 Orange staining ~ hz 28.47–28.50					DB
29.00					flint chips and orangish bits non intact.					
	Box 10				No Recovery					
30.00	Run 14+15				Non intact white CHALK, almost putty and black nodular flints.					

Comments: Run 11 loss assumed @ top
12 id
13 @ bottom.

(*) Example of CK frac. surface.

alternating

British Geological Survey

Project	LOCAR	Borehole/Well No.	PL26G
Locality Name	BOXFORD	Sheet	7 of 20
Start date / End date	logging 1.10.02	Casing diameter	NGR/lat &long
Drilling method / Equipment		Borehole diameter	Logged by: M.M / Scale: 20 cm = 5 m
Other tests		Orientation: Vt	Ground level

Depth (m)AL/ from to	Type TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F/M/C; Av grain size VF/F/M/C/C)
30.00	Box (contd) Run 14 + 15 TD: 29.65 BD: 32.65						Weak white putty CHALK and black nodular flints.					
		30.38		AQ PROPS/2			Weak to strong white CHALK horizon. fractures which are covered with black specs (MnO) light orangish staining.					
		30.52 30.63		PL26G/19								
	Run 14 29.65-31.15											
31.00	1.50/1.39						shell fragment + Fe staining					
	Box 10 (contd)						No Recovery.					
	Run 15 31.15 - 32.65						c. 31.52 v. large (dm) nodular black flint. Weak yellowish white putty CHALK with iron staining.					
32.00	1.50/1.12						Weak to strong white fractured CHALK. black spots on frac. surface.					
	Box 11						No Recovery					
33.00	Run 16						Weak to strong white CHALK with nodular black flints.					Rubble
	TD: 32.65 BD: 34.15						30.10 30.04 flaser marl. Thick greenish grey marl 30.23-30.29					
	1.50/1.40	33.70 33.83 33.90		AQ PROPS/2 PL26G/10			Fracture surfaces covered with black specs (MnO?). When sampling seen orange zones within the Ck body.					Rubble Rubble
34.00	Box 12 Run 17 TD: 34.15 BD: 37.00						No Recovery					
	2.85/2.93	(0.89+1.34) = 2.23					weak to strong greyish white CHALK with black nodular flints					Rubble
35.00	Comments:											

Run 14 core loss assumed @ top
15 id
16 id
17 id

British Geological Survey

Project: LOCAR	Locality Name	Borehole/Well No.: PL 26G
		Sheet 8 of 20
Start date: logging 1/10/02	Casing diameter	NGR/lat &long
End date		
Drilling method / Equipment	Borehole diameter	Logged by: M. M
Other tests		Scale: 20cm = 5m
Orientation: vt	Ground level	

Sample/core recovery: Depth (m)AL/from to; Type; No; TCR; SCR; RQD. Fracture spacing (min/mean/max measurement). SPT blows /N. Core size (mm).

Description of strata to BS5930:1999 with additional information

Depth (thickness) (m); Level m OD; Legend; Sed. structures/fractures; Grain size (Carbonates F M C; Av grn size BS [F M C G])

35.00

Box 12 (contd)

Run 17

35.35

35.50

PL26G/11

weak heavily fractured greyish white CHALK.

Fracture with black spotted surface.

flaser marl

@ 35.25 Iron stain (cms)

36.00

2.85/2.23

vt fracture, dense black spotting

36.60 – 36.70 Iron marks.

37.00

No recovery

Box 13

Run 18

TD: 37.00

BD: 40.00

Non intact white chalk and flint chips "paste".

Strong white CHALK

fracture with black spots.

@ 37.75 thin hard grey /blackish surface (Break)

38.00

@ 37.60 – 37.65 flaser marl, greenish gray.

3.00/2.90

large black modular flint @ 37.50

fracture with a shiny surface.

@ 38.97 Another break on a hard greenish grey surface.

39.00

39.00

39.13

39.24

AQ PROPS/3

PL26G/12

Some flaser marl

40.00

Comments: Box 13 casing was NOT labelled, depth have been assumed looking at drilled info on the core boxes (depth interval) and casing layout in the core box.

British Geological Survey	Project: LOCAR	Borehole/Well No.: PL26G
	Locality Name: BOKFORD	Sheet 9 of 10
Start date: logging 2/10/01 End date:	Casing diameter:	NGR/lat &long:
Drilling method: Equipment:	Other tests: Borehole diameter:	Logged by: M.M. Scale: 20 cm = 5m
Orientation: vt	Ground level:	

Depth (m)AL/ from to	Sample/core recovery: Type	No	TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn.size VF F M C G
40.00									No Recovery					
41.00														
42.00	Box 14 TD. 44.90 BD. 44.75 Run 20-21								Non intact weak white CHALK chips. v. large black nodular flints.					
									No Recovery					
43.00	Run 20 41.90 - 43.05 1.15 | 0.40													
	Run 21 43.05 - 44.75													
44.00	1.70 | 0.87								Non intact weak white CHALK chips brownish grey marl Some chip may be sev. cm. big. Some surface with black spots.			M		
45.00	Box 15								No Recovery					

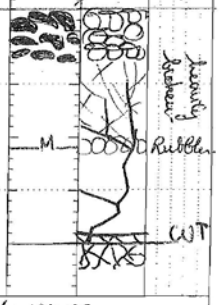
Comments:

British Geological Survey

Project: LOCAR		Borehole/Well No.: PL 266G	
Locality Name: BOXFORD		Sheet: 10 of 20	
Start date: logging 2/10/02 End date:	Casing diameter	NGR/lat &long	
Drilling method Equipment	Borehole diameter	Logged by: M. M.	Scale: 20cm = 5m
Orientation: vt	Ground level		

Depth (m)AL/ from to	Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av gn.size. E F M C G)
45.00							Box 15 (cont'd) Run 22 + 23 TD = 44.75 BD = 50.55					
							No Recovery, except a couple of large black nodular flints in a piece of casing					
46.00												
							Run 22 44.75 – 47.75					
47.00												
48.00							No Recovery					
							Run 23 47.75 50.55					
							Black nodular flint chips sev. cm size.					
49.00							2.80/1.10+0.8 1.90 core loss assumed @ top.					
							Then gradually strengthening from top to bottom soft (almost putty) to weak white CHALK @ 49.30 greenish grey soft marl @ 49.46 iron strainingish staining. vt fracture heavy MnO (in places dendritic) and iron staining in the whole section. Broken section with dense Fe staining.					
50.00												

Comments: MJB called on 2/10/02 To tell them the labelling of box 15 and 16 wrong
Run 23 : 47.75 – 50.55
Run 24 : 50.55 – 53.55 } taken in account when labelling the boxes [illegible]



British Geological Survey

Project: BOXFORD	Borehole/Well No.: PL 26G	
Locality Name: LOCAR	Sheet 11 of 20	
Start date: Logging 2/10/02	Casing diameter	NGR/lat &long
End date		
Drilling method / Equipment	Borehole diameter	Logged by: M. M / Scale: 20mm = 5m
Other tests	Orientation: vt	Ground level

Sample/core recovery: Depth (m)AL/ from to	Type	No	TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn.size. F F M C G
50.00						50.22 50.35		PL26G/13	weak white CHALK, competence decrease to become almost putty chalk @ 50.15ish then strengthen again to 50.15 broken chips with heavy iron marks. MnO spots and in places dendrites					
	Box 16								No Recovery					
51.00	Run 24													
	TD 50.55 BD 53.25					51.20 51.30		PL26G/14	Black nodular flint chips (sev. cm) soft almost paste, white putty CHALK and some black nod. flint					
									Weak broken white CHALK with many fracture black spotted.					
52.00	Run 24 50.55 53.55													OUT
	3.00 | 1.20+.36= 2.56								large vt frac covered with black spots (MnO) @52.64 iron staining on a vt frac. incoherent as putty CHALK					
53.00						53.10 53.20 53.30		AQ PROPS/16 PL 26G/15	black tabular flint @ 53.03 more competent white CHALK.					
	Box 17 Run 25+26 53.55 56.25								No recovery except some black flints.					
54.00	2.70													
	Run 25 53.55 56.25													
5.00														

Comments: Run 24 core loss assumed @ top. Run 24 + 25 wrongly labelled, depth recorded on log sheet are the right ones.

British Geological Survey

Project	LOCAR	Borehole/Well No.	PL26G
Locality Name	BOXFORD	Sheet	12 of 20
Start date	logging 3/10/02	Casing diameter	NGR/lat &long
End date			
Drilling method	Rotary (air)	Borehole diameter	Logged by: M.M.
Equipment			Scale: 20mm = 5m
Other tests			
Orientation	Vt	Ground level	

Depth (m)AL/ from to	Type	No	TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	Core size (mm)	SPT blows /N	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates FL M IC; Av gn size FIMIC G)
55.00														
	Box 14 (cont'd) Run 25								No Recovery except some black nodular flint.					
56.00														
	Box 17								No Recovery					
	Run 26													
	56.25								Strong white CHALK. c. 56.70 Iron staining along fracture greenish gray flaser marl					
57.00	59.25								dark v greenish gray marl up to cm thick @ 57.66, 57.15, 57.39, 57.69			M M M M		
	3.00	1.22 + 0.37 = 2.59	57.70											Rubble
			57.87			AQ PROPS 15								
			58.00			PL26G116			58.27 to 58.53 non intact weak white CHALK crushed with black nodular flints. Fracture surface irregular and many black dots. (Mn)					
58.00														
59.00									some v thin flaser marl 58.85-59.00					
	Box 18								No Recovery no box.					
	Run 27 TD: 59.75 BD: 60.55								weak white CHALK chips (cm) and black nodular (cm) chips. NI					Rubble
60.00														

Comments: Run 26 core loss assumed @ top P.

British Geological Survey	Project: LOCAR	Borehole/Well No.: PL26G
	Locality Name: BOXFORD	Sheet 13 of 20
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment / Other tests	Borehole diameter	Logged by: M. M. / Scale: 20 cm = 5m
Sample/core recovery	Orientation: vt / Ground level	

Depth (m)AL/ from to	Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F L M C; Av gn.size E F M C G)
60.00	Box 18 (cont'd) 0.80	0.80					strong white CHALK. some of the chips above (~ 59.75 to 60.00) present iron orangish staining. greenish gray marl @ 60.37			M		
							No Recovery, non core box					
61.							No Recovery. strong white CHALK and black nodular flint chips (cm) Non Intact. fragmented strong white CHALK. fracture interval with black dots (MnO)					
62.00	Box 19 Run 28 TD: 61.05 BD: 64.05 3.00	1.37+1.38 = 2.75					black tabular flint at 61.82. almost tabular flint (2-3cm thick) 62.46. another small black tabular flint at 62.55, below greenish gray flaser marl. toward the cut, iron staining.			M		Rubble CUT
		62.67		AQ PROPS/6								
		62.84		PL26 6/12								
63.00		63.00					greenish gray marl @ 63.58 and some thin flaser marl below. black tabular flint.			M		
64.00							vt frac. with an irregular surface; black dots (MnO)					
	Box 20 Run 29 TD: 64.05 BD: 67.05 3.00	1.43+1.38 = 2.81					No Recovery. mod. weak white CHALK, non intact v. broken. Fracture vt surface with black dots. some iron staining @ 64.50					
65.00												

Comments:
Run 28 29 core loss assumed @ top.

British Geological Survey

Project: LOCAR		Borehole/Well No.: PL 26G	
Locality Name: BOXFORD		Sheet 14 of 20	
Start date: logging 3-4 oct 02 End date:	Casing diameter	NGR/lat &long	
Drilling method Equipment	Borehole diameter	Logged by: M. M	Scale: 20 cm = 5m
Other tests	Orientation: VE	Ground level	

Depth (m)AL/ from to	Sample/core recovery: Type / TCR	No / SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av ge size F M C G)
65.00	Box 20 (contd)						mod weak to strong white CHALK non intact the first few cm. Nodular black flints. greenish grey flaser marl (mm) @ 65.46 Iron staining @ 65.42 Some dark tails. flints.			M	CUT	
66.00	Run 29	66.03 66.18 66.29		AQ PROBS/7 PL26 G/18			iron staining. greenish grey flaser marl 1cm at 66.67 and 66.82 ~3cm thick @ 66.70			M M M M M		
67.00	Box 21 TD: 67.05 BD: 72.25 Run 30+31+32						No Recovery					
68.00	Run 30 67.05 69.65 2.60/0.70											
69.00		69.21 69.31		PL26 G/19			Black nodular FLINTS clips. Strong white CHALK, broken. greenish grey marl @ 69.36-69.38 Heavy fracturation with black dots (MnO) and Fe staining			M		
70.00	Run 31 69.65-70.25 0.60/0.70						tiny strong white CHALK chips and black nodular flints chips.					

Comments:

British Geological Survey

Project: LOCAR		Borehole/Well No.: PL266	
Locality Name: BOXFORD		Sheet 15 of 20	
Start date: logging 4/10/02	Casing diameter	NGR/lat &long	
End date			
Drilling method / Equipment	Borehole diameter	Logged by: M.M.	Scale: 20 cm = 5 m
Other tests			
Orientation: VT	Ground level		

Depth (m)AL/ from to	Sample/core recovery: Type / TCR / SCR / RQD / No	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn size [F M C] G
70.00	Box 21 (cont'd) Run 31				tiny white Chalk and black nodular flints mod. weak to strong white CHALK	Chies				
					No Recovery not included in box					
71	Box 21 (cont'd) Run 32 70.75 72.25				No Recovery except some v. large black nodular flints					
72.00										
	Box 22 TD: 72.25 BD: 76.25 Run 33: 72.25 - 72.75 0.50/0.43				No recovery; mod. weak white CHALK plus black mod. flint chips. v. large (15 cm thick) flint @ 72.30				Rubble	
73					No Recovery not included in Box.					
	Box 22 (cont'd) Run 34 73.25 - 74.25 1.00/0.76	73.07 73.94	PL266/20		No Recovery; moderately weak broken white CHALK. Iron Staining (around fossils) Greenish grey flaser marl 74.15 74.20			M M	Rubble	
74.00										
					NO RECOVERY					
75.00										

Comments: Run 34, 33 } loss assumed @ top.

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26G	
Locality Name: BOLFORD	Sheet 16 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment / Other tests	Borehole diameter	Logged by: EC / Scale: 20 cm = 5m
Orientation	Ground level	

Depth (m)AL/ from to	Type TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av gn.size. F M C)
75.00											
76.00											
Run 35 Box 23 TD 76.25 BD 79.25 2.45/3.0						Core losses assigned to top of the run. 76.80					
77.00						Strong white chalk. Crushed/oben flint top 10cm. v. fine Mall 77.50-77.57 oxidation.					
78.00				PL26F/B AP. 77.38 77.90 78.07 PL26G/21		77.81 and 78.12 grey mn coating on fr surface. 77.95 - 78.07 sample. Nodular flint. Passes into Nodular Ck - strong grey white. 6 large Mall @ 78.35/78.35-45/78.49/78.56/78.64/78.73/75. 5cm Major Mall 78.38-78.43. orange staining /Mn.					77 / 78.12
79.00											
Run 36 Box 24 TD 79.25 BD 80.15 0.1/1.5						NO CORE RECOVERY					
80.00											

Comments:
5cm Major mall. @ 78.38-78.43m

British Geological Survey

Project: NOCAR	Borehole/Well No.: PL26G	
Locality Name: BOXFORD	Sheet 107 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by / Scale: 20cm = 5m

Other tests

Orientation | Ground level

Depth (m)AL/ from to	Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av grn size; F M C G)
80.0						NC	CORE RECOVERY					
							c.10cm broken flint					
81.0							NO CORE RECOVERY - ROCK ROLLED FROM 80.75 TO 83.0M					
82.0												
83.0	RUN 37 BOX 25 TD 83.0 BD 86.0 c 1.5/3.0						NO CORE RECOVERY					
84.0												
							Strong white/grey nodular clk. c 1cm nodl. @ 84.75. (thin at top - may have fallen down).					
85.0												

Comments: 85 01 - SK 12

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26G	
Locality Name: BOXFORD	Sheet 18 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by / Scale: 20CM = 5M
Other tests	Orientation / Ground level	

Depth (m)AL/ from to	Type TCR	SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N	Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size (Carbonates F M C; Av gn.size F M C C)
85.0				85.05 PL26G/22 85.12 85.62 AP12			85.03 ? grey Plasu Marl incipient marl at 85.06 and 85.13 Mn + orange stained fr at 85.16. 85.25 - 85.90. Irreg. v. soft dark patches (burrows infilled ?) weak/v weak					
							v. strong grey glauconitic clay, hard ground					
86.0	RUN 38 BOX 26 TD 86.0 BD 89.0						86.0 NO CORE RECOVERY					
	0.89/ 3.0											
87.0												
88.0				AP. 88.35 88.40 PL26G/23 88.51			88.11 flint. clay strong grey glauconitic CHALK background. very strong orange and green (glauconite) notched staining				coiled fr.	
89.0							NO CORE RECOVERY					
90.0												

Comments:

British Geological Survey

Project: LOCAR	Borehole/Well No. PL26G	
Locality Name: BOXFORD	Sheet 189 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment / Other tests	Borehole diameter	Logged by / Scale: 20cm = 5m
Orientation	Ground level	

Sample/core recovery: Depth (m)AL/ from to	Type TCR	No SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn size Fil F M C G
90.0											
91.0											
92.0											
93.0											
94.0											
RUN 39 BOX 25 TO 94.0 BD 95.0					94.0	13cm broken flint NO CORE RECOVERY					
95.0											

Comments:

British Geological Survey

Project: LOCAR	Borehole/Well No.: PL26G	
Locality Name: BOXFORD	Sheet: ~~19~~ 20 of 20	
Start date / End date	Casing diameter	NGR/lat &long
Drilling method / Equipment	Borehole diameter	Logged by / Scale:
Other tests		
Orientation	Ground level	

Depth (m)AL/ from to	Type / TCR	No / SCR	RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn size; Ins F M C G
95.0						NO CORE RECOVERED 95.0 - 101.0m ROCK ROLLED AFTER COULD NOT ADVANCE CORE BARREL PAST 95.0m					
100.0											
101.0											

Comments:

SAMPLES (2

British Geological Survey

Project	LOCAR
Locality Name	Boxford
Borehole/Well No.	PL 26H
Sheet	1 of 1
Start date / End date	
Casing diameter	
NGR/lat &long	
Drilling method / Equipment	
Other tests	
Borehole diameter	
Logged by	E. Cullis
Scale:	
Orientation	
Ground level	

Depth (m)AL/ from to	Type TCR	No SCR	No RQD	Fracture spacing (min/mean/max measurement)	SPT blows /N / Core size (mm)	Description of strata to BS5930:1999 with additional information	Depth (thickness) (m)	Level m OD	Legend	Sed. structures/ fractures	Grain size: Carbonates F M C; Av gn.size; BS F F M C C G
0						Soft, loose, brown - v. fine particles. contains few large gravels.					
1						soft, loose brown. fine, particles. well sorted.					
2						Soft, loose, light brown. V. fine silt sized but stuck into larger rounded particles.					
3											
4						Soft, cream/white. V. fine particles. few small flints.					
5						soft, cream/white v. fine sized putty like balls formed					
6						soft/cream. silty chalk. contains a small (1cm) flint.					
7						Mod. strong, white Chalk. flints.					
8						moderatly weak. white CHALK. Some late 2cm clasts of chalk rock.					
9						weak, white Chalk.					
10						weak, white CHALK. Some flint nodules.					
11						moderatly weak, white CHALK. flints present.					
12						v. fine, white CHALK. fine sand sized particles. wet.					
13						moderatly strong, white CHALK. 2 flints present.					
14											
15											

Comments:

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Appendix C. Hydrochemical Batch numbers per year and chemical sampling dates per borehole.

2003	2004	2005	2006	2007	2008
B03-0072	B04-0009	B05-0004	B06-0006	B07-0003	B08-0019
	B04-0015	B05-0005	B06-0015	B07-0011	B08-0016
	B04-0019	B05-0007	B06-0018	B07-0024	B08-0022
	B04-0022	B05-0009	B06-0024	B07-0028	B08-0023
	B04-0032	B05-0011	B06-0032	B07-0033	B08-0024
	B04-0039	B05-0015	B06-0039	B07-0035	B08-0031
	B04-0044	B05-0020	B06-0054	B07-0038	
	B04-0046	B05-0024	B06-0067	B07-0039	
	B04-0050	B05-0025		B07-0041	
	B04-0057	B05-0029		B07-0043	
		B05-0031		B07-0045	
		B05-0041		B07-0048	
		B05-0044		B07-0051	
		B05-0046		B07-0054	
				B07-0057	
				B08-0019	
				B07-0063	

Table C.3. Chemical sampling batches per year.

PL26A1	PL26A2	PL26C1	PL26C2	PL26D1	PL26D2	PL26E1	PL26E2	PL26F	PL26G1	PL26G2	PL26H1	PL26H2	PL26I1	PL26I2	PL26N4
27/10/2003	27/10/2003	27/10/2003	27/10/2003	27/10/2003	27/10/2003	31/10/2003	31/10/2003	31/10/2003	08/03/2004	26/10/2004	27/10/2003	27/10/2003	04/08/2004	04/08/2004	27/10/2003
16/03/2004	16/03/2004	16/03/2004	16/03/2004	16/03/2004	16/03/2004	16/03/2004	16/03/2004	16/03/2004	04/08/2004		16/03/2004	16/03/2004	26/10/2004	26/10/2004	16/03/2004
14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	10/05/2004	10/05/2004	14/04/2004	26/10/2004		14/04/2004	14/04/2004	19/01/2005	19/01/2005	14/04/2004
10/05/2004	10/05/2004	10/05/2004	10/05/2004	10/05/2004	10/05/2004	08/06/2004	08/06/2004	10/05/2004	20/01/2005		10/05/2004	10/05/2004			10/05/2004
08/06/2004	08/06/2004	08/06/2004	08/06/2004	08/06/2004	08/06/2004	06/07/2004	06/07/2004	08/06/2004			08/06/2004	08/06/2004			08/06/2004
19/06/2004	06/07/2004	06/07/2004	06/07/2004	06/07/2004	06/07/2004	04/08/2004	04/08/2004	06/07/2004			06/07/2004	06/07/2004			06/07/2004
06/07/2004	03/08/2004	03/08/2004	03/08/2004	03/08/2004	03/08/2004	31/08/2004	31/08/2004	04/08/2004			04/08/2004	04/08/2004			03/08/2004
03/08/2004	31/08/2004	31/08/2004	31/08/2004	31/08/2004	31/08/2004	27/09/2004	27/09/2004	31/08/2004			31/08/2004	31/08/2004			31/08/2004
31/08/2004	27/09/2004	27/09/2004	27/09/2004	27/09/2004	27/09/2004	26/10/2004	23/11/2004	27/09/2004			27/09/2004	27/09/2004			27/09/2004
27/09/2004	25/10/2004	25/10/2004	25/10/2004	25/10/2004	25/10/2004	23/11/2004	21/12/2004	26/10/2004			26/10/2004	26/10/2004			25/10/2004
25/10/2004	23/11/2004	23/11/2004	23/11/2004	23/11/2004	23/11/2004	21/12/2004	19/01/2005	23/11/2004			23/11/2004	23/11/2004			23/11/2004
23/11/2004	21/12/2004	21/12/2004	21/12/2004	21/12/2004	21/12/2004	19/01/2005	16/02/2005	21/12/2004			21/12/2004	21/12/2004			21/12/2004
21/12/2004	18/01/2005	18/01/2005	18/01/2005	18/01/2005	18/01/2005	16/02/2005	11/03/2005	19/01/2005			19/01/2005	19/01/2005			18/01/2005
18/01/2005	16/02/2005	16/02/2005	16/02/2005	16/02/2005	16/02/2005	11/03/2005	11/04/2005	16/02/2005			16/02/2005	16/02/2005			16/02/2005
16/02/2005	11/03/2005	11/03/2005	11/03/2005	11/03/2005	11/03/2005	11/04/2005	11/05/2005	11/03/2005			11/03/2005	11/03/2005			11/03/2005
11/03/2005	11/04/2005	11/04/2005	11/04/2005	11/04/2005	11/04/2005	11/05/2005	07/06/2005	11/04/2005			11/04/2005	11/04/2005			11/04/2005
11/04/2005	11/05/2005	11/05/2005	11/05/2005	11/05/2005	11/05/2005	07/06/2005	05/07/2005	11/05/2005			11/05/2005	11/05/2005			11/05/2005
11/05/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	05/07/2005	02/08/2005	07/06/2005			07/06/2005	07/06/2005			07/06/2005
07/06/2005	05/07/2005	05/07/2005	05/07/2005	05/07/2005	05/07/2005	02/08/2005	30/08/2005	05/07/2005			05/07/2005	05/07/2005			05/07/2005
05/07/2005	02/08/2005	02/08/2005	02/08/2005	02/08/2005	02/08/2005	30/08/2005	27/09/2005	02/08/2005			02/08/2005	02/08/2005			02/08/2005
02/08/2005	30/08/2005	30/08/2005	30/08/2005	30/08/2005	30/08/2005	27/09/2005	25/10/2005	30/08/2005			30/08/2005	30/08/2005			30/08/2005
30/08/2005	27/09/2005	27/09/2005	27/09/2005	27/09/2005	27/09/2005	25/10/2005	16/03/2007	27/09/2005			27/09/2005	27/09/2005			27/09/2005
27/09/2005	25/10/2005	25/10/2005	25/10/2005	25/10/2005	25/10/2005	16/03/2007	24/10/2007	25/10/2005			25/10/2005	25/10/2005			25/10/2005
25/10/2005	24/11/2005	16/03/2007	16/03/2007	24/11/2005	24/11/2005	24/10/2007	11/03/2008				24/11/2005	24/11/1995			17/07/2007
24/11/2005	19/12/2005	24/10/2007	24/10/2007	19/12/2005	19/12/2005	11/03/2008					19/12/2005	19/12/2005			01/08/2007
19/12/2005	16/01/2006	10/03/2008	10/03/2008	16/01/2006	16/01/2006						16/01/2006	16/01/2006			15/08/2007
16/01/2006	20/02/2006			20/02/2006	20/02/2006						20/02/2006	20/02/2006			12/09/2007
20/02/2006	21/03/2006			21/03/2006	21/03/2006						21/03/2006	21/03/2004			09/10/2007
21/03/2006	19/04/2006			19/04/2006	19/04/2006						19/04/2006	19/04/2006			24/10/2007
13/06/2006	13/06/2006			13/06/2006	13/06/2006						13/06/2006	13/06/2006			06/11/2007
08/08/2006	08/08/2006			08/08/2006	08/08/2006						08/08/2006	08/08/2006			20/11/2007
05/10/2006	05/10/2006			29/11/2006	05/10/2006						05/10/2006	05/10/2006			05/12/2007
29/11/2006	29/11/2006			26/01/2007	29/11/2006						29/11/2006	29/11/2006			18/12/2007
26/01/2007	26/01/2007			15/03/2007	26/01/2007						26/01/2007	26/01/2007			08/01/2008
16/03/2007	16/03/2007			19/06/2007	15/03/2007						15/03/2007	15/03/2007			29/01/2008
19/06/2007	19/06/2007			24/10/2007	19/06/2007						19/06/2007	19/06/2007			12/02/2008
24/10/2007	24/10/2007			10/03/2008	24/10/2007						24/10/2007	24/10/2007			26/02/2008
10/03/2008	10/03/2008			05/10/2006	10/03/2008						11/03/2008	11/03/2008			26/03/2008
															10/04/2008
															22/04/2008
															07/05/2008
															21/05/2008
															16/01/2008

Table C.1 Chemical sampling dates for borehole PL26A1 to PL26N4.

PL26N7	PL26N15	PL26P	PL26Q	PL26R	PL26S	PL26T	PL26U	PL26V	PL26W	PL26X	PL26Y	River Lambourn direct	
27/10/2003	27/10/2003	05/06/2007	15/03/2007	23/05/2007	23/05/2007	23/05/2007	23/05/2007	12/02/2008	12/02/2008	12/02/2008	12/02/2008	16/03/2004	19/01/2005
16/03/2004	16/03/2004	19/06/2007	05/06/2007	05/06/2007	05/06/2007	05/06/2007	05/06/2007					20/01/2005	16/02/2005
14/04/2004	14/04/2004	04/07/2007	19/06/2007	19/06/2007	19/06/2007	19/06/2007	19/06/2007					16/03/2004	11/03/2005
10/05/2004	10/05/2004	17/07/2007	04/07/2007	04/07/2007	04/07/2007	04/07/2007	04/07/2007					29/11/2006	11/04/2005
08/06/2004	08/06/2004	01/08/2007	17/07/2007	17/07/2007	17/07/2007	17/07/2007	17/07/2007					26/01/2007	11/05/2005
06/07/2004	06/07/2004	15/08/2007	01/08/2007	15/08/2007	15/08/2007	15/08/2007	15/08/2007					16/03/2007	07/06/2005
03/08/2004	03/08/2004	05/12/2007	15/08/2007	05/12/2007	30/08/2007	30/08/2007	15/03/2007					23/05/2007	05/07/2005
31/08/2004	31/08/2004	18/12/2007	30/08/2007	17/12/2007	12/09/2007	12/09/2007	12/02/2008					05/06/2007	02/08/2005
27/09/2004	27/09/2004	30/08/2007	12/09/2007	30/08/2007	26/09/2007	26/09/2007	15/03/2007					19/06/2007	11/04/2005
25/10/2004	25/10/2004	12/09/2007	26/09/2007	12/09/2007	24/10/2007	09/10/2007						04/07/2007	27/09/2005
23/11/2004	23/11/2004	26/09/2007	09/10/2007	26/09/2007	05/12/2007	24/10/2007						17/07/2007	25/10/2005
21/12/2004	21/12/2004	09/10/2007	24/10/2007	09/10/2007	17/12/2007	06/11/2007						01/08/2007	24/11/2005
18/01/2005	18/01/2005	24/10/2007	06/11/2007	24/10/2007	07/01/2008	05/12/2007						15/08/2007	19/12/2005
16/02/2005	16/02/2005	06/11/2007	05/12/2007	06/11/2007	15/01/2008	17/12/2007						24/10/2007	16/01/2006
11/03/2005	11/03/2005	08/01/2008	19/12/2007	07/01/2008	29/01/2008	07/01/2008						30/08/2007	20/02/2006
11/04/2005	11/04/2005	15/01/2008	08/01/2008	15/01/2008	12/02/2008	15/01/2008						12/09/2007	21/03/2006
11/05/2005	11/05/2005	29/01/2008	15/01/2008	29/01/2008	26/02/2008	29/01/2008						26/09/2007	19/04/2006
07/06/2005	07/06/2005	12/02/2008	29/01/2008	12/02/2008	10/03/2008	12/02/2008						09/10/2007	13/06/2006
05/07/2005	05/07/2005	26/02/2008	12/02/2008	26/02/2008	26/03/2008	26/02/2008						06/11/2007	08/08/2006
02/08/2005	02/08/2005	10/03/2008	26/02/2008	10/03/2008	10/04/2008	10/03/2008						05/12/2007	05/10/2006
30/08/2005	30/08/2005	26/03/2008	10/03/2008	26/03/2008	22/04/2008	26/03/2008						17/12/2007	
27/09/2005	27/09/2005	10/04/2008	26/03/2008	10/04/2008	07/05/2008	10/04/2008						07/01/2008	
25/10/2005	25/10/2005	22/04/2008	10/04/2008	22/04/2008	21/05/2008	22/04/2008						15/01/2008	
18/07/2007	18/07/2007	07/05/2008	22/04/2008	07/05/2008	09/10/2007	07/05/2008						29/01/2008	
01/08/2007	01/08/2007	21/05/2008	07/05/2008	21/05/2008	06/11/2007	21/05/2008						12/02/2008	
15/08/2007	26/09/2007		21/05/2008			15/03/2007						26/02/2008	
12/09/2007	09/10/2007											10/03/2008	
26/09/2007	24/10/2007											26/03/2008	
09/10/2007	06/11/2007											10/04/2008	
24/10/2007	20/11/2007											22/04/2008	
06/11/2007	05/12/2007											07/05/2008	
20/11/2007	18/12/2007											21/05/2008	
05/12/2007	08/01/2008											31/10/2003	
18/12/2007	16/01/2008											16/03/2004	
08/01/2008	29/01/2008											14/04/2004	
16/01/2008	12/02/2008											10/05/2004	
29/01/2008	26/02/2008											08/06/2004	
12/02/2008	26/03/2008											06/07/2004	
26/02/2008	10/04/2008											04/08/2004	
26/03/2008	22/04/2008											31/08/2004	
10/04/2008	07/05/2008											27/09/2004	
22/04/2008	21/05/2008											26/10/2004	
07/05/2008	15/08/2007											23/11/2004	
21/05/2008	12/09/2007											21/12/2004	

Table C.2 Chemical sampling dates for borehole PL26N7 to PL26A