

Technical Note: Hamble Quarry: Groundwater Flow

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1 Introduction

1.1 Background

Following submission of a planning application for sand and gravel extraction, followed by restoration with inert materials at Hamble Airfield (the Site), CEMEX UK Materials Ltd (CEMEX) has entered into correspondence with consultees. Correspondence with regard to groundwater flow and groundwater level issues is summarised below.

Flood and Water management team, Economy, Transport & Environment Department, Hampshire County Council:

- Initial letter from Flood and Water management team SWM/2022/0033 dated 7 February 2022 to which Stantec UK Ltd (Stantec) responded by letter on 24 May 2022,
- Stantec letter response 331201108pbond001 dated 24 May 2022,
- Follow up letter from Flood and Water management team SWM/2022/0033 dated 30 January 2023.

The majority of the issues raised by the latest Flood and Water management team letter relate to surface water issues which are addressed separately in Stantec (2023a).

However, the point "A technical assessment on how the proposed material will impact groundwater flows and any mitigation proposed to manage the risk of groundwater flow obstruction" relates to hydrogeological issues and this is dealt with in this Technical Note.

Network Rail

- Letter from Nick Donoghue, Network Rail, dated 14 March 2022 to which Stantec responded by letter on 23 June 2023,
- Stantec letter response 331201108pbond002 dated 23 June 2022,
- Subsequent email from Sameem Bhatti dated 1 February 2023,
- Subsequent email from Nicholas Donaghue, Network Rail, dated 27 February 2023.

The majority of the issues raised in the 1 February email from Network Rail relate to the potential for railway settlement due to dewatering associated with the freshwater lagoon construction and this issue is addressed separately in Stantec (2023b). The email also states that mitigation proposed in case of groundwater levels rising up hydraulic gradient of the Site due to lower hydraulic conductivity fill material being placed in the Site following sand and gravel extraction should be put in place prior to development occurring. This Technical Note addresses this issue and demonstrates why such mitigation is unlikely to be required.

The majority of the issues raised in the 27 February email relate to the potential for surface flooding impacting on railway infrastructure and this issue is addressed separately in Stantec (2023a) to which this Technical Note forms an appendix. The email also states that the water storage level in the lagoons will be above the level of the tracks and as such Network Rail's Geotechnical Team may have concerns regarding the potential for increased seepages at the cutting face. This Technical Note addresses this issue.



1.2 Scope of work

In order to address hydrogeological concerns raised by the Flood and Water management team and Network Rail, this Technical Note presents further discussion on groundwater levels and flow to demonstrate the likely increase in groundwater levels up hydraulic gradient of the Site following sand and gravel extraction and restoration with inert waste material and the subsequent impacts on groundwater flow rate and direction.

A plan showing the location of boreholes and trial pits referred to in this Technical Note is included as Figure 1.1, which also shows the railway line and Site outline.

Site topography is shown on Figure 1.2 whilst Figure 1.3 shows topography data, constrained to show elevations between 15 and 25 mAOD in the northern part of the Site. This clearly shows the railway line running in a cutting to the north of the Site. To the west of the Site, 1 m resolution LiDAR data are not available for the northern part (see gap in data on Figure 1.3). However, the Terrain 50 data used to infill this data gap, and the southern part of the western side, show that the railway line down the western side is not within a cutting.



Stantec

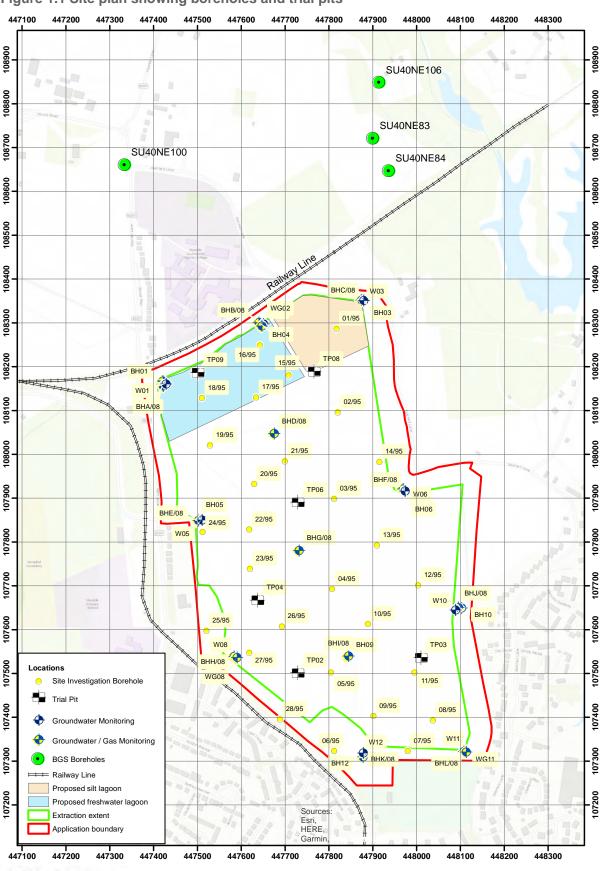


Figure 1.1 Site plan showing boreholes and trial pits

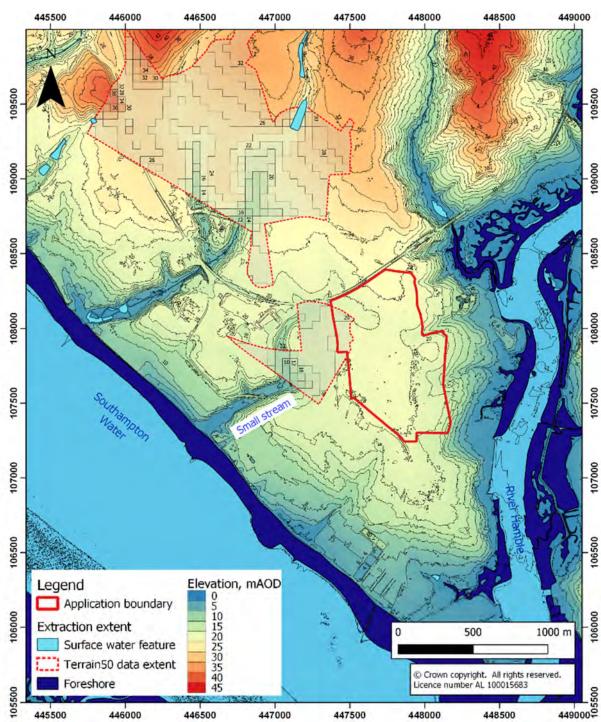
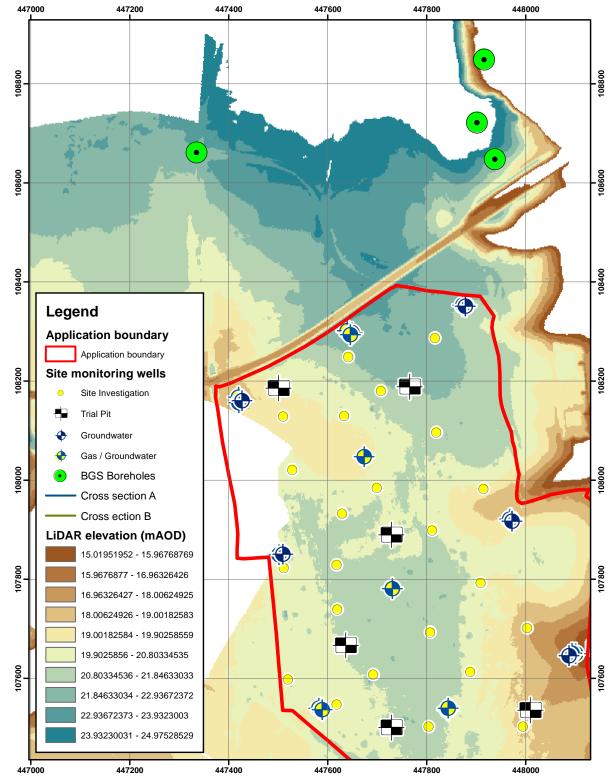


Figure 1.2 Site topography









2 Site geology

2.1 Regional geology

The regionally mapped superficial geology at the Site is shown on Figure 2.1 and the bedrock geology on Figure 2.2.

The superficial geology comprises River Terrace Deposits (RTD) (3rd Terrace). Tidal flat deposits are present along Southampton Water and the River Hamble and alluvial deposits are present along surface water channels, particularly to the west and north-west of the Site.

The solid geology comprises the Marsh Farm Formation (MFF) (cohesive material) running through the centre of the Site; the Earnley Sand Formation (ESF) (fine sands), which lies stratigraphically below the MFF, is shown to the east; and the Selsey Sand Formation (SSF) (mixed silty sand and clay), which lies stratigraphically above the MFF, appears to the west.

2.2 Local geology

Details of site-specific ground investigation are given in the Hydrogeological Impact Assessment (HIA) which forms Chapter 8 of the Environmental Impact Assessment submitted with the planning application. Borehole logs are available for boreholes drilled at the Site. For this Technical Note, additional logs have been sourced from the BGS on-line borehole index. Borehole logs are included here in Appendix A.

Site investigation has proved RTD across the whole Site. Figure 2.3 shows the elevation of the base of the RTD and this shows that the northwestern corner of the Site is situated in a depression in the RTD base.

Three cross sections are presented in Figure 2.5 to Figure 2.7 showing the Site geology and extending northwards of the northern railway line. These sections include the BGS sourced borehole data to the north of the railway cutting.

The HIA notes that, at the Site, the MFF is only present in the northwestern part of the Site and that within the majority of the Site, the RTD is underlain by the SSF, probably with MFF lying below, although this was not proven.

On cross section A-A' (Figure 2.5) and B-B' (Figure 2.6), the approximate location of the railway cutting is shown as determined from LiDAR data.

Borehole SU40NE100 lies to the north of the railway line and is shown on cross section A-A'. RTD are logged in the top section of this hole with the MFF below. The RTD is 2.5 m thick and is described as a sandy gravel. No details of water strikes or levels are provided.

There are two trial pits SU40NE83 and SU40NE84 which are shown on cross section B-B' (Figure 2.6). SU40NE83 is at a slightly higher elevation and has RTD logged as a clay underlain by a clayey sand. SU40NE84 is logged as penetrating the ESF with no RTD present. A further borehole SU40NE106 lies to the northeast of these trial pits, but this is at a much lower elevation and is entirely present within the ESF. It is not shown on cross sections here.

On cross section B-B', the cutting fully penetrates the RTD, with the SSF or MMF intersected in the lower part. On Section A-A', the railway cutting does not fully penetrate the RTD. On cross section C-C', the approximate base of the railway cutting has been extrapolated onto the section. This shows that the cutting falls below the base of the RTD between WG02/W02 and BHC/08/W03.



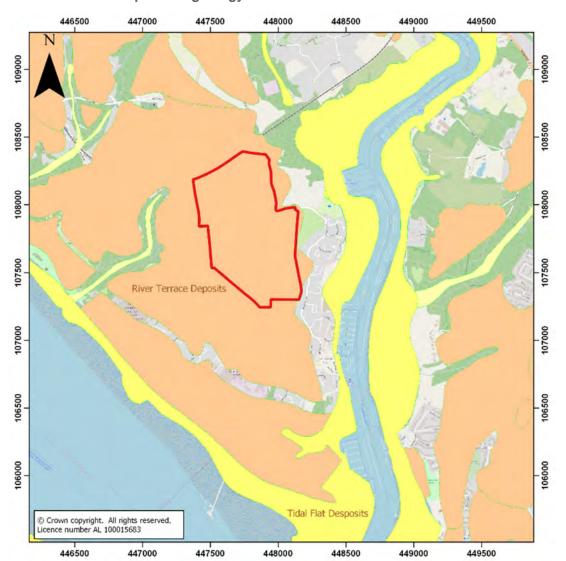


Figure 2.1 Published superficial geology



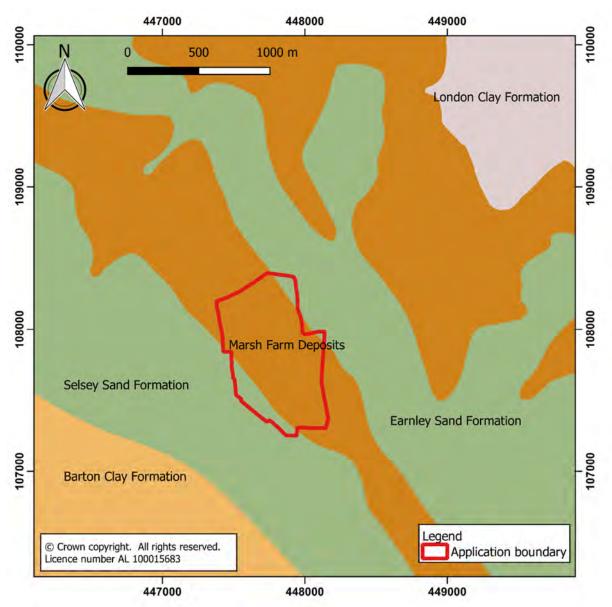


Figure 2.2 Published bedrock geology



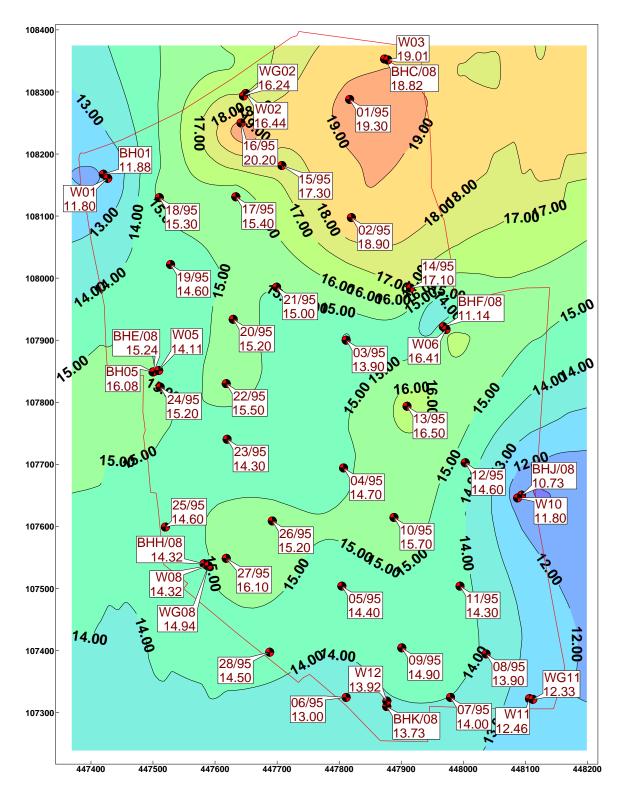
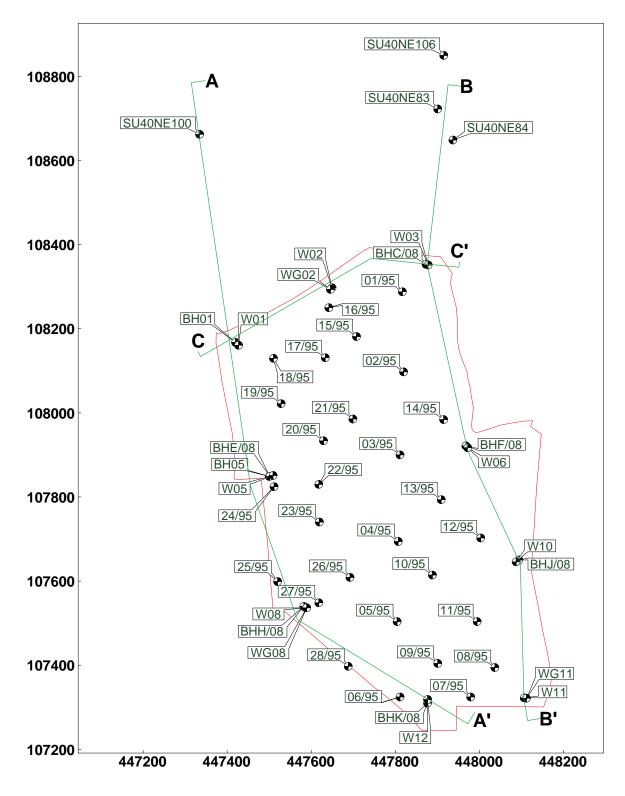


Figure 2.3 Elevation of base of RTD (mAOD)









Hamble Quarry: Groundwater Flow

Figure 2.5 Cross section A-A'

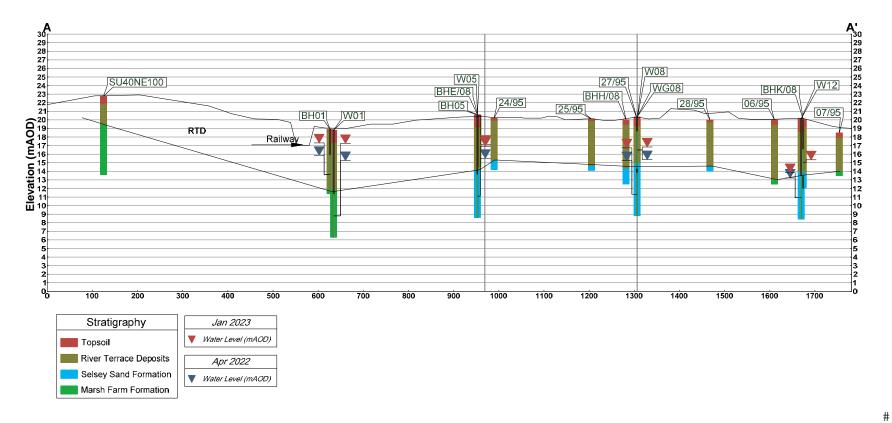
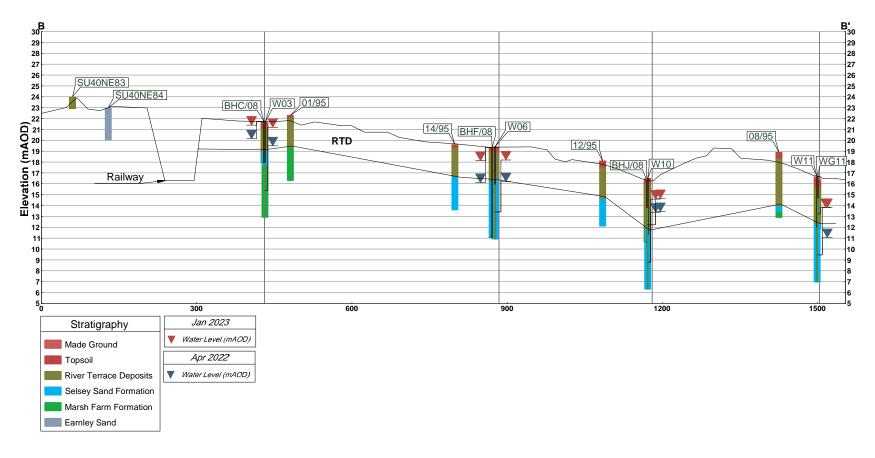




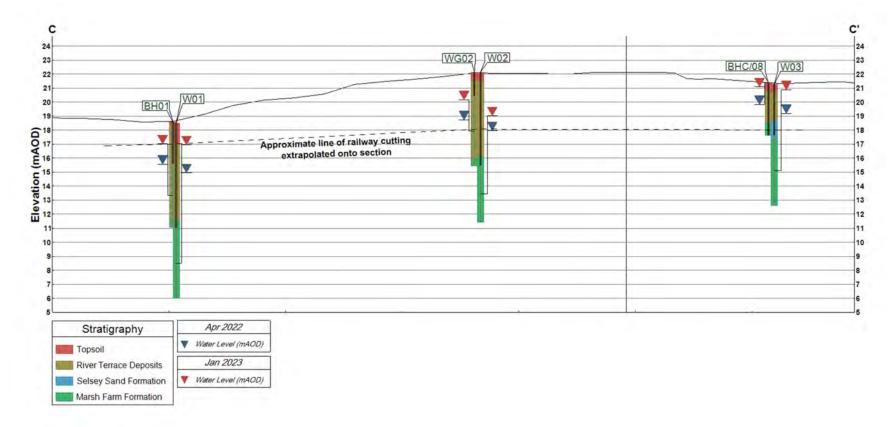
Figure 2.6 Cross section B-B'





Hamble Quarry: Groundwater Flow







3 Hydrogeology

3.1 Water levels and flow directions

As shown on Figure 1.1, groundwater monitoring is undertaken at Site perimeter wells. The monitoring frequency is monthly. At each location there are a pair of wells, the shallower well monitors within the RTD and the deeper within the solid strata.

Figure 3.1 and Figure 3.2 shows the groundwater elevation and depth to groundwater below ground level respectively for the wells monitoring in the RTD whilst Figure 3.3 and Figure 3.4 show the same data for the wells monitoring in the solid strata. Minimum (April 2022) and maximum (January 2023) groundwater levels are also shown on the cross sections (Figure 2.5 to Ijxuh#1:).

Of the nine wells that monitor the RTD, only one shows the *maximum* water level within 1 m of the ground surface. This is BHC/08 and it shows the shallowest groundwater levels at the Site. However, even at this location groundwater is only above 1 m below ground surface for very short periods after the Site has experienced very wet conditions.

The saturated thickness at BHC/08 is the smallest along the northern Site boundary at around 2 m (Figure 3.2), but as the RTD is found at its shallowest depths here, the groundwater levels are correspondingly higher.

We also note that there is generally relatively little groundwater present within the RTD in the central and southern parts of the Site and the gaps in the hydrographs indicate that these wells are frequently dry. This is in contrast to the wells that monitor within the solid strata where there is a continuous record.

The solid strata hydrographs typically show seasonal fluctuations with an approximate 1 m amplitude. The hydrographs also respond to seasonal extremes, with particularly low groundwater levels during the dry summer of 2020 and high levels following the wet autumn of 2022. This implies a good connection with the overlying RTD. This is confirmed by Figure 3.5 (which are organised on the page roughly in the position they appear on the ground) which shows the pairs of wells monitoring the RTD and solid strata. For most of the pairs, the shallow RTD hydrograph and the deeper solid strata hydrograph show the same pattern implying that there is no vertical gradient present and recharging water is able to penetrate to the deeper solid strata. The pair WG02 / W02 and BHK/08 / W12 are the two exceptions to this.

The water level in WG02 is generally higher than in W02 implying that there is a downwards hydraulic gradient present, and this is most pronounced during wetter periods when levels are highest. W02 was drilled into the MFF, and it is likely that the lower hydraulic conductivity of the MFF restricts the downward movement of recharge water to the solid strata at this location. However, it is noted that MFF is also logged in W01 immediately below the RTD, but there is no vertical gradient present at this location. This implies a variable amount of clay, silt and sand within the MFF resulting in varying impedance to groundwater movement at a local scale.

There is very little groundwater present at BHK/08 and consistent dips have only been obtained during the wetter months. Where they are obtained, the water level in BHK/08 is generally higher than in W12 implying that there is a downwards hydraulic gradient present. This water must be able to dissipate horizontally or vertically as the well becomes dry under reduced recharge conditions.

Figure 3.6 presents RTD groundwater contours for April 2022 when groundwater levels were at a median level. Note that some of the RTD wells are dry under these conditions. Given the shallow



RTD saturated thickness it is likely that there is no continuous groundwater body within the RTD under these conditions and it may not actually be appropriate to plot the data as contours. Nevertheless, the data shows groundwater flow from the northeastern corner where it is highest, towards the southwest in the northern part of the Site. Groundwater then largely seeps down into the solid strata and there is no particular flow direction in the southern part of the Site.

Figure 3.7 presents RTD groundwater contours for January 2023 when groundwater levels were high, and a water level was recorded in all the wells. Again, this shows groundwater flow from the northeastern corner in a southwesterly direction, a southerly flow in the centre of the Site and a southeasterly flow in the southern part. These apparent changes in flow direction also suggest that the RTD does not form a continuous groundwater body and groundwater levels are strongly influenced by the underlying base of the RTD and seepage down to the underlying solid strata.

Figure 3.8 presents the solid strata groundwater contours for January 2023. These are very similar to the RTD contours for the same month, confirming that the groundwater response is similar in both strata.



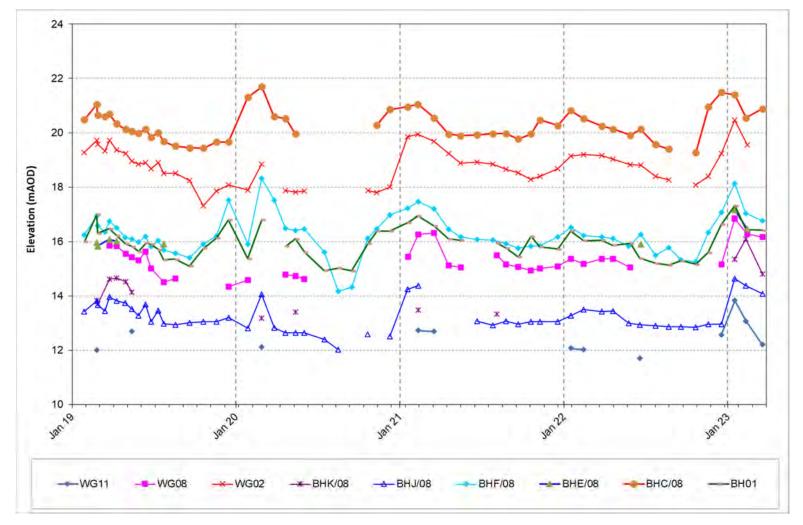
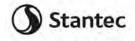
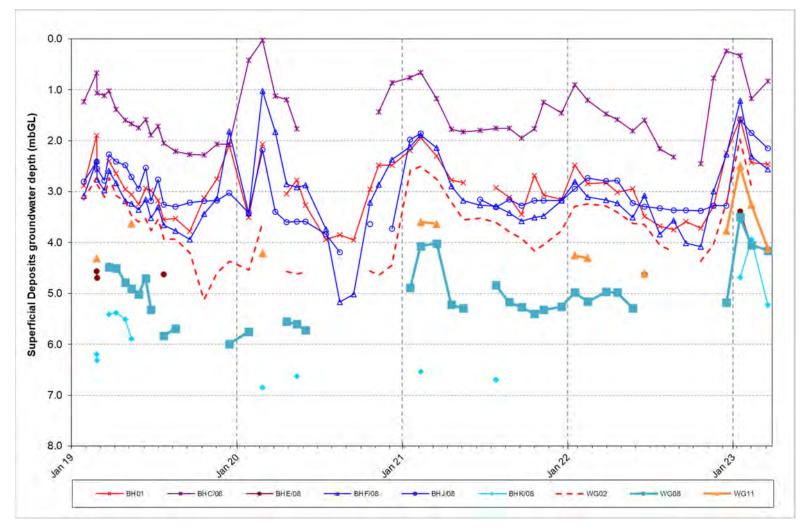


Figure 3.1 Groundwater level in superficial deposits









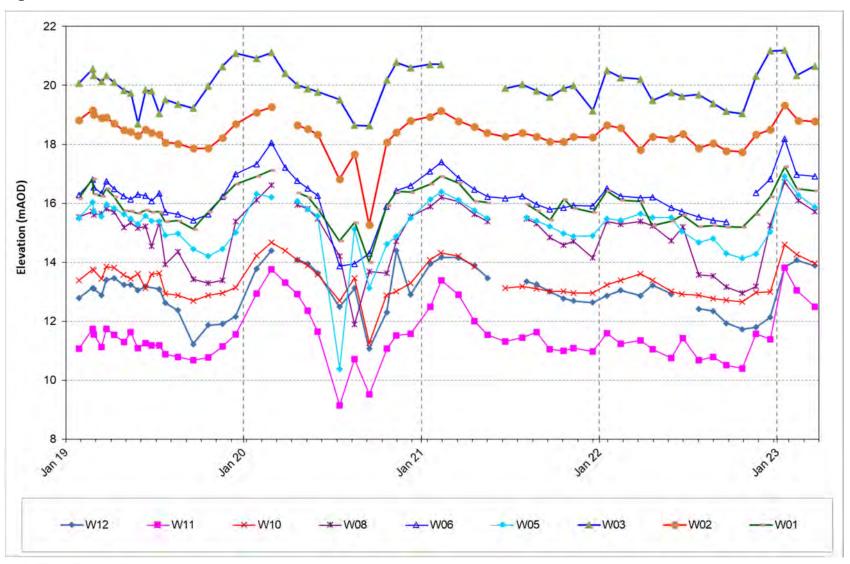
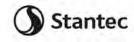


Figure 3.3 Groundwater level in solid strata





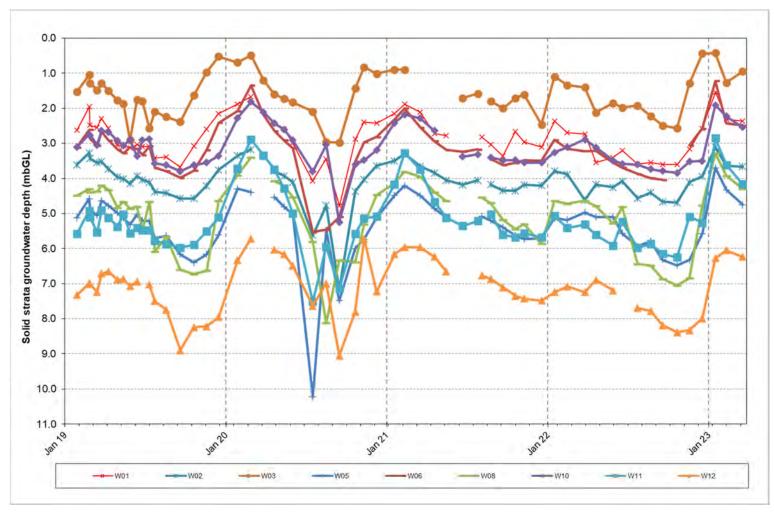
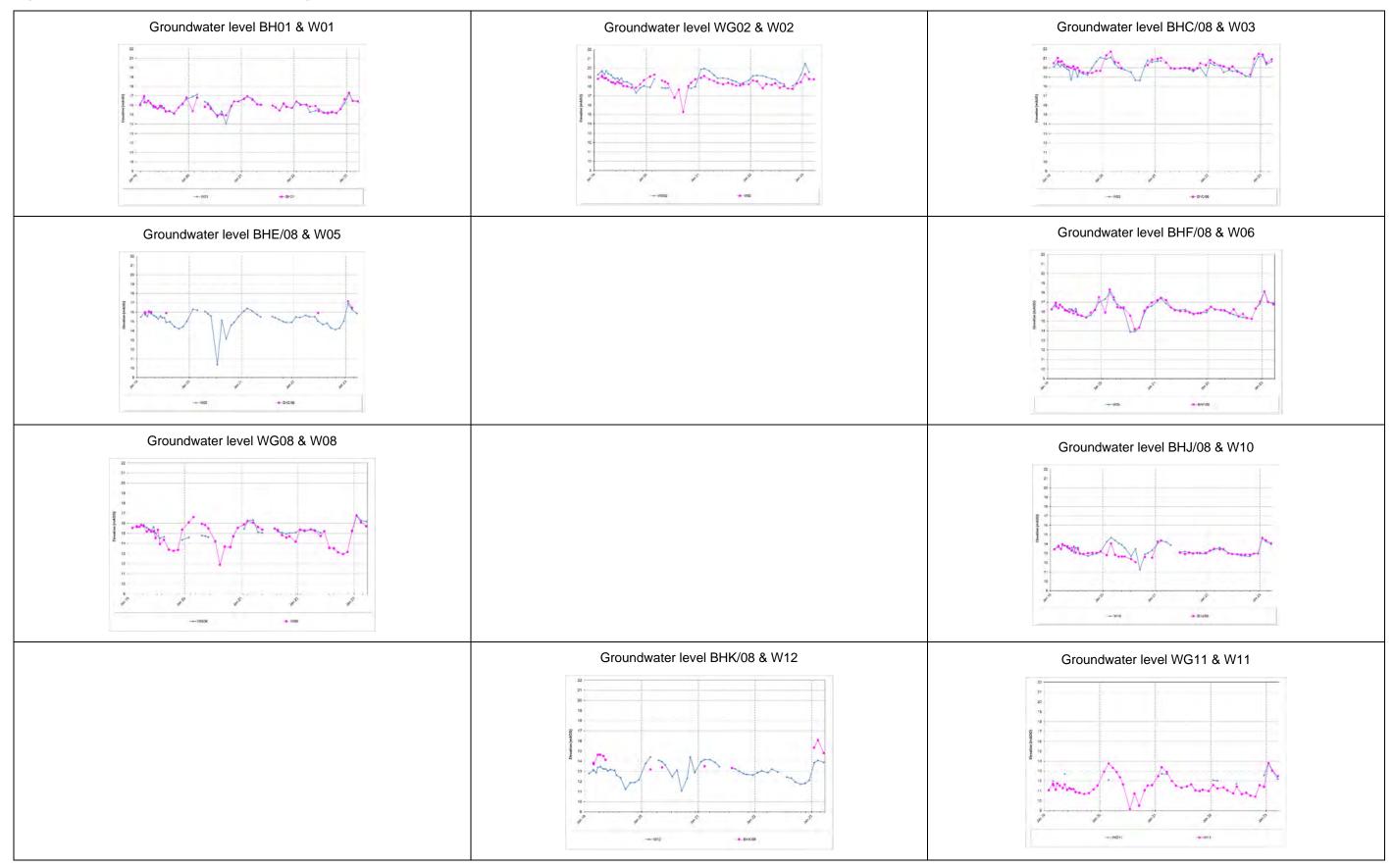




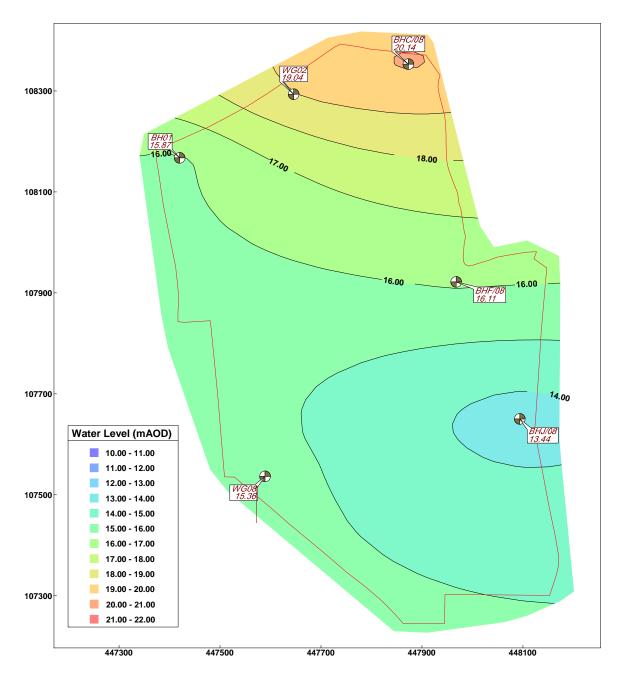
Figure 3.5 Plots of pairs of wells monitoring RTD and solid strata



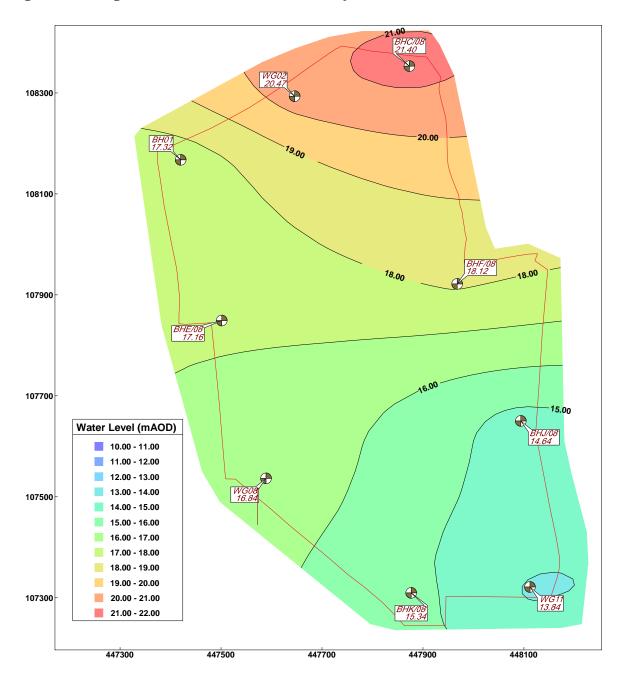






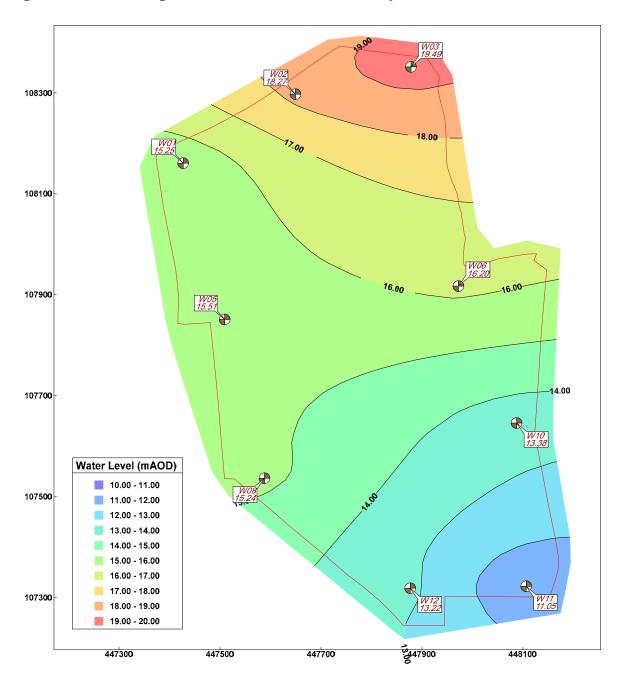










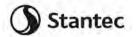




4 Site development

On the basis of water level and saturated thickness observations, it has been determined that the optimum location for a groundwater-fed freshwater lagoon at Hamble Quarry (the Site) is in the northwest corner of the Site.

The Site phasing plans are shown in Appendix D. Following establishment of the Plant Site, initially soils will be removed from Phase 1, followed by sand and gravel extraction to facilitate construction of the freshwater lagoon and Silt Pond. The Site will then be developed in a series of phases in an



anticlockwise direction with sand and gravel extraction in each of the phases followed by restoration with imported materials back to original ground levels. Towards the end of the development, any remaining void in the silt lagoon and the freshwater lagoon will be restored with imported materials, followed by extraction of sand and gravel from under the Plant Site and restoration of that final area with imported restoration material.

There will be no 'impermeable surround' placed around the freshwater lagoon or silt pond. These features have been located within the Site where the groundwater saturated thickness is greatest, and the freshwater lagoon will be in hydraulic continuity with the local groundwater. The sand and gravel reserve at these locations will be excavated wet without any dewatering. Where silt is placed (in the north east corner of the Site), this will be placed by settlement into water and there will be no dewatering at any time in the Site's lifecycle at the silt ponds.

Prior to placement of imported restoration material, it is likely that an attenuation layer will be required on the base and sides of the phases. In order to facilitate this at the northern end of the Site, where the silt and freshwater lagoons are located, there may be a requirement to temporarily dewater the freshwater lagoon, prior to placing the attenuation layer followed by the imported restoration material. Once the attenuation layer has been placed, imported material will be placed on top and the groundwater level allowed to recover. The timescale for dewatering will thus be limited to a maximum of three months.

5 Conceptual Site Model

On the basis of the geological and hydrogeological data presented above, a conceptual site model (CSM) of the groundwater system prior to development, during development and post development has been developed.

5.1 Groundwater system prior to development

The Site lies on relatively flat ground which then slopes down steeply to the east, west and south towards Southampton Water and the River Hamble, and this topography will strongly influence groundwater flow directions. Immediately north of the Site lies the railway within a cutting. To the north of the railway, the ground rises slightly.

Site data shows that it is unlikely there is a continuous groundwater body within the RTD and that continuous saturation of this stratum only occurs during the winter months when groundwater levels are high. Given the location of the Site on high ground, it is likely that such a dis-continuous groundwater body extends northwards of the railway.

On the eastern side of the Site, any groundwater flow from the north in the RTD will be cut-off by the railway cutting which extends below the base of the RTD.

On the western side, groundwater can flow within the RTD below the railway cutting. Site groundwater elevation data suggests that the base of the cutting is close to maximum groundwater levels i.e. there will be relatively little groundwater discharge into the cutting.

Figure 5.1 shows surface water catchments computed from LiDAR data. The Site itself is located on an interfluve with surface water drainage to the west within Catchments 2 and 3 and drainage to the east within Catchments 4, 5, 6, 7 and 8. RTD groundwater contours from 2019 are superimposed over the surface water catchments. The groundwater contours mostly cross the surface water catchment boundaries at right angles confirming that groundwater catchments are similar to surface water catchments.



To the west of the Site the land falls away to a small water course which is fed from a spring close to the northwestern corner of the Site. This spring is probably located at the base of the RTD, where it is cut through by the stream valley. Groundwater in the northwestern third of the Site (i.e. the part where groundwater is able to flow beneath the railway cutting) probably discharges to this water course and this is what influences the RTD groundwater flow direction in the northern part of the Site. Groundwater contours suggest that groundwater flow is approximately parallel to the Site's northern boundary and thus there is little natural groundwater flow into the Site across this boundary. It is reasonable to expect that the groundwater flow direction to the north of the railway cutting will also be to the southwest, probably with discharge to the spring.

5.2 Groundwater system during development

During the majority of the operation of the Site, the freshwater lagoon will be present adjacent to the central and western parts of the northern Site boundary.

In response to Network Rails concern that "the water storage level in the lagoons will be above the level of the tracks and as such Network Rail's Geotechnical Team may have concerns regarding the potential for increased seepages at the cutting face", we note that as the water in the freshwater lagoon will be in hydraulic continuity with groundwater there will be no change on groundwater level or flow compared to the baseline and hence no potential for increased seepages within the railway cutting.

The lagoon will effectively form a hydraulic barrier and any minor dewatering to the south of this to facilitate sand and gravel extraction, attenuation layer construction or restoration material placement is very unlikely to significantly impact on groundwater levels to the north of the lagoon.

5.3 Groundwater system post restoration

Towards the end of the Site's development, there may be a requirement to construct a low permeability geological barrier or attenuation layer around the perimeter and base of the imported material (the requirement for this will be determined following discussion with the Environment Agency in relation to an Environmental Permit to restore the Site with imported restoration materials).

Given the limited groundwater saturated thickness at the Site, it is anticipated that limited dewatering will be required. Water collecting in the void, either from groundwater inflow, direct rainfall or rainfall runoff, will be pumped out to an adjacent area, thus allowing the mineral to be dug dry and facilitate the placement of the low permeability geological barrier / attenuation layer.

It is considered unlikely that there will be any significant rise in groundwater level to the north of the Site, which could impact the railway cutting drainage. As detailed in Section 5.1, on the eastern side of the Site, any groundwater flow from the north in the RTD will be cut-off by the railway cutting which extends below the base of the RTD. Thus, the area recharging groundwater on the eastern side, up hydraulic gradient of the Site, is very limited, and this will prevent any significant backup of groundwater due to the placement of the silt lagoons and lower permeability restoration materials.

On the western side, groundwater can flow within the RTD below the railway cutting. However, the groundwater flow direction is to the southwest, towards the spring close to the northwest corner of the Site, rather than towards the Site. Thus, there will be little impedance to this flow following restoration of the Site with lower permeability material as this spring will not be affected by the Site development.



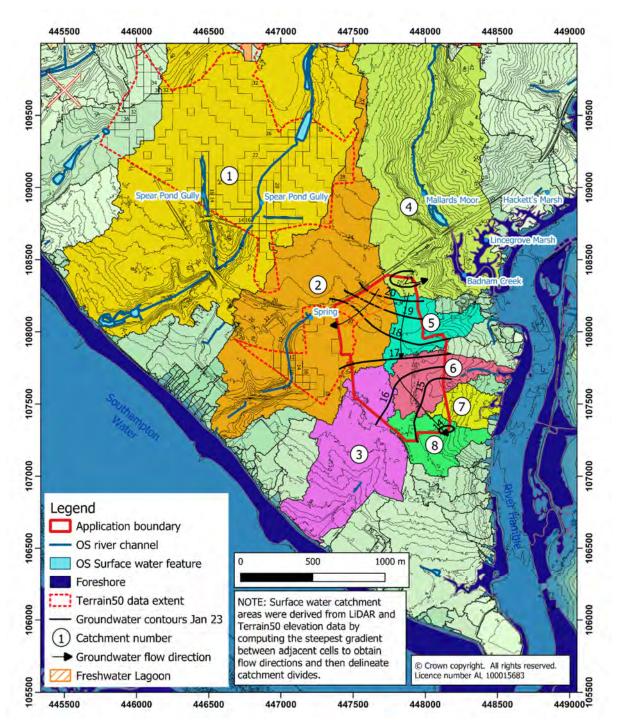


Figure 5.1 Surface water catchments

6 Site mitigation

On the basis of the data presented here and the CSM, we do not consider that it is likely that the Site will result in raised groundwater levels to the north with any subsequent increase in groundwater discharge to the railway cutting drains or impact on its stability. On this basis, we do not consider it appropriate to construct groundwater drains prior to the development proceeding as suggested by



Network Rail. As suggested in our previous correspondence (Stantec, 2022), we propose the following mitigation.

Groundwater monitoring wells which are located to the north of the fill area; BH01, WG02 and BHC/08 monitor the RTD along the northern boundary of the Site. Groundwater levels are measured on a monthly basis and these data would provide an early warning should groundwater levels rise due to placement of the imported restoration fill and allow for remedial action to be taken.

CEMEX proposes to define action levels of 1 m below ground level at BH01 and WG02. This is a depth that was not quite reached following the wet period at the end of 2022 (see hydrograph on Figure 3.2). Should groundwater levels in these wells rise above the action level for 3 consecutive months, remedial action will be taken in the form of constructing a groundwater drain to transfer groundwater to the west and south, away from the railway line.



7 References

Stantec, 2022. Proposed extraction of sand and gravel at Hamble Airfield: further response to consultee queries. Our ref: 331201108pbond002. 23 June 2022.

Stantec, 2023a. Hamble Quarry, updated drainage design. Report No. 331201108TN3. June 2023.

Stantec. 2023b. Former Hamble Airfield, Hamble-le-Rice, Hampshire. Ground Movement Assessment for Network Rail Assets. Project Ref: 331201108, Document: RP-3501-V01a, June 2023.







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Southampton, Hampshire	GROUND LEVEL				CO-ORDINATES E 447817.00 N 108095.00			DATE DRILLED START : 13/6/95	
SITE REF. SU 4708								FINISH	: 13/6/95
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	00.50		(0.60) - 0.60						
HOGGIN	20.50 _		(1.60)						
Yellow find SAND	18.90 _		2.20						
			(2.30)						
Yellow CLAY	16.60 _ 16.10		4.50 (0.50) 9.00)						

				artmer		ORE			5/35	
Geolo CEMEX CEMEX						IEET	1	OF	1	
ITE NAME Hamble Airfield			ITRACTO			Concrete	(UK) Ltd			
Southampton, Hampshire	EQUIPMENT AND METHOD: Power Auger									
					CO-ORDINATES D/ E 447809.00 N 107898.00 S				ATE DRILLED TART : 13/6/95	
ITE REF. SU 4708	20.901	ITAOD		E 4	47009.00	0 11 1070	90.00		: 13/6/95	
	REDUCED									
DESCRIPTION	LEVEL	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m)	WATER	MONITOR INSTALL-				
	(m AOD)		,	& TYPE		ATION				
TOP SOIL	20.30		(0.60)							
Brown sandy soft CLAY										
			(1.40)							
	18.90		2.00							
HOGGIN			(1.00)							
	17.90 _	<u> </u>	3.00							
Yellow fine SAND	17.40		£ (9.59)							
Brown sandy GRAVEL										
		208								
			F							
		P Q E	(3.30)							
		ġ. Ċ. Ċ.			⊉ 6.00					
		POS								
Yellow CLAY	13.90 _	<u>; U. U.</u>	± 7.00 _ € (9 <u>.5</u> 9)							

	X UK Opera	ations			SH			OF	1
ITE NAME Hamble Airfield	DRILLI	NG CON	TRACTO	DR: Read	dy Mixed (er Auger	Concrete	(UK) Ltd		
Southampton, Hampshire	GROU 21.20 r	ND LEVE n AOD	iL		-ORDINA 47807.00		95.00	STAR	DRILLED T : 13/6/95 I : 13/6/95
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	20.60		(0.60) 0.60						
rown soft CLAY									
	19.00		(1.60) 2.20						
IOGGIN	19.00 _		2.20						
			(2.80)						
rown sandy GRAVEL	16.20		5.00						
			(1.50)						
	14.70	ġĊŎ.	6.50						
ellow CLAY			(<u>1.00)</u>		⊉ 6.80				
	13.70		7.50						
- Bulk distrubed sample 🚽 - Water strike 1	NOTES				ONITORIN ef. Elev. mA		ELEVATION	& ID	7.00
 Bulk distrubed sample Small distrubed sample Undistrubed sample Undistrubed sample 	NOTES						ELEVATION	& ID	METRES LOGGED B
) - Small distrubed sample	NOTES						ELEVATION	& ID	7.00 METRES

	giour oor i	/ices	Depa	artmer	nt B	OREI	HOLE	No. 05/95
						EET	1 O	F 1
site NAME Hamble Airfield			TRACTO	NR: Read		Concrete	(UK) Ltd	
Southampton, Hampshire	GROU 20.90 r	ND LEVE m AOD	ïL		-ORDINA 47803.00	N 1075	01.00	DATE DRILLED START : 13/6/95 FINISH : 13/6/95
							1	
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
TOP SOIL	20.30		(0.60) 0.60					
Brown soft CLAY			(2.40)					
HOGGIN	17.90 _		3.00					
Brown sandy GRAVEL	17.40 _		(9.50)_ (3.00)		∳ 5.50			
	14.40	° OS	6.50					
Yellow CLAY	13.40		(1.00) 7.50					
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample X - Cuttings sample X - Cuttings sample	NOTES				ONITORIN ef. Elev. mA		ELEVATION &	7.50 METRES LOGGED BY WKJ Osborn DATE LOGGEI
D - Small distrubed sample U - Undistrubed sample W - Water sample W - Water sample W - Water strike 2	NOTES						ELEVATION &	7.50 METRES LOGGED BY WKJ Osborn

	Geological Serv EMEX UK Operation	ations	s Ltd			EET		NO. (1
		ING CON		DR: Read		Concrete			·
Hamble Airfield	EQUIP	MENT A	ND METI	HOD: Powe	er Auger				
Southampton, Hampshire		ND LEVE m AOD	EL		- ORDINA 47810.00	NTES D N 1073	24.00	START	RILLED : 13/6/95 : 13/6/95
DESCRIPTION	REDUCEI LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	19.40		(0.60) 0.60						
Brown soft CLAY	10.40	<u>+</u>							
		<u> </u>	(1.80)						
			F (1.00)						
	17.60		2.40						
HOGGIN			(1 10)						
	16.50	PUA	- (1.10) - 3.50						
Brown sandy GRAVEL	10.00		0.00						
		208							
		POR	(3.50)						
		$\Box \Theta$			€ 6.00				
		POR			<u>₹</u> 0.00				
	13.00	\overline{O}	7.00						
Yellow CLAY	12.50		(P. <u>5</u> 0)						

Geolo	gical Serv	vices	Depa	artmer	nt B	OREI	HOLE	No. 07/9)5
						EET		OF 1	
SITE NAME Hamble Airfield Southampton, Hampshire		ING CONT MENT AN		HOD: Powe	dy Mixed (er Auger	Joncrete	(UK) Lta		
SITE REF. SU 4708		ND LEVEL m AOD	L		-ORDINA 47979.00		24.00	DATE DRILL START : 13/0 FINISH : 13/0	6/95
	REDUCED								
DESCRIPTION	LEVEL (m AOD)	LEGEND (T	DEPTH & [HICKNESS] (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	17.90		(0.60) 0.60						
Brown soft CLAY			(0.90)						
Brown HOGGIN	17.00 _		1.50 _						
			(3.00)						
	14.00		4.50						
Yellow CLAY	13.50		(0.50)						
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample X - Cuttings sample c - Coarse grained m - Medium grained f - Fine grained	NOTES				ONITORIN ef. Elev. mA		ELEVATION 8		DTAL DEPTH 5.00 METRES OGGED BY VKJ Osborn TE LOGGEI 13/06/1995 SCALE 1 : 100

CEMEY		ation	- 40 2 + 4 2						
CEIVIEX		ations						1	1
						Concrete	(UK) Ltd		
;	GROU		EL	со	-ORDINA	TES	DA		RILLED
	18.90 r	n AOD		E 4	48036.00	D N 1073	00.00		
							<u> </u>		13/0/93
	REDUCED LEVEL	1	DEPTH & (THICKNESS)	SAMPLE DEPTH (m)	WATER	MONITOR			
	(m AOD)		(m)	& TYPE	STRIKE	ATION			
	18.30		(0.60) 0.60)						
		$\hat{\mathbf{r}}$	(4.40)						
	13.90		5.00						
	13.40		[(<u>0,50</u>)]						
	12.90		[(<u>0.59</u>)]						
	NOTES			M					TOTAL DEP
	INUTES				ef. Elev. mA				6.00 METRES
ater strike 1 anding water 1 ater strike 2 anding water 2								-	LOGGED B WKJ Osbori DATE LOGGI 13/06/1995
		CEMEX UK Opera DRILLI EQUIP GROU 18.90 r 18.30 13.40 12.90	CEMEX UK Operations DRILLING CON EQUIPMENT A GROUND LEVE 18.90 m AOD 18.30 18.30 13.40 13.40 12.90 13.40 12.90	CEMEX UK Operations Ltd DRILLING CONTRACTOR EQUIPMENT AND METH GROUND LEVEL 18.90 m AOD 18.30 18.30 18.30 18.30 18.30 18.30 18.30 18.30 18.30 18.30 13.90 13.90 13.40 9	CEMEX UK Operations Ltd DRILLING CONTRACTOR: Reac EQUIPMENT AND METHOD: POW GROUND LEVEL CO 18.90 m AOD E4 Image: Contractor of the second sec	CEMEX UK Operations Ltd DRILLING CONTRACTOR: Ready Mixed (EQUIPMENT AND METHOD: Power Auger GROUND LEVEL CO-ORDINA 18.90 m AOD E 448036.00 18.90 m AOD E 448036.00 19.90 m AOD E 448036.00 1	CEMEX UK Operations Ltd DRILLING CONTRACTOR: Reedy Mixed Concrete EQUIPMENT AND METHOD: Power Auger SROUND LEVEL 18.90 m AOD E00000 10000000000000000000000000000000	CEMEX UK Operations Ltd SHEET 1 OF DRILLING CONTRACTOR: Ready Mixed Concrete (UK) Ltd EQUIPMENT AND METHOD: Power Auger GROUND LEVEL CO-ORDINATES 18.90 m AOD E448036.00 N 107395.00 FI 19.00 LOED LOED CONTRACTOR 19.00 LOED LOED LOED CONTRACTOR 19.00 LOED LOED LOED CONTRACTOR 19.00 LOED LOED LOED LOED CONTRACTOR 19.00 LOED LOED LOED LOED CONTRACTOR 19.00 LOED LOED LOED LOED LOED LOED LOED LOED	CEMEX UK Operations Ltd PRILLING CONTRACTOR: Ready Mixed Concrete (UK) Ltd EQUIPMENT AND METHOD: Power Auger GROUND LEVEL CO-ORDINATES DATE D 18.00 mADD EVEL CO-ORDINATES DATE D FINISH 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.

Geolog CEMEX CEMEX	gical Serv	/ices	Depa s Ltd	artmer		ORE		No. 09/95	
SITE NAME Hamble Airfield Southampton, Hampshire	DRILLI	ING CON	TRACTO	R: Read	ly Mixed ((UK) Ltd		
SITE REF. SU 4708		ND LEVE m AOD	EL		-ORDINA 47900.00		01.00	DATE DRILLED START : 13/6/95 FINISH : 13/6/95	
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	19.30		(0.60) 0.60						
Brown sandy CLAY			(1.40)						
10001	17.90 _	<u>(</u>	2.00						
HOGGIN									
			(3.00)						
	14.90		5.00						
Yellow CLAY	13.90		(1.00) 6.00						
KEY B - Bulk distrubed sample ↓ - Water strike 1 D - Small distrubed sample ↓ - Standing water 1 U - Undistrubed sample ↓ - Standing water 1 W - Water sample ↓ - Water strike 2 X - Cuttings sample ↓ - Standing water 2 c - Coarse grained ↓ - Standing water 2 m - Medium grained ↓ - Standing water 2	NOTES				ONITORIN ef. Elev. mA		ELEVATION 8	LOGGE WKJ O: DATE LC 13/06/ SCA	0 RES 2D BY sborn DGGED 1995 LE

	CEMEX	ical Serv UK Opera	atione			l ch	EET	1	OF	1
)R : Read		Concrete		UF	I
Hamble Airfield					HOD: Powe	•		(011) 210		
Southampton, Hampshire		GROU 20.20 r	ND LEVE n AOD	EL		-ORDINA 47889.00	NTES D N 1076	14.00	START	DRILLED : 13/6/95 : 13/6/95
DESCRIPTION		REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL		19.60		(0.60) 0.60						
Brown sandy CLAY				(0.90)						
HOGGIN		18.70 _		1.50						
HOGGIN										
				(3.00)						
			a ⊡⊂							
		15.70	<u>705</u>	4.50						
Grey fine clayey SAND										
				(1.50)						
		14.20		6.00						

	CEMEX UK Op	oera	tions	Ltd	artmer		OREI EET	1	OF	1
TE NAME Hamble Airfield	DI	RILLI		TRACTO)R: Read	ly Mixed (Concrete			
Southampton, Hampshire			ID LEVE n AOD	L		-ORDINA 47993.00	NTES () N 1075	05.00	START	DRILLED 7 : 13/6/95 1 : 13/6/95
										1.10/0/00
DESCRIPTION	14	DUCED EVEL 1 AOD)	LEGEND	DEPTH & THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	1	8.20		(0.60) - 0.60						
Brown sandy CLAY		-	· <u>···</u> ····	(0.90)						
HOGGIN	1	7.30		1.50						
				-						
			ġĊ,Ŏ,	(0.00)						
) DE	- (3.00)						
				_						
Yellow fine SAND	1	4.30		4.50						
				(1.50)						
	1	2.80		6.00						
	L 1	2.00	·····	0.00			1			
EY 3 - Bulk distrubed sample	r strike 1					DNITORIN ef. Elev. mA		ELEVATION	& ID	TOTAL DEP 6.00 METRES

	Geologic		. 4.							
	CEMEX U						EET		OF	1
SITE NAME Hamble Airfield			NG CON MENT AN		ICD: Powe	•	Concrete	(UK) Ltd		
Southampton, Hampshire		GROU 18.10 r	ND LEVE n AOD	L		- ORDINA 48001.00	TES) N 1077	00.00	START	DRILLED : 13/6/95 : 13/6/95
SHE KEF. 304700									FINISH	. 13/0/93
DESCRIPTION		REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL		17.50		(0.60) 0.60						
Brown sandy CLAY		16.90		(0.60) 1.20						
HOGGIN		14.60		(2.30)						
Yellow fine SAND		12.10		(2.50)		⊉ 4.50				

	Geological	Serv	vices	Depa	artmen	t B	ORE	HOLE	No.	13/95
	CEMEX UK	Opera	ations	s Ltd		SH	EET	1 (OF	1
SITE NAME Hamble Airfield Southampton, Hampshire			ING CON MENT AI		OR: Ready HOD: Power		Concrete	(UK) Ltd		
SITE REF. SU 4708			ND LEVE m AOD	ïL		ORDINA 17909.00	NTES N 1077	794.00	STAR	DRILLED T : 14/6/95 H : 14/6/95
DESCRIPTION		REDUCEI LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL		10.10		(0.60) 0.60						
Soft sandy CLAY		19.40		(0.60) (0.60) 1.20						
HOGGIN				(2.30)						
Yellow fine SAND		16.50		3.50 (ρ.50)						
D - Small distrubed sample	Pr strike 1 ding water 1	6				NITORIN f. Elev. mA		ELEVATION 8	& ID	TOTAL DEPTH 4.00 METRES LOGGED BY
W - Water sample W - Water sample	ang water 1 er strike 2 ding water 2									WKJ Osborn DATE LOGGED 14/06/1995
f - Fine grained										SCALE 1 : 100

	jical Services Dep UK Operations Ltd	eartment BOREHOLI	E No. 14/95 OF 1
SITE NAME Hamble Airfield Southampton, Hampshire	DRILLING CONTRACT	OR: Ready Mixed Concrete (UK) Ltd	
SITE REF. SU 4708	GROUND LEVEL 19.60 m AOD	CO-ORDINATES E 447915.00 N 107893.00	DATE DRILLED START : 14/6/95 FINISH : 14/6/95
DESCRIPTION	REDUCED LEVEL (m AOD)	SAMPLE DEPTH (m) & TYPE	
TOP SOIL HOGGIN			
Blue sandy CLAY Yellow fine SAND	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water strike 1 V - Standing water 1 V - Cuttings sample C - Coarse grained M - Medium grained f - Fine grained	NOTES	MONITORING POINT ELEVATIO Ref. Elev. mAOD	N & ID N & ID TOTAL DEPTH 6.00 METRES LOGGED BY WKJ Osborn DATE LOGGEI 14/06/1995 SCALE 1 : 100

Geold CEMEX CEME	ogical Services Dep X UK Operations Lto			EET	1 (OF 1
SITE NAME Hamble Airfield Southampton, Hampshire	DRILLING CONTRAC	TOR: Read			(UK) Ltd	
SITE REF. SU 4708	GROUND LEVEL 21.20 m AOD		-ORDINA 47709.00		80.00	DATE DRILLED START : 14/6/95 FINISH : 14/6/95
DESCRIPTION	REDUCED LEVEL (m AOD)	SAMPLE S) DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
TOP SOIL	20.60					
Yellow soft CLAY	20.60 20.60					
HOGGIN	18.80 2.40 6 9	-				
Yellow fine clayey SAND	2 (1.50) 	-				
	16.20					

SITE NAME Hamble Airfield Southampton, Hampshire SITE REF. SU 4708 DESCRIPTION TOP SOIL HOGGIN Yellow fine clayey SAND				∍∟ເu		SF	IEET	1 OF	. 16/95
SITE REF. SU 4708 DESCRIPTION TOP SOIL HOGGIN			ING CON	TRACTO		ady Mixed ver Auger			
TOP SOIL HOGGIN			ND LEVE m AOD	EL		0-ORDIN/ 447643.0		48.00 STA	E DRILLED RT : 14/6/95 SH : 14/6/95
HOGGIN		REDUCEI LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE		MONITOR INSTALL- ATION		
		21.10		(0.60) 0.60					
Yellow fine clayey SAND		20.20		(0.90)					
		16.70		(3.50)					
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample X - Cuttings sample c - Coarse grained m - Medium grained f - Fine grained	g water 1 strike 2	ES				MONITORIN Ref. Elev. m/		ELEVATION & ID	TOTAL DEPTH 5.00 METRES LOGGED BY WKJ Osborn DATE LOGGEL 14/06/1995 SCALE 1 : 100

	Geological Ser								
	CEMEX UK Oper	ations	Ltd		SH	EET	1	OF	1
TE NAME	DRILL	ING CONT	RACTO		-	Concrete	(UK) Ltd		
Hamble Airfield	EQUIF	PMENT AND	D METH	IOD: Powe	er Auger				
Southampton, Hampshire	GROL	JND LEVEL		CO	-ORDINA	TES		DATE	DRILLED
	19.90	m AOD		E 4	47634.00) N 1081	28.00		: 14/6/95
TE REF. SU 4708								FINISH	: 14/6/95
	REDUCE		DEPTH &	SAMPLE		MONITOR			
DESCRIPTION	LEVEL (m AOD		DEPTH & HICKNESS) (m)	DEPTH (m)	WATER STRIKE	MONITOR INSTALL- ATION			
		, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		& TYPE					
TOP SOIL	19.30		(0.60) 0.60						
Yellow/brown softy CLAY some stone									
			(2.90)						
			(2.00)						
	16.40		3.50						
Dark brown damp GRAVEL			(1.00)						
	15.40	POR	4.50						
Yellow fine clayey SAND									
			(1.50)						
	13.90	E State	6.00						
EY 3 - Bulk distrubed sample 0 - Small distrubed sample J - Undistrubed sample Water sample Water sample Water sample Water sample	g water 1 strike 2				DNITORIN of. Elev. mA		ELEVATION	1 & ID	TOTAL DEPT 6.00 METRES LOGGED B' WKJ OSDORT
B - Bulk distrubed sample D - Small distrubed sample J - Undistrubed sample W - Water sample V - Water sample ↓ - Water s	strike 1 g water 1						ELEVATION	1 & ID	6.00 METRES LOGGED B

	logical Servio IEX UK Operat	ions Ltd			EET		No. 18/95
ITE NAME Hamble Airfield	DRILLING	G CONTRACTO	•	Mixed C	Concrete		
Southampton, Hampshire	GROUND 19.30 m			ORDINA 7510.00	. TES) N 1081	28.00	DATE DRILLED START : 14/6/95 FINISH : 14/6/95
DESCRIPTION	REDUCED LEVEL LE (m AOD)	EGEND (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
TOP SOIL	18.70	(P.60) 0.60					
HOGGIN		(3.40)					
Collow fine alovery CAND	15.30	4.00					
ellow fine clayey SAND		(2.00)					
	13.30	6.00					
		<u></u>					

		gical Serv							No. 1	
							EET	1	OF	1
ITE NAME Hamble Airfield			NG CON		DR: Read	dy Mixed (Concrete	(UK) Ltd		
Southampton, Ham	npshire									
••••••••••••••••••••••••••••••••••••••				Ľ				10.00	DATE D START	RILLED : 14/6/95
ITE REF. SU 4708		20.10 r	n aod		E 4	47528.00	J N 1080	19.00		: 14/6/95
		REDUCED								
DESC	RIPTION	LEVEL		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m)	WATER	MONITOR INSTALL- ATION			
		(m AOD)		. ,	& TYPE		ATION			
TOP SOIL and SUBSOIL		19.50		(0.60) 0.60						
Yellow CLAY		18.90		(0.60) 1.20						
HOGGIN										
			208	-						
				(2.30)						
Brown GRAVEL		16.60 _		3.50		⊉ 3.50				
			ġŌ.	(2.00)						
		14.60		5.50						
Yellow fine SAND		14.00 _		(0.50) (0.50)						
EY 3 - Bulk distrubed sample	✓ Water strike 1	NOTES				ONITORIN ef. Elev. mA		ELEVATION	1 & ID	TOTAL DEPT 6.00 METRES
	 ✓ - Water strike 1 ✓ - Standing water 1 ✓ Water strike 2 ✓ - Standing water 2 	NOTES						ELEVATION	1 & ID	TOTAL DEPT 6.00 METRES LOGGED B' WKJ Osborn DATE LOGGE 14/06/1995 SCALE

	CEMEX	ical Ser\ UK Opera	ations	ht I :			EET	1	OF	1
					R· Read		Concrete		UF	I
Hamble Airfield					IOD: Powe		JUNCIELE			
Southampton, Hampshire							TF0		DATE	
			ND LEVE m AOD	:L		-ORDINA	NIES N 1079	35.00	STAR	DRILLED T : 14/6/95
SITE REF. SU 4708		20.701	II AOD		C 4	47020.00	J N 1079	33.00		i : 14/6/95
		REDUCED								
DESCRIPTION		LEVEL	LEGEND	DEPTH & (THICKNESS)	SAMPLE DEPTH (m)	WATER	MONITOR INSTALL- ATION			
		(m AOD)		(m)	& TYPE		ATION			
TOP SOIL		20.40 .		0.30						
Soft brown sandy CLAY		19.80		(0.60) 0.90						
HOGGIN										
			P. C.S.							
			P QR							
			ġ⊖. ⊖	(4.60)						
			PDR							
			ōQ Ŏ.							
			DAX.							
Yellow green fine SAND		15.20	<u>6</u> 2	5.50						
		14.70		(0.50)						
ΓY		NOTES				DNITORIN	G POINT F		& ID	TOTAL DEP
B - Bulk distrubed sample 🚽 - Wate	r strike 1	NOTES				DNITORIN ef. Elev. mA		ELEVATION	1& ID	6.00
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample ↓ - Wate	r strike 1 ling water 1	NOTES						ELEVATION	1 & ID	6.00 METRES LOGGED B
D - Small distrubed sample U - Undistrubed sample W - Water sample - Wate	r strike 1 ling water 1 r strike 2	NOTES						ELEVATION	1& ID	6.00 METRES LOGGED B WKJ Osbor
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample ↓ - Wate ↓ - Wate	r strike 1 ling water 1	NOTES						ELEVATION	1&ID	6.00 METRES LOGGED B

Geolog CEMEX CEMEX	gical Services Dep	bartment BOREHOLE	
SITE NAME Hamble Airfield	DRILLING CONTRACT	FOR: Ready Mixed Concrete (UK) Ltd	F 1
Southampton, Hampshire	GROUND LEVEL 20.50 m AOD	E 447701.00 N 107984.00	DATE DRILLED START : 14/6/95 FINISH : 14/6/95
DESCRIPTION	REDUCED LEVEL (m AOD)	SAMPLE WATER MONITOR DEPTH (m) STRIKE ATION	
TOP SOIL Brown CLAY	20.20		
HOGGIN	18.50 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00		
Yellow green fine SAND	15.00 0.00 14.50 0.00		
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water strike 1 V - Standing water 1 V - Cuttings sample C - Coarse grained m - Medium grained f - Fine grained	NOTES	MONITORING POINT ELEVATION & Ref. Elev. mAOD	ID TOTAL DEPTH 6.00 METRES LOGGED BY WKJ Osborn DATE LOGGED 14/06/1995 SCALE 1 : 100

	Geological	Ser/	- 41 -				ORE			
	CEMEX UK						EET	1	OF	1
ITE NAME Hamble Airfield			ING CON MENT AI)R: Read IOD: Powe		Concrete	(UK) Ltd		
Southampton, Hampshire										
eoutiampton, namponno		GROUND LEVEL CO-ORDINATES 21.00 m AOD E 447617.00 N 10						20.00	DATE D START	DRILLED : 14/6/95
ITE REF. SU 4708		21.00 1	n AOD		E 44	47617.00	J N 1076	29.00		: 14/6/95
		REDUCED								
DESCRIPTION		LEVEL	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m)	WATER	MONITOR INSTALL- ATION			
		(m AOD)		. ,	& TYPE		ATION			
TOP SOIL Brown sandy CLAY		_ 20.70 .	·····	0.30						
brown sandy OLAT				(1.70)						
				(1.70)						
HOGGIN		19.00		2.00						
HUGGIN				(4.50)						
				(1.50)						
Brown sandy GRAVEL		17.50		3.50						
				(2.00)						
Yellow green fine SAND		15.50 <u>-</u> 15.00		5.50 (0.50)						
D - Small distrubed sample U - Undistrubed sample W - Water sample X - Cuttings sample ↓ - Stanc	r strike 1 ling water 1 r strike 2 ling water 2	5				DNITORIN f. Elev. mA		ELEVATION	N & ID	TOTAL DEPT 6.00 METRES LOGGED B' WKJ Osbori DATE LOGGEI
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample W - Water sample ↓ - Wate	r strike 1 ling water 1	3						ELEVATION	N & ID	6.00 METRES LOGGED B' WKJ Osbori

ITE NAME Hamble Airfield		VICES Ations NG CON MENT AN		OR: Read		Concrete	(UK) Ltd		
Southampton, Hampshire		GROUND LEVEL 20.80 m AOD			CO-ORDINATES E 447619.00 N 107739.00				PRILLED : 14/6/95 : 14/6/95
DESCRIPTION	REDUCED LEVEL (m AOD)		DEPTH & THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
TOP SOIL	20.20		(0.60) - 0.60						
Brown soft CLAY	20.20 _		 (1.60)						
IOGGIN	18.60 _		2.20(1.30)						
Yellow green CLAY	17.30 _	<u>o Ö</u>	3.50						
Brown GRAVEL	16.80 _		(4.60) - - (2.50)						
Yellow green fine SAND	14.30 _		- 6.50 _ - (1.00)						
EY 3 - Bulk distrubed sample ↓ - Water strike 1 ↓ - Water strike 1	NOTES				DNITORIN ef. Elev. mA		ELEVATION	& ID	TOTAL DEPT 7.50 METRES

	ogical Serv X UK Opera	ations	s Ltd		SH	EET	1	OF	1
		ING CON)R: Read		Concrete	(UK) Ltd	-	
Hamble Airfield				HOD: Powe	-		()		
Southampton, Hampshire	CROUI			<u> </u>	-ORDINA	TEQ			RILLED
	20.20 r		-) N 1078	21.00	START	: 14/6/95
ITE REF. SU 4708	20.201	II AOD		- +	47011.00		21.00	FINISH	: 14/6/95
	REDUCED								
DESCRIPTION	LEVEL		DEPTH & (THICKNESS)	SAMPLE DEPTH (m)	WATER	MONITOR INSTALL- ATION			
	(m AOD)		(m)	& TYPE	STRICE	ATION			
TOP SOIL			_ 0.30 _						
Brown soft CLAY									
			(1.70)						
	40.00								
HOGGIN	18.20 _	ġ.Ų.Ų.	2.00						
			(2.00)						
Brown sandy GRAVEL	16.20 _	<u>2011</u>	4.00						
BIOWN SANDY GRAVEL			(1.00)						
	15.20 _		5.00						
Green yellow fine SAND			- (1.00)						
	14.20		6.00						
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample U - Undistrubed sample W - Water strike 1 V - Standing water 1 W - Water strike 2 X - Cuttings sample	NOTES				DNITORIN f. Elev. mA		ELEVATIO	N & ID	TOTAL DEPT 6.00 METRES LOGGED BY WKJ Osborr DATE LOGGE

Geol	logical Serv	atione I td					No. 2	
					EET	1 (UK) Ltd	OF	1
TE NAME Hamble Airfield		NG CONTRACTO			Concrete	(UK) Ltd		
Southampton, Hampshire								
• • •	20.10 r			-ORDINA	NTES D N 1076	01 00	DATE I START	DRILLED : 14/6/95
ITE REF. SU 4708	20.101	II AOD	E 44	47520.00	J N 1070	01.00		: 14/6/95
	REDUCED							
DESCRIPTION	LEVEL	LEGEND (THICKNESS) (m)	SAMPLE DEPTH (m)	WATER	MONITOR			
	(m AOD)	(,	& TYPE		ATION			
TOP SOIL	19.80 _	0.30 _						
Brown clayey SAND	19.10	(0.70) 1.00						
HOGGIN								
Brown sandy GRAVEL	16.60 _	3.50						
DIOWII SANUY GRAVEL								
Green yellow SAND	14.60 _	5.50						
	14.10	(0.50)						
Duille distantic al seconda 1	NOTES					ELEVATION	4 & ID	6.00
3 - Bulk distrubed sample C - Small distrubed sample				DNITORIN f. Elev. mA		ELEVATION	1&ID	METRES
 Balk distrubed sample Small distrubed sample Undistrubed sample Water strike 1 Standing water Water strike 2 						ELEVATION	N & ID	6.00 METRES LOGGED B WKJ Osbor
 Balk distrubed sample Small distrubed sample Undistrubed sample Undistrubed sample Water strike 1 Standing water 2 Cuttings sample 	1					ELEVATION	N & ID	6.00
D - Small distrubed sample U - Undistrubed sample W - Water sample ↓ - Standing water ↓ - Standing water ↓ - Water strike 2	1					ELEVATION	V & ID	6.00 METRES LOGGED B WKJ Osbor DATE LOGG

	Geolog	ical Serv UK Opera	ations	s Ltd			OREI EET	1	OF	1
)R· Read	dy Mixed (5	•
ITE NAME Hamble Airfield					HOD: Powe	-				
Southampton, Hampsh	ire									
									DATE D	
ITE REF. SU 4708		20.70 r	n AOD		E 4	47670.00	0 N 1076	09.00		: 14/6/95 : 14/6/95
11E REF. 50 4/06									FINISH	. 14/0/95
		REDUCED	1	DEPTH &	SAMPLE		MONITOR			
DESCRIPTI	ON	LEVEL (m AOD)	LEGEND	(THICKNESS) (m)	DEPTH (m)	WATER STRIKE	MONITOR INSTALL- ATION			
					& TYPE					
TOP SOIL		20.40 .	<u></u>	£ 0.30 _						
Brown sandy CLAY				(1.10)						
		19.30		1.40						
HOGGIN			<u>α</u>	Ē						
				(1.10)						
Brown sandy GRAVEL		18.20 _	6011	2.50						
DIOWIT SAILUY GRAVEL										
				(3.00)						
			p Of	. (3.00)						
			ģ⊙ Ŏ.	Į						
		45.00	$\beta \otimes \beta$							
Yellow green fine SAND		15.20	<u> </u>	5.50						
		14.70	<u> </u>	E (0.50)						
		NOTES						ELEVATION	& ID	6.00
3 - Bulk distrubed sample ⊃ - Small distrubed sample J - Undistrubed sample	- Water strike 1 - Standing water 1 - Water strike 2	NOTES				ONITORIN ef. Elev. mA		ELEVATION	& ID	6.00 METRES LOGGED B
3 - Bulk distrubed sample 0 - Small distrubed sample J - Undistrubed sample W - Water sample Q - Other sample	- Standing water 1 - Water strike 2	NOTES						ELEVATION	& ID	
D - Small distrubed sample U - Undistrubed sample W - Water sample	- Standing water 1	NOTES						ELEVATION	& ID	6.00 METRES LOGGED B` WKJ Osborr

Geolog CEMEX	gical Serv	vices Dep ations Ltd	artmen		OREH	IOLE No.	27/95
SITE NAME Hamble Airfield Southampton, Hampshire	DRILL	ING CONTRACTO		y Mixed (Concrete (·
SITE REF. SU 4708	GROU 20.10 I		• ORDINA 47618.00	TES) N 10754	8.00 STAR	DRILLED [: 15/6/95 [: 15/6/95	
DESCRIPTION	REDUCEL LEVEL (m AOD)	LEGEND (THICKNESS)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
TOP SOIL Soft sandy CLAY	19.80 .	0.30					
HOGGIN	18.00 _	2.10 0.0 0.0 0.0 0.0 0.0 0.0 0.0					
Yellow fine SAND	16.10	4.00 - (1.00) 5.00					
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water strike 1 Y - Standing water 1 W - Cuttings sample C - Coarse grained m - Medium grained f - Fine grained	NOTES			DNITORIN f. Elev. mA		EVATION & ID	TOTAL DEPTH 5.00 METRES LOGGED BY WKJ Osborn DATE LOGGEI 15/06/1995 SCALE

SITE NAME Hamble Airfield Southampton, Hampshire SITE REF. SU 4708 DESCRIPTION TOP SOIL Brown sandy CLAY	E C 2 Re ()	orilli Equipi Groun	NG CON MENT AN ND LEVE n AOD	TRACTO	IOD: Powe	dy Mixed C er Auger - ORDINA	EET Concrete (l TES N 10739	DATE 9.00 STAR	1 DRILLED T : 15/6/95
Hamble Airfield Southampton, Hampshire SITE REF. SU 4708 DESCRIPTION TOP SOIL Brown sandy CLAY	E C 2 Ri	EQUIPI GROUN 20.00 n EDUCED LEVEL	MENT AN ND LEVE n AOD		IOD: Powe	er Auger	TES	DATE 9.00 STAR	T : 15/6/95
Southampton, Hampshire SITE REF. SU 4708 DESCRIPTION TOP SOIL Brown sandy CLAY	C 2 Ri (GROUN 20.00 n EDUCED LEVEL	ND LEVE n AOD		со	-ORDINA		9.00 STAR	T : 15/6/95
DESCRIPTION TOP SOIL Brown sandy CLAY	(1	LEVEL						EINICL	
TOP SOIL Brown sandy CLAY	(1	LEVEL		1					i : 15/6/95
Brown sandy CLAY		,	LEGEND (DEPTH & THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
HOGGIN		19.70 _		0.30 _					
		17.50 _	11101 1011	2.50					
				- (3.00)					
		14.50 _		5.50					
Yellow fine SAND		14.00		(0.50)					
								EVATION & ID	TOTAL DEPT

	<u> </u>		• • • •	D				000			
	Geologie	cal Serv IK Opera	/ICES	Depa td	artme	ent		ORE EET		LE No. E	3 HU1
SITE NAME			NG CON		DR: Ape	ex Dril	-	Services		OF	1
Hamble Airfield		EQUIPI	MENT A	ND METH	HOD : Dar		-				
Southampton, Hampshire		GROU 18.69 r	ND LEVE n AOD	iL		O-OR	DINA	TES		START	
SITE REF. SU 4708										FINISH	: 2/6/11
DESCRIPTION		REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m & TYPE	עע איז) איז) איז	ater 'rike	MONITOF INSTALL ATION			
				0.20 -					0.50	Cement seal in cover	nstalled with raised
CLAY and SOIL		17.59 _		(0.90) 1.10						Bentonite seal	
Flint GRAVEL				_					1.80	50mm plain u	PVC pipe
								000	d 1.00	Gravel pack	
								00 0	d	50mm plain u	PVC pipe
			00	_					d		
				(4.90)					_		
			°°,Ö			Ţ	4.50				
										Gravel pack	
				-					_	50mm slotted	uPVC pipe
Dark orange GRAVEL		12.69 _		6.00					_		
		11.69		(1.00) 7.00				° E°	q		
Stiff orange CLAY		11.19		(P. <u>5</u> 0)					d		
D - Small distrubed sample U - Undistrubed sample W - Water sample W - Water sample W - Water sample	r strike 1 ting water 1 r strike 2 ting water 2	NOTES						g point 69maod		"ION & ID	TOTAL DEPTH 7.50 METRES LOGGED BY Driller DATE LOGGED 02/06/2011

SCALE 1:100

•	on abou abou e
W	- Water sample
	A

- Water sample
 Cuttings sample
 Coarse grained
 Medium grained
 Fine grained

Second Services Department BOREHOLE No. BH01A Neter 1 0F 1 Texame amble Airfield outhampton, Hampshire DRULING COTRACTOR: Apex Drilling Services Id BULING COTRACTOR: Apex Drilling Services Id Texame Date Drilling Services Id Texame Date Drilling Services Id Texame Ref. SU 4708 CO-ORDINATES Date Drilling Texame
Image: Constraint of the constraint
CROUND Level CO-ORDINATES DATE DRILED START : 24/5/11 M AOD E N START : 24/5/11 DESCRIPTION REDUCED (m AOD) LEGEND DEPTH & DEPTH (m) SAMPLE DEPTH (m) WATER STRIKE MONITOR INSTALL- ATION irass and TOPSOIL Image gravely CLAY
m AOD E N START : 24/5/11 FINISH : 24/5/11 DESCRIPTION REDUCED LEVEL (m AOD) LEGEND (m MOD) DEPTH & (m MOD) SAMPLE DEPTH (m) & TYPE WATER NONITOR STRIKE MONITOR INSTALL- ATION irass and TOPSOIL (0.60) (0.60) (0.70) (0.70) (0.70) iravel (0.60) (0.70) (0.70) (0.70) (0.70)
DESCRIPTION LEVEL LEGEND THICKNESS (m) DEPTH (m) BOWINDE (m AOD) UEVEL LEGEND THICKNESS (m) DEPTH (m) BOWINDE DEPTH (m) BTRIKE INSTALLATION TOWN OR ADD (M) DEPTH (m) BOWINDE (m) STRIKE INSTALLATION (m) STRIKE INSTALLATION
rown orange gravely CLAY
iravel

	Geological CEMEX UK (Serv Opera	ices/ ations	Depa s Ltd	artmen		OREI	HOL 1	.E No. OF	1 BH02	
SITE NAME Hamble Airfield Southampton, Hampshire			NG CON MENT A		OR: Apex Apex Apex Apex Apex Apex Apex Apex	•	Services L Percussion				
		GROUN m AOI		EL	CO- E N		TES			E DRILLED RT:24/5/11	
SITE REF. SU 4708		MAOL	J			N			-	SH : 24/5/11	
DESCRIPTION		REDUCED LEVEL (m AOD)		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION				
TOPSOIL				0.20 -				0.30		al installed with flush	ו
Brown clayey TOPSOIL Brown Clayey GRAVEL	/		6.4.0	= 0.60 _ (ρ. 5 9)				1.00	daisy cove Bentonite s		
Gravely CLAY				- 1.30 - - 1.60				1.60	50mm plai Gravel pac	n uPVC pipe k	
Sandy GRAVEL				- 1.00 -					50mm slot	ted uPVC pipe	

KEY B - Bulk distrubed sample D - Small distrubed sample	↓ - Water strike 1	NOTES Drilling terminated on cobbles/boulder.	MONITORING POINT ELEVATION & ID Ref. Elev. mAOD	TOTAL DEPTH 1.60 METRES
U - Undistrubed sample W - Water sample	 ♀ - Standing water 1 ♀ - Water strike 2 			LOGGED BY Driller
X - Cuttings samplec - Coarse grained	♀ - Standing water 2			DATE LOGGED 24/05/2011
m - Medium grained f - Fine grained				SCALE 1 : 100

	Geolog	jical Serv	vices	Dep	artmer	nt B	ORE	HOL	E No. BH03
	CEMEX	UK Opera	ations	s Ltd		SH	EET	1	OF 1
ITE NAME Hamble Airfield		DRILLI	NG CON	TRACTO	DR: Apex H OD: Danc	k Drilling S do Light P			
Southampton, Hampshire	9			EL		ORDINA	TES		DATE DRILLED START : 23/5/11
ITE REF. SU 4708		21.48 r	n AOD		E	N			FINISH : 23/5/11
DESCRIPTION	I	REDUCED LEVEL (m AOD)		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
TOPSOIL Brown GRAVEL and CLAY		21.28 -		0.20 -			88	0.30	Cement seal installed with flush daisy cover
Brown GRAVEL and CLAY									Arisings
				(3.00)				. 1.80	
									Bentonite seal 50mm plain uPVC pipe
		18.28	p Ō	3.20				2.80	
Drange clayey GRAVEL		17.68		(0.60) 3.80					
Stiff grey CLAY									
									Gravel pack 50mm slotted uPVC pipe
				(3.20)					
		14.48		7.00				6.80	Gravel bottom fill

SITE NAME Hamble Airfield Southampton, Hampshire DRILLING CONTRACTOR: Apex Drilling Services Ltd EQUIPMENT AND METHOD: Dando Light Percussion Rig SITE REF. SU 4708 CO-ORDINATES m AOD DATE DRILLED E N DESCRIPTION REDUCED (LEVEL) CO-ORDINATES E N DATE DRILLED START: 31/5/11 FINISH: 1/6/11 Crass and TOPSOIL 0.40 Cement seal installed with flus daisy cover Cravely CLAY 0.40 Cement seal installed with flus daisy cover Brown orange sandy CLAY 0.40 Cenvel percent (0.80) Dense flint GRAVEL 0.40 Cenvel pack Somm plain uPVC pipe Orange sandy CLAY 0.40 Cenvel pack Somm plain uPVC pipe Orange sandy CLAY 0.40 Cenvel pack Somm plain uPVC pipe Orange sandy CLAY 0.40 Cenvel pack Somm plain uPVC pipe Orange sandy CLAY 0.40 Cenvel pack Somm plain uPVC pipe	Hamble Airfield									
GROUND LEVEL COUND LEVEL COUND LEVEL DATE DRILLED SITE REF. SU 4708 AOD E N STRT: 31/51/1 DESCRIPTION REDUCED LEVEL LEGEND DEPTH (m) (m AOD WATER DEPTH (m) STRKE WATER NONTOR MONTOR Grass and TOPSOIL Clayey TOPSOIL 0.20 (0.80) 1.00 0.40 Cement seal installed with flust daisy cover Brown CLAY 0.20 (0.80) 1.00 0.40 Cement seal installed with flust daisy cover Gravely CLAY 0.40 Cement seal installed with flust daisy cover Dense flint GRAVEL 0.40 Cement seal installed with flust daisy cover Orange sandy CLAY 0.40 Cement seal installed with flust daisy cover 0.40 Cement seal installed with flust daisy cover Somm plain uPVC pipe 0.40 Cement seal installed with flust daisy cover Somm plain uPVC pipe 0.40 Cement seal installed with flust daisy cover Somm plain uPVC pipe 0.50 0.600 0.40 Cement seal installed with flust daisy cover 0.40 Carvel pack Somm plain uPVC pipe 0.500 0.600 0.600 0.600 0.500 0.600 0.600 0.600 0.500 0.600 0.600 0.600 0.500 0.500 0.600 0.600 <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th>						-				
DESCRIPTION LEVEL (m AOD) LEGEND DEPTH (m) (m) (m) WATER STRIKE MONITOR STRIKE Grass and TOPSOIL Clayey TOPSOIL 0.20 (0.80) 0.20 (0.80) 0.40 Cement seal installed with flust daisy cover Brown CLAY 0.600 1.00 0.40 Cement seal installed with flust daisy cover Gravely CLAY 0.600 1.00 0.40 Cement seal installed with flust daisy cover Brown orange sandy CLAY 0.40 Cement seal installed with flust daisy cover 50mm plain uPVC pipe Dense flint GRAVEL 0.40 Cement seal installed with flust daisy cover 50mm plain uPVC pipe 0 0.40 Cement seal installed with flust daisy cover 50mm plain uPVC pipe 0 0.40 Cement seal installed with flust daisy cover 50mm plain uPVC pipe 0 0.40 Cement seal installed with flust daisy cover 50mm plain uPVC pipe 0 0.40 Cement seal installed with flust daisy cover 50mm plain uPVC pipe 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <th></th> <th>l l</th> <th></th> <th>L</th> <th></th> <th></th> <th>TES</th> <th></th> <th></th> <th>START : 31/5/11</th>		l l		L			TES			START : 31/5/11
Clayey TOPSOIL (0.80) 1.00 daisy cover Brown CLAY (0.80) 1.00 50mm plain uPVC pipe Gravely CLAY (0.60) 1.80 50mm plain uPVC pipe Brown orange sandy CLAY (1.00) 2.80 Gravel pack Dense flint GRAVEL (2.40) (2.40) Gravel pack 50mm plain uPVC pipe Orange sandy CLAY (2.40) (0.50) Gravel pack 50mm plain uPVC pipe	DESCRIPTION	1	LEVEL	THICKNESS)	DEPTH (m)		INSTAL	L-		
Clayey TOPSOLL (0.80) Brown CLAY 1.00 Gravely CLAY (0.80) Brown orange sandy CLAY (1.00) Dense flint GRAVEL (1.00) Orange sandy CLAY (2.40) Orange sandy CLAY (2.40) Orange sandy CLAY (2.40) Orange sandy CLAY (2.40)	Grass and TOPSOIL			0.20 -					0.40	Cement seal installed with flush
Brown CLAY 0,600 50mm plain uPVC pipe Gravely CLAY 0,600 1.80 50mm plain uPVC pipe Brown orange sandy CLAY 0,600 2.80 Gravel pack Dense flint GRAVEL 0,000 0,000 0,000 0,000 Orange sandy CLAY 0,000 0,000 0,000 0,000 0,000 Orange sandy CLAY 0,000 0,000 0,000 0,000 0,000 0,000 Orange sandy CLAY 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 Orange sandy CLAY 0,000	Clayey TOPSOIL							Λ	1 00	
Gravely CLAY Image: source of the source	Brown CLAY		f	 - 1					1.00	50mm plain uPVC pipe
Brown orange sandy CLAY Brown orange sandy CLAY Conset flint GRAVEL C	Gravely CLAY		-	 					1.80	50mm plain uPVC pipe
Dense flint GRAVEL (1.00) 0 0 <td>Brown orange sandy CLAY</td> <td></td> <td>-</td> <td> - 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Brown orange sandy CLAY		-	 - 1						
Dense flint GRAVEL			-							Gravel pack
Orange sandy CLAY	Dense flint GRAVEL		, , , ,	(2.40)						Gravel pack
	Orange sandy CLAY		-					þ	3 00	

KEY B - Bulk distrubed sample D - Small distrubed sample	NOTES	MONITORING POINT ELEVATION & ID Ref. Elev. mAOD	TOTAL DEPTH 6.00 METRES
U - Undistrubed sample ↓ - Standing ↓ - Standing ↓ - Water sample ↓ - Water st			LOGGED BY Driller
X - Cuttings sample c - Coarse grained [♣] - Standing	water 2		DATE LOGGED 01/06/2011
m - Medium grained f - Fine grained			SCALE 1 : 100

	Geological CEMEX UK			-	artmen		ORE		.E No. OF	BH05	
SITE NAME Hamble Airfield		DRILL	ING CON	ITRACTO	DR: Apex I HOD: Dando	Drilling S	Services I	_td			
Southampton, Hampshire			IND LEVE m AOD	EL	CO-I E N	ORDINA N	ATES		STAR	DRILLED T : 25/5/11 I : 25/5/11	
DESCRIPTION		REDUCE LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION				
TOPSOIL	,	- 20.38		- 0.20 -			× ×	0.30	Cement sea	l installed with fl	ush
Clayey TOPSOIL		- 20.08	<u> {//////</u>	0.50 -					daisy cover		
Brown CLAY		18.98		(1.10)					Bentonite se 50mm plain		
Dense GRAVEL				(2.20)				_ 2.00	Gravel pack		
Brown Sandy GRAVEL		16.78		3.80 (0.70) 4.50				4.50	50mm slotte	ed uPVC pipe	
KEY B - Bulk distribed sample	NOTE	S					G POINT F		10N & ID	TOTAL I	0
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample W - Water sample ↓ - Water sample ↓ - Water sample	NOTE ter strike 1 hding water 1 ter strike 2 hding water 2	.0					58mAOD n				0 RES ED BY er DGGED 2011 LE
L	I				I					-1	

	Geological	Ser	/ices	Depa	artmen	t B	ORE	HOL	E No.	BH06
	CEMEX UK	Opera	ations	s Ltd		s⊦	IEET	1	OF	1
SITE NAME			ING CON		DR: Apex		Services I		0.	·
Hamble Airfield					HOD: Dando					
Southampton, Hampshire		CROU	ND LEVE	=1	<u> </u>	ORDINA	TES		DATE	DRILLED
			m AOD	.	E N		AIE3			T : 27/5/11
SITE REF. SU 4708						-			FINISH	i : 27/5/11
		REDUCED	b	DEPTH &	SAMPLE		MONITOR			
DESCRIPTION		LEVEL (m AOD)		(THICKNESS) (m)	DEPTH (m)	WATER STRIKE	MONITOR INSTALL- ATION			
				-	& TYPE		XXX XXX			
Brown TOPSOIL				(1.30)				_ 0.40	Cement seal daisy cover	installed with flush
		17.99		1.30				1.30	Bentonite se 50mm plain	
GRAVEL			6.0,0					_ 1.50 - 1.50	Gravel pack 50mm plain	
			p OS	(1.70)					Gravel pack	
			6.0°0						50mm slotte	d uPVC pipe
		16.29	ŀΛ.C	3.00			0 - 0 0	3.00		
					·					
KEY	NOTE	s					IG POINT I		ION & ID	TOTAL DEPTH 3.00
D - Small distrubed sample	er strike 1				Ret	t. Elev. 19	.29mAOD n	hAOD		METRES
U - Undistrubed sample ¥ - Stan	ding water 1 er strike 2									LOGGED BY Driller
X - Cuttings sample	ding water 2									DATE LOGGED
c - Coarse grained m - Medium grained	č									27/05/2011 SCALE
f - Fine grained										1 : 100
					1					

		vices	Debo			•••		E No. BH09.
	(Opera	ations	s Ltd		SH	EET	1	OF 1
		ING CON			Symes As	SOC.		
Hamble Airfield	EQUIP	MENT AI	ND METI	HOD:				
Southampton, Hampshire	GROU		EL	СО	-ORDINA	TES		DATE DRILLED
	20.70 r				47843.11		37.04	START : 28/2/08
SITE REF. SU 4708								FINISH : 29/2/08
	REDUCED)	DEPTH &	SAMPLE		MONITOR		
DESCRIPTION	LEVEL (m AOD)		(THICKNESS) (m)	DEPTH (m) & TYPE	WATER STRIKE	INSTALL- ATION		
Grass over TOPSOIL			F (0.50)	& ITFE		× ×		Deise die en ser in stelle d
Soft and firm light brown/orange sandy CLAY	20.20		(9. 5 9) 0.70			₿₿	0.50	Raised cover installed
Soft and him light brown/orange sandy CLAY Soft brown clayey SAND/sandy CLAY.	-7 20.00 -							
			(1.60)					
			Ê					
Red brown clayey sand and and GRAVEL.	18.40		2.30					Bentonite seal
Brown sandy GRAVEL.Sub-angular to sub-rounded	18.00 _	<u>قن می</u>	2.70	- 2.70 -	_			100mm uPVC plain pipe
gravel. Sand is generally medium to coarse grained.								
				В				
			(4.00)				4.60	
					⊈ 5.65			
				- 6.10 -	_	° Tog		Gravel filter pack 100mm uPVC slotted pipe
	14.00	Þ 0,5	6.70	- 6.70 -	€ 6.70			
Yellow/green silty SAND with sandy clay bands. Sand is		×		0.70	÷	o <u></u> ∎o]		
fine to medium grained.		×					7.60	
		×···	(2.10)	В		00 000 0 0 0		Gravel bottom fill
		×	E			00000		
	11.90	×	8.80	- 9.00 -		റ്റ റ്	8.80	
B - Bulk distrubed sample D - Small distrubed sample U - Standing water 1	TTES /ater added to orehole cover ervices Ltd. ir	r repaired b		1.5 m. Re	ONITORIN ef. Elev. mA		LEVAT	ION & ID ION & ID ION & ID ION & ID IOTAL DEPT 8.80 METRES LOGGED BY DATE LOGGE SCALE

Geolo	gical Serv	ices	Depa	artmen	t B	ORE	IOL	.E No. BH10
	X UK Opera	tions	Ltd		SH	IEET	1	OF 1
SITE NAME Hamble Airfield	DRILLIN	NG CONT MENT AN	RACTO		ymes As	SSOC.		
Southampton, Hampshire	GROUN 15.94 m	ID LEVEI n AOD	-		ORDINA 8083.18	ATES B N 10764	47.35	DATE DRILLED START : 20/2/08 FINISH : 20/2/08
DESCRIPTION	REDUCED LEVEL (m AOD)		DEPTH & 'HICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
Grass over TOPSOIL	15.44		(0. <u>5</u> 0)	- 0.50 —			0.50	Raised cover installed
Brown sandy GRAVEL			(4.60)	B - 2.50 —	1⊈ 2.46 1	0 0	2.50	Bentonite seal 100mm uPVC plain pipe
			(4.00)	В	⊉ 3.00			Gravel filter pack 100mm uPVC slotted pipe
Brown SAND	10.84		5.10	- 5.10 —				Crevel bettern fill
Firm stiff brown CLAY	/ 10.44		5.50				5.50 5.60	Gravel bottom fill

KE	

KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample	 ↓ - Water strike 1 ↓ - Standing water 1 ↓ - Water strike 2 	NOTES Water added to assist drilling 1.0-5.5 m. Borehole cover repaired by Apex Drilling Services Ltd. in 2011	MONITORING POINT ELEVATION & ID Ref. Elev. 15.94mAOD mAOD	TOTAL DEPTH 5.60 METRES LOGGED BY
X - Cuttings samplec - Coarse grained	♣ - Standing water 2			DATE LOGGED
m - Medium grained f - Fine grained				SCALE 1 : 100

— —						<u> </u>	<u></u>		_	
CEMEX	Geolog	jical Serv UK Opera		-	artmer				.E No. I	
					DR: Apex		IEET Services I	1 _td	OF	1
Hamble Airfield Southampton, Hampshire		EQUIPI	MENT A	ND METI	HOD: Dano	do Light F	Percussio	n Rig		
		GROUM m AOI		EL	CO E	-ORDINA	TES			DRILLED : 26/5/11
SITE REF. SU 4708					-				FINISH	: 26/5/11
DESCRIPTION		REDUCED LEVEL (m AOD)		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
Brown clayey TOPSOIL								_ 0.50	Cement seal i daisy cover	installed with flush
				(1.60)					Bentonite sea 50mm plain u	
Dense brown GRAVEL				_ 1.60 _				_ 1.80		
				(2.90)					Gravel pack 50mm slotted	uPVC pipe
Stiff brown CLAY			<u>) 08</u>	4.50 (0.50)				4.80	Gravel bottom	n fill
				- 5.007			00,00	5.00		
KEY		NOTES					IG POINT I	ELEVAT	ION & ID	TOTAL DEPTH 5.00
D - Small distrubed sample 1/2 - Stan	er strike 1 ding water 1				R	ef. Elev. m/	AOD			METRES LOGGED BY
W - Water sample W - Water sample	er strike 2									Driller DATE LOGGED
c - Coarse grained m - Medium grained	ding water 2									26/05/2011 SCALE
f - Fine grained										1 : 100

										1
TE NAME Hamble Airfield				ITRACTO		Symes As	SSOC.			
Southampton, Hampshire	-									
		20.07 r	ND LEVE m AOD	=L		ORDIN/ 47876.73	ATES 3 N 1073	09.65	START	RILLED : 3/3/08
TE REF. SU 4708									FINISH	: 3/3/08
	I	REDUCED		DEPTH &	SAMPLE		MONITOR			
DESCRIPTION		LEVEL (m AOD)	LEGEND	(THICKNESS) (m)	DEPTH (m) & TYPE	WATER STRIKE	INSTALL- ATION			
Grass over TOPSOIL				Ē					Raised cover i	nstalled
		19.17		- (0.90) - 0.90				_ 0.50		
Soft brown sandy CLAY										
		17.97		(1.20) 2.10					Bentonite seal	
Red brown clayey sandy GRAVEL				(0.60) 2.70					100mm uPVC	plain pipe
Brown sandy GRAVEL. Subangular to subro	ounded fine to	_ 17.37 _	<u>ð</u> Ó	2.70	- 2.70 —	-				
coarse flint gravel with some cobbles. Sand nedium/coarse grained.	generally) OK					_ 3.50		
5			ġ⊙ Ŏ.							
) OS	(3.60)	В					
									Gravel filter pa 100mm uPVC	
) <u>0</u> 8			⊈ 5.53				
		_ 13.77 _		£ 6.30	- 6.30 —	€ 6.30				
ellow SAND with yellow brown sandy clay l	bands.				0.00	-		_ 6.50		
				E			0 0 0		Gravel bottom	fill
				(1.70)			00,00			
		12.07		(1.70) 8.00						
		12.07								

ITE NAME Hamble Airfield Southamaton, Hamashira	Operations Ltd SHEET 1 OF 1 DRILLING CONTRACTOR: D K Symes Assoc. EQUIPMENT AND METHOD: GROUND LEVEL CO-ORDINATES DATE DRILLED									
Southampton, Hampshire						TES 2 N 108156.	Date Drilled Start : 25/2/08 Finish : 26/2/08			
DESCRIPTION	REDUCED LEVEL (m AOD)		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION				
Grass over TOPSOIL. Yellow & orange brown clayey to very clayey SAND & GRAVEL (hoggin). ang. to subrounded fine to medium gravel (occ. coarse) of flint. sand is fine to coarse.	18.00	10,10,10	(0.70) 0.70 (1.90)	- 0.70 -	-					
Grey brown, brown with depth silty sandy GRAVEL. Subanugular to rounded flint gravel, sand is fine to coarse.	16.10		2.60 _	В	⊉ 2.74					
Brown sandy GRAVEL, fine to course gravel gen. ned/coarse occ. cobbles of flint. sand is fin to coarse.	15.10 _		3.60(2.40)	- 3.60 - B	_♥ 3.60					
Brown sandy CLAY.	12.70 <u>12.50</u>		6.00 <u>6.20</u>	- 6.00 -	-					

SCALE 1 : 100

υ	- Small distrubed sample	<u>ب</u>	.
U	- Undistrubed sample	¥	- Standing water 1
W	- Water sample	Ţ	- Water strike 2
Х	 Cuttings sample 	⊉	- Standing water 2
С	- Coarse grained	-	
m	- Medium grained		
f	- Fine grained		

			Debo	artmer					BHB/08
	DRILL	ING CON	TRACTO		SH Symes As	EET ssoc.	1	OF	1
Hamble Airfield Southampton, Hampshire		MENT AN			-ORDINA		TE DRILLED ART : 21/2/08		
SITE REF. SU 4708	22.42 m AOD			E 4	47639.22	9.22 N 108301.06 ST			T : 21/2/08 H : 21/2/08
DESCRIPTION	REDUCEI LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
Grass over TOPSOIL.	22.02		0.40						
Firm brown SILT/CLAY. Light brown SAND & GRAVEL / sandy GRAVEL. sub ang. to rounded fine to coarse gravel (clayey to 1.3 m) occ/some cobbles of black & brown flint. Sand is fine to	- ^{21.72}			- 0.70 -					
coarse.			(3.00)	В	1				
					 ⊉ 2.50 ½ 3.04 				
Orange brown silty SAND with frequent soft brown sandy	18.72	5.0,Q?	3.70	- 3.70 -	_				
clay bands.		×	(1.70)						
	17.02	×	5.40	- 5.50 ^B -					
Firm blue grey slightly sandy CLAY.	16.02		(1.00) 6.40	0.00					

Geologica CEMEX UK	opera	ations	Ltd	artmen		OREHOLE No. BHC/08				
ITE NAME Hamble Airfield	DRILLI	ING CON MENT AN	TRACTO		Symes As	SSOC.				
Southampton, Hampshire	GROUI 21.75 r	ND LEVE m AOD	L		- ORDINA 47873.19	NTES N 108353.2	2 S	DATE DRILLED START : 18/2/0 FINISH : 19/2/0		
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION				
Grass over TOPSOIL.	01.15		(0.60) - 0.60							
Soft & firm orange brown mottled grey SILT/CLAY.	21.15 _ 20.65		 (ρ. 5 0)							
Light brown slightly silty SAND & GRAVEL. Ang. to subrounded fine to coarse gravel of brown, grey & while flint. Sand is fine to coarse.	20.03	×,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	(1.80)	- 1.10 – B	1.37 ¹ / ₂ 1.37					
Soft & firm orange grey sandy CLAY.	18.85 _	(0,0)	2.90	- 2.90 —	2.90					
Firm and stiff grey blue CLAY weathered brown on top.	18.25		(0,60) 3.50 3.80							

KEY B - Bulk distrubed sample D - Small distrubed sample	↓ - Water strike 1	NOTES	MONITORING POINT ELEVATION & ID Ref. Elev. mAOD	TOTAL DEPTH 3.80 METRES
U - Undistrubed sample W - Water sample	 ♀ - Standing water 1 ♀ - Water strike 2 			LOGGED BY
X - Cuttings sample c - Coarse grained	♣ - Standing water 2			DATE LOGGED
m - Medium grained f - Fine grained				SCALE 1 : 100

		C Opera	ations	s Ltd		SH	IEET	1	OF	1
TE NAME Hamble Airfield		DRILLI	ING CON MENT AN	TRACTO		Symes As	SSOC.			
Southampton, Ham	pshire	GROU 19.63 r	ND LEVE m AOD	L		- ORDIN 47673.8	ATES 0 N 1080	47.44	START	DRILLED : 26/2/08 : 26/2/08
										. 20/2/00
DESC	RIPTION	REDUCEE LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
Grass over TOPSOIL.				(0.80)						
Drange brown very sandy Cl	LAY. Fine to medium sand,	18.83 _		0.80 (0.80)						
races of fine gravel. Brown sandy gravelly CLAY Fine to medium flint gravel (I	/ very clayey sand & gravel.	18.03 _		1.60						
				(1.60)						
Brown sandy GRAVEL Sut	pangular to subrounded fine	16.43 _		3.20	- 3.20 -	₫ 3.20				
coverse gravel, occ./some corown flints. Sand is fine to	cobbles - of white grey &			(1.70)	В	⊈ 3.86				
		14.73		4.90	- 4.90 -					
irm orange brown sandy Cl	LAY with sand lenses.			(1.10)						
		13.63		6.00						

CEENCEX CEMEX UK Operations Ltd SHEET 1 OF 1 Intre NAME Hamble Airfield Southampton, Hampshire DRILLING CONTRACTOR: EQUIPMENT AND METHOD: DK Symes Assoc. Date DRILLED START: 27/208 GROUND LEVEL 20.54 m AOD CO-ORDINATES E 447511.00 N 107821.00 DATE DRILLED START: 27/2/08 DESCRIPTION REDUCED (m AOD) DESCRIPTION MATER MONTOR STRIKE MONTOR STRIKE Grass over TOPSOIL. 19.94 0.660 0.600 0.600 0.600 Brown saley GRAVEL / gravely CLAY (poor hogin), gravel fine to medium. 19.94 0.600 0.600 0.700 0.230 2.30 0.240 Suspect hydrocarbon contamination at 4.5-4.8 m. Black dry residue on gravel. No oil sheen on water. 15.24 5.30 5.30 0 0.472 Firm yellow brown slightly sandy CLAY. 15.24 5.30 5.30 0 0.472 0.472	DRILLING CONTRACTOR: D K Symes Assoc. EQUIPMENT AND METHOD: Southampton, Hampshire CO-ORDINATES EQUIPMENT AND METHOD: DATE DRILLED START : 27/2/08 FINISH : 27/2/08 TE REF. SU 4708 DESCRIPTION REDUCED LEVEL (mAOD) LEGEND PRETIAL (mAOD) SAMPLE DEPTH (m) & TYPE WATER STRIKE MONTOR STRIKE 3rass over TOPSOIL. 19.94 0.600 0.700 18.94 0.100 18.94 3rown claey GRAVEL / gravelly CLAY (poor hogin), gravel ine to medium. 19.94 0.0700 2.30 2.30 2.40 3rown sadg generally medium / coarse. 17.04 0.0700 3.50 B 4.72 Suspect hydrocarbon contamination at 4.5-4.8 m. Black thy residue on gravel. No oil sheen on water. 15.24 5.30 5.30 4.72	Geological			-	artmer	nt B	ORE	HOLE	= NO.	BHE/08
Southampton, Hampshire GROUND LEVEL CO-ORDINATES DATE DRILLED 20.54 m AOD E 447511.00 N 107821.00 START : 27/2/08 TE REF. SU 4708 DESCRIPTION REDUCED LEGEND DEPTH & DEPTH & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL LEGEND DEPTH & DEPTH & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL LEGEND DEPTH (m) & SAMPLE DEPTH (m) & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL GROUND LEVEL LEGEND DEPTH & SAMPLE DEPTH (m) & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL GROUND LEVEL GROUND LEVEL (montook GROUND LEVEL (montook GROUND LEVEL GROUND LEVEL (START : 27/2/08 GROUND LEVEL GROUND LEVEL (GROUND LEVEL (GROUND LEVEL	Southampton, Hampshire GROUND LEVEL CO-ORDINATES DATE DRILLED 20.54 m AOD E 447511.00 N 107821.00 START : 27/2/08 TE REF. SU 4708 DESCRIPTION REDUCED LEGEND DEPTH & DEPTH & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL LEGEND DEPTH & DEPTH & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL LEGEND DEPTH (m) & SAMPLE DEPTH (m) & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL GROUND LEVEL LEGEND DEPTH & SAMPLE DEPTH (m) & SAMPLE DEPTH (m) & START : 27/2/08 GROUND LEVEL GROUND LEVEL GROUND LEVEL GROUND LEVEL (montook GROUND LEVEL (montook GROUND LEVEL GROUND LEVEL (START : 27/2/08 GROUND LEVEL GROUND LEVEL (GROUND LEVEL (GROUND LEVEL		DRILLI	NG CON	TRACTO				1	OF	1
DESCRIPTION REDUCED LEVEL (m AOD) LEGEND DEPTH & (m) SAMPLE DEPTH (m) WATER STRIKE MONITOR INSTALL- ATION Grass over TOPSOIL. 19.94 0.60 (0.70) 0.60 (0.70) 10.94 0.60 (0.70) 2.30 2.30 Brown claey GRAVEL / gravely CLAY (poor hogin), gravel ine to medium. 18.24 0.70 (0.70) 2.30 2.40 Suspect hydrocarbon contamination at 4.5-4.8 m. Black thy residue on gravel. No oil sheen on water. 17.04 0.70 (0.80) 3.50 B Um vellow brown slightly sandy CLAY 15.24 5.30 5.30 5.30 5.30	DESCRIPTION REDUCED LEVEL (m AOD) LEGEND DEPTH & (m) SAMPLE DEPTH (m) WATER STRIKE MONITOR INSTALL- ATION Grass over TOPSOIL. 19.94 0.60 (0.70) 0.60 (0.70) 10.94 0.60 (0.70) 2.30 2.30 Brown claey GRAVEL / gravely CLAY (poor hogin), gravel ine to medium. 18.24 0.70 (0.70) 2.30 2.40 Suspect hydrocarbon contamination at 4.5-4.8 m. Black thy residue on gravel. No oil sheen on water. 17.04 0.70 (0.80) 3.50 B Um vellow brown slightly sandy CLAY 15.24 5.30 5.30 5.30 5.30				Ľ						
DESCRIPTION LEVEL (m AOD) LEGEND DESPTIAL (m) DATE: DEPTIAL 8 TYPE WATER DEPTIAL DEPTIAL BOTALL- ATION Grass over TOPSOIL. 19.94 19.94 (0.60) (0.60) (1.00) (0.70) 2.30 2.30 Soft light brown slightly sandy SILT/CLAY. 18.94 (1.00) (0.70) 2.30 2.30 2.40 Brown claey GRAVEL / gravelly CLAY (poor hogin), gravel ine to medium. 18.24 (1.20) (0.70) 2.30 2.30 2.40 Sotspect hydrocarbon contamination at 4.5-4.8 m. Black try residue on gravel. No oil sheen on water. 17.04 (1.80) (0.70) B 14.72	DESCRIPTION LEVEL (m AOD) LEGEND DESCRIPTAS (m) SMARLE DEPTH (m) & TYPE WATER DEPTH (m) & TYPE WATER (m STALL- ATION Grass over TOPSOIL. 19.94 19.94 (0.60) x = (1.00) x = 19.94 2.30 2.30 2.30 Soft light brown slightly sandy SILT/CLAY. 18.94 (0.70) x = (1.00) x = 2.30 2.30 2.40 Brown claey GRAVEL. / gravelly CLAY (poor hogin), gravel ine to medium. 18.24 (1.20) x = 2.30 2.40 Struct scheduler 17.04 (1.20) x = 17.04 (1.80) x = 17.04 14.72 Suspect hydrocarbon contamination at 4.5-4.8 m. Black try residue on gravel. No oil sheen on water. 15.24 (1.80) x = 5.30 5.30 5.30	TE REF. SU 4708		1							H : 27/2/08
Soft light brown slightly sandy SILT/CLAY. 19.94 0.60 ^o Brown claey GRAVEL / gravelly CLAY (poor hogin), gravel ine to medium. 18.94 0.00 Brown sandy GRAVEL. Fine to coarse flint gravel occ. sobble. Sand generally medium / coarse. 17.04 0.70 2.30 1.20 Suspect hydrocarbon contamination at 4.5-4.8 m. Black try residue on gravel. No oil sheen on water. 15.24 15.24 15.24 15.24 14.72	Soft light brown slightly sandy SILT/CLAY. 19.94 0.60 ^o Brown claey GRAVEL / gravelly CLAY (poor hogin), gravel ine to medium. 18.94 0.00 Brown sandy GRAVEL. Fine to coarse flint gravel occ. sobble. Sand generally medium / coarse. 17.04 0.70 2.30 1.20 Suspect hydrocarbon contamination at 4.5-4.8 m. Black try residue on gravel. No oil sheen on water. 15.24 15.24 15.24 15.24 14.72	DESCRIPTION	LEVEL		(THICKNESS)	DEPTH (m)	WATER STRIKE	INSTALL-			
Soft light brown slightly sandy SILT/CLAY. 18.94 17.04 18.94 17.04 17.04 17.04 18.94 17.04 17.04 18.94 17.04 17.04 17.04 17.04 17.04 18.94 17.04 17.04 18.94 17.04 18.94 17.04 18.94 17.04 18.94 17.04 18.94 17.04 18.94 18.94 17.04 18.94 17.04 18.94 18.94 17.04 18.94	Soft light brown slightly sandy SILT/CLAY. 18.94 17.04 18.94 17.04 17.04 17.04 18.94 17.04 17.04 18.94 17.04 17.04 17.04 17.04 17.04 18.94 17.04 17.04 18.94 17.04 18.94 17.04 18.94 17.04 18.94 17.04 18.94 17.04 18.94 18.94 17.04 18.94 17.04 18.94 18.94 17.04 18.94	Grass over TOPSOIL.	19 94		(0 <u>.60</u>)						
arrown claey GRAVEL / gravelly CLAY (poor hogin), gravel 18.24 (0.70) 2.30 2.30 2.30 2.40 ine to medium. 18.24 (0.70) 2.30 2.30 2.40 ine to medium. 17.04 (1.20) (1.20) (1.20) (1.20) (1.80) (1.80)	arrown claey GRAVEL / gravelly CLAY (poor hogin), gravel 18.24 (0.70) 2.30 2.30 2.30 2.40 in to medium. 18.24 (0.70) 2.30 2.30 2.40 (1.20) (1.80) (1.80)	oft light brown slightly sandy SILT/CLAY.	-	×	(1.00)						
Buspect hydrocarbon contamination at 4.5-4.8 m. Black 17.04 0.0000 (1.20) 0.0000 (1.20) Suspect hydrocarbon contamination at 4.5-4.8 m. Black 17.04 0.0000 (1.20) 0.0000 (1.20) Suspect hydrocarbon contamination at 4.5-4.8 m. Black 17.04 0.0000 (1.20) 0.0000 (1.20) Image: state of the state of th	Buspect hydrocarbon contamination at 4.5-4.8 m. Black Iry residue on gravel. No oil sheen on water. The formulation at 4.5-4.8 m. Black Iry residue on gravel. No oil sheen on water. The formulation at 4.5-4.8 m. Black The formula	ne to medium.	T -		E 7	- 2.30 -	₹ 2.40				
Suspect hydrocarbon contamination at 4.5-4.8 m. Black Iry residue on gravel. No oil sheen on water. 15.24 15.24 5.30 5.30 5.30 5.30 5.30 5.30 5.30 5.30	Suspect hydrocarbon contamination at 4.5-4.8 m. Black Iry residue on gravel. No oil sheen on water.	Brown sandy GRAVEL. Fine to coarse flint gravel occ. obble. Sand generally medium / coarse.	17.04			2.00	<u><u> </u></u>				
$\frac{15.24}{5.30} + \frac{5.30}{5.30} + \frac{5.30}{5.3$	$\frac{15.24}{5.30} + \frac{5.30}{5.30} + \frac{5.30}{5.3$	Suspect hydrocarbon contamination at 4.5-4.8 m. Black ry residue on gravel. No oil sheen on water.				В	1 4 72				
14.54		irm yellow brown slightly sandy CLAY.	15.24		E T	- 5.30 -	<u>¥</u> 4.72				
			14.54		6.00						

TOTAL DEPTH 6.00 METRES MONITORING POINT ELEVATION & ID KEY NOTES B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample - Water strike 1 Ref. Elev. mAOD Water added to assist drilling 2.3 - 5.5 m. Standing water 1
Water strike 2 LOGGED BY W - Water sample X - Cuttings sample ♣ - Standing water 2 DATE LOGGED c - Coarse grained m - Medium grained f - Fine grained SCALE 1:100

	Coperation Coperation	ations	Ltd		SH	IEET	1 OF	= 1	1		
ITE NAME Hamble Airfield	DRILLI	ING CON MENT AN	TRACTO		Symes A	SSOC.					
Southampton, Hampshire		19.31 m AOD E 447967.79 N 107921.56 STA							Te drilled Art : 19/2/08 Ish : 20/2/08		
TE REF. 50 4706									20/2/00		
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION					
Grass over TOPSOIL.	18.81		(0. <u>5</u> 0)	0.50							
Brown silty SAND & GRAVEL in part gravelly sand. To clayey sand & gravel down. Ang. To rounded fine to nedium gravel of flint. Sand is fine to coarse (hoggin).		0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,	(2.70)	о.50 В							
ellow brown clayey SAND with frequent brown sandy lay bands. Sand is fine.	16.11 _		3.20	· 3.20 B	_¥ 3:20						
	11.11		(5.00)								
Firm to stiff yellow brown slightly sandy CLAY.		┝╧╧╧╛	8.30	8.20	-						
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample W - Water strike 2 W - Water strike 2	TES ater added to) assist dril	ling 3.0 - {		/IONITORIN Ref. Elev. m/		LEVATION & II	D	TOTAL DEPT 8.30 METRES LOGGED BY		
B - Bulk distrubed sample ↓ - Water strike 1 W D - Small distrubed sample ↓ - Water strike 1 W U - Undistrubed sample ↓ - Standing water 1) assist dril	ling 3.0 - 8				LEVATION & II	D	8.30 METRES		

Geologi CEMEX CEMEX (IK Oper	ations							BHG/08
						EET	1	OF	1
ITE NAME Hamble Airfield		ING CON MENT AI			Symes As	SSOC.			
Southampton, Hampshire									
		GROUND LEVEL CO-ORDINATES							
ITE REF. SU 4708	21.40 m AOD E 447730.70 N 107781.38						T : 27/2/08 H : 28/2/08		
									1.20/2/00
DECODIDITION	REDUCED		DEPTH &	SAMPLE	WATER	MONITOR			
DESCRIPTION	LEVEL (m AOD)		(THICKNESS) (m)	DEPTH (m) & TYPE	STRIKE	INSTALL- ATION			
Grass over TOPSOIL.			2	anne					
Grass over TOPSOIL.	20.70		(0.70) 0.70						
Soft light brown very sandy CLAY.			Ę						
			(1.40)						
	19.30		2.10						
Soft brown gravelly CLAY.		<u> </u>	E 1						
	18.60		(0.70) 2.80						
Brown silty SAND & GRAVEL (hoggin). Brown SAND & GRAVEL. Ang. To subrounded fine to	18.20		3.20	- 3.20 -	-				
coarse flint gravel occ. Cobble. Sand is fine to coarse			(1.30)						
enerally coarse.	16.90	100,	4.50						
Some slight hydrocarbon contamination 4.0-5.0 m dep			<u>+</u> 4.00 _	В					
Dry black residue on gravel. No oil sheen on water.				5					
			(2.00)		1				
		, O, O, i			₹ 6:68				
	14.90	\bigcirc	6.50	- 6.50 -	-				
Yellow brown SILTY SAND with some brown sandy cla pands.	iy 14.10	[^×	(0.80) 7.30						
B - Bulk distrubed sample C - Small distrubed sample J - Undistrubed sample V - Water sample V - Water sample V - Water sample V - Water strike 2	NOTES Water added to Possible perch			_	DNITORIN ef. Elev. mA		ELEVATIC	DN & ID	TOTAL DEPT 7.30 METRES LOGGED BY
- Bulk distrubed sample - Small distrubed sample - Undistrubed sample	Water added to			_			ELEVATIC	DN & ID	7.30 METRES

	10		Jeho	artmer					BHH/08
						EET	1	OF	1
ITE NAME Hamble Airfield		ING CONT			Symes As	SSOC.			
Southampton, Hampshire	EQUIP			100.					
		ND LEVEL			-ORDINA				DRILLED : 4/3/08
ITE REF. SU 4708	19.90 ו	m AOD		E 4	47582.12	2 N 107	539.80		: 4/3/08
								_	
DESCRIPTION	REDUCEL		DEPTH & HICKNESS)	SAMPLE DEPTH (m)	WATER	MONITOR			
	(m AOD)		(m)	& TYPE	STRIKE	ATION			
Grass over TOPSOIL.	40.00		(0.60) 0.60						
Firm brown SILT/CLAY.	19.30		0.60 ′						
	40.00		(1.00)						
Brown clayey sandy GRAVEL / gravelly CLAY (hoggin).	18.30 17.90		1.60 2.00						
Brown sandy GRAVEL. Ang. to subrounded fine to			2.00	- 2.00 -					
coarse gravel & flint occ. cobbles. Sand generally med / coarse.									
		DOK	(3.70)	В					
			(3.70)		1				
					⊈ 4.52				
	14.20		5.70	- 5.70 -	₫ 5.70				
Brown silty SAND with brown clay bands.		l × E							
		× ×	(1.80)						
	12.40	IX F	7.50						
	DTES Vater added to	o assist drillir	ng 2.0 - 7		DNITORIN of. Elev. mA		ELEVATIO	IN & ID	TOTAL DEP1 7.50 METRES LOGGED B DATE LOGGI SCALE

Geologica	al Serv	vices	Depa	artmen	t B	ORE		o. BHL/08
	(Opera	ations	s Ltd			EET	1 OF	1
SITE NAME			ITRACTO	DR: DKS	ymes As	SOC.		
Hamble Airfield	EQUIP	MENT A	ND METH	HOD:				
Southampton, Hampshire		ND LEVE	EL		ORDINA		07	
SITE REF. SU 4708	16.40 ו	16.40 m AOD E 4				N 1073	27.11	rart : 21/2/08 NISH : 21/2/08
	DEDUGE							
DESCRIPTION	REDUCEI LEVEL	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m)	WATER STRIKE	MONITOR		
	(m AOD)		(,	& TYPE	•	ATION		
Grass over TOPSOIL.	15.80		(0.60) 0.60					
Very dense silty sandy GRAVEL. Ang. To subrounded fine to coarse gravel of flint occ. cobble. Sand is fine to			€ (0.80)					
coarse. Water draining away immediately. Unable to progress borehole.	15.00	DUN	1.40					
D D H F (1 1 1	TES				NITORIN		ELEVATION & ID	1.40
D - Small distrubed sample	ater added to	o assist dri	Illing 1.0 - '	1.4 m. ^{Rei}	. Elev. mA			METRES LOGGED BY
W - Water sample W - Water sample								
X - Cuttings sample c - Coarse grained ♀ ♀ Standing water 2								DATE LOGGED
m - Medium grained								SCALE
f - Fine grained								1 : 100

	Opera	ations	s Ltd		SH	IEET	1	OF 1
ITE NAME		ING CON			utheastern	Drilling \$	Services	s Ltd.
Hamble Airfield	EQUIP	MENT A	ND METH	IOD: Dar	ndo 4000			
Southampton, Hampshire	GROU	ND LEVE	EVEL CO-ORDINATES		DATE DRILLED			
	18.80 m AOD			E	E 447427.05 N 108160.76			START : 22/11/18 FINISH : 23/11/18
ITE REF. SU 4708							1	FINISH : 23/11/18
DESCRIPTION	REDUCED	LEGEND	DEPTH &	SAMPLE	WATER	MONITOR		
DESCRIPTION	(m AOD)	LEGEND	(THICKNESS) (m)	DEPTH (m & TYPE) STRIKE			
Soft dark brown silty slightly sandy slightly gravelly CLAY	18.70	×	0.10					Borehole completed with upstandir
with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets ,			(1.40)				_ 0.50	blue lockable steel secure covers concreted to 0.50m bgl
are <1mm (TOPSOIL).		×						concreted to 0.50m bgi
Soft orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to	17.30	50	1.50 (0.50)					
subrounded, fine to medium of flint (SUPERFICIAL	16.80		2.00					
DEPOSITS) Drangish brown clayey sandy subangular to subrounded								
ine to coarse GRAVEL of flint. Sand is fine to coarse								
RIVER TERRACE DEPOSITS). Brownish orange sandy subangular to subrounded			-					Bentonite seal from 0.50-7.00m bg
GRAVEL of flint with low cobble content. Cobbles are		0.00						50mm black HDPE plain pipe fror +0.30m to 7.50m bgl
ubrounded of flint (RIVER TERRACE DEPOSITS).			(5.00)					Ū.
		0.01			⊉ 5.00			
			-					
			_					
			-					
	11.80	<u> </u>	7.00				7.00	Bedding sand from 7.00-7.10mbgl
irm brown slightly sandy silty CLAY. Sand is fine MARSH FARM FORMATION)	/ 11.60		- 7.20 -				7.50	
Firm to stiff thinly laminated dark grey silty CLAY			_					
MARSH FARM FORMATION)								
			(5.30)					10mm non-calcareous gravel pack from 7.10-12.50m bgl
								50mm black HDPE slotted pipe w
								1mm screen from 7.50-12.50m bg
	6.30		12.50				12.50	
EY NOTE	ES			1	MONITORI	NG POINT	ELEVAT	
B - Bulk distrubed sample - Water strike 1 Loc	ation cleare				Ref. Elev. 18			12.50 METRES
J - Undistrubed sample	ed to 1.2m. mm & case				Top Cover 1	9.102 mAO	D	LOGGED B' P Hird
V - Water sample	n pipe from)- 12.50m.	+0.30-7.50) and slotte	ed from				DATE LOGGE
- Coarse grained with	100mm be k from 7.10							22/11/2018 SCALE

CEMEX UK GITE NAME Hamble Airfield	DRILL	ING CON	TRACTO		outheastern ando 4000	IEET Drilling S	ervices	OF 1
Southampton, Hampshire		ND LEVE m AOD	EL		CO-ORDIN E 447649.4	-	97.56	DATE DRILLED START : 20/11/18 FINISH : 21/11/18
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (r & TYPE	n) STRIKE	MONITOR INSTALL- ATION		
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium of flint. Rootlets are <1mm (TOPSOIL). Soft orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded, fine to medium of flint (SUPERFICIAL DEPOSITS). Orangish brown clayey sandy subangular to subrounded fine to coarse GRAVEL of flint. Sand is fine to coarse (RIVER TERRACE DEPOSITS). Yellowish orange slightly gravelly clayey fine to coarse SAND with occasional lenses of orangish grey sandy clay (RIVER TERRACE DEPOSITS) Firm to stiff thinly laminated dark grey silty CLAY (MARSH FARM FORMATION)	22.24 21.84 20.24 16.44		0.20 0.60 (1.60) 2.20 (3.80) 6.00 (4.70) 10.70				- 0.50 - 6.10 - 6.20 - 6.70	Borehole completed with upstandin blue lockable steel secure covers concreted to 0.50m bgl Bentonite seal from 0.50-6.10m bg 50mm blue UPVC plain pipe from +0.30m to 6.70m bgl Bedding sand from 6.10-6.20mbgl 10mm non-calcareous gravel pack from 6.20-10.70m bgl 50mm blue UPVC slotted pipe with 1mm screen from 6.70-10.70m bgl
D - Small distrubed sample ↓ - Standing water 1 pitte U - Undistrubed sample ↓ - Standing water 1 150r W - Water sample ↓ - Water strike 2 plair X - Cuttings sample ↓ - Standing water 2 6.70	ation cleare d to 1.2m. nm & case n pipe from	ed by Geot Cable pero d from GL +0.30-6.70 Bentonite s 100mm be	cusive drilli to 6.00m. 0 and slotte seal from	and ng in 50mm ed from	MONITORIN Ref. Elev. 22 Top Cover 22	.44mAOD m	AOD	ION & ID TOTAL DEPT 10.70 METRES LOGGED BY P Hird DATE LOGGE 20/11/2018

			-	artmer		OREI	HOL	E No. V	V03
SITE NAME Hamble Airfield	DRILL	ING CON	TRACTO	DR: Sout HOD: Danc	theastern		ervices	-	1
Southampton, Hampshire		ND LEVE m AOD	EL		D-ORDINA 147878.27		51.57		RILLED : 19/11/18 : 20/11/18
DESCRIPTION	REDUCEI LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
Soft dark brown silty slightly sandy slightly gravelly CLAN with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootle are <1mm (TOPSOIL). Soft orangish brown slightly sandy slightly gravelly CLAY Sand is fine to medium. Gravel is subangular to subrounded, fine to medium of flint (SUPERFICIAL DEPOSITS). Firm orangish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse of flint (RIVER TERRACE DEPOSITS). Brownish orange sandy subangular to subrounded GRAVEL of flint with low cobble content. Cobbles are subrounded of flint (RIVER TERRACE DEPOSITS). Brownish grey silty very clayey fine to medium SAND (EARNLEY SAND FORMATION). Firm to stiff thinly laminated dark grey silty CLAY (MARSH FARM FORMATION)	21.01 19.91 19.01 17.61 12.91		0.20 - 0.60 - (1.10) 1.70 - (0.90) 2.60 - (1.40) 4.00 - (4.70) 8.70				. 0.50 2.60 2.70 . 3.70	10mm non-cald from 7.70-8.70 50mm blue UF +0.30m to 3.70 Bedding sand 1 10mm non-cald from 7.70-8.70 50mm blue UF 1mm screen from	from 0.50-2.60m bgl V/C plain pipe from Im bgl from 2.60-3.70mbgl careous gravel pack m bgl V/C slotted pipe with om 3.70-8.70m bgl
B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample X - Cuttings sample c - Coarse grained m - Medium grained f = Fine grained	OTES Location cleared bitted to 1.2m. I50mm & case Jain pipe from 3.70- 8.70m. B with 100mm be back from 2.70 noted.	Cable per ed from GL +0.30-3.7 Sentonite se edding san	cusive drill to 3.00m. 0 and slott eal from 0.4 d and grav	land R ing in To 50mm ed from 50-2.60 el filter	IONITORIN Ref. Elev. 21. op Cover 21	.61mAOD m	AOD	ON & ID	TOTAL DEPTH 8.70 METRES LOGGED BY P Hird DATE LOGGED 19/11/2018 SCALE 1 : 100

	Opera	ations	s Ltd			SH	EET		1	OF	1
ITE NAME		ING CON			outheast		Drilling	Serv	rices	Ltd.	
Hamble Airfield	EQUIP	MENT AN	ND METI	HOD: Da	ando 400	00					
Southampton, Hampshire	GROU 20.61 r	ND LEVE m AOD	L		CO-ORD E 44750			7851	.10	START	PRILLED : 23/11/18
ITE REF. SU 4708										FINISH	: 26/11/18
	REDUCED		DEPTH &	SAMPLI	_		MONITO				
DESCRIPTION	LEVEL (m AOD)	-	(THICKNESS) (m)	DEPTH (I & TYPE	n) STR		INSTAL	L-			
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets	20.31 .		0.30 _					0	.50		pleted with upstandir steel secure covers).50m bgl
are <1mm (TOPSOIL). Soft orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to	19.11		(0.50) (0.50)								
subrounded, fine to medium of flint (SUPERFICIAL DEPOSITS).	18.61		_ 2.00'_								
Orangish brown clayey sandy subangular to subrounded fine to coarse GRAVEL of flint. Sand is fine to coarse (RIVER TERRACE DEPOSITS). Brownish orange sandy subangular to subrounded										50mm blue U	l from 0.50-6.50m bg PVC plain pipe from
GRAVEL of flint with low cobble content. Cobbles are subrounded of flint (RIVER TERRACE DEPOSITS).			(4.50)							+0.30m to 7.0	0m bgl
Yellowish orange clayey silty fine to medium SAND	14.11 _		6.50						.50 .60	Bedding sand	from 6.50-6.60mbgl
SELSEY SAND FORMATION).		*	-						.00		
		×	-								
		×	(5.50)							from 6.60-12.0	0
											PVC slotted pipe with nd 600 micron filter D-12.00m bgl
	8.61	××	12.00				° E		2.00		
	ation cleare	ed by Geote			MONITC Ref. Elev	. 20.0	61mAOE	D mAC		ON & ID	TOTAL DEPT 12.00 METRES
J - Undistrubed sample	nm & case ı pipe from	Cable perc d from GL +0.30-7.00 Bentonite s	to 10.50m) and slott	. 50mm	Top Cove	er 20.	814 mA	.OD			LOGGED BY P Hird DATE LOGGE
	-6.50 with			land							23/11/2018
D. Madium grained		k from 6.60									SCALE

	Services Departm		.E No. W06
SITE NAME		SHEET 1 Southeastern Drilling Services	OF 1
Hamble Airfield Southampton, Hampshire			
SITE REF. SU 4708	GROUND LEVEL 19.41 m AOD	CO-ORDINATES E 447972.26 N 107917.16	DATE DRILLED START : 27/11/18 FINISH : 27/11/18
DESCRIPTION	REDUCED LEVEL (m AOD)	I (m) STRIKE ATION	
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets are <1mm (TOPSOIL). Soft orangish brown silty slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint (SUPERFICIAL DEPOSITS). Orangish brown clayey sandy subangular to subrounded fine to coarse GRAVEL of flint. Sand is fine to coarse with lenses of grey fine to medium sand from 2.50m (RIVER TERRACE DEPOSITS). Yellowish orangish brown clayey silty fine SAND (SELSEY SAND FORMATION).	19.11 18.91 16.41 10.91 10.91 8.50 8.50 8.50 8.50 10.20 10.30 0.50	PE 0.50	Borehole completed with upstanding blue lockable steel secure covers concreted to 0.50m bgl Bentonite seal from 0.50-3.00m bgl 50mm blue UPVC plain pipe from +0.30m to 3.50m bgl Bedding sand from 3.00-3.10mbgl 10mm non-calcareous gravel pack from 3.10-8.50m bgl 50mm blue UPVC slotted pipe with 1mm screen and 600 micron filter sock from 3.50-8.50m bgl
D - Small distrubed sample ↓ - Standing water 1 pitter U - Undistrubed sample ↓ - Standing water 1 150r W - Water sample ↓ - Water strike 2 plain X - Cuttings sample ↓ - Standing water 2 3.50 c - Coarse grained with with	tion cleared by Geotechnics. Hand d to 1.2m. Cable percusive drilling in nm & cased from GL to 7.50m. 50mm pipe from +0.30-3.50 and slotted from - 8.50m. Bentonite seal from 0.50-3.00 100mm bedding sand and gravel filter from 3.00-8.50m. No GW strike	MONITORING POINT ELEVAT Ref. Elev. 19.41mAOD mAOD Top Cover 19.771 mAOD	ION & ID ION & ID TOTAL DEPTH 8.50 METRES LOGGED BY P Hird DATE LOGGED 27/11/2018 SCALE 1 : 100

	Opera	ations	5 Ltd		SH	IEET	1	OF 1
		ING CON			utheastern	Drilling S	ervices	s Ltd.
Hamble Airfield Southampton, Hampshire	EQUIP			HOD: Dar	ndo 4000			
ITE REF. SU 4708					CO-ORDINATES E 447588.11 N 107536.47			DATE DRILLED START : 26/11/18 FINISH : 27/11/18
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m & TYPE		MONITOR INSTALL- ATION		
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets	19.72 .	×	0.30(1.10)				_ 0.50	Borehole completed with upstandin blue lockable steel secure covers concreted to 0.50m bgl
are <1mm (TOPSOIL). Soft orangish brown silty slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint (SUPERFICIAL	18.62		1.40 (1.30)					
DEPOSITS). Orangish brown clayey sandy subangular to subrounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (RIVER TERRACE DEPOSITS).	17.32		2.70					Bentonite seal from 0.50-5.70m bg 50mm blue UPVC plain pipe from
Brownish orange sandy subangular to subrounded GRAVEL of flint with low cobble content. Cobbles are subrounded of flint (RIVER TERRACE DEPOSITS).			(3.00)					+0.30m to 6.20m bgl
Brownish yellowish orange silty slightly clayey fine SAND	14.32 _		5.70			0.0	= 5.70 5.80	Bedding sand from 5.70-5.80mbgl
(SELSEY SAND FORMÁTION).							- 6.20	
			(5.50)					10mm non-calcareous gravel pack from 5.80-11.20m bgl 50mm blue UPVC slotted pipe wit
								1mm screen and 600 micron filter sock from 6.20-11.20m bgl
	8.82		11.20				11.20	
D - Small distrubed sample U - Undistrubed sample W - Water sample V - Water sample V - Water sample V - Water strike 2	ation cleare d to 1.2m. mm & case n pipe from	ed by Geot Cable pero d from GL +0.30-6.20 Bentonite s	cusive drill to 9.00m.) and slott	and ng in 50mm	MONITORIN Ref. Elev. 20 Top Cover 20	.02mAOD n	hAOD	ION & ID TOTAL DEPT 11.20 METRES LOGGED BY P Hird DATE LOGGE 26/11/2018

CEMEX CEMEX UK (DRILLI	NG CON	TRACTO)R: Sou IOD: Dar	utheastern	EET Drilling S	ervices		1
Southampton, Hampshire					CO-ORDINATES E 448087.49 N 107645.84				RILLED : 27/11/18 : 28/11/18
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m & TYPE		MONITOR INSTALL- ATION			
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets are <1mm (TOPSOIL). Soft orangish brown slightly sandy very gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded, fine to medium of flint (SUPERFICIAL DEPOSITS). Brownish orange sandy subangular to subrounded GRAVEL of flint with low cobble content. Cobbles are subrounded of flint (RIVER TERRACE DEPOSITS). Brownish orange slightly clayey fine to medium SAND RIVER TERRACE DEPOSITS). Brownish orange clayey silty fine to medium SAND SELSEY SAND FORMATION).	- 16.30 - - 16.00 - - 15.00 - - 14.00 - - 14.00 - - 11.80 - - 6.30		0.20 - 0.50 - (1.00) 1.50 - (1.00) 2.50 - (2.20) 4.70 - (5.50)				- 0.50 - 4.70 - 4.80 - 5.20	blue lockable s concreted to 0 Bentonite seal 50mm blue Uf +0.30m to 5.20 Bedding sand	from 0.50-4.70m bg PVC plain pipe from Im bgl from 4.70-4.80mbgl from 4.70-4.80mbgl VC slotted pipe with ad 600 micron filter
D - Small distrubed sample U - Undistrubed sample U - Standing water 1 150m	tion cleare I to 1.2m.	d by Geotr Cable perc d from GL	usive drilli to 9.00m.	and ng in 50mm	MONITORIN Ref. Elev. 16. Top Cover 16	5mAOD mA	AOD	ON & ID	TOTAL DEPT 10.20 METRES LOGGED BY P Hird

Geologica	al Services Depa	artment B	BOREHOL	E No. W11
	Operations Ltd		HEET 1	OF 1
SITE NAME Hamble Airfield Southampton, Hampshire	DRILLING CONTRACTO		n Drilling Services	Ltd.
SITE REF. SU 4708	GROUND LEVEL 16.66 m AOD	CO-ORDIN E 448106.5	IATES 55 N 107322.46	DATE DRILLED START : 28/11/18 FINISH : 29/11/18
DESCRIPTION	REDUCED LEVEL (m AOD)	SAMPLE DEPTH (m) & TYPE		
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint and brick. Rootlets are <1mm (REWORKED TOPSOIL). Soft orangish brown slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded, fine to medium of flint (SUPERFICIAL DEPOSITS). Orangish brown clayey sandy subangular to subrounded fine to coarse GRAVEL of flint. Sand is fine to coarse (RIVER TERRACE DEPOSITS). Greenish grey fine to medium SAND (RIVER TERRACE DEPOSITS). Brownish orange sandy subangular to subrounded GRAVEL of flint with low cobble content. Cobbles are subrounded of flint (RIVER TERRACE DEPOSITS). Yellowish orange clayey silty fine to medium SAND. Occasional orangish grey sandy silty clay lenses (SELSEY SAND FORMATION).	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			Borehole completed with upstanding blue lockable steel secure covers concreted to 0.50m bgl Bentonite seal from 0.50-4.20m bgl 50mm blue UPVC plain pipe from +0.30m to 4.20m bgl Bedding sand from 4.20-4.30mbgl 10mm non-calcareous gravel pack from 4.30-9.70m bgl 50mm blue UPVC slotted pipe with 1mm screen and 600 micron filter sock from 4.70-9.70m bgl
D - Small distrubed sample ↓ - Standing water 1 pitt U - Undistrubed sample ↓ - Standing water 1 150 W - Water sample ↓ - Water strike 2 pla X - Cuttings sample ↓ - Standing water 2 4.7 c - Coarse grained witt - Water strike 2 yater 2 m - Medium grained page ↓ - Standing water 2 yater 2	TES cation cleared by Geotechnics. H ted to 1.2m. Cable percusive drill Omm & cased from GL to 9.00m. in pipe from +0.30-4.70 and slott 0-9.70m. Bentonite seal from 0.9 h 100mm bedding sand and grav ck from 4.30-9.70m. No GW strik ted.	and Ref. Elev. 16 ng in Top Cover 10 50mm ed from 50-4.20 el filter	NG POINT ELEVATIO 6.66mAOD mAOD 16.999 mAOD	DN & ID DN & ID TOTAL DEPTH 9.70 METRES LOGGED BY P Hird DATE LOGGED 28/11/2018 SCALE 1 : 100

	Opera	ations	s Ltd		SH	IEET	1	OF 1	
TE NAME Hamble Airfield		ING CON MENT AI)R: Sout	theastern do 4000	Drilling S	Services	Ltd.	
Southampton, Hampshire	GROU 20.12 r	ND LEVE m AOD	ïL		CO-ORDINATES E 447876.81 N 107318.46			DATE DRILLED START : 29/11/18 FINISH : 3/12/18	
	REDUCED								
DESCRIPTION	LEVEL (m AOD)		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION			
oft dark brown silty slightly sandy slightly gravelly CLAY /ith rootlets. Sand is fine to medium. Gravel is ubangular to subrounded fine to medium of flint. Rootlets	20.02		0.10				_ 0.50	Borehole completed with upstandi blue lockable steel secure covers concreted to 0.50m bql	
re <1mm (TOPSOIL).	18.62		1.50					concreted to 0.50m bgr	
ne to medium (SUPERFICIAL DEPOSITS).	/ 18.32 <u>-</u>		1.80						
LAY. Sand is fine to medium. Gravel is subangular to ubrounded, fine to medium of flint (RIVER TERRACE									
PEPOSITS). rownish orange sandy subangular to subrounded RAVEL of flint with low cobble content. Cobbles are			_					Bentonite seal from 0.50-6.20m bg 50mm blue UPVC plain pipe from +0.30m to 6.70m bgl	
ubrounded of flint (RIVER TERRACE DEPOSITS).			(4.40)						
			-						
ellowish orange clayey silty fine to medium SAND.	13.92		6.20			00 00		Bedding sand from 6.20-6.30mbg	
occasional orangish grey sandy silty clay lenses SELSEY SAND FORMATION).		*					- 6.70		
		×							
			(5.50)					10mm non-calcareous gravel pack from 6.30-11.70m bgl	
			_					50mm blue UPVC slotted pipe wil 1mm screen and 600 micron filter sock from 6.70-11.70m bgl	
	8.42	-x	11.70				11.70		
								TOTAL DEPT	
Dull distribution					IONITORIN			11.70	
b - Small distrubed sample → Small distrubed sample ↓ - Water strike 1 ↓ - Standing water 1	ation cleare ed to 1.2m.	Cable perc	cusive drilli	and Fing in T	IONITORIN Ref. Elev. 20 Top Cover 20	.12mAOD r	nAOD	11.70 METRES LOGGED B	
B - Bulk distrubed sample C - Small distrubed sample J - Undistrubed sample ↓ - Water strike 1 ↓ - Standing water 1 ↓ - Water strike 2 ↓ - Water strike 2	ation cleare	Cable perc d from GL +0.30-6.70	to 9.00m. and slotte	and F ng in T 50mm	Ref. Elev. 20	.12mAOD r	nAOD	11.70 METRES	

Geological CEMEX UK (artmen	-	ORE	HOL 1	.E No. WG02 OF 1
SITE NAME Hamble Airfield	DRILLI	NG CON	FRACTO	DR: Souther HOD: Dando		Drilling S	ervices	s Ltd.
Southampton, Hampshire	GROU 22.44 r	ND LEVE m AOD	L		ORDINA 7645.82	ATES 2 N 1082	93.54	DATE DRILLED START : 21/11/18 FINISH : 21/11/18
DESCRIPTION	REDUCED LEVEL (m AOD)) LEGEND (DEPTH & THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets are <1mm (TOPSOIL). Soft orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded, fine to medium of flint (SUPERFICIAL DEPOSITS). Soft brownish orange slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded, fine to medium of flint (RIVER TERRACE DEPOSITS). Orangish brown sandy subangular to subrounded fine to coarse GRAVEL of flint. Sand is fine to coarse (RIVER TERRACE DEPOSITS). Yellowish orange slightly clayey fine to medium SAND (RIVER TERRACE DEPOSITS)	- 22.24 - _ 21.84 _ _ 21.44 _		0.20 - 0.60 _ 1.00 _ (2.10) 3.10 _ (3.10)				_ 0.50 _ 1.40 _ 1.50 1.70	Borehole completed with upstanding blue lockable steel secure covers concreted to 0.50m bgl Bentonite seal from 0.50-1.60m bgl 50mm blue UPVC plain pipe from +0.30m to 1.70m bgl Bedding sand from 1.60-1.70mbgl 10mm non-calcareous gravel pack from 1.70-6.70m bgl 50mm blue UPVC slotted pipe with 1.5mm screen from 1.70-6.70m bgl
Firm to stiff thinly laminated dark grey silty CLAY (MARSH FARM FORMATION)	_ 16.24 _ 15.74		6.20 _ (0.750)				6.70	

KEY NOTES MONITORING POINT ELEVATION & ID TOTAL DEPTH 6.70 D - Small distrubed sample + Water strike 1 Location cleared by Geotechnics. Hand pitted to 1.2m. Cable percusive drilling in Ref. Elev. 22.44mAOD mAOD METRES U - Undistrubed sample - Standing water 1 150mm & cased from GL to 6.00m. 50mm Top Cover 22.787 mAOD LOGGED BY P Hird W - Water sample - Standing water 2 - Standing water 2 170- 6.70m Bentonite seal from 0.50-1.60 DATE LOGGED				
U - Undistrubed sample W - Water sample W - Water strike 2 → Standing water 1 Difference of the process	B - Bulk distrubed sample	Location cleared by Geotechnics. Hand		6.70
	U - Undistrubed sample	tistrubed sample ♀ - Standing water 1 ter sample ♀ - Water strike 2 • Water strike 2	Top Cover 22.787 mAOD	
c - Coarse grained with 100mm bedding sand and gravel filter 21/11/2018	X - Cuttings sample c - Coarse grained	1.70- 6.70m. Bentonite seal from 0.50-1.60		
m - Medium grained pack from 1.70-6.70m. No GW strike SCALE f - Fine grained noted. 1 : 100	0	pack from 1.70-6.70m. No GW strike		

SITE NAME Hamble Airfield			ITRACTO)R: H OD: Dand	o 2000			
Southampton, Hampshire	GROU 19.96 r	ND LEVE n AOD	ËL		• ORDINA 47589.13	ATES 3 N 1075	36.46	DATE DRILLED START : 25/2/19 FINISH : 25/2/19
DESCRIPTION	REDUCED LEVEL (m AOD)	LEGEND	DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
Soft dark brown silty slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Rootlets are <1mm (TOPSOIL). Soft orangish brown silty slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint (SUPERFICIAL DEPOSITS). Firm orangish brown slightly sandy very gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of flint (RIVER TERRACE DEPOSITS). Orangish brown sandy subangular to subrounded fine to coarse GRAVEL of flint with some cobbles. Sand is fine to coarse. Cobbles are subrounded of flint (RIVER TERRACE DEPOSITS). Firm greyish brownish orange sandy very gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint (RIVER TERRACE DEPOSITS). Firm greyish brownish orange sandy very gravelly CLAY. Sand is fine to medium of flint (RIVER TERRACE DEPOSITS). Brownish yellowish orange silty slightly clayey fine SAND (SELSEY SAND FORMATION).	19.56 18.86 18.46 18.46 14.96 14.56 12.96		0.40 (0.70) 1.10 1.50 (3.50) 5.00 5.40 (1.60) 7.00				. 0.50 1.40 1.50 1.70	Borehole completed with upstandim blue lockable steel secure covers concreted to 0.50m bgl Bentonite seal from 0.50-1.60m bgl 50mm yellow UPVC plain pipe from +0.30m to 1.70m bgl Bedding sand from 1.60-1.70mbgl 10mm non-calcareous gravel pack from 1.70-6.70m bgl 50mm yellow UPVC slotted pipe with 2mm screen from 1.70-6.0m bg

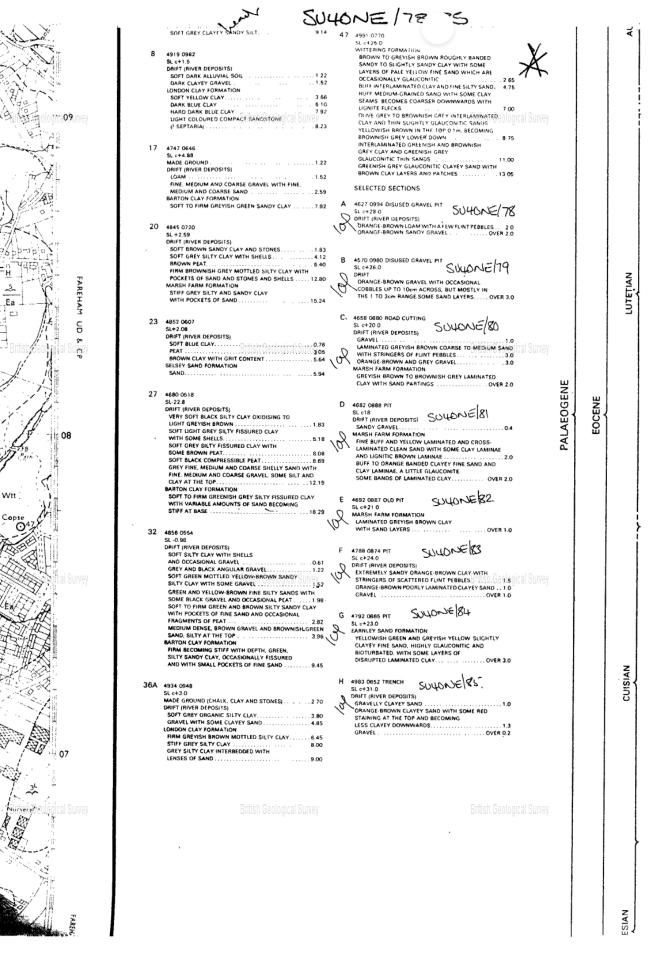
KEY B - Bulk distrubed sample ↓ - Water strike 1 D - Small distrubed sample ↓ - Standing water 1 U - Undistrubed sample ↓ - Standing water 1 W - Water sample ↓ - Water strike 2 X - Cuttings sample ↓ - Standing water 2 c - Coarse grained ↓ - Standing water 2 m - Medium grained ↓ - Standing water 2	NOTES Location cleared by Geotechnics. Hand pitted to 1.2m. Cable percusive drilling in 150mm & cased from GL to 7.00m. 50mm plain pipe from +0.30-1.70 and slotted from 1.70 - 6.00m. Bentonite seal from 0.50-1.60 with 100mm bedding sand and gravel filter pack from 1.70-6.00m. No GW strike noted.	MONITORING POINT ELEVATION & ID Ref. Elev. 20.34mAOD mAOD Top Cover 20.34 mAOD	TOTAL DEPTH 7.00 METRES LOGGED BY P Hird DATE LOGGED 25/02/2019 SCALE 1 : 100
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Opera	ations	s Ltd		SH	EET	1	OF 1
DRILLI							Ltd.
						DATE DRILLED START : 29/11/18 FINISH : 29/11/18	
REDUCED LEVEL (m AOD)		DEPTH & (THICKNESS) (m)	SAMPLE DEPTH (m) & TYPE	WATER STRIKE	MONITOR INSTALL- ATION		
16.03 - 15.63 15.33		0.30 _ 0.70 _ 1.00 _				0.50	Borehole completed with upstanding blue lockable steel secure covers concreted to 0.50m bgl Bentonite seal from 0.50-1.60m bgl
						1.50 1.60 1.70	50mm blue UPVC plain pipe from +0.30m to 1.70m bgl Bedding sand from 1.60-1.70mbgl
		(3.00)					10mm non-calcareous gravel pack from 1.70-4.50m bgl 50mm blue UPVC slotted pipe with
12.33		4.00 (ρ.50) 4.50)				4.50	1.5mm screen from 1.70-4.50m bgl
	DRILLI EQUIP GROUI 16.33 r REDUCEE LEVEL (m AOD) 15.63 15.33 12.33	DRILLING CON EQUIPMENT AI GROUND LEVE 16.33 m AOD REDUCED LEVEL LEGEND 15.63 15.63 0 0 0 0 0 0 0 0 12.33	DRILLING CONTRACT EQUIPMENT AND METH GROUND LEVEL 16.33 m AOD REDUCED LEVEL (m AOD) 16.03 0 15.63 0 0.70 15.33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 12.33	DRILLING CONTRACTOR: South EQUIPMENT AND METHOD: Dande GROUND LEVEL CO- 16.33 m AOD E 44 REDUCED LEGEND DEPTH & THICKNESS SAMPLE LEVEL LEGEND 0.30 EPTH (m) 16.03 0.30 0.70 15.63 0.70 15.33 1.00 0.70 100 0.70 15.33 0.70 1.00 0.70 12.33 0.70 12.33 0.70 0.70 0.70 0.70 0.70	DRILLING CONTRACTOR: Solutheastern EQUIPMENT AND METHOD: Dando 4000 GROUND LEVEL CO-ORDINA 16.33 m AOD REDUCED LEVEL (m AOD) LEGEND DEPTH & (mHICKNESS) SAMPLE DEPTH (m) & TYPE WATER STRIKE 16.03 0.30 0.70 15.63 0.70 10.00 15.33 0.70 1.00 0.70 12.33 4.00	DRILLING CONTRACTOR: Southeastern Driving State EQUIPMENT AND METHOD: Dando 4000 GROUND LEVEL CO-ORDINATES 16.33 m AOD E 448112.03 N 1073: REDUCED LEVEL (m AOD) DEPTH & IEGEND SAMPLE DEPTH (m) WATER STRIKE MONITOR INSTALL- ATION 16.03 0.30 0.30 0.70 0.70 0.70 0.60 0.00 15.63 0.70 1.00 0.70 0.00	BRILLING CONTRACTOR: Southeastern Drilling Services EQUIPMENT AND METHOD: Dando 4000 GROUND LEVEL CO-ORDINATES 16.33 m AOD E 448112.03 N 107321.30 REDUCED LEVEL (m AOD) DEPTH & THICKNESS (m) SAMPLE DEPTH (m) WATER STRIKE MONITOR INSTALL- ATION 16.03 0.30 0.30 0.70 0.50 15.63 0.70 1.00 0.50 15.33 0.70 1.50 0.6 0.00 0.30 0.70 1.50 12.33 0.400 0.50

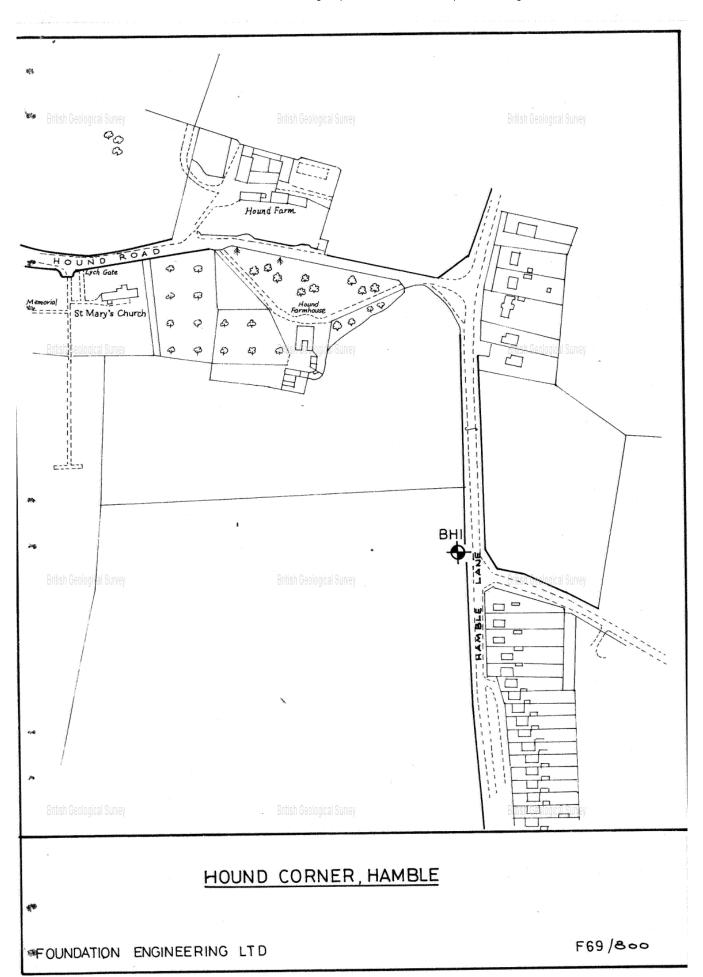
KEY B - Bulk distrubed sample D - Small distrubed sample U - Undistrubed sample W - Water sample	 ↓ - Water strike 1 ↓ - Standing water 1 ↓ - Water strike 2 	NOTES Location cleared by Geotechnics. Hand pitted to 1.2m. Cable percusive drilling in 150mm & cased from GL to 4.00m. 50mm plain pipe from +0.30-1.70 and slotted from	MONITORING POINT ELEVATION & ID Ref. Elev. 16.33mAOD mAOD Top Cover 16.706 mAOD	TOTAL DEPTH 4.50 METRES LOGGED BY P Hird
X - Cuttings sample c - Coarse grained	 ♀ ♀<			DATE LOGGED 29/11/2018
m - Medium grained f - Fine grained		pack from 1.60-4.50m. No GW strike noted.		SCALE 1 : 100

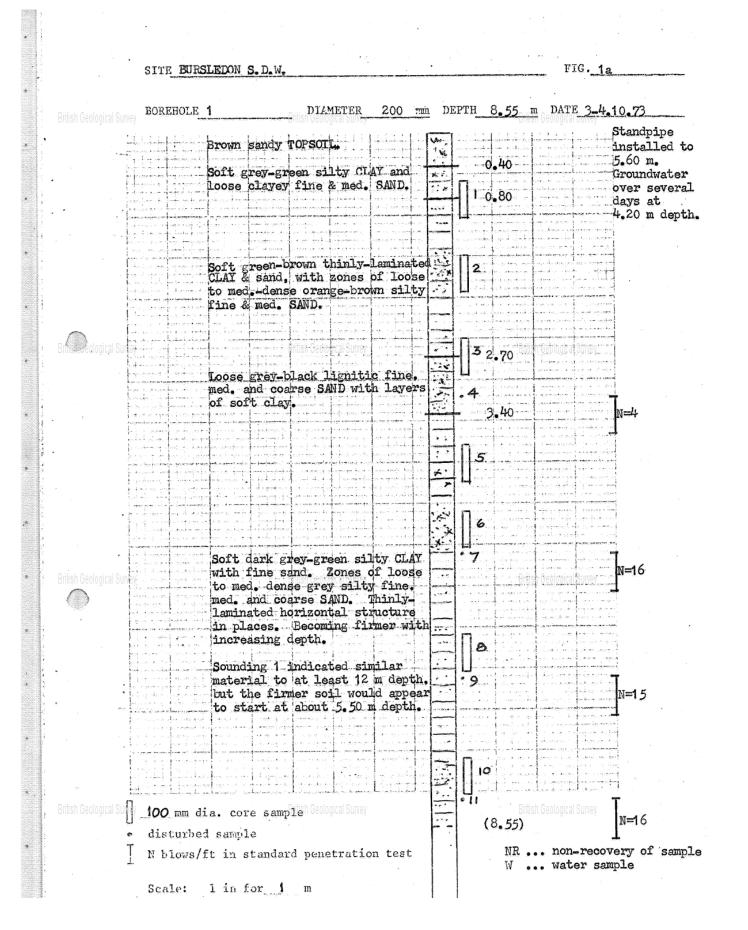
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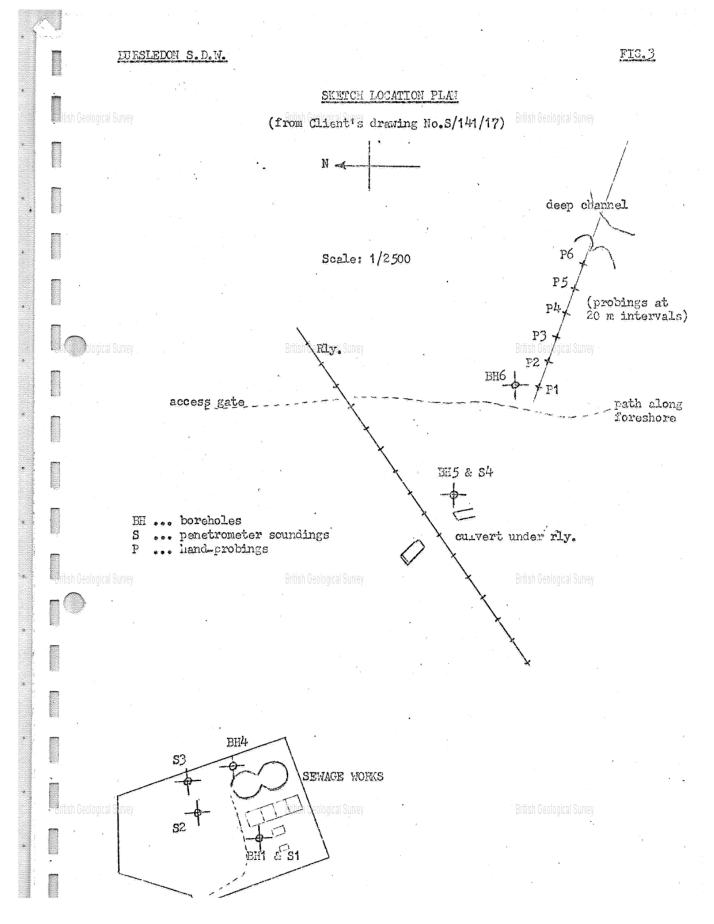
Page 1 | Borehole SU40NE84 | Borehole Logs



			nen internet for entries in a second seco				RE	CORD	OF BOREHOLE No:
	Location		:HOUND COR					rehole sing	Dia : 8" : 8" to 12:5
	Type of	Boring	: shell +	Auge	-			ound Le	•
· · · · · · · · · · · · · · · · · · ·	Depth	Water	SAMPI	LES			STRATA		DESCRIPTION OF STRATA
	of Casing	Level	Depth	Туре	No.	Legend	Depth	Thickness	
			2:6-3:6	n	1		ۃ ہ 5 : 5	2:0	clayey TOPGOIL Firm brown sandy CLAY
			5!ö (N=10)	D	2	000000000000000000000000000000000000000		8 'ö	Med. dense brown sandy c.m.f GRAVEL
British Geol	ionical Survey		7.'6" 10'.Ö	D Brittsh	eological S	000000			British Geological Survey - -
			12:6-14:0	^r	5	*.00 *.	11:ö 2:0	1:0	Firm grey grovelly CLAY
			15 Ö	D	6			IR: O	Still grey sandy very silly CLAY
		Creative Contraction	17:6	D/3	7				Very Silly CLAY
Entish Geol	logcal Survey		20'Ö-21'Ğ	n. British G	8 cological S				British Geological Survey
			22.'6	Þ	9				
			25'.Ö-26'.ë 27'.G	1.000	10				
			27'Ğ 30'0 ~31'Ğ	D			30'0		
	a second a s	and the second	30'0~31'Ë	K	12	E	breh	1.	=
Briish Geol	logidal Survey			British G	enlogical S				British Geological Survey
						. 1			• .
REM	MARKS:	Wat	er added	+0 (ass 1	st s	hellin	9.	
									Foundation Engineering L





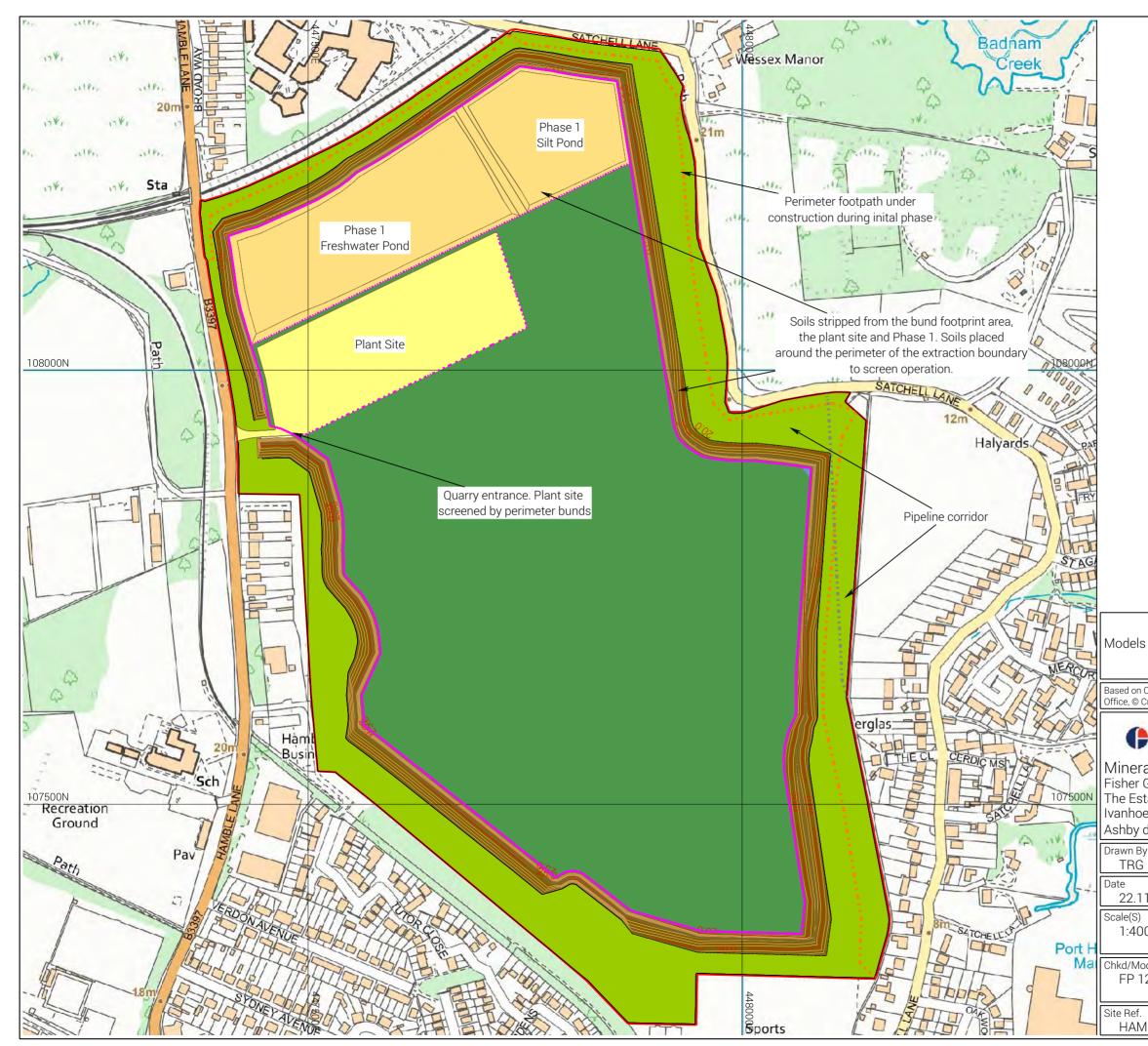


Appendix B Site Phasing Plans



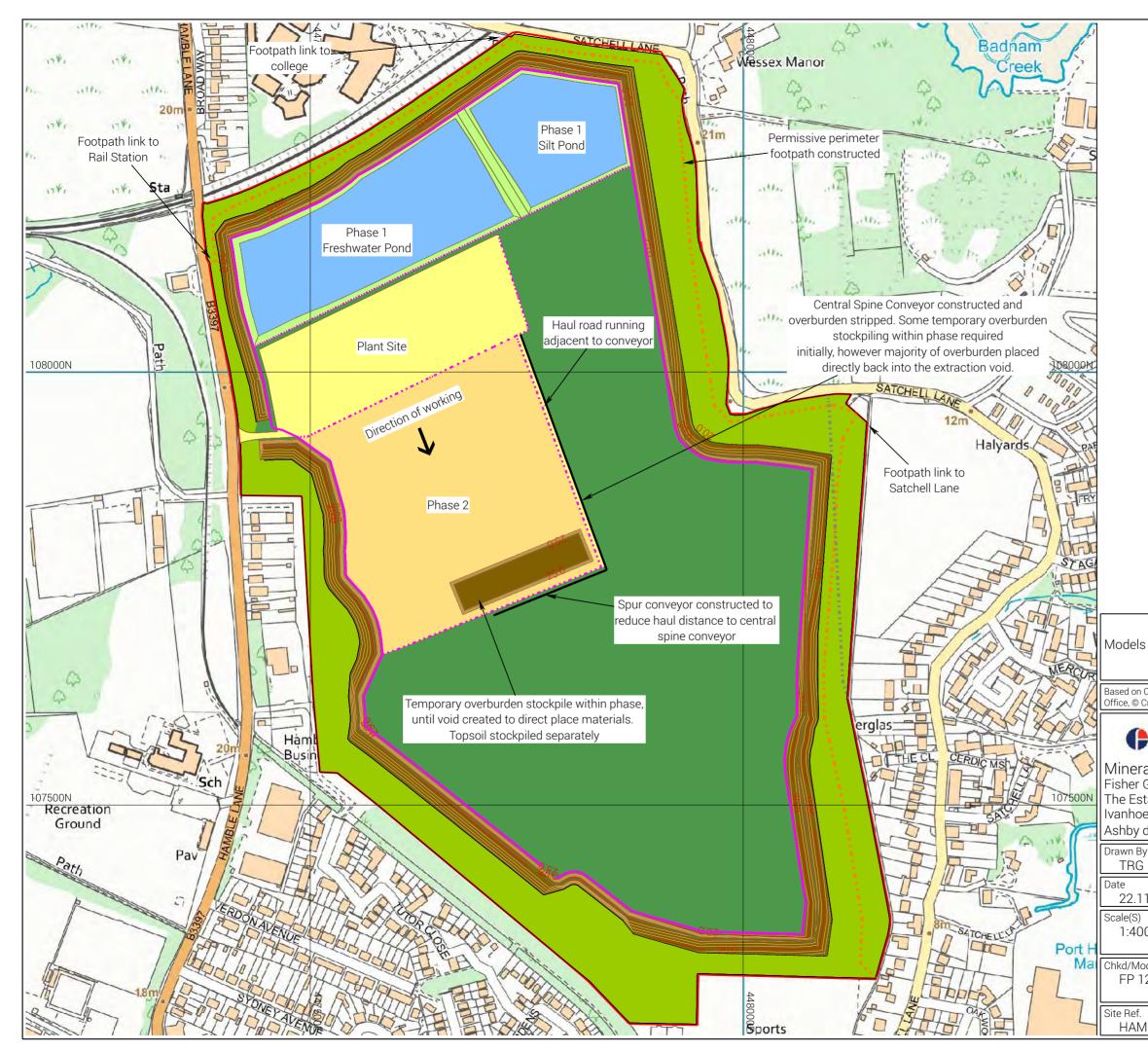


By	Client
G	CEMEX UK Operations Ltd
11.22	Site Land at Hamble Airfield
³⁾	Project
000 A3	Sand & Gravel Extraction
Nodel(s) 129936-028	Title Method of Working Phasing Overview
f.	Drawing No.
M	21-12_HAMBLE_PHASING OVERVIEW.LSS



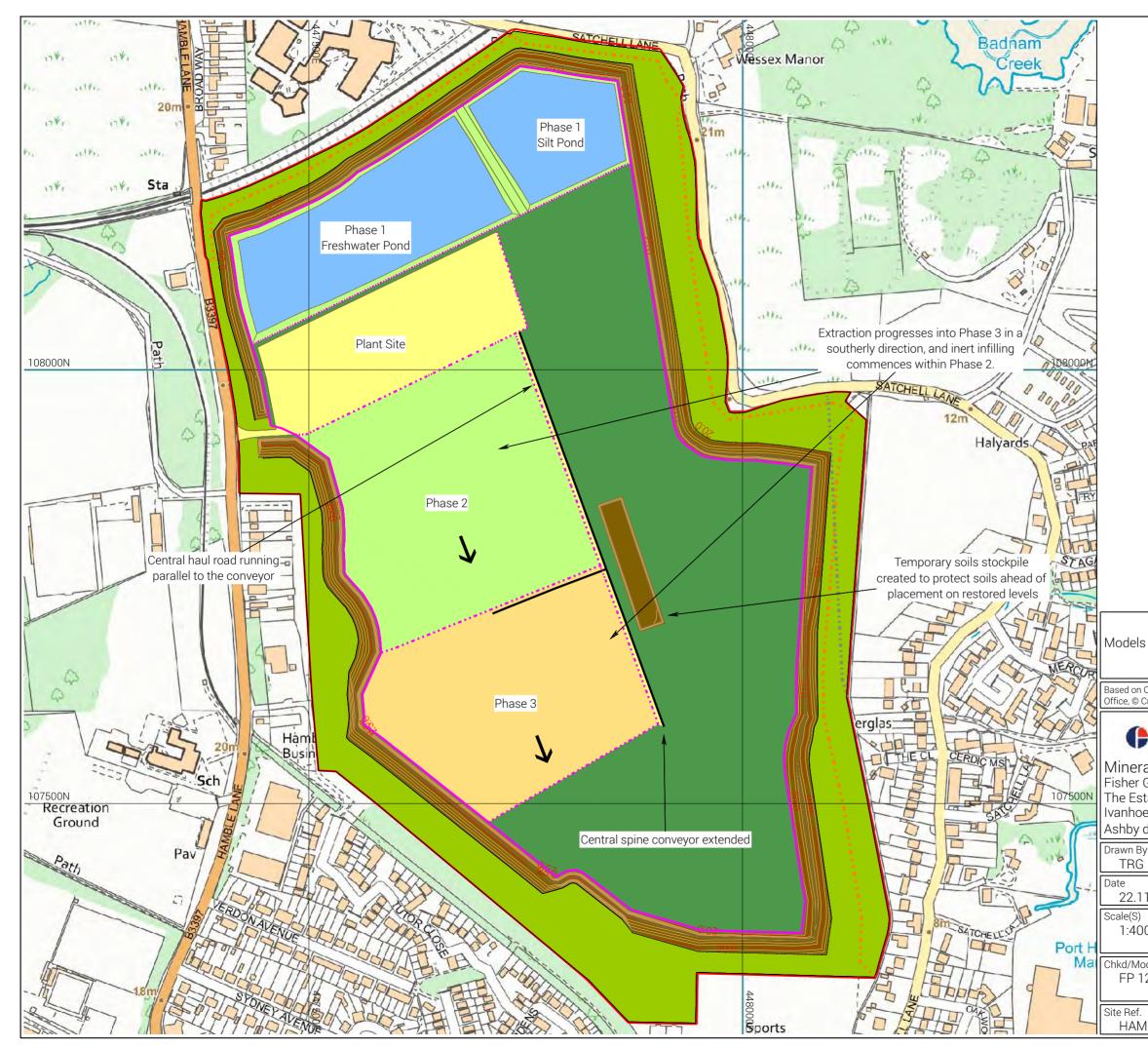


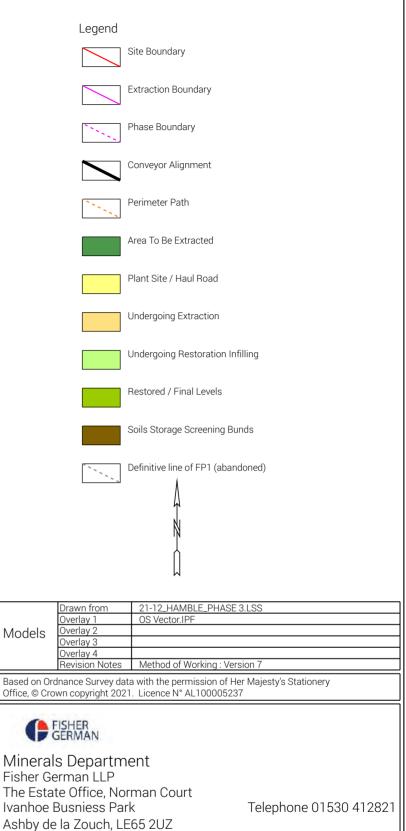
By	Client
G	CEMEX UK Operations Ltd
.11.22	Site Land at Hamble Airfield
6)	Project
000 A3	Sand & Gravel Extraction
Model(s) 129936-028	Title Method of Working Phase 1
f.	Drawing No.
M	21-12_HAMBLE_PHASE 1.LSS





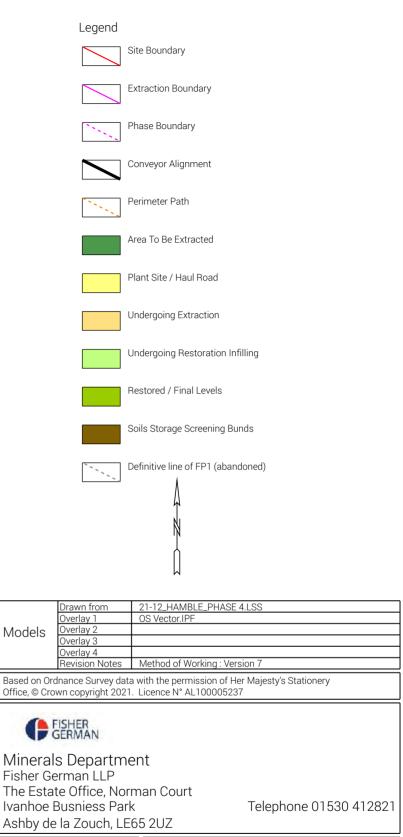
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By	Client
G	CEMEX UK Operations Ltd
.11.22	Site Land at Hamble Airfield
6)	Project
000 A3	Sand & Gravel Extraction
Model(s) 129936-028	Title Method of Working Phase 2
.f.	Drawing No.
M	21-12_HAMBLE_PHASE 2.LSS





By	Client				
G	CEMEX UK Operations Ltd				
11.22	Site Land at Hamble Airfield				
³⁾	Project				
000 A3	Sand & Gravel Extraction				
Nodel(s) 129936-028	Title Method of Working Phase 3				
f.	Drawing No.				
M	21-12_HAMBLE_PHASE 3.LSS				





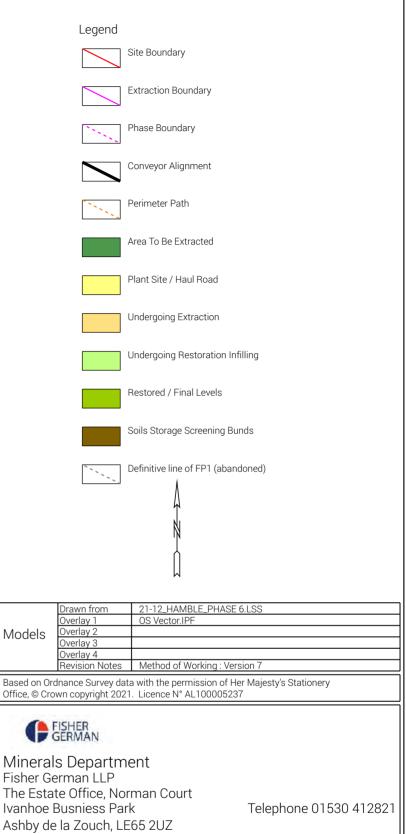
By	Client
G	CEMEX UK Operations Ltd
.11.22	Site Land at Hamble Airfield
6)	Project
000 A3	Sand & Gravel Extraction
Model(s) 129936-028	Title Method of Working Phase 4
f.	Drawing No.
M	21-12_HAMBLE_PHASE 4.LSS





By	Client
G	CEMEX UK Operations Ltd
.11.22	Site Land at Hamble Airfield
6)	Project
000 A3	Sand & Gravel Extraction
Model(s) 129936-028	Title Method of Working Phase 5
f.	Drawing No.
M	21-12_HAMBLE_PHASE 5.LSS



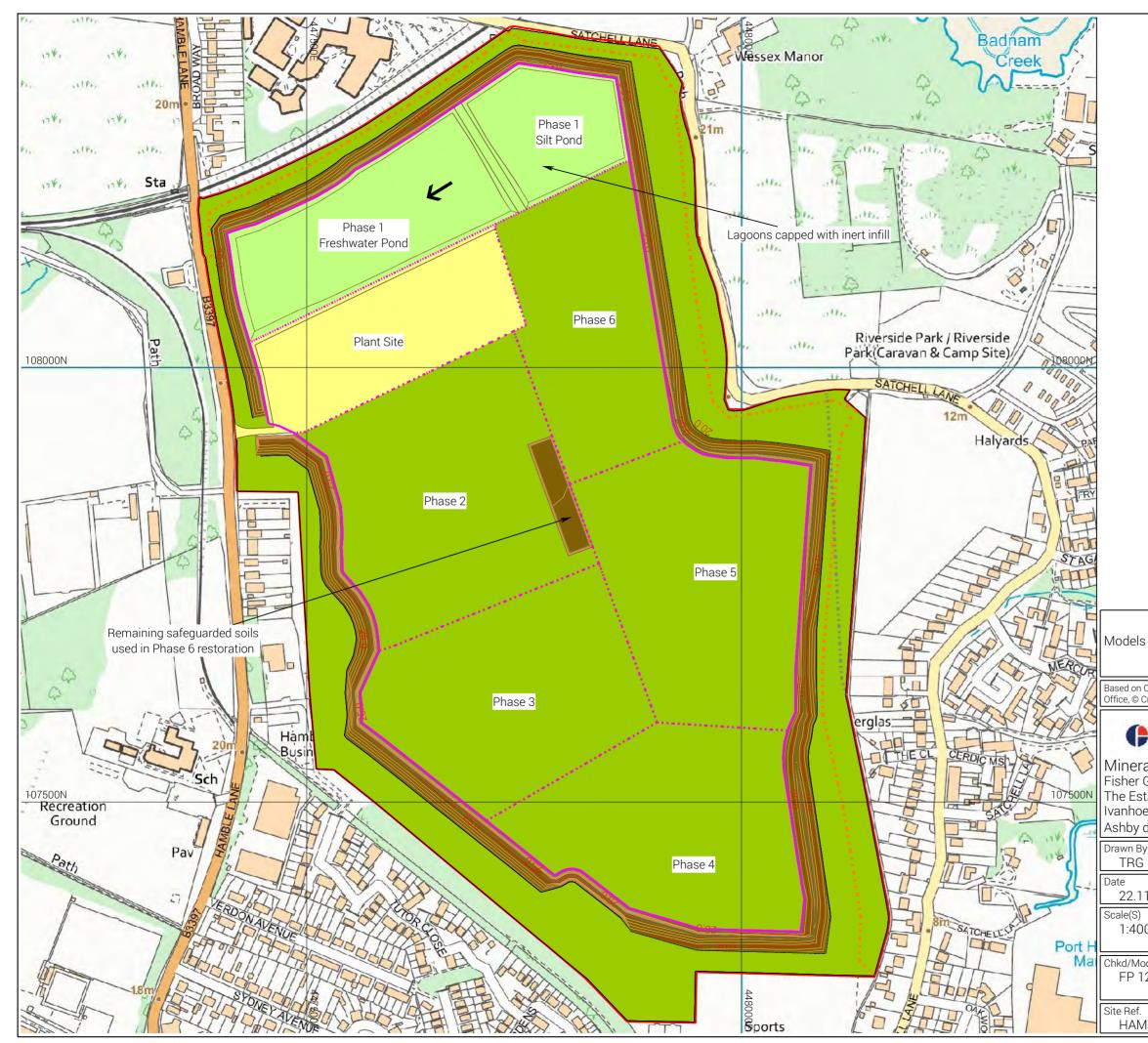


By	Client
G	CEMEX UK Operations Ltd
11.22	Site Land at Hamble Airfield
6)	Project
000 A3	Sand & Gravel Extraction
Nodel(s) 129936-028	Title Method of Working Phase 6
f.	Drawing No.
M	21-12_HAMBLE_PHASE 6.LSS





By	Client
G	CEMEX UK Operations Ltd
11.22	Site Land at Hamble Airfield
³⁾	Project
000 A3	Sand & Gravel Extraction
Nodel(s) 129936-028	Title Method of Working Phase 7
f.	Drawing No.
M	21-12_HAMBLE_PHASE 7.LSS





By	Client
G	CEMEX UK Operations Ltd
.11.22	Site Land at Hamble Airfield
6)	Project
000 A3	Sand & Gravel Extraction
Model(s) 129936-028	Title Method of Working Phase 7b
f.	Drawing No.
M	21-12_HAMBLE_PHASE 7B.LSS





By	Client	
G	CEMEX UK Operations Ltd	
11.22	Site Land at Hamble Airfield	
³⁾	Project	
000 A3	Sand & Gravel Extraction	
^{Nodel(s)} 129936-028	Title Method of Working Phase 8	
f.	Drawing No.	
M	21-12_HAMBLE_PHASE 8.LSS	





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By	Client	
G	CEMEX UK Operations Ltd	
11.22	Site Land at Hamble Airfield	
s)	Project	
000 A3	Sand & Gravel Extraction	
Nodel(s) 129936-028	Title Method of Working Phase 9	
f.	Drawing No.	
M	21-12_HAMBLE_PHASE 9.LSS	