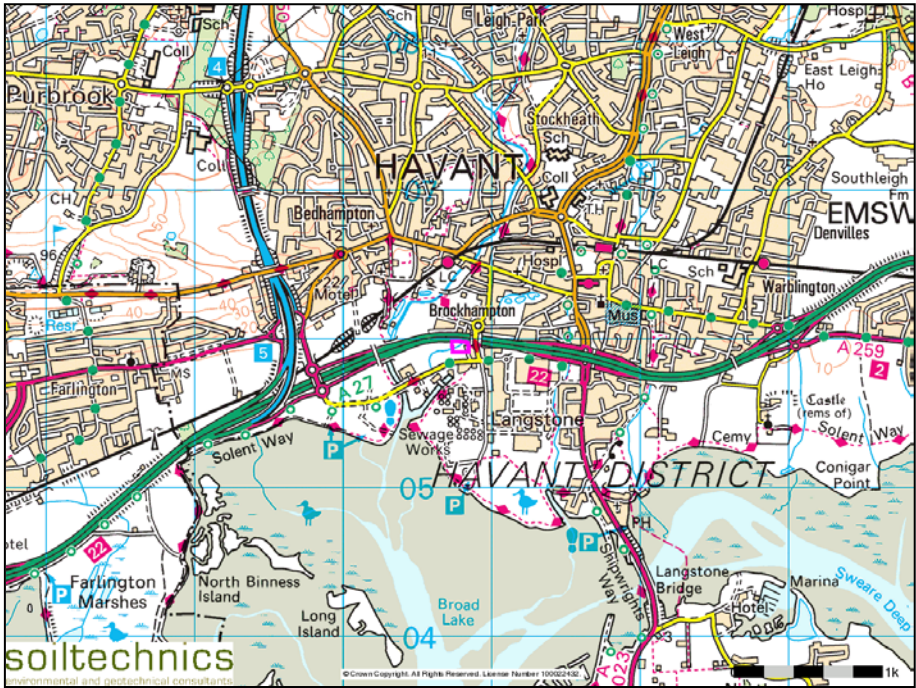
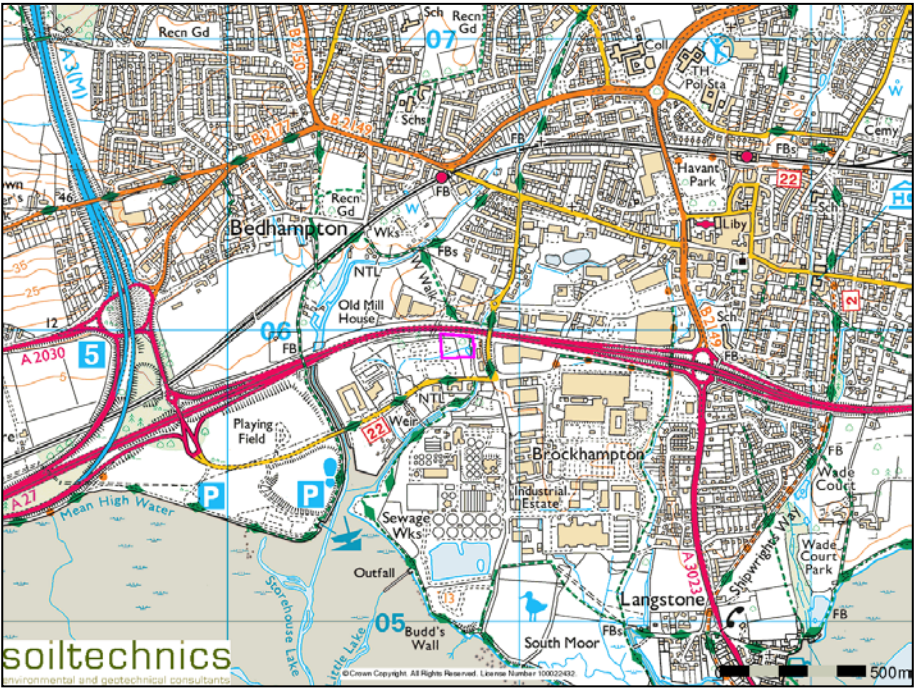
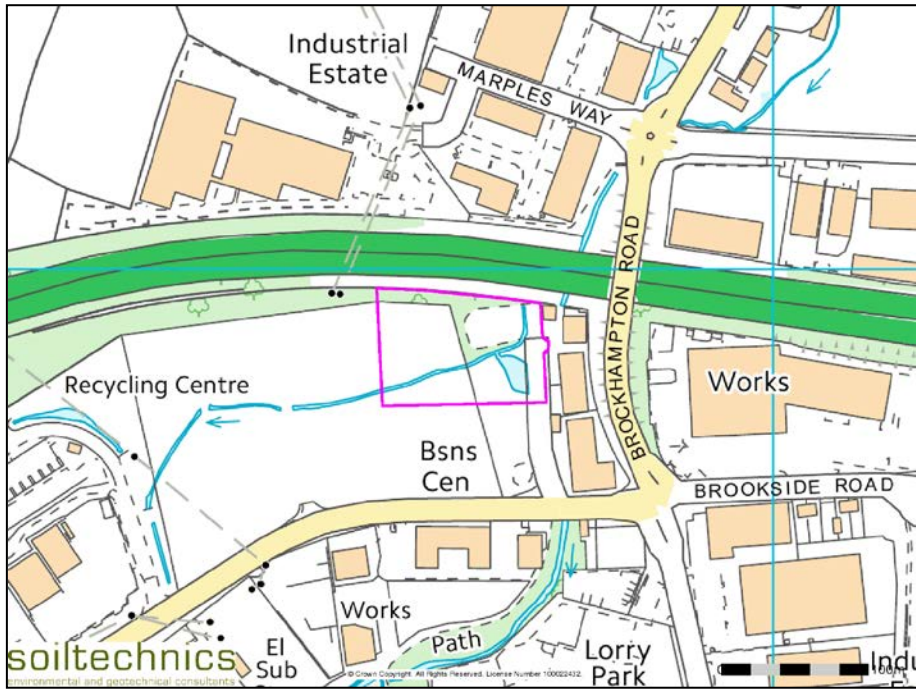




Neighbourhood extract from Ordnance Survey map



Town extract from Ordnance Survey map



Detail extract from Ordnance Survey map

Title	Scale	Drawing number
Site location plan	Not to scale	01



Key



Approximate location of borehole formed by Driven Tube Sampling techniques



Approximate location of trial pit excavation



Approximate location of borehole formed by Driven Tube Sampling techniques and Dynamic Penetration testing



Approximate location and orientation of photographic record



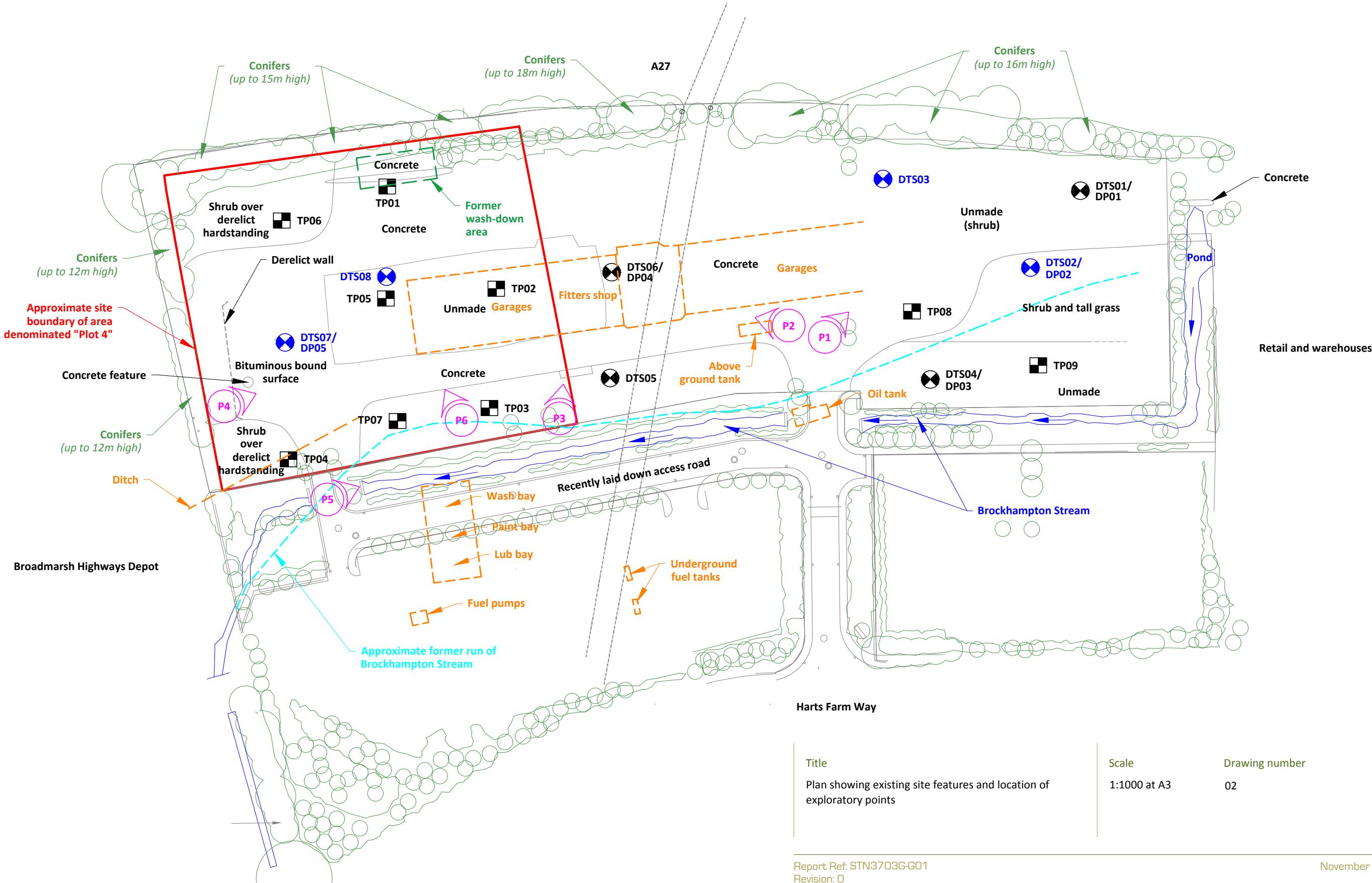
Approximate location of borehole formed by Driven Tube Sampling techniques with standpipe installation



Approximate location of former features taken from a topographical survey dated October 2014

Notes

Base drawing provided by Travis Perkins



Title
Plan showing existing site features and location of exploratory points

Scale
1:1000 at A3

Drawing number
02



Key

DTS

Approximate location of borehole formed by Driven Tube Sampling techniques

DTS/DP

Approximate location of borehole formed by Driven Tube Sampling techniques and Dynamic Penetration testing

DTS

Approximate location of borehole formed by Driven Tube Sampling techniques with standpipe installation

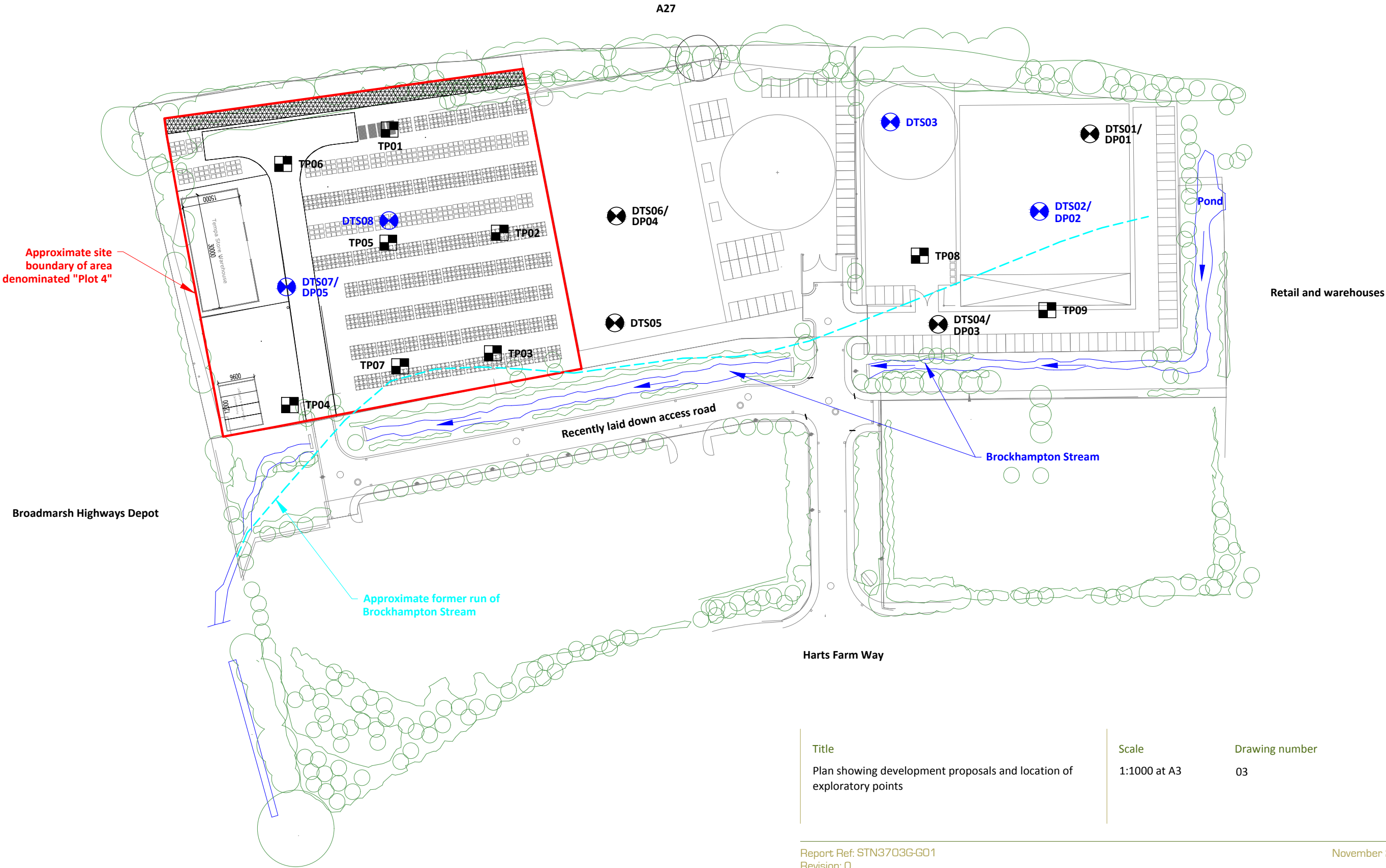
TP

TP

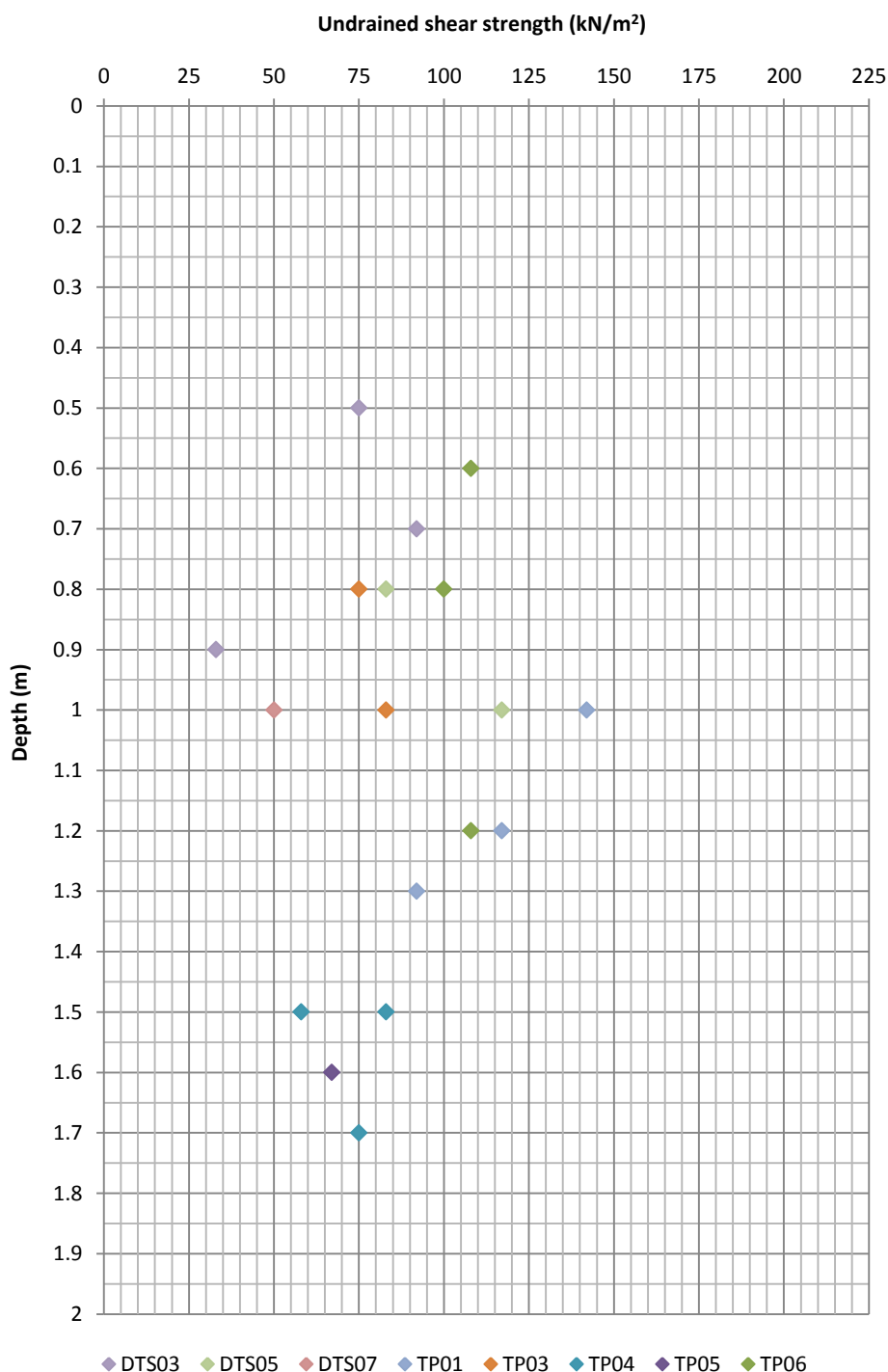
Approximate location of trial pit excavation

Notes

Base drawing provided by Travis Perkins



Title	Scale	Drawing number
Plan showing development proposals and location of exploratory points	1:1000 at A3	03



Notes

- 1) Equivalent undrained shear strength derived by multiplying Pocket Penetrometer (PP) results by 50

Title

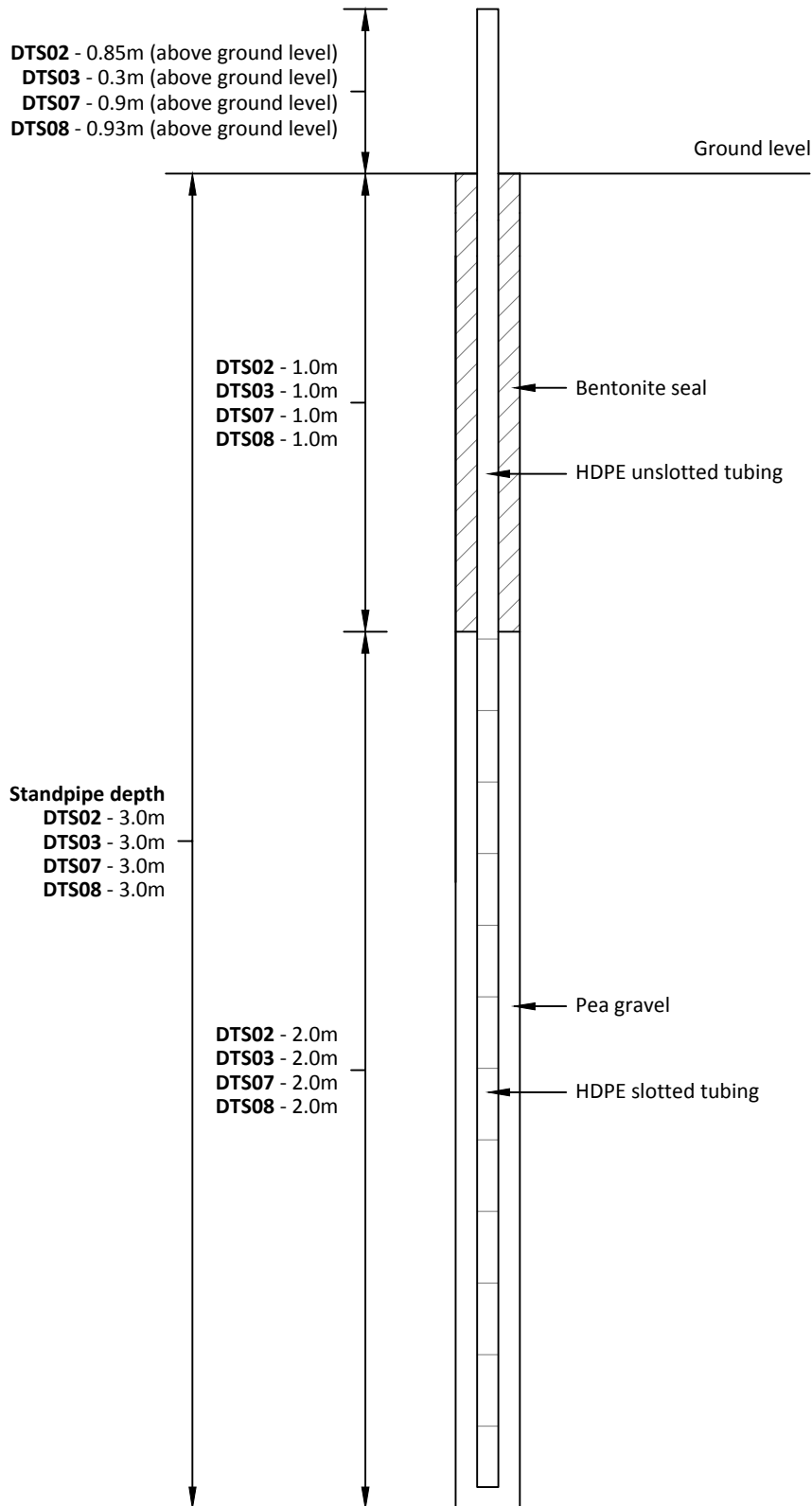
Plot summarising results of pocket penetrometer determinations by location

Scale

As shown

Drawing number

04



Title

Section showing construction of gas monitoring standpipes installed in boreholes DTS02, DTS03, DTS07 and DTS08

Scale

Not to scale

Drawing number

05

Definition of geotechnical terms used in this report - foundations

Strip foundations.

A foundation providing a continuous longitudinal ground bearing.

Trench fill concrete foundation.

A trench filled with mass concrete providing continuous longitudinal ground bearing.

Pad foundation.

An isolated foundation to spread a concentrated load.

Raft foundation.

A foundation continuous in two directions, usually covering an area equal to or greater than the base area of the structure.

Substructure.

That part of any structure (including building, road, runway or earthwork) which is below natural or artificial ground level. In a bridge this includes piers and abutments (and wing walls), whether below ground level or not, which support the superstructure.

Piled foundations and end bearing piles. A pile driven or formed in the ground for transmitting the weight of a structure to the soil by the resistance developed at the pile point or base and the friction along its surface. If the pile supports the load mainly by the resistance developed at its point or base, it is referred to as an end-bearing pile; if mainly by friction along its surface, as a friction pile.

Bored cast in place pile.

A pile formed with or without a casing by excavating or boring a hole in the ground and subsequently filling it with plain or reinforced concrete.

Driven pile.

A pile driven into the ground by the blows of a hammer or a vibrator.

Precast pile.

A reinforced or prestressed concrete pile cast before driving.

Driven cast in place pile.

A pile installed by driving a permanent or temporary casing, and filling the hole so formed with plain or reinforced concrete.

Displacement piles.

Piled formed by displacement of the soil or ground through which they are driven.

Skin friction.

The frictional resistance of the surrounding soil on the surface of cofferdam or caisson walls, and pile shafts.

Downdrag or negative skin friction. A downwards frictional force applied to the shaft of a pile caused by the consolidation of compressible strata, e.g. under recently placed fill. Downdrag has the effect of adding load to the pile and reducing the factor of safety.

Definition of geotechnical terms used in this report – bearing values

Ultimate bearing capacity.

The value of the gross loading intensity for a particular foundation at which the resistance of the soil to displacement of the foundation is fully mobilised.

Presumed bearing value.

The net loading intensity considered appropriate to the particular type of ground for preliminary design purposes. The particular value is based on calculation from shear strength tests or other field tests incorporating a factor of safety against shear failure.

Allowable bearing pressure.

The maximum allowable net loading intensity at the base of the foundation, taking into account the ultimate bearing capacity, the amount and kind of settlement expected and our estimate of ability of the structure to accommodate this settlement.

Factor of safety.

The ratio of the ultimate bearing capacity to the intensity of the applied bearing pressure or the ratio of the ultimate load to the applied load.

Definition of geotechnical terms used in this report – road pavements

The following definitions are based on Transport and Road Research Laboratory (TRRL) Report LR1132.

Equilibrium CBR values.

A prediction of the CBR value, which will be attained under the completed pavement.

Thin pavement.

A thin pavement (which includes both bound and unbound pavement construction materials 1 in 300mm thick and a thick pavement is 1200mm thick (typical of motorway construction).

Definition of geo-environmental terms used in this report

Conceptual model

Textual and/or schematic hypothesis of the nature and sources of contamination, potential migration pathways (including description of the ground and groundwater) and potential receptors, developed on the basis of the information obtained from the investigatory process.

Contamination

Presence of a substance which is in, on or under land, and which has the potential to cause harm or to cause pollution of controlled water.

Controlled water

Inland freshwater (any lake, pond or watercourse above the freshwater limit), water contained in underground strata and any coastal water between the limit of highest tide or the freshwater line to the three mile limit of territorial waters.

Harm

Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case of humans, including property.

Pathway

Mechanism or route by which a contaminant comes into contact with, or otherwise affects, a receptor.

Receptor

Persons, living organisms, ecological systems, controlled waters, atmosphere, structures and utilities that could be adversely affected by the contaminant(s).

Risk

Probability of the occurrence of, and magnitude of the consequences of, an unwanted adverse effect on a receptor.

Risk Assessment

Process of establishing, to the extent possible, the existence, nature and significance of risk.

Definition of environmental risk/hazard terms used in this report.

Based on CIRIA report C552 '*Contaminated land risk assessment – A guide to good practice*'.

Potential hazard severity definition

Category	Definition
Severe	Acute risks to human health, catastrophic damage to buildings/property, major pollution of controlled waters
Medium	Chronic risk to human health, pollution of sensitive controlled waters, significant effects on sensitive ecosystems or species, significant damage to buildings or structures.
Mild	Pollution of non sensitive waters, minor damage to buildings or structures.
Minor	Requirement for protective equipment during site works to mitigate health effects, damage to non sensitive ecosystems or species.

Probability of risk definition

Category	Definition
High likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor.
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Low likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable.

Level of risk for potential hazard definition

Probability of risk	Potential severity			
	Severe	Medium	Mild	Minor
High Likelihood	Very high	High	Moderate	Low/Moderate
Likely	High	Moderate	Low/Moderate	Low
Low Likelihood	Moderate	Low/Moderate	Low	Very low
Unlikely	Low/Moderate	Low	Very low	Very low

Refer sheet 2 for definitions of 'very high' to 'low'

Definition of environmental risk/hazard terms used in this report.

Based on CIRIA report C552 '*Contaminated land risk assessment – A guide to good practice*'.

Risk classifications and likely action required:

Very high risk

High probability that severe harm could arise to a designated receptor from an identified hazard OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised is likely to result in substantial liability. Urgent investigation and remediation are likely to be required.

High risk

Harm is likely to arise to a designated receptor from an identified hazard. This risk, if realised, is likely to result in substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the long term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is likely that the harm would be relatively mild. Investigation is normally required to clarify risks and to determine potential liability. Some remedial works may be required in the long term.

Low risk

It is possible that harm could arise to a designated receptor from an identified hazard but it is likely that this harm, if realised, would at worst normally be mild.

Very low risk

It is a low possibility that harm could arise to a designated receptor. On the event of such harm being realised it is not likely to be severe.

List of documents used in assessment of chemical contamination

No.	Title	Publication reference / publisher
1	Human health toxicological assessment of contaminants in soil	EA Science Report – SC050021/SR2
2	Updated technical background to the CLEA model	EA Science Report – SC050021/SR3
3	CLEA Software (Version 1.03 beta) Handbook	EA Science Report - SC050021/SR4
4	Guidance on comparing Soil Contamination Data with a Critical Concentration	CIEH
5	The LQM/CIEH S4ULs for Human Health Risk Assessment (2015)	LQM/CIEH
6	Assessment of Risks to Human Health from Land Contamination: An overview of the development of soil guideline values and related research	R&D Publication, Contaminated Land Report CLR 7
7	Contaminants of Soil: Collation of Toxicological Data and Intake Values for Humans	R&D Publication, Contaminated Land Report CLR 9
8	The Contaminated Land Exposure Assessment Model (CLEA): Technical Basis and Algorithms	R&D Publication, Contaminated Land Report CLR 10
9	Model Procedures for the Management of Land Contamination	R&D Publication, Contaminated Land Report CLR 11
10	Contaminants in Soil: Collection of Toxicological Data and Intake Values for Human Values	R&D Publications, Tox. 6
11	Soil Guideline Values for Contamination (2002)	R&D Publications, SGV 10
12	Soil Guideline Values (2009)	EA Science Reports – SC050021
13	Atkins ATRISK ^{SOIL} (2011)	http://www.atrisksoil.co.uk
14	Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination (September 2014)	CL:AIRE

CIEH	Chartered institute of Environmental Health
LQM	Land Quality Management
EA	Environment Agency
CL:AIRE	Contaminated Land: Applications in Real Environments

Testing suite summary

Table summarising testing suites

Suite	Parameters	Medium
Suite 1	Arsenic, beryllium, boron, cadmium, chromium (total and VI), copper, lead, mercury, nickel, selenium, vanadium zinc, cyanide (free, total and complex), organic matter content, PAH (16 speciated), pH, phenol (total), TOC	Soil
Suite 2	Arsenic, boron (water soluble), beryllium, cadmium, chromium (total), copper, lead, mercury, nickel, selenium, vanadium, zinc, cyanide (free, total and complex, PAH (16 speciated), pH, phenol (total), sulfate (water soluble), sulfide, nitrate	Leachate
Suite 3	Arsenic, boron (water soluble), beryllium, cadmium, chromium (total), copper, lead, mercury, nickel, selenium, vanadium, zinc, cyanide (free, total and complex, PAH (16 speciated), pH, phenol (total), sulfate (water soluble), sulfide, nitrate	Water
Suite 4	TPH Texas Banding Aliphatic/Aromatic Split, PAH (16 speciated), TOC	Soil
Suite 5	TPH Texas Banding Aliphatic/Aromatic Split, PAH (16 speciated)	Leachate
Suite 6	TPH Texas Banding Aliphatic/Aromatic Split, PAH (16 speciated)	Water
Suite 7	TPH Texas Banding Aliphatic/Aromatic Split, TOC, organic matter	Soil
Suite 8	Sulphur (total), sulphate (water and acid soluble), pH	Soil
Suite 9	Sulphate, ammoniacal nitrogen, dissolved magnesium, pH	Water
Suite 10	VOC, SVOC, TOC, organic matter	Soil
Suite 11	VOC, SVOC	Leachate
Suite 12	VOC, SVOC	Water
Suite 13	Organotins dibutyltin/ tributyl-tin/tetrabutyltin/triphenyl-tin, Tetraethyl-lead/tetramethyl-lead	Soil
Suite 14	Organotin	Leachate
Suite 15	Organotin	Water
Suite 16	TPH Texas Banding Aliphatic/Aromatic Split, BTEX, VOC, SVOC	Soil, water, leachate
Suite 17	TPH Texas Banding Aliphatic/Aromatic Split, BTEX, SVOC, VOC, arsenic, boron (water soluble), beryllium, cadmium, chromium (total), copper, lead, mercury, nickel, selenium, vanadium, zinc, cyanide (free, total and complex, pH, phenol (total), sulfate (water soluble), sulfide, nitrate	Soil, water, leachate
Concrete BRE suite	pH, sulphate (water and acid soluble), magnesium (water soluble), ammonia (water soluble), chloride, nitrate	Soil

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
BITUMINOUS BOUND MATERIAL. (MADE GROUND)		0.10				0.20		D
Dense orange brown SAND and GRAVEL. Gravel consists of flint. Slight TPH odour noted. (MADE GROUND)								
<i>...band of greyish blue SAND and GRAVEL on northern side of trial pit between 0.45m and 0.5m depth.</i>						0.50		ES
White mottled cream and orange brown slightly clayey slightly sandy GRAVEL. Gravel consists of chalk. Clasts are angular medium strong. (MADE GROUND)		0.55				1.00		D
Stiff high strength dark brown to greyish brown slightly sandy gravelly CLAY. Gravel consists of flint and chalk. (MADE GROUND)		0.90						
<i>...becoming lighter in colour and very sandy from 1.2m depth.</i>								
Dense cream slightly clayey to clayey very sandy GRAVEL with occasional cobbles of flint. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		1.40		PP 1.00 PP 1.20 PP 1.30	PP=142 PP=117 PP=92	1.60		D
<i>...becoming orange brown in colour from 2.25m depth.</i>								
TRIAL PIT TERMINATED AT 2.80m		2.80						

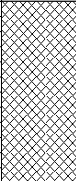
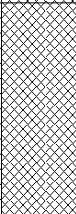
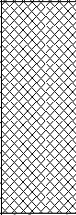
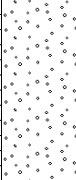
Notes: Collapse of trial pits sides by approximately 0.4m from 1.5m depth. Trial pit terminated at 2.8m due to collapse of sides promoted by groundwater inflows. Density of coarse soils gauged by the ease of excavation.

Ground level (mAOD)	Co-ordinates 470676, 105930	Title Trial pit record	Surface breaking Yes
Groundwater observations Groundwater inflows at 2.15m depth. Groundwater level at 2.3m upon completion.	Dimensions (W x L) 0.60m x 2.30m	Date of excavation (range if applicable) 16/09/2016	Appendix C
	Method of excavation JCB 3CX	Location plan on drawing number 02	TP01

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass and construction debris onto dark brown slightly clayey very gravelly SAND. Gravel consists of brick, flint, concrete, occasional fragments of plastic, timber, charcoal and rare ash. (MADE GROUND)		0.30				0.10		D
						0.20		D
Cream to white slightly sandy GRAVEL. Gravel consists of chalk. Clasts are angular medium strong and very frequent cobbles of chalk (MADE GROUND)		1.30				0.60		B
Stiff dark brown slightly sandy gravelly to very gravelly CLAY. Gravel consists of fine to coarse angular to sub-rounded flint. (MADE GROUND)		1.70				1.40		B
Medium dense light greyish brown slightly clayey slightly sandy to sandy GRAVEL. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		2.60				2.00		B
						2.40		B
TRIAL PIT TERMINATED AT 2.60m								

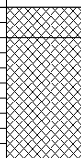
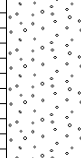
Notes: Trial pit collapsed from 1.8m depth, widening pit by 0.3m each side. Unable to excavate further due to collapse promoted by groundwater inflows.

Ground level (mAOD)	Co-ordinates 470676, 105930	Title Trial pit record	Surface breaking No
Groundwater observations Groundwater strike at 1.9m depth. Groundwater level at 1.9m upon completion.	Dimensions (W x L) 0.60m x 2.20m	Date of excavation (range if applicable) 16/09/2016	Appendix C
	Method of excavation JCB 3CX	Location plan on drawing number 02	TP02

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Gravels of flint, chalk, limestone and granite over brown mottled white slightly clayey SAND and GRAVEL with occasional rootlets up to 2mm in diameter. Gravel consists of flint, occasional brick, concrete, chalk, plastic and metal. (MADE GROUND)		0.60		PP 0.80 PP 1.00	PP=75 PP=83	0.10		D
						0.30		D
Firm high strength dark brown slightly sandy gravelly CLAY. Gravel consists of fine to coarse flint, occasional chalk and organic remains. Slight organic odour noted. (MADE GROUND)		1.30						
Soft to firm light bluish grey sandy very gravelly CLAY. Gravel consists of fine to coarse angular to sub-rounded flint. (MADE GROUND)		2.00				1.80		B
Medium dense light grey clayey very sandy GRAVEL. Gravel consists of fine to coarse flint. (ALLUVIUM)		2.60				2.30		B
...becoming slightly sandy GRAVEL with occasional boulder-sized lenses of clayey gravelly sand from 2.5m depth. TRIAL PIT TERMINATED AT 2.60m								

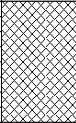
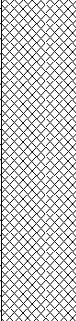
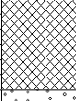
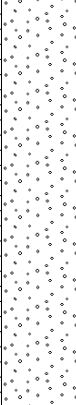
Notes: Unable to excavate further due to collapse of trial pit sides by 0.5m from 1.5m depth promoted by groundwater inflows.

Ground level (mAOD)	Co-ordinates 470649, 105913	Title Trial pit record	Surface breaking No
Groundwater observations Groundwater at 2.25m depth upon completion, inflow from 2.15m depth.	Dimensions (W x L) 0.60m x 2.40m	Date of excavation (range if applicable) 16/09/2016	Appendix C
	Method of excavation JCB 3CX	Location plan on drawing number 02	TP03

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Gravels of brick, concrete and flint onto BITUMINOUS BOUND MATERIAL. (MADE GROUND)		0.10				0.20		D
Dark brown mottled brown and black slightly clayey SAND and GRAVEL with frequent cobbles and boulders of brick and concrete. Gravel consists of bituminous coated material, fragments of metal, plastic, flint, limestone and pottery. (MADE GROUND)		0.50						D
Loose brown to light brown slightly clayey SAND and GRAVEL. Gravel consists of brick, concrete and flint. (MADE GROUND)		1.40				1.50		D
Firm medium to high strength dark brown and dark grey slightly sandy gravelly CLAY with occasional rootlets up to 10mm in diameter. Gravel consists of fine to coarse flint. (MADE GROUND)		1.75				1.80		B
...roots up to 50mm in diameter between 1.7m and 2.2m depth. Medium dense to dense dark bluish grey slightly sandy to sandy clayey GRAVEL. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)				PP 1.50 PP 1.50 PP 1.70	PP=58 PP=83 PP=75	2.20		B
...becoming lighter in colour from 1.9m depth.						3.20		B
...becoming white in colour from 3.0m depth.								
TRIAL PIT TERMINATED AT 3.50m		3.50						

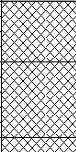
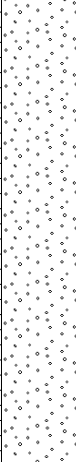
Notes: Trial pit collapsed from 1.8m depth, widening pit by 0.3-0.4m each side

Ground level (mAOD)	Co-ordinates 470588, 105889	Title Trial pit record	Surface breaking Yes
Groundwater observations Groundwater inflows 2.0m depth. Groundwater level at 2.8m upon completion.	Dimensions (W x L) 0.60m x m	Date of excavation (range if applicable) 16/09/2016	Appendix C
	Method of excavation JCB 3CX	Location plan on drawing number 02	TP04

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass and construction debris onto dark brown slightly clayey gravelly SAND with roots up to 2mm in diameter. Gravel consists of flint, brick, concrete, occasional plastic and timber. (MADE GROUND)		0.40				0.10		D
						0.20		D
Medium dense to dense brown slightly clayey slightly sandy GRAVEL. Gravel consists of chalk and occasional fragments of brick. (MADE GROUND)		1.50				1.00		D
						1.50		D
Firm to stiff medium strength orange brown slightly sandy gravelly to very gravelly CLAY. Gravel consists of fine to coarse flint. (MADE GROUND)		1.80		PP 1.60	PP=67			
Medium dense to dense orange brown clayey very sandy GRAVEL with frequent cobbles of flint and occasional cobble to boulder-sized lenses of bluish grey clayey fine to medium sand. Gravel consists of fine to coarse flint. (ALLUVIUM)		3.20				2.50		B
TRIAL PIT TERMINATED AT 3.20m								

Notes: Trial pit collapsed from 1.8m depth (due to groundwater inflows), widening pit 0.4m each side.

Ground level (mAOD)	Co-ordinates 470624, 105940	Title Trial pit record	Surface breaking No
Groundwater observations Groundwater inflows from 2.3m depth.	Dimensions (W x L) 0.60m x 2.20m	Date of excavation (range if applicable) 16/09/2016	Appendix C
	Method of excavation JCB 3CX	Location plan on drawing number 02	TP05

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto derelict BITUMINOUS BOUND MATERIAL. (MADE GROUND)		0.20		PP 0.60 PP 0.80 PP 1.20	PP=108 PP=100 PP=108	0.20		D
Loose dark grey mottled orange brown and black SAND and GRAVEL with rootlets up to 2mm in diameter. Gravel consists of bituminous coated material, flint, brick, rare fragments of plastic and metal. (MADE GROUND)		0.45				0.30		D
Firm to stiff dark greenish brown slightly sandy to sandy slightly gravelly CLAY. Gravel consists of fine to coarse flint. (MADE GROUND)						0.70		D
...becoming gravelly from 1.0m depth.						1.20		B
Medium dense to dense light grey to cream and orange brown clayey sandy GRAVEL with occasional boulder-sized lenses of firm orange brown sandy very gravelly clay. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		1.45				1.60		B
TRIAL PIT TERMINATED AT 3.00m		3.00				2.60		B

Notes: Trial pit collapsed due to groundwater seepage promoting instability from 1.8m depth, widening pit by 0.5m each side.

Ground level (mAOD)

Co-ordinates

470599, 105953

Title

Trial pit record

Surface breaking

Yes

Groundwater observations

Minor groundwater seepages from 2.0m depth.

Dimensions (W x L)

0.60m x 2.60m

Date of excavation (range if applicable)

16/09/2016

Appendix

C

Method of excavation

JCB 3CX

Location plan on drawing number

02

TP06

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Loose dark brown slightly clayey very gravelly SAND with rootlets up to 2mm in diameter and occasional boulders of concrete. Gravel consists of flint, brick, concrete, limestone and occasional bituminous coated material. (MADE GROUND)		0.50				0.10		D
						0.20		ES
						0.30		D
Firm to stiff dark brown sandy gravelly CLAY with occasional rootlets up to 5mm in diameter. Gravel consists of fine to coarse angular to sub-rounded flint. (MADE GROUND)		1.40				0.80		D
Soft very sandy very gravelly CLAY. Gravel consists of fine to coarse angular to sub-rounded flint. (MADE GROUND)		1.80				1.50		D
Medium dense light grey slightly clayey sandy GRAVEL. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		2.00				2.00		D
<u>...becoming orange brown in colour from 2.4m depth.</u>								
TRIAL PIT TERMINATED AT 2.60m		2.60						

Notes: Trial pit collapsed from 2.2m depth, widening pit by 0.4m each side. Trial pit terminated at 2.6m due to collapse promoted by groundwater inflows.

Ground level (mAOD)

Co-ordinates

Title

Surface breaking

470622, 105901

Trial pit record

No

Groundwater observations

Dimensions (W x L)

Date of excavation (range if applicable)

Appendix

Groundwater inflows from 2.15m depth.
Groundwater level at 2.2m upon completion.

0.60m x 2.50m

16/09/2016

C

Method of excavation

Location plan on drawing number

JCB 3CX

02

TP07

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Unreinforced grey CONCRETE. (MADE GROUND)		0.20				0.20		D
Medium dense orange brown SAND and GRAVEL. Gravel consists of fine to coarse flint, occasional chalk and concrete fragments. (MADE GROUND)		0.45				0.50		D
Medium dense to dense cream to white slightly clayey slightly sandy GRAVEL. Gravel consists of chalk. Chalk clasts are weak to medium strong medium density and angular. (ALLUVIUM)		0.70				0.70		ES
Firm dark brown mottled white and orange brown slightly sandy very gravelly CLAY. Gravel consists of fine to coarse angular to sub-rounded flint and occasional chalk. (ALLUVIUM)		0.90						D
Medium dense cream slightly silty slightly sandy GRAVEL with frequent cobbles of flint. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		1.00						
...becoming orange brown in colour from 1.5m depth.		1.50						B
...occasional boulder-sized lenses of clayey sandy gravel from 2.0m depth.		2.00						B
TRIAL PIT TERMINATED AT 2.50m		2.50						

Notes: Collapse of trial pits sides by approximately >0.5m from 1.8m depth. Unable to excavated further due to collapsed promoted by groundwater inflows.

Ground level (mAOD)

Co-ordinates

470758, 105933

Title

Trial pit record

Surface breaking

Yes

Groundwater observations

Groundwater inflows from 1.4m depth.

Groundwater level at 2.0m upon completion.

Dimensions (W x L)

0.60m x 2.90m

Date of excavation (range if applicable)

16/09/2016

Appendix

C

Method of excavation

JCB 3CX

Location plan on drawing number

02

TP08

DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS		SAMPLING		
				TYPE/ DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Shrub onto brown to dark brown slightly clayey SAND and GRAVEL with occasional boulders of concrete up to 250x300x250mm in size and with frequent rootlets and roots up to 5mm in diameter. Gravel consists of brick, concrete, bituminous coated material, timber, occasional plastic, flint and limestone. (MADE GROUND)						0.20		D
						0.40		D
						0.50		ES
						0.80		B
Medium dense to dense cream to light grey slightly clayey sandy GRAVEL with frequent cobbles of flint. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		1.10						
						1.40		B
Medium dense cream and orange brown slightly silty slightly sandy to sandy GRAVEL with occasional cobbles of flint. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		2.00						
						2.20		B
Firm orange brown slightly silty slightly sandy very gravelly CLAY with frequent cobbles of flint. Gravel consists of flint. (ALLUVIUM)		2.50				2.50		B
		2.80						
TRIAL PIT TERMINATED AT 2.80m								

Notes: Collapse of trial pit sides from 1.5m depth. Unable to excavate further due to collapse of trial pit sides by >0.5m caused by groundwater inflows.

Ground level (mAOD)

Co-ordinates

470496, 105926

Title

Trial pit record

Surface breaking

No

Groundwater observations

Groundwater inflows at 1.15m depth. Groundwater level at 2.5m, 5 minutes upon completion.

Dimensions (W x L)

0.60m x 3.00m

Method of excavation

JCB 3CX

Date of excavation (range if applicable)

16/09/2016

Location plan on drawing number

02

Appendix

C

TP09

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/ DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	Dark brown slightly clayey SAND and GRAVEL with rare rootlets up to 2mm in diameter. Gravel consists of fine to coarse angular to sub-angular limestone, concrete, brick and flint. (MADE GROUND)		0.30						0.20		D
	[Medium dense] dark brown slightly sandy clayey GRAVEL in a clayey matrix. Gravel consists of flint and rare brick. (MADE GROUND)		0.30						0.30		ES
			0.40						0.40		D
			0.60						0.60		D
			0.80						0.80		D
	Soft light greyish brown sandy very gravelly CLAY. Gravel consists of fine to coarse flint. (MADE GROUND)		1.00						1.00	1.70	D
	[Loose] orange brown slightly silty slightly sandy GRAVEL. Gravel consists of fine to coarse angular flint. (MADE GROUND)										
			1.80								
			2.00								
	Soft to firm orange brown to dark brown slightly sandy very gravelly CLAY. Gravel consists of fine to coarse angular to sub-rounded flint. (MADE GROUND)		1.80								
			2.00						2.00	2.60	B
	BOREHOLE TERMINATED AT 3.00m		3.00								

Notes: Borehole collapsed from 1.7m depth. 50% recovery between 1.0m to 2.5m depth. Density of coarse soils inferred from nearest dynamic probing. For dynamic probing, refer to DP01.

Ground level (mAOD)

Co-ordinates

470820, 105964

Title

Driven tube sampler borehole record

Surface breaking

No

Groundwater observations

Groundwater encountered at 1.25m depth, rising to 0.95m after collapse of borehole.

Date of excavation (range if applicable)

15/09/2016

Appendix

D

Location plan on drawing number

02

DTS01

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/ DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	[Medium dense] dark brown slightly sandy GRAVEL. Gravel consists of angular to sub-angular brick, bituminous coated material and limestone. (MADE GROUND)		0.25						0.20		D
	Firm to stiff dark brown slightly sandy slightly gravelly CLAY. Gravel consists of flint, decaying organic material and chalk. (MADE GROUND)		0.70						0.40 0.40 0.60		D ES D
	...becoming very gravelly from 0.5m depth. Soft dark brown slightly sandy very gravelly CLAY. Gravel consists sub-angular to angular flint. (MADE GROUND)		1.00	▼					1.00	1.70	B
	Medium dense to loose brown and grey GRAVEL. Gravel consists of medium to coarse angular to sub-rounded flint. (MADE GROUND)		1.50								
	Loose light brown slightly silty slightly sandy GRAVEL. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		1.80								
	Loose to medium dense cream and light brown slightly clayey slightly sandy GRAVEL. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		2.50								
	Soft light brown to orange brown slightly sandy to sandy very gravelly CLAY with occasional gravels of angular to sub-angular fine to coarse chalk. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)								2.60	2.80	B
									3.50	4.00	B
	BOREHOLE TERMINATED AT 4.00m		4.00								

Notes: Standpipe installed to 3m depth. Standpipe 0.85m above ground level. For dynamic probing, refer to DP02.

Ground level (mAOD)

Co-ordinates
470802, 105944

Title

Driven tube sampler borehole record

Surface breaking

No

Groundwater observations

Groundwater encountered at 0.95m depth.

Date of excavation (range if applicable)

15/09/2016

Appendix

D

Location plan on drawing number

02

DTS02

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	Firm to stiff brown to dark brown gravelly very sandy CLAY. Gravel consists of fine to medium flint, occasional fragments of brick and bituminous coated material. (MADE GROUND) <i>becoming dark brown in colour from 0.25m depth.</i>		0.30						0.10		D
	Stiff becoming firm high to low strength dark brown slightly sandy gravelly to very gravelly CLAY with occasional rootlets up to 2mm in diameter and decayed fragments of organic matter. Gravel consists of fine to coarse flint, occasional chalk and brick. (MADE GROUND)		1.00		PP 0.50	PP=75			0.40		ES
					PP 0.70	PP=92			0.50		D
					PP 0.90	PP=33			0.90		D
	Very soft light bluish grey slightly sandy silty very gravelly CLAY. Sand is fine. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		1.90						1.40		D
	[Loose to medium dense] light grey slightly clayey sandy GRAVEL. Sand is medium to coarse. Gravel consists of fine to coarse angular to sub-rounded flint. (ALLUVIUM)		3.00						2.50	3.00	B
	(NO RECOVERY)		4.00								
	BOREHOLE TERMINATED AT 4.00m										

Notes: Standpipe installed to 3m depth. Standpipe 0.3m above ground level. Borehole collapsed from 3.0m depth. Density of coarse soils inferred from nearest dynamic probing.

Ground level (mAOD)

Co-ordinates
470745, 105970

Title

Driven tube sampler borehole record

Surface breaking

No

Groundwater observations

Groundwater measured at 1.15m depth 2 minutes after completion.

Date of excavation (range if applicable)

15/09/2016

Appendix

D

Location plan on drawing number

02

DTS03

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	Light brown gravelly SAND. Gravel consists of rounded to angular fine to coarse flint and limestone. (MADE GROUND)		0.30						0.20		D
	Firm dark brown clayey sandy GRAVEL with rare rootlets up to 2mm in diameter and occasional organic remains. Gravel consists of sub-rounded to angular medium to coarse limestone, angular fine to coarse flint and brick. (MADE GROUND)		0.60						0.50		D
	Stiff dark brown mottled white slightly sandy very gravelly CLAY. Gravel consists of fine to coarse flint and chalk. (MADE GROUND)		0.90						0.70		D
	...cobble of chalk at 0.75m depth.										
	Medium dense dark brown clayey sandy GRAVEL. Gravel consists of angular to sub-rounded fine to coarse flint. (ALLUVIUM)		1.50	▼					1.50	2.00	B
	Medium dense light brown mottled orange brown slightly silty slightly sandy GRAVEL. Gravel consists of angular to sub-rounded fine to coarse flint. (ALLUVIUM)								2.00	3.00	B
	...becoming slightly clayey with occasional cobbles of flint at 3.8m depth.										
	BOREHOLE TERMINATED AT 4.00m		4.00								

Notes: For dynamic probing, refer to DP03.

Ground level (mAOD)

Co-ordinates

470763, 105911

Title

Driven tube sampler borehole record

Surface breaking

No

Groundwater observations

Groundwater strike at 1.54m depth. Level remained stale on completion.

Date of excavation (range if applicable)

15/09/2016

Appendix

D

Location plan on drawing number

02

DTS04

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	Dark brown slightly silty clayey gravelly SAND with occasional rootlets up to 2mm in diameter. Gravel consists of bituminous coated material and angular to rounded fine to coarse flint. (MADE GROUND)		0.30						0.10 0.20		ES D
	Firm grey brown and white slightly sandy gravelly CLAY. Gravel consists of sub-rounded to angular fine to coarse chalk. (MADE GROUND) <i>...cobble of chalk at 0.6m depth.</i>		0.80		PP 0.80	PP=83					D
	Stiff high strength dark brown slightly sandy slightly gravelly CLAY. Gravel consists of angular to rounded fine to coarse flint. (MADE GROUND) <i>...increase in flint between 1.1m and 1.2m depth.</i>		1.30		PP 1.00	PP=117					
	Firm grey brown slightly sandy slightly gravelly clayey SILT. Gravel consists of angular to sub-rounded fine to coarse flint. (ALLUVIUM) <i>...increase in gravels at 1.7m depth.</i> <i>...organic material between 1.8m and 2m depth.</i>		2.40	▼					1.30	1.40	D
	[Loose to medium dense] grey slightly clayey gravelly SAND. Gravel consists of angular to sub-rounded fine to coarse flint. (ALLUVIUM)		2.75								
	[Loose to medium dense] light brown slightly silty slightly sandy GRAVEL. Gravel consist of angular to sub-angular fine to coarse flint. (ALLUVIUM)		3.00						2.30	2.60	D
	BOREHOLE TERMINATED AT 3.00m										

Notes: Density of coarse soils inferred from nearest dynamic probing.

Ground level (mAOD)

Co-ordinates
470694, 105910

Title

Driven tube sampler borehole record

Surface breaking

No

Groundwater observations

Groundwater encountered at 1.5m depth. Groundwater level remained stable 5 minutes after completion.

Date of excavation (range if applicable)

16/09/2016

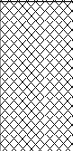
Appendix

D

Location plan on drawing number

02

DTS05

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/ DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	BITUMINOUS BOUND MATERIAL. (MADE GROUND) Medium dense light brown gravelly SAND. Gravel consists of sub-angular to sub-rounded fine to coarse flint and bituminous coated material. (MADE GROUND)		0.10						0.10		D
	Dense white to light grey slightly sandy GRAVEL. Gravel consists of chalk. Clasts are fine to coarse angular medium strong with very frequent angular cobbles. (MADE GROUND)		0.50						0.80	1.00	D
	Light brown gravelly SAND. Gravel consists of sub-angular to sub-rounded fine to coarse flint and bituminous coated material. (MADE GROUND)		1.00								
	<i>cobble of chalk between 1.25m to 1.35m depth.</i>		1.35								
	Firm dark brown and grey slightly silty slightly sandy gravelly CLAY. Gravel consists of angular to sub-angular fine to coarse flint. (ALLUVIUM)		1.70						1.50		D
	Loose to medium dense light brown to grey slightly clayey gravelly SAND. Gravel consists of sub-angular to rounded fine to coarse flint. (ALLUVIUM)		2.00	▼					1.75	2.00	D
	BOREHOLE TERMINATED AT 2.00m										

Notes: For dynamic probing, refer to DP04.

Ground level (mAOD)

Co-ordinates
470698, 105945

Title

Driven tube sampler borehole record

Surface breaking

Yes

Groundwater observations

Groundwater encountered at 1.8m depth.

Date of excavation (range if applicable)

16/09/2016

Appendix

D

Location plan on drawing number

02

DTS06

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	BITUMINOUS BOUND MATERIAL. (MADE GROUND)		0.10						0.20		D
	Light brown gravelly SAND. Gravel consists of sub-angular to rounded fine to coarse flint and bituminous coated material. (MADE GROUND)		0.50						0.60	0.90	D
	Dense white to light grey slightly sandy GRAVEL. Gravel consists of chalk. Clasts are fine to coarse angular medium strong with very frequent angular cobbles. (MADE GROUND)		0.95		PP 1.00	PP=50			1.10		D
	Firm medium strength dark brown slightly silty slightly sandy CLAY. Gravel consists of angular to rounded fine to coarse flint and occasional decaying organic material. (MADE GROUND)		1.50						1.50	1.60	D
	Stiff light brown and grey mottled orange brown slightly silty sandy very gravelly CLAY. Gravel consists of occasional chalk and angular to sub-rounded fine to coarse flint. (MADE GROUND)		1.80								
	Stiff light brown, light grey and white sandy gravelly CLAY. Gravel consists of angular to sub-rounded fine to coarse flint and rounded to sub-rounded fine to coarse chalk. (MADE GROUND)		2.00								
	Medium dense to loose light brown sandy clayey GRAVEL. Gravel consists of sub-angular to rounded fine to coarse flint and sub-rounded fine to medium chalk. (ALLUVIUM)		2.65								
	Firm brown sandy gravelly CLAY. Gravel consists of angular to sub-rounded fine to coarse flint and sub-rounded to rounded fine to medium chalk. (ALLUVIUM)		2.80								
	Loose to medium dense light brown sandy clayey GRAVEL. Gravel consists of sub-angular to rounded fine to coarse flint and sub-rounded fine to medium chalk. (ALLUVIUM)		3.40						3.40	4.00	D
	BOREHOLE TERMINATED AT 4.00m		4.00								

Notes: Borehole collapsed to 3.5m depth. Standpipe installed to 0.9m depth. Standpipe 1m above ground level. For dynamic probing, refer to DP05.

Ground level (mAOD)

Co-ordinates
470598, 105919

Title

Driven tube sampler borehole record

Surface breaking

Yes

Groundwater observations

Groundwater encountered at 1.75m depth.

Date of excavation (range if applicable)

16/09/2016

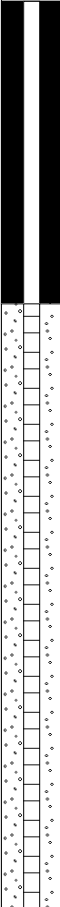
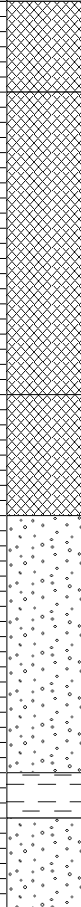
Appendix

D

Location plan on drawing number

02

DTS07

WELL	DESCRIPTION	LEGEND	DEPTH (m)	WATER STRIKE	TEST RESULTS				SAMPLING		
					TYPE/DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	FROM (m)	TO (m)	TYPE
	Brown gravelly SAND with rootlets up to 5mm in diameter. Gravel consists of brick, bituminous coated material, organic material, fabric sheeting and chalk. (MADE GROUND)		0.30						0.10		D
	[Dense] white to light grey slightly sandy GRAVEL. Gravel consists of chalk. Clasts are fine to coarse angular medium strong with very frequent angular cobbles. (MADE GROUND)		1.30						1.20		D
	Firm brown slightly sandy very gravelly CLAY. Gravel consists of angular to sub-rounded fine to coarse flint. (MADE GROUND)		1.70						1.50		D
	Light brown slightly sandy clayey GRAVEL in a clayey matrix. Gravel consists of angular to sub-rounded fine to coarse flint. (ALLUVIUM)		2.55						2.90		D
	Firm orange brown slightly sandy gravelly CLAY. Gravel consists of sub-angular to sub-rounded fine to coarse flint and sub-rounded to rounded fine to medium chalk. (ALLUVIUM)		2.70						2.90		D
	[Loose to medium dense] light brown clayey sandy GRAVEL. Gravel consists of angular to sub-rounded flint and sub-rounded fine to medium chalk. (ALLUVIUM) BOREHOLE TERMINATED AT 3.00m		3.00								

Notes: Standpipe installed to 3m depth. Standpipe 0.93m above ground level. Density of coarse soils inferred from nearest dynamic probing.

Ground level (mAOD)

Co-ordinates
470636, 105946

Title

Driven tube sampler borehole record

Surface breaking

No

Groundwater observations

No groundwater encountered.

Date of excavation (range if applicable)

16/09/2016

Appendix

D

Location plan on drawing number

02

DTS08

Summary log for dynamic probing

Dynamic Probing Test Number: DP01

Easting: 470821

Northing: 105962

Ground level (mAOD): -

Date of test: 15/09/2016

Cone type: Fixed

Anvil type: Fixed

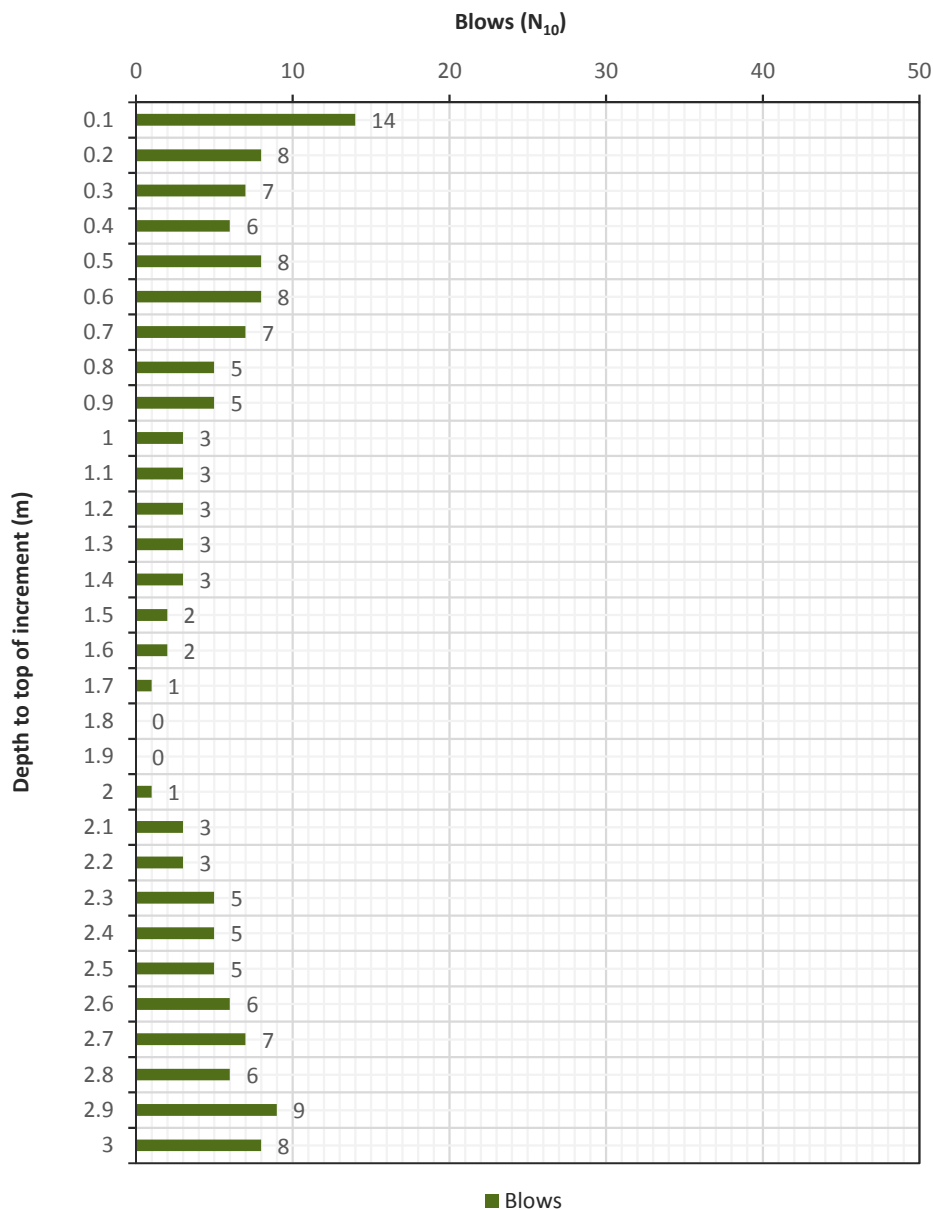
Type of dynamic probing: DPSH-B

Manufacturer: Dando Drilling

Model: Dando Terrier

Model Number: C3003206

Equipment checked and in accordance with EN ISO 22476-2, 5.1: Yes



Title

Summary of dynamic probing log for location DP01

Appendix

C

Summary log for dynamic probing

Dynamic Probing Test Number: DP02

Easting: 470803

Northing: 105941

Ground level (mAOD): -

Date of test: 15/09/2016

Cone type: Fixed

Anvil type: Fixed

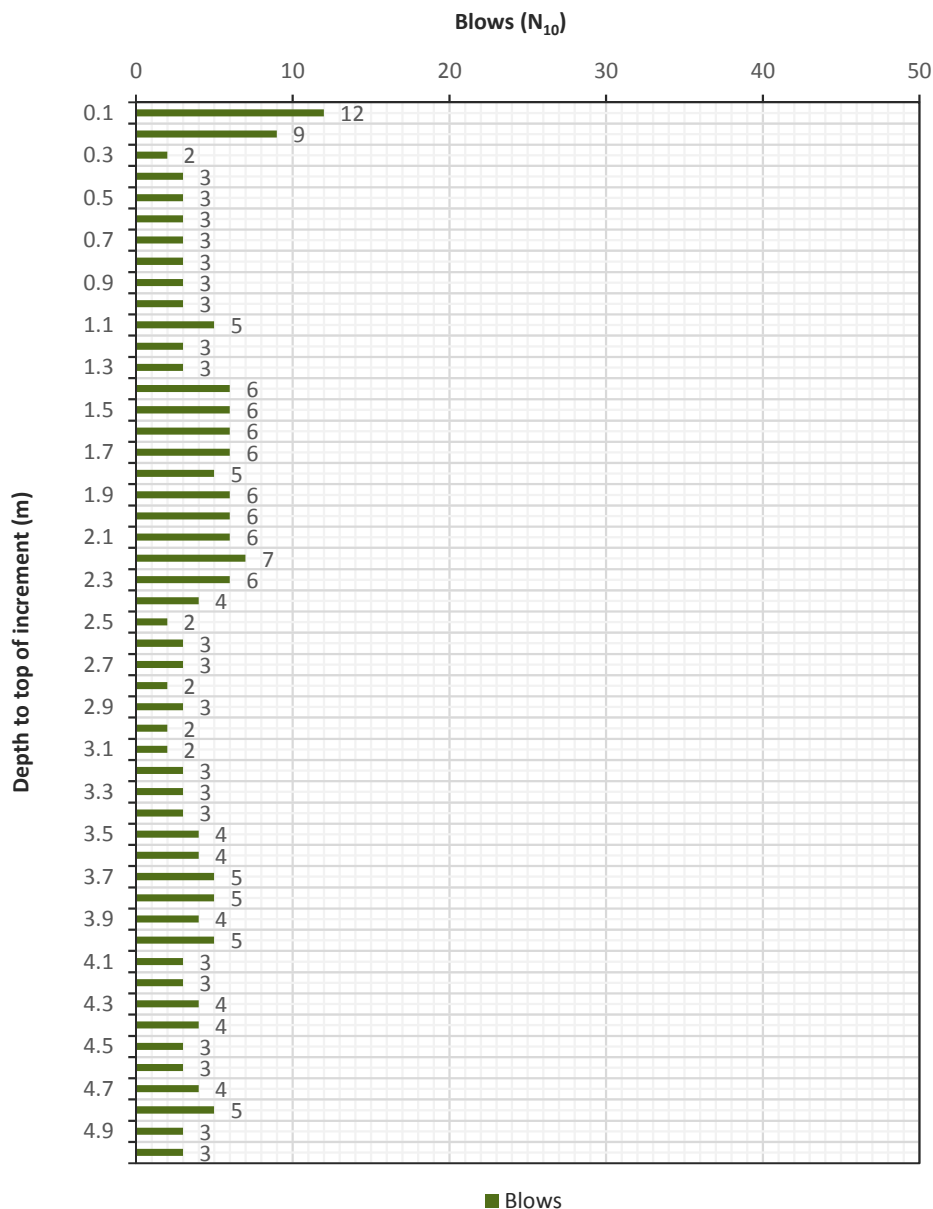
Type of dynamic probing: DPSH-B

Manufacturer: Dando Drilling

Model: Dando Terrier

Model Number: C3003206

Equipment checked and in accordance with EN ISO 22476-2, 5.1: Yes



Title

Summary of dynamic probing log for location DP02

Appendix

C

Summary log for dynamic probing

Dynamic Probing Test Number: DP03

Easting: 470764

Northing: 105909

Ground level (mAOD): -

Date of test: 15/09/2016

Cone type: Fixed

Anvil type: Fixed

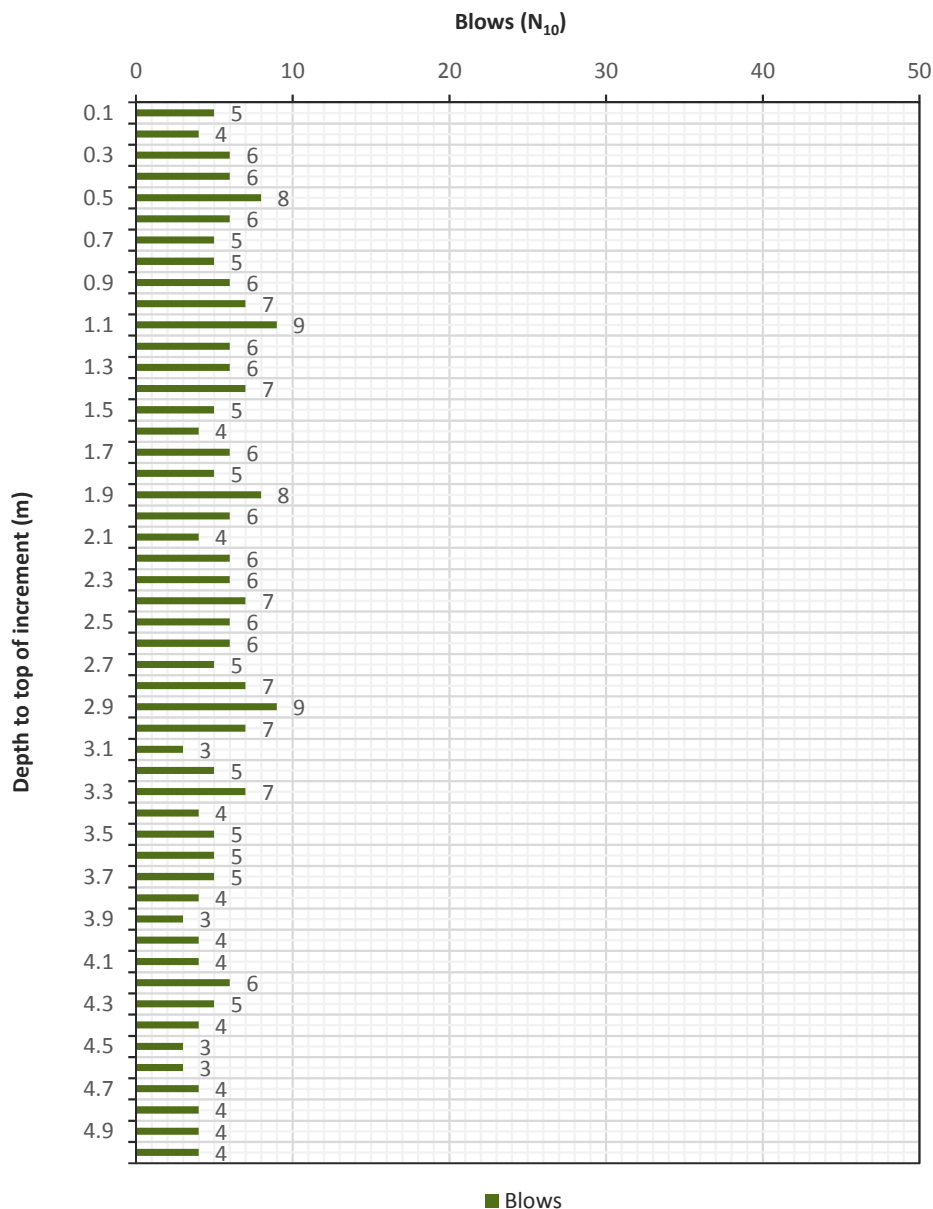
Type of dynamic probing: DPSH-B

Manufacturer: Dando Drilling

Model: Dando Terrier

Model Number: C3003206

Equipment checked and in accordance with EN ISO 22476-2, 5.1: Yes



Title

Summary of dynamic probing log for location DP03

Appendix

C

Summary log for dynamic probing

Dynamic Probing Test Number: DP04

Easting: 470698

Northing: 105942

Ground level (mAOD): -

Date of test: 16/09/2016

Cone type: Fixed

Anvil type: Fixed

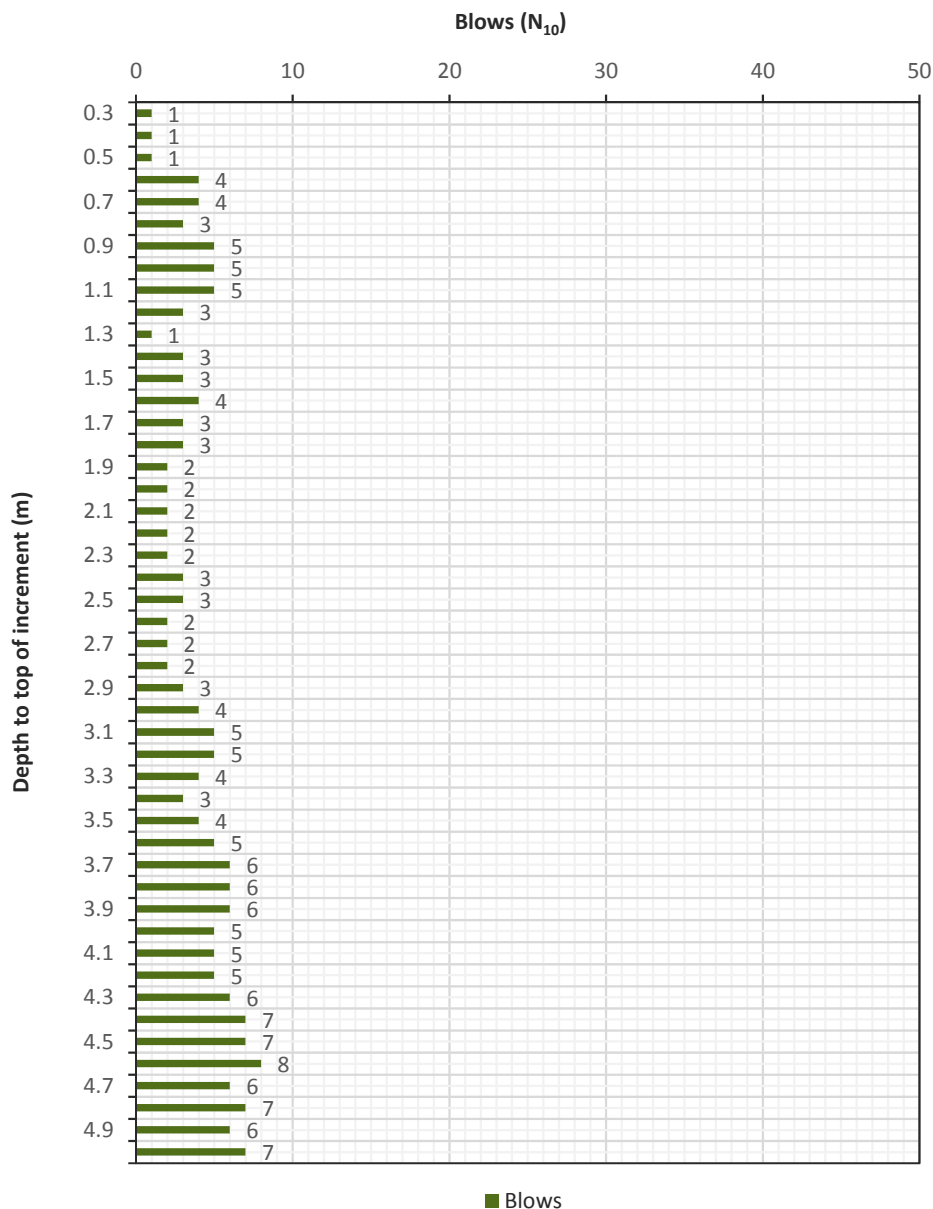
Type of dynamic probing: DPSH-B

Manufacturer: Dando Drilling

Model: Dando Terrier

Model Number: C3003206

Equipment checked and in accordance with EN ISO 22476-2, 5.1: Yes



Title

Summary of dynamic probing log for location DP04

Appendix

C

Summary log for dynamic probing

Dynamic Probing Test Number: DP05

Easting: 470599

Northing: 105917

Ground level (mAOD): -

Date of test: 16/09/2016

Cone type: Fixed

Anvil type: Fixed

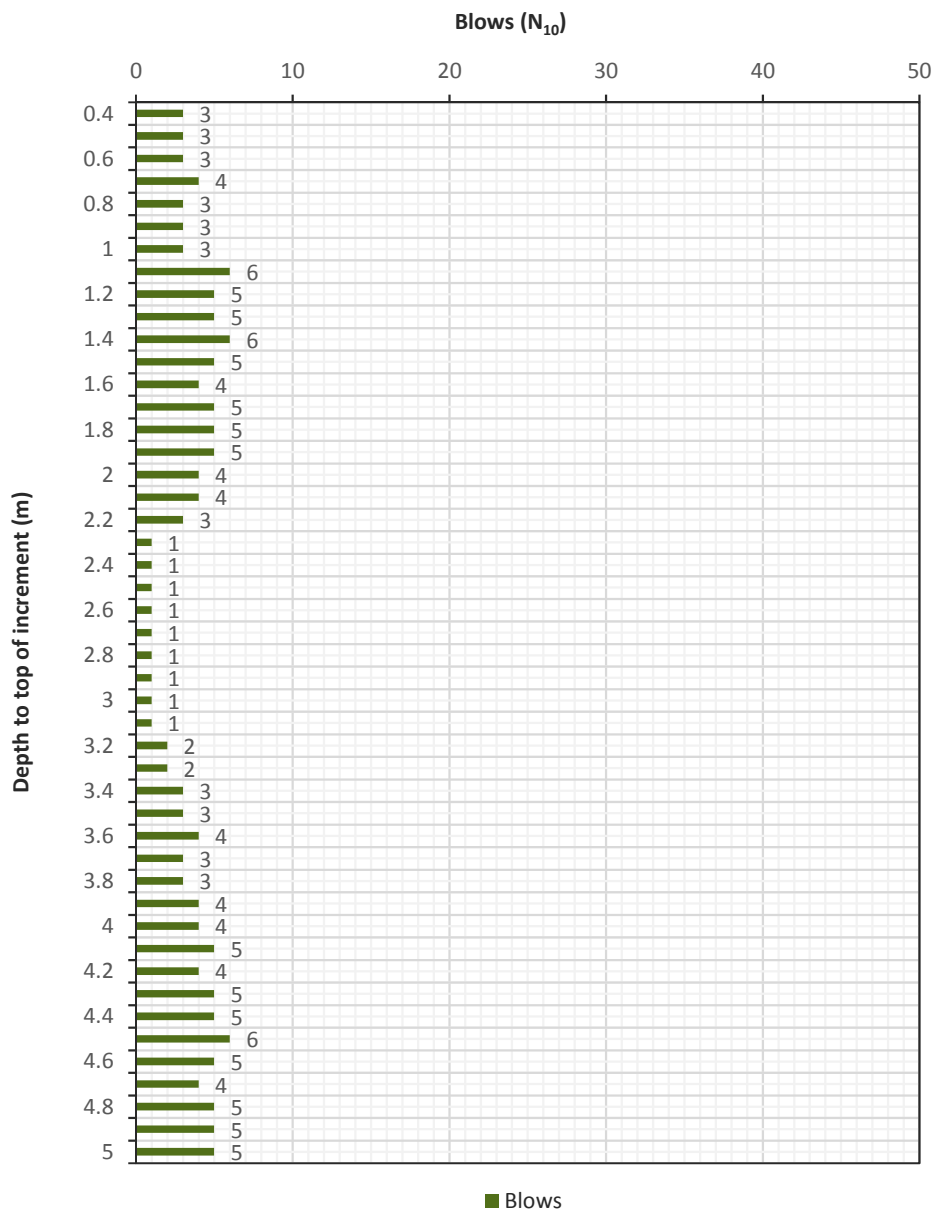
Type of dynamic probing: DPSH-B

Manufacturer: Dando Drilling

Model: Dando Terrier

Model Number: C3003206

Equipment checked and in accordance with EN ISO 22476-2, 5.1: Yes



Title

Summary of dynamic probing log for location DP05

Appendix

C