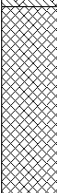


STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto firm brown slightly sandy slightly gravelly CLAY. Gravel of flint, brick, pottery and clinker. (TOPSOIL - MADE GROUND)	0.50								
TRIAL PIT TERMINATED AT 0.50m									

Notes UXO Specialist in attendance. Terminated due to brickwork obstruction at 0.5m depth.	Title Trial pit record	Dimensions (w x l) 0.30m x 0.30m	Date(s) 18/01/2021
	Method Hand tools	Logged by GL	Sheet number Sheet 1 of 1
Groundwater observations	Level (m OD) -	Compiled by GL	Revision
	Co-ordinates -	Checked by KB	CPT04B

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto firm brown slightly sandy slightly gravelly CLAY. Gravel of subangular to angular flint, brick and chalk. (TOPSOIL - MADE GROUND)	0.30						0.40		ES
Firm brown and orangish brown gravelly very sandy CLAY with some cobbles of brick and concrete. Gravel of subangular to angular brick, concrete, flint, clinker, pottery and bituminous coated material. (MADE GROUND)									
Medium dense dark grey gravelly fine to coarse SAND. Gravel of slag, bituminous coated material, flint and brick. (MADE GROUND)	0.95						0.95		D
Firm orangish brown slightly gravelly CLAY. Gravel of subangular to angular flint. (RIVER TERRACE DEPOSITS)	1.00								
TRIAL PIT TERMINATED AT 1.20m	1.20								

Notes UXO Specialist in attendance.	Title Trial pit record	Dimensions (w x l) 0.30m x 0.30m	Date(s) 19/01/2021
	Method Hand tools	Logged by GL	Sheet number Sheet 1 of 1
Groundwater observations	Level (m OD) -	Compiled by GL	Revision
	Co-ordinates -	Checked by KB	CPT04C

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
ASPHALT (MADE GROUND)	0.10								
Medium dense pinkish brown slightly sandy GRAVEL of granite and bituminous coated material. (MADE GROUND)	0.25						0.20		D
Medium dense orangish brown very gravelly clayey fine to coarse SAND. Gravel of granite and flint. (MADE GROUND)	0.35						0.30		D
Firm orangish brown slightly sandy CLAY. (RIVER TERRACE DEPOSITS)					PP 0.50	PP=117	0.50		D
					PP 0.80	PP=113	0.70	1.00	D
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
				</					

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
ASPHALT (MADE GROUND)	0.12						0.15		D
Bluish grey gravelly fine to coarse SAND. Gravel of subangular to angular granite and bituminous coated material. (MADE GROUND)	0.25						0.30		D
Medium dense orangish brown very gravelly clayey fine to coarse SAND. Gravel of granite and flint. (MADE GROUND)	0.40						0.60		D
Firm orangish brown slightly sandy CLAY. (RIVER TERRACE DEPOSITS)	0.70						0.80		D
TRIAL PIT TERMINATED AT 0.85m	0.85								

Notes Trial pit sides remained upright and stable upon completion. UXO Specialist in attendance.	Title Trial pit record	Dimensions (w x l) 0.30m x 0.30m	Date(s) 19/01/2021
	Method Hand tools	Logged by GL	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by GL	Revision
	Co-ordinates -	Checked by KB	CPT06

Key to legends

Composite materials, soils and lithology					
	Topsoil		Made Ground		Boulders
	Clay		Coal		Cobbles
	Gravel		Limestone		Mudstone
	Sand		Sandstone		Silt
					Siltstone
					Peat
					Concrete
					Chalk

Note: Composite soil types are signified by combined symbols.

Key to 'test results' and 'sampling' columns

Test result		Sampling	
Depth	Records depth that the test was carried out (i.e.: at 2.10m or between 2.10m and 2.55m)	From (m) To (m)	Records depth of sampling
Result	PP – Pocket penetrometer result reported as an equivalent undrained shear strength (kN/m ²) by applying a factor of 50.		D Disturbed sample
	SV – Hand held shear vane result reported as an undrained shear strength (kN/m ²). Where multiple readings are taken at the same level the average value is shown on the log. * Signifies that instrument limit reached.		B Bulk disturbed sample
	SPT – Standard Penetration Test result (N value) (uncorrected) ^{1,2,3} SPT(c) – Standard Penetration Test result (solid cone) (N value) (uncorrected) ^{1,2,3}		ES Environmental sample
	UT – Undisturbed sample 100mm diameter sampler with number of blows of driving equipment required to obtain sample	Type	W Water sample
			U Undisturbed thick-walled sample 100mm diameter sampler
			UT Undisturbed thin walled sample 100mm diameter sampler
			UTF Failed undisturbed sample

Note 1: Seating blows recorded in brackets.

Note 2: Casing depth records depth of casing when SPT or SPT(c) was carried out.

Note 3: Water depth records depth of water when SPT or SPT(c) was carried out.

Water observations

Described at foot of log and shown in the 'water strike' column.

-  Water level observed after specified delay in drilling
-  Water strike

Installation details

	Gravel filter		Bentonite
	Slotted pipe		Unslotted pipe
	Arisings		Grout
	Extensometer magnet		Vibrating wire piezometer

Density

Density recorded in brackets determined by qualitative field assessment or inferred from density testing and soil descriptions from across the site (i.e.: [Medium dense]).

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
	ASPHALT (MADE GROUND)	0.10										0.20	0.60	B
	Light grey reinforced CONCRETE with aggregates of flint up to 20mm in size. Reinforcement bar at 0.2m depth. (CONCRETE)	0.30										0.20	0.60	ES
	Dark grey and black very gravelly fine to coarse SAND. Gravel of bituminous coated material, clinker, ash, brick and flint. (MADE GROUND)	0.60								PP 0.80	PP=75	0.80		D
	Firm orangish brown CLAY. (RIVER TERRACE DEPOSITS)					S 1.20 - 1.65	(2) 7			PP 1.20	PP=79	1.20	1.65	B
												1.20	1.65	D
	Firm orangish brown slightly gravelly CLAY. Gravels of subrounded to subangular chalk and flint. (RIVER TERRACE DEPOSITS)	2.00				S 2.00 - 2.45	(2) 8					2.00	2.45	D
											UT=40	3.00	3.45	UT
	Firm orangish brown CLAY. (RIVER TERRACE DEPOSITS)	3.50								PP 3.50	PP=63	3.50		D
	Soft to firm orangish brown slightly gravelly sandy CLAY. Gravel of subangular to angular flint. (RIVER TERRACE DEPOSITS)	3.70				C 4.00 - 4.45	(5) 17	4.00				4.00	4.45	B
												4.50		D
						C 5.00 - 5.45	(5) 13	5.00						
	Excavated as structureless CHALK composed of uncompact light grey and off white silty gravelly CLAY with some cobbles. Gravels and cobbles are weak to moderately weak off white and rounded to subangular. Some subrounded to subangular flint gravels and cobbles. (CHALK - Grade Dm)	5.40				S 6.00 - 6.45	(4) 15	6.50	5.80			6.00		D
												6.50	6.95	B
												6.50	6.95	D
											UT=50	8.00	8.45	B
	Excavated as structureless CHALK composed of clayey GRAVELS with many rounded cobbles. Gravel and cobbles are moderately weak high density off white with black specks and rounded to subrounded. (CHALK - Grade Dc)	8.00				S 8.50 - 8.95	(8) 38	7.50	6.90			8.00	8.45	UT
												8.50	8.95	D

CONTINUED ON NEXT SHEET

Notes	Chiselling details		Drilling details		Title		Date(s)
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		18/01/2021 - 19/01/2021
Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.			150	20.00	Method	Logged by	Sheet number
					Cable tool percussion	GL	Sheet 1 of 3
Groundwater observations	Water added details		Casing details		Level (m OD)	Compiled by	Revision
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	-	GL	
			170	19.00	Co-ordinates	Checked by	BH01
Groundwater strike at 5.4m depth, filling borehole to 4.8m in 20 minutes.					-	KB	

CONTINUED ON NEXT SHEET

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Chiselling details		Drilling details		Title		Date(s)
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		18/01/2021 - 19/01/2021
			150	20.00	Method Cable tool percussion	Logged by GL	Sheet number Sheet 2 of 3
Groundwater observations Groundwater strike at 5.4m depth, filling borehole to 4.8m in 20 minutes.	Water added details		Casing details		Level (m OD)		Compiled by
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	-		GL
			170	19.00	Co-ordinates -	Checked by KB	BH01

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
		20.00				S 17.50 - 17.64	(25/135mm) 50/0mm	19.00	9.00			18.50	19.95	D
						S 19.00 - 19.19	(25/125mm) 50/65mm					19.00		D
												20.00		D
	BOREHOLE TERMINATED AT 20.00m													

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Chiselling details		Drilling details		Title		Date(s)	
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		18/01/2021 - 19/01/2021	
			150	20.00	Method Cable tool percussion	Logged by GL	Sheet number Sheet 3 of 3	
Groundwater observations Groundwater strike at 5.4m depth, filling borehole to 4.8m in 20 minutes.	Water added details		Casing details		Level (m OD)		Compiled by	
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	-		GL	
			170	19.00	Co-ordinates -		Checked by KB	
							BH01	

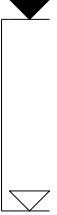
INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
	Grass onto brown CLAY. (TOPSOIL)	0.40												
	Firm brown and dark brown slightly sandy slightly gravelly CLAY. Gravel of brick, flint, wood and ash. (MADE GROUND)	0.90										0.50		D
	Firm brown and orangish brown slightly sandy slightly gravelly CLAY. Gravel of brick, flint, ash and clinker. (MADE GROUND)	1.80				C 1.20 - 1.65	(3) 15	1.20				1.00	1.70	D B
	Firm orangish brown slightly gravelly sandy CLAY with some cobbles of rounded flint. Gravel of subangular to angular flint. (RIVER TERRACE DEPOSITS)	2.00				C 2.00 - 2.45	(6) 34	2.00				1.80	2.50	D B
	Orangish brown gravelly clayey fine to coarse SAND. Gravel of rounded to subangular flint. (RIVER TERRACE DEPOSITS)	2.60												
	Medium dense light greyish brown gravelly fine to coarse SAND with some cobbles of rounded to subrounded flint. Gravel of subrounded to angular flint. (RIVER TERRACE DEPOSITS)	3.40				C 3.00 - 3.45	(1) 33	3.00				3.00	3.40	D B B
	Very soft brown and light grey CLAY with occasional gravel of rounded to subrounded flint. (RIVER TERRACE DEPOSITS)	4.00								PP 4.00	PP=25	4.00		B
	Soft to firm grey CLAY with occasional gravel of rounded to subangular flint. (RIVER TERRACE DEPOSITS)									PP 4.50	UT=87	4.00	4.45	UT
	...at 4.5m depth, gravels of rounded chalk present.										PP=71	4.50		D
	...from 4.8m depth, becoming slightly gravelly and light grey and orangish brown in colour.											4.80		D
	Excavated as structureless CHALK composed of sandy GRAVEL with many rounded cobbles. Gravel is moderately weak high density off white and light grey. Matrix is uncompact light grey. Flint gravels and cobbles present. (CHALK - Grade Dc)	5.00				S 5.00 - 5.45	(15) 40	5.00				5.00		D
											UT=80	6.00	6.45	D
												6.00		UT
												6.50		D
	...from 6.5m depth, becoming chalk gravels and cobbles becoming moderately weak.													
						S 7.50 - 7.95	(18) 37	7.50	7.00			7.50		D

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Notes	Chiselling details		Drilling details		Title		Date(s)	
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		19/01/2021 - 20/01/2021	
Inspection pit excavated to 1.2m depth. UXO Specialist in attendance. Terminated due to the density of chalk.			150	9.40	Method	Logged by	Sheet number	
					Cable tool percussion	GL	Sheet 1 of 2	
Groundwater observations	Water added details		Casing details		Level (m OD)		Compiled by	
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	-		GL	
	1.80 - 3.40	180	170	9.00	Co-ordinates		Checked by	
Groundwater strike at 5.5m depth, filling borehole to 4.7m in 20 minutes.					-		KB	
							BH02	

INSTALL	STRATA			WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING			
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)		LEGEND	TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
						S 9.00 - 9.33	(20) 50/180mm	9.00	8.10			9.00		D
	BOREHOLE TERMINATED AT 9.40m	9.40				S 9.40 - 9.43	(50/25mm) 50/0mm	9.35				9.35		D

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance. Terminated due to the density of chalk.	Chiselling details		Drilling details		Title Borehole record		Date(s) 19/01/2021 - 20/01/2021
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Method Cable tool percussion	Logged by GL	Sheet number Sheet 2 of 2
	9.35 - 9.40	00:30	150	9.40			
Groundwater observations Groundwater strike at 5.5m depth, filling borehole to 4.7m in 20 minutes.	Water added details		Casing details		Level (m OD) -	Compiled by GL	Revision
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	Co-ordinates -	Checked by KB	BH02
			170	9.00			

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
	ASPHALT (MADE GROUND)	0.10												
	Medium dense pinkish brown slightly sandy GRAVEL of granite and bituminous coated material. (MADE GROUND)	0.25										0.40	0.80	B
	Medium dense orangish brown very gravelly clayey fine to coarse SAND. Gravel of granite and flint. (MADE GROUND)	0.35										1.00		D
	Firm orangish brown slightly sandy CLAY. (RIVER TERRACE DEPOSITS)					S 1.50 - 1.95	(3) 11			PP 1.50	PP=58	1.50	1.95	D
														
						S 2.50 - 2.95	(4) 14			PP 2.50	PP=63	2.50	2.95	D
														
	Light greyish brown gravelly clayey fine to coarse SAND. Gravel of subangular to rounded flint. (RIVER TERRACE DEPOSITS)	3.00										3.00		D
	Very soft to soft brown and light grey gravelly CLAY. Gravel of fine to coarse subangular to rounded flint. (RIVER TERRACE DEPOSITS)	3.50				C 3.50 - 3.95	(5) 19	3.00		PP 3.50	PP=25	3.50	3.95	B
	Medium dense light greyish brown clayey SAND and GRAVEL. Gravel of subangular to rounded flint. (RIVER TERRACE DEPOSITS)	3.90										4.00		D
						C 4.50 - 4.95	(7) 20	4.00				4.50	4.95	B
														
	Soft to firm brown sandy CLAY. (RIVER TERRACE DEPOSITS)	4.90								PP 5.00	PP=46	5.00		D
											UT=55	5.50	5.95	UT
	...from 6m depth, becoming slightly gravelly with gravels of chalk.									PP 6.00	PP=75	6.00		D
														
	Excavated as structureless CHALK composed of light grey and brown gravelly CLAY. Gravels are very weak off white and subangular to rounded. (CHALK - Grade Dm)	7.00				S 7.00 - 7.45	(9) 20	6.00				7.00	7.45	D
	Excavated as structureless CHALK composed of clayey GRAVEL with many subrounded to rounded cobbles. Gravels and cobbles are moderately weak high density off white and subrounded to rounded. Occasional subangular flint gravels present. (CHALK - Grade Dc)	7.45									UT=65	8.50	8.95	B
												8.50	8.95	UT

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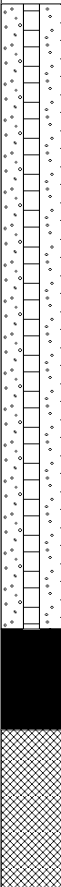
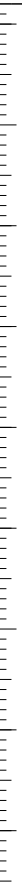
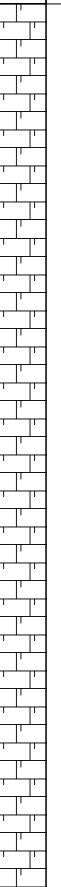
Notes	Chiselling details		Drilling details		Title		Date(s)
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		21/01/2021
Groundwater observations Groundwater strike at 8.5m depth, filling borehole to 6.6m in 20 minutes.			150	15.00	Method Cable tool percussion	Logged by GL	Sheet number Sheet 1 of 2
					Level (m OD)	Compiled by GL	Revision
			170	14.50	Co-ordinates	Checked by KB	BH03

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
		</												

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Chiselling details		Drilling details		Title Borehole record		Date(s) 21/01/2021
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Method Cable tool percussion	Logged by GL	Sheet number Sheet 2 of 2
			150	15.00			
Groundwater observations Groundwater strike at 8.5m depth, filling borehole to 6.6m in 20 minutes.	Water added details		Casing details		Level (m OD) -	Compiled by GL	Revision
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	Co-ordinates -	Checked by KB	BH03
			170	14.50			

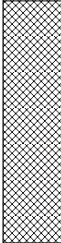
INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
	ASPHALT	0.10				S 1.50 - 1.95	(2) 9			PP 0.40	PP=58	0.40	0.80	B
	(MADE GROUND)	0.30												
	[Hardcore] Drillers logs													
	(MADE GROUND)													
	Firm orangish brown slightly sandy slightly gravelly CLAY. Gravel of subrounded to aubangular flint. (RIVER TERRACE DEPOSITS)													
	Medium dense pale orangish brown gravelly fine to coarse SAND with some cobbles of flint. Gravel of subrounded to subangular flint. (RIVER TERRACE DEPOSITS)	2.10												
	Firm orangish brown sandy CLAY. (RIVER TERRACE DEPOSITS)	5.00												
	Firm orangish brown slightly gravelly sandy CLAY with some cobbles of flint and chalk. Gravel of subangular to subrounded flint and chalk. (RIVER TERRACE DEPOSITS)	5.50												
	...from 5.5m depth, becoming slightly gravelly with some cobbles. Gravels and cobbles of subangular to subrounded flint and chalk.													
	Excavated as structureless CHALK composed of silty clayey GRAVEL with frequent cobbles. Gravel and cobbles are moderately strong high density off white and rounded to subangular. Gravels and some cobbles of subrounded to subangular flint present. (CHALK - Grade Dc)	6.40												
									UT=100	6.50		D		
											7.00	7.45	UT	
											7.50		D	
						S 8.50 - 8.95	(11) 49	8.50	6.10			8.50	8.95	D

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Chiselling details		Drilling details		Title		Date(s)
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		19/01/2021 - 21/01/2021
			150	20.00	Method Cable tool percussion	Logged by GL	Sheet number Sheet 1 of 3
Groundwater observations Groundwater strike at 8m depth, filling borehole to 6.1m in 20 minutes.	Water added details		Casing details		Level (m OD)		Revision
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	-		GL
			170	19.00	Co-ordinates -	Checked by KB	BH04

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING				
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE		
						S 10.00 - 10.45	(9) 39	9.50	6.60	UT=100		9.50		D		
														10.00	10.95	D
														11.00		D
														11.50	11.95	UT
														12.00		D
						S 13.00 - 13.45	(11) 56	12.00	12.70	UT=100		13.00	13.45	D		
														14.00		D
														14.50	14.95	UT
														15.00		D
						S 16.00 - 16.45	(11) 42	16.00	10.90					16.00	16.45	D
														17.00		D
								17.00	11.60					17.50	17.95	D

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Notes	Chiselling details		Drilling details		Title		Date(s)
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		19/01/2021 - 21/01/2021
Groundwater observations Groundwater strike at 8m depth, filling borehole to 6.1m in 20 minutes.			150	20.00	Method	Logged by	Sheet number
					Cable tool percussion	GL	Sheet 2 of 3
					Level (m OD)	Compiled by	Revision
					-	GL	
			170	19.00	Co-ordinates	Checked by	BH04
					-	KB	

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
														

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Chiselling details		Drilling details		Title		Date(s)	
	Depth (m)	Duration (hh:mm)	Diameter	Base depth (m)	Borehole record		19/01/2021 - 21/01/2021	
			150	20.00	Method Cable tool percussion	Logged by GL	Sheet number Sheet 3 of 3	
Groundwater observations Groundwater strike at 8m depth, filling borehole to 6.1m in 20 minutes.	Water added details		Casing details		Level (m OD)		Compiled by	
	Depth (m)	Water Added (l)	Diameter	Base depth (m)	-		GL	
			170	19.00	Co-ordinates -		Checked by KB	
							BH04	

Key to legends

Composite materials, soils and lithology					
	Topsoil		Made Ground		Boulders
	Clay		Coal		Cobbles
	Gravel		Limestone		Mudstone
	Sand		Sandstone		Silt
					Siltstone
					Chalk
					Concrete
					Peat

Note: Composite soil types are signified by combined symbols.

Key to 'test results' and 'sampling' columns

Test result		Sampling	
Depth	Records depth that the test was carried out (i.e.: at 2.10m or between 2.10m and 2.55m)	From (m) To (m)	Records depth of sampling
Result	PP – Pocket penetrometer result reported as an equivalent undrained shear strength (kN/m ²) by applying a factor of 50.		D Disturbed sample
	SV – Hand held shear vane result reported as an undrained shear strength (kN/m ²). Where multiple readings are taken at the same level the average value is shown on the log. * Signifies that instrument limit reached.		B Bulk disturbed sample
			ES Environmental sample
		Type	W Water sample
	SPT – Standard Penetration Test result (N value) (uncorrected) ^{1,2,3} SPT(c) – Standard Penetration Test result (solid cone) (N value) (uncorrected) ^{1,2,3}		U Undisturbed thick-walled sample 100mm diameter sampler
	UT – Undisturbed sample 100mm diameter sampler with number of blows of driving equipment required to obtain sample		UT Undisturbed thin walled sample 100mm diameter sampler
			UTF Failed undisturbed sample

Water observations

Described at foot of log and shown in the 'water strike' column.

-  Water level observed after specified delay in drilling
-  Water strike

Installation details

	Gravel filter		Bentonite
	Slotted pipe		Unslotted pipe
	Arisings		Grout
	Extensometer magnet		Vibrating wire piezometer

Density

Density recorded in brackets determined by qualitative field assessment or inferred from density testing and soil descriptions from across the site (i.e.: [Medium dense]).

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
	Grass onto brown slightly sandy CLAY with occasional gravel of brick and flint. (TOPSOIL)	0.20										0.30		ES
	Firm brown and orangish brown slightly sandy CLAY. (RIVER TERRACE DEPOSITS)											1.00		ES
	Orangish brown slightly gravelly fine to coarse SAND. Gravel of subangular flint. (RIVER TERRACE DEPOSITS)	1.50												
	Medium dense to dense pale orangish brown becoming light grey fine to coarse SAND. (RIVER TERRACE DEPOSITS)	2.00				C 2.00 - 2.45	(8) 22	1.00				2.50	4.50	B
	...from 3m depth, becoming slightly gravelly with gravels of subangular flint.					C 3.00 - 3.45	(12) 34	1.00						
	...from 5.5m depth, becoming very gravelly.											5.70		D
	BOREHOLE TERMINATED AT 6.00m	6.00												

Notes Inspection pit excavated to 1.2m depth. Borehole collapsed to 5.5m depth upon completion. UXO Specialist in attendance.	Title			Date(s)	
	Dynamic windowless sampling record			20/01/2021	
	Recovery details		Method	Logged by	Sheet number
	Range (m)	Recovery (%)	Dynamic sampler	GL	Sheet 1 of 1
	0.00 - 6.00	100	Level (m OD)	Compiled by	Revision
Groundwater observations No groundwater encountered.			-	GL	
			Co-ordinates	Checked by	WS201
			-	KB	

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Title Dynamic windowless sampling record			Date(s) 20/01/2021
	Recovery details		Method Dynamic sampler	Logged by GL
	Range (m) 0.00 - 2.00 2.00 - 3.00 3.00 - 6.00	Recovery (%) 100 80 100	Level (m OD) - - -	Compiled by GL
Groundwater observations No groundwater encountered.	Co-ordinates -			Checked by KB
Revision Sheet 1 of 1				
WS202				

INSTALL	STRATA				WATER STRIKES	SPT TESTING				OTHER IN SITU TESTING		SAMPLING		
	DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	CASING DEPTH (m)	WATER LEVEL (m)	TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
	ASPHALT (MADE GROUND)	0.10												
	Light grey unreinforced CONCRETE with aggregates of flint up to 30mm in size. (CONCRETE)	0.25										0.30		ES
	Reddish grey brown very gravelly fine to coarse SAND with frequent cobbles of brick and concrete. Gravel of brick, concrete and flint. (MADE GROUND)	0.55										0.60		ES
	Dark grey SAND and GRAVEL. Gravel of bituminous coated material, clinker, ash, brick and flint. (MADE GROUND)	0.80										0.90	1.10	D
	Firm orangish brown slightly sandy slightly gravelly CLAY. Gravel of subangular to angular flint. (RIVER TERRACE DEPOSITS)	1.55								PP 1.20	PP=75	1.60		D
	Orangish brown slightly gravelly slightly clayey fine to coarse SAND. Gravel of subangular flint. (RIVER TERRACE DEPOSITS)	1.90										2.10		D
	Firm orangish brown slightly gravelly sandy CLAY. Gravel of subangular to angular flint. (RIVER TERRACE DEPOSITS)	2.50										2.50	3.00	D
	Very dense pale grey fine to medium SAND with occasional gravel of subangular flint. (RIVER TERRACE DEPOSITS)	3.00												
	BOREHOLE TERMINATED AT 3.00m													
						C 3.00 - 3.31	(23) 50/160mm							

Notes Inspection pit excavated to 1.2m depth. UXO Specialist in attendance.	Title Dynamic windowless sampling record			Date(s) 20/01/2021	
	Recovery details		Method Dynamic sampler	Logged by GL	Sheet number Sheet 1 of 1
	Range (m) 0.00 - 3.00	Recovery (%) 100			
			Level (m OD) -	Compiled by GL	Revision -
Groundwater observations No groundwater encountered.			Co-ordinates -	Checked by KB	WS203



TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 18/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

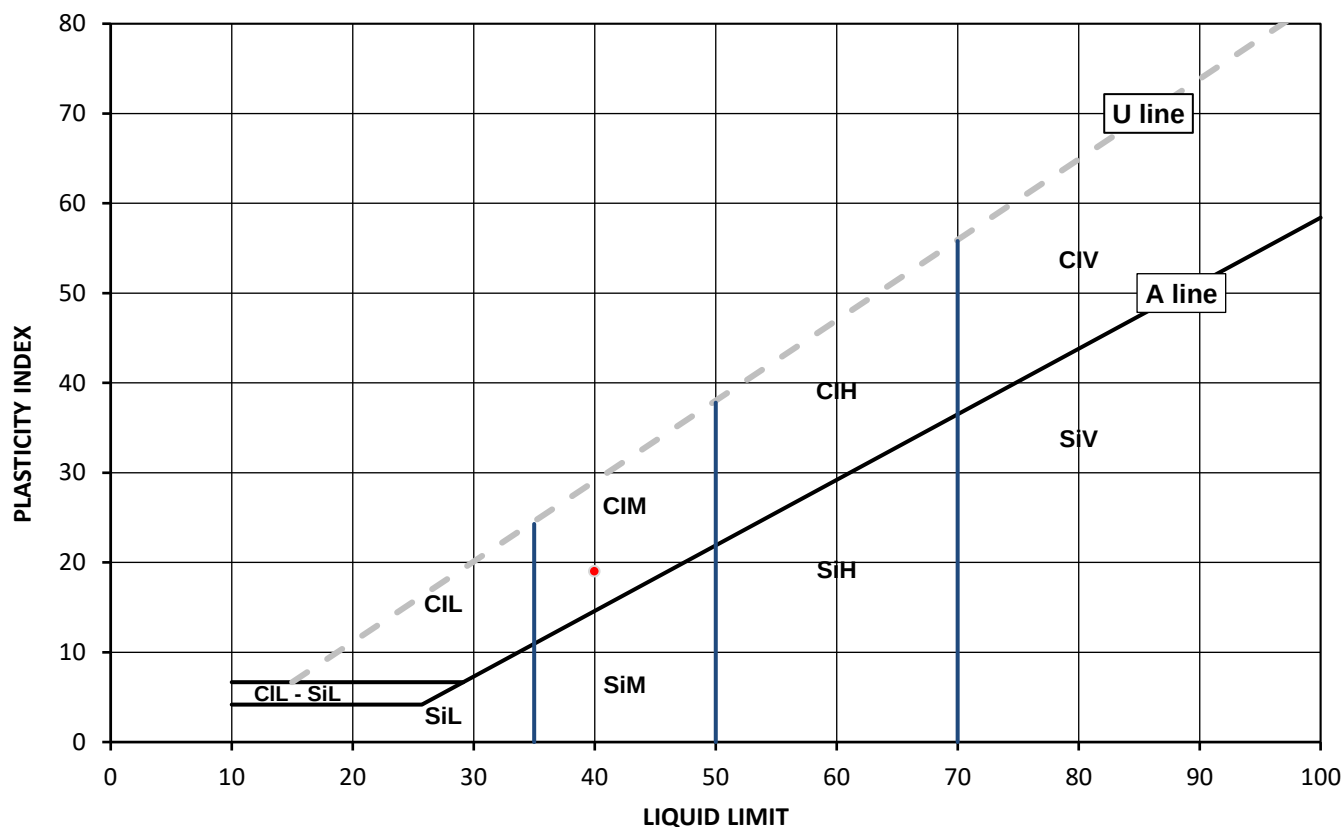
Test Results:

Laboratory Reference: 1760775
Hole No.: BH01
Sample Reference: 5 BHBH011.205
Soil Description: Brown slightly gravelly sandy CLAY

Depth Top [m]: 1.20
Depth Base [m]: 1.65
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
26	40	21	19	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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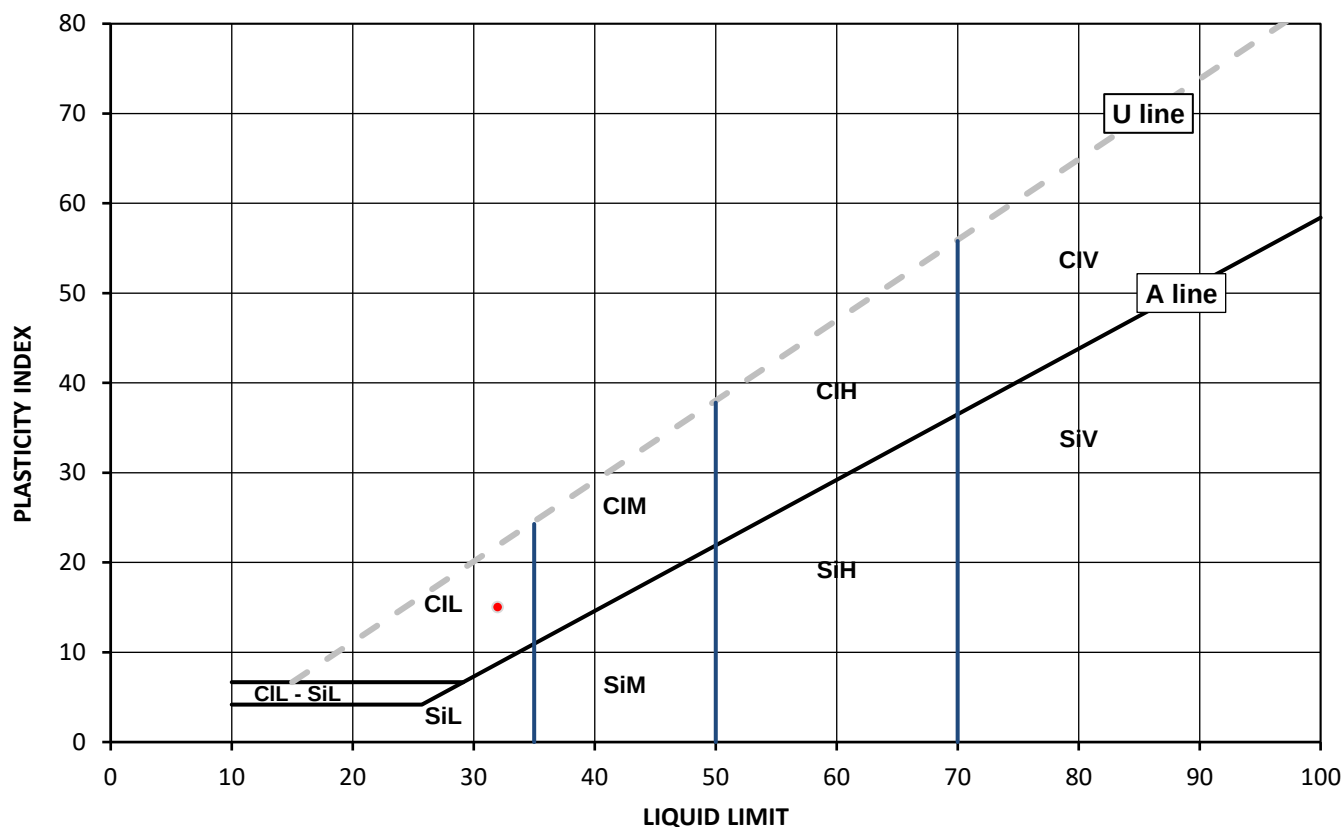
Test Results:

Laboratory Reference: 1760776
Hole No.: BH01
Sample Reference: 7 BH013.007
Soil Description: Light brown very sandy CLAY

Depth Top [m]: 3.00
Depth Base [m]: 3.45
Sample Type: UT

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
23	32	17	15	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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Date Reported: 02/03/2021

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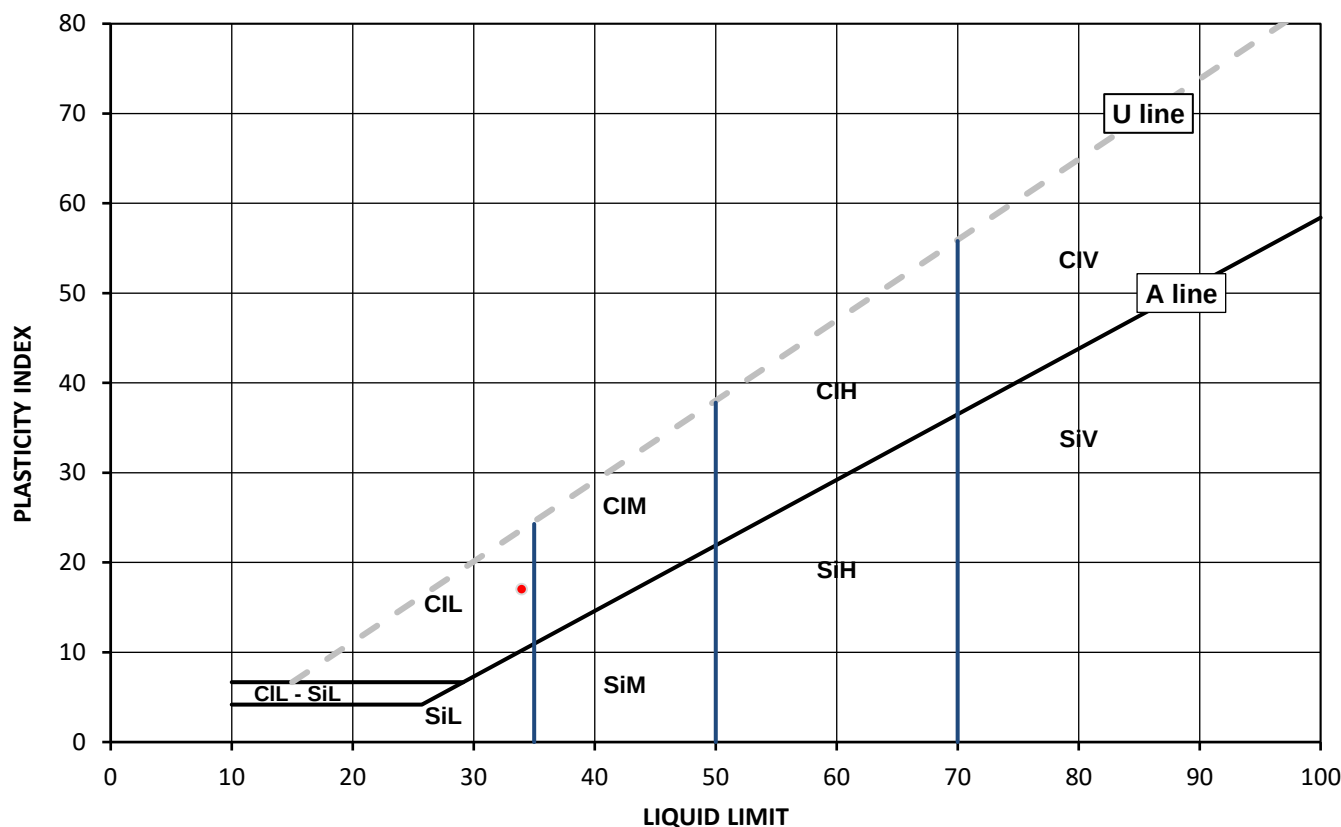
Test Results:

Laboratory Reference: 1760779
Hole No.: BH02
Sample Reference: 10 BH024.0010
Soil Description: Grey slightly gravelly very sandy CLAY

Depth Top [m]: 4.00
Depth Base [m]: 4.45
Sample Type: UT

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	34	17	17	89



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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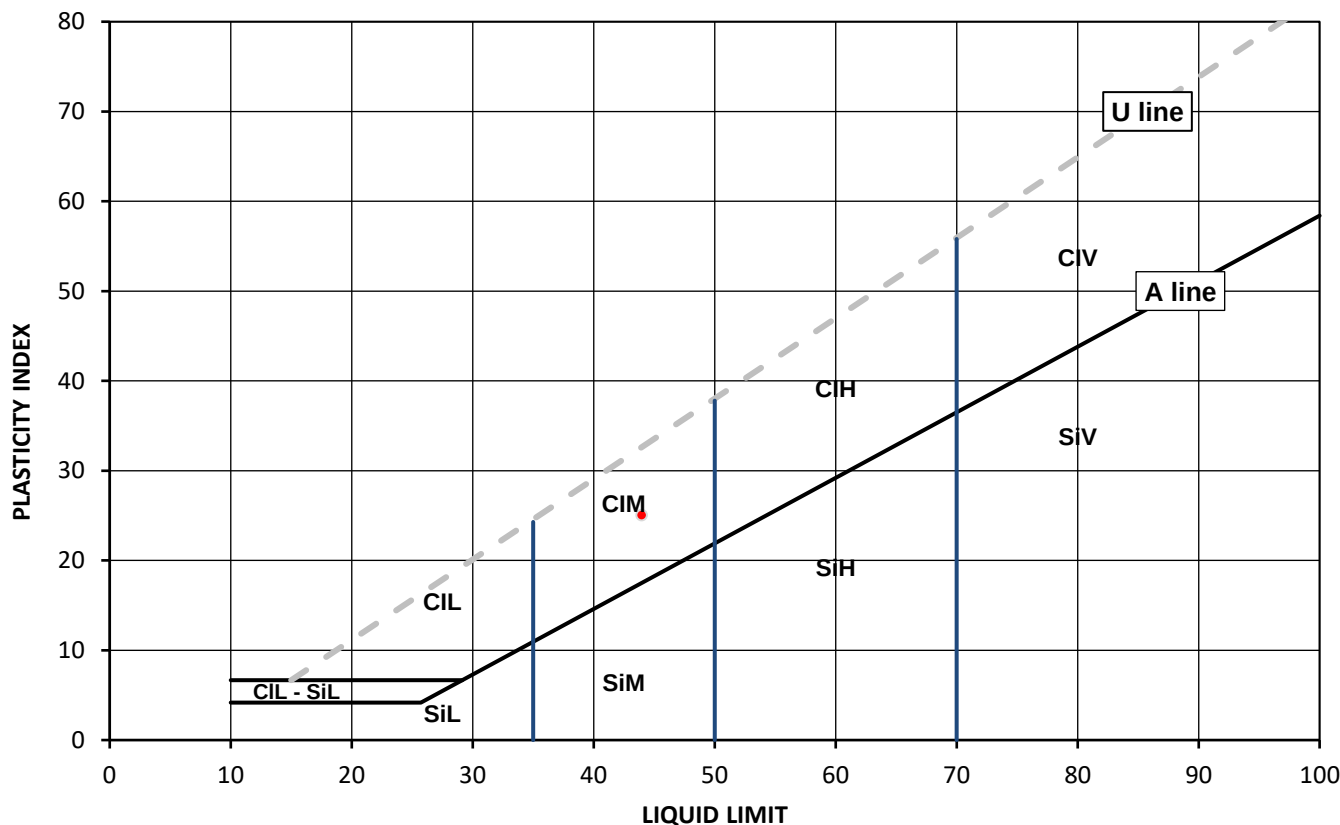
Test Results:

Laboratory Reference: 1760781
Hole No.: BH03
Sample Reference: 2 BH031.002
Soil Description: Brown slightly gravelly sandy CLAY

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	44	19	25	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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Sampled By: Client

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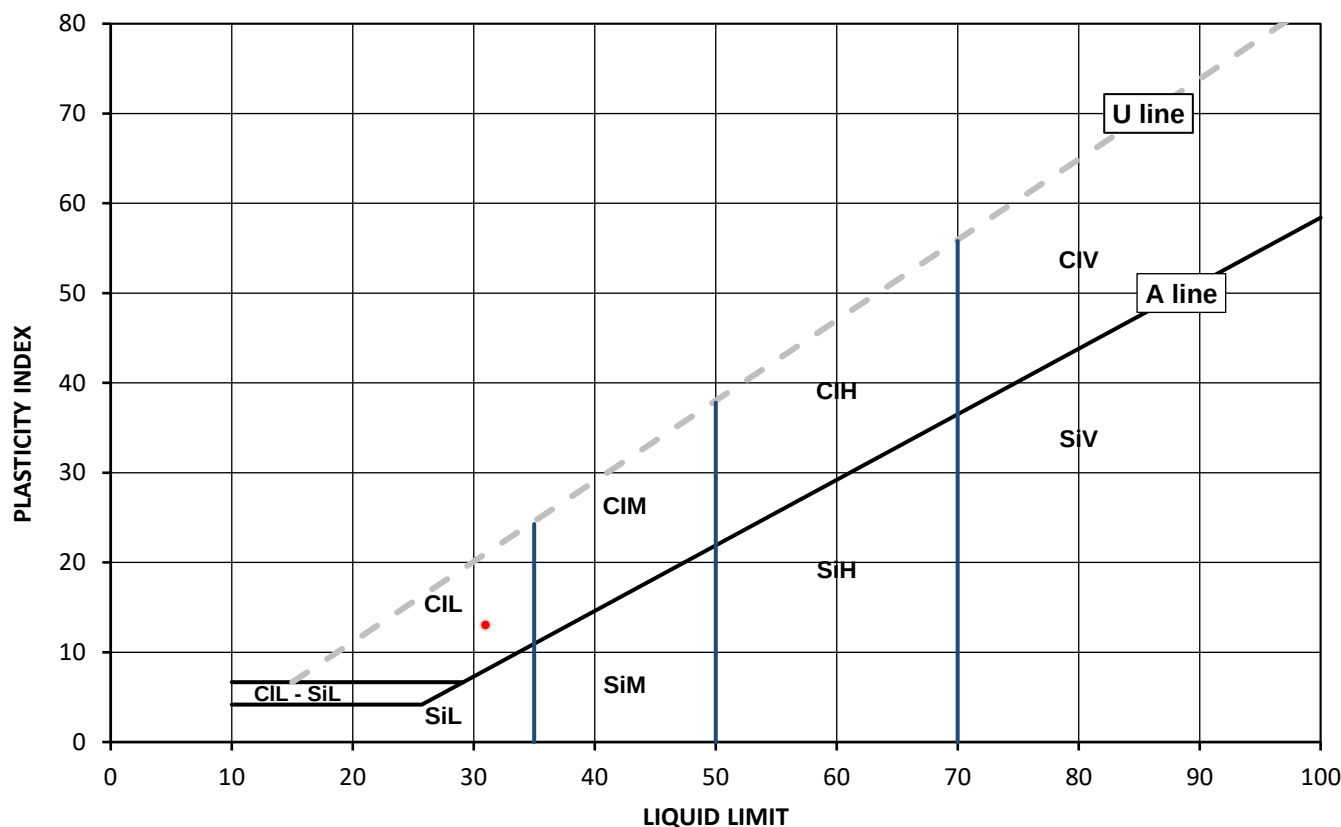
Test Results:

Laboratory Reference: 1760783
Hole No.: BH03
Sample Reference: 10 BH035.5010
Soil Description: Light brown slightly gravelly very sandy CLAY

Depth Top [m]: 5.50
Depth Base [m]: 5.95
Sample Type: UT

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425um BS Test Sieve
18	31	18	13	92



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Clay	Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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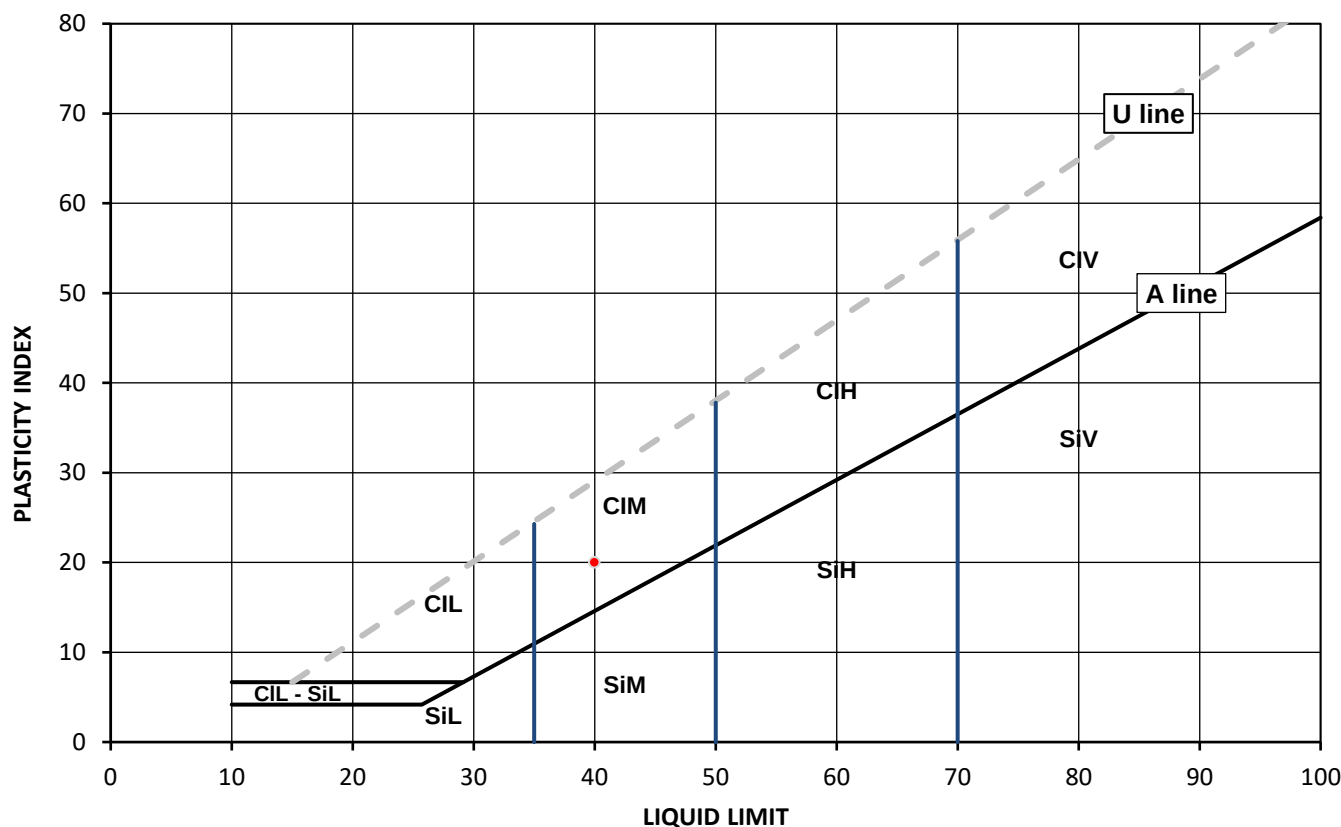
Test Results:

Laboratory Reference: 1760785
Hole No.: BH04
Sample Reference: 2 BH041.002
Soil Description: Brown slightly gravelly sandy CLAY

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	40	20	20	96



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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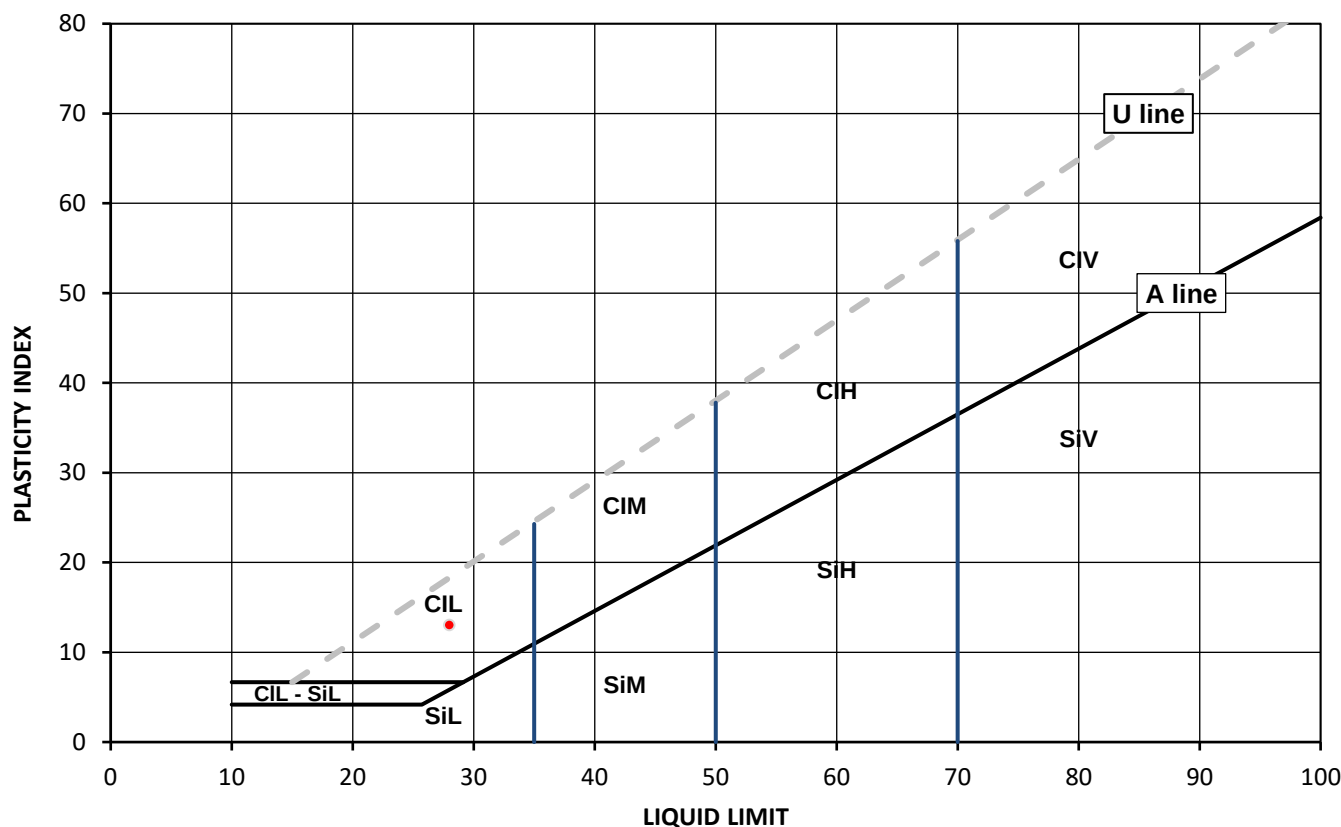
Test Results:

Laboratory Reference: 1760787
Hole No.: BH04
Sample Reference: 11 BH045.5011
Soil Description: Brown slightly gravelly very sandy CLAY

Depth Top [m]: 5.50
Depth Base [m]: 5.95
Sample Type: B

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	28	15	13	92



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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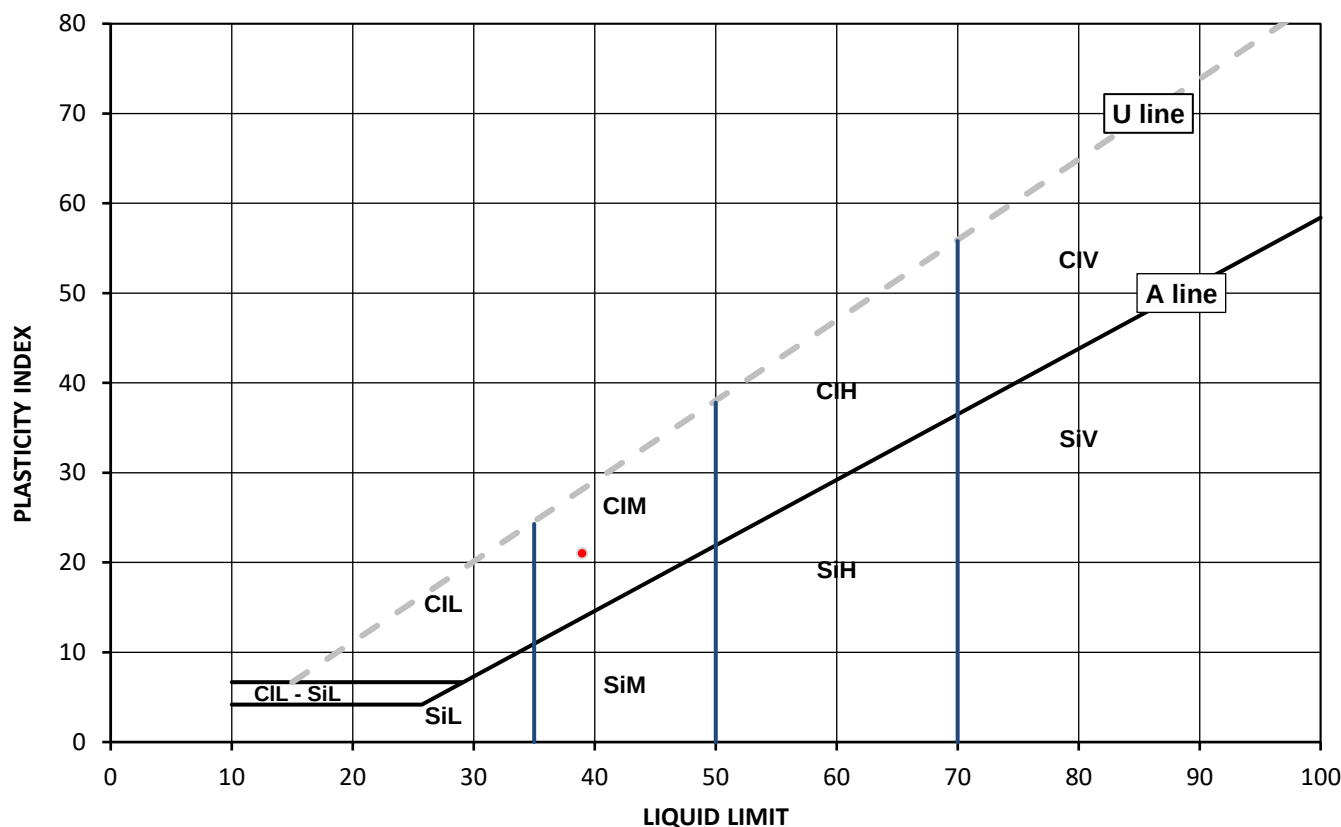
Test Results:

Laboratory Reference: 1760791
Hole No.: TP201
Sample Reference: 4 TP2011.004
Soil Description: Brown slightly gravelly sandy CLAY

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	39	18	21	82



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

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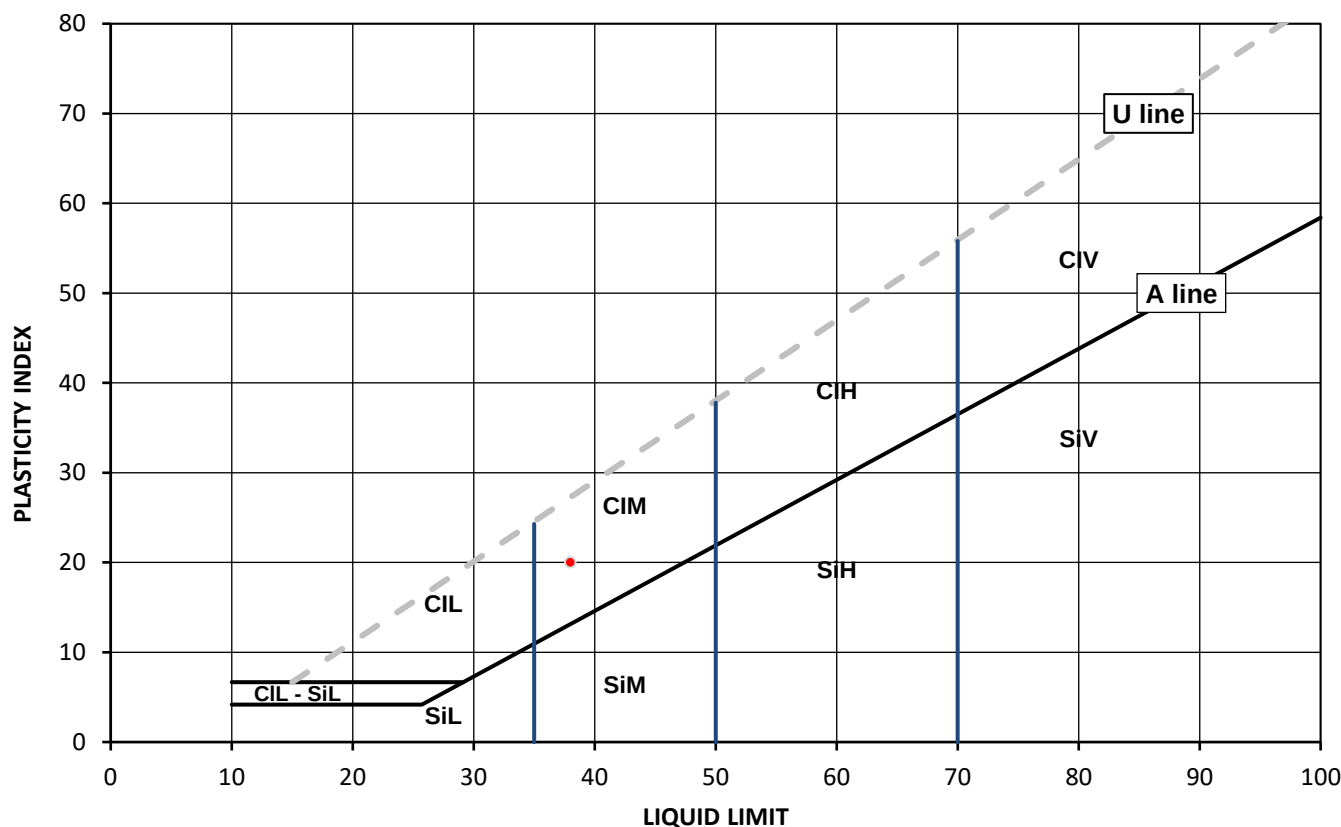
Test Results:

Laboratory Reference: 1760793
Hole No.: TP202
Sample Reference: 3 TP2021.203
Soil Description: Brown slightly gravelly sandy CLAY

Depth Top [m]: 1.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425um BS Test Sieve
21	38	18	20	95



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 20/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

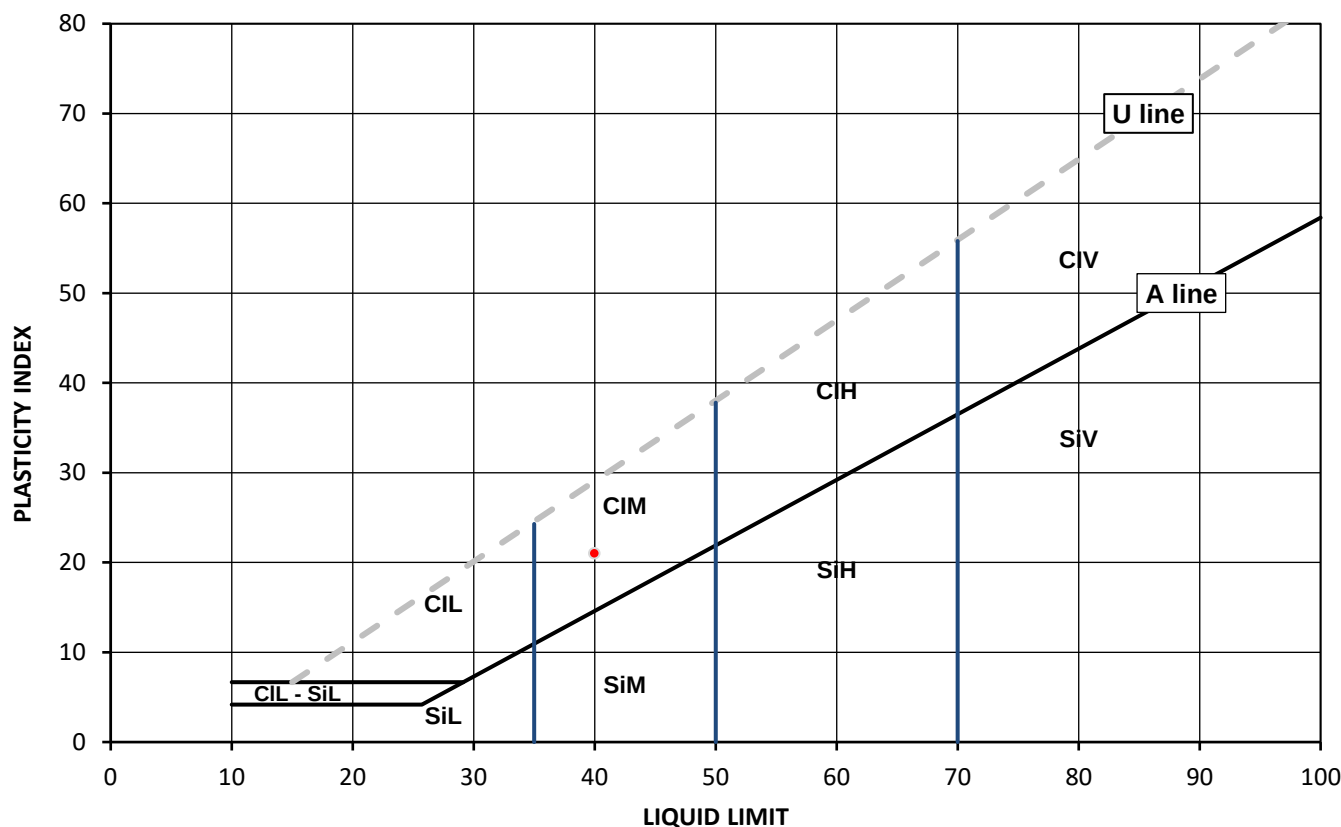
Test Results:

Laboratory Reference: 1760796
Hole No.: WS202
Sample Reference: 1 WS2021.201
Soil Description: Brown sandy CLAY

Depth Top [m]: 1.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	40	19	21	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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4041

Client: Soiltechnics Limited
 Client Address: Cedar Barn, White Lodge,
 Walgrave, Northampton,
 NN6 9PY
 Contact: Alexa Band
 Site Address: Barrington Road, Worthing

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

Summary of Classification Test Results

Tested in Accordance with:

Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN
 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test),
 Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB



Environmental Science

Client Reference: STS5226
 Job Number: 21-55137
 Date Sampled: 18/01 - 21/01/2021
 Date Received: 02/02/2021
 Date Tested: 16/02/2021
 Sampled By: Client

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Moisture Content [W]	Water Content [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
1760775	BH01	5 BHBH011.205	1.20	1.65	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	26		99	40	21	19						
1760776	BH01	7 BH013.007	3.00	3.45	UT	Light brown very sandy CLAY	Atterberg 1 Point	23		100	32	17	15						
1760779	BH02	10 BH024.0010	4.00	4.45	UT	Grey slightly gravelly very sandy CLAY	Atterberg 1 Point	18		89	34	17	17						
1760781	BH03	2 BH031.002	1.00	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	20		98	44	19	25						
1760783	BH03	10 BH035.5010	5.50	5.95	UT	Light brown slightly gravelly very sandy CLAY	Atterberg 1 Point	18		92	31	18	13						
1760785	BH04	2 BH041.002	1.00	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	21		96	40	20	20						
1760787	BH04	11 BH045.5011	5.50	5.95	B	Brown slightly gravelly very sandy CLAY	Atterberg 1 Point	16		92	28	15	13						
1760791	TP201	4 TP2011.004	1.00	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	20		82	39	18	21						
1760793	TP202	3 TP2021.203	1.20	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	21		95	38	18	20						
1760796	WS202	1 WS2021.201	1.20	Not Given	D	Brown sandy CLAY	Atterberg 1 Point	22		100	40	19	21						

Note: # Non accredited; NP - Non plastic

Comments: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
 PL Deputy Head of Geotechnical Section
 for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Particle Size Distribution

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

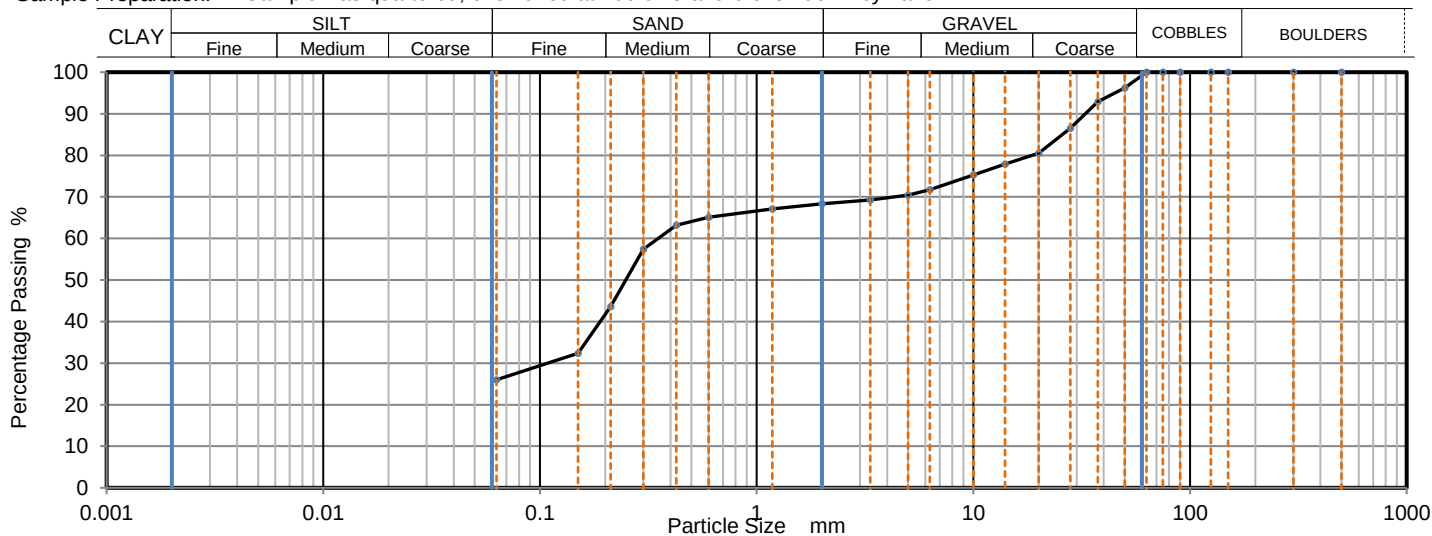
Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 19/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 1760778
Hole No.: BH02
Sample Reference: 5 BH022.005
Sample Description: Brown very clayey very gravelly SAND
Sample Preparation: Sample was quartered, oven dried at 106.6 °C and broken down by hand.

Depth Top [m]: 2.00
Depth Base [m]: 2.50
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	96		
37.5	93		
28	87		
20	81		
14	78		
10	75		
6.3	72		
5	70		
3.35	69		
2	68		
1.18	67		
0.6	65		
0.425	63		
0.3	57		
0.212	44		
0.15	32		
0.063	27		

Sample Proportions	% dry mass
Very coarse	0
Gravel	32
Sand	41
Fines <0.063mm	27

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 5.6
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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TEST CERTIFICATE

Particle Size Distribution

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 21/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 1760782

Hole No.: BH03

Sample Reference: 6 BH033.506

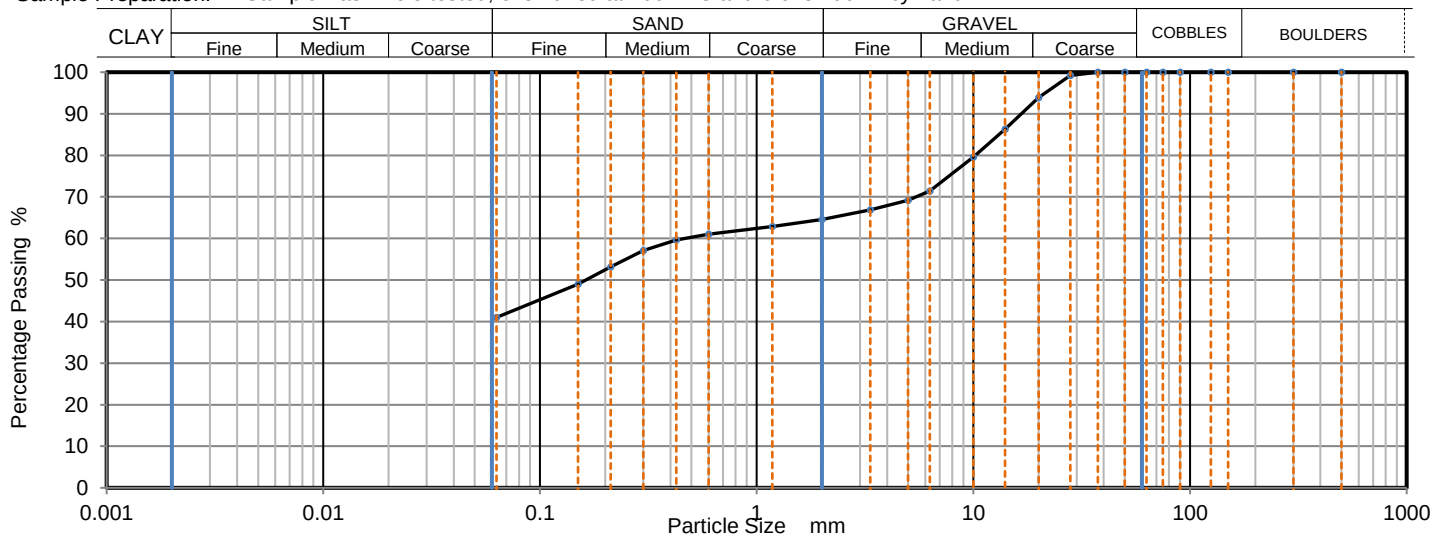
Sample Description: Dark brown sandy very gravelly CLAY

Sample Preparation: Sample was whole tested, oven dried at 106.4 °C and broken down by hand.

Depth Top [m]: 3.50

Depth Base [m]: 3.95

Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	99		
20	94		
14	86		
10	80		
6.3	71		
5	69		
3.35	67		
2	65		
1.18	63		
0.6	61		
0.425	60		
0.3	57		
0.212	53		
0.15	49		
0.063	42		

Sample Proportions	% dry mass
Very coarse	0
Gravel	35
Sand	23
Fines <0.063mm	42

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 7.4
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

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for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

Particle Size Distribution

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

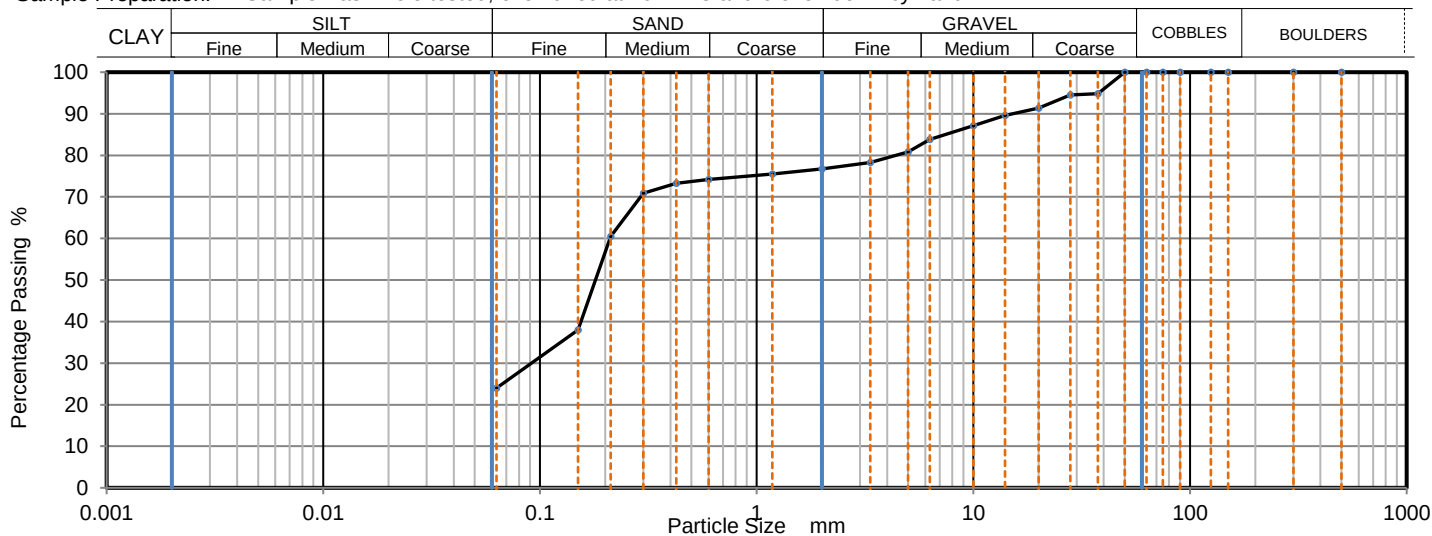
Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 19/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 1760786
Hole No.: BH04
Sample Reference: 5 BH042.505
Sample Description: Brown gravelly clayey SAND
Sample Preparation: Sample was whole tested, oven dried at 107.4 °C and broken down by hand.

Depth Top [m]: 2.50
Depth Base [m]: 2.95
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	95		
28	95		
20	91		
14	90		
10	87		
6.3	84		
5	81		
3.35	78		
2	77		
1.18	76		
0.6	74		
0.425	73		
0.3	71		
0.212	61		
0.15	38		
0.063	25		

Sample Proportions	% dry mass
Very coarse	0
Gravel	23
Sand	52
Fines <0.063mm	25

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 3.3
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

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Particle Size Distribution

i2 Analytical Ltd
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Brackmills Industrial Estate
Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

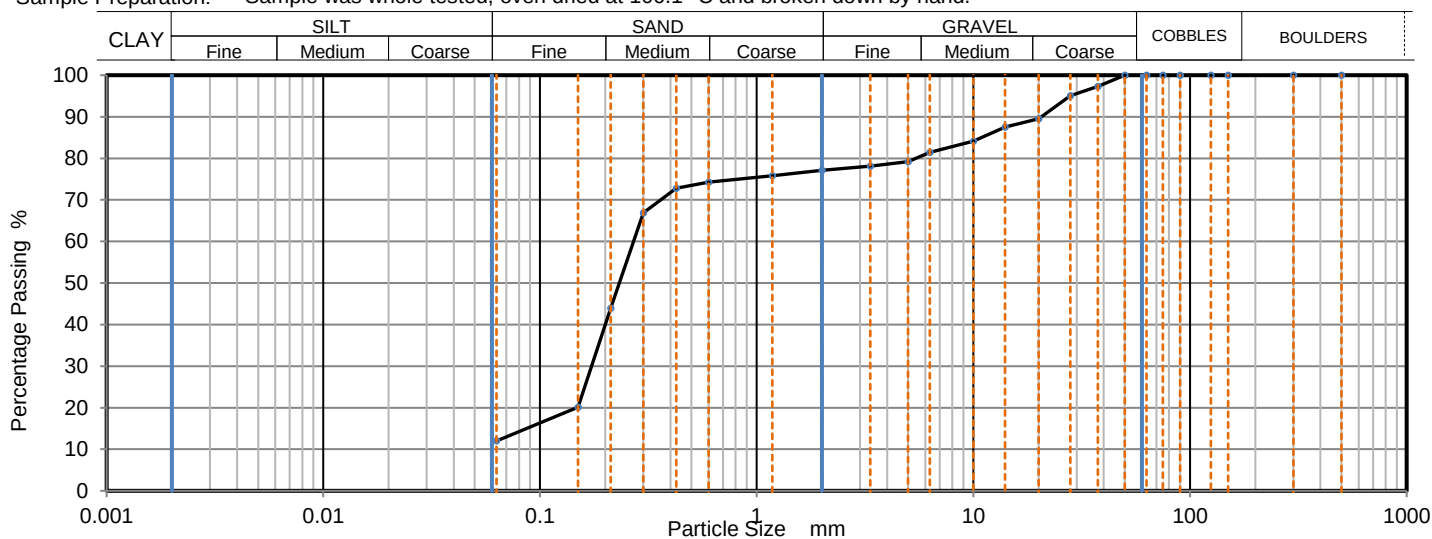
Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 21/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 1760792
Hole No.: TP201
Sample Reference: 6 TP2012.406
Sample Description: Light brown clayey gravelly SAND
Sample Preparation: Sample was whole tested, oven dried at 106.1 °C and broken down by hand.

Depth Top [m]: 2.40
Depth Base [m]: Not Given
Sample Type: D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	97		
28	95		
20	90		
14	88		
10	84		
6.3	81		
5	79		
3.35	78		
2	77		
1.18	76		
0.6	74		
0.425	73		
0.3	67		
0.212	44		
0.15	20		
0.063	13		

Sample Proportions	% dry mass
Very coarse	0
Gravel	23
Sand	64
Fines <0.063mm	13

Grading Analysis	
D100	mm 50
D60	mm 0.27
D30	mm 0.173
D10	mm
Uniformity Coefficient	> 4.3
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

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TEST CERTIFICATE

Particle Size Distribution

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

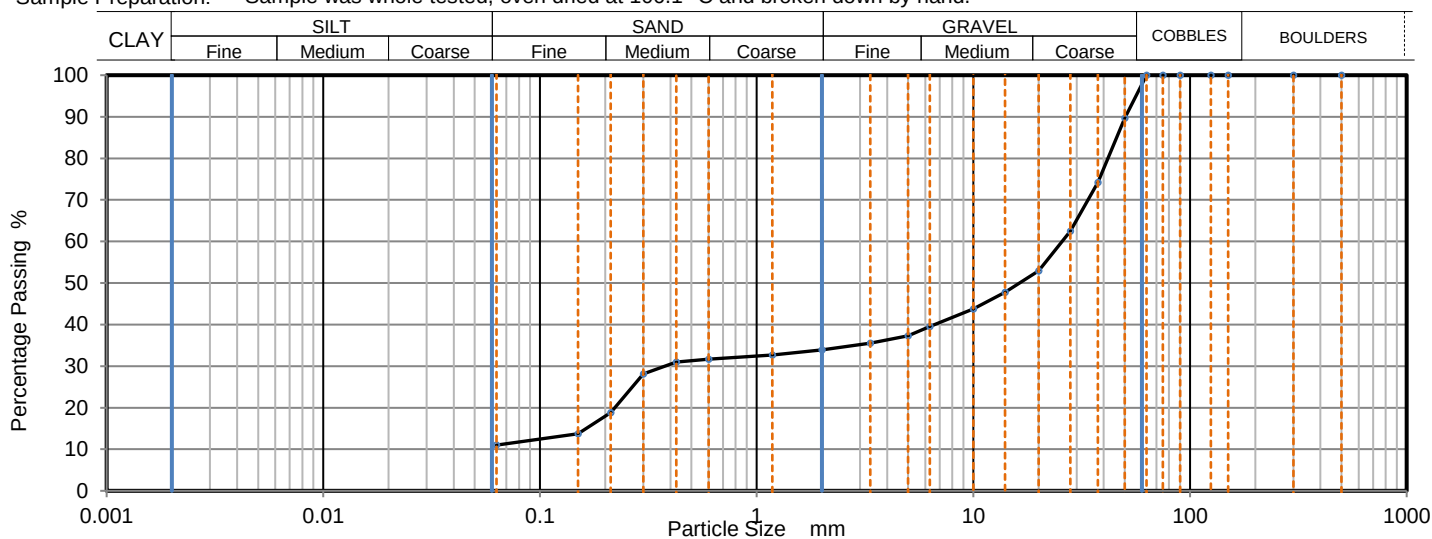
Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 21/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 1760794
Hole No.: TP202
Sample Reference: 4 TP2022.004
Sample Description: Brown clayey sandy GRAVEL
Sample Preparation: Sample was whole tested, oven dried at 106.1 °C and broken down by hand.

Depth Top [m]: 2.00
Depth Base [m]: Not Given
Sample Type: D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	90		
37.5	74		
28	63		
20	53		
14	48		
10	44		
6.3	40		
5	37		
3.35	36		
2	34		
1.18	33		
0.6	32		
0.425	31		
0.3	28		
0.212	19		
0.15	14		
0.063	12		

Sample Proportions	% dry mass
Very coarse	0
Gravel	66
Sand	22
Fines <0.063mm	12

Grading Analysis	
D100	mm 63
D60	mm 25.6
D30	mm 0.376
D10	mm
Uniformity Coefficient	> 410
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

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TEST CERTIFICATE

Particle Size Distribution

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Alexa Band
Site Address: Barrington Road, Worthing

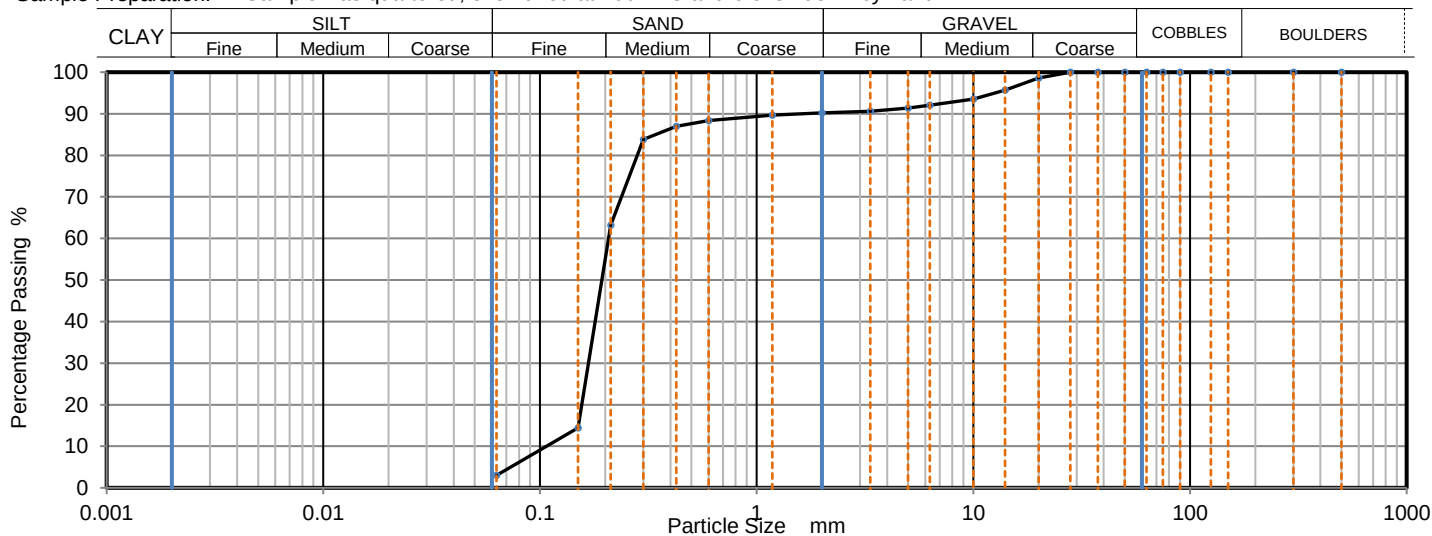
Client Reference: STS5226
Job Number: 21-55137
Date Sampled: 20/01/2021
Date Received: 02/02/2021
Date Tested: 16/02/2021
Sampled By: Client

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 1760795
Hole No.: WS201
Sample Reference: 3 WS2012.503
Sample Description: Brown slightly clayey slightly gravelly SAND
Sample Preparation: Sample was quartered, oven dried at 106.4 °C and broken down by hand.

Depth Top [m]: 2.50
Depth Base [m]: 4.50
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	96		
10	94		
6.3	92		
5	91		
3.35	91		
2	90		
1.18	90		
0.6	88		
0.425	87		
0.3	84		
0.212	63		
0.15	14		
0.063	4		

Sample Proportions	% dry mass
Very coarse	0
Gravel	10
Sand	87
Fines <0.063mm	4

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	2
Curvature Coefficient	1.3

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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4041

Client: Soiltechnics Limited
 Client Address: Cedar Barn, White Lodge,
 Walgrave, Northampton,
 NN6 9PY
 Contact: Alexa Band
 Site Address: Barrington Road, Worthing

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

Summary of Saturation Moisture Content Test Results

Tested in Accordance with: BS 1377-2: 1990: Clause 3.3

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB



Environmental Science

Client Reference: STS5226
 Job Number: 21-55137
 Date Sampled: 19/01 - 21/01/2021
 Date Received: 02/02/2021
 Date Tested: 16/02/2021
 Sampled By: Client

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	SMC	Bulk density	Dry density	MC								
		Reference	Depth Top	Depth Base	Type														
			m	m				%	Mg/m3	Mg/m3	%								
1760777	BH01	29 BH0118.5029	18.50	Not Given	D	Cream colour CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	20	2.11	1.75	20								
1760780	BH02	15 BH026.0015	6.00	6.45	UT	Cream colour sandy CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	15	2.19	1.93	13								
1760784	BH03	20 BH0313.0020	13.00	Not Given	D	White CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	20	2.09	1.74	20								
1760788	BH04	13 BH047.0013	7.00	7.45	UT	Cream colour CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	14	2.21	1.96	13								
1760789	BH04	19 BH0411.5019	11.50	11.95	UT	Cream colour CHALK		14	2.22	1.95	14								
1760790	BH04	23 BH0414.5023	14.50	14.95	UT	Cream colour CHALK		17	2.14	1.84	16								

Note: SMC - Saturation Moisture Content; MC - Moisture Content

Comments: Re-issue 1: Sample Reference and Hole No. amended

Signed:

Monika Janoszek
 PL Deputy Head of Geotechnical Section
 for and on behalf of i2 Analytical Ltd

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Lauren Wenham
Soiltechnics Ltd
White Lodge
Cedar Barn
Walgrave
NN6 9PY

DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-01272

Site Reference: Barrington Road, Worthing

Project / Job Ref: STS5226-D-1

Order No: POR009479

Sample Receipt Date: 03/02/2021

Sample Scheduled Date: 03/02/2021

Report Issue Number: 1

Reporting Date: 09/02/2021

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 21-01272	Date Sampled	18/01/21	19/01/21	19/01/21	19/01/21	19/01/21
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Barrington Road, Worthing	TP / BH No	BH012.006	BH021.203	BH026.5016	BH043.006	CPT010.301
Project / Job Ref: STS5226-D-1	Additional Refs	BH01	BH02	BH02	BH04	CPT01
Order No: POR009479	Depth (m)	2.00 - 2.46	1.20 - 1.70	6.50	3.00	0.30
Reporting Date: 09/02/2021	DETS Sample No	523665	523666	523667	523668	523670

Determinand	Unit	RL	Accreditation	(n)				
Asbestos Screen ^(S)	N/a	N/a	ISO17025					Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	8.5	7.9	8.1	8.1	11.5
Total Cyanide	mg/kg	< 2	NONE					< 2
Complex Cyanide	mg/kg	< 2	NONE					< 2
Free Cyanide	mg/kg	< 2	NONE					< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	256	< 200	489	< 200	
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.03	< 0.02	0.05	< 0.02	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	43	14	21	< 10	
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.04	0.01	0.02	< 0.01	
Total Sulphur	%	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Organic Matter	%	< 0.1	MCERTS					0.9
Total Organic Carbon (TOC)	%	< 0.1	MCERTS					
Loss on Ignition @ 450°C	%	< 0.01	NONE					4.10
Arsenic (As)	mg/kg	< 2	MCERTS					7
Beryllium (Be)	mg/kg	< 0.5	MCERTS					0.6
W/S Boron	mg/kg	< 1	NONE					< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE					0.4
Chromium (Cr)	mg/kg	< 2	MCERTS					17
Chromium (hexavalent)	mg/kg	< 2	NONE					< 2
Copper (Cu)	mg/kg	< 4	MCERTS					13
Lead (Pb)	mg/kg	< 3	MCERTS					19
Mercury (Hg)	mg/kg	< 1	MCERTS					< 1
Nickel (Ni)	mg/kg	< 3	MCERTS					14
Selenium (Se)	mg/kg	< 2	MCERTS					< 3
Vanadium (V)	mg/kg	< 1	MCERTS					24
Zinc (Zn)	mg/kg	< 3	MCERTS					38
Total Phenols (monohydric)	mg/kg	< 2	NONE					< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate						
DETS Report No: 21-01272	Date Sampled	19/01/21	21/01/21	20/01/21	20/01/21	20/01/21
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Barrington Road, Worthing	TP / BH No	CPT060.302	TP2010.503	WS2010.301	WS2030.301	WS2030.602
Project / Job Ref: STS5226-D-1	Additional Refs	CPT06	TP201	WS201	WS203	WS203
Order No: POR009479	Depth (m)	0.30	0.50	0.30	0.30	0.60
Reporting Date: 09/02/2021	DETS Sample No	523671	523672	523673	523674	523675

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					Bundle of Amosite fibres
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					Amosite
pH	pH Units	N/a	MCERTS	8.4	8.4	8.2	7.5	11.1
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS					
Total Sulphate as SO ₄	%	< 0.02	MCERTS					
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS					
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS					
Total Sulphur	%	< 0.02	NONE					
Organic Matter	%	< 0.1	MCERTS	0.2	1.4	1.3	0.7	0.7
Total Organic Carbon (TOC)	%	< 0.1	MCERTS				0.4	0.4
Loss on Ignition @ 450°C	%	< 0.01	NONE	1.10	3.80	2.50	2	3.10
Arsenic (As)	mg/kg	< 2	MCERTS	6	15	8	5	9
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.7	1	0.5	< 0.5	2.1
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	0.3	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	11	15	14	10	17
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	5	164	14	7	79
Lead (Pb)	mg/kg	< 3	MCERTS	7	159	25	37	12
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	14	17	11	7	55
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS	14	35	22	18	85
Zinc (Zn)	mg/kg	< 3	MCERTS	25	178	48	16	22
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01272	Date Sampled	19/01/21	19/01/21	21/01/21	20/01/21	20/01/21
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Barrington Road, Worthing	TP / BH No	CPT010.301	CPT060.302	TP2010.503	WS2010.301	WS2030.301
Project / Job Ref: STS5226-D-1	Additional Refs	CPT01	CPT06	TP201	WS201	WS203
Order No: POR009479	Depth (m)	0.30	0.30	0.50	0.30	0.30
Reporting Date: 09/02/2021	DETS Sample No	523670	523671	523672	523673	523674

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	0.71	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	0.36	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	1.86	< 0.1	0.23	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	0.28	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	1.55	< 0.1	0.32	< 0.1	0.15
Pyrene	mg/kg	< 0.1	MCERTS	1.10	< 0.1	0.27	< 0.1	0.13
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.22	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	0.14	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.14	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	6.3	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01272	Date Sampled	20/01/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	WS2030.602				
Project / Job Ref: STS5226-D-1	Additional Refs	WS203				
Order No: POR009479	Depth (m)	0.60				
Reporting Date: 09/02/2021	DETS Sample No	523675				

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	0.17			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	0.26			
Pyrene	mg/kg	< 0.1	MCERTS	0.24			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.13			
Chrysene	mg/kg	< 0.1	MCERTS	0.15			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.17			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6			



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01272	Date Sampled	20/01/21	20/01/21			
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Barrington Road, Worthing	TP / BH No	WS2030.301	WS2030.602			
Project / Job Ref: STS5226-D-1	Additional Refs	WS203	WS203			
Order No: POR009479	Depth (m)	0.30	0.60			
Reporting Date: 09/02/2021	DETS Sample No	523674	523675			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01272	Date Sampled	20/01/21	20/01/21			
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Barrington Road, Worthing	TP / BH No	WS2030.301	WS2030.602			
Project / Job Ref: STS5226-D-1	Additional Refs	WS203	WS203			
Order No: POR009479	Depth (m)	0.30	0.60			
Reporting Date: 09/02/2021	DETS Sample No	523674	523675			

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	4		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	8		
o-xylene	ug/kg	< 2	MCERTS	< 2	3		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		



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Water Analysis Certificate						
DETS Report No: 21-01272	Date Sampled	21/01/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-1	Additional Refs	BH04				
Order No: POR009479	Depth (m)	5.22				
Reporting Date: 09/02/2021	DETS Sample No	523669				

Determinand	Unit	RL	Accreditation	(\$ hg)			
pH	pH Units	N/a	ISO17025	7.6			
Total Cyanide	ug/l	< 5	NONE	< 5			
Complex Cyanide	ug/l	< 5	NONE	< 5			
Free Cyanide	ug/l	< 5	NONE	< 5			
Sulphate as SO ₄	mg/l	< 1	ISO17025	58			
Ammoniacal Nitrogen as NH ₄	ug/l	< 50	NONE	193			
Nitrate as NO ₃	mg/l	< 0.5	ISO17025	37.1			
Antimony (dissolved)	ug/l	< 5	ISO17025	< 5			
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5			
Boron (dissolved)	ug/l	< 5	ISO17025	76			
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4			
Chromium (dissolved)	ug/l	< 5	ISO17025	< 5			
Chromium (hexavalent)	ug/l	< 20	NONE	< 20			
Chromium III	ug/l	< 20	NONE	< 20			
Copper (dissolved)	ug/l	< 5	ISO17025	< 5			
Lead (dissolved)	ug/l	< 5	ISO17025	< 5			
Mercury (dissolved)	ug/l	< 0.05	ISO17025	0.07			
Nickel (dissolved)	ug/l	< 5	ISO17025	7			
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5			
Zinc (dissolved)	ug/l	< 2	ISO17025	36			
Magnesium (dissolved)	mg/l	< 0.1	ISO17025	26.3			
Chromium (total)	ug/l	< 5	NONE	39			
Total Phenols (monohydric)	ug/l	< 10	NONE	< 10			

Subcontracted analysis ^(S)

Insufficient sample ^{I/S}

Unsuitable Sample ^{U/S}

(\$) samples exceeded recommended holding times

(hg) Please note deviating sample for Mercury due to inappropriate container



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Water Analysis Certificate - Speciated PAH

DETS Report No: 21-01272	Date Sampled	21/01/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-1	Additional Refs	BH04				
Order No: POR009479	Depth (m)	5.22				
Reporting Date: 09/02/2021	DETS Sample No	523669				

Determinand	Unit	RL	Accreditation	(£)				
Naphthalene	ug/l	< 0.01	NONE	0.03				
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthene	ug/l	< 0.01	NONE	< 0.01				
Fluorene	ug/l	< 0.01	NONE	< 0.01				
Phenanthrene	ug/l	< 0.01	NONE	< 0.01				
Anthracene	ug/l	< 0.01	NONE	< 0.01				
Fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Pyrene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01				
Chrysene	ug/l	< 0.01	NONE	< 0.01				
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01				
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008				
Total EPA-16 PAHs	ug/l	< 0.01	NONE	0.03				



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Water Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01272	Date Sampled	21/01/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-1	Additional Refs	BH04				
Order No: POR009479	Depth (m)	5.22				
Reporting Date: 09/02/2021	DETS Sample No	523669				

Determinand	Unit	RL	Accreditation	(\$)				
Aliphatic >C5 - C6	ug/l	< 10	NONE	< 10				
Aliphatic >C6 - C8	ug/l	< 10	NONE	< 10				
Aliphatic >C8 - C10	ug/l	< 10	NONE	< 10				
Aliphatic >C10 - C12	ug/l	< 10	NONE	< 10				
Aliphatic >C12 - C16	ug/l	< 10	NONE	< 10				
Aliphatic >C16 - C21	ug/l	< 10	NONE	< 10				
Aliphatic >C21 - C34	ug/l	< 10	NONE	107				
Aliphatic (C5 - C34)	ug/l	< 70	NONE	107				
Aromatic >C5 - C7	ug/l	< 10	NONE	< 10				
Aromatic >C7 - C8	ug/l	< 10	NONE	< 10				
Aromatic >C8 - C10	ug/l	< 10	NONE	< 10				
Aromatic >C10 - C12	ug/l	< 10	NONE	< 10				
Aromatic >C12 - C16	ug/l	< 10	NONE	< 10				
Aromatic >C16 - C21	ug/l	< 10	NONE	< 10				
Aromatic >C21 - C35	ug/l	< 10	NONE	< 10				
Aromatic (C5 - C35)	ug/l	< 70	NONE	< 70				
Total >C5 - C35	ug/l	< 140	NONE	< 140				

(\$) samples exceeded recommended holding times



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01272	Date Sampled	21/01/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-1	Additional Refs	BH04				
Order No: POR009479	Depth (m)	5.22				
Reporting Date: 09/02/2021	DETS Sample No	523669				

Determinand	Unit	RL	Accreditation	(\$)				
Benzene	ug/l	< 1	ISO17025	< 1				
Toluene	ug/l	< 5	ISO17025	< 5				
Ethylbenzene	ug/l	< 5	ISO17025	< 5				
p & m-xylene	ug/l	< 10	ISO17025	< 10				
o-xylene	ug/l	< 5	ISO17025	< 5				
MTBE	ug/l	< 10	ISO17025	< 10				

(\$) samples exceeded recommended holding times



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Water Analysis Certificate - Volatile Organic Compounds (VOC)					
DETS Report No: 21-01272	Date Sampled	21/01/21			
Soiltechnics Ltd	Time Sampled	None Supplied			
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201			
Project / Job Ref: STS5226-D-1	Additional Refs	BH04			
Order No: POR009479	Depth (m)	5.22			
Reporting Date: 09/02/2021	DETS Sample No	523669			

Determinand	Unit	RL	Accreditation	(£)				
Dichlorodifluoromethane	ug/l	< 5	ISO17025	< 5				
Vinyl Chloride	ug/l	< 5	ISO17025	< 5				
Chloromethane	ug/l	< 5	ISO17025	< 5				
Chloroethane	ug/l	< 5	ISO17025	< 5				
Bromomethane	ug/l	< 5	ISO17025	< 5				
Trichlorofluoromethane	ug/l	< 5	ISO17025	< 5				
1,1-Dichloroethene	ug/l	< 5	ISO17025	< 5				
MTBE	ug/l	< 10	ISO17025	< 10				
trans-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5				
1,1-Dichloroethane	ug/l	< 5	ISO17025	< 5				
cis-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5				
2,2-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Chloroform	ug/l	< 5	ISO17025	< 5				
Bromochloromethane	ug/l	< 10	ISO17025	< 10				
1,1,1-Trichloroethane	ug/l	< 5	ISO17025	< 5				
1,1-Dichloropropene	ug/l	< 5	ISO17025	< 5				
Carbon Tetrachloride	ug/l	< 5	ISO17025	< 5				
1,2-Dichloroethane	ug/l	< 10	ISO17025	< 10				
Benzene	ug/l	< 1	ISO17025	< 1				
1,2-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Trichloroethene	ug/l	< 5	ISO17025	< 5				
Bromodichloromethane	ug/l	< 5	ISO17025	< 5				
Dibromomethane	ug/l	< 5	ISO17025	< 5				
TAME	ug/l	< 5	ISO17025	< 5				
cis-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5				
Toluene	ug/l	< 5	ISO17025	< 5				
trans-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5				
1,1,2-Trichloroethane	ug/l	< 10	ISO17025	< 10				
1,3-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Tetrachloroethene	ug/l	< 5	ISO17025	< 5				
Dibromochloromethane	ug/l	< 5	ISO17025	< 5				
1,2-Dibromoethane	ug/l	< 5	ISO17025	< 5				
Chlorobenzene	ug/l	< 5	ISO17025	< 5				
1,1,1,2-Tetrachloroethane	ug/l	< 5	ISO17025	< 5				
Ethyl Benzene	ug/l	< 5	ISO17025	< 5				
m,p-Xylene	ug/l	< 10	ISO17025	< 10				
o-Xylene	ug/l	< 5	ISO17025	< 5				
Styrene	ug/l	< 5	ISO17025	< 5				
Bromoform	ug/l	< 10	ISO17025	< 10				
Isopropylbenzene	ug/l	< 5	ISO17025	< 5				
1,1,2,2-Tetrachloroethane	ug/l	< 10	ISO17025	< 10				
1,2,3-Trichloropropane	ug/l	< 5	ISO17025	< 5				
n-Propylbenzene	ug/l	< 5	ISO17025	< 5				
Bromobenzene	ug/l	< 5	ISO17025	< 5				
2-Chlorotoluene	ug/l	< 5	ISO17025	< 5				
1,3,5-Trimethylbenzene	ug/l	< 5	ISO17025	< 5				
4-Chlorotoluene	ug/l	< 5	ISO17025	< 5				
tert-Butylbenzene	ug/l	< 5	ISO17025	< 5				
1,2,4-Trimethylbenzene	ug/l	< 5	ISO17025	< 5				
sec-Butylbenzene	ug/l	< 5	ISO17025	< 5				
p-Isopropyltoluene	ug/l	< 5	ISO17025	< 5				
1,3-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
1,4-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
n-Butylbenzene	ug/l	< 5	ISO17025	< 5				
1,2-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
,2-Dibromo-3-chloropropane	ug/l	< 10	ISO17025	< 10				
Hexachlorobutadiene	ug/l	< 5	ISO17025	< 5				

(\$) samples exceeded recommended holding times



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 21-01272	Date Sampled	21/01/21
Soiltechnics Ltd	Time Sampled	None Supplied
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201
Project / Job Ref: STS5226-D-1	Additional Refs	BH04
Order No: POR009479	Depth (m)	5.22
Reporting Date: 09/02/2021	DETS Sample No	523669

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Semi Volatile Organic Compounds (SVOC)					
DETS Report No: 21-01272	Date Sampled	21/01/21			
Soiltechnics Ltd	Time Sampled	None Supplied			
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201			
Project / Job Ref: STS5226-D-1	Additional Refs	BH04			
Order No: POR009479	Depth (m)	5.22			
Reporting Date: 09/02/2021	DETS Sample No	523669			

Determinand	Unit	RL	Accreditation	(£)				
Phenol	ug/l	< 0.1	NONE	< 0.1				
1,2,4-Trichlorobenzene	ug/l	< 0.1	NONE	< 0.1				
2-Nitrophenol	ug/l	< 0.1	NONE	< 0.1				
Nitrobenzene	ug/l	< 0.1	NONE	< 0.1				
0-Cresol	ug/l	< 0.1	NONE	< 0.1				
bis(2-chloroethoxy)methane	ug/l	< 0.1	NONE	< 0.1				
bis(2-chloroethyl)ether	ug/l	< 0.1	NONE	< 0.1				
2,4-Dichlorophenol	ug/l	< 0.1	NONE	< 0.1				
2-Chlorophenol	ug/l	< 0.1	NONE	< 0.1				
1,3-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1				
1,4-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1				
1,2-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1				
2,4-Dimethylphenol	ug/l	< 0.1	NONE	< 0.1				
Isophorone	ug/l	< 0.1	NONE	0.1				
Hexachloroethane	ug/l	< 0.1	NONE	< 0.1				
p-Cresol	ug/l	< 0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	ug/l	< 0.1	NONE	< 0.1				
2,4,5-Trichlorophenol	ug/l	< 0.1	NONE	< 0.1				
2-Nitroaniline	ug/l	< 0.1	NONE	< 0.1				
4-Chloro-3-methylphenol	ug/l	< 0.1	NONE	< 0.1				
2-Methylnaphthalene	ug/l	< 0.1	NONE	< 0.1				
Hexachlorocyclopentadiene	ug/l	< 0.1	NONE	< 0.1				
Hexachlorobutadiene	ug/l	< 0.1	NONE	< 0.1				
2,6-Dinitrotoluene	ug/l	< 0.1	NONE	< 0.1				
Dimethyl phthalate	ug/l	< 0.1	NONE	< 0.1				
2-Chloronaphthalene	ug/l	< 0.1	NONE	< 0.1				
4-Chloroaniline	ug/l	< 0.1	NONE	< 0.1				
4-Nitrophenol	ug/l	< 0.1	NONE	< 0.1				
4-Chlorophenyl phenyl ether	ug/l	< 0.1	NONE	< 0.1				
3-Nitroaniline	ug/l	< 0.1	NONE	< 0.1				
4-Nitroaniline	ug/l	< 0.1	NONE	< 0.1				
4-Bromophenyl phenyl ether	ug/l	< 0.1	NONE	< 0.1				
Hexachlorobenzene	ug/l	< 0.1	NONE	< 0.1				
2,4-Dinitrotoluene	ug/l	< 0.1	NONE	< 0.1				
Diethyl phthalate	ug/l	< 0.1	NONE	< 0.1				
Dibenzofuran	ug/l	< 0.1	NONE	< 0.1				
Azobenzene	ug/l	< 0.1	NONE	< 0.1				
Dibutyl phthalate	ug/l	< 0.1	NONE	< 0.1				
Carbazole	ug/l	< 0.1	NONE	< 0.1				
bis(2-ethylhexyl)phthalate	ug/l	< 0.1	NONE	< 0.1				
Benzyl butyl phthalate	ug/l	< 0.1	NONE	< 0.1				
Di-n-octyl phthalate	ug/l	< 0.1	NONE	< 0.1				

(£) samples exceeded recommended holding times



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Water Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
DETS Report No: 21-01272	Date Sampled	21/01/21
Soiltechnics Ltd	Time Sampled	None Supplied
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201
Project / Job Ref: STS5226-D-1	Additional Refs	BH04
Order No: POR009479	Depth (m)	5.22
Reporting Date: 09/02/2021	DETS Sample No	523669

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	.alpha.-Cadinol	97	µg/l	< 0.1	0.1
2	n/a	n/a	µg/l	< 0.1	< 0.1
3	n/a	n/a	µg/l	< 0.1	< 0.1
4	n/a	n/a	µg/l	< 0.1	< 0.1
5	n/a	n/a	µg/l	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-01272	
Soiltechnics Ltd	
Site Reference: Barrington Road, Worthing	
Project / Job Ref: STS5226-D-1	
Order No: POR009479	
Reporting Date: 09/02/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
\$ 523665	BH012.006	BH01	2.00 - 2.46	15.2	Light brown sandy clay
\$ 523666	BH021.203	BH02	1.20 - 1.70	17.8	Brown sandy clay
\$ 523667	BH026.5016	BH02	6.50	9.5	White chalk with stones
\$ 523668	BH043.006	BH04	3.00	8.2	Light brown sandy clay with stones
&\$ 523670	CPT010.301	CPT01	0.30	8.1	Brown gravelly sand with stones and concrete
&\$ 523671	CPT060.302	CPT06	0.30	10.3	Brown gravelly sand with stones and concrete
&\$ 523672	TP2010.503	TP201	0.50	15.8	Brown sandy clay with stones
&\$ 523673	WS2010.301	WS201	0.30	17.5	Light brown sandy clay
&\$ 523674	WS2030.301	WS203	0.30	8.3	Light brown gravelly sand with stones and concrete
&\$ 523675	WS2030.602	WS203	0.60	18.2	Black loamy gravel with brick and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

& samples received in inappropriate containers for hydrocarbon analysis

\$ samples exceeded recommended holding times



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-01272

Soiltechnics Ltd

Site Reference: Barrington Road, Worthing

Project / Job Ref: STS5226-D-1

Order No: POR009479

Reporting Date: 09/02/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-01272

Soiltechnics Ltd

Site Reference: Barrington Road, Worthing

Project / Job Ref: STS5226-D-1

Order No: POR009479

Reporting Date: 09/02/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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DETS Report No: 21-02963

Site Reference: Barrington Road, Worthing

Project / Job Ref: STS5226-D-2

Order No: POR009738

Sample Receipt Date: 02/03/2021

Sample Scheduled Date: 09/03/2021

Report Issue Number: 2

Reporting Date: 14/04/2021

Authorised by:



Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

This report supersedes 21-02963, issue no.1.

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Water Analysis Certificate - Speciated PAH

DETS Report No: 21-02963	Date Sampled	26/02/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-2	Additional Refs	BH04				
Order No: POR009738	Depth (m)	5.13				
Reporting Date: 14/04/2021	DETS Sample No	530646				

Determinand	Unit	RL	Accreditation	(%)				
Naphthalene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthene	ug/l	< 0.01	NONE	< 0.01				
Fluorene	ug/l	< 0.01	NONE	< 0.01				
Phenanthrene	ug/l	< 0.01	NONE	< 0.01				
Anthracene	ug/l	< 0.01	NONE	< 0.01				
Fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Pyrene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01				
Chrysene	ug/l	< 0.01	NONE	< 0.01				
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01				
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008				
Total EPA-16 PAHs	ug/l	< 0.01	NONE	< 0.01				



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Water Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02963	Date Sampled	26/02/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-2	Additional Refs	BH04				
Order No: POR009738	Depth (m)	5.13				
Reporting Date: 14/04/2021	DETS Sample No	530646				

Determinand	Unit	RL	Accreditation	(\$)				
Aliphatic >C5 - C6	ug/l	< 10	NONE	< 10				
Aliphatic >C6 - C8	ug/l	< 10	NONE	< 10				
Aliphatic >C8 - C10	ug/l	< 10	NONE	< 10				
Aliphatic >C10 - C12	ug/l	< 10	NONE	< 10				
Aliphatic >C12 - C16	ug/l	< 10	NONE	< 10				
Aliphatic >C16 - C21	ug/l	< 10	NONE	< 10				
Aliphatic >C21 - C34	ug/l	< 10	NONE	< 10				
Aliphatic (C5 - C34)	ug/l	< 70	NONE	< 70				
Aromatic >C5 - C7	ug/l	< 10	NONE	< 10				
Aromatic >C7 - C8	ug/l	< 10	NONE	< 10				
Aromatic >C8 - C10	ug/l	< 10	NONE	< 10				
Aromatic >C10 - C12	ug/l	< 10	NONE	< 10				
Aromatic >C12 - C16	ug/l	< 10	NONE	< 10				
Aromatic >C16 - C21	ug/l	< 10	NONE	< 10				
Aromatic >C21 - C35	ug/l	< 10	NONE	< 10				
Aromatic (C5 - C35)	ug/l	< 70	NONE	< 70				
Total >C5 - C35	ug/l	< 140	NONE	< 140				

(\$) samples exceeded recommended holding times



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02963	Date Sampled	26/02/21				
Soiltechnics Ltd	Time Sampled	None Supplied				
Site Reference: Barrington Road, Worthing	TP / BH No	BH045.2201				
Project / Job Ref: STS5226-D-2	Additional Refs	BH04				
Order No: POR009738	Depth (m)	5.13				
Reporting Date: 14/04/2021	DETS Sample No	530646				

Determinand	Unit	RL	Accreditation	(£)				
Benzene	ug/l	< 1	ISO17025	< 1				
Toluene	ug/l	< 5	ISO17025	< 5				
Ethylbenzene	ug/l	< 5	ISO17025	< 5				
p & m-xylene	ug/l	< 10	ISO17025	< 10				
o-xylene	ug/l	< 5	ISO17025	< 5				
MTBE	ug/l	< 10	ISO17025	< 10				

(£) samples exceeded recommended holding times



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-02963

Soiltechnics Ltd

Site Reference: Barrington Road, Worthing

Project / Job Ref: STS5226-D-2

Order No: POR009738

Reporting Date: 14/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Analysis of test data in relation to concentrations of **inorganic** chemical contaminants

Adopted Model: **Industrial/Commercial**
Receptor: **Current site user and construction operative**

Test procedure		Summary of test data						Initial comparison	Outlier test				Normality test			UCL		
Contaminant	Guideline source	Guideline value	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg			mg/kg	mg/kg							mg/kg	mg/kg				
Arsenic	S4UL	640	30	5.0	107.0	13.4	0	Mean value below guideline	n					not normal	not normal	n	27.8	Arsenic
Beryllium	S4UL	12	6	0.5	2.1	0.9	0	Mean value below guideline	n					not normal	not normal	n	2.0	Beryllium
Boron	S4UL	240000	30	0.5	3.5	1.0	0	Mean value below guideline	n					not normal	not normal	n	1.6	Boron
Cadmium	S4UL	190	30	0.2	0.5	0.5	0	Mean value below guideline	y					not normal	not normal	n	0.5	Cadmium
Chromium (III)	S4UL	8600	30	10.0	77.2	24.2	0	Mean value below guideline	n					not normal	not normal	n	33.5	Chromium (III)
Copper	S4UL	68000	30	5.0	164.0	26.6	0	Mean value below guideline	n					not normal	not normal	n	49.5	Copper
Cyanide (total)	ATK	34	19	1.0	25.0	3.4	0	Mean value below guideline	n					not normal	not normal	n	9.5	Cyanide (total)
Lead	C4SL	6000	30	7.0	504.0	61.8	0	Mean value below guideline	n					not normal	not normal	n	134.0	Lead
Mercury#	S4UL	58	30	0.5	1.0	0.6	0	Mean value below guideline	y					not normal	not normal	n	0.8	Mercury#
Nickel	S4UL	980	30	7.0	55.0	18.2	0	Mean value below guideline	n					not normal	not normal	n	24.5	Nickel
Selenium	S4UL	12000	30	1.0	3.2	1.5	0	Mean value below guideline	y					not normal	not normal	n	2.2	Selenium
Vanadium	S4UL	9000	6	14.0	85.0	33.0	0	Mean value below guideline	n					not normal	not normal	n	80.1	Vanadium
Zinc	S4UL	730000	30	16.0	178.0	69.5	0	Mean value below guideline	n					not normal	not normal	n	97.9	Zinc

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
C4SL (lower) (upper) Category 4 Screening Level for Lead at lower or upper bound of range
ATK Soil Screening Value derived by Atkins
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	1

Analysis of test data in relation to concentrations of inorganic chemical contaminants

Adopted Model: Residential
Receptor: Proposed site user

Test procedure			Summary of test data					Initial comparison	Outlier test				Normality test			UCL		
Contaminant	Guideline source	Guideline value	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg		mg/kg	mg/kg	mg/kg							mg/kg					
Arsenic	S4UL	37	30	5.0	107.0	13.4	1	Mean value below guideline	n	0				not normal	normal	y	19.1	Arsenic
Beryllium	S4UL	1.7	6	0.5	2.1	0.9	1	Mean value below guideline	n	0				not normal	normal	n	2.0	Beryllium
Boron	S4UL	290	30	0.5	3.5	1.0	0	Mean value below guideline	n	0				not normal	not normal	n	1.6	Boron
Cadmium	S4UL	11	30	0.2	0.5	0.5	0	Mean value below guideline	y	0				not normal	not normal	n	0.5	Cadmium
Chromium (III)	S4UL	910	30	10.0	77.2	24.2	0	Mean value below guideline	n	0				not normal	normal	y	27.8	Chromium (III)
Copper	S4UL	2400	30	5.0	164.0	26.6	0	Mean value below guideline	n	0				not normal	not normal	n	49.5	Copper
Cyanide (total)	ATK	34	19	1.0	25.0	3.4	0	Mean value below guideline	n	0				not normal	not normal	n	9.5	Cyanide (total)
Lead	C4SL	210	30	7.0	504.0	61.8	1	Mean value below guideline	n	0				not normal	normal	n	134.0	Lead
Mercury#	S4UL	1.2	30	0.5	1.0	0.6	0	Mean value below guideline	y	0				not normal	not normal	n	0.8	Mercury#
Nickel	S4UL	180	30	7.0	55.0	18.2	0	Mean value below guideline	n	0				not normal	normal	n	24.5	Nickel
Selenium	S4UL	250	30	1.0	3.2	1.5	0	Mean value below guideline	y	0				not normal	not normal	n	2.2	Selenium
Vanadium	S4UL	410	6	14.0	85.0	33.0	0	Mean value below guideline	n	0				not normal	normal	n	80.1	Vanadium
Zinc	S4UL	3700	30	16.0	178.0	69.5	0	Mean value below guideline	n	0				not normal	normal	n	97.9	Zinc

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
C4SL (lower) (upper) Category 4 Screening Level for Lead at lower or upper bound of range
ATK Soil Screening Value derived by Atkins
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	2

Analysis of test data in relation to concentrations of organic chemical contaminants

Adopted model: Industrial/Commercial and BPG5
Receptor: Current site user, construction operative and vegetation

Test procedure			Summary of test data					Initial Screening	Outlier test				Normality test				UCL	
Contaminant	Guideline source	Guideline value*	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg		mg/kg	mg/kg	mg/kg		mg/kg										
Acenaphthene	S4UL	84000	30	0.1	0.7	0.1	0	Mean value below guideline	n	0				not normal	not normal	n	0.2	Acenaphthene
Acenaphthylene	S4UL	83000	30	0.1	1.1	0.2	0	Mean value below guideline	n	0				not normal	not normal	n	0.3	Acenaphthylene
Anthracene	S4UL	520000	30	0.1	1.3	0.2	0	Mean value below guideline	n	0				not normal	not normal	n	0.4	Anthracene
Benzo(a)anthracene	S4UL	170	30	0.1	3.2	0.5	0	Mean value below guideline	n	0				not normal	not normal	n	1.1	Benzo(a)anthracene
Benzo(a)pyrene	S4UL	35	30	0.1	3.8	0.6	0	Mean value below guideline	n	0				not normal	not normal	n	1.4	Benzo(a)pyrene
Benzo(b)fluoranthene	S4UL	44	30	0.1	3.3	0.7	0	Mean value below guideline	n	0				not normal	not normal	n	1.4	Benzo(b)fluoranthene
Benzo(g,h,i)perylene	S4UL	3900	30	0.1	2.8	0.5	0	Mean value below guideline	n	0				not normal	not normal	n	1.1	Benzo(g,h,i)perylene
Benzo(k)fluoranthene	S4UL	1200	30	0.1	3.8	0.6	0	Mean value below guideline	n	0				not normal	not normal	n	1.3	Benzo(k)fluoranthene
Chrysene	S4UL	350	30	0.1	3.7	0.6	0	Mean value below guideline	n	0				not normal	not normal	n	1.3	Chrysene
Dibenzo(a,h)anthracene	S4UL	3.5	30	0.1	1.2	0.2	0	Mean value below guideline	n	0				not normal	not normal	n	0.4	Dibenzo(a,h)anthracene
Fluoranthene	S4UL	23000	30	0.1	6.3	1.0	0	Mean value below guideline	n	0				not normal	not normal	n	2.1	Fluoranthene
Fluorene	S4UL	63000	30	0.1	0.4	0.1	0	Mean value below guideline	n	0				not normal	not normal	n	0.2	Fluorene
Indeno(1,2,3-cd)pyrene	S4UL	500	30	0.1	2.7	0.5	0	Mean value below guideline	n	0				not normal	not normal	n	1.1	Indeno(1,2,3-cd)pyrene
Naphthalene	S4UL	190	30	0.1	1.0	0.1	0	Mean value below guideline	n	0				not normal	not normal	n	0.3	Naphthalene
Phenanthrene	S4UL	22000	30	0.1	4.3	0.5	0	Mean value below guideline	n	0				not normal	not normal	n	1.2	Phenanthrene
Phenols	S4UL	760	8	1.0	2.0	1.8	0	Mean value below guideline	y	0				not normal	not normal	n	2.5	Phenols
Pyrene	S4UL	54000	30	0.1	5.5	0.9	0	Mean value below guideline	n	0				not normal	not normal	n	2.0	Pyrene

Notes

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title
Analysis of test data in relation to concentrations of organic chemical contaminants.

Table number
3

Analysis of test data in relation to concentrations of organic chemical contaminants

Adopted model: Residential
Receptor: Proposed site user

Test procedure			Summary of test data					Initial Screening	Outlier test				Normality test				UCL	
Contaminant	Guideline source	Guideline value*	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration mg/kg	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg												
Acenaphthene	S4UL	210	12	0.1	0.3	0.1	0	Mean value below guideline	n					not normal	not normal	n	0.2	Acenaphthene
Acenaphthylene	S4UL	170	12	0.1	0.1	0.1	0	Mean value below guideline	y					not normal	not normal	n	0.1	Acenaphthylene
Anthracene	S4UL	2400	12	0.1	1.3	0.2	0	Mean value below guideline	n					not normal	not normal	n	0.7	Anthracene
Benzo(a)anthracene	S4UL	7.2	12	0.1	3.2	0.6	0	Mean value below guideline	n					not normal	not normal	n	1.8	Benzo(a)anthracene
Benzo(a)pyrene	S4UL	2.2	12	0.1	3.8	0.7	1	Mean value below guideline	n					not normal	not normal	n	2.1	Benzo(a)pyrene
Benzo(b)fluoranthene	S4UL	2.6	12	0.1	3.3	0.7	1	Mean value below guideline	n					not normal	not normal	n	1.9	Benzo(b)fluoranthene
Benzo(g,h,i)perylene	S4UL	320	12	0.1	2.8	0.5	0	Mean value below guideline	n					not normal	not normal	n	1.5	Benzo(g,h,i)perylene
Benzo(k)fluoranthene	S4UL	77	12	0.1	3.8	0.7	0	Mean value below guideline	n					not normal	not normal	n	2.1	Benzo(k)fluoranthene
Chrysene	S4UL	15	12	0.1	3.7	0.7	0	Mean value below guideline	n					not normal	not normal	n	2.1	Chrysene
Dibenzo(a,h)anthracene	S4UL	0.24	12	0.1	0.7	0.2	2	Mean value below guideline	n					not normal	not normal	n	0.4	Dibenzo(a,h)anthracene
Fluoranthene	S4UL	280	12	0.1	6.3	1.3	0	Mean value below guideline	n					not normal	not normal	n	3.8	Fluoranthene
Fluorene	S4UL	170	12	0.1	0.3	0.1	0	Mean value below guideline	n					not normal	not normal	n	0.2	Fluorene
Indeno(1,2,3-cd)pyrene	S4UL	27	12	0.1	2.7	0.5	0	Mean value below guideline	n					not normal	not normal	n	1.5	Indeno(1,2,3-cd)pyrene
Naphthalene	S4UL	2.3	12	0.1	1.0	0.2	0	Mean value below guideline	n					not normal	not normal	n	0.5	Naphthalene
Phenanthrene	S4UL	95	12	0.1	4.3	0.7	0	Mean value below guideline	n					not normal	not normal	n	2.3	Phenanthrene
Phenols	S4UL	280	1	2.0	2.0	2.0	0	Mean value below guideline	#DIV/0!					#DIV/0!	not normal	n	#DIV/0!	Phenols
Pyrene	S4UL	620	12	0.1	5.5	1.1	0	Mean value below guideline	n					not normal	not normal	y	2.0	Pyrene

Notes

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title
Analysis of test data in relation to concentrations of organic chemical contaminants.

Table number
4

Analysis of test data in relation to concentrations of inorganic chemical contaminants

Adopted Model: Industrial/Commercial and BPG5
Receptor: Vegetation

Test procedure		Summary of test data						Initial comparison	Outlier test				Normality test			UCL		
Contaminant	Guideline source	Guideline value	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg			mg/kg	mg/kg		mg/kg						mg/kg			mg/kg	
Arsenic	S4UL	640	30	5.0	107.0	13.4	0	Mean value below guideline	n	0				not normal	not normal	n	27.8	Arsenic
Beryllium	S4UL	12	6	0.5	2.1	0.9	0	Mean value below guideline	n	0				not normal	not normal	n	2.0	Beryllium
Boron	S4UL	240000	30	0.5	3.5	1.0	0	Mean value below guideline	n	0				not normal	not normal	n	1.6	Boron
Cadmium	S4UL	190	30	0.2	0.5	0.5	0	Mean value below guideline	y	0				not normal	not normal	n	0.5	Cadmium
Chromium (III)	S4UL	8600	30	10.0	77.2	24.2	0	Mean value below guideline	n	0				not normal	not normal	n	33.5	Chromium (III)
Copper	BPG5	130	30	5.0	164.0	26.6	1	Mean value below guideline	n	0				not normal	not normal	n	49.5	Copper
Cyanide (total)	ATK	34	19	1.0	25.0	3.4	0	Mean value below guideline	n	0				not normal	not normal	n	9.5	Cyanide (total)
Lead	C4SL	6000	30	7.0	504.0	61.8	0	Mean value below guideline	n	0				not normal	not normal	n	134.0	Lead
Mercury#	S4UL	58	30	0.5	1.0	0.6	0	Mean value below guideline	y	0				not normal	not normal	n	0.8	Mercury#
Nickel	S4UL	980	30	7.0	55.0	18.2	0	Mean value below guideline	n	0				not normal	not normal	n	24.5	Nickel
Selenium	S4UL	12000	30	1.0	3.2	1.5	0	Mean value below guideline	y	0				not normal	not normal	n	2.2	Selenium
Vanadium	S4UL	9000	6	14.0	85.0	33.0	0	Mean value below guideline	n	0				not normal	not normal	n	80.1	Vanadium
Zinc	BPG5	300	30	16.0	178.0	69.5	0	Mean value below guideline	n	0				not normal	not normal	n	97.9	Zinc

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
C4SL (lower) (upper) Category 4 Screening Level for Lead at lower or upper bound of range
ATK Soil Screening Value derived by Atkins
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	5

Summary of petroleum hydrocarbon test results

Model: Industrial/Commercial

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL (mg/kg)	Concentration	
			WS203 0.30	WS203 0.60
Benzene	mg/kg	27	< 0.002	< 0.002
Toluene	mg/kg	56000	< 0.005	< 0.005
Ethylbenzene	mg/kg	5700	< 0.002	0.004
o-Xylene	mg/kg	6600	< 0.002	0.003
m,p-Xylene	mg/kg	5900	< 0.002	0.008

Hydrocarbon banding (Red highlights indicate exceedance of guideline value)

Fraction	unit	S4UL (mg/kg)	Concentration	
			WS203 0.30	WS203 0.60
Aliphatic				
EC 5 - 6	mg/kg	3200	< 0.01	< 0.01
EC >6 - 8	mg/kg	7800	< 0.05	< 0.05
EC >8 - 10	mg/kg	2000	< 2	< 2
EC >10 - 12	mg/kg	9700	< 2	< 2
EC >12 - 16	mg/kg	59000	< 3	< 3
EC >16 - 21	mg/kg	1600000	< 3	< 3
EC >21-35	mg/kg	1600000	< 10	< 10
Aromatic				
EC 5 - 7 (benzene)	mg/kg	26000	< 0.01	< 0.01
EC >7 - 8 (toluene)	mg/kg	56000	< 0.05	< 0.05
EC >8 - 10	mg/kg	3500	< 2	< 2
EC >10 - 12	mg/kg	16000	< 2	< 2
EC >12 - 16	mg/kg	36000	< 2	< 2
EC >16 - 21	mg/kg	28000	< 3	< 3
EC >21 - 35	mg/kg	28000	< 10	< 10
Total petroleum hydrocarbons				
			< 42	< 42

Title
Comparison of measured concentrations of
petroleum hydrocarbons with guideline values.

Table number
6

Summary of petroleum hydrocarbon test results

Model: Residential

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL (mg/kg)	Concentration	
			WS203 0.30	WS203 0.60
Benzene	mg/kg	0.087	< 0.002	< 0.002
Toluene	mg/kg	130	< 0.005	< 0.005
Ethylbenzene	mg/kg	47	< 0.002	0.004
o-Xylene	mg/kg	60	< 0.002	0.003
m,p-Xylene	mg/kg	56	< 0.002	0.008

Hydrocarbon banding (Red highlights indicate exceedance of guideline value)

Fraction	unit	S4UL (mg/kg)	Concentration	
			WS203 0.30	WS203 0.60
Aliphatic				
EC 5 - 6	mg/kg	42	< 0.01	< 0.01
EC >6 - 8	mg/kg	100	< 0.05	< 0.05
EC >8 - 10	mg/kg	27	< 2	< 2
EC >10 - 12	mg/kg	130	< 2	< 2
EC >12 - 16	mg/kg	1100	< 3	< 3
EC >16 - 21	mg/kg	65000	< 3	< 3
EC >21-35	mg/kg	65000	< 10	< 10
Aromatic				
EC 5 - 7 (benzene)	mg/kg	70	< 0.01	< 0.01
EC >7 - 8 (toluene)	mg/kg	13	< 0.05	< 0.05
EC >8 - 10	mg/kg	34	< 2	< 2
EC >10 - 12	mg/kg	74	< 2	< 2
EC >12 - 16	mg/kg	140	< 2	< 2
EC >16 - 21	mg/kg	260	< 3	< 3
EC >21 - 35	mg/kg	1100	< 10	< 10
Total petroleum hydrocarbons				
			< 42	< 42

Title
Comparison of measured concentrations of
petroleum hydrocarbons with guideline values.

Table number
7

Controlled water screening sheet

Scenario	
Receptor	Drinking water
Surface water type	N/A
	N/A

Contaminant	Guideline source	Guideline value (µg/l)	Maximum recorded value (µg/l)	Location		
				Depth (m)	BH04 5.13	BH04 5.22
				Sample Type	EW	EW
				Type	Water	Water
Inorganics - Metals						
Arsenic	UK DWS	10	<LoD			< 5
Boron	UK DWS	1000	76			76
Cadmium	UK DWS	5	<LoD			< 0.4
Chromium (total)	UK DWS	50	<LoD			<LoD
Chromium (III)	N/A	N/A	<LoD			< 5
Chromium (VI)	N/A	N/A	<LoD			< 20
Copper	UK DWS	2000	<LoD			< 5
Lead	UK DWS	10	<LoD			< 5
Mercury	UK DWS	1	0.07			0.07
Nickel	UK DWS	20	7			7
Selenium	UK DWS	10	<LoD			< 5
Zinc	Int. DWS	3000	36			36
Inorganics - Miscellaneous						
pH	N/A	N/A	7.6			7.6
Cyanide - Total	UK DWS	50	<LoD			< 5
Cyanide - Free	N/A	N/A	<LoD			< 5
Ammonia (as N)	N/A	N/A	193			193
Nitrate (as NO3)	UK DWS	50000	37100			37100
Sulphate	UK DWS	250000	58000			58000
Organics - PAH & Phenol						
Naphthalene	N/A	N/A	0.03		< 0.01	0.03
Acenaphthylene	N/A	N/A	<LoD		< 0.01	< 0.01
Acenaphthene	N/A	N/A	<LoD		< 0.01	< 0.01
Fluorene	N/A	N/A	<LoD		< 0.01	< 0.01
Phenanthrene	N/A	N/A	<LoD		< 0.01	< 0.01
Anthracene	N/A	N/A	<LoD		< 0.01	< 0.01
Fluoranthene	N/A	N/A	<LoD		< 0.01	< 0.01
Pyrene	N/A	N/A	<LoD		< 0.01	< 0.01
Benzo(a)anthracene	N/A	N/A	<LoD		< 0.01	< 0.01
Chrysene	N/A	N/A	<LoD		< 0.01	< 0.01
Benzo(b)fluoranthene	N/A	N/A	<LoD		< 0.01	< 0.01
Benzo(k)fluoranthene	N/A	N/A	<LoD		< 0.01	< 0.01
Benzo(a)pyrene	UK DWS	0.01	<LoD		< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	N/A	N/A	<LoD	< 0.01	< 0.01	
Dibenz(a,h)anthracene	N/A	N/A	<LoD	< 0.01	< 0.01	
Benzo(ghi)perylene	N/A	N/A	<LoD	< 0.008	< 0.008	
PAH (sum of 4)	UK DWS	0.1	<LoD	<LoD	<LoD	
Phenol	N/A	N/A	<LoD		< 10	
Organics - BTEX & MTBE						
Benzene	UK DWS	1	<LoD	< 1	< 1	
Toluene	Int. DWS	700	<LoD	< 5	< 5	
Ethylbenzene	Int. DWS	300	<LoD	< 5	< 5	
Xylene (m and p, o)	Int. DWS	500	<LoD	<LoD	<LoD	
o-Xylene	N/A	N/A	<LoD	< 5	< 5	
m & p-xylene	N/A	N/A	<LoD	< 10	< 10	
MTBE	Int. DWS	15	<LoD	< 10	< 10	

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Controlled water screening sheet

Scenario	
Receptor	Drinking water
Surface water type	N/A
	N/A

Contaminant	Guideline source	Guideline value (µg/l)	Maximum recorded value (µg/l)	Location		
				Depth (m)	BH04	BH04
				Sample Type	EW	EW
				Type	Water	Water
Organics - TPH CWG						
EC05-EC06 Aliphatic	WHO	15000	<LoD		< 10	< 10
EC>06-EC08 Aliphatic	WHO	15000	<LoD		< 10	< 10
EC>08-EC10 Aliphatic	WHO	300	<LoD		< 10	< 10
EC>10-EC12 Aliphatic	WHO	300	<LoD		< 10	< 10
EC>12-EC16 Aliphatic	WHO	300	<LoD		< 10	< 10
EC>16-EC21 Aliphatic	N/A	N/A	<LoD		< 10	< 10
EC>21-EC35 Aliphatic	N/A	N/A	107		< 10	107
EC05-EC06 Aromatic (benzene)	UK DWS	1	<LoD		< 10	< 10
EC>06-EC08 Aromatic (toluene)	Int. DWS	700	<LoD		< 10	< 10
EC>08-EC10 Aromatic	WHO	300	<LoD		< 10	< 10
EC>10-EC12 Aromatic	WHO	90	<LoD		< 10	< 10
EC>12-EC16 Aromatic	WHO	90	<LoD		< 10	< 10
EC>16-EC21 Aromatic	WHO	90	<LoD		< 10	< 10
EC>21-EC35 Aromatic	WHO	90	<LoD		< 10	< 10
Organics - Free phase indicator						
EC05-EC06 Aliphatic	ST	28800	<LoD		< 10	< 10
EC>06-EC08 Aliphatic	ST	4320	<LoD		< 10	< 10
EC>08-EC10 Aliphatic	ST	344	<LoD		< 10	< 10
EC>10-EC12 Aliphatic	ST	27.2	<LoD		< 10	< 10
EC>12-EC16 Aliphatic	ST	10	<LoD		< 10	< 10
EC>16-EC21 Aliphatic	ST	10	<LoD		< 10	< 10
EC>21-EC35 Aliphatic	ST	10	107		< 10	107
EC05-EC06 Aromatic (benzene)	USEPA	5000	<LoD		< 10	< 10
EC>06-EC08 Aromatic (toluene)	ST	472000	<LoD		< 10	< 10
EC>08-EC10 Aromatic	ST	52000	<LoD		< 10	< 10
EC>10-EC12 Aromatic	ST	20000	<LoD		< 10	< 10
EC>12-EC16 Aromatic	ST	4640	<LoD		< 10	< 10
EC>16-EC21 Aromatic	ST	520	<LoD	< 10	< 10	
EC>21-EC35 Aromatic	ST	10	<LoD	< 10	< 10	

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Controlled water screening sheet

Scenario	
Receptor	Drinking water
Surface water type	N/A
	N/A

Contaminant	Guideline source	Guideline value (µg/l)	Maximum recorded value (µg/l)	Location	BH04	BH04
				Depth (m)	5.13	5.22
				Sample Type	EW	EW
				Type	Water	Water
Organics - VOCs						
PCE & TCE (sum of)	UK DWS	10	<LoD			<LoD
Trihalomethanes (sum of)	UK DWS	100	<LoD			<LoD
1,1,1,2-Tetrachloroethane	N/A	N/A	<LoD			< 5
1,1,1-Trichloroethane	N/A	N/A	<LoD			< 5
1,1,2,2-Tetrachloroethane	N/A	N/A	<LoD			< 10
1,1,2-Trichloroethane	N/A	N/A	<LoD			< 10
1,1-Dichloroethane	N/A	N/A	<LoD			< 5
1,1-Dichloroethene	N/A	N/A	<LoD			< 5
1,1-Dichloropropene	N/A	N/A	<LoD			< 5
1,2,3-Trichloropropane	N/A	N/A	<LoD			< 5
1,2,4-Trimethylbenzene	N/A	N/A	<LoD			< 5
1,2-Dibromo-3-chloropropane	Int. DWS	1	<LoD			< 10
1,2-Dibromoethane	Int. DWS	0.4	<LoD			< 5
1,2-Dichlorobenzene	Int. DWS	1000	<LoD			< 5
1,2-Dichloroethane	UK DWS	3	<LoD			< 10
1,2-Dichloropropane	Int. DWS	40	<LoD			< 5
1,3,5-Trimethylbenzene	N/A	N/A	<LoD			< 5
1,3-Dichlorobenzene	N/A	N/A	<LoD			< 5
1,3-Dichloropropane	Int. DWS	20	<LoD			< 5
1,4-Dichlorobenzene	Int. DWS	300	<LoD			< 5
2,2-Dichloropropane	N/A	N/A	<LoD			< 5
2-Chlorotoluene	N/A	N/A	<LoD			< 5
4-Chlorotoluene	N/A	N/A	<LoD			< 5
Benzene	UK DWS	1	<LoD		< 1	< 1
Bromobenzene	N/A	N/A	<LoD			< 5
Bromochloromethane	N/A	N/A	<LoD			< 10
Bromodichloromethane	N/A	N/A	<LoD			< 5
Bromoform	N/A	N/A	<LoD			< 10
Bromomethane	N/A	N/A	<LoD			< 5
Carbon Tetrachloride	UK DWS	3	<LoD			< 5
Chlorobenzene	N/A	N/A	<LoD			< 5
Chloroethane	N/A	N/A	<LoD			< 5
Chloroform	N/A	N/A	<LoD			< 5
Chloromethane	N/A	N/A	<LoD			< 5
cis-1,2-Dichloroethene	Int. DWS	50	<LoD			< 5
cis-1,3-Dichloropropene	N/A	N/A	<LoD			< 5
Dibromochloromethane	N/A	N/A	<LoD			< 5
Dibromomethane	N/A	N/A	<LoD			< 5
Dichlorodifluoromethane	N/A	N/A	<LoD			< 5
Ethylbenzene	Int. DWS	300	<LoD		< 5	< 5
Hexachlorobutadiene	Int. DWS	0.6	<LoD			< 5
Isopropylbenzene	N/A	N/A	<LoD			< 5
m & p-xylene	Int. DWS	500	<LoD		< 10	< 10
MTBE	Int. DWS	15	<LoD		< 10	< 10
n-Butylbenzene	N/A	N/A	<LoD			< 5
n-Propylbenzene	N/A	N/A	<LoD			< 5
o-Xylene	Int. DWS	500	<LoD		< 5	< 5
p-Isopropyltoluene	N/A	N/A	<LoD		< 5	
sec-Butylbenzene	N/A	N/A	<LoD		< 5	
Styrene	Int. DWS	20	<LoD		< 5	
TAME	N/A	N/A	<LoD		< 5	
tert-Butylbenzene	N/A	N/A	<LoD		< 5	
Tetrachloroethene	N/A	N/A	<LoD		< 5	
Toluene	Int. DWS	700	<LoD	< 5	< 5	
trans-1,2-Dichloroethene	Int. DWS	50	<LoD		< 5	
trans-1,3-Dichloropropene	N/A	N/A	<LoD		< 5	
Trichloroethene	N/A	N/A	<LoD		< 5	
Trichlorofluoromethane	N/A	N/A	<LoD		< 5	
Vinyl Chloride	UK DWS	0.5	<LoD		< 5	

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Controlled water screening sheet

Scenario	
Receptor	Drinking water
Surface water type	N/A
	N/A

Contaminant	Guideline source	Guideline value (µg/l)	Maximum recorded value (µg/l)	Location	BH04	BH04
				Depth (m)	5.13	5.22
				Sample Type	EW	EW
				Type	Water	Water
Organics - SVOCs						
Dichlorobenzenes (sum of)	N/A	N/A	<LoD			<LoD
Trichlorobenzenes (sum of)	N/A	N/A	<LoD			<LoD
1,2,4-Trichlorobenzene	N/A	N/A	<LoD			< 0.1
1,2-Dichlorobenzene	Int. DWS	1000	<LoD			< 5
1,3-Dichlorobenzene	N/A	N/A	<LoD			< 5
1,4-Dichlorobenzene	Int. DWS	300	<LoD			< 5
2,4,5-Trichlorophenol	N/A	N/A	<LoD			< 0.1
2,4,6-Trichlorophenol	N/A	N/A	<LoD			< 0.1
2,4-Dichlorophenol	N/A	N/A	<LoD			< 0.1
2,4-Dimethylphenol	N/A	N/A	<LoD			< 0.1
2,4-Dinitrotoluene	N/A	N/A	<LoD			< 0.1
2,6-Dinitrotoluene	N/A	N/A	<LoD			< 0.1
2-Chloronaphthalene	N/A	N/A	<LoD			< 0.1
2-Chlorophenol	N/A	N/A	<LoD			< 0.1
2-Methylnaphthalene	N/A	N/A	<LoD			< 0.1
2-Nitroaniline	N/A	N/A	<LoD			< 0.1
2-Nitrophenol	N/A	N/A	<LoD			< 0.1
3-Nitroaniline	N/A	N/A	<LoD			< 0.1
4-Bromophenyl phenyl ether	N/A	N/A	<LoD			< 0.1
4-Chloro-3-methylphenol	N/A	N/A	<LoD			< 0.1
4-Chloroaniline	N/A	N/A	<LoD			< 0.1
4-Chlorophenyl phenyl ether	N/A	N/A	<LoD			< 0.1
4-Nitroaniline	N/A	N/A	<LoD			< 0.1
4-Nitrophenol	N/A	N/A	<LoD			< 0.1
Azobenzene	N/A	N/A	<LoD			< 0.1
Benzyl butyl phthalate	N/A	N/A	<LoD			< 0.1
bis(2-chloroethoxy)methane	N/A	N/A	<LoD			< 0.1
bis(2-chloroethyl)ether	N/A	N/A	<LoD			< 0.1
bis(2-ethylhexyl)phthalate	Int. DWS	8	<LoD			< 0.1
Carbazole	N/A	N/A	<LoD			< 0.1
Dibenzofuran	N/A	N/A	<LoD			< 0.1
Dibutyl phthalate	N/A	N/A	<LoD			< 0.1
Diethyl phthalate	N/A	N/A	<LoD			< 0.1
Dimethyl phthalate	N/A	N/A	<LoD			< 0.1
Di-n-octyl phthalate	N/A	N/A	<LoD			< 0.1
Hexachlorobenzene	N/A	N/A	<LoD			< 0.1
Hexachlorobutadiene	Int. DWS	0.6	<LoD			< 5
Hexachlorocyclopentadiene	N/A	N/A	<LoD			< 0.1
Hexachloroethane	N/A	N/A	<LoD			< 0.1
Isophorone	N/A	N/A	0.1			0.1
Nitrobenzene	N/A	N/A	<LoD			< 0.1
o-Cresol	N/A	N/A	<LoD			< 0.1
p-Cresol	N/A	N/A	<LoD			< 0.1
Phenol	N/A	N/A	<LoD			< 10

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Updated Qualitative Conceptual Model

Current site use

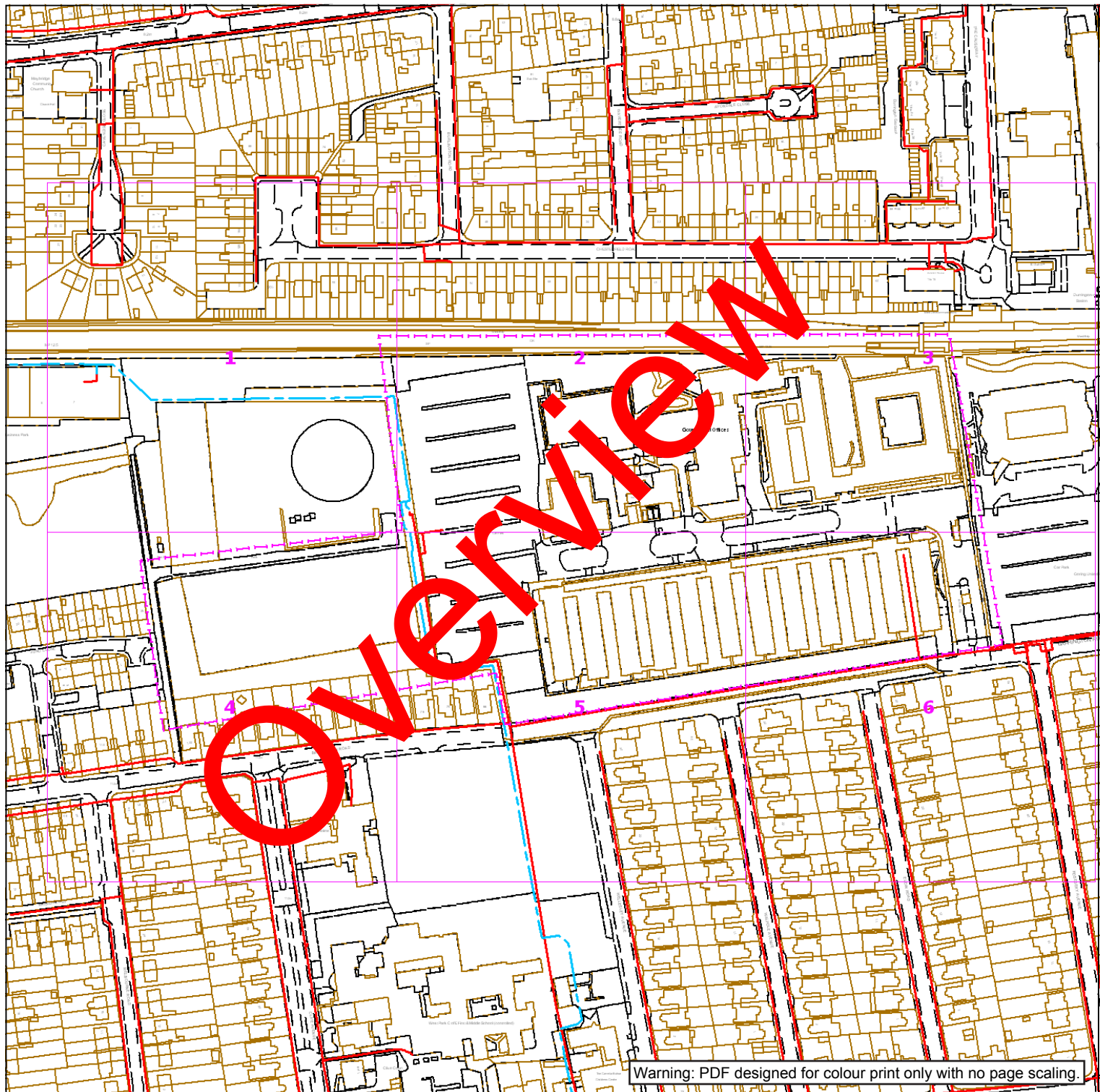
Proposed site use

commercial/industrial

residential

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans						Vegetation	Water				Consequence of risk occurring via most likely pathway	Risk	
	Ingestion of air-borne dusts	Ingestion of soil	Ingestion of vegetables and soil attached to vegetables	Inhalation of air-borne dusts	Inhalation of vapours	Dermal contact with soil and dust	Root uptake, deposition to shoots and foliage contact	Percolation of water through contaminated soils	Near-surface water run-off through contaminated	Saturation of contaminated soils by flood waters				
Soils														
Made Ground soils in the main part of the site (PAH)	Low likelihood	Low likelihood	Unlikely	Low likelihood	Low likelihood	Low likelihood	-	-	-	-	Current site users	Adult	Minor	Very low
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	-	Likely	Unlikely	Unlikely	Water (current and proposed)	-	Minor	Low
Hotspot of arsenic contamination around WS04	Low likelihood	Low likelihood	Unlikely	Low likelihood	Low likelihood	Low likelihood	-	-	-	-	Current site users	Adult	Minor	Very low
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	-	Likely	Unlikely	Unlikely	Water (current and proposed)	-	Minor	Low
Potenitally localised asbestos and lead contamination in the vacinity of the maintenance facilities area	Low likelihood	Low likelihood	Unlikely	Low likelihood	Low likelihood	Low likelihood	-	-	-	-	Current site users	Adult	Mild	Low
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	-	Likely	Unlikely	Unlikely	Water (current and proposed)	-	Minor	Low
Potential contamination associated with the facilities maintenance area of the site and beneath the electricity substation in the south east of the site (PCBs, TPH, VOC)	Low likelihood	Low likelihood	Unlikely	Low likelihood	Low likelihood	Low likelihood	-	-	-	-	Current and proposed site users	Adult	Medium	Low/moderate
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	-	Likely	Unlikely	Unlikely	Water (current and proposed)	-	Mild	Low/moderate
Localised cyanide and PAH contamination in the vicinity of WS105 in the south western part of the site	Low likelihood	Low likelihood	Unlikely	Low likelihood	Low likelihood	Low likelihood	-	-	-	-	Current site users	Adult	Mild	Low
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	-	Likely	Unlikely	Unlikely	Water (current and proposed)	-	Minor	Low

Title	Table number
Updated Qualitative Conceptual Site Model	1
Revision 0	April 2021



Contact Us

SGN Safety Admin Team:
0800 912 1722
Email:
plantlocation@sgn.co.uk

Low Pressure Mains

Medium Pressure Mains

Intermediate Pressure Mains

High Pressure Mains

Some Examples Of Plant Items

Valve

Syphon

Depth of Cover

Valve

Syphon

Depth of Cover

Valve

Digsite:

Line:

Area:

LAS

GTs

Diameter Change

Material Change

Digsite:

Line:

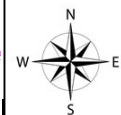
Area:

LAS

GTs

Diameter Change

Material Change



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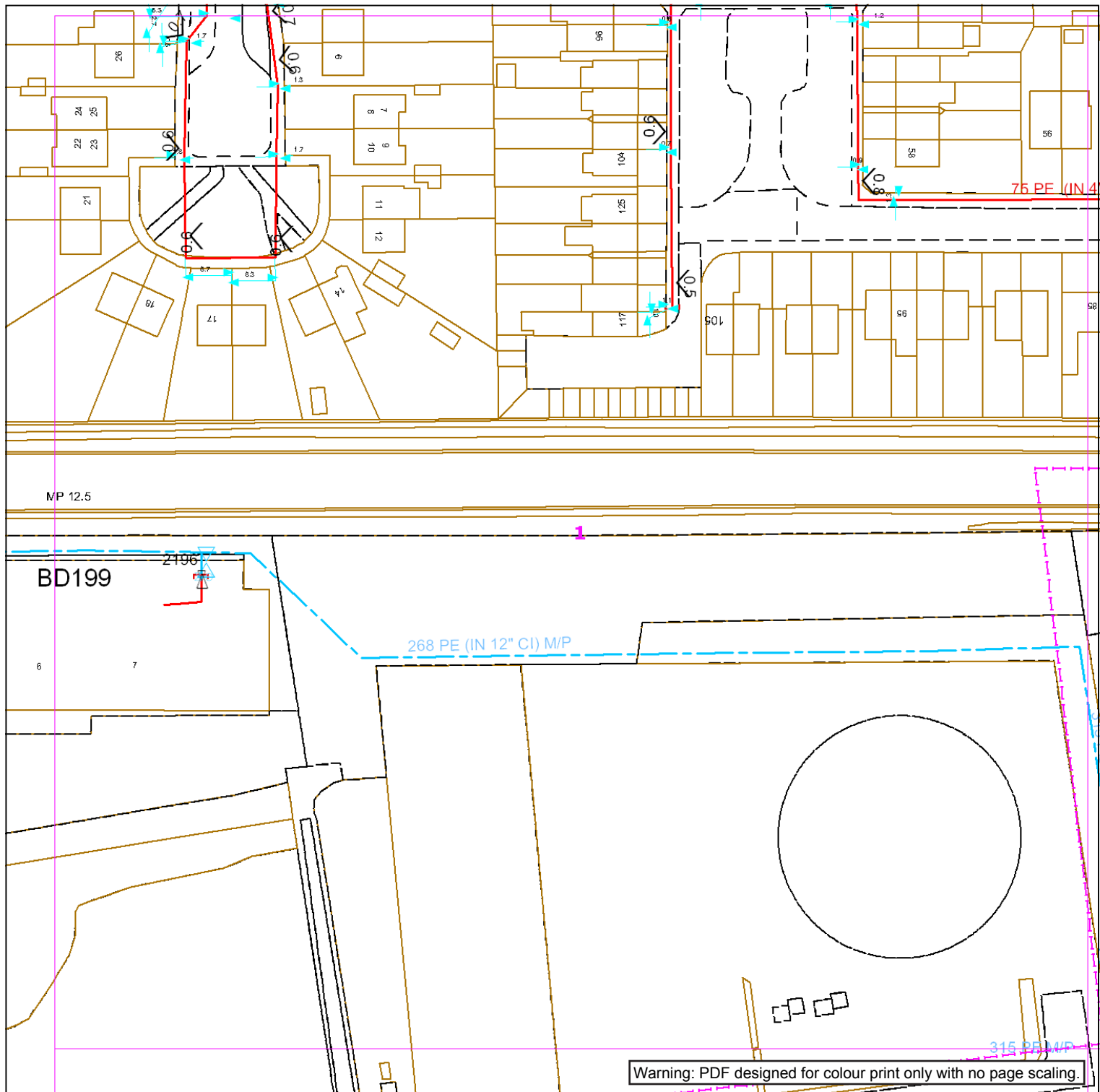


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Syphon

Depth of Cover

Digsite:

Line:

Area:

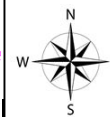
LAS

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SSSIs

Diameter Change

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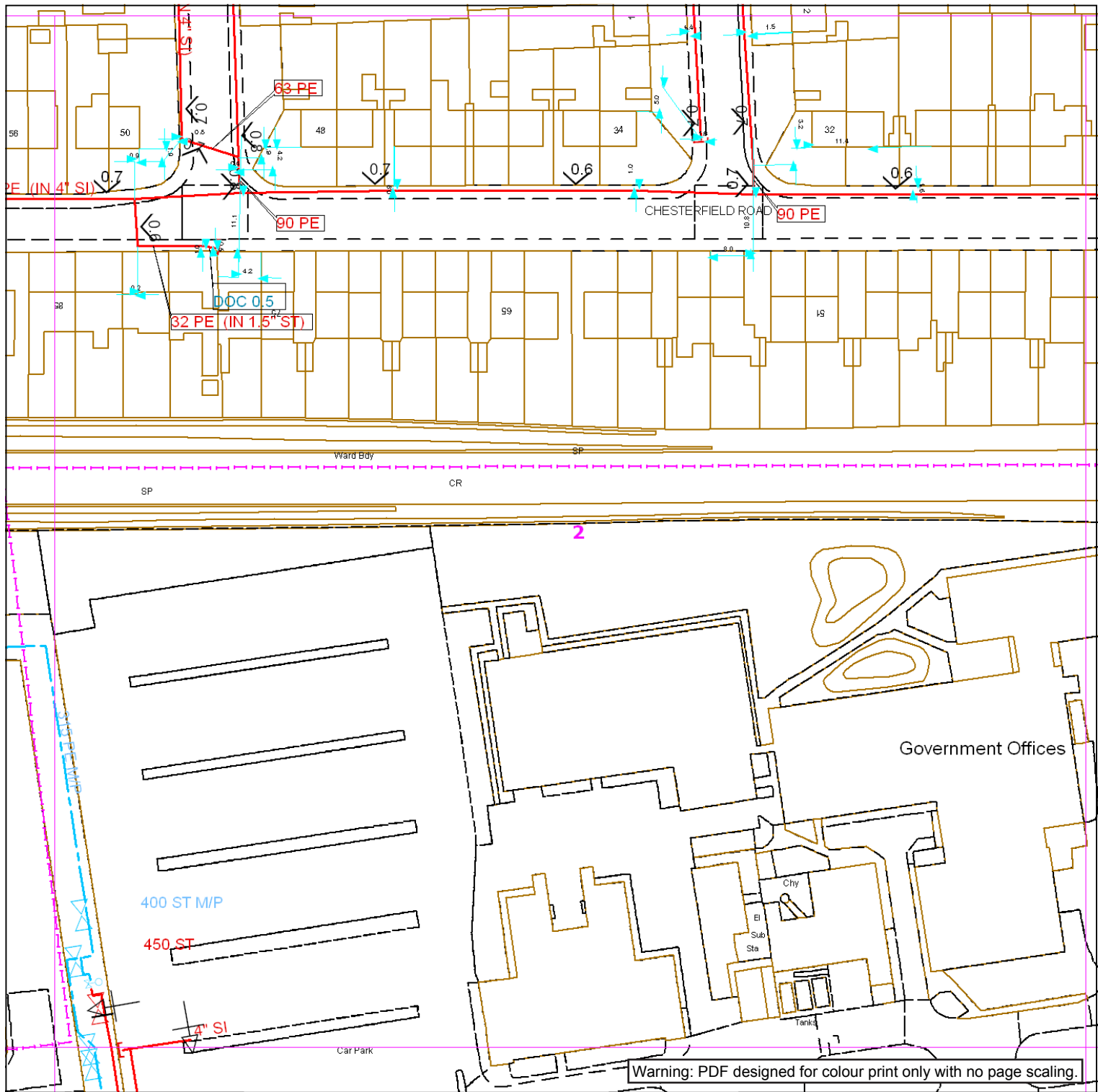
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Date Requested: 03/12/2020
Job Reference: 20712204
Site Location: 511771 103080
Requested by:
Miss Alexa Band
Your Scheme/Reference:
STS5226

Exact Scales:
1:1000 Area or Circle dig site
1:1000 Line dig site



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Syphon

Depth of Cover

Valve

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Digsite:

Line:

Area:

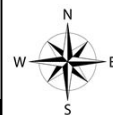
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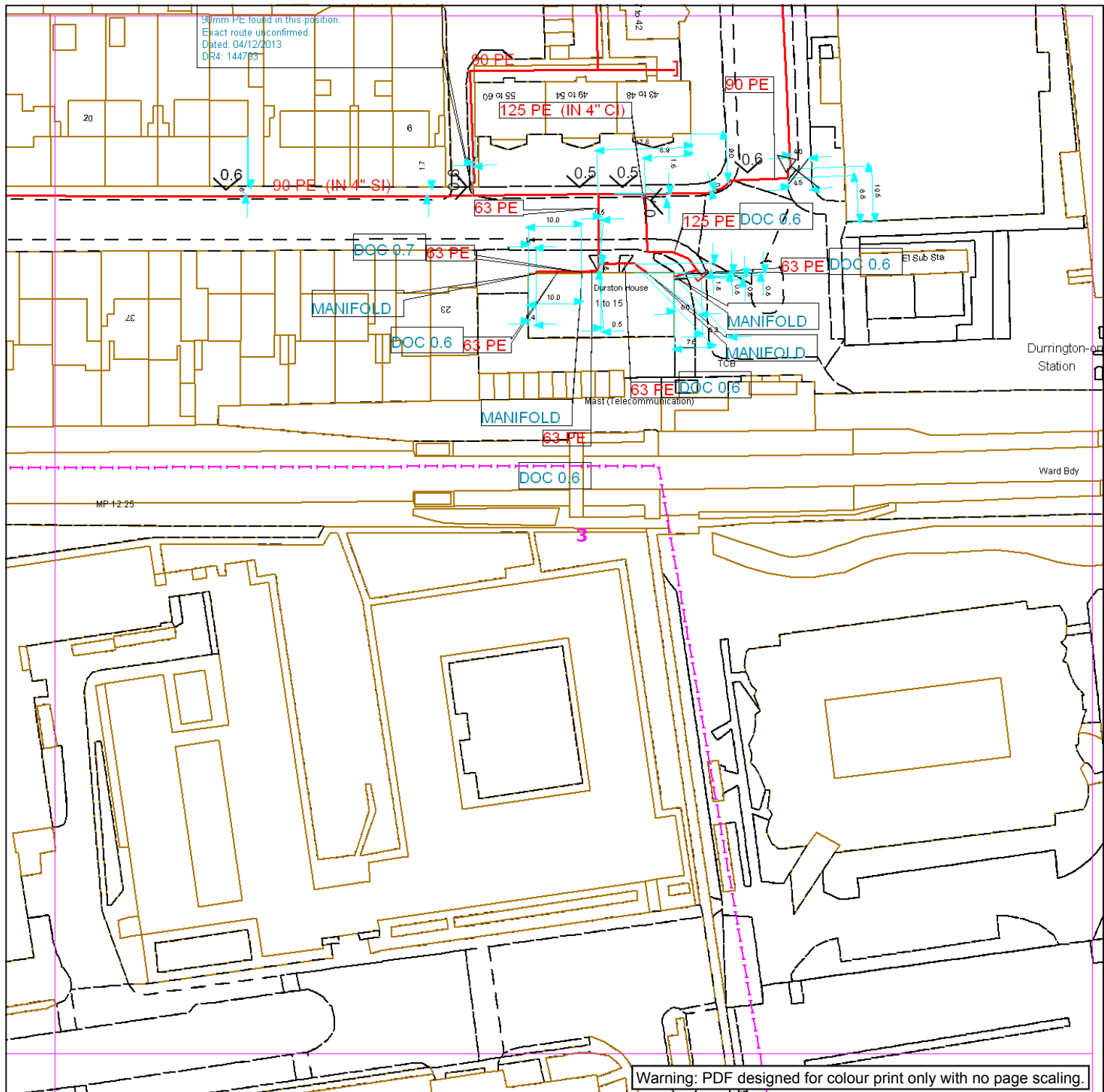
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Depth of Cover

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Area:

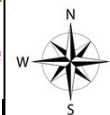
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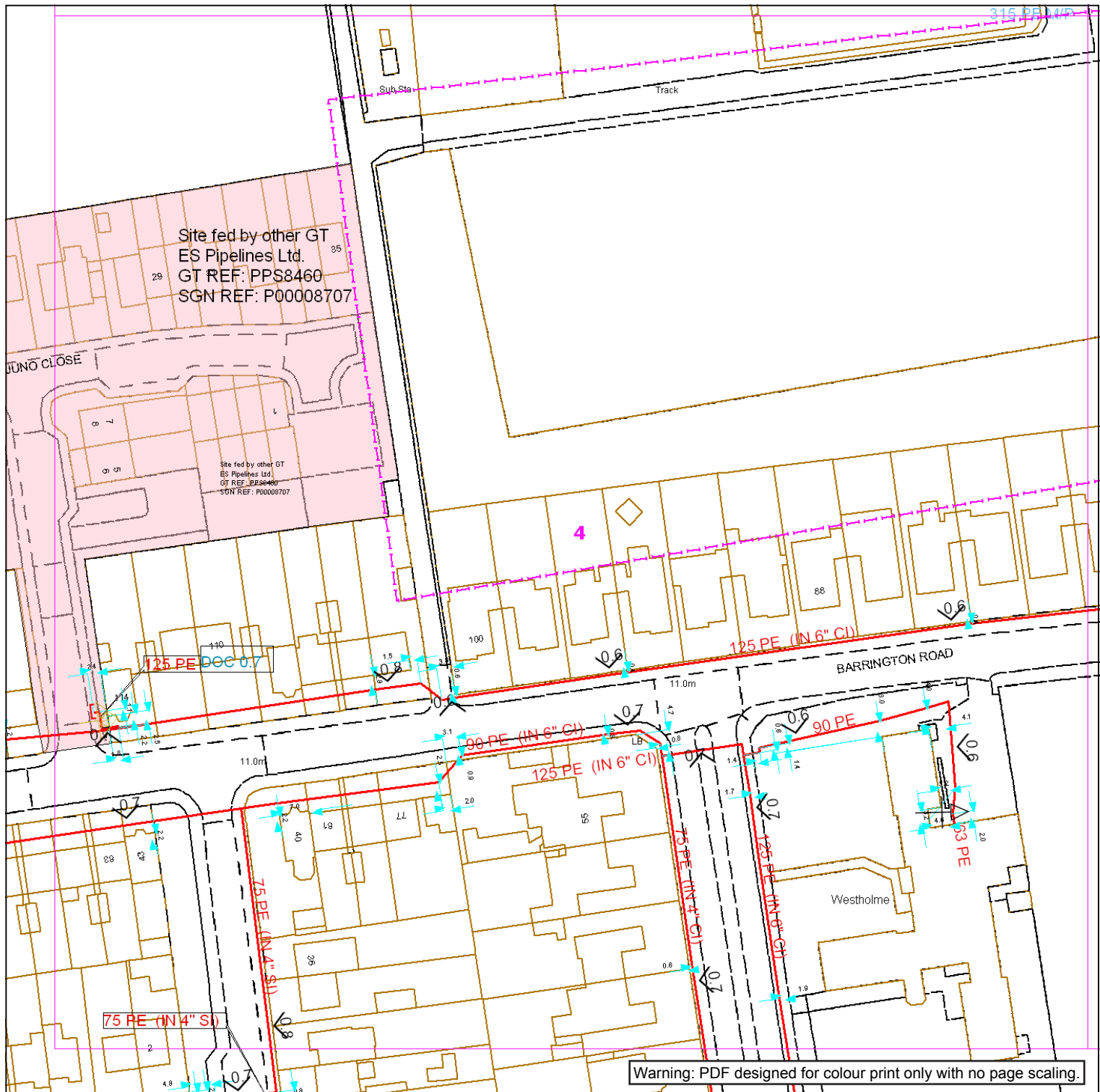
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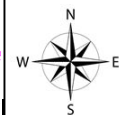
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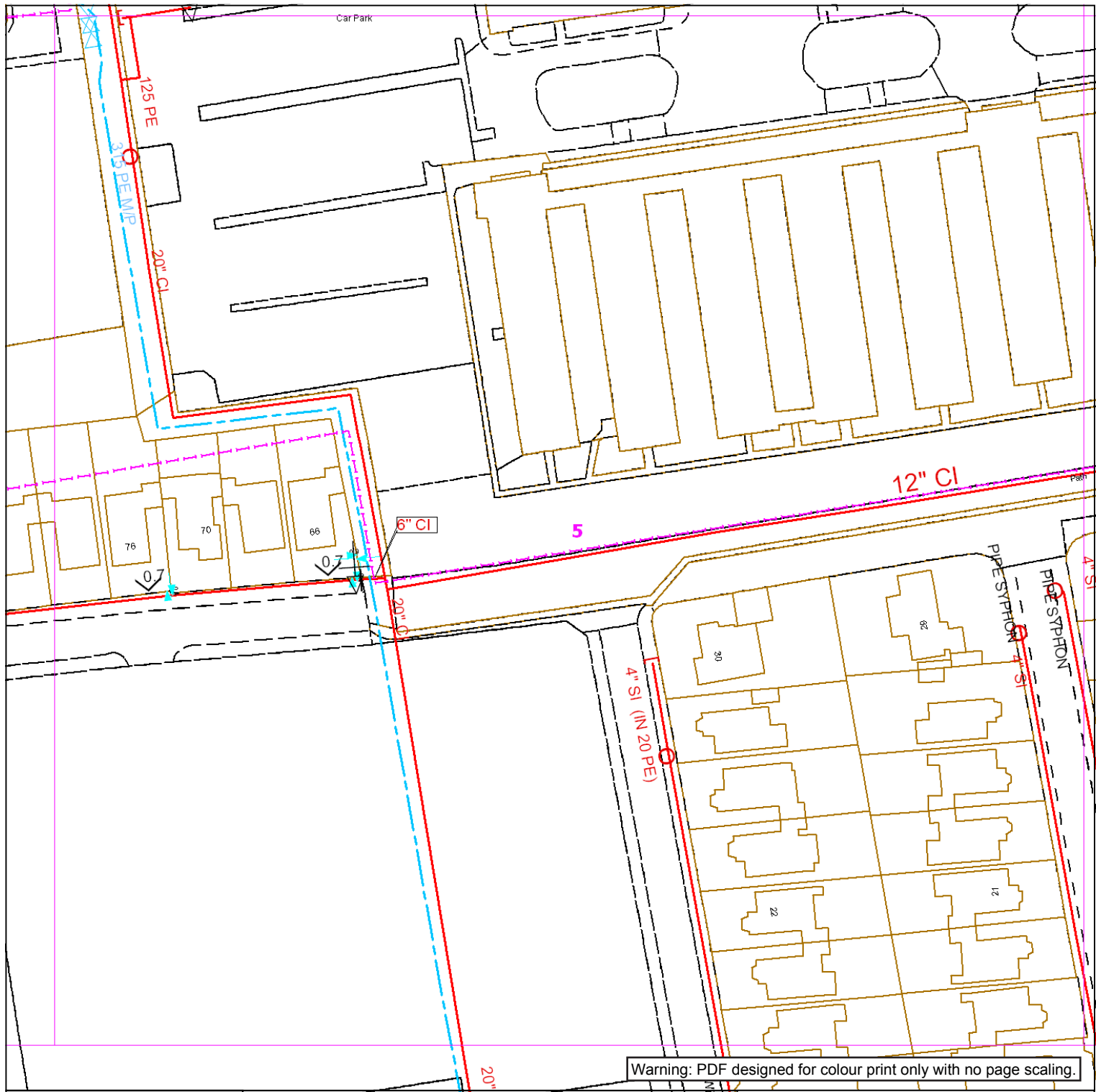
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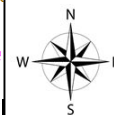
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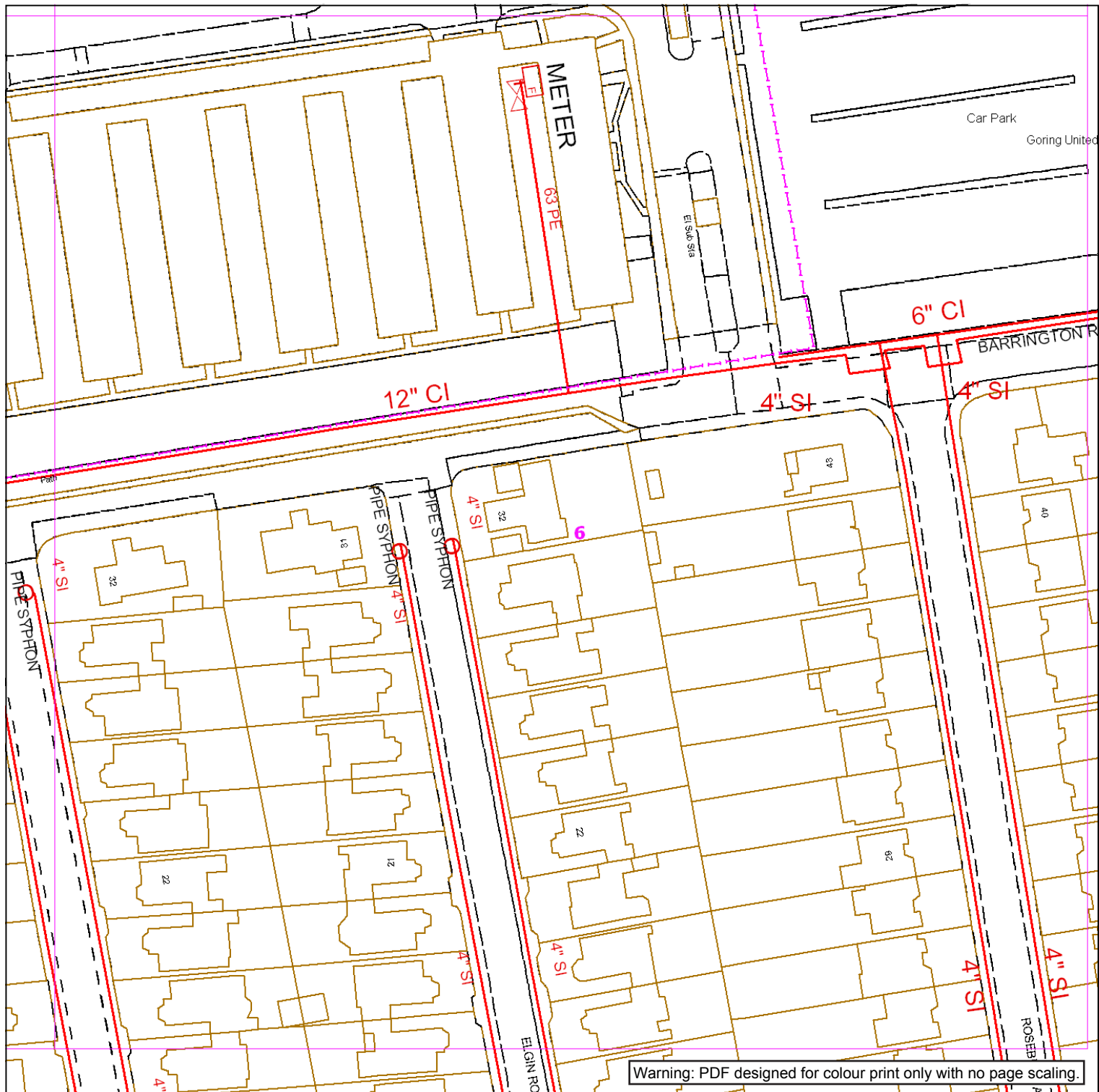
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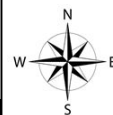
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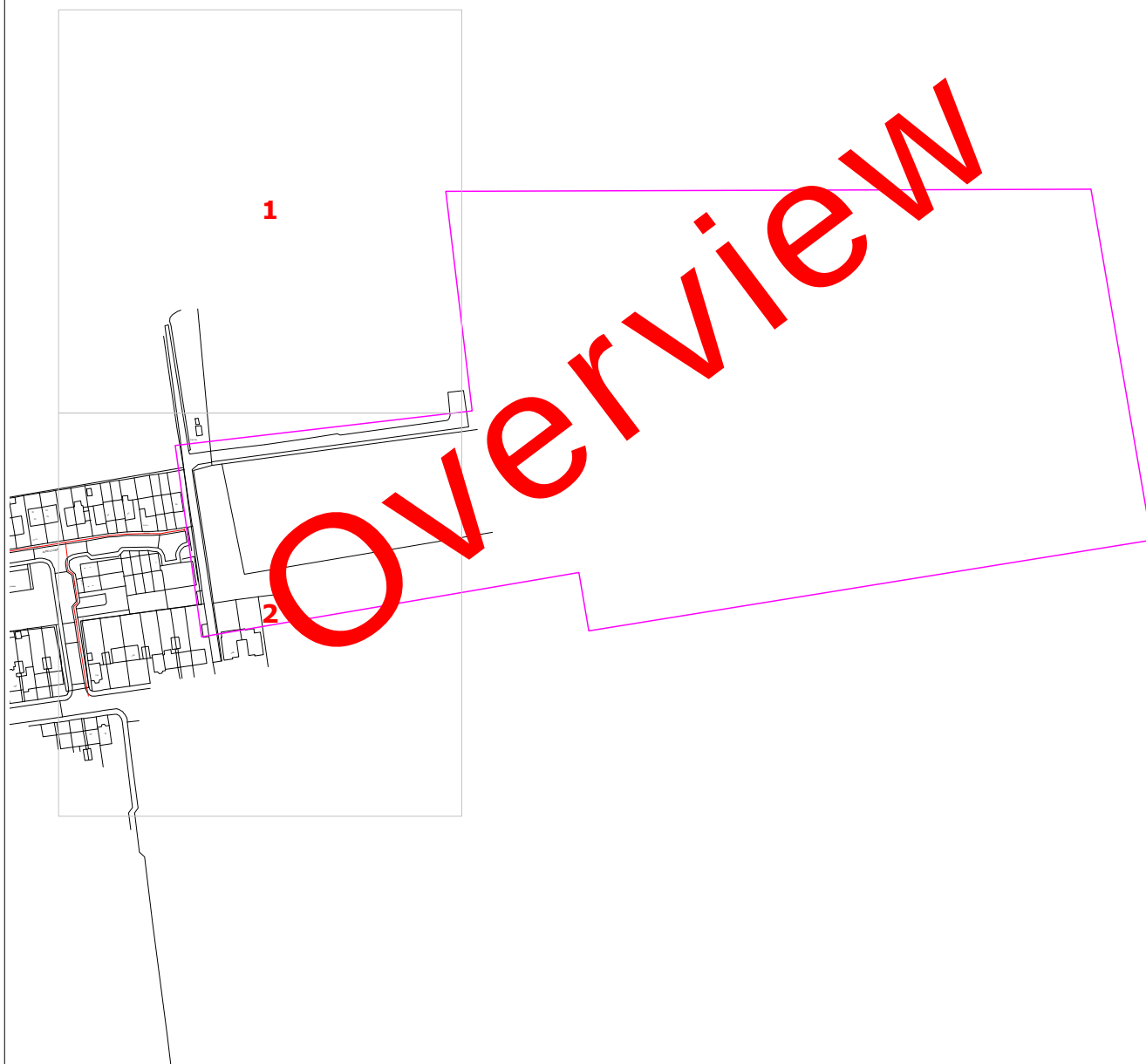
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Date Requested: 03/12/2020

Requested by: Alexa Band

Job Reference: 20712204

Company: Soiltechnics

Your Scheme/Reference: STS5226

Key for Mains & Service Pipework



Existing LP mains or services operating up to 75 millibar gauge



Existing MP mains or services operating between 75 millibar and 2 bar gauge



Existing IP mains or services operating between 2 bar and 7 bar gauge

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UTILITIES GROUP

ESP Utilities Group Ltd
Bluebird House
Mole Business Park
Leatherhead
Surrey

KT22 7BA

Phone: 01372 587500

Email: PlantResponses@espug.com

Dig Sites:

Area  Line 

Approx scale on A4 paper: 1:1000
(excluding Overview map)

1

Date Requested: 03/12/2020

Requested by: Alexa Band

Job Reference: 20712204

Company: Soiltechnics

Your Scheme/Reference: STS5226

Key for Mains & Service Pipework

	Existing LP mains or services operating up to 75 millibar gauge
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	Existing IP mains or services operating between 2 bar and 7 bar gauge

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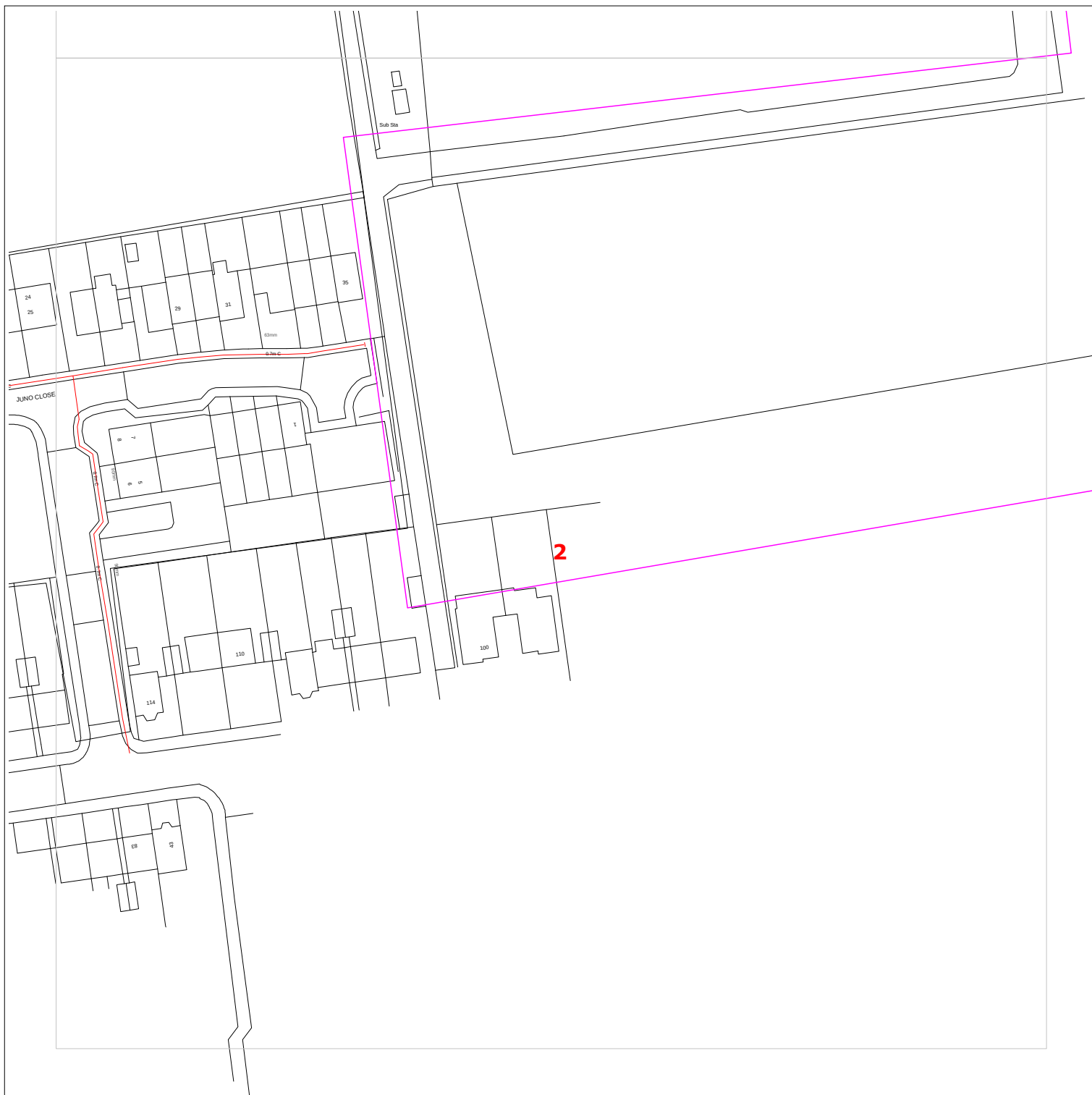


UTILITIES GROUP

ESP Utilities Group Ltd
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Dig Sites:

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Date Requested: 03/12/2020

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