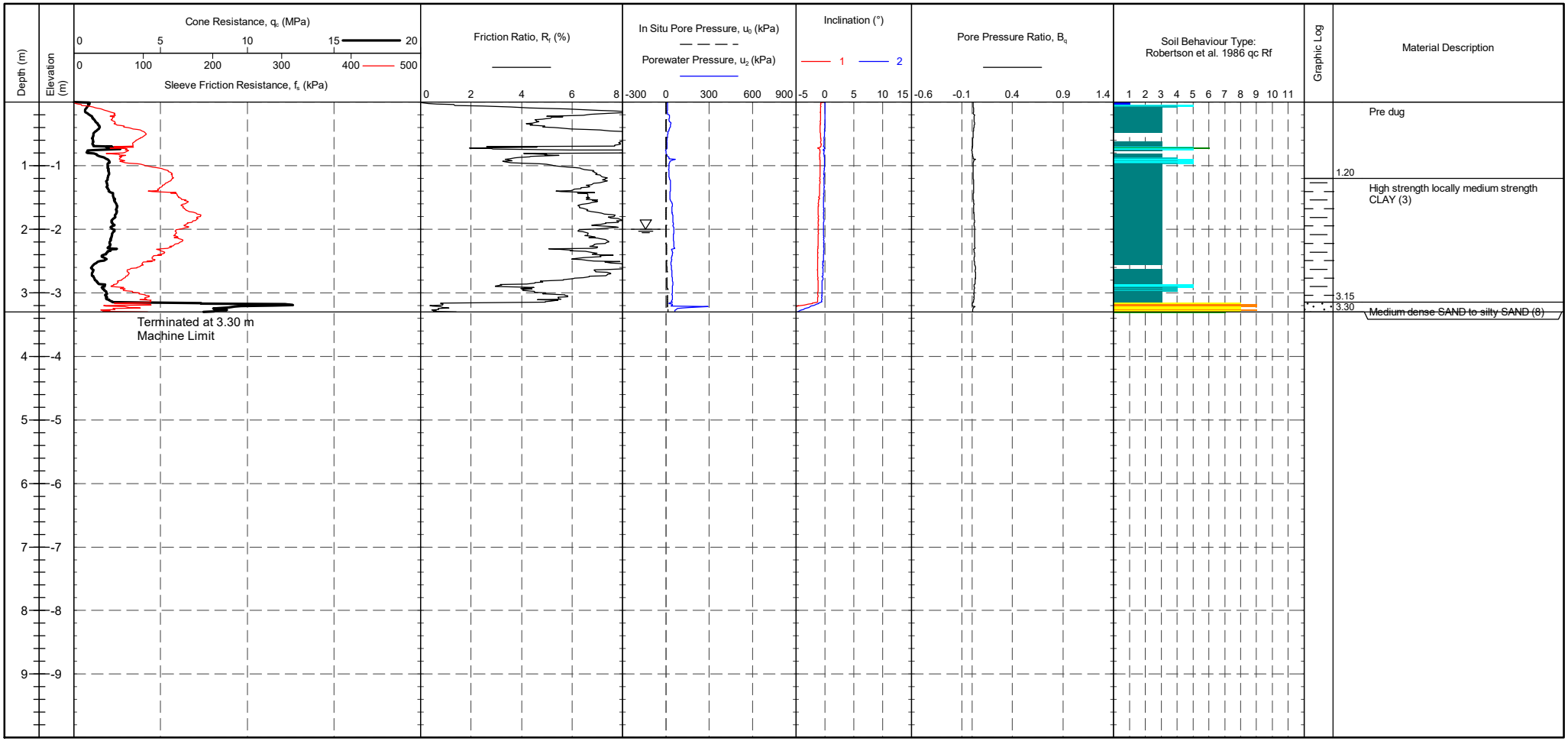
CPT LOG 01

IN SITU SITE INVESTIGATION Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

PointID **CPT 31B**

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Machine Limit	REMARK Test refused on inclination.	SHEET : 1 OF 1 STATUS : Final TEST DATE : 07/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012



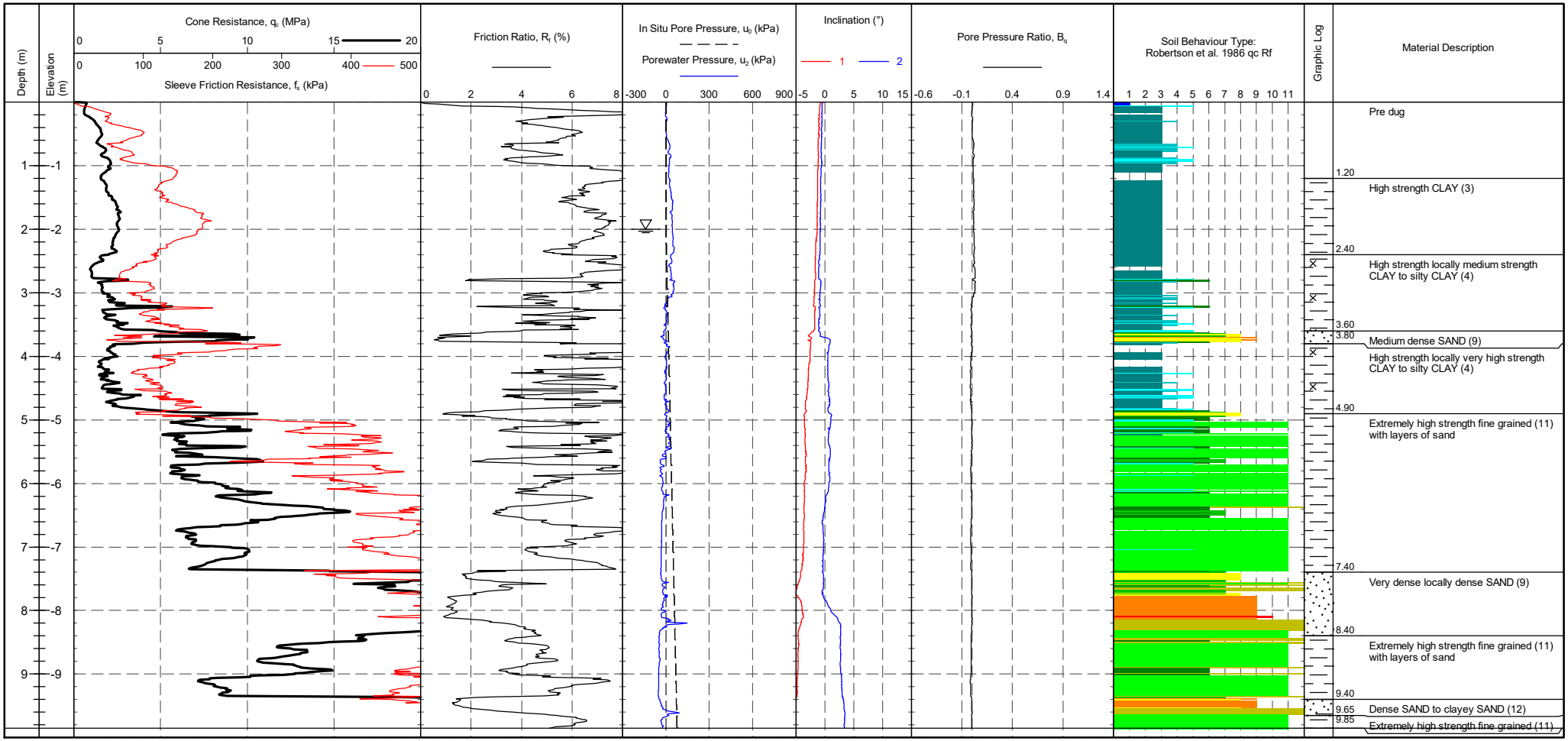
CONE ID : S15-CFIP.1488 CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 31B WEATHER : Sunny & Mild	CPTU ZERO VALUES Transducer / Pre / Post / Difference Tip: 309 mV / 312 mV / 0.033 MPa Sleeve: 270 mV / 273 mV / 0.002 kPa Pore Pressure 2: 237 mV / 282 mV / 0.013 kPa X-Y Inclinometer: 2466 mV / 2413 mV	METHOD: Robertson et al. 1986 qc Rf 1 - Sensitive fine grained material 2 - Organic material 3 - Clay 4 - Silty clay to clay 5 - Clayey silt to silty clay 6 - Sandy silt to clayey silt 7 - Silty sand to sandy silt 8 - Sand to silty sand 9 - Sand 10 - Gravelly sand to sand 11 - Very stiff fine grained 12 - Sand to clayey sand	Groundwater Level Dissipation Test

CPT LOG 01

IN SITU SITE INVESTIGATION Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

PointID **CPT 31C**

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Refusal	REMARK Test refused on sleeve friction.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 07/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1488 CONE AREA : 15cm^2 CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 31C WEATHER : Sunny & Mild	CPTU ZERO VALUES Transducer / Pre / Post / Difference Tip: 311 mV / 308 mV / -0.033 MPa Sleeve: 273 mV / 264 mV / -0.006 kPa Pore Pressure 2: 266 mV / 99 mV / -0.047 kPa X-Y Inclinometer: 2405 mV / 2420 mV	METHOD: Robertson et al. 1986 qc Rf 1 - Sensitive fine grained material 2 - Organic material 3 - Clay 4 - Silty clay to clay 5 - Clayey silt to silty clay 6 - Sandy silt to clayey silt 7 - Silty sand to sandy silt 8 - Sand to silty sand 9 - Sand 10 - Gravelly sand to sand 11 - Very stiff fine grained 12 - Sand to clayey sand

Groundwater Level

Dissipation Test

CPT LOG 01

IN SITU SITE INVESTIGATION

Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

PointID

CPT 31C

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Refusal	REMARK Test refused on sleeve friction.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 07/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012

Depth (m)	Elevation (m)	Cone Resistance, q_c (MPa) / Sleeve Friction Resistance, f_s (kPa)	Friction Ratio, R_f (%)	In Situ Pore Pressure, u_0 (kPa) / Porewater Pressure, u_2 (kPa)	Inclination (°)	Pore Pressure Ratio, B_q	Soil Behaviour Type: Robertson et al. 1986 qc Rf	Graphic Log	Material Description
		0 5 10 15 20 / 0 100 200 300 400 500	0 2 4 6 8	-300 0 300 600 900	-5 0 5 10 15 (1, 2)	-0.6 -0.1 0.4 0.9 1.4	1 2 3 4 5 6 7 8 9 10 11		
		Terminated at 9.85 m Refusal							
11	-11								
12	-12								
13	-13								
14	-14								
15	-15								
16	-16								
17	-17								
18	-18								
19	-19								

CONE ID : S15-CFIP.1488 CONE AREA : 15cm^2 CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 31C WEATHER : Sunny & Mild	CPTU ZERO VALUES Transducer / Pre / Post / Difference Tip: 311 mV / 308 mV / -0.033 MPa Sleeve: 273 mV / 264 mV / -0.006 kPa Pore Pressure 2: 266 mV / 99 mV / -0.047 kPa X-Y Inclinometer: 2405 mV / 2420 mV	METHOD: Robertson et al. 1986 qc Rf 1 - Sensitive fine grained material 2 - Organic material 3 - Clay 4 - Silty clay to clay 5 - Clayey silt to silty clay 6 - Sandy silt to clayey silt 7 - Silty sand to sandy silt 8 - Sand to silty sand 9 - Sand 10 - Gravelly sand to sand 11 - Very stiff fine grained 12 - Sand to clayey sand

Groundwater Level

Dissipation Test

CPT LOG 01

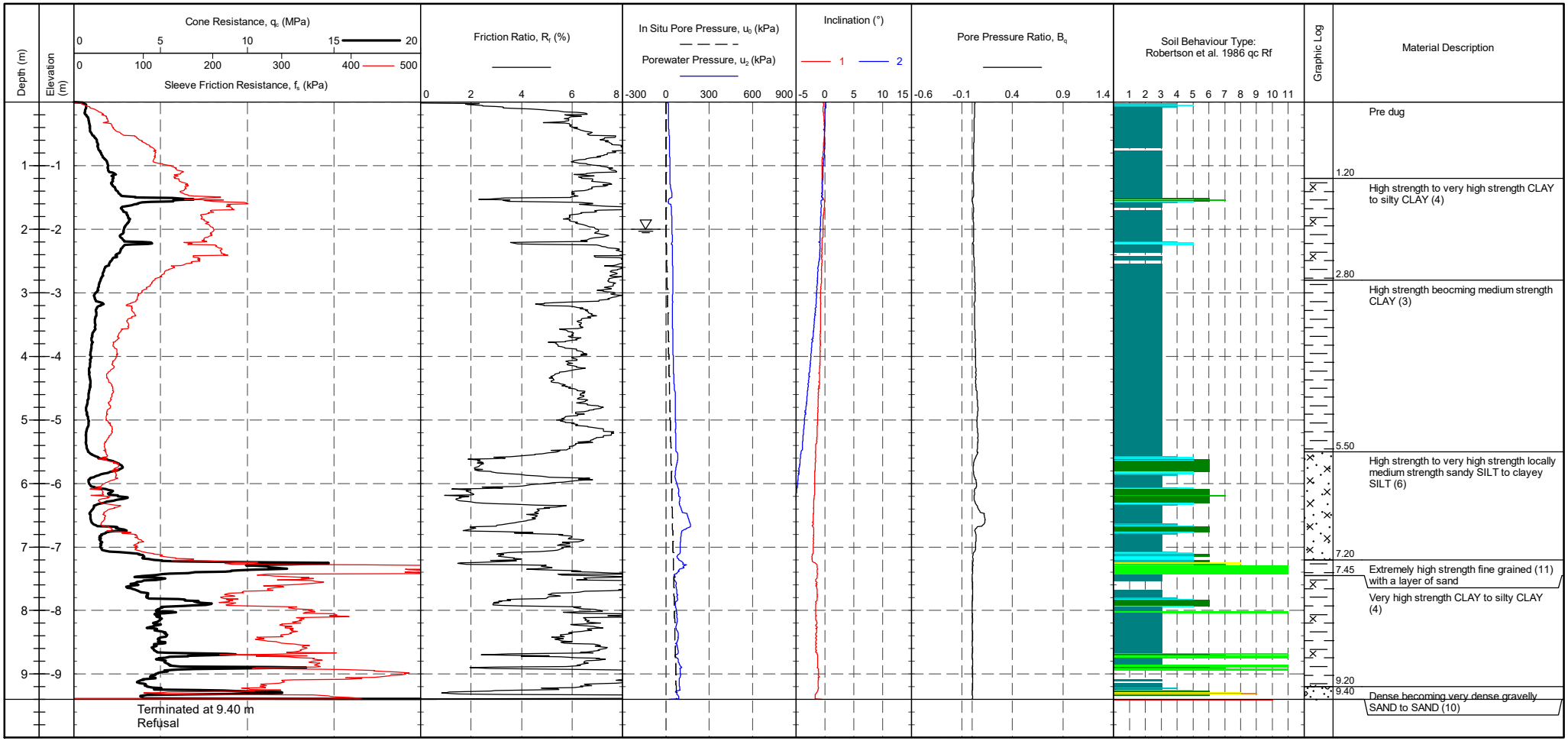
IN SITU SITE INVESTIGATION

Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

PointID

CPT 32

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Refusal	REMARK Test refused on tip resistance.	SHEET : 1 OF 1 STATUS : Final TEST DATE : 03/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1488 CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 32 WEATHER : Overcast & Mild	CPTU ZERO VALUES Transducer / Pre / Post / Difference Tip / 304 mV / 310 mV / 0.066 MPa Sleeve / 267 mV / 275 mV / 0.006 kPa Pore Pressure 2 / 234 mV / 300 mV / 0.019 kPa X-Y Inclinometer / 2439 mV / 2437 mV	METHOD: Robertson et al. 1986 qc Rf 1 - Sensitive fine grained material 2 - Organic material 3 - Clay 4 - Silty clay to clay 5 - Clayey silt to silty clay 6 - Sandy silt to clayey silt 7 - Silty sand to sandy silt 8 - Sand to silty sand 9 - Sand 10 - Gravelly sand to sand 11 - Very stiff fine grained 12 - Sand to clayey sand

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

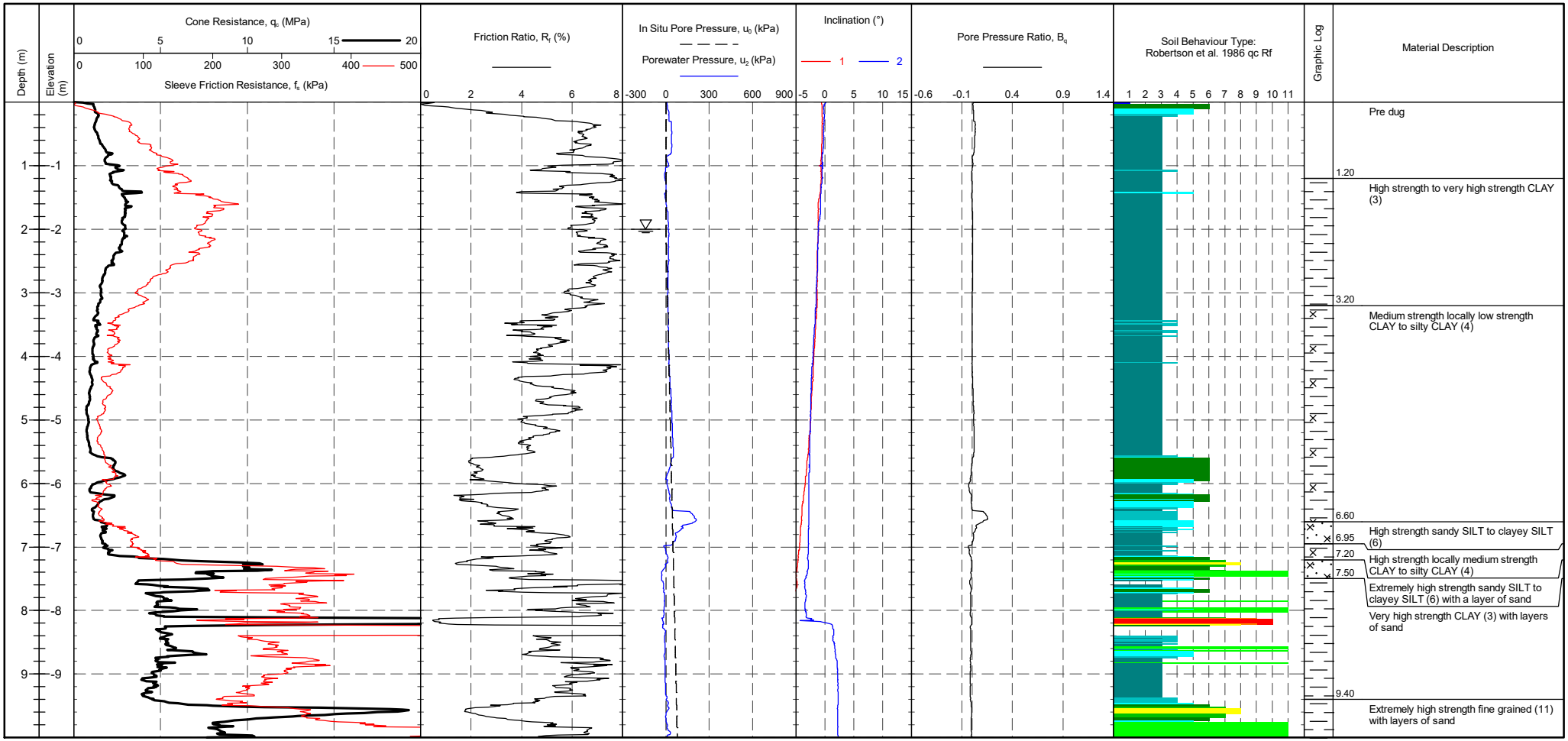
Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

CPT LOG 01

PointID

CPT 32B

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Refusal	REMARK Test refused on tip resistance.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 07/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1488 CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 32B WEATHER : Sunny & Mild	CPTU ZERO VALUES	METHOD: Robertson et al. 1986 qc Rf

Transducer	Pre	Post	Difference
Tip	309 mV	307 mV	-0.022 MPa
Sleeve	266 mV	268 mV	0.001 kPa
Pore Pressure 2	170 mV	234 mV	0.018 kPa
X-Y Inclinometer	2408 mV	2483 mV	

1 - Sensitive fine grained material
2 - Organic material
3 - Clay
4 - Silty clay to clay
5 - Clayey silt to silty clay
6 - Sandy silt to clayey silt
7 - Silty sand to sandy silt
8 - Sand to silty sand
9 - Sand
10 - Gravelly sand to sand
11 - Very stiff fine grained
12 - Sand to clayey sand

Groundwater Level

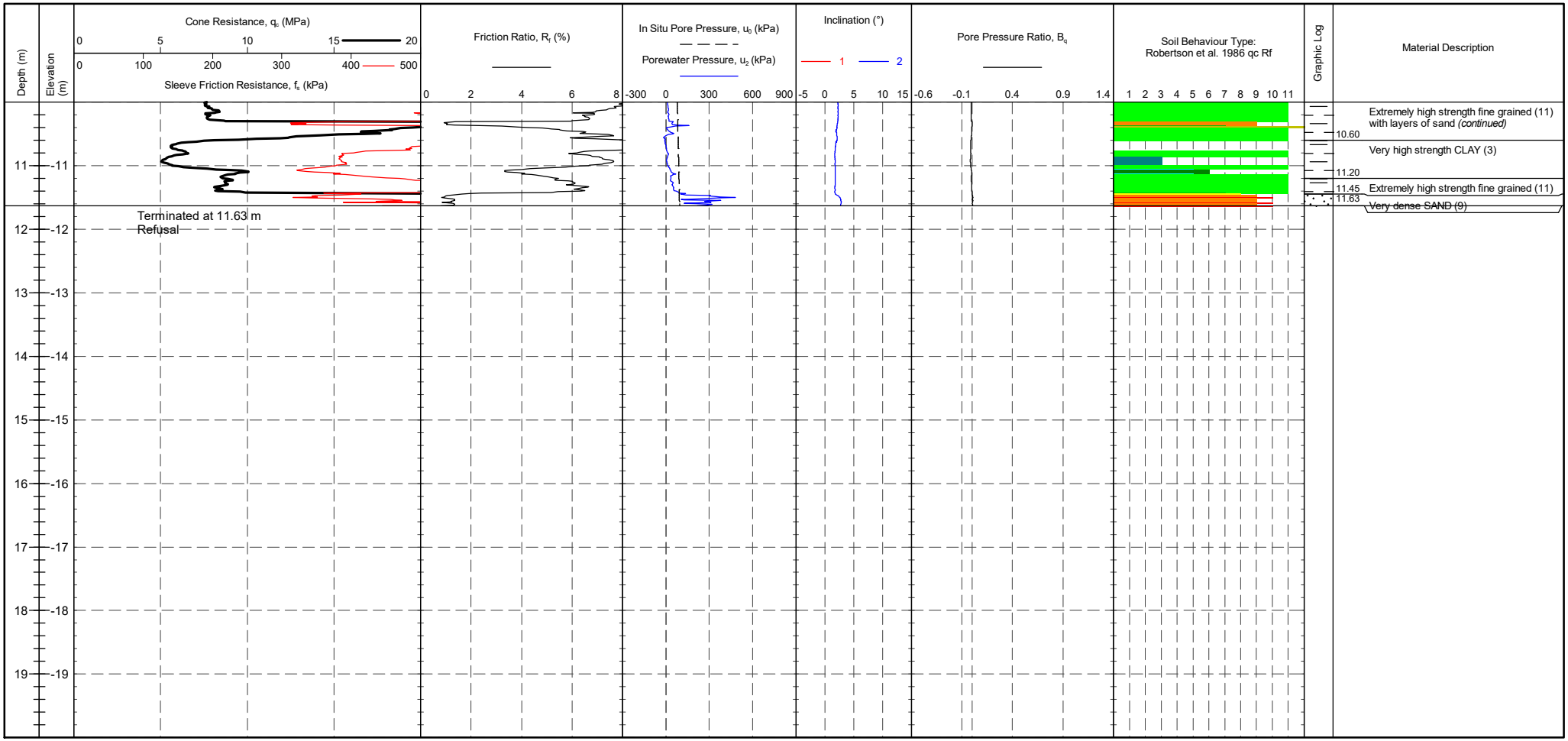
Dissipation Test

CPT LOG 01

IN SITU SITE INVESTIGATION Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

PointID **CPT 32B**

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Refusal	REMARK Test refused on tip resistance.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 07/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1488 CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 32B WEATHER : Sunny & Mild	CPTU ZERO VALUES Transducer / Pre / Post / Difference Tip: 309 mV / 307 mV / -0.022 MPa Sleeve: 266 mV / 268 mV / 0.001 kPa Pore Pressure 2: 170 mV / 234 mV / 0.018 kPa X-Y Inclinometer: 2408 mV / 2483 mV	METHOD: Robertson et al. 1986 qc Rf 1 - Sensitive fine grained material 2 - Organic material 3 - Clay 4 - Silty clay to clay 5 - Clayey silt to silty clay 6 - Sandy silt to clayey silt 7 - Silty sand to sandy silt 8 - Sand to silty sand 9 - Sand 10 - Gravelly sand to sand 11 - Very stiff fine grained 12 - Sand to clayey sand

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

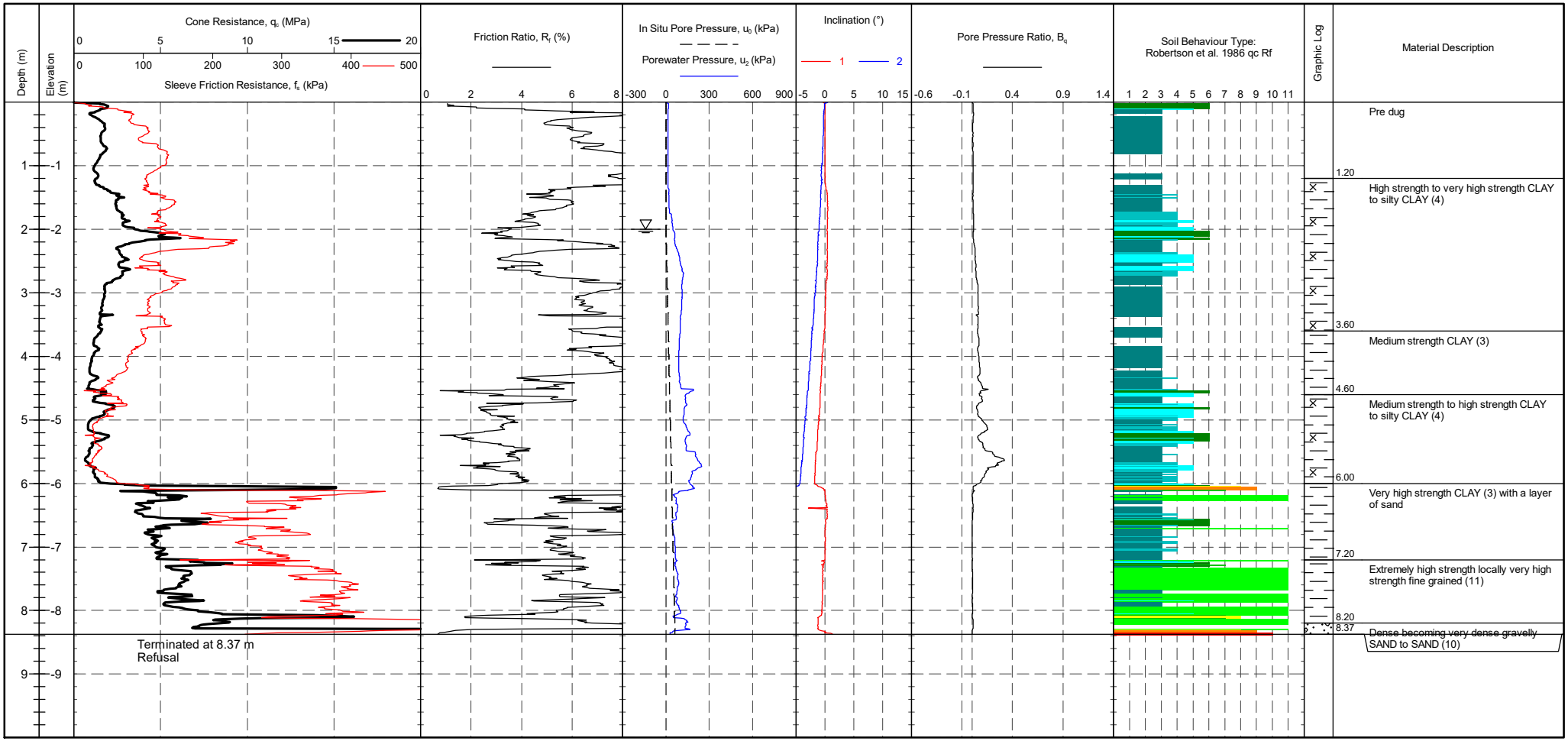
Working with: DUNELM GEOTECHNICAL & ENVIRONMENTAL

CPT LOG 01

PointID

CPT 33

CLIENT : Dunelm Geotechnical PROJECT : Sunderland LOCATION : Sunderland PROJECT No. : 1170315	EASTING : NORTHING : ELEVATION : 0.00 m CHECKED BY : LD TERMINATION REASON : Refusal	REMARK Test refused on tip resistance.	SHEET : 1 OF 1 STATUS : Final TEST DATE : 03/08/2017 PLOT DATE : 09/08/2017 METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1488 CONE AREA : 15cm² CONE AREA RATIO : 0.79 FILTER POSITION : u2 FILTER TYPE : HDPE FRICTION REDUCER : None	TEST TYPE : TE2 APPLICATION CLASS : 2 RIG : CPT 007 OPERATOR : RS & PB FILE NAME : 1170315-CPT 33 WEATHER : Overcast & Mild	CPTU ZERO VALUES	METHOD: Robertson et al. 1986 qc Rf

Transducer	Pre	Post	Difference
Tip	305 mV	305 mV	0 MPa
Sleeve	282 mV	268 mV	-0.01 kPa
Pore Pressure 2	225 mV	259 mV	0.01 kPa
X-Y Inclinometer	2530 mV	2436 mV	

1 - Sensitive fine grained material
2 - Organic material
3 - Clay
4 - Silty clay to clay
5 - Clayey silt to silty clay
6 - Sandy silt to clayey silt
7 - Silty sand to sandy silt
8 - Sand to silty sand
9 - Sand
10 - Gravelly sand to sand
11 - Very stiff fine grained
12 - Sand to clayey sand

Groundwater Level

Dissipation Test

APPENDIX C

Chemical Testing Results

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i2 Analytical Ltd.
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Croxley Green
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WD18 8YS

t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 17-57359-A

Replaces Analytical Report Number : 17-57359, issue no. 1

Project / Site name:	IAMPL Sunderland	**Samples received on:**	03/08/2017
Your job number:	D8044-1	**Samples instructed on:**	15/08/2017
Your order number:		**Analysis completed by:**	22/08/2017
Report Issue Number:	2	**Report issued on:**	05/02/2018
Samples Analysed:	4 10:1 WAC samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**17-57359-A**						
					Client: DUNELMG&E		
Location	**IAMPL Sunderland**						
Lab Reference (Sample Number)	799237 / 799238				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/07/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH28						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	1.3				3%	5%	6%
Loss on Ignition (%) **	5.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.9				100	--	--
pH (units)**	7.2				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.3				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg			
Arsenic *	0.0013			< 0.0110	0.5	2	25
Barium *	0.0433			0.349	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0010			0.0077	0.5	10	70
Copper *	0.012			0.092	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0025			0.0201	0.5	10	30
Nickel *	0.0008			0.0068	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	0.0028			0.023	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0067			0.054	4	50	200
Chloride *	2.9			24	800	4000	25000
Fluoride	0.98			7.9	10	150	500
Sulphate *	5.4			44	1000	20000	50000
TDS	32			250	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	< 0.100			< 1.00	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	70						
Moisture (%)	30						

Results are expressed on a dry weight basis, after correction for moisture content where applicable. *= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation ** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**17-57359-A**						
					Client:	**DUNELMG&E**	
Location	**IAMPL Sunderland**						
Lab Reference (Sample Number)	799239 / 799240				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/07/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH28						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	2.5				3%	5%	6%
Loss on Ignition (%) **	10.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	3.8				100	--	--
pH (units)**	8.3				--	>6	--
Acid Neutralisation Capacity (mol / kg)	9.4				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg			
Arsenic *	< 0.0011			< 0.0110	0.5	2	25
Barium *	0.0208			0.157	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0039			0.029	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	< 0.0003			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0033			0.025	4	50	200
Chloride *	2.0			15	800	4000	25000
Fluoride	0.45			3.4	10	150	500
Sulphate *	7.9			60	1000	20000	50000
TDS	45			340	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	< 0.100			< 1.00	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	82						
Moisture (%)	18						

Results are expressed on a dry weight basis, after correction for moisture content where applicable. *= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation ** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**17-57359-A**						
					Client:	**DUNELMG&E**	
Location	**IAMPL Sunderland**						
Lab Reference (Sample Number)	799243 / 799244				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH31						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	3.6				3%	5%	6%
Loss on Ignition (%) **	10.7				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	2.9				100	--	--
pH (units)**	6.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-2.5				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg			
Arsenic *	0.0021			0.0159	0.5	2	25
Barium *	0.0140			0.106	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0005			< 0.0040	0.5	10	70
Copper *	0.018			0.14	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0024			0.0180	0.5	10	30
Nickel *	0.0007			0.0050	0.4	10	40
Lead *	0.0022			0.017	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0050			0.038	4	50	200
Chloride *	3.8			29	800	4000	25000
Fluoride	0.90			6.9	10	150	500
Sulphate *	4.0			30	1000	20000	50000
TDS	26			200	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	< 0.100			< 1.00	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	76						
Moisture (%)	24						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

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This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**17-57359-A**						
					Client:	**DUNELMG&E**	
Location	**IAMPL Sunderland**						
Lab Reference (Sample Number)	799245 / 799246				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH31						
Depth (m)	0.70						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	7.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.9				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	2.4				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg			
Arsenic *	0.0020			< 0.0110	0.5	2	25
Barium *	0.0040			0.0189	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0043			0.020	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0004			< 0.0040	0.5	10	30
Nickel *	< 0.0003			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0048			0.022	4	50	200
Chloride *	1.6			7.3	800	4000	25000
Fluoride	0.53			2.5	10	150	500
Sulphate *	41			190	1000	20000	50000
TDS	100			470	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	< 0.100			< 1.00	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	82						
Moisture (%)	18						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

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Analytical Report Number : 17-57359-A

Project / Site name: IAMPL Sunderland

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
799237	BH28	None Supplied	0.10	Brown clay and sand with gravel and vegetation.
799239	BH28	None Supplied	0.50	Brown clay and sand with gravel and vegetation.
799243	BH31	None Supplied	0.10	Brown clay and sand with vegetation.
799245	BH31	None Supplied	0.70	Brown clay and sand.

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Analytical Report Number : 17-57359-A

Project / Site name: IAMPL Sunderland

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-UK	W	NONE
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	in-house method	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS

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Analytical Report Number : 17-57359-A

Project / Site name: IAMPL Sunderland

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
BH28		S	17-57359	799237	c	BTEX in soil (Monoaromatics)	L073B-PL
BH28		S	17-57359	799237	c	Total BTEX in soil (Poland)	L073-PL
BH28		S	17-57359	799237	c	Total organic carbon (Automated) in soil	L009-PL
BH28		S	17-57359	799239	c	BTEX in soil (Monoaromatics)	L073B-PL
BH28		S	17-57359	799239	c	Total BTEX in soil (Poland)	L073-PL
BH28		S	17-57359	799239	c	Total organic carbon (Automated) in soil	L009-PL
BH31		L	17-57359	799244	a		
BH31		L	17-57359	799246	a		
BH31		S	17-57359	799243	a		
BH31		S	17-57359	799245	a		

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Test Deviation code
c
c
c
c
c
c

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Analytical Report Number : 17-58193-A

Replaces Analytical Report Number : 17-58193, issue no. 1

Project / Site name:	IAMP Sunderland	**Samples received on:**	11/08/2017
Your job number:	D8044	**Samples instructed on:**	23/08/2017
Your order number:		**Analysis completed by:**	31/08/2017
Report Issue Number:	2	**Report issued on:**	05/02/2018
Samples Analysed:	4 wac multi samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**17-58193**						
					Client:	**DUNELMG&E**	
Location	**IAMP Sunderland**						
Lab Reference (Sample Number)	803867				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	02/08/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH45						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	3.0				3%	5%	6%
Loss on Ignition (%) **	10				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	6.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-1.2				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg			
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.020	0.0055		0.064	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0068	< 0.0010		0.012	0.5	10	70
Copper *	0.038	0.010		0.12	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	< 0.0030	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0051	< 0.0010		0.0073	0.4	10	40
Lead *	0.010	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.013	0.0094		0.096	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	0.54	0.49		4.9	10	150	500
Sulphate *	7.7	2.2		26	1000	20000	50000
TDS	34	18		190	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	22	15		150	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	80						
Moisture (%)	20						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable. *= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation ** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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Waste Acceptance Criteria Analytical Results

Report No:	**17-58193**						
					Client:	**DUNELMG&E**	
Location	**IAMP Sunderland**						
Lab Reference (Sample Number)	803868				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH46						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	2.3				3%	5%	6%
Loss on Ignition (%) **	10				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	6.6				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-2.4				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg			
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.018	0.0058		0.065	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0045	< 0.0010		0.0070	0.5	10	70
Copper *	0.041	0.0086		0.11	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	< 0.0030	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0030	0.0010		0.012	0.4	10	40
Lead *	0.010	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.012	0.0020		0.025	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	1.1	0.88		8.9	10	150	500
Sulphate *	4.8	1.8		20	1000	20000	50000
TDS	38	22		220	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	19	18		180	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.6						
Dry Matter (%)	82						
Moisture (%)	18						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Waste Acceptance Criteria Analytical Results

Report No:	**17-58193**						
					Client:	**DUNELMG&E**	
Location	**IAMP Sunderland**						
Lab Reference (Sample Number)	803869				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	07/08/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH47						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	2.2				3%	5%	6%
Loss on Ignition (%) **	8.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	6.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-2.4				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg			
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0069	< 0.0050		0.036	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		< 0.0050	0.5	10	70
Copper *	0.031	0.011		0.12	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	< 0.0030	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0023	0.0010		0.011	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		0.047	0.1	0.5	7
Zinc *	0.0070	0.0048		0.049	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	0.40	0.45		4.5	10	150	500
Sulphate *	5.4	2.0		22	1000	20000	50000
TDS	23	12		130	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	23	13		140	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	81						
Moisture (%)	19						
Stage 1							
Volume Eluate L2 (litres)	0.30						
Filtered Eluate VE1 (litres)	0.080						

Results are expressed on a dry weight basis, after correction for moisture content where applicable. *= UKAS accredited (liquid eluate analysis only)

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Waste Acceptance Criteria Analytical Results

Report No:	**17-58193**						
					Client:	**DUNELMG&E**	
Location	**IAMP Sunderland**						
Lab Reference (Sample Number)	803870				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	08/08/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH48						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	1.2				3%	5%	6%
Loss on Ignition (%) **	11				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	6.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-1.2				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg			
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.021	0.011		0.12	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0018	< 0.0010		< 0.0050	0.5	10	70
Copper *	0.019	0.0045		0.054	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	< 0.0030	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0029	0.0010		0.012	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.011	0.0025		0.031	4	50	200
Chloride *	6.8	< 4.0		25	800	4000	25000
Fluoride	0.56	0.49		4.9	10	150	500
Sulphate *	11	2.6		32	1000	20000	50000
TDS	65	34		360	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	12	7.1		74	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	83						
Moisture (%)	17						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.12						

Results are expressed on a dry weight basis, after correction for moisture content where applicable. *= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation ** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 17-58193-A

Project / Site name: IAMP Sunderland

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
803867	BH45	None Supplied	0.10	Brown loam and clay with vegetation.
803868	BH46	None Supplied	0.20	Brown loam and clay with vegetation.
803869	BH47	None Supplied	0.10	Brown loam and clay with vegetation.
803870	BH48	None Supplied	0.10	Brown loam and clay with vegetation.

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Analytical Report Number : 17-58193-A

Project / Site name: IAMP Sunderland

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
BH45		M	17-58193	803867	c	BTEX (Sum of BTEX compounds) in soil	L073B-PL
BH45		M	17-58193	803867	c	BTEX in soil (Monoaromatics)	L073B-PL
BH45		M	17-58193	803867	c	Mineral Oil in Soil C10 - C40	L076-PL
BH45		M	17-58193	803867	c	Organic Matter (Raw data) in soil	L023-PL
BH46		M	17-58193	803868	a		
BH47		M	17-58193	803869	c	BTEX (Sum of BTEX compounds) in soil	L073B-PL
BH47		M	17-58193	803869	c	BTEX in soil (Monoaromatics)	L073B-PL
BH47		M	17-58193	803869	c	Mineral Oil in Soil C10 - C40	L076-PL
BH47		M	17-58193	803869	c	Organic Matter (Raw data) in soil	L023-PL
BH48		M	17-58193	803870	c	BTEX (Sum of BTEX compounds) in soil	L073B-PL
BH48		M	17-58193	803870	c	BTEX in soil (Monoaromatics)	L073B-PL
BH48		M	17-58193	803870	c	Mineral Oil in Soil C10 - C40	L076-PL
BH48		M	17-58193	803870	c	Organic Matter (Raw data) in soil	L023-PL

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Test Deviation code
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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name:	IAMP Suderland	**Samples received on:**	03/08/2017
Your job number:	D8044-1	**Samples instructed on:**	15/08/2017
Your order number:		**Analysis completed by:**	21/08/2017
Report Issue Number:	1	**Report issued on:**	05/02/2018
Samples Analysed:	11 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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The results included within the report are representative of the samples submitted for analysis.

Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Lab Sample Number				799201	799202	799203	799205	799206
Sample Reference				BH24	BH28	BH28	BH31	BH31
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.50	0.10	0.70
Date Sampled				01/08/2017	27/07/2017	27/07/2017	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	19	30	18	24	18
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.1	8.2	7.6	7.1	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	670	250	560	700	820
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.025	0.052	0.039	0.023	0.32
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphur	mg/kg	50	MCERTS	450	180	350	440	350
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	5.7	2.0	4.3	6.0	1.8
Calorific Value	MJ/Kg	0.12	NONE	2.03	0.258	1.18	1.67	0.395
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	12	16	21	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	230	140	270	220	170
Boron (water soluble)	mg/kg	0.2	MCERTS	2.0	1.5	1.8	1.8	2.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	38	32	25	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	74	29	66	64	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	22	110	130	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	36	35	28	44
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	87	49	83	77	52

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Lab Sample Number				799201	799202	799203	799205	799206
Sample Reference				BH24	BH28	BH28	BH31	BH31
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.50	0.10	0.70
Date Sampled				01/08/2017	27/07/2017	27/07/2017	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	13	< 10	< 10	16	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	17	< 10	12	20	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	17	< 10	12	20	< 10
Miscellaneous Organics								
Product ID		N/A	NONE	See Attached	See Attached	See Attached	See Attached	See Attached

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Lab Sample Number				802107	802108	802109	802110	802111
Sample Reference				BH38	BH45	BH46	BH47	BH48
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.20	0.10	0.10
Date Sampled				10/08/2017	02/08/2017	Deviating	07/08/2017	08/08/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	19	20	18	19	17
Total mass of sample received	kg	0.001	NONE	2.0	2.0	1.6	2.0	2.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	6.6	6.3	6.5	6.1	6.2
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	660	620	520	600	520
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	25	22	18	32	30
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.013	0.011	0.0089	0.016	0.015
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	12.7	11.0	8.9	16.2	14.8
Sulphide	mg/kg	1	MCERTS	< 1.0	1.1	< 1.0	< 1.0	< 1.0
Total Sulphur	mg/kg	50	MCERTS	440	390	390	430	390
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	6.4	5.4	5.0	5.1	5.1
Calorific Value	MJ/Kg	0.12	NONE	2.92	1.30	1.23	1.30	1.16
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	6.8	6.6	13	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	260	140	110	120	140
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1	2.0	1.0	1.6	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	< 0.2	0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	22	26	25	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	89	17	22	19	29
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	56	53	62	68
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	30	15	18	16	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	54	51	57	56

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Lab Sample Number				802107	802108	802109	802110	802111
Sample Reference				BH38	BH45	BH46	BH47	BH48
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.20	0.10	0.10
Date Sampled				10/08/2017	02/08/2017	Deviating	07/08/2017	08/08/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	12	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	12	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	12	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	17	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	14	< 10	< 10	21	12
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	14	< 10	< 10	21	12
Miscellaneous Organics								
Product ID		N/A	NONE	-	-	-	-	-

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Lab Sample Number				808869				
Sample Reference				TP10				
Sample Number				None Supplied				
Depth (m)				0.20				
Date Sampled				22/08/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	20				
Total mass of sample received	kg	0.001	NONE	1.4				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.0				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Free Cyanide	mg/kg	1	MCERTS	< 1				
Total Sulphate as SO_4	mg/kg	50	MCERTS	740				
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	24				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.012				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	12.0				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Total Sulphur	mg/kg	50	MCERTS	480				
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	5.8				
Calorific Value	MJ/Kg	0.12	NONE	1.96				
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0				
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	260				
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	71				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130				

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Lab Sample Number				808869				
Sample Reference				TP10				
Sample Number				None Supplied				
Depth (m)				0.20				
Date Sampled				22/08/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10				
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	14				
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	14				
Miscellaneous Organics								
Product ID		N/A	NONE	See Attached				

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
799201	BH24	None Supplied	0.10	Brown clay and loam with vegetation.
799202	BH28	None Supplied	0.10	Brown clay and sand with gravel and vegetation.
799203	BH28	None Supplied	0.50	Brown clay and sand with gravel and vegetation.
799205	BH31	None Supplied	0.10	Brown clay and sand with vegetation.
799206	BH31	None Supplied	0.70	Brown clay and sand.
802107	BH38	None Supplied	0.10	Brown loam and clay with vegetation.
802108	BH45	None Supplied	0.10	Brown loam and clay with vegetation.
802109	BH46	None Supplied	0.20	Brown loam and clay with vegetation.
802110	BH47	None Supplied	0.10	Brown loam and clay with vegetation.
802111	BH48	None Supplied	0.10	Brown loam and clay with vegetation.
808869	TP10	None Supplied	0.20	Brown clay and loam with gravel and vegetation.

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Calorific Value of soil	Determination of the calorific value of soil by combustion in a controlled environment.	Calorific Value of Soil by Bomb Calorimeter	L013-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Product ID in soil	Determination of product ID by interpretation against standard chromatograms - Soil.	In-house method	L064-PL/UK	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

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Combined Report Nos : 17-57355, 17-57897 & 17-58988-A

Project / Site name: IAMP Suderland

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
BH24		S	17-57355	799201	c	Product ID in soil	L064-PL/UK
BH24		S	17-57355	799201	c	Sulphide in soil	L010-PL
BH28		S	17-57355	799202	c	Free cyanide in soil	L080-PL
BH28		S	17-57355	799202	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH28		S	17-57355	799202	c	Product ID in soil	L064-PL/UK
BH28		S	17-57355	799202	c	Sulphide in soil	L010-PL
BH28		S	17-57355	799202	c	Total cyanide in soil	L080-PL
BH28		S	17-57355	799203	c	Free cyanide in soil	L080-PL
BH28		S	17-57355	799203	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH28		S	17-57355	799203	c	Product ID in soil	L064-PL/UK
BH28		S	17-57355	799203	c	Sulphide in soil	L010-PL
BH28		S	17-57355	799203	c	Total cyanide in soil	L080-PL
BH31		S	17-57355	799205	a		
BH31		S	17-57355	799206	a		

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Test Deviation code
c
c
c
c
c
c
c
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c
c
c
c

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
BH38		S	17-57897	802107	c	Sulphide in soil	L010-PL
BH45		S	17-57897	802108	c	Free cyanide in soil	L080-PL
BH45		S	17-57897	802108	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH45		S	17-57897	802108	c	Sulphide in soil	L010-PL
BH45		S	17-57897	802108	c	Total cyanide in soil	L080-PL
BH46		S	17-57897	802109	a		
BH47		S	17-57897	802110	c	Sulphide in soil	L010-PL
BH48		S	17-57897	802111	c	Sulphide in soil	L010-PL

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Test Deviation code
c
c
c
c
c
c
c

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
TP10		S	17-58988	808869	c	Product ID in soil	L064-PL/UK
TP10		S	17-58988	808869	c	Sulphide in soil	L010-PL

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Test Deviation code
c
c

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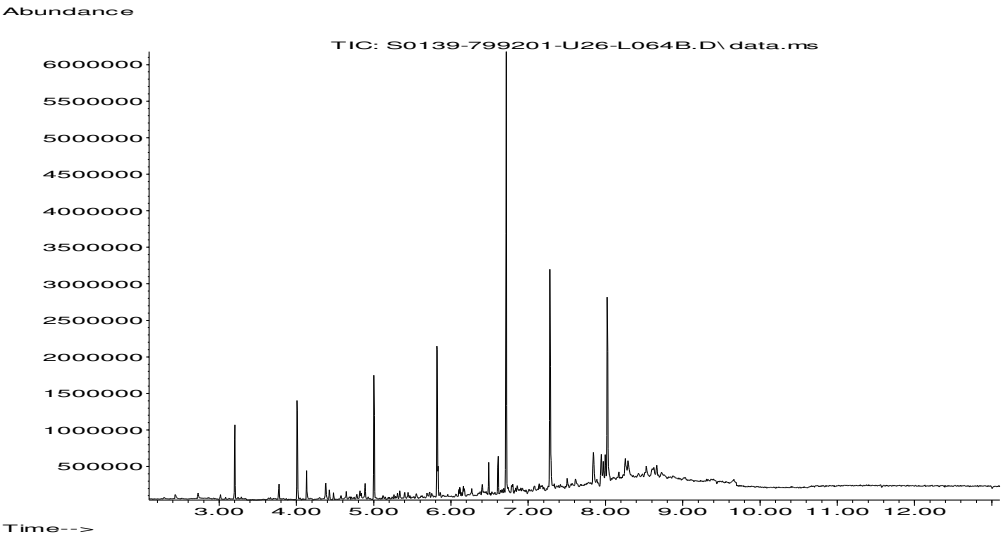

The total ion count (TIC trace) shows a carbon range from C10 to C35.
The sample TIC trace is simple, showing aromatic product sources (near LOD).
The trace does not match the standard product profiles.

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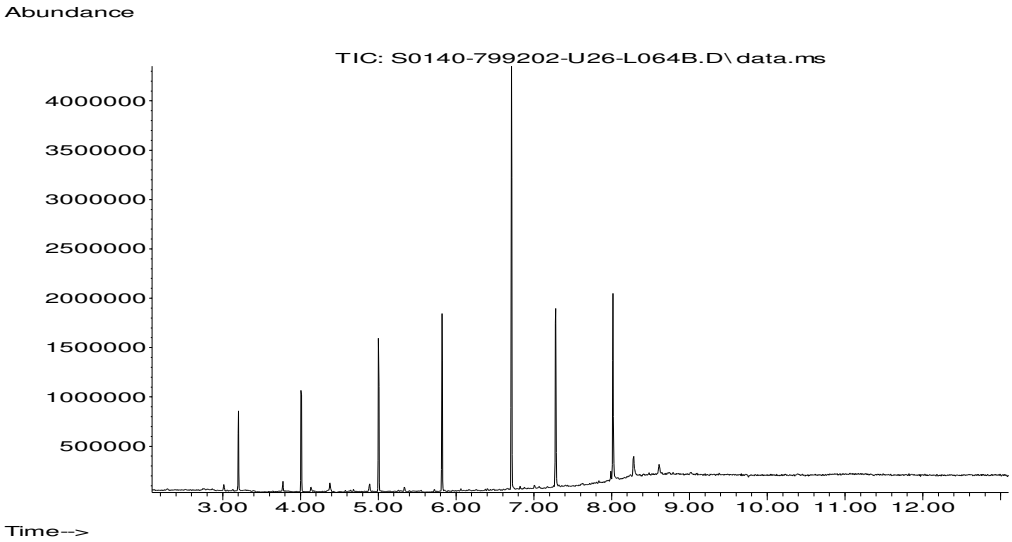

The total ion count (TIC trace) shows no detectable hydrocarbons. No Product is present.

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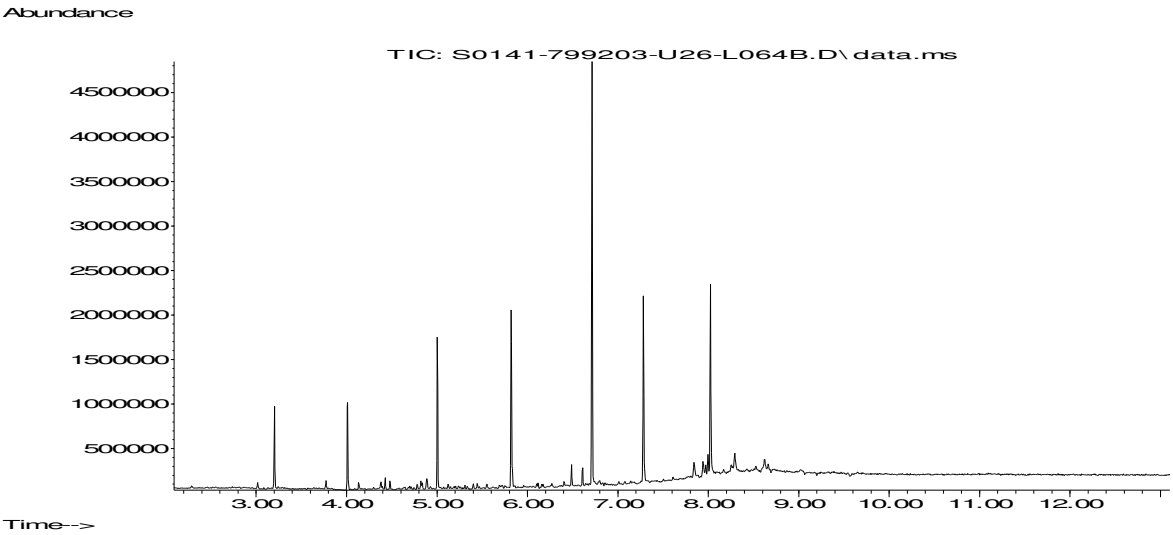
The results included within the report are representative of the samples submitted for analysis.



The total ion count (TIC trace) shows a carbon range from C10 to C35.
The sample TIC trace is simple, showing aromatic product sources (near LOD).
The trace does not match the standard product profiles.

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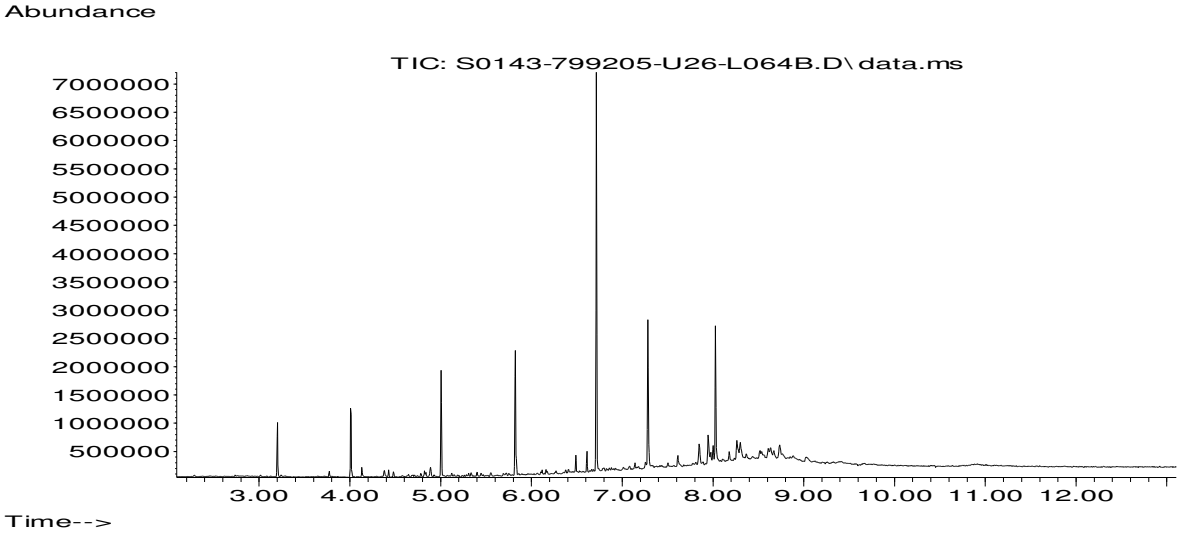

The total ion count (TIC trace) shows a carbon range from C12 to C35.
The sample TIC trace is simple, showing aromatic product sources (near LOD).
The trace does not match the standard product profiles.

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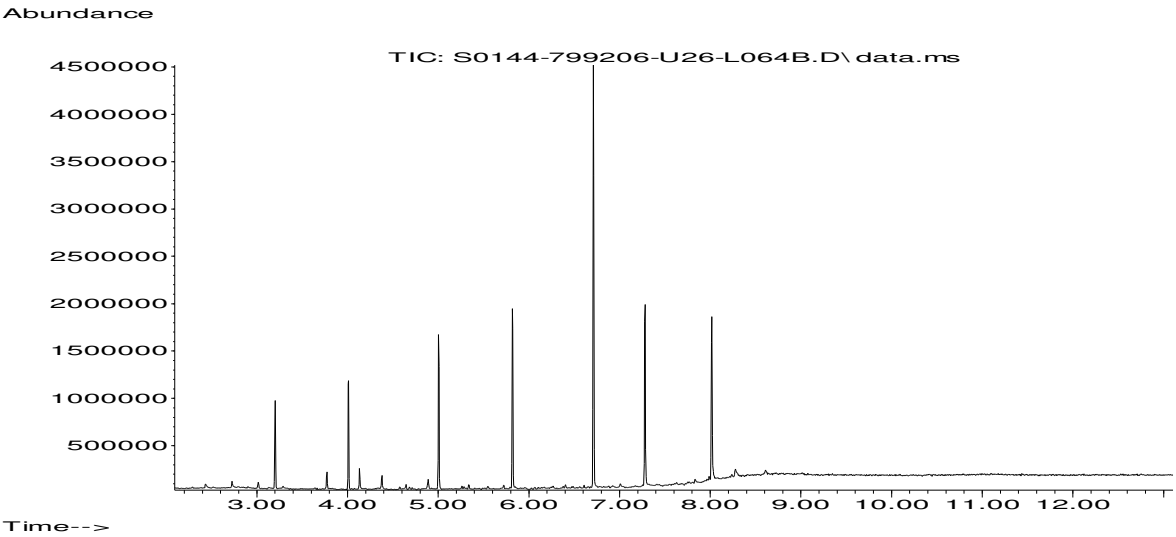

The total ion count (TIC trace) shows no detectable hydrocarbons. No Product is present.

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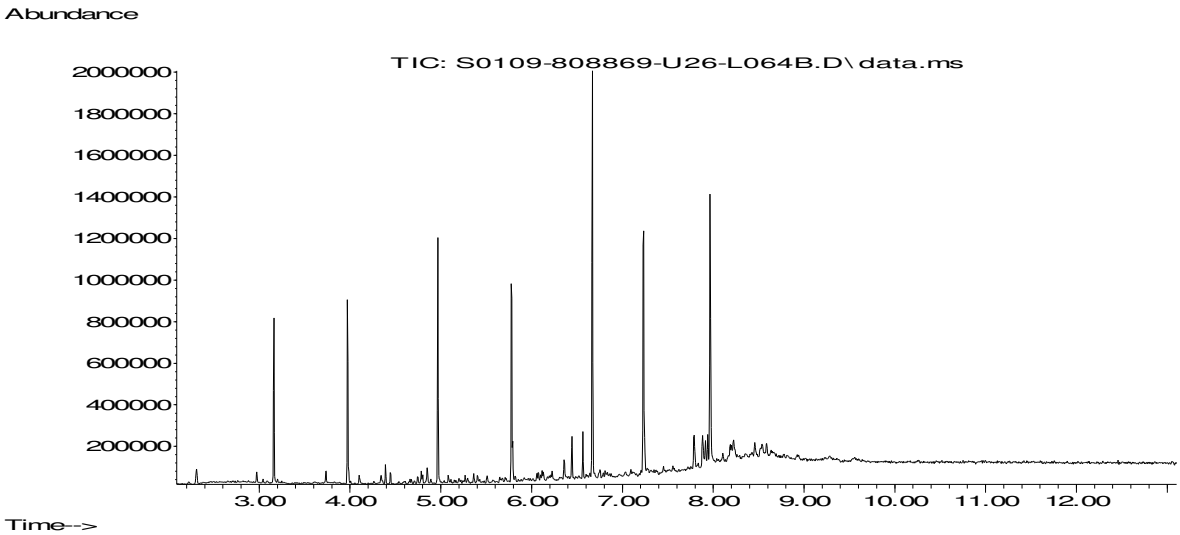
The results included within the report are representative of the samples submitted for analysis.



The total ion count (TIC trace) shows a carbon range from C10 to C35. The sample TIC trace is simple, showing aromatic compound (below LOD) product sources. The trace does not match the standard product profiles

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HazWasteOnline™

Waste Classification Report

WTJ4M-NXHDF-BK29M

Job name

IAMP Phase 1

Description/Comments

Project

Site

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:
Rob Schofield
Date:
2/6/2018 2:51:06 PM UTC
Telephone:
0191 378 3151

Company:
Dunelm Geotechnical & Environmental
Foundation House
St John's Rd, Meadowfield
Durham
DH7 8TZ

Report

Created by: Rob Schofield
Created date: 2/6/2018 14:51 UTC

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	BH24 0.1	0.1	Non Hazardous		2
2	BH28 0.1	0.1	Non Hazardous		4
3	BH28 0.5	0.5	Non Hazardous		6
4	BH31 0.1	0.1	Non Hazardous		8
5	BH31 0.7	0.7	Non Hazardous		10
6	BH38 0.1	0.1	Non Hazardous		12
7	BH45 0.1	0.1	Non Hazardous		14
8	BH46 0.2	0.2	Non Hazardous		16
9	BH47 0.1	0.1	Non Hazardous		18
10	BH48 0.1	0.1	Non Hazardous		20
11	TP10 0.2	0.2	Non Hazardous		22

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	24
Appendix B: Rationale for selection of metal species	24
Appendix C: Version	25

Classification of sample: BH24 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH24 0.1
Sample Depth:
0.1 m
Moisture content:
19%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2	mg/kg	3.22	6.44	mg/kg	0.000644 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		74	mg/kg	1.126	83.316	mg/kg	0.00833 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	150	mg/kg	1.56	233.972	mg/kg	0.015 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26	mg/kg	2.976	77.383	mg/kg	0.00774 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				87	mg/kg	2.774	241.351	mg/kg	0.0241 %		
12		TPH (C6 to C40) petroleum group			TPH		27	mg/kg		27	mg/kg	0.0027 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				7.1	pH		7.1	pH	7.1 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0655 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0027%)

Classification of sample: BH28 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH28 0.1
Sample Depth:
0.1 m
Moisture content:
30%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 30% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12	mg/kg	1.32	15.844	mg/kg	0.00158 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.5	mg/kg	3.22	4.83	mg/kg	0.000483 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		38	mg/kg	1.462	55.539	mg/kg	0.00555 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	32.651	mg/kg	0.00327 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	22	mg/kg	1.56	34.316	mg/kg	0.0022 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		36	mg/kg	2.976	107.146	mg/kg	0.0107 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				49	mg/kg	2.774	135.933	mg/kg	0.0136 %		
12		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		**<LOD**
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				8.2	pH		8.2	pH	8.2 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0411 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH28 0.5

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH28 0.5
Sample Depth:
0.5 m
Moisture content:
18%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16	mg/kg	1.32	21.125	mg/kg	0.00211 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.8	mg/kg	3.22	5.796	mg/kg	0.00058 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		32	mg/kg	1.462	46.77	mg/kg	0.00468 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		66	mg/kg	1.126	74.309	mg/kg	0.00743 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	110	mg/kg	1.56	171.58	mg/kg	0.011 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35	mg/kg	2.976	104.169	mg/kg	0.0104 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				83	mg/kg	2.774	230.254	mg/kg	0.023 %		
12		TPH (C6 to C40) petroleum group			TPH		22	mg/kg		22	mg/kg	0.0022 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				7.6	pH		7.6	pH	7.6 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0631 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0022%)

Classification of sample: BH31 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH31 0.1
Sample Depth:
0.1 m
Moisture content:
24%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 24% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		21	mg/kg	1.32	27.727	mg/kg	0.00277 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.8	mg/kg	3.22	5.796	mg/kg	0.00058 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		25	mg/kg	1.462	36.539	mg/kg	0.00365 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		64	mg/kg	1.126	72.057	mg/kg	0.00721 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	130	mg/kg	1.56	202.776	mg/kg	0.013 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28	mg/kg	2.976	83.335	mg/kg	0.00833 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				77	mg/kg	2.774	213.609	mg/kg	0.0214 %		
12		TPH (C6 to C40) petroleum group			TPH		30	mg/kg		30	mg/kg	0.003 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				7.1	pH		7.1	pH	7.1 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0616 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.003%)

Classification of sample: BH31 0.7

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH31 0.7
Sample Depth:
0.7 m
Moisture content:
18%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14	mg/kg	1.32	18.485	mg/kg	0.00185 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2	mg/kg	3.22	6.44	mg/kg	0.000644 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		37	mg/kg	1.462	54.078	mg/kg	0.00541 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		24	mg/kg	1.126	27.021	mg/kg	0.0027 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23	mg/kg	1.56	35.876	mg/kg	0.0023 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		44	mg/kg	2.976	130.956	mg/kg	0.0131 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				52	mg/kg	2.774	144.256	mg/kg	0.0144 %		
12		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		**<LOD**
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				8.3	pH		8.3	pH	8.3 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0441 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH38 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH38 0.1
Sample Depth:
0.1 m
Moisture content:
19%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		18	mg/kg	1.32	23.766	mg/kg	0.00238 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2.1	mg/kg	3.22	6.762	mg/kg	0.000676 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		30	mg/kg	1.462	43.847	mg/kg	0.00438 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		89	mg/kg	1.126	100.204	mg/kg	0.01 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	170	mg/kg	1.56	265.169	mg/kg	0.017 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30	mg/kg	2.976	89.288	mg/kg	0.00893 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				120	mg/kg	2.774	332.898	mg/kg	0.0333 %		
12		TPH (C6 to C40) petroleum group			TPH		24	mg/kg		24	mg/kg	0.0024 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				6.6	pH		6.6	pH	6.6 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0808 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0024%)

Classification of sample: BH45 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH45 0.1
Sample Depth:
0.1 m
Moisture content:
20%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.8	mg/kg	1.32	8.978	mg/kg	0.000898 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2	mg/kg	3.22	6.44	mg/kg	0.000644 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		22	mg/kg	1.462	32.154	mg/kg	0.00322 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		17	mg/kg	1.126	19.14	mg/kg	0.00191 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	56	mg/kg	1.56	87.35	mg/kg	0.0056 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15	mg/kg	2.976	44.644	mg/kg	0.00446 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				54	mg/kg	2.774	149.804	mg/kg	0.015 %		
12		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		**<LOD**
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				6.3	pH		6.3	pH	6.3 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0354 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH46 0.2

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH46 0.2
Sample Depth:
0.2 m
Moisture content:
18%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.6	mg/kg	1.32	8.714	mg/kg	0.000871 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1	mg/kg	3.22	3.22	mg/kg	0.000322 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		26	mg/kg	1.462	38	mg/kg	0.0038 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	53	mg/kg	1.56	82.67	mg/kg	0.0053 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18	mg/kg	2.976	53.573	mg/kg	0.00536 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				51	mg/kg	2.774	141.481	mg/kg	0.0141 %		
12		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		**<LOD**
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				6.5	pH		6.5	pH	6.5 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.036 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH47 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH47 0.1
Sample Depth:
0.1 m
Moisture content:
19%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.6	mg/kg	3.22	5.152	mg/kg	0.000515 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		25	mg/kg	1.462	36.539	mg/kg	0.00365 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19	mg/kg	1.126	21.392	mg/kg	0.00214 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	62	mg/kg	1.56	96.709	mg/kg	0.0062 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16	mg/kg	2.976	47.62	mg/kg	0.00476 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				57	mg/kg	2.774	158.126	mg/kg	0.0158 %		
12		TPH (C6 to C40) petroleum group			TPH		33	mg/kg		33	mg/kg	0.0033 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				6.1	pH		6.1	pH	6.1 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0398 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0033%)

Classification of sample: BH48 0.1

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
BH48 0.1
Sample Depth:
0.1 m
Moisture content:
17%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.7	mg/kg	3.22	5.474	mg/kg	0.000547 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.228	mg/kg	0.0000228 %		
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		25	mg/kg	1.462	36.539	mg/kg	0.00365 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	32.651	mg/kg	0.00327 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	68	mg/kg	1.56	106.067	mg/kg	0.0068 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19	mg/kg	2.976	56.549	mg/kg	0.00565 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				56	mg/kg	2.774	155.352	mg/kg	0.0155 %		
12		TPH (C6 to C40) petroleum group			TPH		22	mg/kg		22	mg/kg	0.0022 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				6.2	pH		6.2	pH	6.2 pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0411 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0022%)

Classification of sample: TP10 0.2

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
TP10 0.2
Sample Depth:
0.2 m
Moisture content:
20%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	14.524	mg/kg	0.00145 %		
2		boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2.1	mg/kg	3.22	6.762	mg/kg	0.000676 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		30	mg/kg	1.462	43.847	mg/kg	0.00438 %		
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		**<LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		71	mg/kg	1.126	79.938	mg/kg	0.00799 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	150	mg/kg	1.56	233.972	mg/kg	0.015 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		**<LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28	mg/kg	2.976	83.335	mg/kg	0.00833 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
11		zinc { zinc chromate }	024-007-00-3				130	mg/kg	2.774	360.639	mg/kg	0.0361 %		
12		TPH (C6 to C40) petroleum group			TPH		24	mg/kg		24	mg/kg	0.0024 %		
13		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19	•	pH				7	pH		7	pH	7pH		
				PH									
20		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.078 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No visual or olfactory evidence of free product noted

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0024%)

Appendix A: Classifier defined and non CLP determinands

- **chromium(III) oxide** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Conversion factor: 1.462
Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 7/17/2015
Risk Phrases: R61 , R60 , R50/53 , R43 , R42 , R38 , R37 , R36 , R22 , R20
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

- **dicopper oxide; copper (I) oxide** (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X
Description/Comments: M-factor for long-term aquatic hazard not included as per paragraph (5), ATP9
Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)
Additional Risk Phrases: N R50/53 >= 0.25 %, N R50/53
Additional Hazard Statement(s): None.
Reason for additional Hazards Statement(s)/Risk Phrase(s):
10/10/2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases
10/10/2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 5/25/2015
Risk Phrases: R65 , R63 , R51/53 , R46 , R45 , R10
Hazard Statements: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

- **confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 5/25/2015
Risk Phrases: None.
Hazard Statements: None.

- **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
6/3/2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 5/25/2015
Risk Phrases: None.
Hazard Statements: None.

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition, May 2015
HazWasteOnline Classification Engine Version: 2018.30.3501.7153 (30 Jan 2018)
HazWasteOnline Database: 2018.30.3501.7153 (30 Jan 2018)

This classification utilises the following guidance and legislation:
WM3 - Waste Classification - May 2015
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

APPENDIX D

Geotechnical Testing Results (Including Soakaway Test Results)

Laboratory Report Front Sheet

Site name	Job number
IAMP Sunderland Seperate Areas	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING
7607

Client details:

Reference:	D8044
Name:	Dunelm
Address:	Foundation House, St John's Road, Meadowfield, County Durham, DH7 8TZ
Telephone:	0191 3783151
Email:	jhuntington@dunelm.co.uk
FAO:	J. Huntington

Date commenced: 08/08/2017

Date reported: 26/01/2018

Observations and interpretations are outside of the UKAS Accreditiation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Samples will be held at the laboratory for a period of 4 weeks after the report date. After the 17-11-2017 all samples will be disposed of. Should further testing be required then the office should be informed before the above date.

Signature:	Approved Signitories:
K Watkin	☑ K Watkin (Lab Manager) ☐ U Mazhar (Assistant Lab Manager) ☐ I Nicholson (Technical Manager)

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH09	1.20		UT	24	105		92	8	43-f	20	23		CI	Tested after >425µm removed by hand
BH09	5.00		D	24	105		100	0	29-f	17	12		CL	Tested in natural condition
BH09	6.00		UT	16	105		86	14	31-f	15	16		CL	Tested after >425µm removed by hand
BH09	6.80		D	34	105		100	0	40-f	17	23		CI	Tested in natural condition
BH09	8.00		UT	17	105		100	0	30-f	14	16		CL	Tested in natural condition
BH09	9.00		D	13	105		79	21	35-f	18	17		CI	Tested after washing to remove >425µm
BH11	1.20		UT	17	105		90	10	42-f	17	25		CI	Tested after >425µm removed by hand
BH11	3.00		U	19	105		88	12	47-f	20	27		CI	Tested after >425µm removed by hand
BH11	5.00		UT	28	105		100	0	50-f	23	27		CH	Tested in natural condition
BH11	7.00		UT	25	105		99	1	33-f	17	16		CL	Tested after >425µm removed by hand
BH11	11.00		UT	17	105		98	2	28-f	16	12		CL	Tested after >425µm removed by hand
BH13	2.00		UT	17	105		73	27	33-f	15	18		CL	Tested after >425µm removed by hand
BH13	4.00		UT	20	105		100	0	40-f	18	22		CI	Tested in natural condition
BH13	6.00		UT	16	105		81	19	33-f	17	16		CL	Tested after >425µm removed by hand
BH13	7.00		D	12	105		86	14	31-f	14	17		CL	Tested after >425µm removed by hand
BH14	1.20		UT	22	105		95	5	39-f	16	23		CI	Tested after >425µm removed by hand
BH14	3.00		UT	19	105		93	7	39-f	18	21		CI	Tested after >425µm removed by hand
BH14	5.00		UT	20	105		95	5	38-f	18	20		CI	Tested after >425µm removed by hand
BH14	7.00		UT	37	105		100	0	64-f	26	38		CH	Tested in natural condition
BH14	9.00		UT	28	105		98	2	53-f	22	31		CH	Tested after >425µm removed by hand

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	KW
Approval date	07/10/2017 13:05
Date report generated	
Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH16	1.20		UT	19	105		86	14	38-f	21	17		CI	Tested after >425µm removed by hand
BH16	3.00		U	30	105		78	22	49-f	25	24		CI	Tested after >425µm removed by hand
BH16	5.00		UT	23	105		100	0	33-f	17	16		CL	Tested in natural condition
BH16	11.00		UT	22	105		99	1	40-f	20	20		CI	Tested after >425µm removed by hand
BH16	14.00		D	24	105		100	0	32-s	20	12		CL	Tested in natural condition
BH17	1.20		UT	26	105		100	0	39-f	19	20		CI	Tested in natural condition
BH17	5.00		UT	20	105		100	0	46-f	19	27		CI	Tested in natural condition
BH17	7.00		UT	27	105		100	0	56-f	23	33		CH	Tested in natural condition
BH17	9.00		UT	22	105		99	1	39-f	21	18		CI	Tested after >425µm removed by hand
BH17	15.00		UT	27	105		100	0	45-f	19	26		CI	Tested in natural condition
BH21	1.20		U	26	105		96	4	48-f	21	27		CI	Tested after >425µm removed by hand
BH21	2.00		D	29	105		94	6	49-f	22	27		CI	Tested after >425µm removed by hand
BH21	3.00		U	24	105		74	26	48-f	24	24		CI	Tested after washing to remove >425µm
BH21	3.45		D	20	105		97	3	47-f	22	25		CI	Tested after >425µm removed by hand
BH21	4.00		D	6.9	105		100	0	36-f	19	17		CI	Tested after washing to remove >425µm
BH21	4.40		D	26	105		91	9	42-f	20	22		CI	Tested after >425µm removed by hand
BH22	1.20		U	18	105		91	9	40-f	17	23		CI	Tested after >425µm removed by hand
BH22	2.00		D	28	105		71	29	40-f	18	22		CI	Tested after >425µm removed by hand
BH22	4.00		D	18	105		100	0	35-f	15	20		CI	Tested after >425µm removed by hand
BH23	1.20		U	26	105		100	0	51-f	28	23		CH	Tested in natural condition

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	KW
Approval date	05/09/2017 10:51
Date report generated	
Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH23	3.00		U	20	105		92	8	48-f	18	30		CI	Tested after >425µm removed by hand
BH23	4.50		D	15	105		82	18	35-f	14	21		CI	Tested after washing to remove >425µm
BH23	5.00		U	15	105		89	11	32-f	14	18		CL	Tested after >425µm removed by hand
BH24	1.20		UT	20	105		91	9	47-f	18	29		CI	Tested after >425µm removed by hand
BH24	3.00		UT	20	105		92	8	43-f	17	26		CI	Tested after >425µm removed by hand
BH24	6.00		D	20	105		96	4	32-f	16	16		CL	Tested after >425µm removed by hand
BH24	7.00		UT	32	105		100	0	53-f	24	29		CH	Tested in natural condition
BH24	9.00		UT	31	105		97	3	52-f	19	33		CH	Tested after >425µm removed by hand
BH24	13.00		D	18	105		78	22	31-f	14	17		CL	Tested after >425µm removed by hand
BH25	1.20		U	27	105		100	0	61-f	28	33		CH	Tested in natural condition
BH25	3.00		UT	22	105		98	2	44-f	17	27		CI	Tested after >425µm removed by hand
BH25	5.00		UT	26	105		100	0	48-f	20	28		CI	Tested in natural condition
BH25	7.00		U	39	105		100	0	61-f	24	37		CH	Tested in natural condition
BH25	14.00		U	18	105		87	13	26-f	13	13		CL	Tested after >425µm removed by hand
BH25	16.45		D	13	105		80	20	36-f	19	17		CI	Tested after >425µm removed by hand
BH28	1.20		UT	21	105		98	2	46-f	16	30		CI	Tested after >425µm removed by hand
BH28	5.00		UT	21	105		94	6	40-f	17	23		CI	Tested after >425µm removed by hand
BH28	7.00		UT	16	105		92	8	33-f	16	17		CL	Tested after >425µm removed by hand
BH28	11.00		UT	30	105		100	0	48-f	23	25		CI	Tested in natural condition
BH28	13.00		UT	31	105		99	1	54-s	26	28		CH	Tested after >425µm removed by hand

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	KW
Approval date	10/10/2017 13:59
Date report generated	
Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH30	1.20		U	19	105		93	7	49-f	14	35		CI	Tested after >425µm removed by hand
BH30	3.00		U	22	105		98	2	43-f	17	26		CI	Tested after >425µm removed by hand
BH30	7.00		U	26	105		100	0	36-f	16	20		CI	Tested after >425µm removed by hand
BH30	9.00		U	26	105		100	0	45-f	21	24		CI	Tested in natural condition
BH30	11.00		U	14	105		80	20	27-f	13	14		CL	Tested after >425µm removed by hand
BH31	1.20		UT	28	105		100	0	62-f	19	43		CH	Tested in natural condition
BH31	3.00		UT	13	105		92	8	35-f	18	17		CI	Tested after >425µm removed by hand
BH31	5.00		UT	20	105		97	3	41-f	15	26		CI	Tested after >425µm removed by hand
BH31	9.00		UT	35	105		100	0	64-f	27	37		CH	Tested in natural condition
BH31	11.00		UT	29	105		100	0	53-f	25	28		CH	Tested in natural condition
BH31	15.00		UT	12	105		85	15	28-f	15	13		CL	Tested after >425µm removed by hand
BH32	1.20		U	29	105		98	2	70-f	24	46		CV	Tested after >425µm removed by hand
BH32	5.00		U	22	105		98	2	44-f	19	25		CI	Tested after >425µm removed by hand
BH32	7.00		U	22	105		94	6	41-f	18	23		CI	Tested after >425µm removed by hand
BH32	11.00		U	35	105		100	0	51-f	23	28		CH	Tested in natural condition
BH32	15.00		U	26	105		78	22	29-f	16	13		CL	Tested after washing to remove >425µm
BH35	0.60		D	27	105		100	0	47-f	23	24		CI	Tested in natural condition
BH35	3.00		U	22	105		95	5	45-f	16	29		CI	Tested after >425µm removed by hand
BH35	5.00		U	23	105		96	4	42-f	19	23		CI	Tested after >425µm removed by hand
BH35	7.00		U	27	105		100	0	61-f	26	35		CH	Tested in natural condition

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	KW
Approval date	05/09/2017 10:51
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Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
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01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH35	11.00		U	24	105		99	1	47-f	21	26		CI	Tested after >425µm removed by hand
BH35	13.00		U	28	105		75	25	30-f	16	14		CL	Tested after washing to remove >425µm
BH36	1.20		U	16	105		85	15	36-f	17	19		CI	Tested after >425µm removed by hand
BH36	3.20		U	29	105		98	2	49-f	25	24		CI	Tested after >425µm removed by hand
BH36	5.20		U	26	105		96	4	53-f	26	27		CH	Tested after >425µm removed by hand
BH36	8.00		U	23	105		100	0	33-f	18	15		CL	Tested after >425µm removed by hand
BH36	11.00		U	31	105		100	0	56-f	24	32		CH	Tested after >425µm removed by hand
BH37	1.20		U	21	105		96	4	48-f	21	27		CI	Tested after >425µm removed by hand
BH37	3.00		U	29	105		100	0	48-f	24	24		CI	Tested in natural condition
BH37	7.00		U	25	105		100	0	41-f	24	17		CI	Tested in natural condition
BH38	1.20		U	18	105		95	5	42-f	19	23		CI	Tested after >425µm removed by hand
BH38	3.00		UT	21	105		100	0	32-f	17	15		CL	Tested in natural condition
BH38	5.00		UT	26	105		100	0	37-f	21	16		CI	Tested in natural condition
BH38	7.00		UT	24	105		100	0	36-f	22	14		CI	Tested after >425µm removed by hand
BH38	9.00		U	18	105		93	7	31-f	13	18		CL	Tested after >425µm removed by hand
BH39	0.50		D	34	105		100	0	85-f	32	53		CV	Tested in natural condition
BH39	1.20		UT	27	105		99	1	57-f	17	40		CH	Tested after >425µm removed by hand
BH39	3.00		UT	41	105		96	4	42-f	18	24		CI	Tested after washing to remove >425µm
BH39	5.00		UT	21	105		81	19	32-f	13	19		CL	Tested after >425µm removed by hand
BH39	9.00		UT	19	105		100	0	38-f	19	19		CI	Tested in natural condition

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	UM
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Date report generated	
Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
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UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH40	1.00		D	20	105		99	1	42-s	18	24		CI	Tested after >425µm removed by hand
BH40	2.20		U	26	105		100	0	45-f	22	23		CI	Tested after >425µm removed by hand
BH40	3.20		B	20	105		98	2	35-f	18	17		CI	Tested after >425µm removed by hand
BH40	4.70		D	13	105		75	25	28-f	13	15		CL	Tested after >425µm removed by hand
BH40	5.70		U	23	105		100	0	30-f	14	16		CL	Tested in natural condition
BH45	0.30		D	26	105		100	0	51-f	24	27		CH	Tested after >425µm removed by hand
BH45	3.00		U	18	105		98	2	38-f	18	20		CI	Tested after >425µm removed by hand
BH45	5.00		U	31	105		100	0	48-f	27	21		CI	Tested in natural condition
BH45	7.00		U	16	105		100	0	52-f	22	30		CH	Tested in natural condition
BH45	11.00		U	29	105		100	0	48-f	23	25		CI	Tested in natural condition
BH45	13.20		D	12	105		65	35	33-s	18	15		CL	Tested after >425µm removed by hand
BH46	1.20		UT	22	105		92	8	46-f	20	26		CI	Tested after >425µm removed by hand
BH46	3.20		UT	13	105		83	17	27-f	11	16		CL	Tested after >425µm removed by hand
BH46	6.00		U	10	105		82	18	37-f	18	19		CI	Tested after >425µm removed by hand
BH47	1.20		U	19	105		95	5	45-f	19	26		CI	Tested after >425µm removed by hand
BH47	3.45		D	20	105		99	1	39-f	18	21		CI	Tested after >425µm removed by hand
BH47	5.00		UT	18	105		100	0	27-f	18	9		CL	Tested in natural condition
BH47	9.00		UT	27	105		99	1	31-f	18	13		CL	Tested after >425µm removed by hand
BH47	11.00		U	13	105		78	22	26-f	13	13		CL	Tested after >425µm removed by hand
BH48	1.20		U	17	105		99	1	54-f	25	29		CH	Tested after >425µm removed by hand

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

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Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
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01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH48	2.00		D	16	105		100	0	42-f	19	23		CI	Tested in natural condition
BH48	5.00		UT	21	105		97	3	37-f	17	20		CI	Tested after >425µm removed by hand
BH48	8.00		D	31	105		97	3	52-f	23	29		CH	Tested after >425µm removed by hand
BH48	10.90		D	28	105		100	0	35-f	17	18		CI	Tested in natural condition
BH48	13.00		U	16	105		96	4	23-f	13	10		CL	Tested after >425µm removed by hand
BH49	1.00		D	17	105		97	3	49-f	21	28		CI	Tested after >425µm removed by hand
BH49	2.20		U	25	105		95	5	58-f	23	35		CH	Tested after >425µm removed by hand
BH49	5.75		D	7.6	105		70	30	34-s	18	16		CL	Tested after washing to remove >425µm
BH50	2.20		U	19	105		92	8	47-f	20	27		CI	Tested after >425µm removed by hand
BH50	3.20		D	16	105		99	1	33-f	18	15		CL	Tested after >425µm removed by hand
BH50	4.20		U	26	105		100	0	28-f	24	4		ML	Tested in natural condition
BH50	7.90		BRE	18	105		89	11	29-f	14	15		CL	Tested after >425µm removed by hand
BH50	8.20		U	13	105		80	20	26-f	17	9		CL	Tested after >425µm removed by hand
TP10	0.40		D	18	105		94	6	38-f	17	21		CI	Tested after >425µm removed by hand
TP10	1.00		D	21	105		94	6	47-f	22	25		CI	Tested after >425µm removed by hand
TP10	4.00		D	17	105		93	7	41-f	21	20		CI	Tested after >425µm removed by hand
TP13	0.40		D	21	105		97	3	44-f	21	23		CI	Tested after washing to remove >425µm
TP13	1.00		D	16	105		88	12	34-f	17	17		CL	Tested after >425µm removed by hand
TP13	3.00		D	28	105		100	0	37-f	16	21		CI	Tested in natural condition
TP17	0.50		D	21	105		80	20	58-f	24	34		CH	Tested after >425µm removed by hand

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	KW
Approval date	05/09/2017 10:56
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Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
TP17	1.50		D	26	105		99	1	66-f	25	41		CH	Tested after >425µm removed by hand
TP18	0.30		D	23	105		98	2	61-f	25	36		CH	Tested after >425µm removed by hand
TP18	3.20		D	13	105		92	8	44-f	18	26		CI	Tested after >425µm removed by hand
TP19	0.40		D	38	105		94	6	71-f	25	46		CV	Tested after >425µm removed by hand
TP19	2.00		D	18	105		93	7	44-f	20	24		CI	Tested after >425µm removed by hand
TP21	0.50		B	22	105									
TP21	1.00		D	18	105		83	17	38-f	18	20		CI	Tested after >425µm removed by hand
TP21	4.00		D	22	105		98	2	46-f	18	28		CI	Tested after >425µm removed by hand
TP22	1.20		D	22	105		92	8	48-f	23	25		CI	Tested after >425µm removed by hand
TP22	3.00		D	19	105		94	6	41-f	16	25		CI	Tested after >425µm removed by hand
TP24	0.50		D	30	105		98	2	46-f	20	26		CI	Tested after >425µm removed by hand
TP24	4.00		D	23	105		97	3	38-f	20	18		CI	Tested after >425µm removed by hand
TP25	0.40		D	25	105		100	0	49-f	25	24		CI	Tested after >425µm removed by hand
TP25	1.10		D	25	105		83	17	40-f	18	22		CI	Tested after washing to remove >425µm
TP25	4.10		D	21	105		97	3	47-f	19	28		CI	Tested after >425µm removed by hand
TP32	2.00		D	19	105		83	17	44-f	17	27		CI	Tested after >425µm removed by hand
TP32	3.00		D	19	105		85	15	44-f	19	25		CI	Tested after >425µm removed by hand
TP32	4.00		D	22	105		97	3	43-f	19	24		CI	Tested after >425µm removed by hand
TP33	0.50		B	19	105		96	4	51-f	20	31		CH	Tested after >425µm removed by hand
TP33	1.00		D	17	105		81	19	43-f	21	22		CI	Tested after washing to remove >425µm

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	UM
Approval date	14/09/2017 11:29
Date report generated	
Report Number	

Summary of Classification Tests

Site name	Job number
IAMP Sunderland	D8044

Solmek
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UKAS TESTING 7607

Hole	Depth Top m	Depth Base m	Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
TP33	2.00		D	18	105		93	7	44-f	21	23		CI	Tested after >425µm removed by hand
TP33	3.00		D	23	105		85	15	41-f	19	22		CI	Tested after >425µm removed by hand
TP33	4.00		D	22	105		94	6	45-f	20	25		CI	Tested after >425µm removed by hand
TP34	1.00		D	19	105		94	6	43-f	21	22		CI	Tested after >425µm removed by hand
TP34	3.00		D	18	105		90	10	42-f	18	24		CI	Tested after >425µm removed by hand
TP34	4.00		D	24	105		99	1	46-f	20	26		CI	Tested after >425µm removed by hand

All tests found in Solmek UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	UM
Approval date	14/09/2017 10:33
Date report generated	
Report Number	

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
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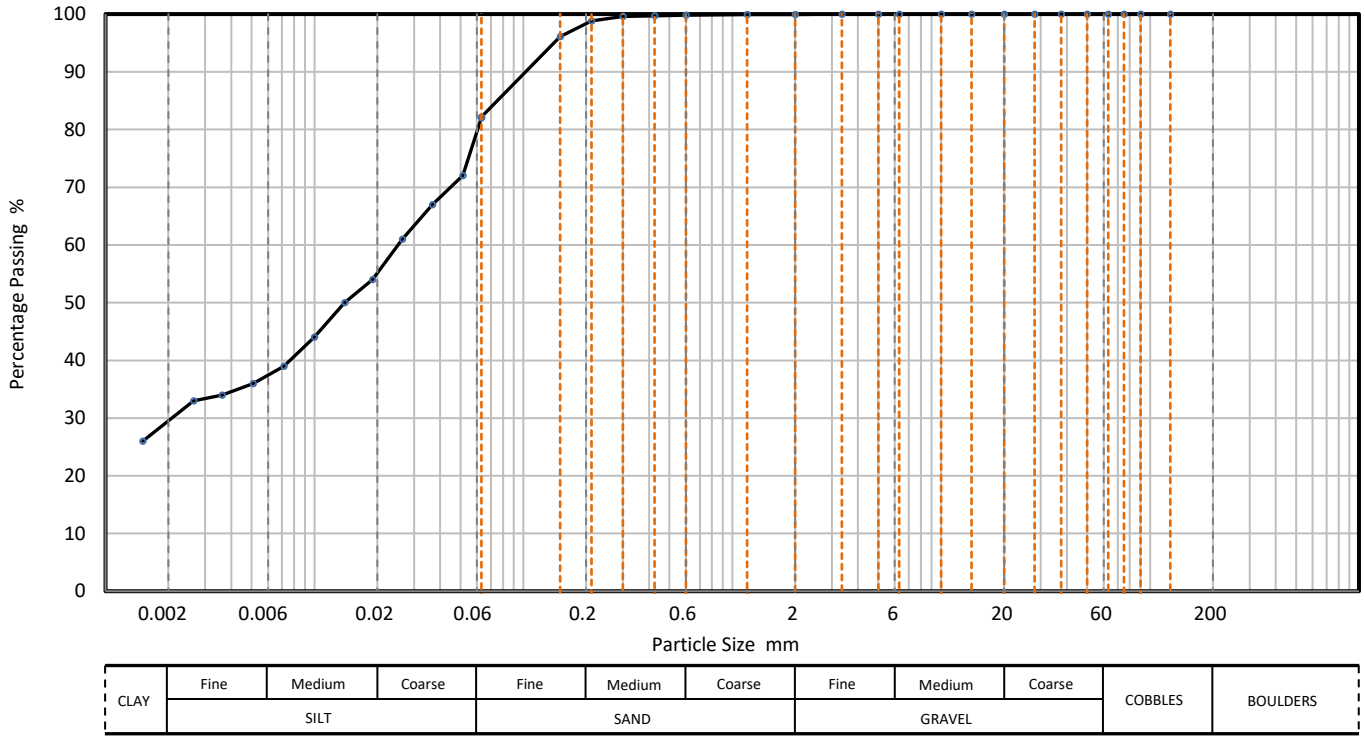
lab@solmek.com

UKAS TESTING 7607

Hole	BH16	Lab sample ID	SLMK2017082437
Depth (Top) m	4.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly sandy, slightly clayey SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	82
90	100	0.0514	72
75	100	0.0367	67
63	100	0.0263	61
50	100	0.0189	54
37.5	100	0.0140	50
28	100	0.0100	44
20	100	0.0071	39
14	100	0.0051	36
10	100	0.0036	34
6.3	100	0.0026	33
5	100	0.0015	26
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density	(assumed)
0.425	100	2.65	Mg/m3
0.3	100		
0.212	99		
0.15	96		
0.063	82		

Dry Mass of sample, g	698

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	17.7
Silt	52.8
Clay	29.4

Grading Analysis		
D100	mm	
D60	mm	0.0248
D30	mm	0.00211
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	11/09/2017 14:42

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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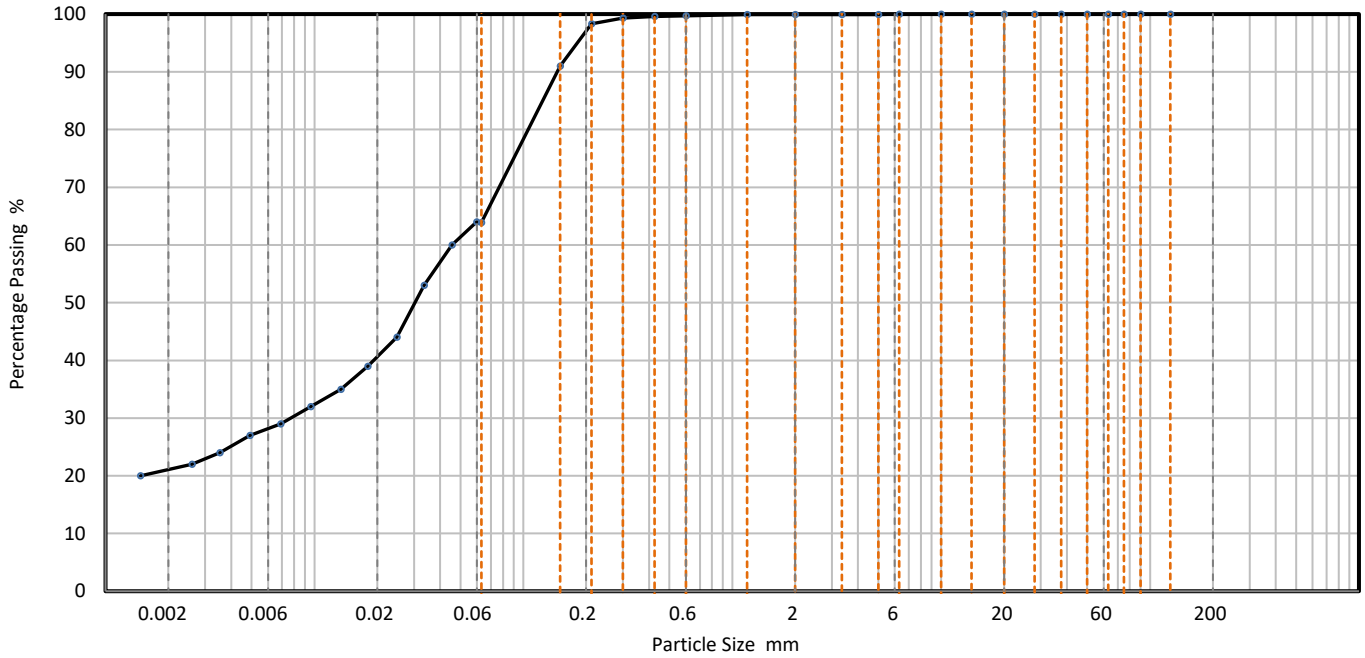
UKAS TESTING 7607

Hole	BH16	Lab sample ID	SLMK2017082439
Depth (Top) m	8.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly clayey, sandy SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0597	64
90	100	0.0455	60
75	100	0.0335	53
63	100	0.0248	44
50	100	0.0180	39
37.5	100	0.0134	35
28	100	0.0096	32
20	100	0.0069	29
14	100	0.0049	27
10	100	0.0035	24
6.3	100	0.0026	22
5	100	0.0015	20
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density	(assumed)
0.425	100	2.65	Mg/m3
0.3	99		
0.212	98		
0.15	91		
0.063	64		

Dry Mass of sample, g	738

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	36.0
Silt	43.0
Clay	20.9

Grading Analysis		
D100	mm	
D60	mm	0.046
D30	mm	0.00765
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 12:55

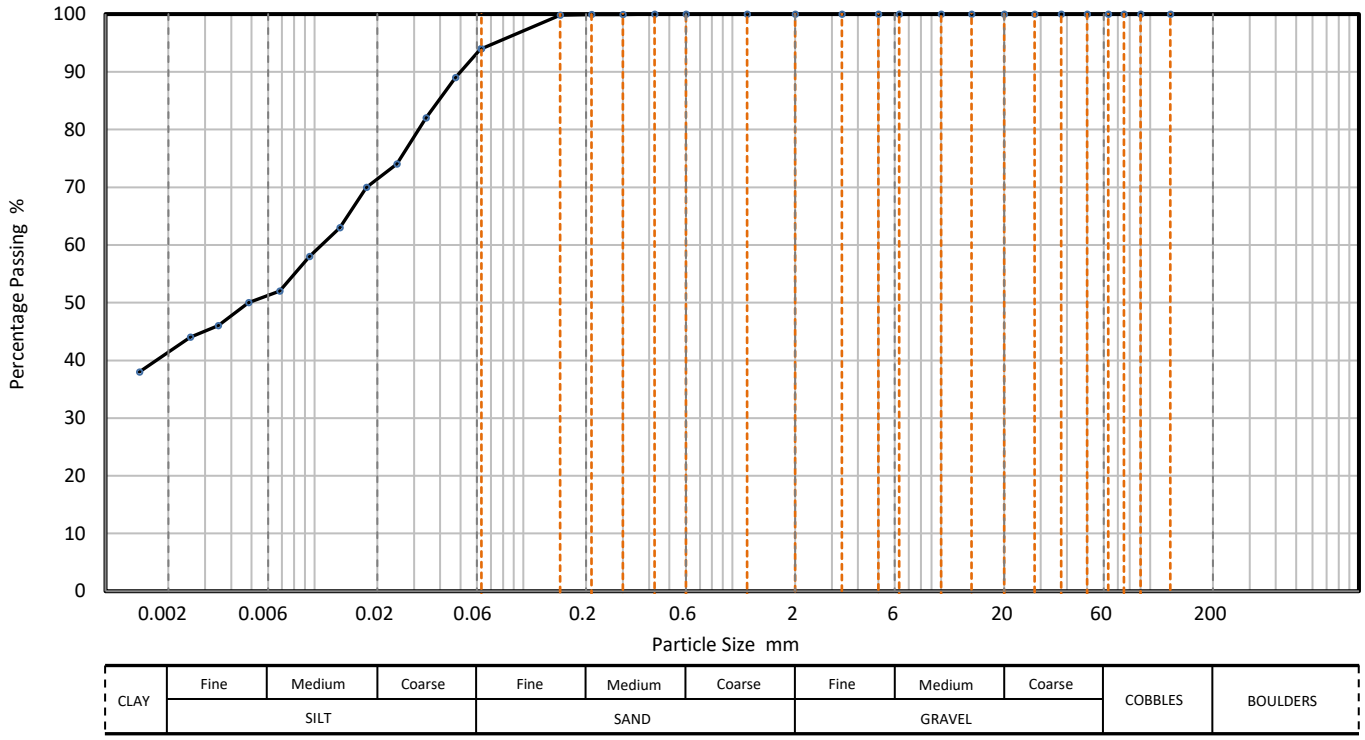
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH17	Lab sample ID	SLMK2017082446
Depth (Top) m	15.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly sandy, clayey SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0625	94
90	100	0.0473	89
75	100	0.0342	82
63	100	0.0248	74
50	100	0.0178	70
37.5	100	0.0132	63
28	100	0.0095	58
20	100	0.0068	52
14	100	0.0048	50
10	100	0.0035	46
6.3	100	0.0025	44
5	100	0.0015	38
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density	(assumed)
0.425	100	2.65	Mg/m3
0.3	100		
0.212	100		
0.15	100		
0.063	94		

Dry Mass of sample, g: 665

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.0
Sand	6.0
Silt	52.8
Clay	41.2

Grading Analysis		
D100	mm	
D60	mm	0.0108
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 12:55

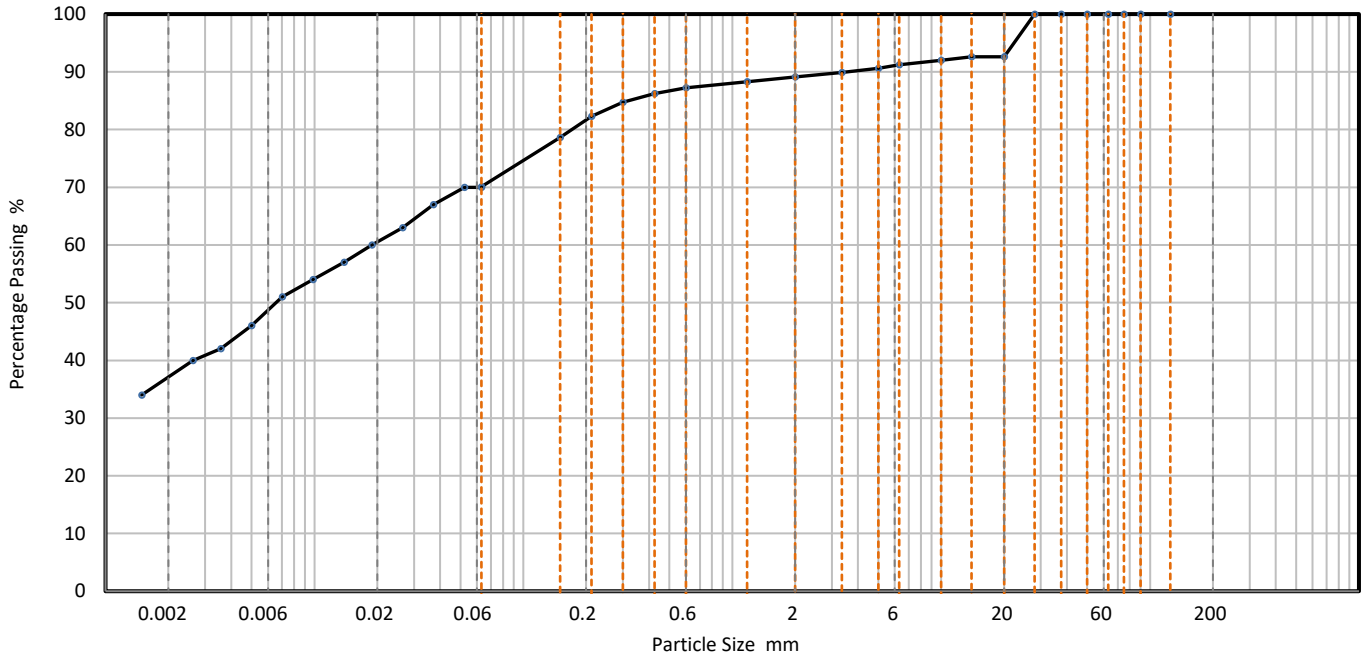
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH24	Lab sample ID	SLMK2017082450
Depth (Top) m	2.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, silty CLAY
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	70
90	100	0.0522	70
75	100	0.0371	67
63	100	0.0265	63
50	100	0.0188	60
37.5	100	0.0139	57
28	100	0.0098	54
20	93	0.0070	51
14	93	0.0050	46
10	92	0.0036	42
6.3	91	0.0026	40
5	91	0.0015	34
3.35	90		
2	89		
1.18	88		
0.6	87	Particle density	(assumed)
0.425	86	2.65	Mg/m3
0.3	85		
0.212	82		
0.15	79		
0.063	70		

Dry Mass of sample, g	600

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	10.9
Sand	18.9
Silt	33.3
Clay	36.9

Grading Analysis		
D100	mm	
D60	mm	0.019
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	11/09/2017 14:43

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
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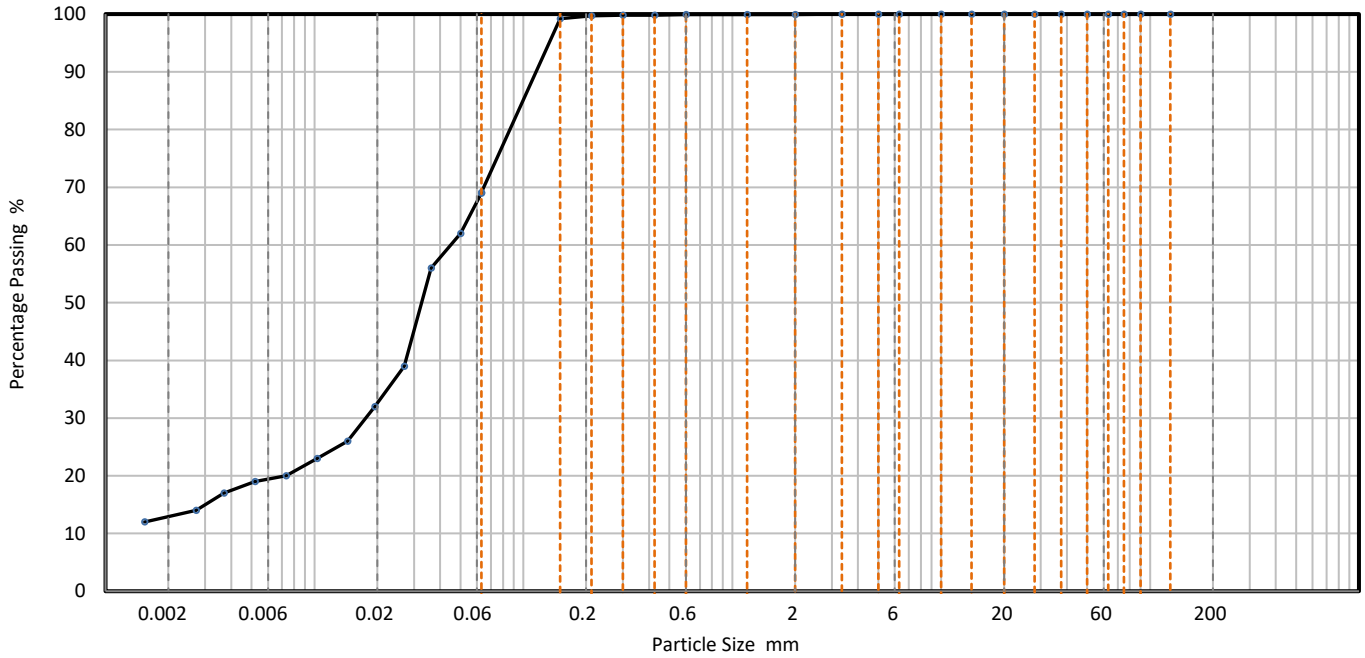
lab@solmek.com

UKAS TESTING 7607

Hole	BH24	Lab sample ID	SLMK2017082458
Depth (Top) m	10.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly clayey, sandy SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	69
90	100	0.0501	62
75	100	0.0362	56
63	100	0.0269	39
50	100	0.0194	32
37.5	100	0.0144	26
28	100	0.0103	23
20	100	0.0073	20
14	100	0.0052	19
10	100	0.0037	17
6.3	100	0.0027	14
5	100	0.0015	12
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density	(assumed)
0.425	100	2.65	Mg/m3
0.3	100		
0.212	100		
0.15	99		
0.063	69		

Dry Mass of sample, g	745

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	30.8
Silt	56.2
Clay	12.9

Grading Analysis		
D100	mm	
D60	mm	0.0454
D30	mm	0.0179
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 12:57

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
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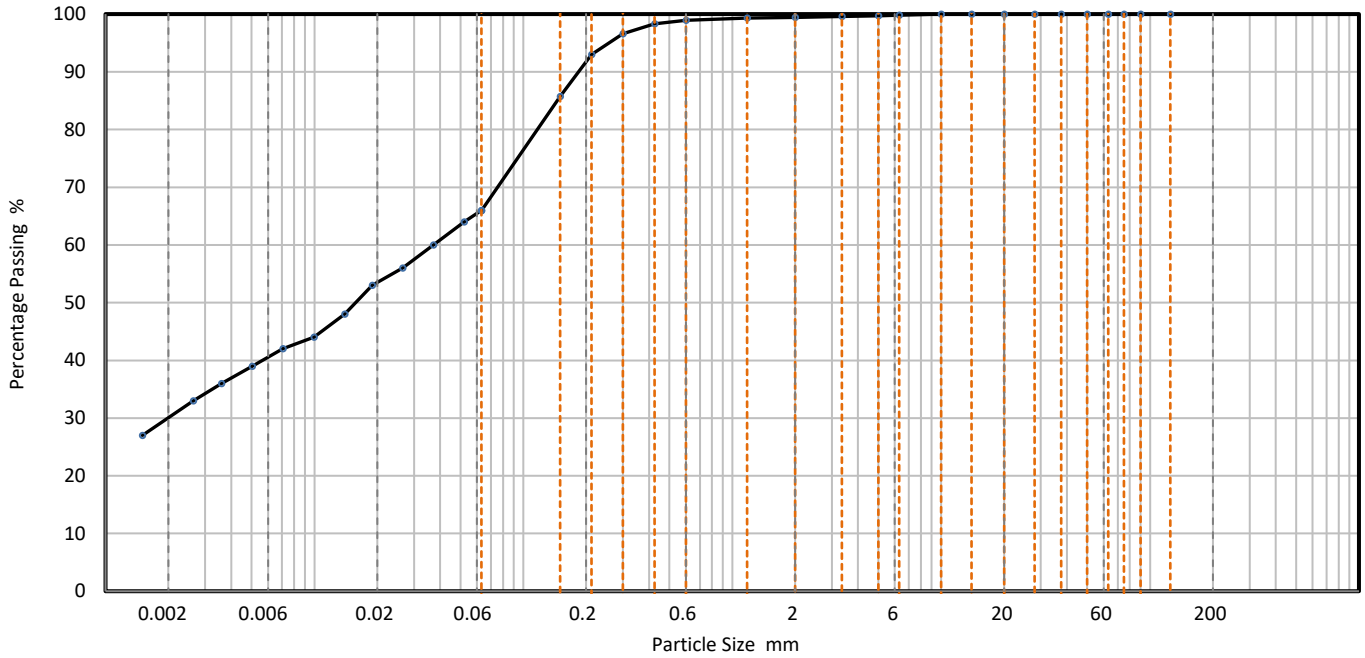
lab@solmek.com

UKAS TESTING 7607

Hole	BH25	Lab sample ID	SLMK2017082464
Depth (Top) m	6.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly clayey, sandy SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	66
90	100	0.0520	64
75	100	0.0371	60
63	100	0.0265	56
50	100	0.0189	53
37.5	100	0.0139	48
28	100	0.0100	44
20	100	0.0071	42
14	100	0.0050	39
10	100	0.0036	36
6.3	100	0.0026	33
5	100	0.0015	27
3.35	100		
2	99		
1.18	99		
0.6	99	Particle density	(assumed)
0.425	98	2.65	Mg/m3
0.3	97		
0.212	93		
0.15	86		
0.063	66		

Dry Mass of sample, g	947

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.6
Sand	33.5
Silt	35.9
Clay	30.0

Grading Analysis		
D100	mm	
D60	mm	0.0361
D30	mm	0.002
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 12:59

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
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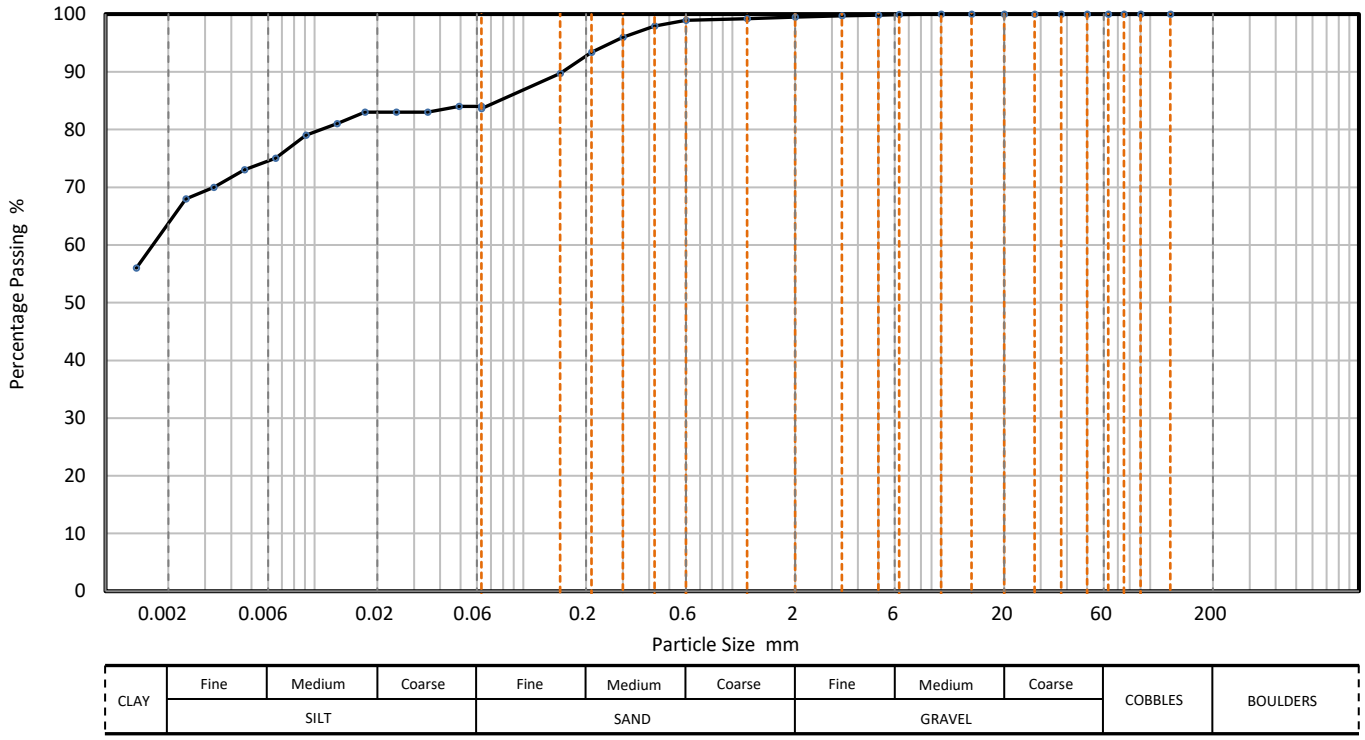
UKAS TESTING 7607

Hole	BH31	Lab sample ID	SLMK2017082484
Depth (Top) m	0.80	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly sandy, slightly silty CLAY
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	84
90	100	0.0492	84
75	100	0.0348	83
63	100	0.0246	83
50	100	0.0174	83
37.5	100	0.0128	81
28	100	0.0091	79
20	100	0.0065	75
14	100	0.0046	73
10	100	0.0033	70
6.3	100	0.0024	68
5	100	0.0014	56
3.35	100		
2	100		
1.18	99		
0.6	99	Particle density	(assumed)
0.425	98	2.65	Mg/m3
0.3	96		
0.212	93		
0.15	90		
0.063	84		

Dry Mass of sample, g	837

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.5
Sand	16.0
Silt	19.7
Clay	63.8

Grading Analysis		
D100	mm	
D60	mm	0.00167
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:04

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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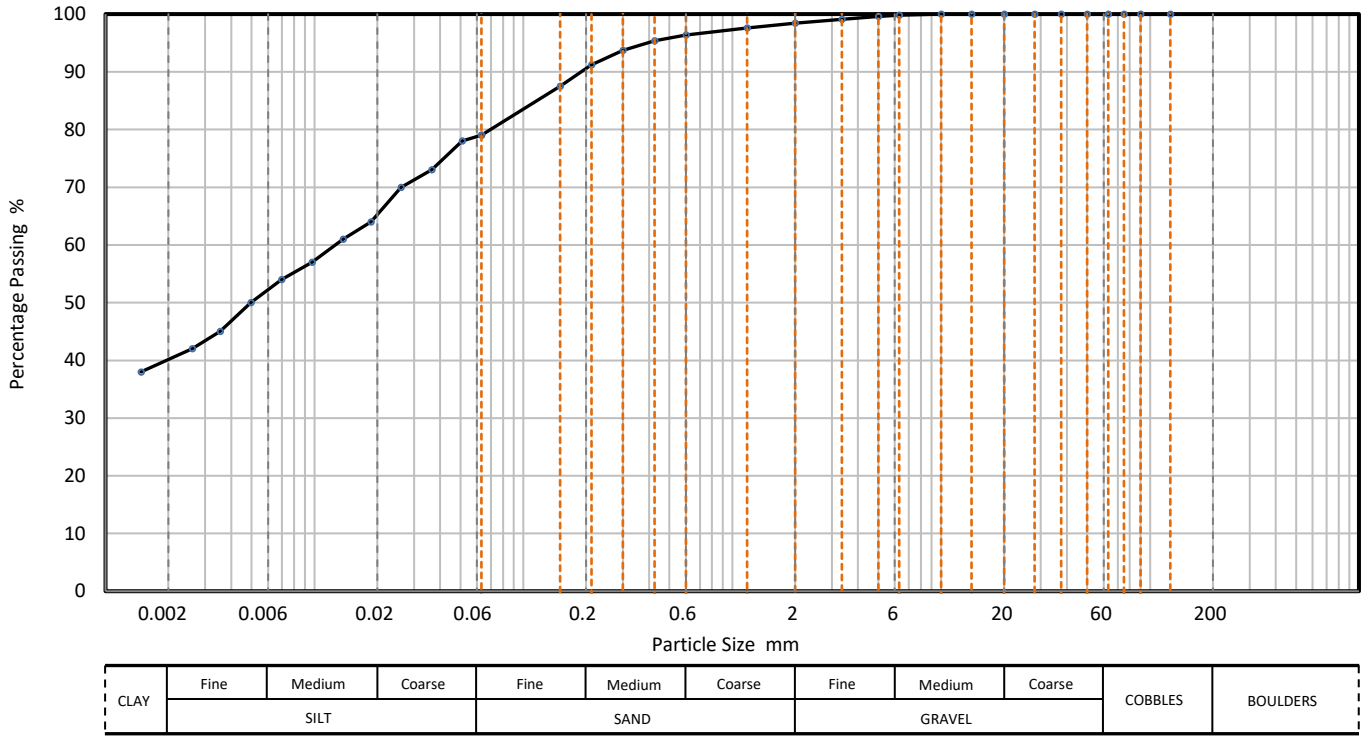
lab@solmek.com

UKAS TESTING 7607

Hole	BH38	Lab sample ID	SLMK2017082493
Depth (Top) m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly sandy, silty CLAY
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	79
90	100	0.0510	78
75	100	0.0365	73
63	100	0.0260	70
50	100	0.0186	64
37.5	100	0.0137	61
28	100	0.0097	57
20	100	0.0070	54
14	100	0.0050	50
10	100	0.0035	45
6.3	100	0.0026	42
5	100	0.0015	38
3.35	99		
2	98		
1.18	98		
0.6	96	Particle density	(assumed)
0.425	95	2.65	Mg/m3
0.3	94		
0.212	91		
0.15	88		
0.063	79		

Dry Mass of sample, g	580

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.6
Sand	19.3
Silt	39.2
Clay	39.9

Grading Analysis		
D100	mm	
D60	mm	0.0127
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:05

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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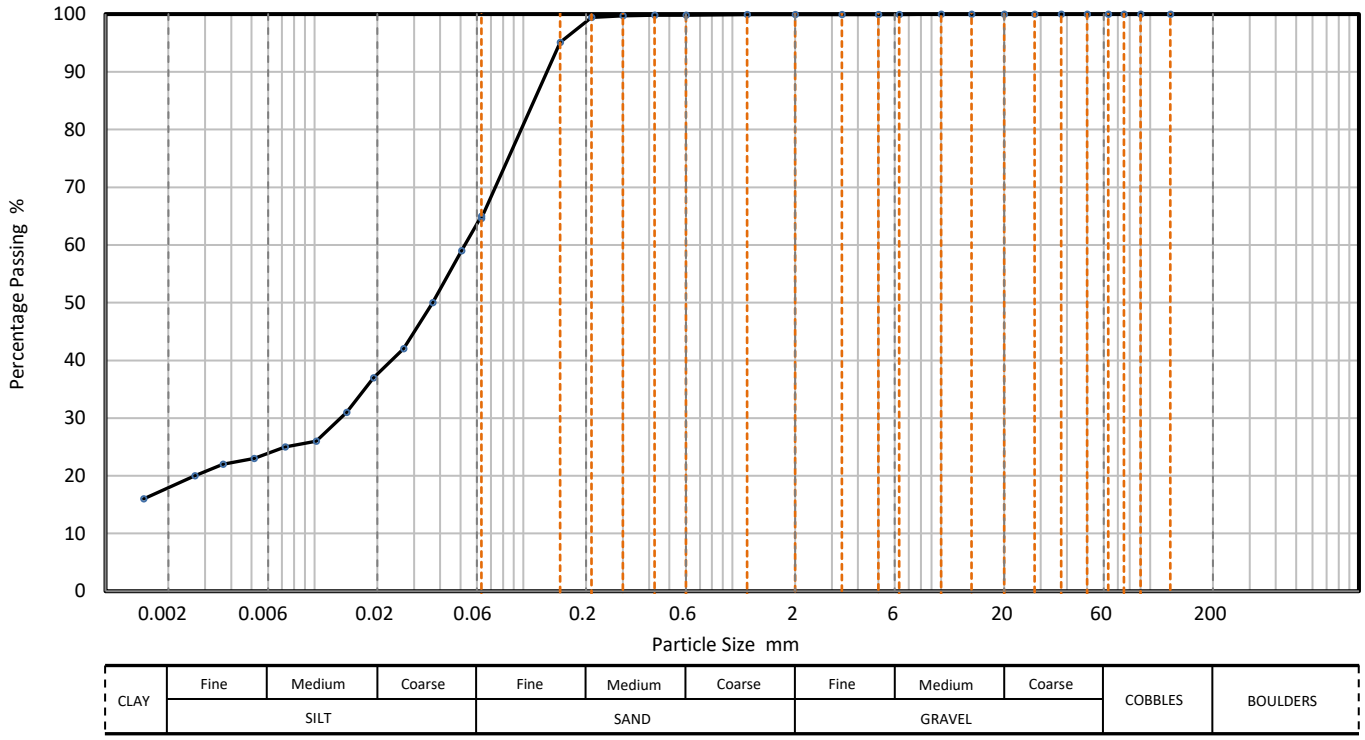
lab@solmek.com

UKAS TESTING 7607

Hole	BH38	Lab sample ID	SLMK2017082498
Depth (Top) m	4.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly clayey, sandy SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	65
90	100	0.0507	59
75	100	0.0368	50
63	100	0.0267	42
50	100	0.0192	37
37.5	100	0.0142	31
28	100	0.0102	26
20	100	0.0072	25
14	100	0.0051	23
10	100	0.0036	22
6.3	100	0.0027	20
5	100	0.0015	16
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density	(assumed)
0.425	100	2.65	Mg/m3
0.3	100		
0.212	99		
0.15	95		
0.063	65		

Dry Mass of sample, g	840

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	35.3
Silt	46.5
Clay	18.1

Grading Analysis		
D100	mm	
D60	mm	0.0528
D30	mm	0.0133
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:05

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
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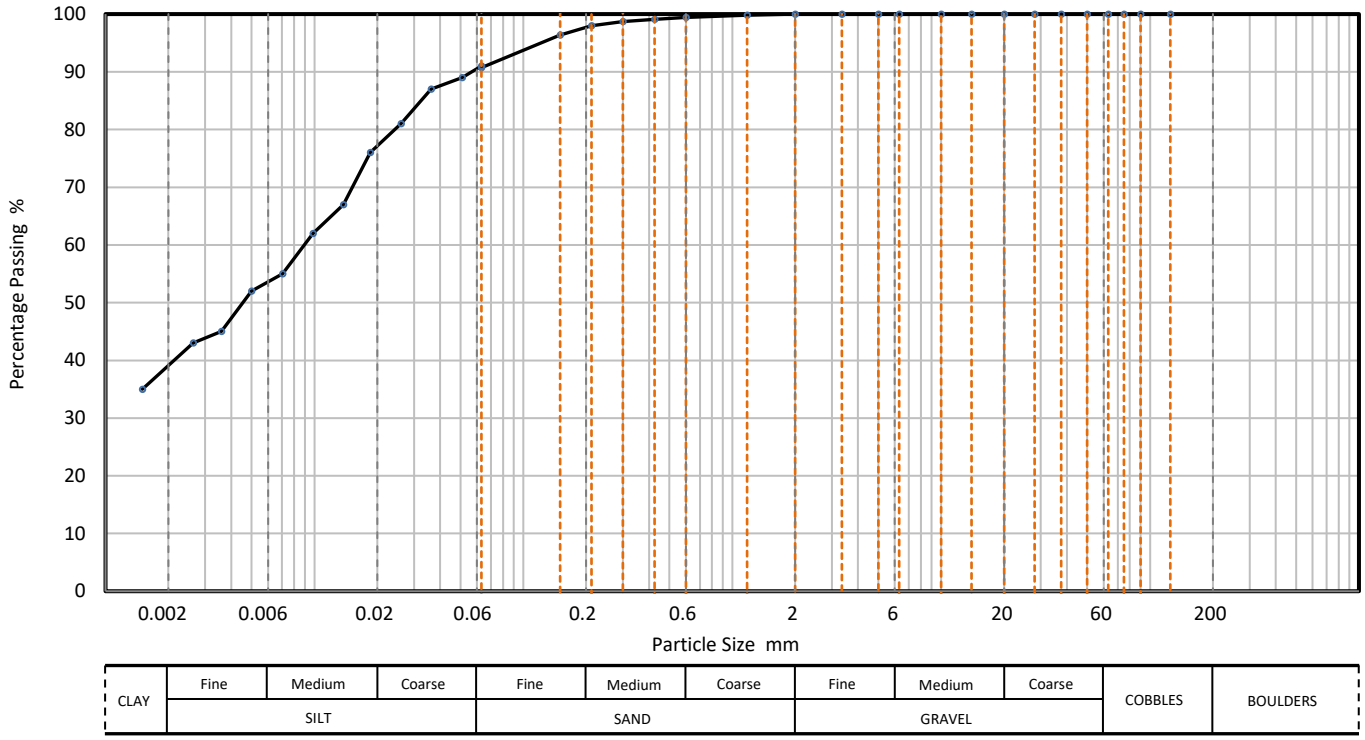
lab@solmek.com

UKAS TESTING 7607

Hole	BH39	Lab sample ID	SLMK2017091339
Depth (Top) m	2.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly sandy, clayey SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	91
90	100	0.0510	89
75	100	0.0362	87
63	100	0.0259	81
50	100	0.0185	76
37.5	100	0.0138	67
28	100	0.0098	62
20	100	0.0070	55
14	100	0.0050	52
10	100	0.0036	45
6.3	100	0.0026	43
5	100	0.0015	35
3.35	100		
2	100		
1.18	100		
0.6	99	Particle density	(assumed)
0.425	99	2.65	Mg/m3
0.3	99		
0.212	98		
0.15	96		
0.063	91		

Dry Mass of sample, g: 816

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.0
Sand	9.3
Silt	51.8
Clay	38.9

Grading Analysis		
D100	mm	
D60	mm	0.00886
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 10:09

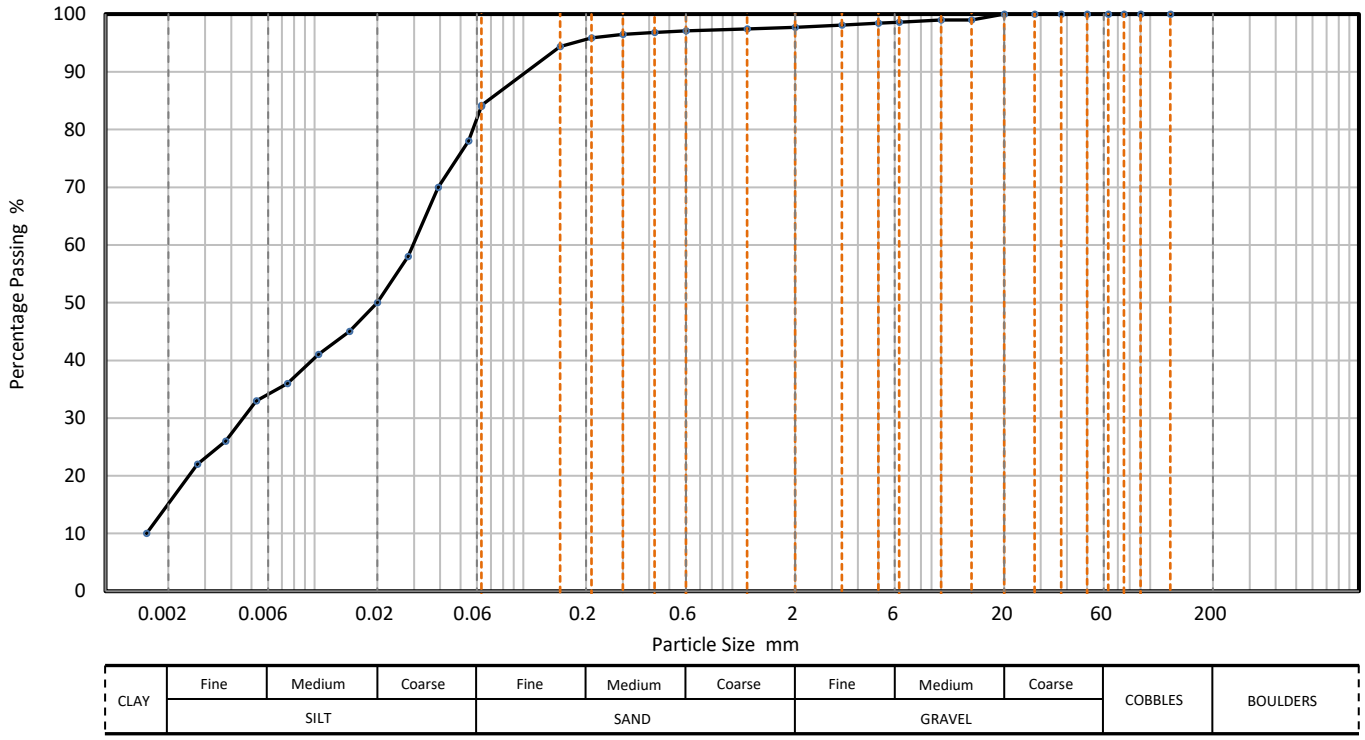
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH39	Lab sample ID	SLMK2017091341
Depth (Top) m	3.40	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, clayey, SILT.
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	84
90	100	0.0547	78
75	100	0.0391	70
63	100	0.0280	58
50	100	0.0200	50
37.5	100	0.0147	45
28	100	0.0104	41
20	100	0.0074	36
14	99	0.0053	33
10	99	0.0038	26
6.3	99	0.0028	22
5	98	0.0016	10
3.35	98		
2	98		
1.18	97		
0.6	97	Particle density	(assumed)
0.425	97	2.65	Mg/m3
0.3	97		
0.212	96		
0.15	94		
0.063	84		

Dry Mass of sample, g	567

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.3
Sand	13.5
Silt	69.2
Clay	15.0

Grading Analysis		
D100	mm	
D60	mm	0.0297
D30	mm	0.00459
D10	mm	0.00157
Uniformity Coefficient		19
Curvature Coefficient		0.45

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	UM
Approval date	22/09/2017 11:47

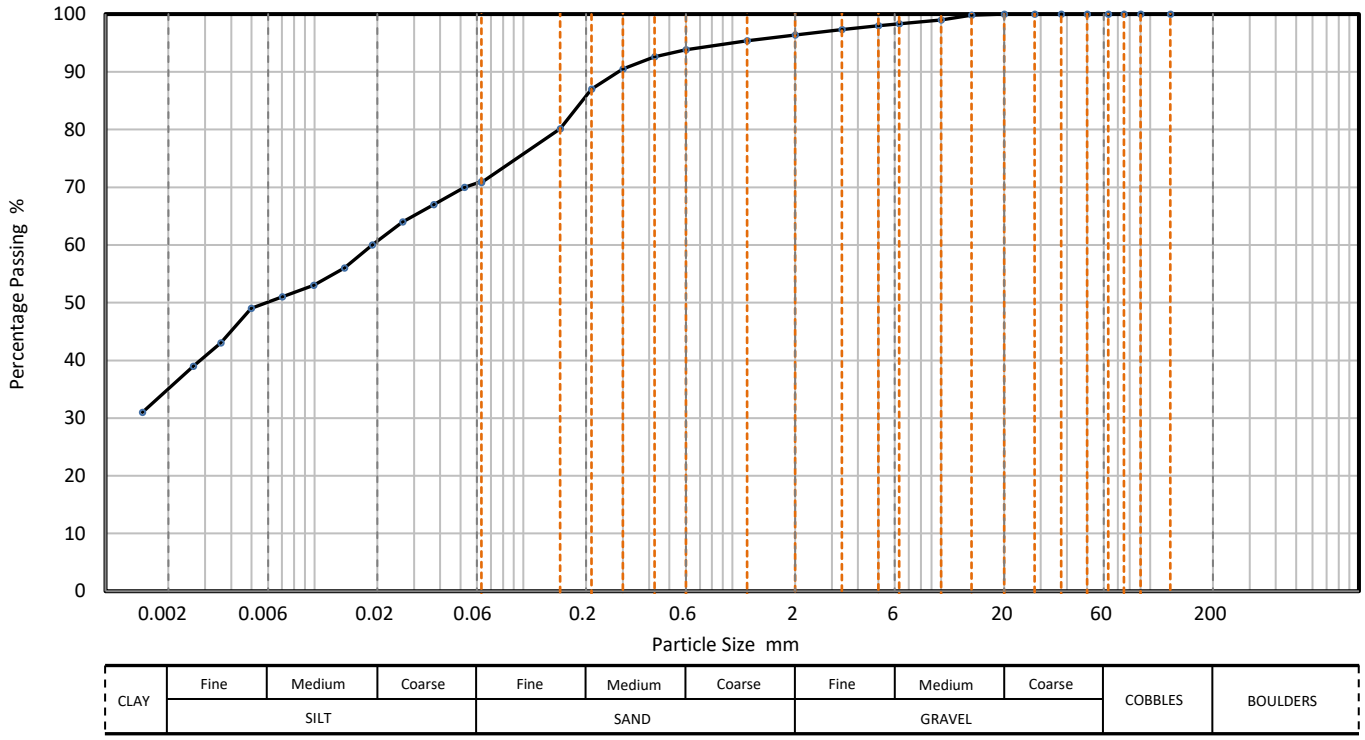
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH40	Lab sample ID	SLMK2017091319
Depth (Top) m	1.20	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, CLAYEY SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	71
90	100	0.0523	70
75	100	0.0372	67
63	100	0.0265	64
50	100	0.0189	60
37.5	100	0.0139	56
28	100	0.0099	53
20	100	0.0070	51
14	100	0.0050	49
10	99	0.0036	43
6.3	98	0.0026	39
5	98	0.0015	31
3.35	97		
2	96		
1.18	95		
0.6	94	Particle density	(assumed)
0.425	93	2.65	Mg/m3
0.3	91		
0.212	87		
0.15	80		
0.063	71		

Dry Mass of sample, g	691

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	3.6
Sand	25.6
Silt	35.9
Clay	34.9

Grading Analysis		
D100	mm	
D60	mm	0.0195
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 10:15

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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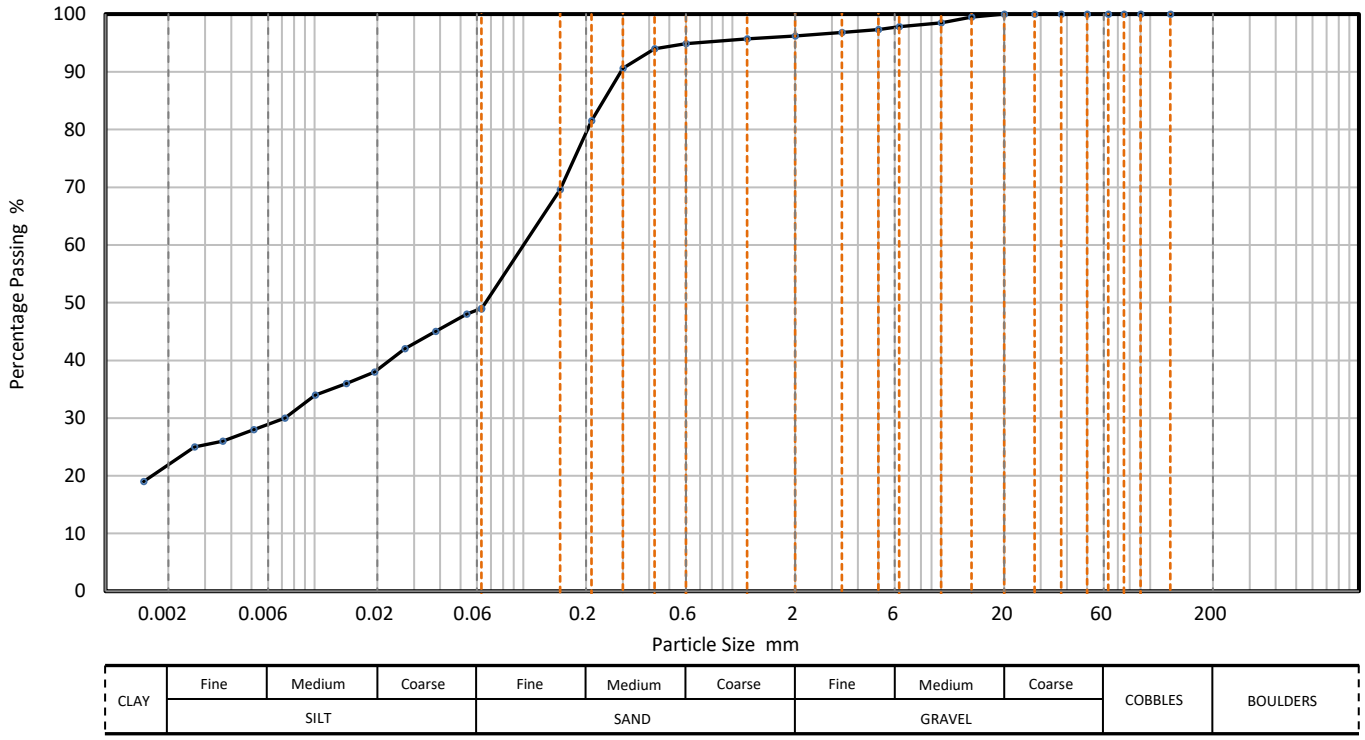
UKAS TESTING 7607

Hole	BH40	Lab sample ID	SLMK2017091321
Depth (Top) m	2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly clayey, slightly silty SAND
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	49
90	100	0.0534	48
75	100	0.0380	45
63	100	0.0271	42
50	100	0.0194	38
37.5	100	0.0142	36
28	100	0.0101	34
20	100	0.0072	30
14	100	0.0051	28
10	99	0.0036	26
6.3	98	0.0027	25
5	97	0.0015	19
3.35	97		
2	96		
1.18	96		
0.6	95	Particle density	(assumed)
0.425	94	2.65	Mg/m3
0.3	91		
0.212	82		
0.15	70		
0.063	49		

Dry Mass of sample, g	795

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	3.8
Sand	47.4
Silt	26.7
Clay	22.1

Grading Analysis		
D100	mm	
D60	mm	0.1
D30	mm	0.00744
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 10:14

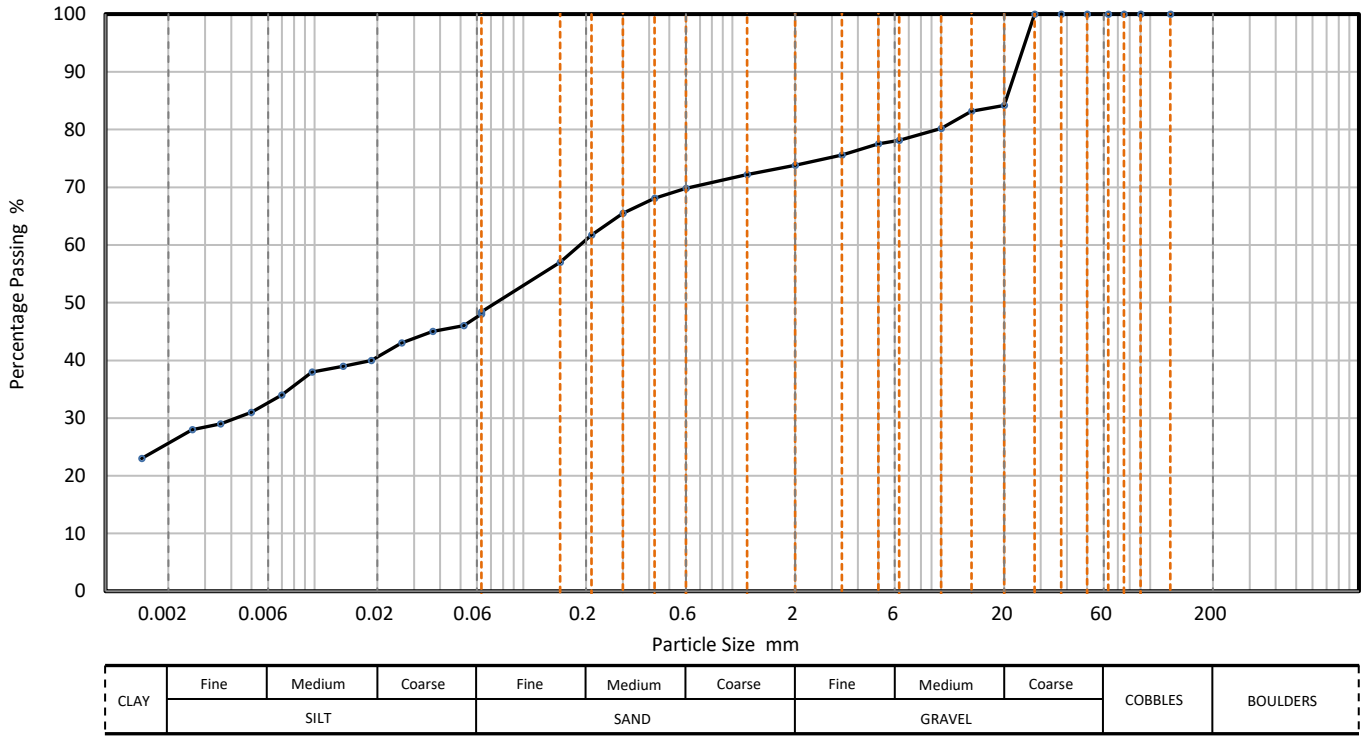
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH45	Lab sample ID	SLMK20170824104
Depth (Top) m	2.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly silty, slightly clayey, SANDY GRAVEL
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	48
90	100	0.0519	46
75	100	0.0368	45
63	100	0.0262	43
50	100	0.0187	40
37.5	100	0.0137	39
28	100	0.0097	38
20	84	0.0070	34
14	83	0.0050	31
10	80	0.0035	29
6.3	78	0.0026	28
5	78	0.0015	23
3.35	76		
2	74		
1.18	72		
0.6	70	Particle density	(assumed)
0.425	68	2.65	Mg/m3
0.3	66		
0.212	62		
0.15	57		
0.063	48		

Dry Mass of sample, g	475

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	26.2
Sand	25.4
Silt	23.2
Clay	25.2

Grading Analysis		
D100	mm	
D60	mm	0.187
D30	mm	0.004
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:06

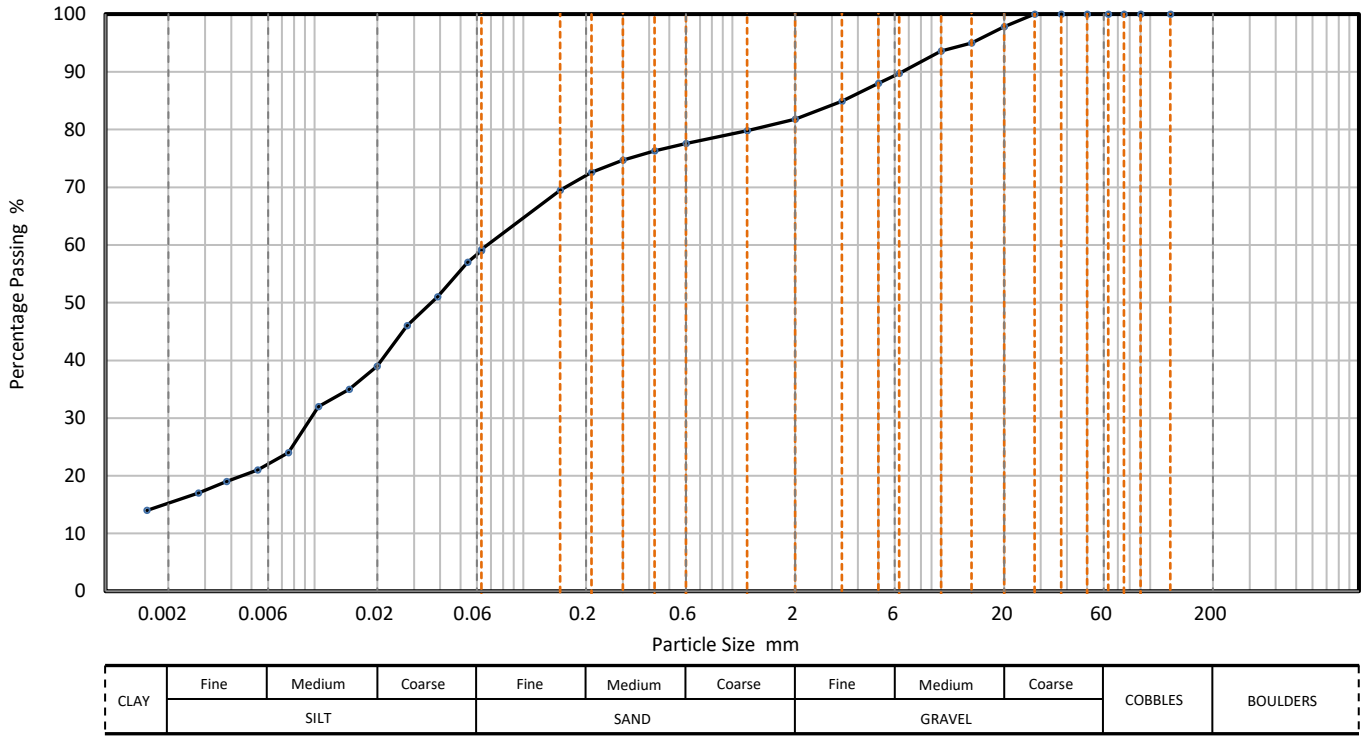
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH45	Lab sample ID	SLMK20170824108
Depth (Top) m	13.20	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly clayey, slightly gravelly, sandy SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	59
90	100	0.0541	57
75	100	0.0388	51
63	100	0.0278	46
50	100	0.0199	39
37.5	100	0.0147	35
28	100	0.0105	32
20	98	0.0075	24
14	95	0.0053	21
10	94	0.0038	19
6.3	90	0.0028	17
5	88	0.0016	14
3.35	85		
2	82		
1.18	80		
0.6	78	Particle density	(assumed)
0.425	76	2.65	Mg/m3
0.3	75		
0.212	73		
0.15	70		
0.063	59		

Dry Mass of sample, g	949

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	18.2
Sand	22.6
Silt	44.0
Clay	15.2

Grading Analysis		
D100	mm	
D60	mm	0.0674
D30	mm	0.00975
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:07

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
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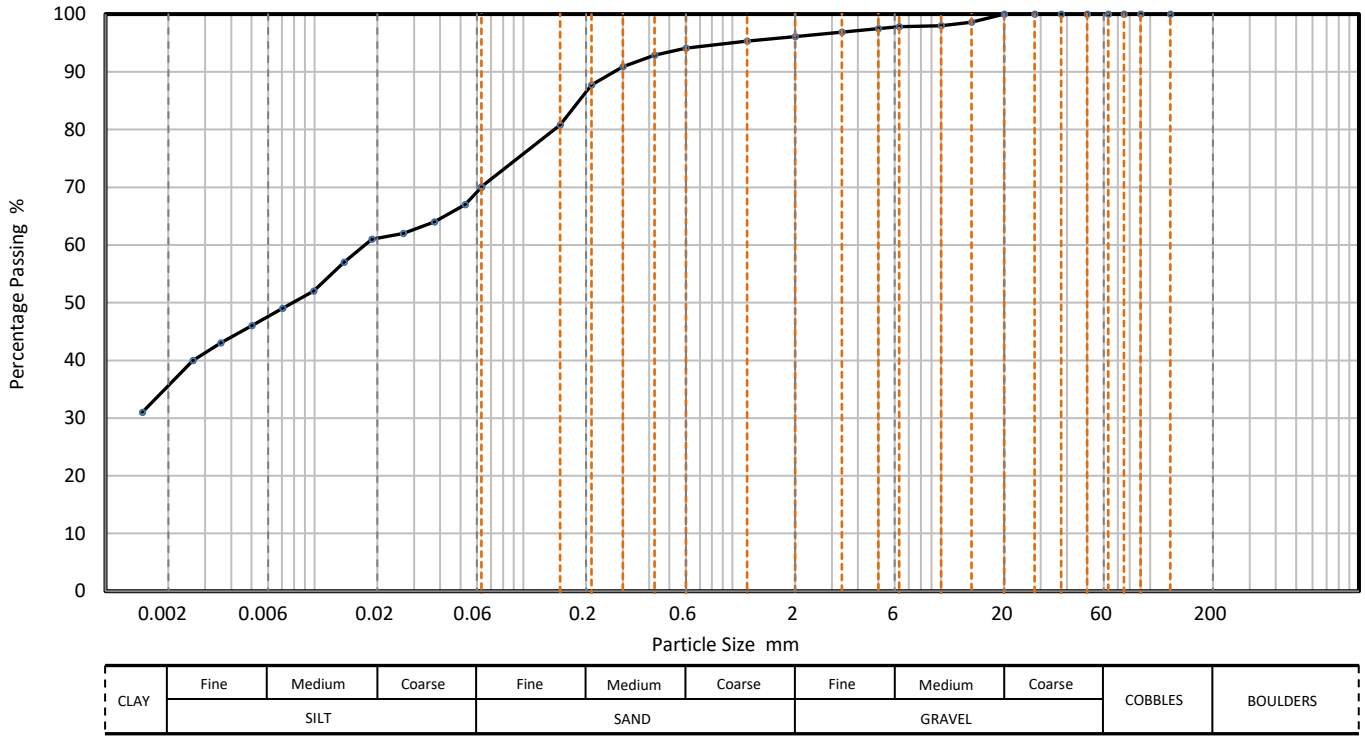
UKAS TESTING 7607

Hole	BH47	Lab sample ID	SLMK20170824114
Depth (Top) m	0.80	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, silty CLAY
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	70
90	100	0.0526	67
75	100	0.0374	64
63	100	0.0266	62
50	100	0.0188	61
37.5	100	0.0139	57
28	100	0.0099	52
20	100	0.0070	49
14	99	0.0050	46
10	98	0.0036	43
6.3	98	0.0026	40
5	98	0.0015	31
3.35	97		
2	96		
1.18	95		
0.6	94	Particle density	(assumed)
0.425	93	2.65	Mg/m3
0.3	91		
0.212	88		
0.15	81		
0.063	70		

Dry Mass of sample, g	654

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	3.9
Sand	26.0
Silt	34.3
Clay	35.8

Grading Analysis		
D100	mm	
D60	mm	0.0176
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:07

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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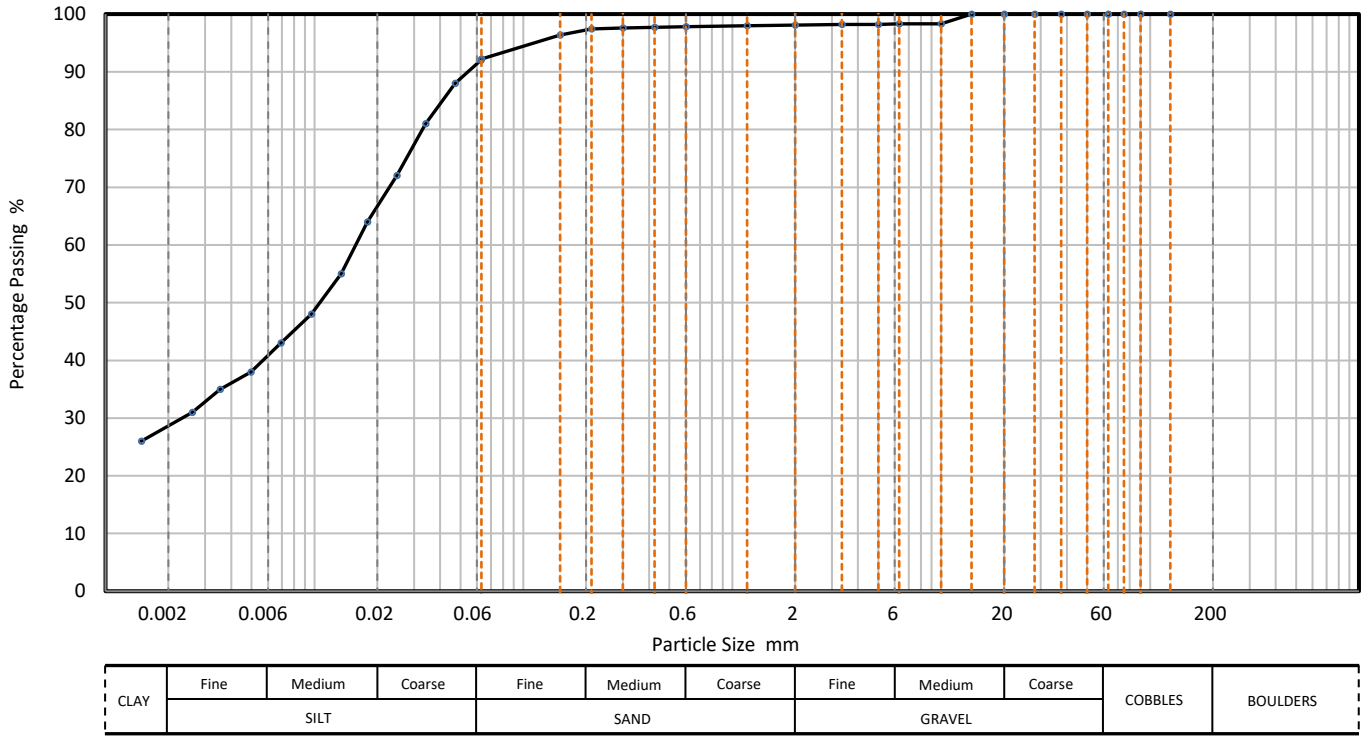
lab@solmek.com

UKAS TESTING 7607

Hole	BH47	Lab sample ID	SLMK20170824118
Depth (Top) m	8.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, slightly clayey SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0625	92
90	100	0.0472	88
75	100	0.0341	81
63	100	0.0248	72
50	100	0.0179	64
37.5	100	0.0134	55
28	100	0.0097	48
20	100	0.0069	43
14	100	0.0050	38
10	98	0.0035	35
6.3	98	0.0026	31
5	98	0.0015	26
3.35	98		
2	98		
1.18	98		
0.6	98	Particle density	(assumed)
0.425	98	2.65	Mg/m3
0.3	98		
0.212	97		
0.15	96		
0.063	92		

Dry Mass of sample, g	493

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.9
Sand	5.9
Silt	63.6
Clay	28.6

Grading Analysis		
D100	mm	
D60	mm	0.0158
D30	mm	0.00231
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	11/09/2017 12:42

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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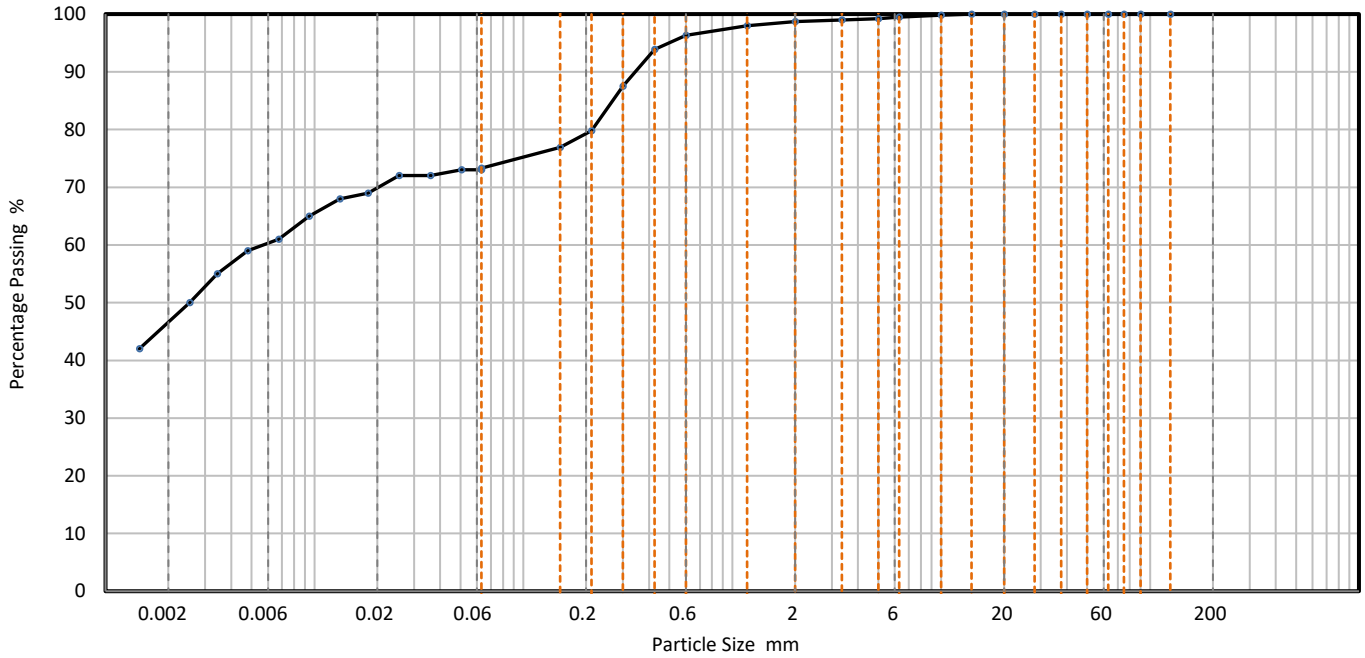
UKAS TESTING 7607

Hole	BH48	Lab sample ID	SLMK20170824121
Depth (Top) m	0.60	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly sandy, slightly silty CLAY
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	73
90	100	0.0507	73
75	100	0.0359	72
63	100	0.0254	72
50	100	0.0181	69
37.5	100	0.0133	68
28	100	0.0094	65
20	100	0.0067	61
14	100	0.0048	59
10	100	0.0034	55
6.3	100	0.0025	50
5	99	0.0015	42
3.35	99		
2	99		
1.18	98		
0.6	96	Particle density	(assumed)
0.425	94	2.65	Mg/m3
0.3	88		
0.212	80		
0.15	77		
0.063	73		

Dry Mass of sample, g	814

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.3
Sand	25.3
Silt	26.9
Clay	46.5

Grading Analysis		
D100	mm	
D60	mm	0.00557
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	05/09/2017 13:08

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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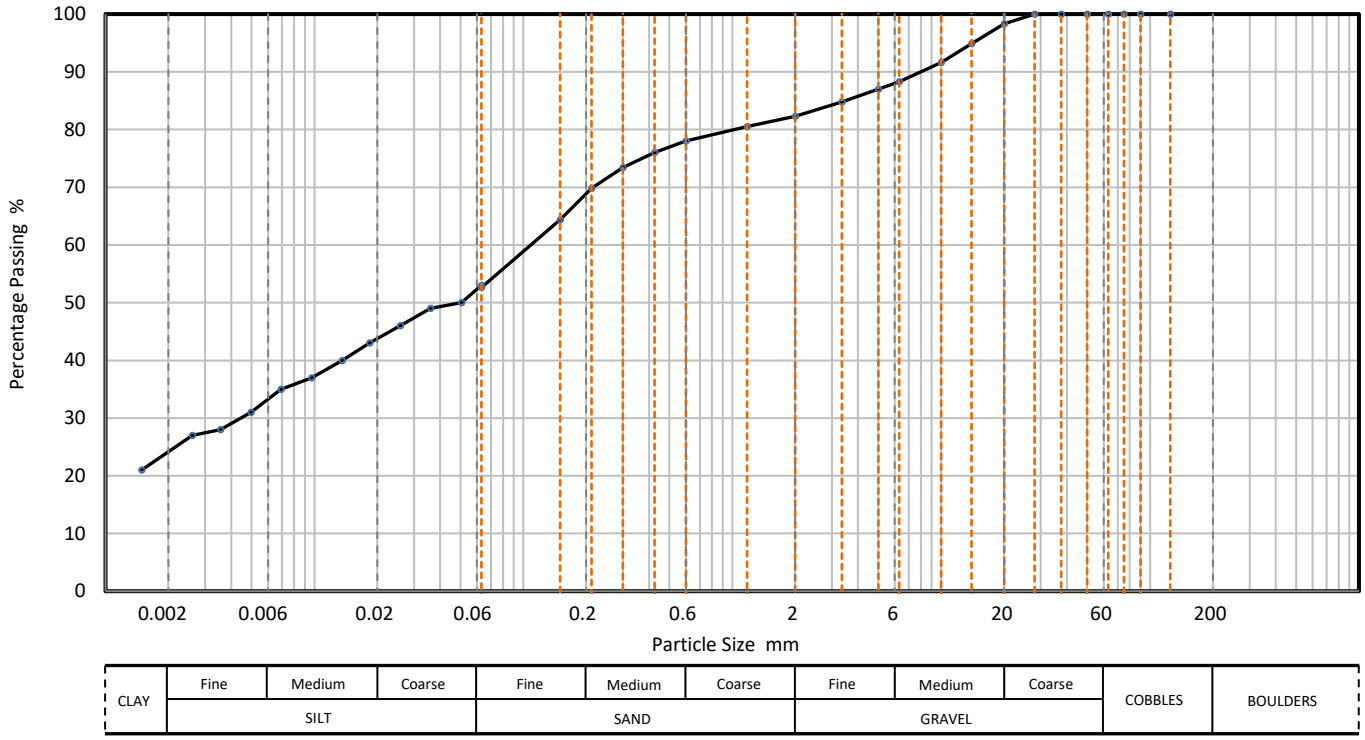
lab@solmek.com

UKAS TESTING 7607

Hole	BH49	Lab sample ID	SLMK2017091327
Depth (Top) m	3.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly clayey, silty SAND
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	53
90	100	0.0506	50
75	100	0.0360	49
63	100	0.0258	46
50	100	0.0184	43
37.5	100	0.0136	40
28	100	0.0097	37
20	98	0.0069	35
14	95	0.0050	31
10	92	0.0035	28
6.3	88	0.0026	27
5	87	0.0015	21
3.35	85		
2	82		
1.18	81		
0.6	78	Particle density	(assumed)
0.425	76	2.65	Mg/m3
0.3	73		
0.212	70		
0.15	64		
0.063	53		

Dry Mass of sample, g	945

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	17.7
Sand	29.7
Silt	28.5
Clay	24.1

Grading Analysis		
D100	mm	
D60	mm	0.108
D30	mm	0.00464
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 09:58

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
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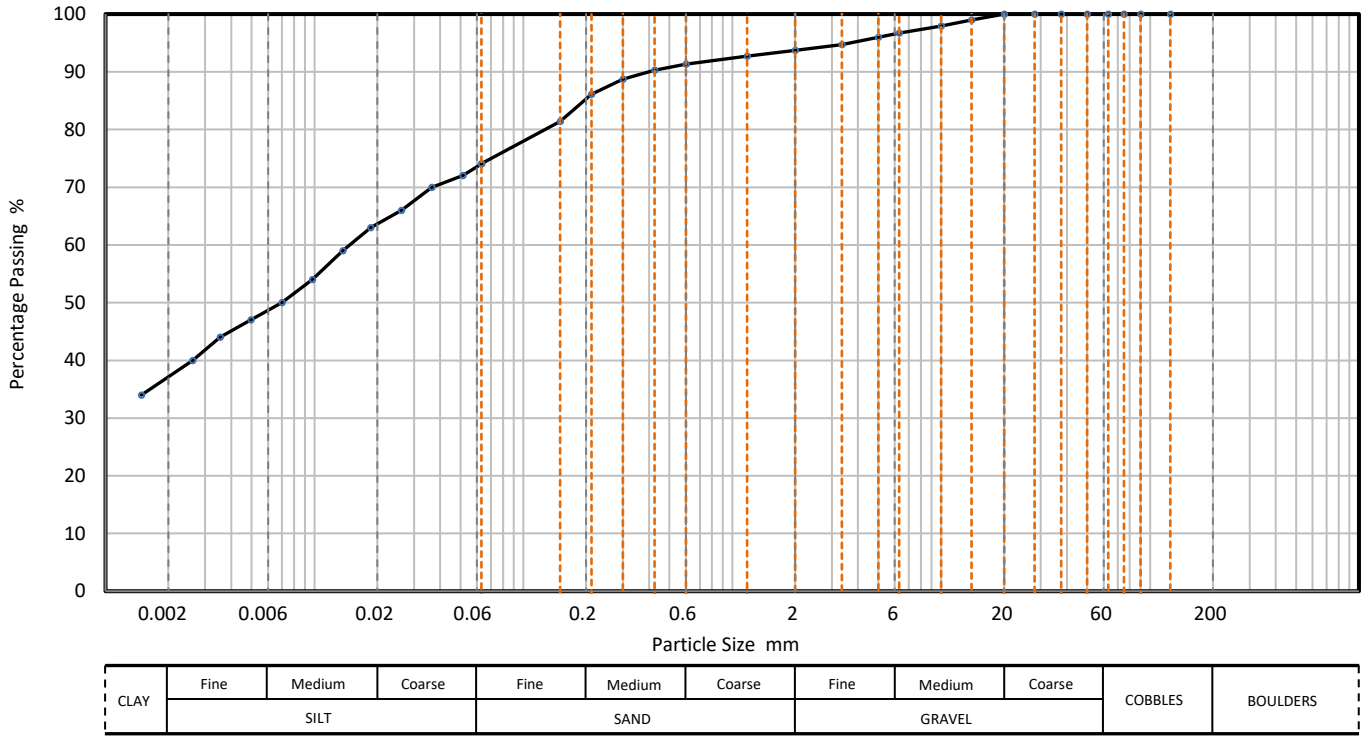
lab@solmek.com

UKAS TESTING 7607

Hole	BH50	Lab sample ID	SLMK2017091329
Depth (Top) m	1.20	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, sligthtly gravelly, slightly sandy, CLALEY SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	74
90	100	0.0514	72
75	100	0.0365	70
63	100	0.0260	66
50	100	0.0186	63
37.5	100	0.0137	59
28	100	0.0098	54
20	100	0.0070	50
14	99	0.0050	47
10	98	0.0035	44
6.3	97	0.0026	40
5	96	0.0015	34
3.35	95		
2	94		
1.18	93		
0.6	91	Particle density	(assumed)
0.425	90	2.65	Mg/m3
0.3	89		
0.212	86		
0.15	81		
0.063	74		

Dry Mass of sample, g	770

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	6.3
Sand	19.6
Silt	37.1
Clay	37.0

Grading Analysis		
D100	mm	
D60	mm	0.0143
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 09:59

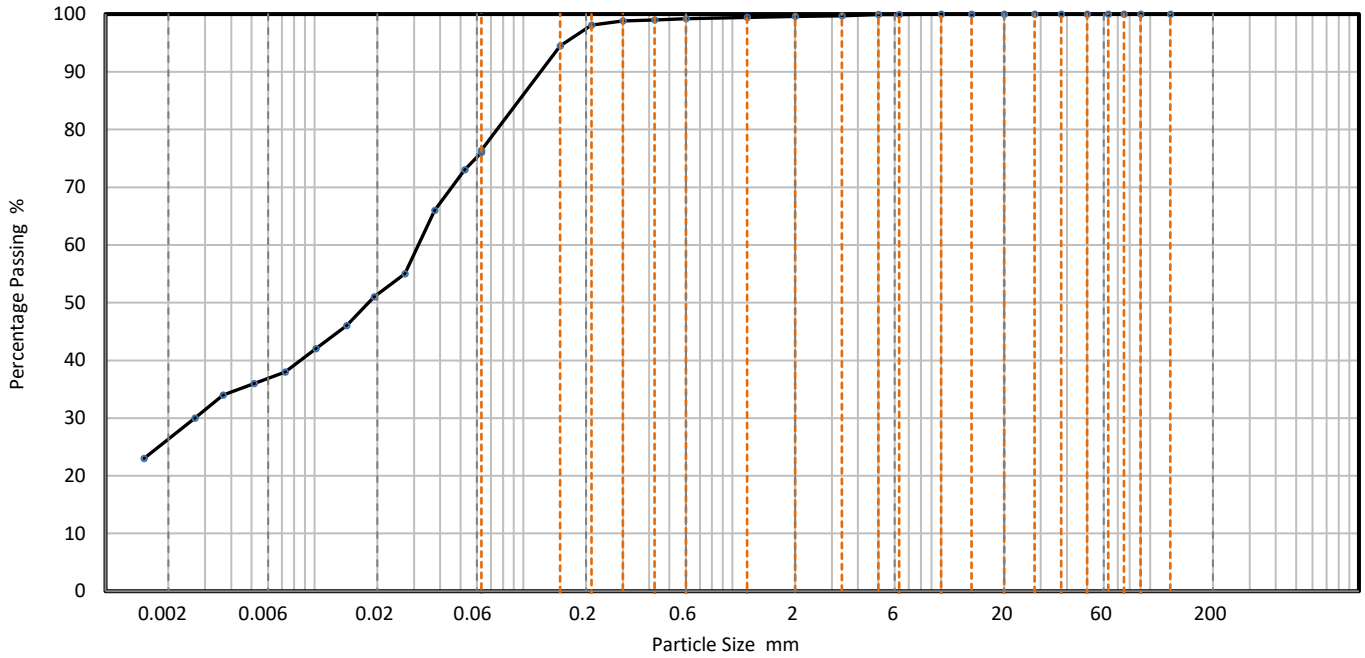
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	BH50	Lab sample ID	SLMK2017091331
Depth (Top) m	3.20	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Greyish brown, slightly gravelly, sandy, clayey, SILT.
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	76
90	100	0.0523	73
75	100	0.0376	66
63	100	0.0271	55
50	100	0.0193	51
37.5	100	0.0143	46
28	100	0.0102	42
20	100	0.0072	38
14	100	0.0051	36
10	100	0.0036	34
6.3	100	0.0027	30
5	100	0.0015	23
3.35	100		
2	100		
1.18	99		
0.6	99	Particle density	(assumed)
0.425	99	2.65	Mg/m3
0.3	99		
0.212	98		
0.15	95		
0.063	76		

Dry Mass of sample, g	674

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.4
Sand	23.2
Silt	49.9
Clay	26.5

Grading Analysis		
D100	mm	
D60	mm	0.0315
D30	mm	0.00264
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	UM
Approval date	22/09/2017 11:25

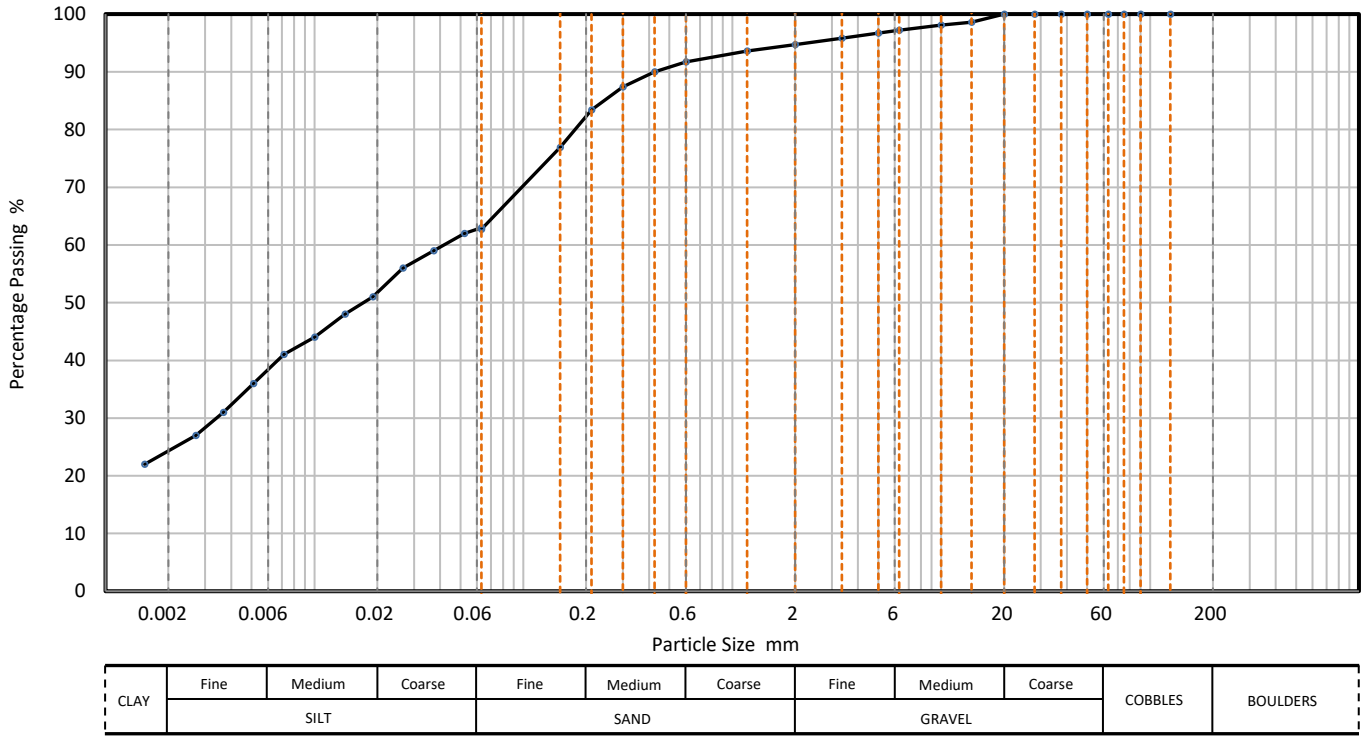
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	TP10	Lab sample ID	SLMK2017091346
Depth (Top) m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, clayey, sandy SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	63
90	100	0.0522	62
75	100	0.0372	59
63	100	0.0265	56
50	100	0.0190	51
37.5	100	0.0140	48
28	100	0.0100	44
20	100	0.0071	41
14	99	0.0051	36
10	98	0.0037	31
6.3	97	0.0027	27
5	97	0.0015	22
3.35	96		
2	95		
1.18	94		
0.6	92	Particle density	(measured)
0.425	90	2.59	Mg/m3
0.3	87		
0.212	83		
0.15	77		
0.063	63		

Dry Mass of sample, g	997

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	5.3
Sand	32.0
Silt	38.6
Clay	24.1

Grading Analysis		
D100	mm	
D60	mm	0.0428
D30	mm	0.00333
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	06/10/2017 14:24

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
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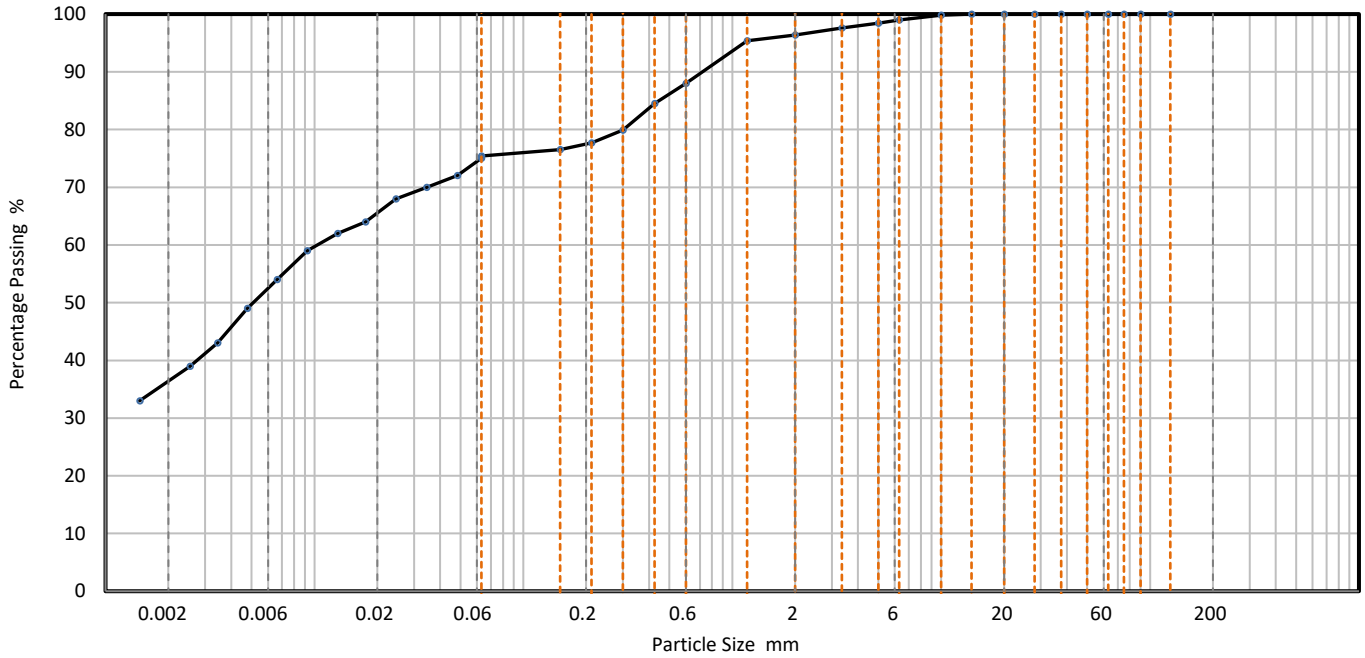
UKAS TESTING 7607

Hole	TP10	Lab sample ID	SLMK2017091349
Depth (Top) m	1.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, clayey SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	75
90	100	0.0483	72
75	100	0.0344	70
63	100	0.0245	68
50	100	0.0176	64
37.5	100	0.0129	62
28	100	0.0092	59
20	100	0.0066	54
14	100	0.0048	49
10	100	0.0034	43
6.3	99	0.0025	39
5	98	0.0015	33
3.35	98		
2	96		
1.18	95		
0.6	88	Particle density	(assumed)
0.425	85	2.65	Mg/m3
0.3	80		
0.212	78		
0.15	77		
0.063	75		

Dry Mass of sample, g: 666

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	3.6
Sand	21.0
Silt	39.0
Clay	36.4

Grading Analysis		
D100	mm	
D60	mm	0.0102
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 10:12

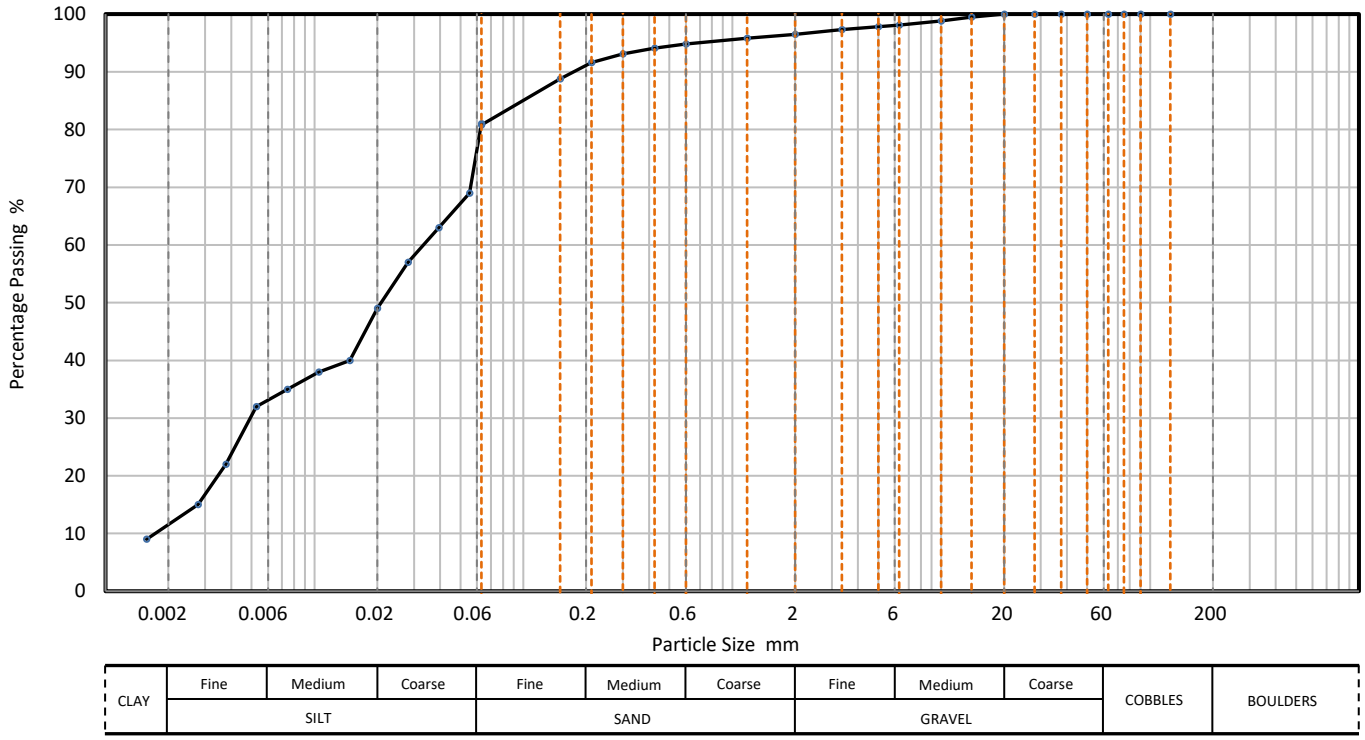
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	TP10	Lab sample ID	SLMK2017091350
Depth (Top) m	3.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly silty, slightly sandy, SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	81
90	100	0.0553	69
75	100	0.0394	63
63	100	0.0281	57
50	100	0.0200	49
37.5	100	0.0148	40
28	100	0.0105	38
20	100	0.0074	35
14	100	0.0053	32
10	99	0.0038	22
6.3	98	0.0028	15
5	98	0.0016	9
3.35	97		
2	97		
1.18	96		
0.6	95	Particle density	(assumed)
0.425	94	2.65	Mg/m3
0.3	93		
0.212	92		
0.15	89		
0.063	81		

Dry Mass of sample, g: 839

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	3.5
Sand	15.6
Silt	69.3
Clay	11.6

Grading Analysis		
D100	mm	
D60	mm	0.0338
D30	mm	0.00487
D10	mm	0.00172
Uniformity Coefficient		20
Curvature Coefficient		0.41

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 10:01

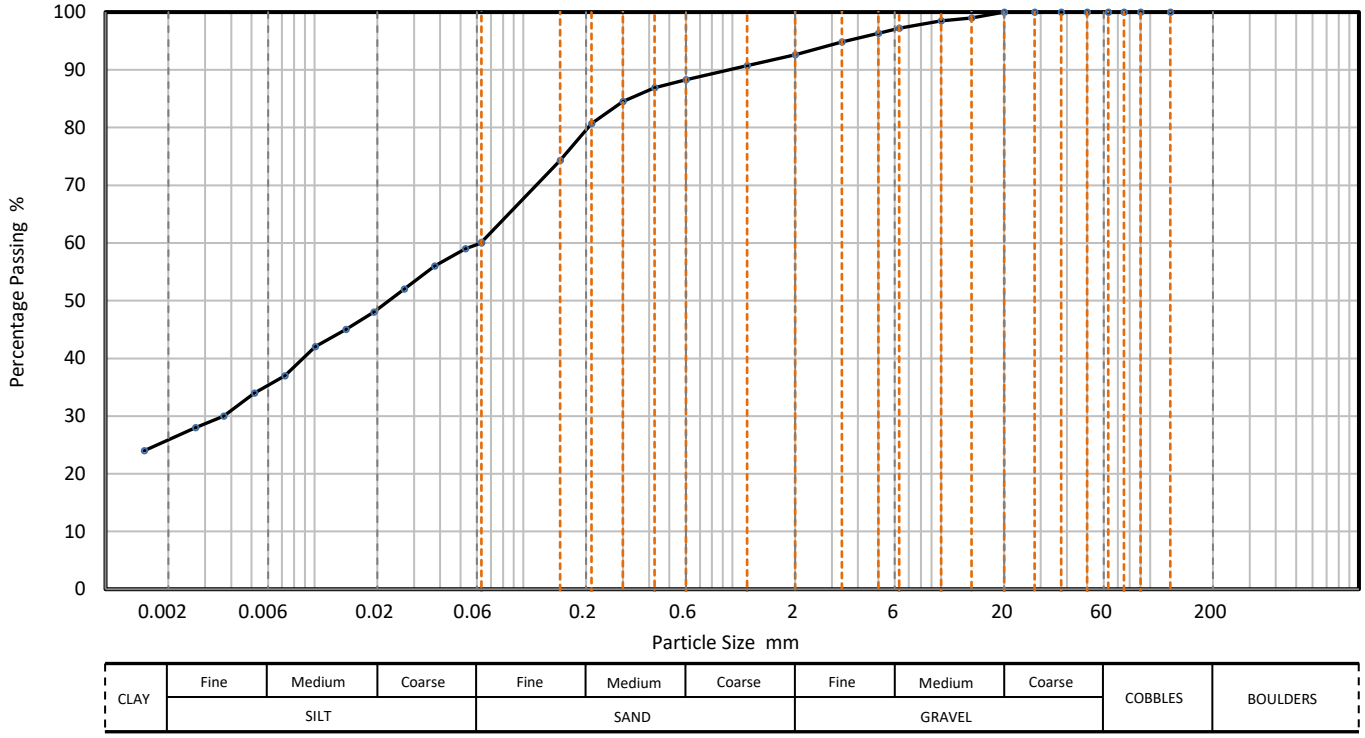
PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 607083
lab@solmek.com

UKAS TESTING 7607

Hole	TP13	Lab sample ID	SLMK2017091353
Depth (Top) m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, clayey, sandy SILT.
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	60
90	100	0.0528	59
75	100	0.0377	56
63	100	0.0269	52
50	100	0.0192	48
37.5	100	0.0142	45
28	100	0.0101	42
20	100	0.0072	37
14	99	0.0052	34
10	99	0.0037	30
6.3	97	0.0027	28
5	96	0.0015	24
3.35	95		
2	93		
1.18	91		
0.6	88	Particle density	(measured)
0.425	87	2.59	Mg/m3
0.3	85		
0.212	81		
0.15	74		
0.063	60		

Dry Mass of sample, g	637

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	7.4
Sand	32.6
Silt	33.9
Clay	26.1

Grading Analysis		
D100	mm	
D60	mm	0.0624
D30	mm	0.00364
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	06/10/2017 14:25

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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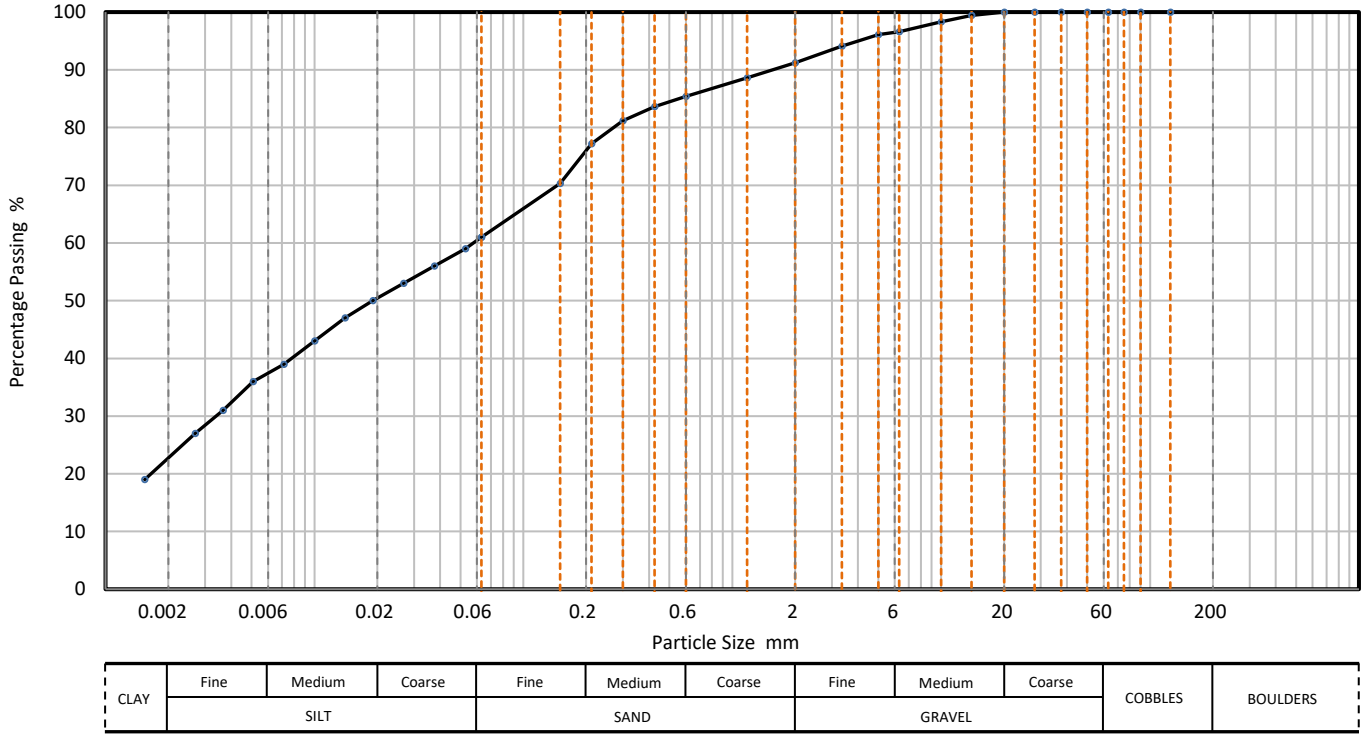
UKAS TESTING 7607

Hole	TP13	Lab sample ID	SLMK2017091356
Depth (Top) m	1.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly clayey, sandy SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	61
90	100	0.0527	59
75	100	0.0375	56
63	100	0.0267	53
50	100	0.0190	50
37.5	100	0.0140	47
28	100	0.0100	43
20	100	0.0071	39
14	99	0.0051	36
10	98	0.0036	31
6.3	97	0.0027	27
5	96	0.0015	19
3.35	94		
2	91		
1.18	89		
0.6	85	Particle density	(measured)
0.425	84	2.62	Mg/m3
0.3	81		
0.212	77		
0.15	70		
0.063	61		

Dry Mass of sample, g	1109

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	8.8
Sand	30.2
Silt	38.5
Clay	22.5

Grading Analysis		
D100	mm	
D60	mm	0.0585
D30	mm	0.0035
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	06/10/2017 14:25

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
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Stockton on Tees,
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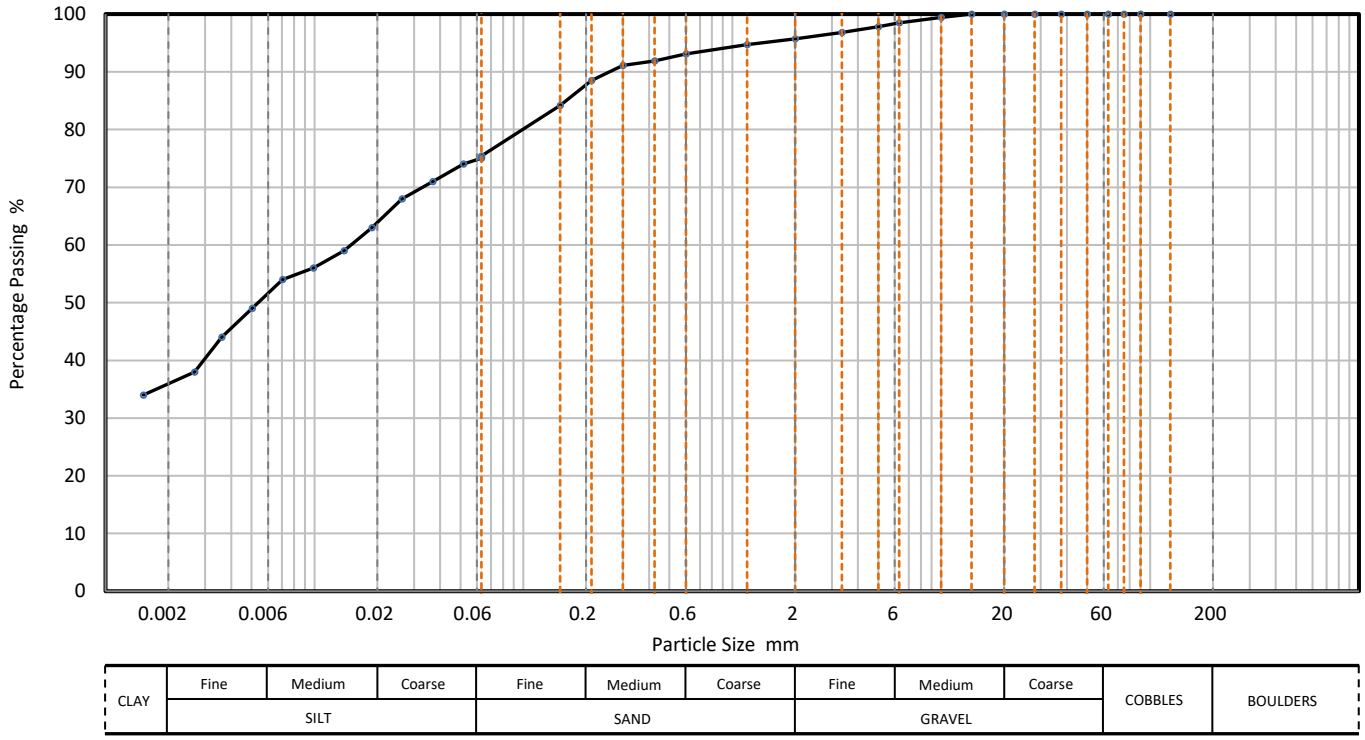
UKAS TESTING 7607

Hole	TP19	Lab sample ID	SLMK2017091369
Depth (Top) m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, clayey SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	75
90	100	0.0517	74
75	100	0.0369	71
63	100	0.0263	68
50	100	0.0188	63
37.5	100	0.0139	59
28	100	0.0099	56
20	100	0.0070	54
14	100	0.0050	49
10	99	0.0036	44
6.3	99	0.0027	38
5	98	0.0015	34
3.35	97		
2	96		
1.18	95		
0.6	93	Particle density	(measured)
0.425	92	2.57	Mg/m3
0.3	91		
0.212	89		
0.15	84		
0.063	75		

Dry Mass of sample, g	1167

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	4.3
Sand	20.3
Silt	39.4
Clay	36.0

Grading Analysis		
D100	mm	
D60	mm	0.0146
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	06/10/2017 14:25

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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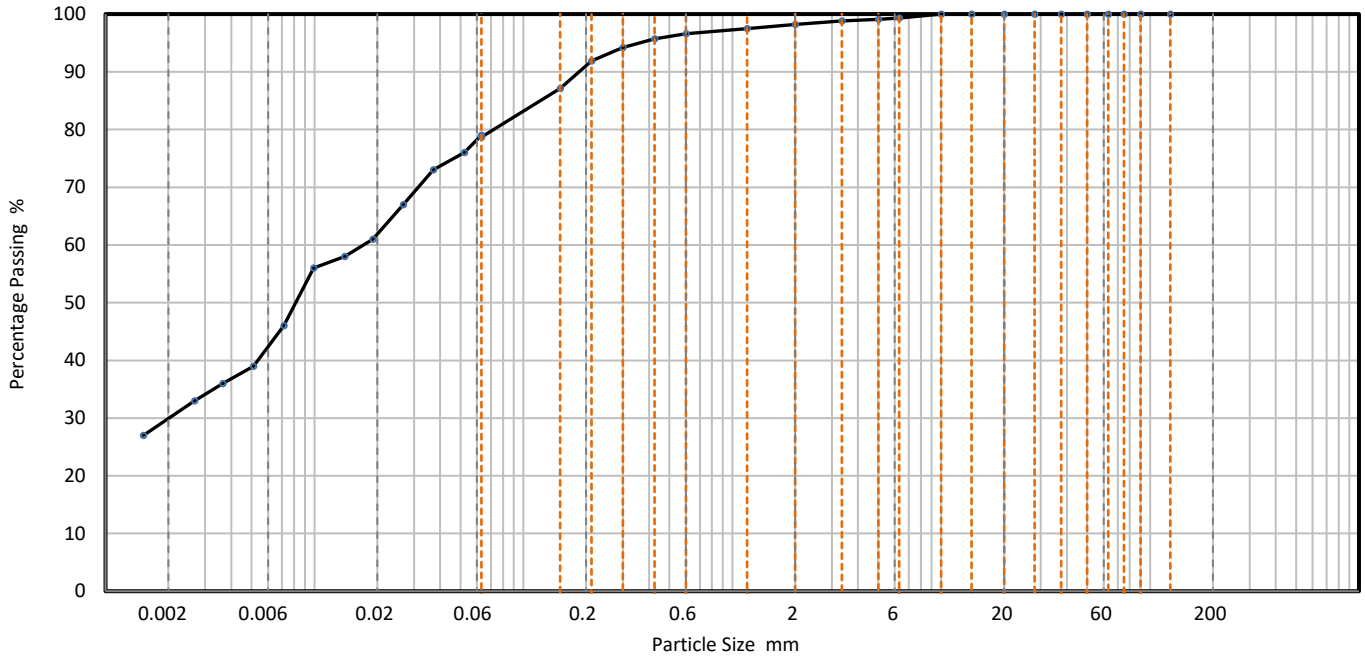
UKAS TESTING 7607

Hole	TP19	Lab sample ID	SLMK2017091372
Depth (Top) m	3.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, slightly sandy, slightly clayey SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	79
90	100	0.0522	76
75	100	0.0372	73
63	100	0.0266	67
50	100	0.0190	61
37.5	100	0.0140	58
28	100	0.0099	56
20	100	0.0071	46
14	100	0.0051	39
10	100	0.0036	36
6.3	99	0.0027	33
5	99	0.0015	27
3.35	99		
2	98		
1.18	98		
0.6	97	Particle density	(assumed)
0.425	96	2.65	Mg/m3
0.3	94		
0.212	92		
0.15	87		
0.063	79		

Dry Mass of sample, g	861

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.8
Sand	19.5
Silt	48.8
Clay	29.9

Grading Analysis		
D100	mm	
D60	mm	0.0178
D30	mm	0.00202
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	30/09/2017 10:06

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
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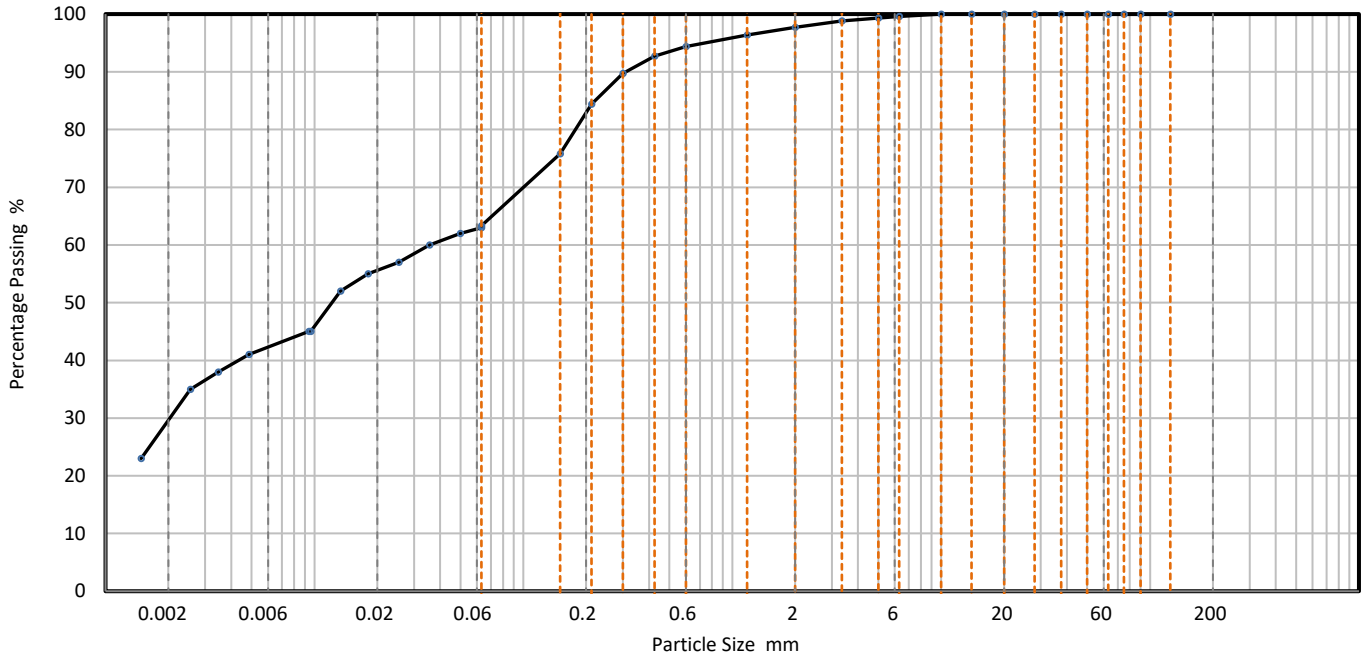
UKAS TESTING 7607

Hole	TP25	Lab sample ID	SLMK2017091388
Depth (Top) m	0.60	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, clayey, silty SAND
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	63
90	100	0.0499	62
75	100	0.0356	60
63	100	0.0253	57
50	100	0.0181	55
37.5	100	0.0133	52
28	100	0.0096	45
20	100	0.0094	45
14	100	0.0049	41
10	100	0.0035	38
6.3	100	0.0026	35
5	99	0.0015	23
3.35	99		
2	98		
1.18	96		
0.6	94	Particle density	(measured)
0.425	93	2.56	Mg/m3
0.3	90		
0.212	84		
0.15	76		
0.063	63		

Dry Mass of sample, g	791

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.3
Sand	34.5
Silt	33.6
Clay	29.6

Grading Analysis		
D100	mm	
D60	mm	0.0373
D30	mm	0.00204
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	06/10/2017 14:26

PARTICLE SIZE DISTRIBUTION

Site name	Job number
IAMP Sunderland	D8044

Solmek
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
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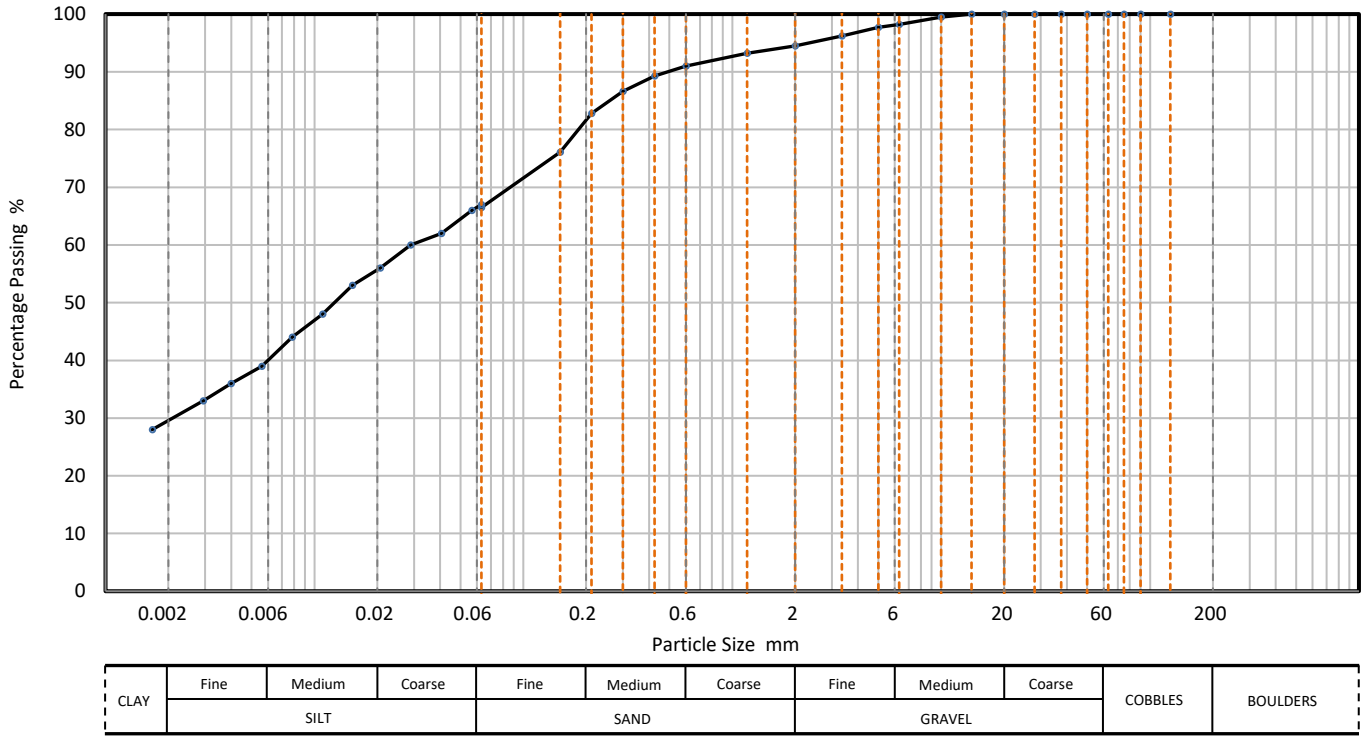
UKAS TESTING 7607

Hole	TP25	Lab sample ID	SLMK2017091391
Depth (Top) m	1.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Brown, slightly gravelly, sandy, clayey, SILT.
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	67
90	100	0.0567	66
75	100	0.0405	62
63	100	0.0289	60
50	100	0.0207	56
37.5	100	0.0152	53
28	100	0.0109	48
20	100	0.0078	44
14	100	0.0056	39
10	100	0.0040	36
6.3	98	0.0029	33
5	98	0.0017	28
3.35	96		
2	95		
1.18	93		
0.6	91	Particle density	(measured)
0.425	89	2.30	Mg/m3
0.3	87		
0.212	83		
0.15	76		
0.063	67		

Dry Mass of sample, g	700

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	5.5
Sand	28.1
Silt	36.7
Clay	29.7

Grading Analysis		
D100	mm	
D60	mm	0.0287
D30	mm	0.00209
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by Solmek and is part of the Solmek UKAS accreditation schedule.

Approved by	KW
Approval date	06/10/2017 14:26

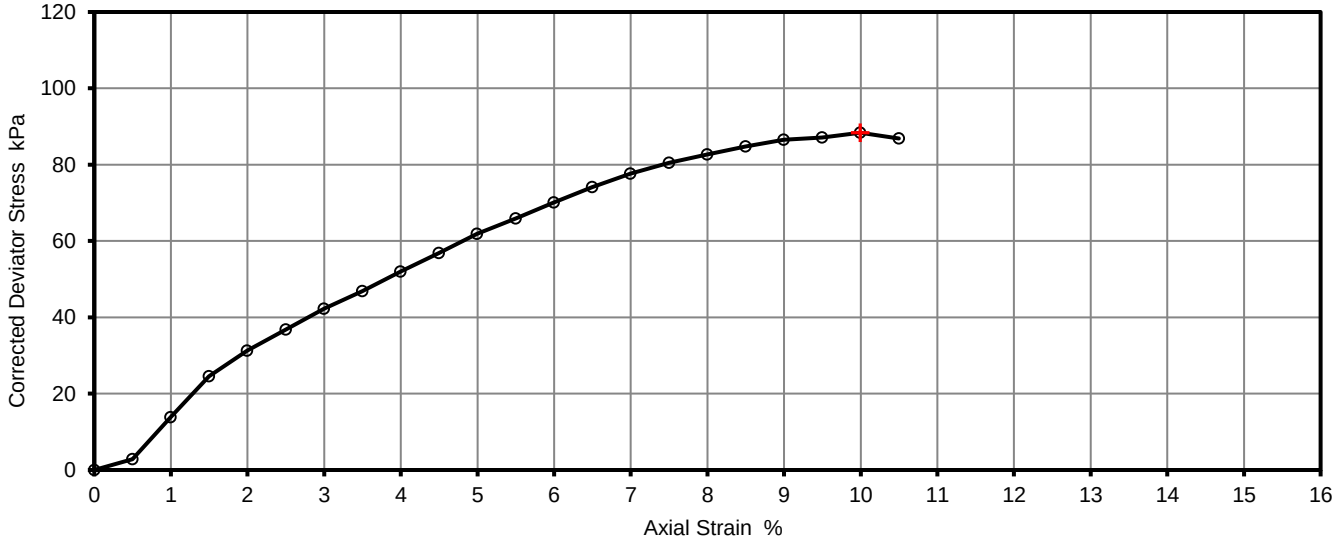
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH16
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	3.00
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Firm consistency, brown, sandy medium strength CLAY (HV: 50 kPa).			KeyLAB ID	SLMK201709132
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	15/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	1.96	Mg/m3
Moisture Content	30.5	%
Dry Density	1.50	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	60	kPa
At failure: Axial Strain	10.0	%
At failure: Deviator Stress, (σ1 - σ3)f	88	kPa
At failure: Undrained Shear Strength, cu	44	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

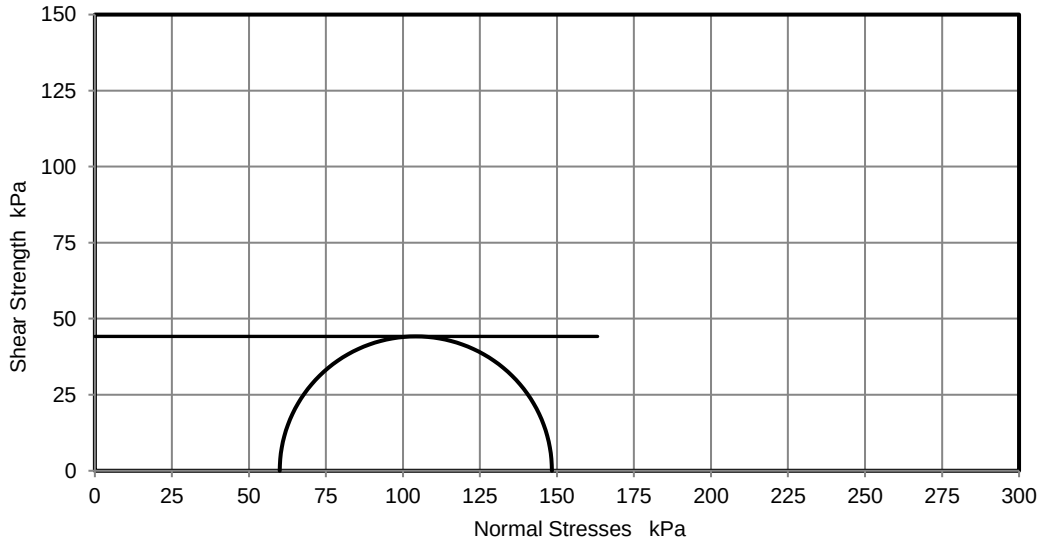
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

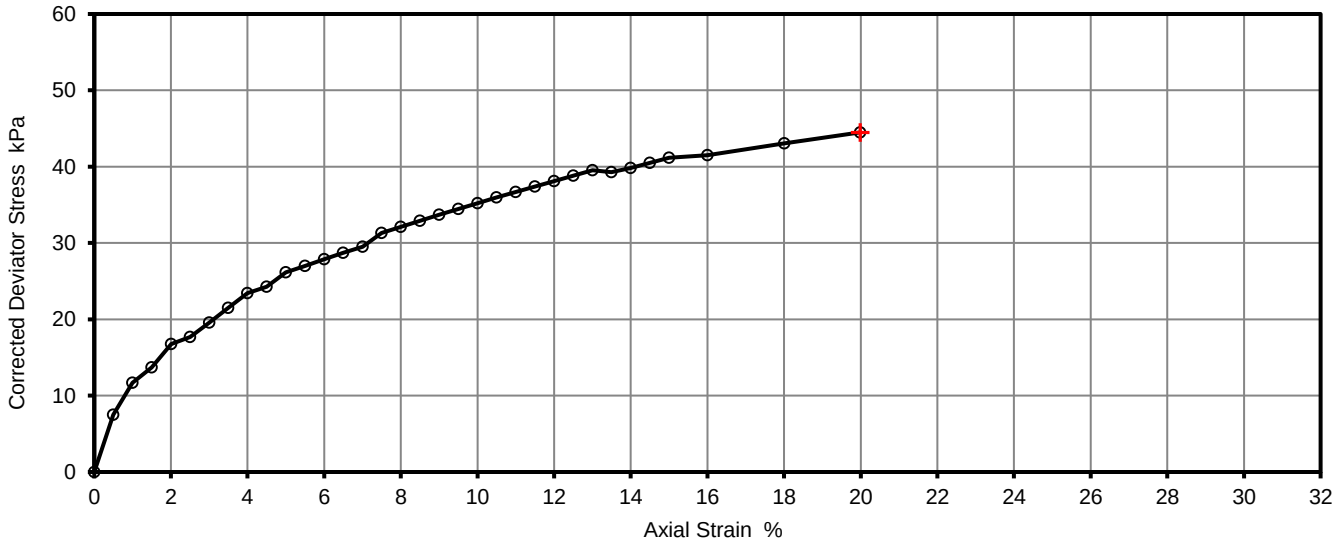
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH16
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	11.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Soft to firm consistency, brown, sandy, Low Strength CLAY (H.V. 40, 55 kPa)			KeyLAB ID	SLMK2017082440
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.03	Mg/m3
Moisture Content	22.1	%
Dry Density	1.67	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	220	kPa
At failure: Axial Strain	20.0	%
At failure: Deviator Stress, (σ1 - σ3)f	44	kPa
At failure: Undrained Shear Strength, cu	22	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

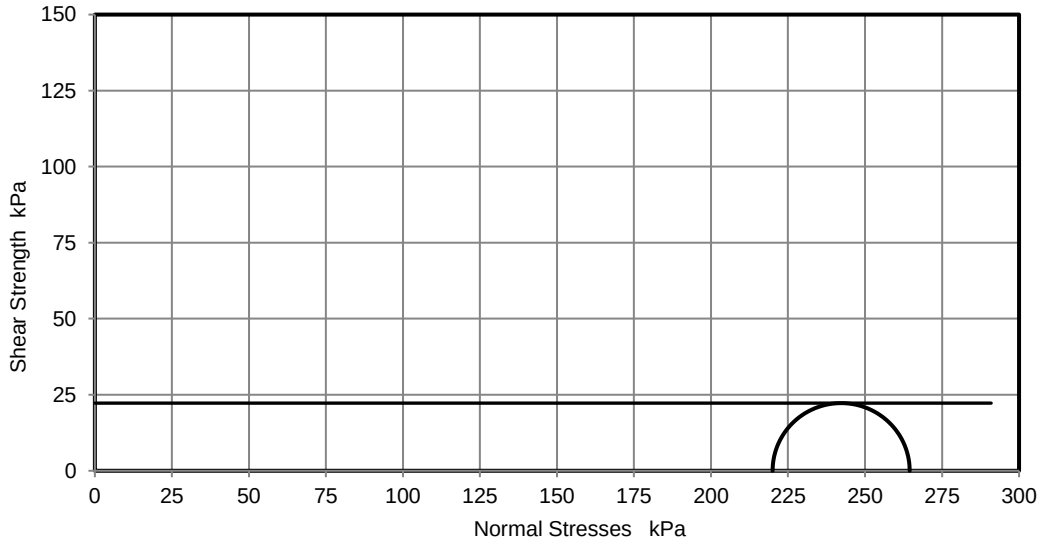
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

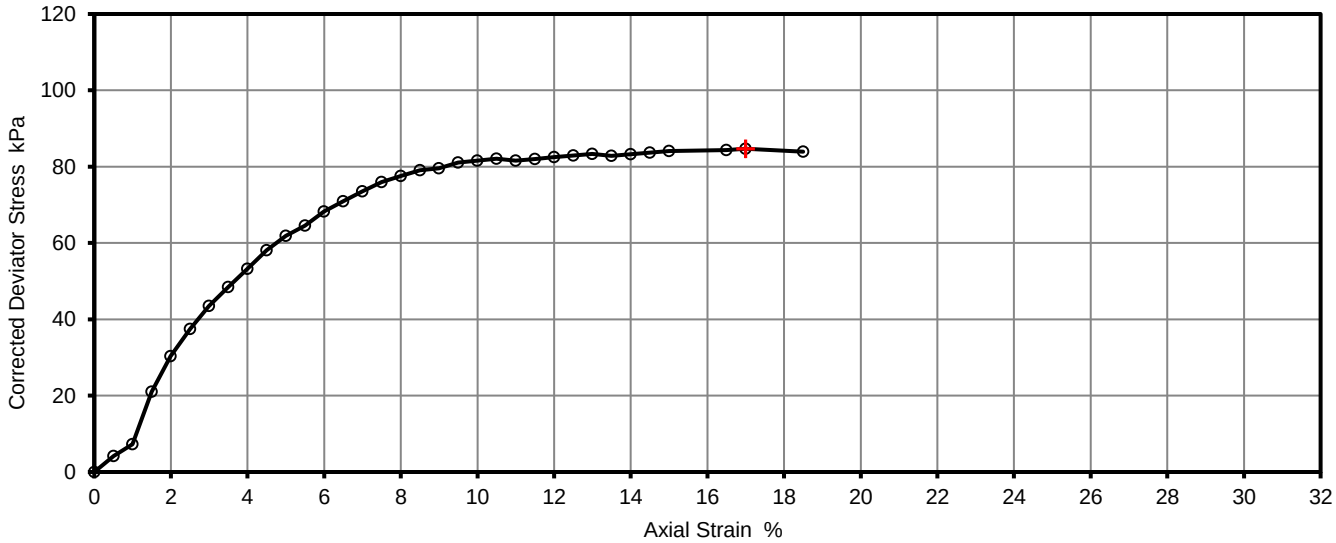
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH17
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, brown, slightly sandy, Medium Strength CLAY (H.V. 50, 48, 51 kPa)			KeyLAB ID	SLMK2017082443
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	1.98	Mg/m3
Moisture Content	19.6	%
Dry Density	1.66	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	100	kPa
At failure: Axial Strain	17.0	%
At failure: Deviator Stress, (σ1 - σ3)f	85	kPa
At failure: Undrained Shear Strength, cu	42	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

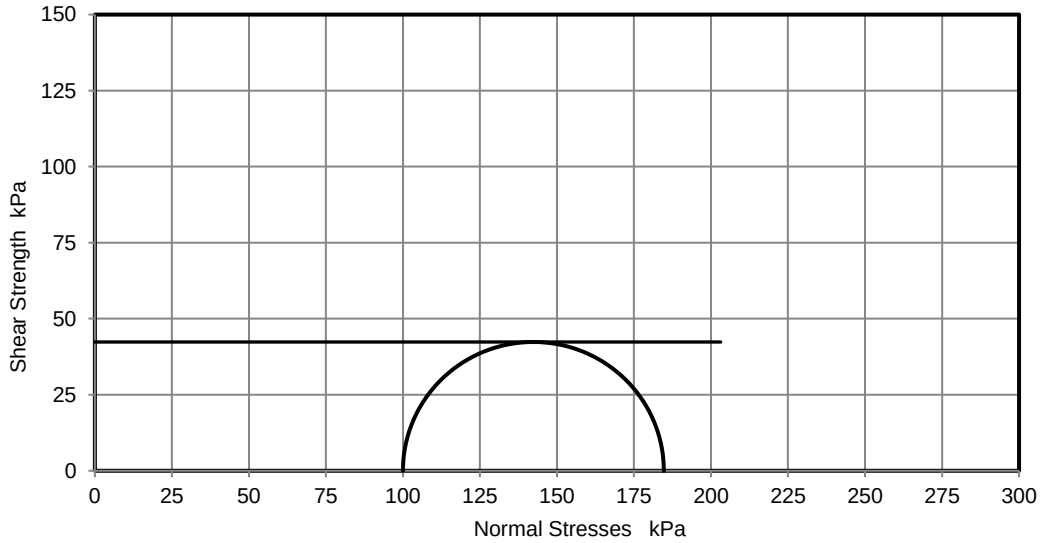
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

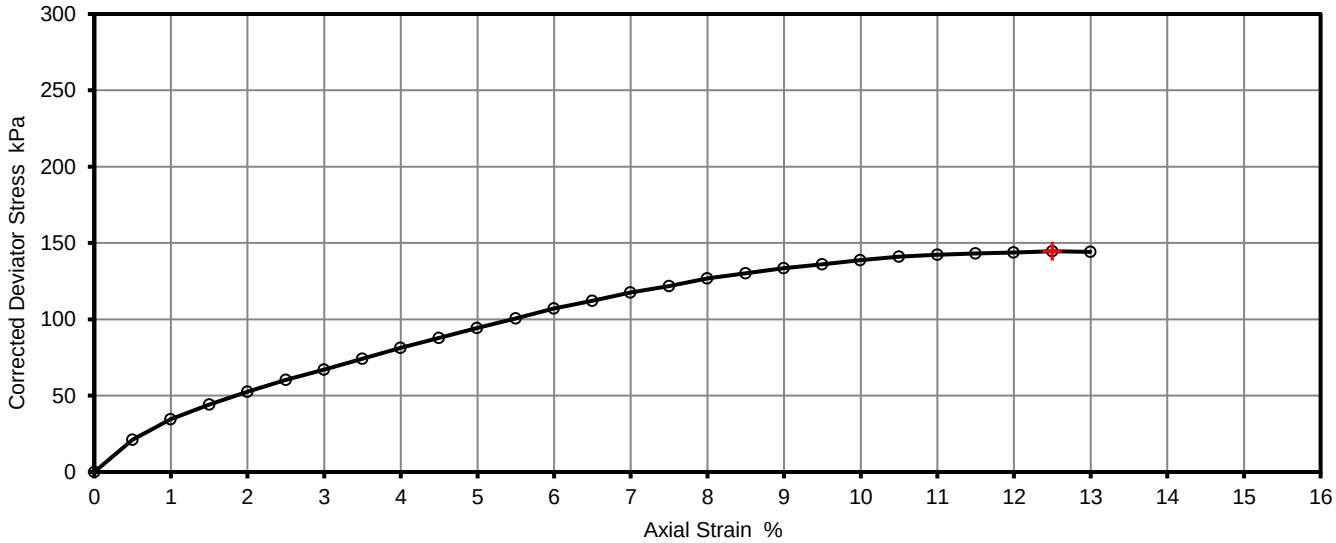
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH17
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	15.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, brown, slightly sandy, medium strength CLAY (H.V. 76, 79, 80 kPa)			KeyLAB ID	SLMK2017082447
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	05/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	1.96	Mg/m3
Moisture Content	26.7	%
Dry Density	1.55	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	300	kPa
At failure: Axial Strain	12.5	%
At failure: Deviator Stress, (σ1 - σ3)f	145	kPa
At failure: Undrained Shear Strength, cu	72	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

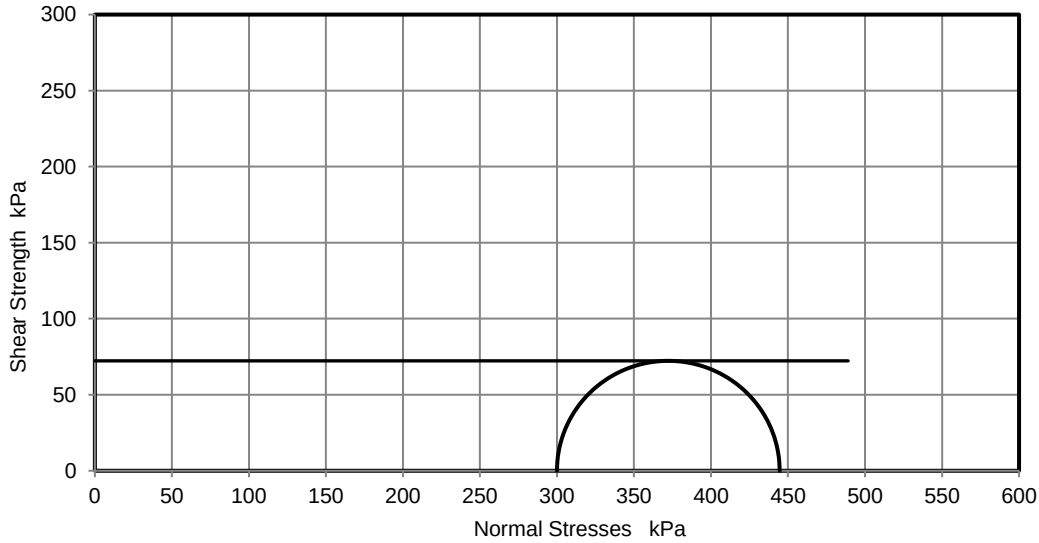
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

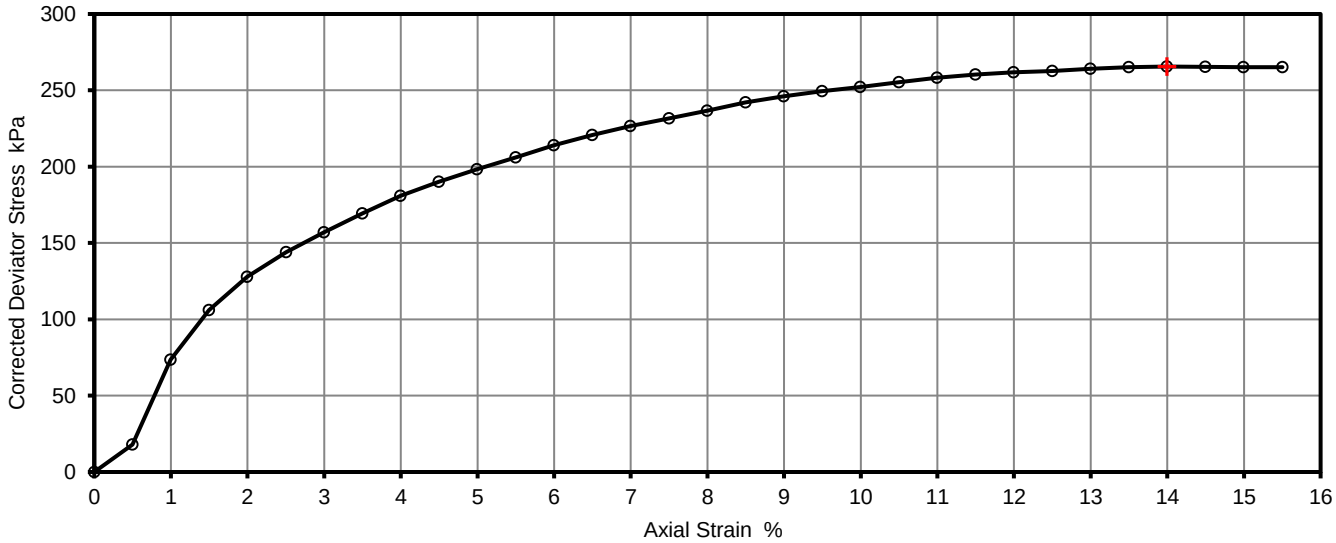
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH24
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.20
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Stiff, brown, slightley sandy, slightly gravelly, High Strength CLAY (HV: 120 kPa)			KeyLAB ID	SLMK2017082449
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	07/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.06	Mg/m3
Moisture Content	20.0	%
Dry Density	1.72	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	25	kPa
At failure: Axial Strain	14.0	%
At failure: Deviator Stress, (σ1 - σ3)f	266	kPa
At failure: Undrained Shear Strength, cu	133	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

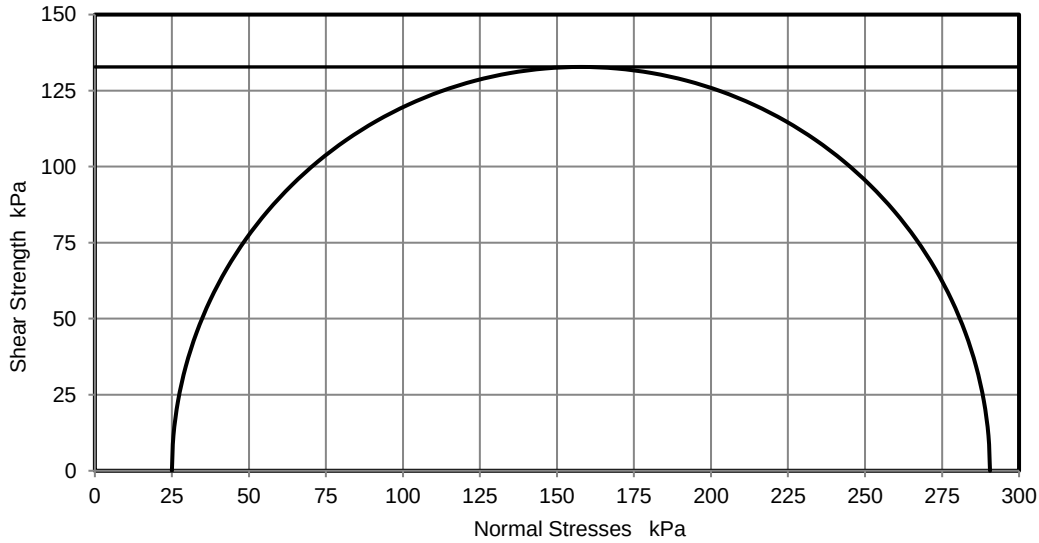
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-005
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

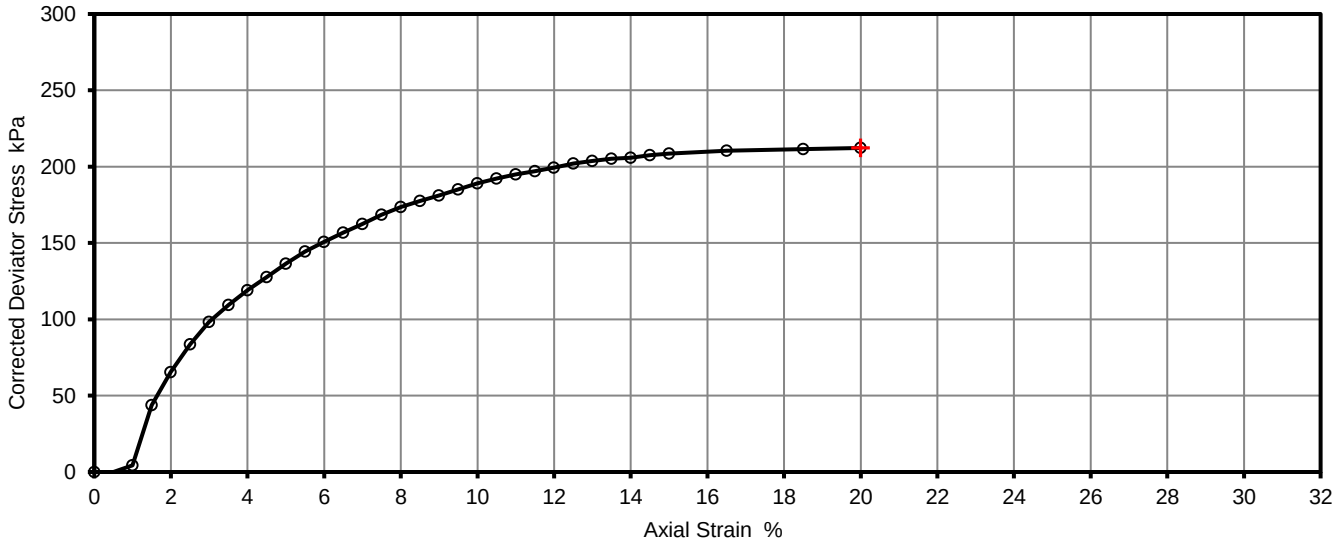
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH24
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	3.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, bown, slightley sandy, slightly gravelly, High Strength CLAY (H.V. 89, 90, 93 kPa)			KeyLAB ID	SLMK2017082451
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.06	Mg/m3
Moisture Content	19.9	%
Dry Density	1.72	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	60	kPa
At failure: Axial Strain	20.0	%
At failure: Deviator Stress, (σ1 - σ3)f	212	kPa
At failure: Undrained Shear Strength, cu	106	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

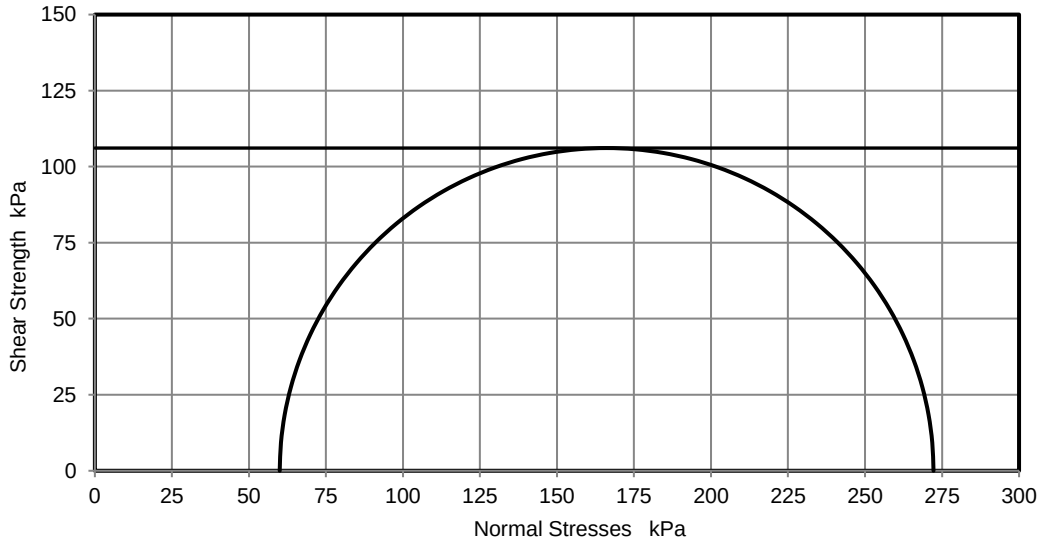
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

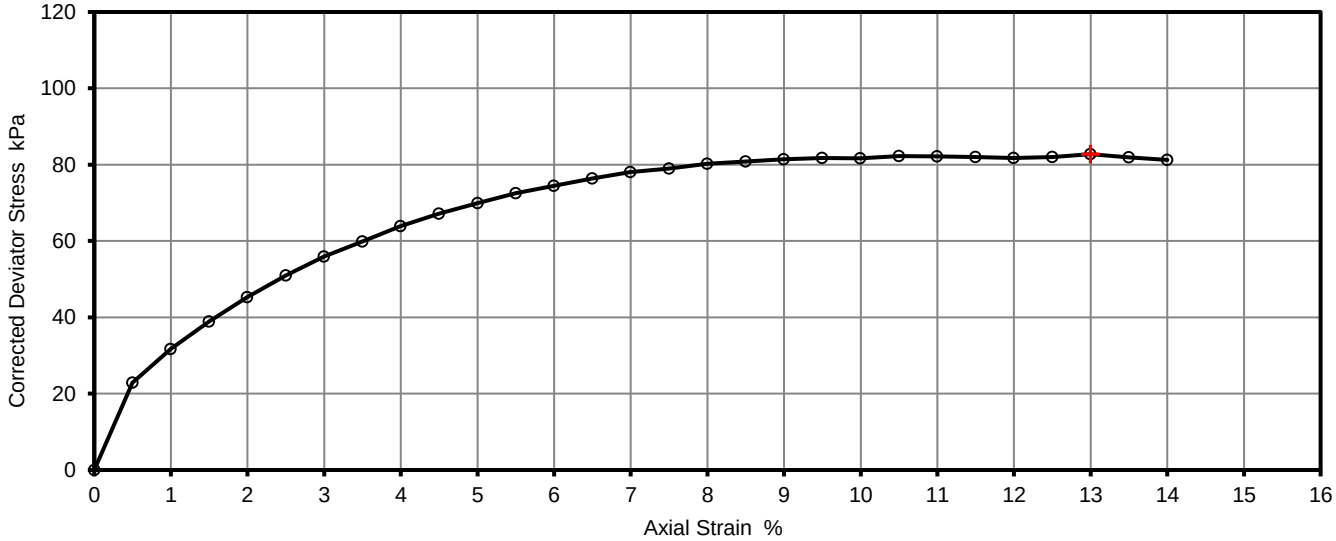
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH25
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Soft to Firm consistency, brown, slightly sandy, slightly gravelly, Medium Strength CLAY (H.V. 61, 61, 70kPa)			KeyLAB ID	SLMK2017082463
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.00	Mg/m3
Moisture Content	25.6	%
Dry Density	1.59	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	100	kPa
At failure: Axial Strain	13.0	%
At failure: Deviator Stress, (σ1 - σ3)f	83	kPa
At failure: Undrained Shear Strength, cu	41	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

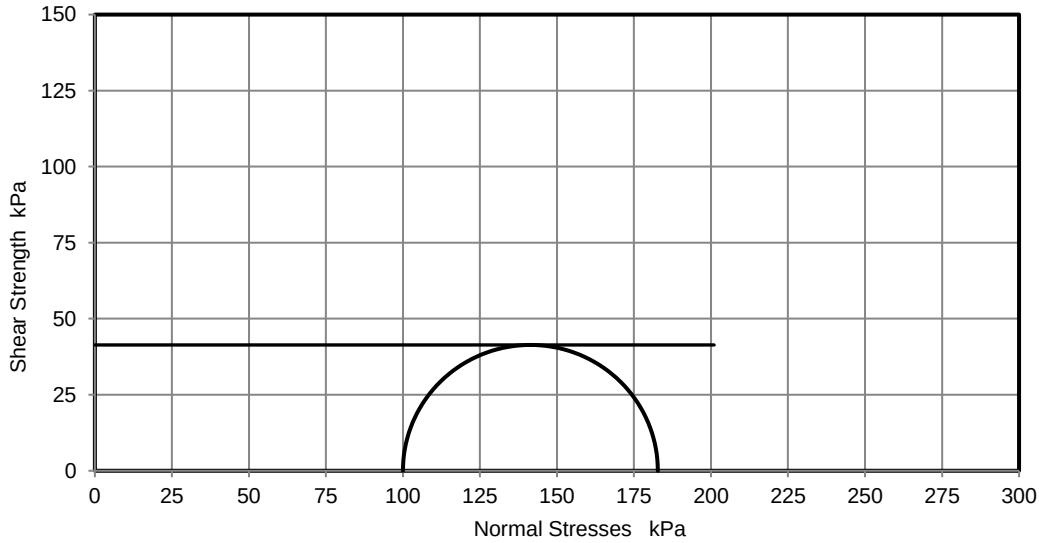
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

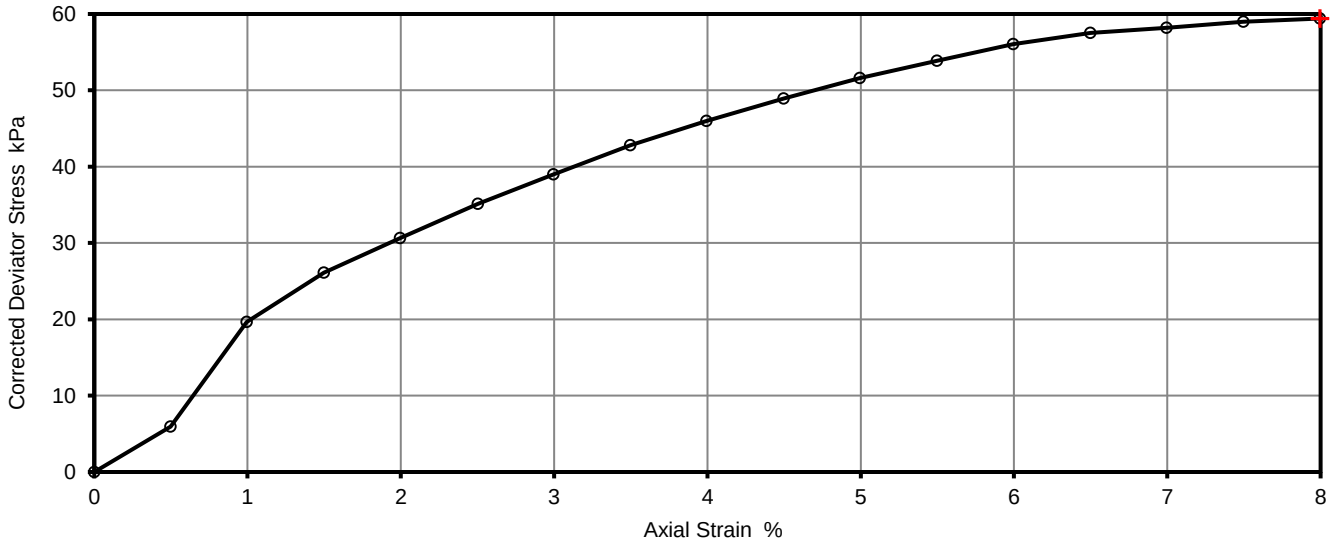
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH25
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	7.00
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Firm consistency, brown, slightly gravelly, Low Strength CLAY (H.V. 58, 68, 52 kPa)			KeyLAB ID	SLMK2017082465
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number		1	
Length		203.0	mm
Diameter		103.0	mm
Bulk Density		1.88	Mg/m3
Moisture Content		38.9	%
Dry Density		1.36	Mg/m3
Rate of Strain		2.0	%/min
Cell Pressure		140	kPa
At failure	Axial Strain	8.0	%
	Deviator Stress, (σ1 - σ3)f	59	kPa
	Undrained Shear Strength, cu	30	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

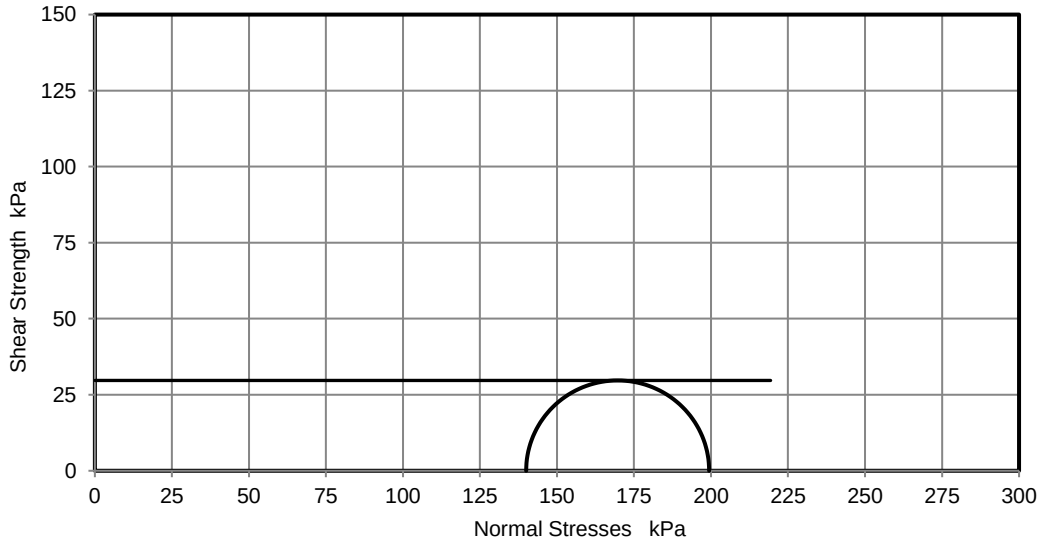
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

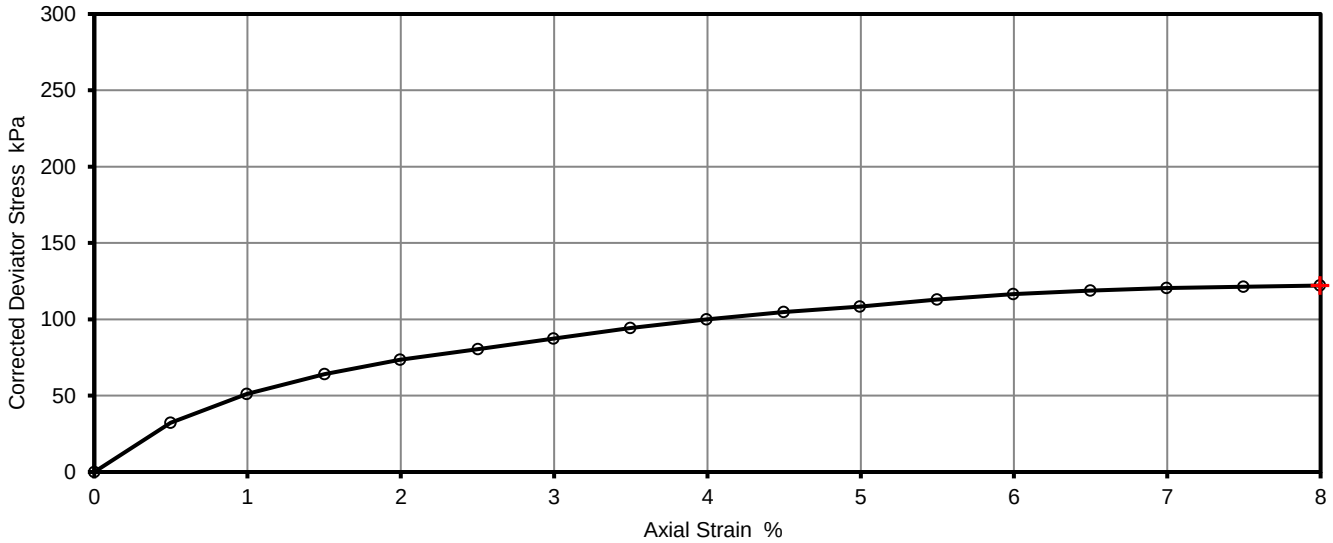
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH31
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.20
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, brown, slightly gravelly, Medium Strength CLAY (HV: 101kPa)			KeyLAB ID	SLMK2017082486
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	1.94	Mg/m3
Moisture Content	27.8	%
Dry Density	1.52	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	25	kPa
At failure: Axial Strain	8.0	%
At failure: Deviator Stress, (σ1 - σ3)f	122	kPa
At failure: Undrained Shear Strength, cu	61	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

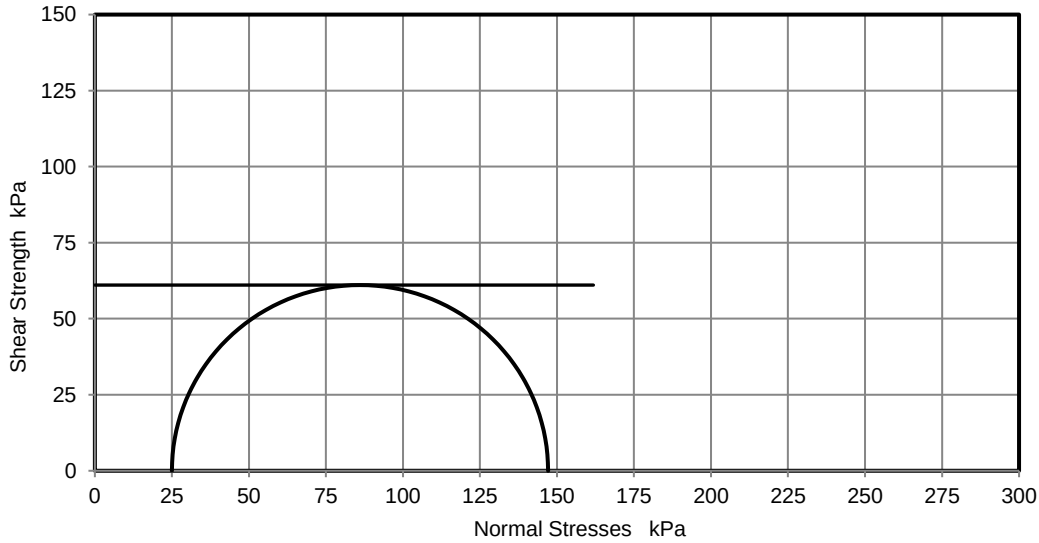
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

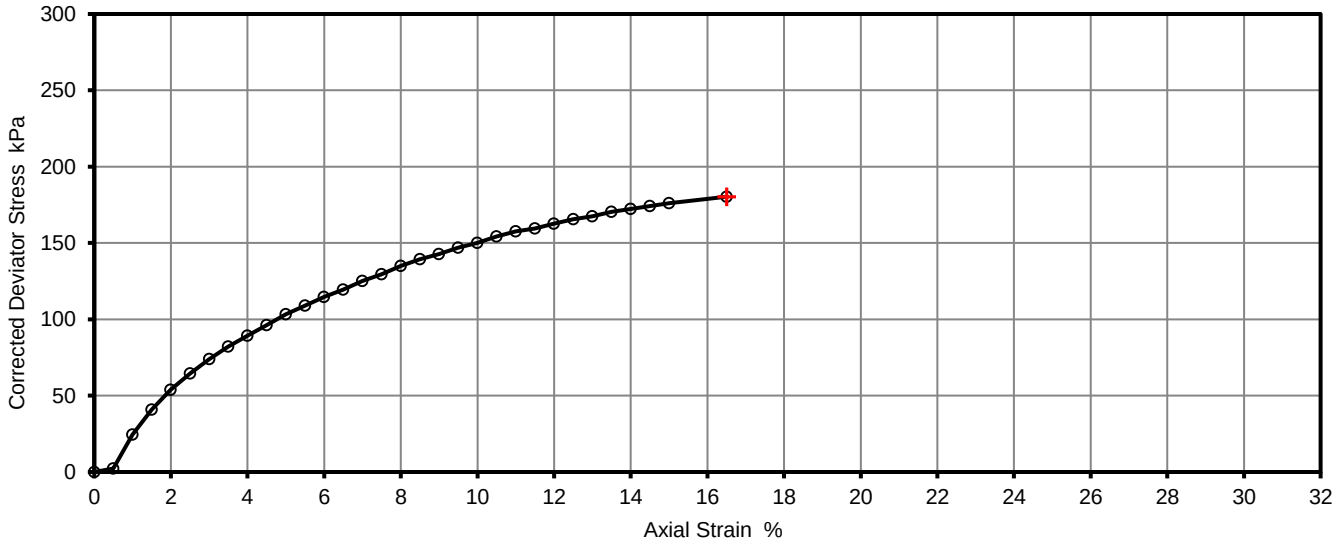
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH31
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	3.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, brown, slightly gravelly, High Strength CLAY (H.V.64, 50 kPa)			KeyLAB ID	SLMK2017082488
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	05/09/2017

Test Number		1	
Length		203.0	mm
Diameter		103.0	mm
Bulk Density		2.15	Mg/m3
Moisture Content		13.4	%
Dry Density		1.90	Mg/m3
Rate of Strain		2.0	%/min
Cell Pressure		60	kPa
At failure	Axial Strain	16.5	%
	Deviator Stress, (σ1 - σ3)f	180	kPa
	Undrained Shear Strength, cu	90	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

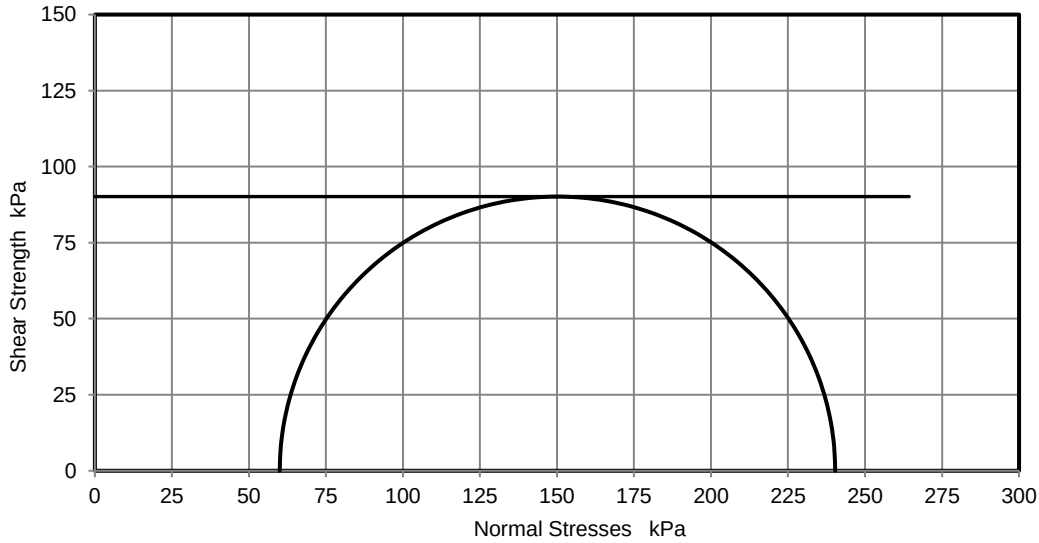
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

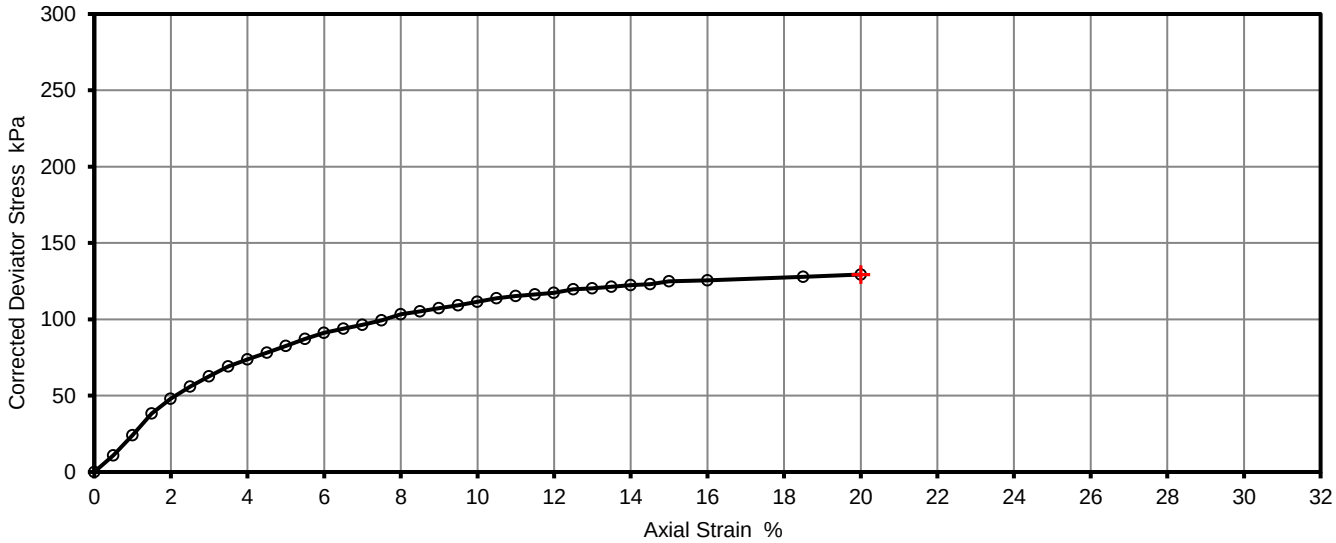
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH31
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Soft, brown, slightley gravelly, Medium Strength CLAY (H.V. 69, 74, 80 kPa)			KeyLAB ID	SLMK2017082489
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	05/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.04	Mg/m3
Moisture Content	19.3	%
Dry Density	1.71	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	100	kPa
At failure: Axial Strain	20.0	%
At failure: Deviator Stress, (σ1 - σ3)f	129	kPa
At failure: Undrained Shear Strength, cu	65	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

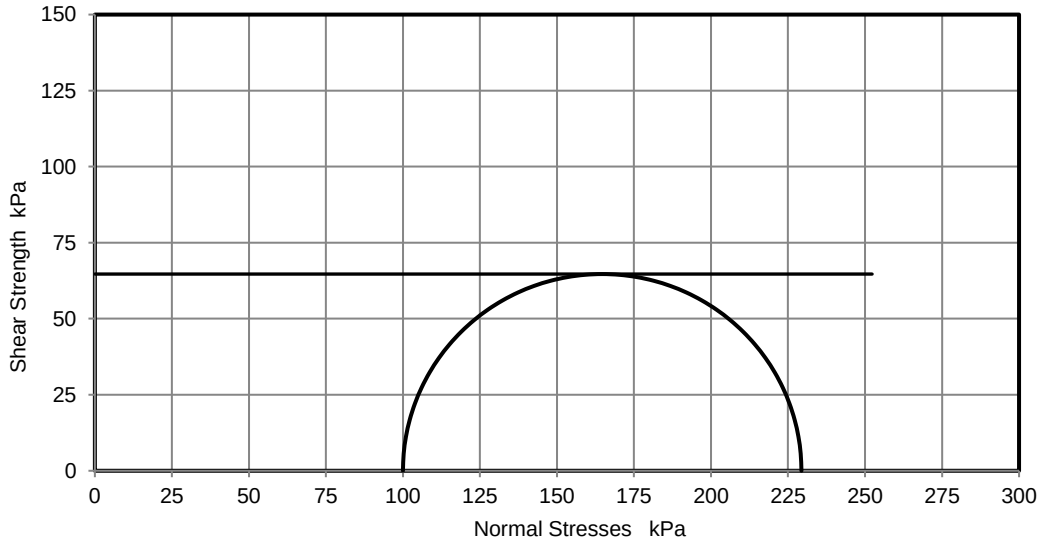
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

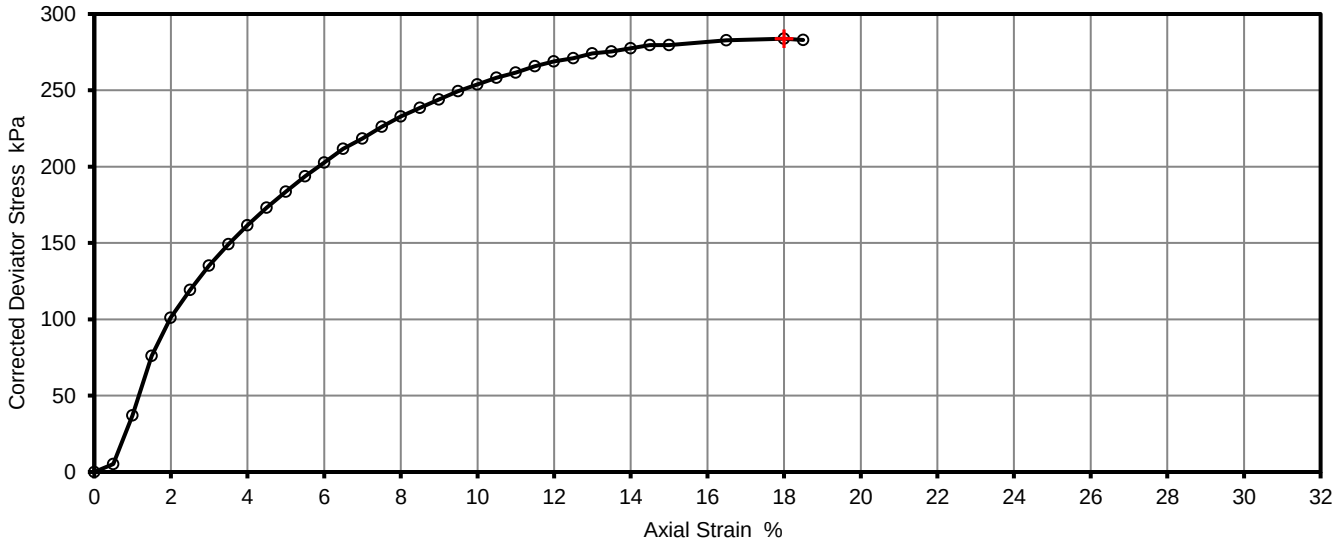
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH38
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.20
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Stiff consistency, brown, slightly sandy, slightly gravelly, CLAY (H.V. 120+)			KeyLAB ID	SLMK2017082495
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.06	Mg/m3
Moisture Content	18.0	%
Dry Density	1.75	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	25	kPa
At failure: Axial Strain	18.0	%
At failure: Deviator Stress, (σ1 - σ3)f	284	kPa
At failure: Undrained Shear Strength, cu	142	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

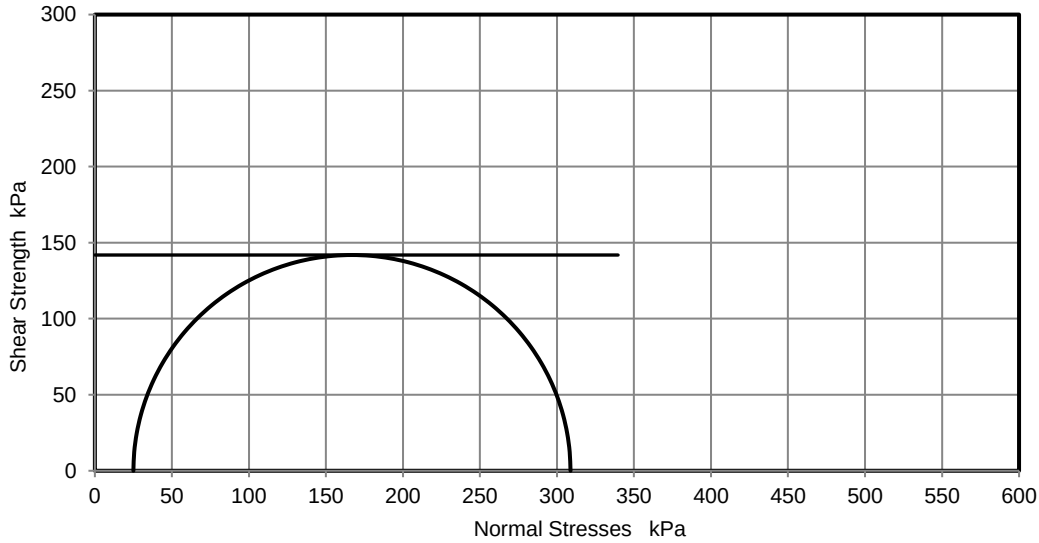
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

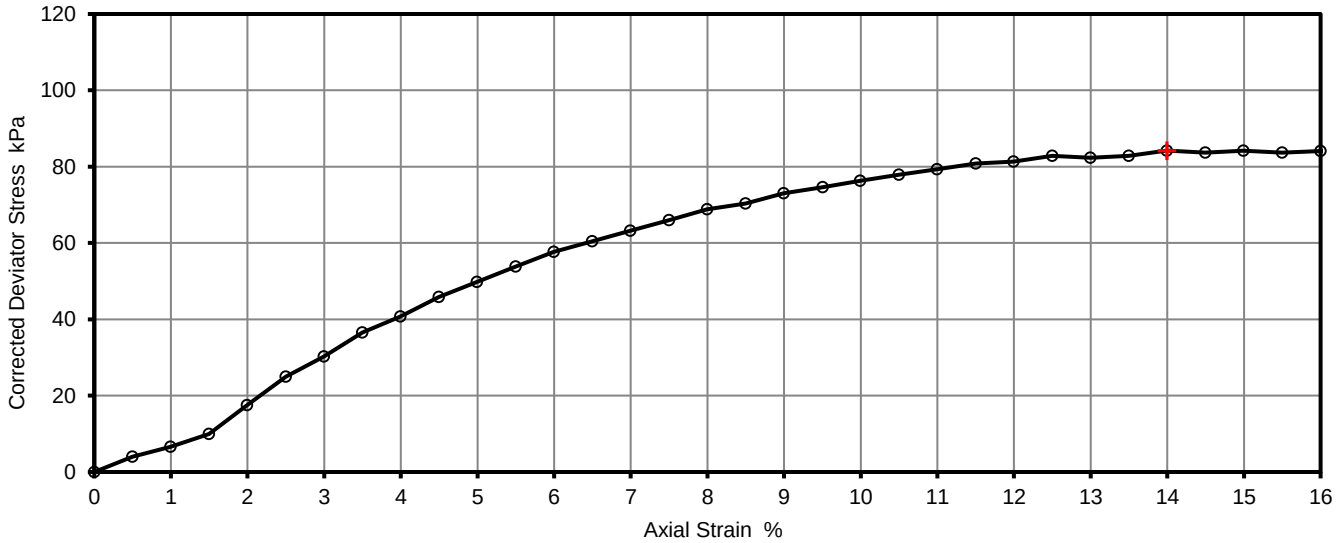
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH38
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, brown, sandy, Medium Strength CLAY (H.V. 50,52, 49 kPa)			KeyLAB ID	SLMK2017082499
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.05	Mg/m3
Moisture Content	26.5	%
Dry Density	1.62	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	100	kPa
At failure: Axial Strain	14.0	%
At failure: Deviator Stress, (σ1 - σ3)f	84	kPa
At failure: Undrained Shear Strength, cu	42	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

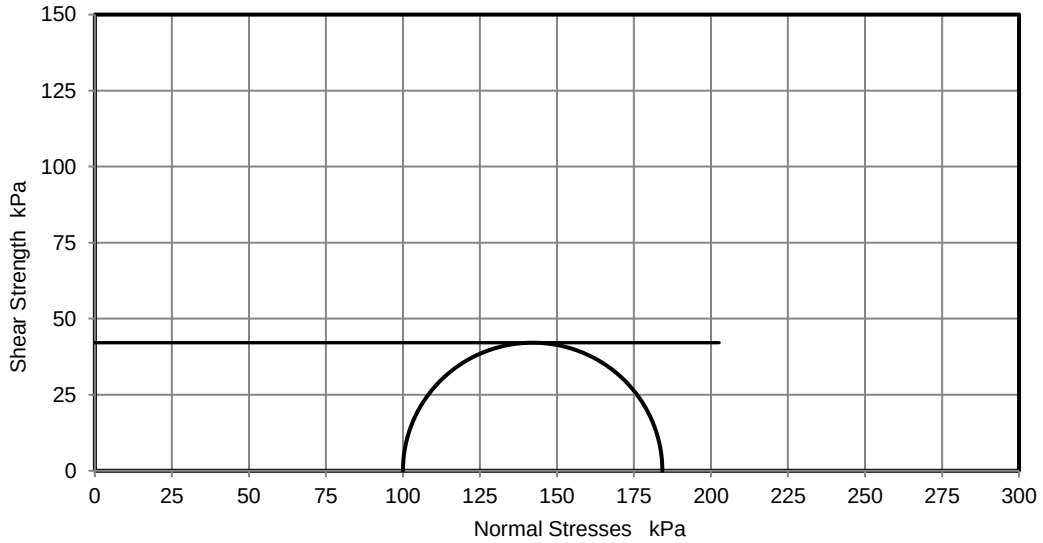
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

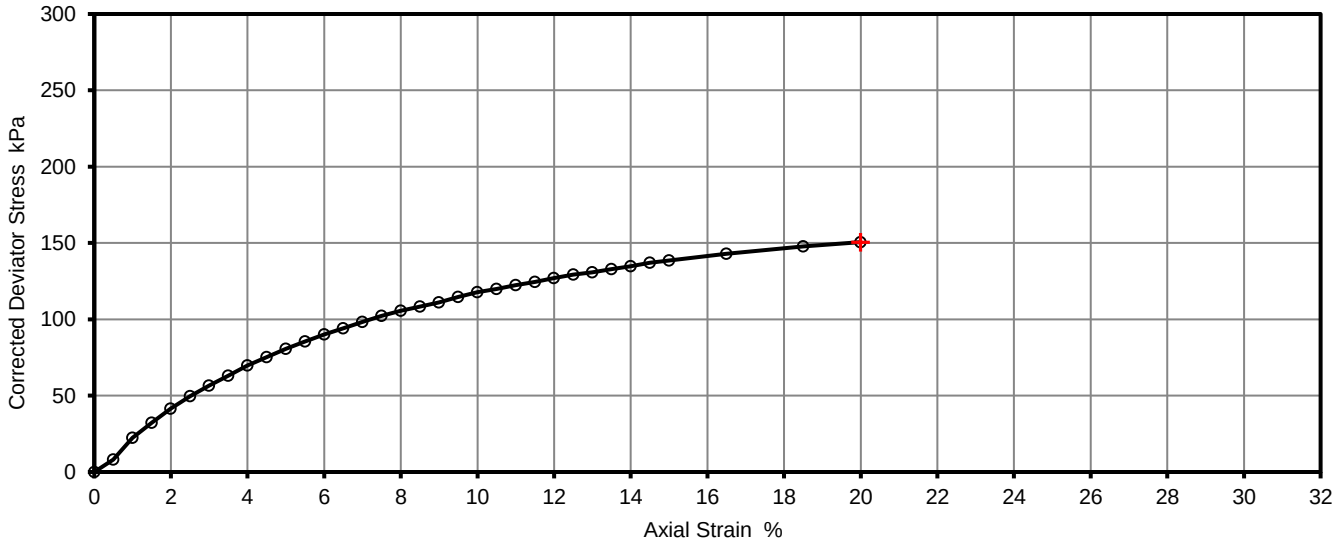
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH45
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	7.00
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Firm consistency, brown, slightly gravelly CLAY (HV: 66, 67 kPa)			KeyLAB ID	SLMK201709200
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	03/10/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.10	Mg/m3
Moisture Content	13.3	%
Dry Density	1.85	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	140	kPa
At failure: Axial Strain	20.0	%
At failure: Deviator Stress, (σ1 - σ3)f	151	kPa
At failure: Undrained Shear Strength, cu	75	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

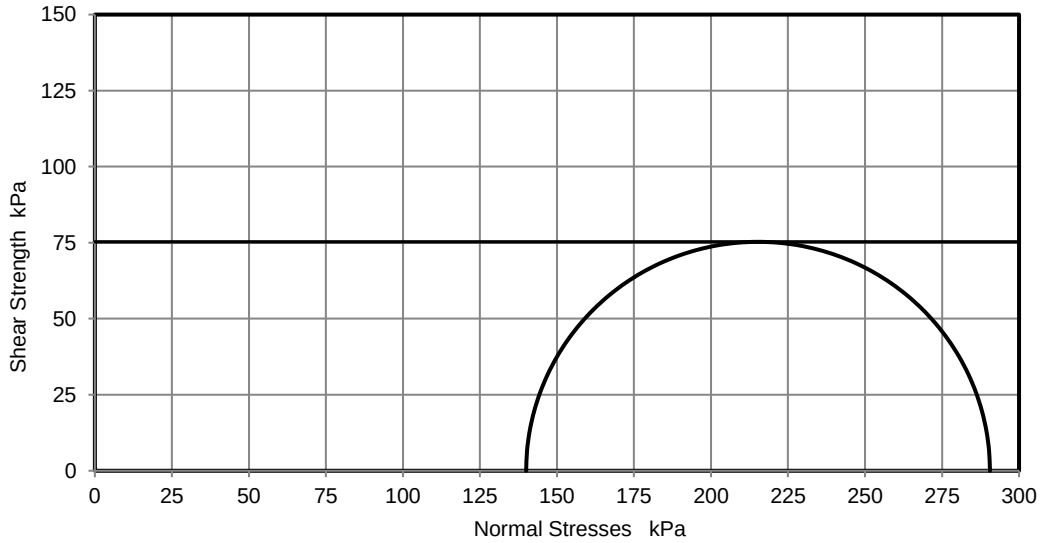
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-005
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.36

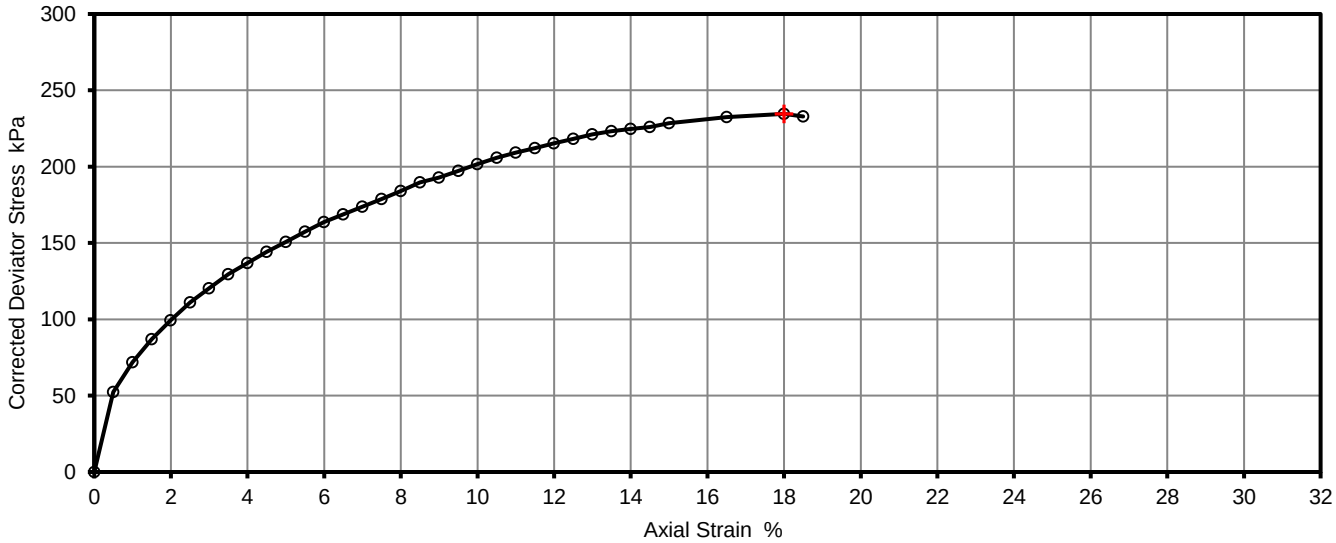
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH46
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.20
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm to stiff consistency, brown, slightley gravelly, CLAY (HV: 120+ kPa)			KeyLAB ID	SLMK20170824111
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	06/09/2017

Test Number	1	
Length	203.0	mm
Diameter	99.0	mm
Bulk Density	2.22	Mg/m3
Moisture Content	22.1	%
Dry Density	1.81	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	25	kPa
At failure: Axial Strain	18.0	%
At failure: Deviator Stress, (σ1 - σ3)f	235	kPa
At failure: Undrained Shear Strength, cu	117	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

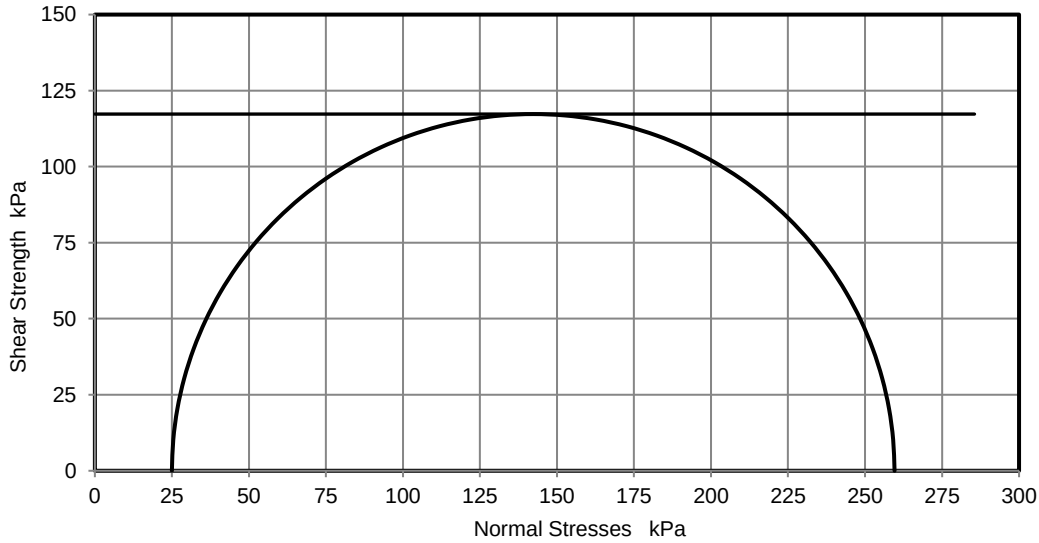
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

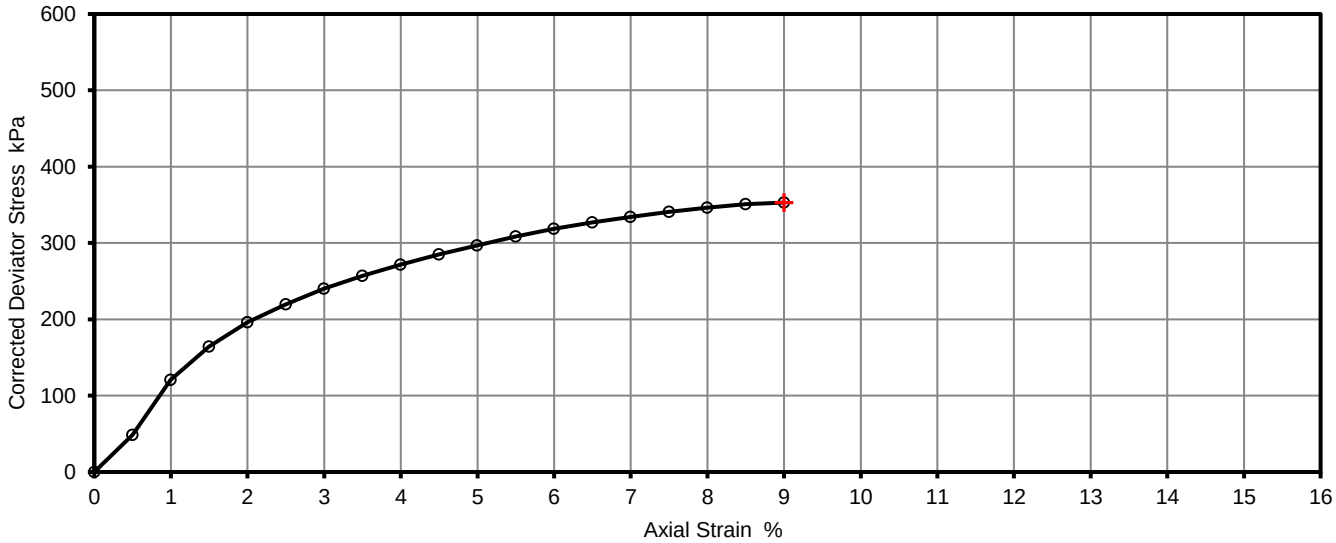
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH47
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.20
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Stiff consistency, brown, slightley gravelly, Very High strength CLAY (H.V. 120+ kPa)			KeyLAB ID	SLMK20170824115
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	05/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.04	Mg/m3
Moisture Content	14.2	%
Dry Density	1.78	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	25	kPa
At failure: Axial Strain	9.0	%
At failure: Deviator Stress, (σ1 - σ3)f	353	kPa
At failure: Undrained Shear Strength, cu	176	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

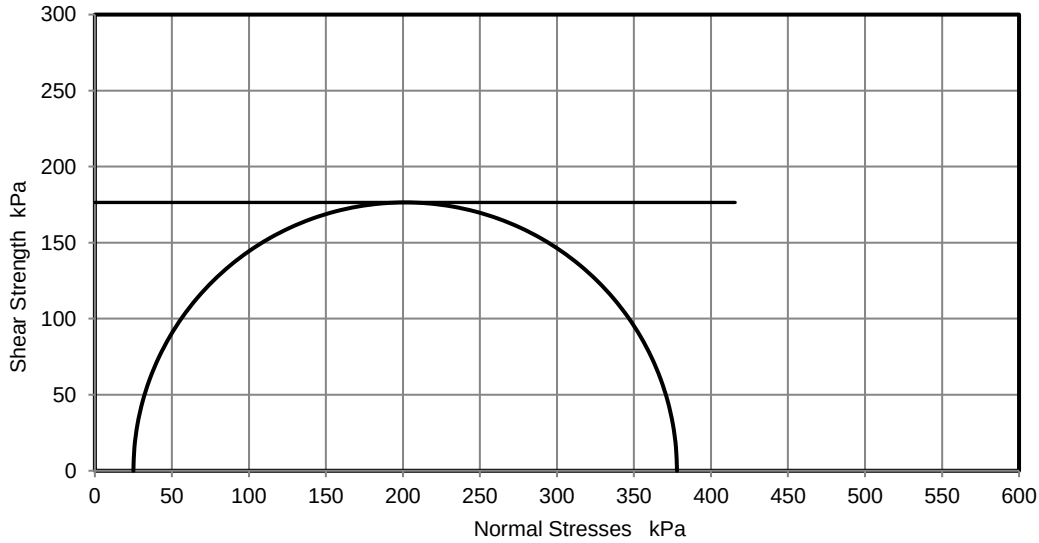
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

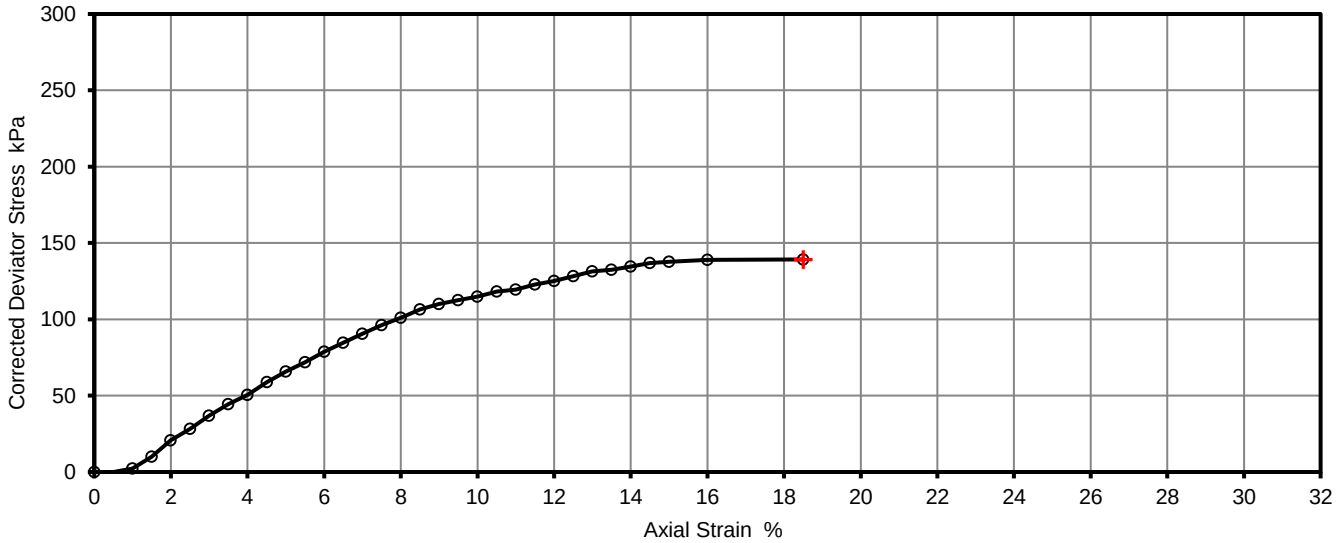
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH48
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5.00
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm consistency, brown, slightley gravelly, medium strength CLAY (H.V. 87, 90, 99 kPa)			KeyLAB ID	SLMK20170824126
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	05/09/2017

Test Number		1	
Length		203.0	mm
Diameter		103.0	mm
Bulk Density		2.12	Mg/m3
Moisture Content		20.5	%
Dry Density		1.76	Mg/m3
Rate of Strain		2.0	%/min
Cell Pressure		100	kPa
At failure	Axial Strain	18.5	%
	Deviator Stress, (σ1 - σ3)f	139	kPa
	Undrained Shear Strength, cu	70	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

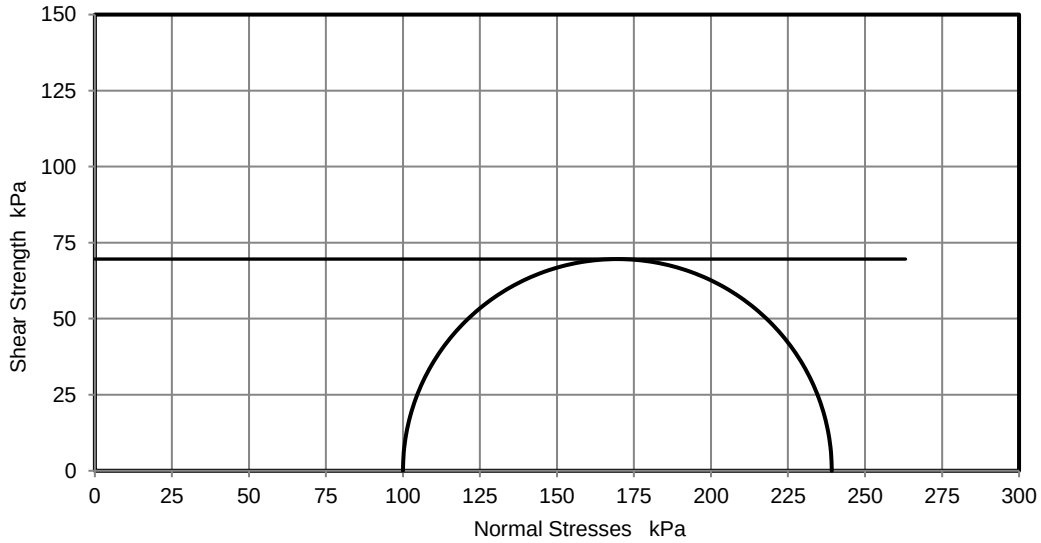
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-005
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

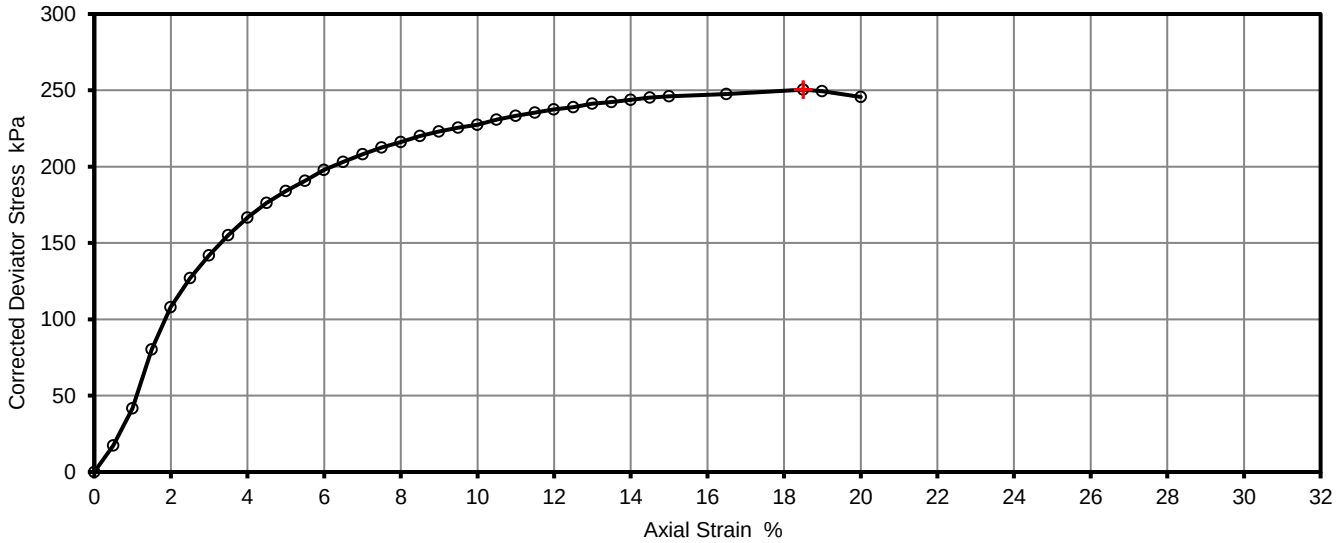
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH50
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	2.20
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Stiff, brown consistency, slightly sandy, slightly gravelly, high strength CLAY (H.V. 120+ kPa).			KeyLAB ID	SLMK2017091330
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	15/09/2017

Test Number		1	
Length		203.0	mm
Diameter		103.0	mm
Bulk Density		2.01	Mg/m3
Moisture Content		19.2	%
Dry Density		1.69	Mg/m3
Rate of Strain		2.0	%/min
Cell Pressure		44	kPa
At failure	Axial Strain	18.5	%
	Deviator Stress, (σ1 - σ3)f	250	kPa
	Undrained Shear Strength, cu	125	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

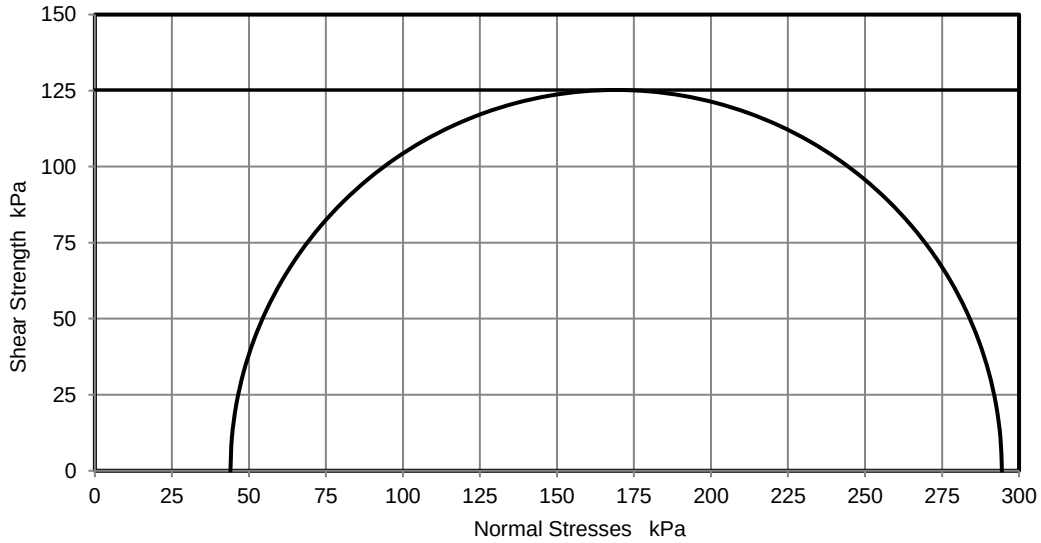
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

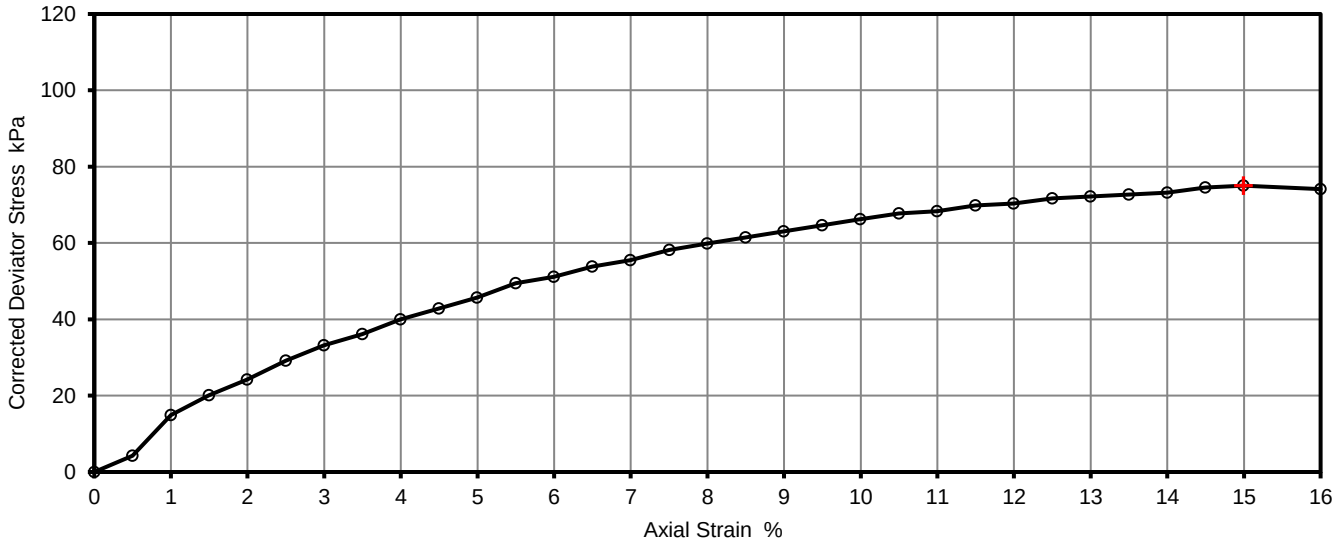
	Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen			Job Ref	D8044
				Borehole/Pit No.	BH50
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	4.20
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Firm consistency, brown, slightly sandy, slightly gravelly, low strength CLAY (HV: 46 kPa).			KeyLAB ID	SLMK2017091333
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen			Date of test	15/09/2017

Test Number	1	
Length	203.0	mm
Diameter	103.0	mm
Bulk Density	2.01	Mg/m3
Moisture Content	26.5	%
Dry Density	1.59	Mg/m3
Rate of Strain	2.0	%/min
Cell Pressure	84	kPa
At failure: Axial Strain	15.0	%
At failure: Deviator Stress, (σ1 - σ3)f	75	kPa
At failure: Undrained Shear Strength, cu	38	kPa ½(σ1 - σ3)f
At failure: Mode of Failure	Compound	

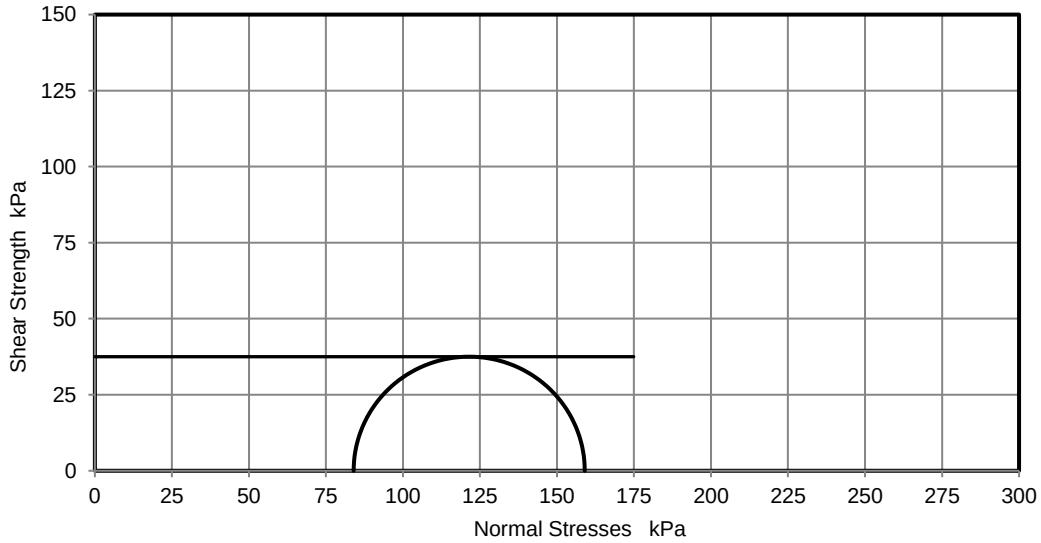
Tracable Equipment Record

Test Frame	TRI-001
Load Ring	TXR-001
Pressure Gauge	GAU-001
Digital Caliper	CAL-004
Balance	BAL-001

Deviator Stress v Axial Strain



Mohr Circles

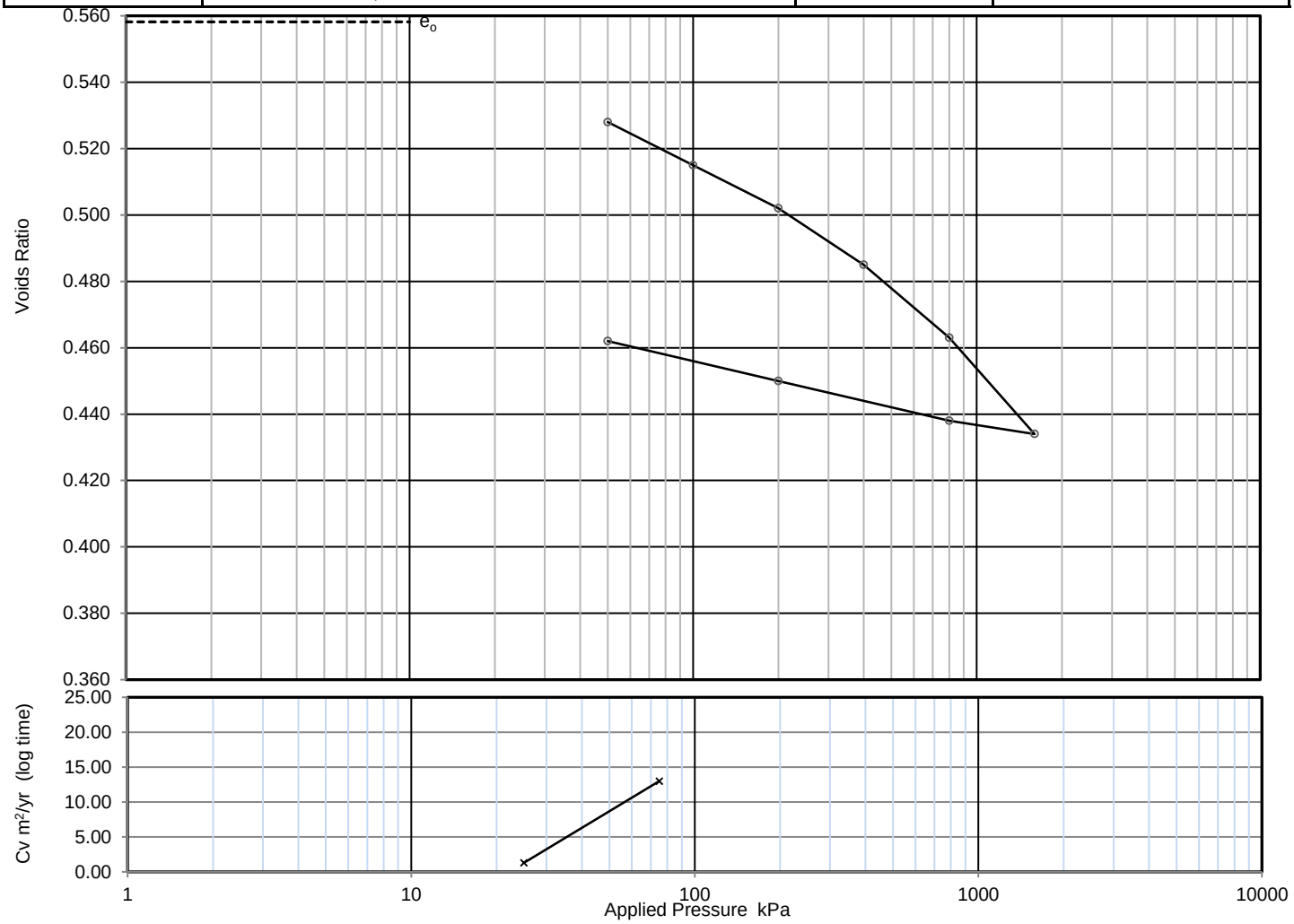


Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

No of membranes used
1
Total thickness (mm)
0.3

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH16
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	soft, sandy, silty CLAY			KeyLAB ID	SLMK2017082438
Test Method	BS1377:Part 5:1990, clause 3			Date started	30/08/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.558	-	-	-	-
50	0.528	0.39	1.3	34	0.0014
100	0.515	0.16	13	140	0.00091
200	0.502	0.088		83	0.00087
400	0.485	0.056		130	0.0011
800	0.463	0.037		350	0.0013
1,600	0.434	0.025		230	0.0016
800	0.438	0.0041			
200	0.450	0.014			
50	0.462	0.056			

Preparation

Index tests Liquid limit % Plastic limit %

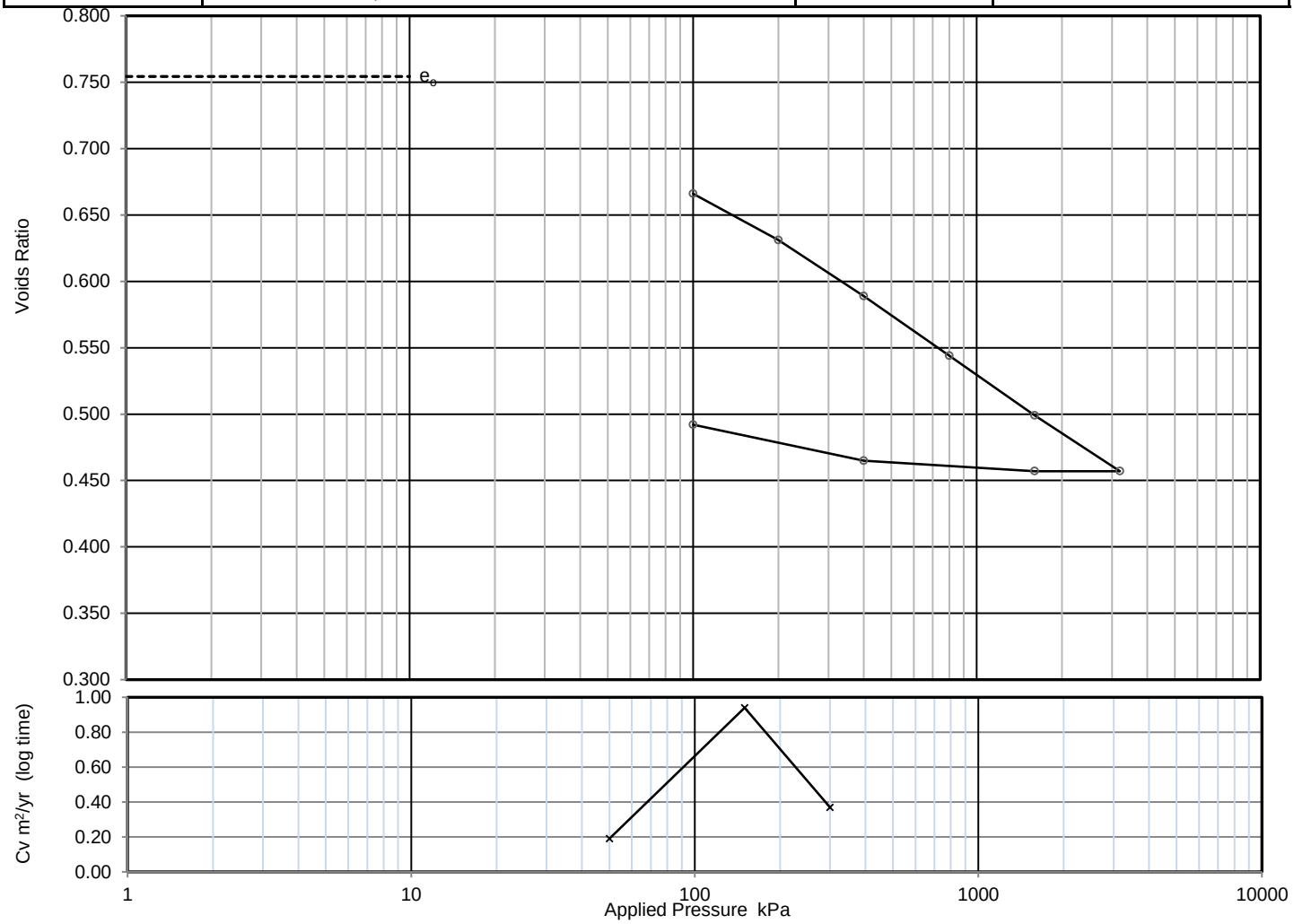
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	18.77	mm
Moisture Content	22.0	18.2	%
Bulk density	2.08		Mg/m3
Dry density	1.70		Mg/m3
Voids Ratio	0.558		
Saturation	105		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH17
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.2
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Soft, brown, grey, slightley sandy, gravelly, CLAY			KeyLAB ID	SLMK2017082442
Test Method	BS1377:Part 5:1990, clause 3			Date started	06/09/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.754	-	-	-	-
100	0.666	0.5	0.19	41	0.002
200	0.631	0.21	0.94	33	0.0018
400	0.589	0.13	0.37	50	0.0018
800	0.544	0.071		50	0.002
1,600	0.499	0.037		36	0.0021
3,200	0.457	0.017		99	0.0024
1,600	0.457	0.000075			
400	0.465	0.0043			
100	0.492	0.062			

Preparation

Index tests Liquid limit % Plastic limit %

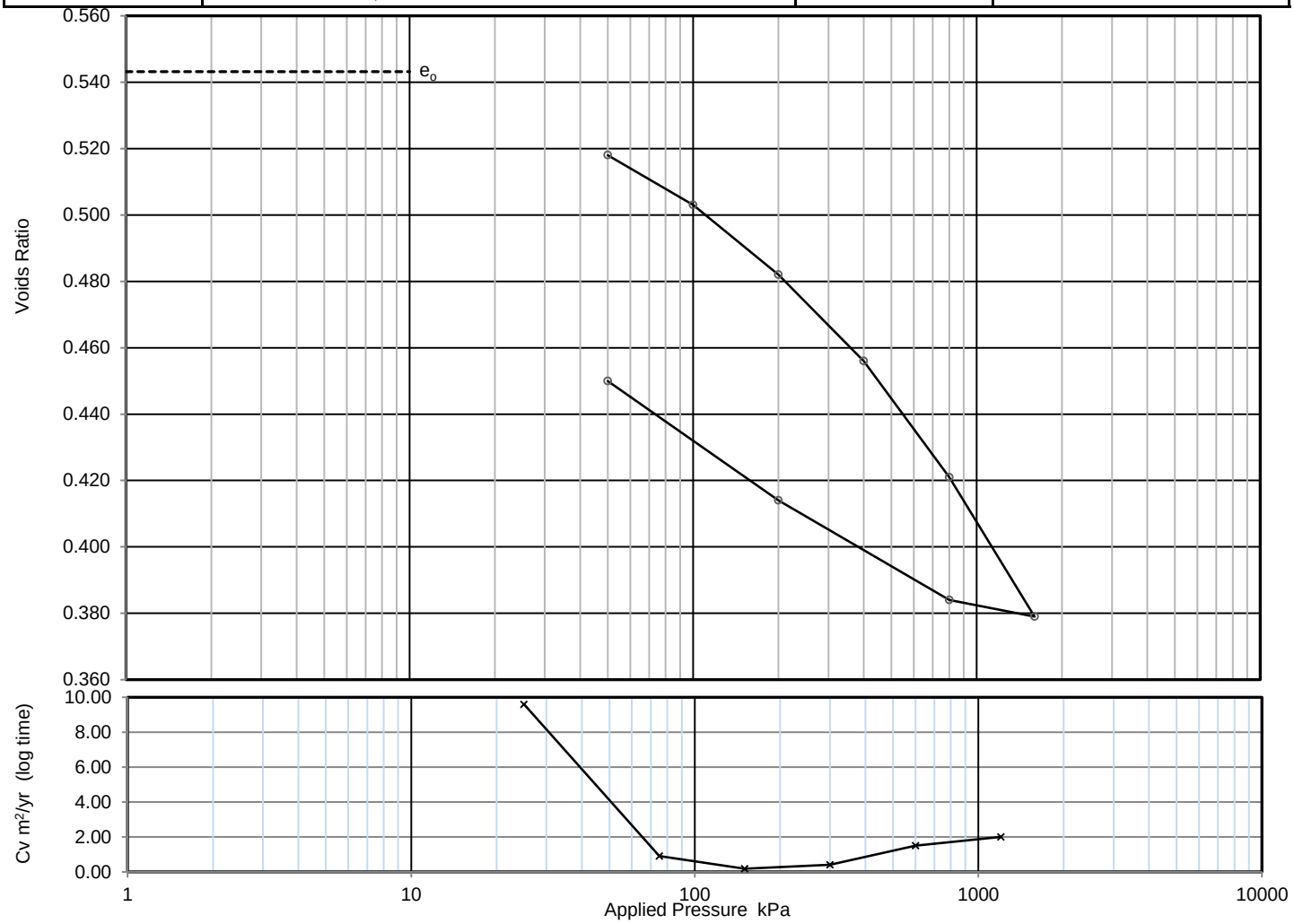
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	17.01	mm
Moisture Content	28.7	20.2	%
Bulk density	1.94		Mg/m3
Dry density	1.51		Mg/m3
Voids Ratio	0.754		
Saturation	101		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH24
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	3
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm, brown, slightly sandy, slightly gravelly CLAY			KeyLAB ID	SLMK2017082451
Test Method	BS1377:Part 5:1990, clause 3			Date started	30/08/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.543	-	-	-	-
50	0.518	0.32	9.6	390	0.0006
100	0.503	0.21	0.91	110	0.00077
200	0.482	0.14	0.18	40	0.0014
400	0.456	0.088	0.4	19	0.0015
800	0.421	0.06	1.5	6.2	0.0021
1,600	0.379	0.037	2	5	0.0027
800	0.384	0.0043			
200	0.414	0.037			
50	0.450	0.17			

Preparation

Index tests Liquid limit % Plastic limit %

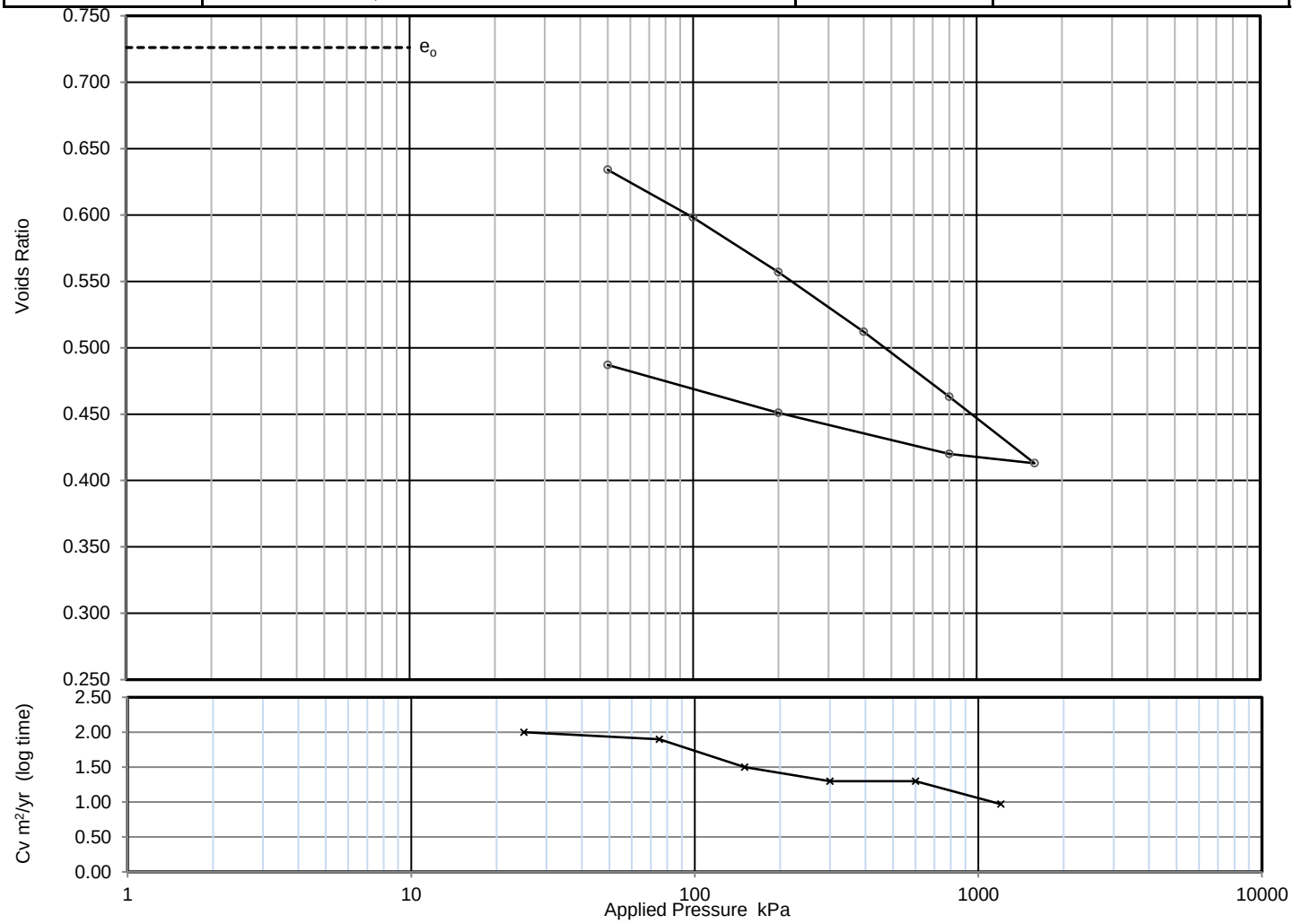
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	18.80	mm
Moisture Content	21.0	19.4	%
Bulk density	2.08		Mg/m3
Dry density	1.72		Mg/m3
Voids Ratio	0.543		
Saturation	102		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH24
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	9
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	soft, brown, sandy, silty CLAY			KeyLAB ID	SLMK2017082456
Test Method	BS1377:Part 5:1990, clause 3			Date started	30/08/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.726	-	-	-	-
50	0.634	1.1	2	4.7	0.0017
100	0.598	0.44	1.9	7.2	0.0017
200	0.557	0.25	1.5	19	0.0017
400	0.512	0.14	1.3	20	0.002
800	0.463	0.081	1.3	5.5	0.0021
1,600	0.413	0.043	0.97	21	0.0023
800	0.420	0.006			
200	0.451	0.036			
50	0.487	0.16			

Preparation

Index tests Liquid limit % Plastic limit %

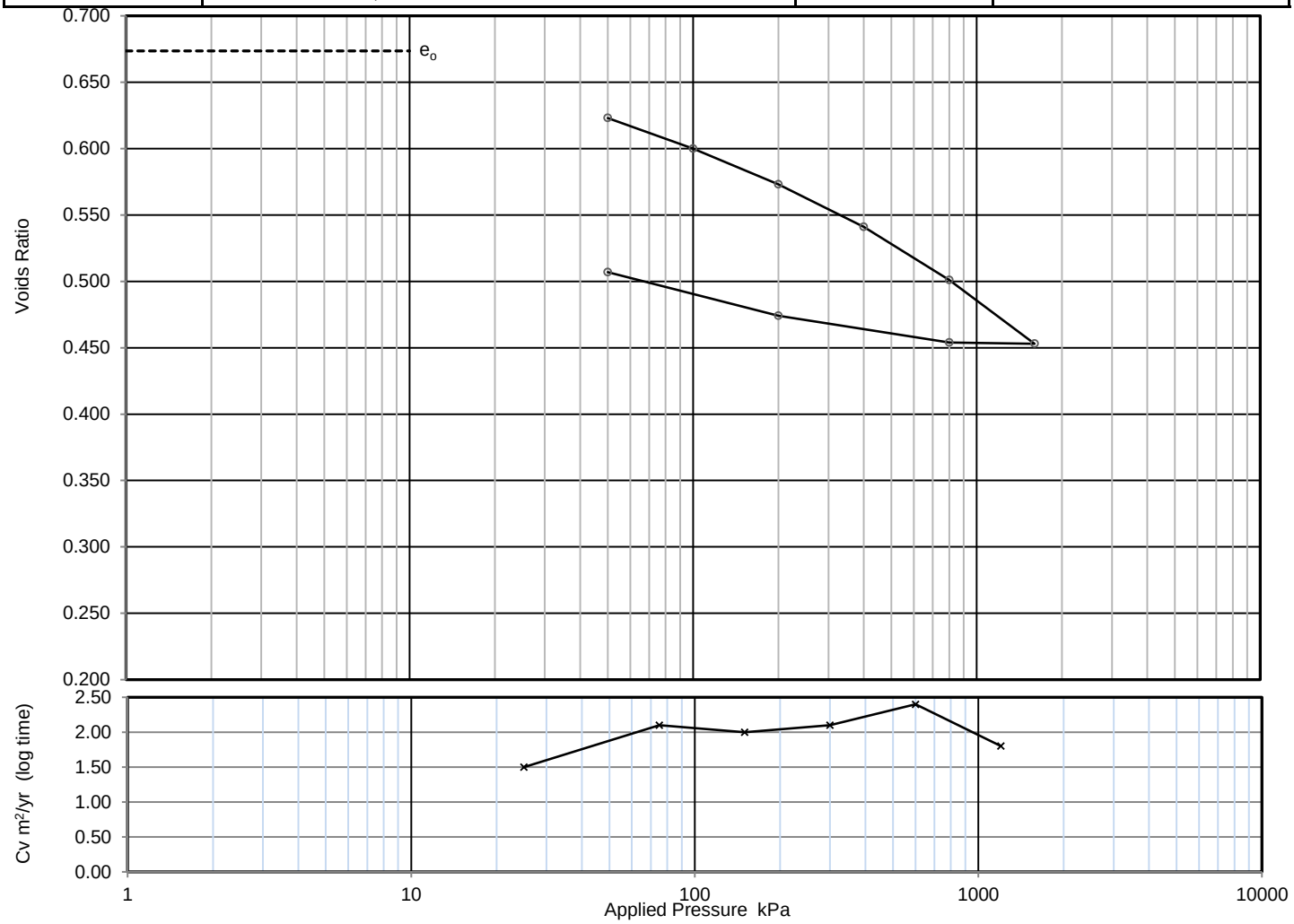
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	17.23	mm
Moisture Content	30.0	25.3	%
Bulk density	2.00		Mg/m3
Dry density	1.54		Mg/m3
Voids Ratio	0.726		
Saturation	110		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested TT	Checked KW	Approved KW	Printed : 17/10/2017 14:26	Fig. No 1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH25
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	5
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Soft, brown, slightly sandy, slightly gravelly CLAY			KeyLAB ID	SLMK2017082463
Test Method	BS1377:Part 5:1990, clause 3			Date started	30/08/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.674	-	-	-	-
50	0.623	0.6	1.5	34	0.0018
100	0.600	0.28	2.1	7.5	0.0013
200	0.573	0.17	2	7.8	0.0016
400	0.541	0.1	2.1	17	0.0021
800	0.501	0.065	2.4	17	0.0023
1,600	0.453	0.039	1.8	18	0.0024
800	0.454	0.001			
200	0.474	0.022			
50	0.507	0.15			

Preparation

Index tests Liquid limit % Plastic limit %

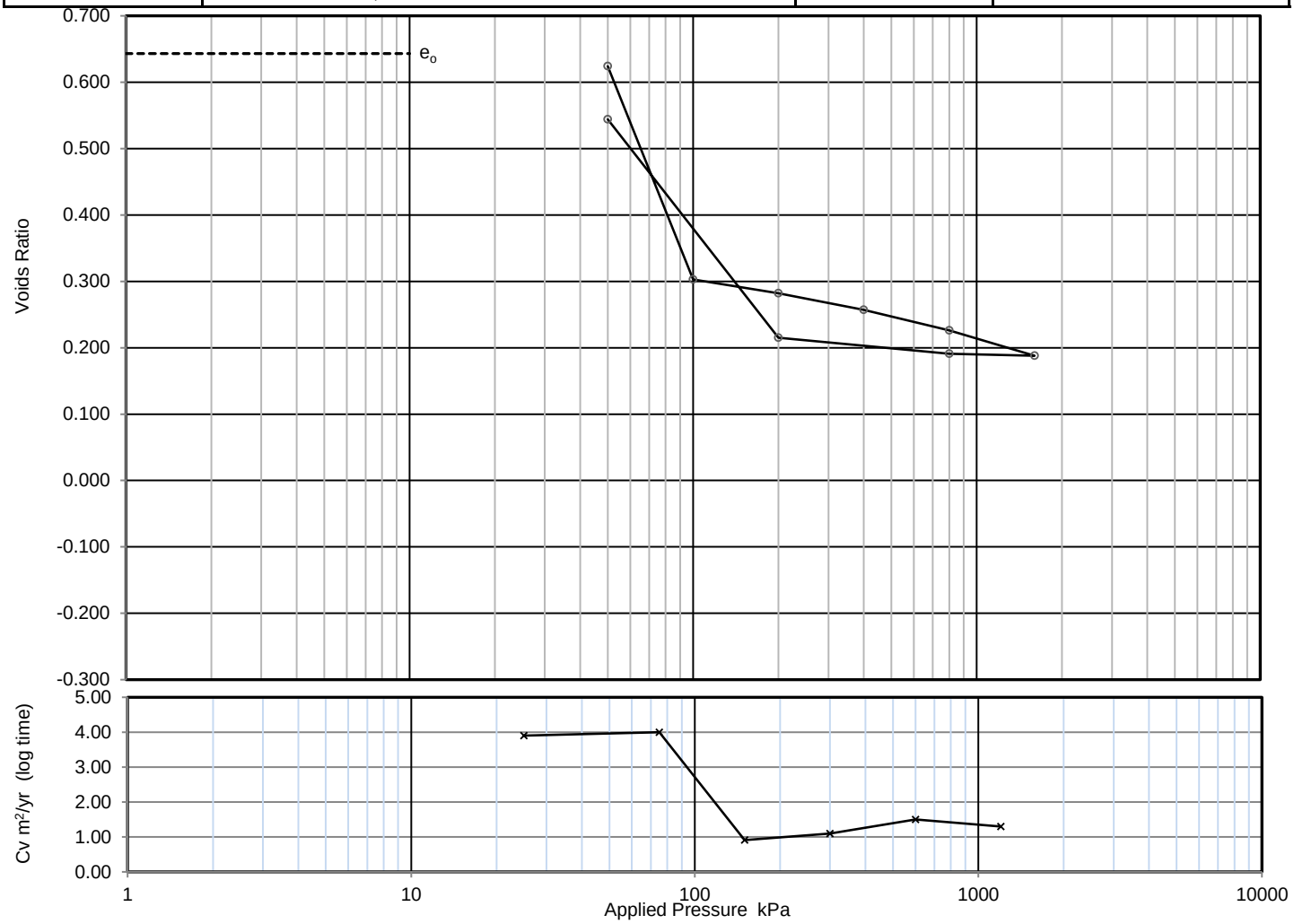
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	18.01	mm
Moisture Content	27.9	22.4	%
Bulk density	2.02		Mg/m3
Dry density	1.58		Mg/m3
Voids Ratio	0.674		
Saturation	110		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH38
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	7
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm to soft, brown, CLAY			KeyLAB ID	SLMK201709201
Test Method	BS1377:Part 5:1990, clause 3			Date started	25/09/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.643	-	-	-	-
50	0.624	0.23	3.9	220	0.00065
100	0.303	0.23	4	37	0.0014
200	0.282	0.16	0.91	35	0.0018
400	0.257	0.099	1.1	6.9	0.0018
800	0.226	0.061	1.5	3.9	0.0024
1,600	0.188	0.039	1.3	3.6	0.0026
800	0.191	0.0031			
200	0.215	0.034			
50	0.544	0.21			

Preparation

Index tests Liquid limit % Plastic limit %

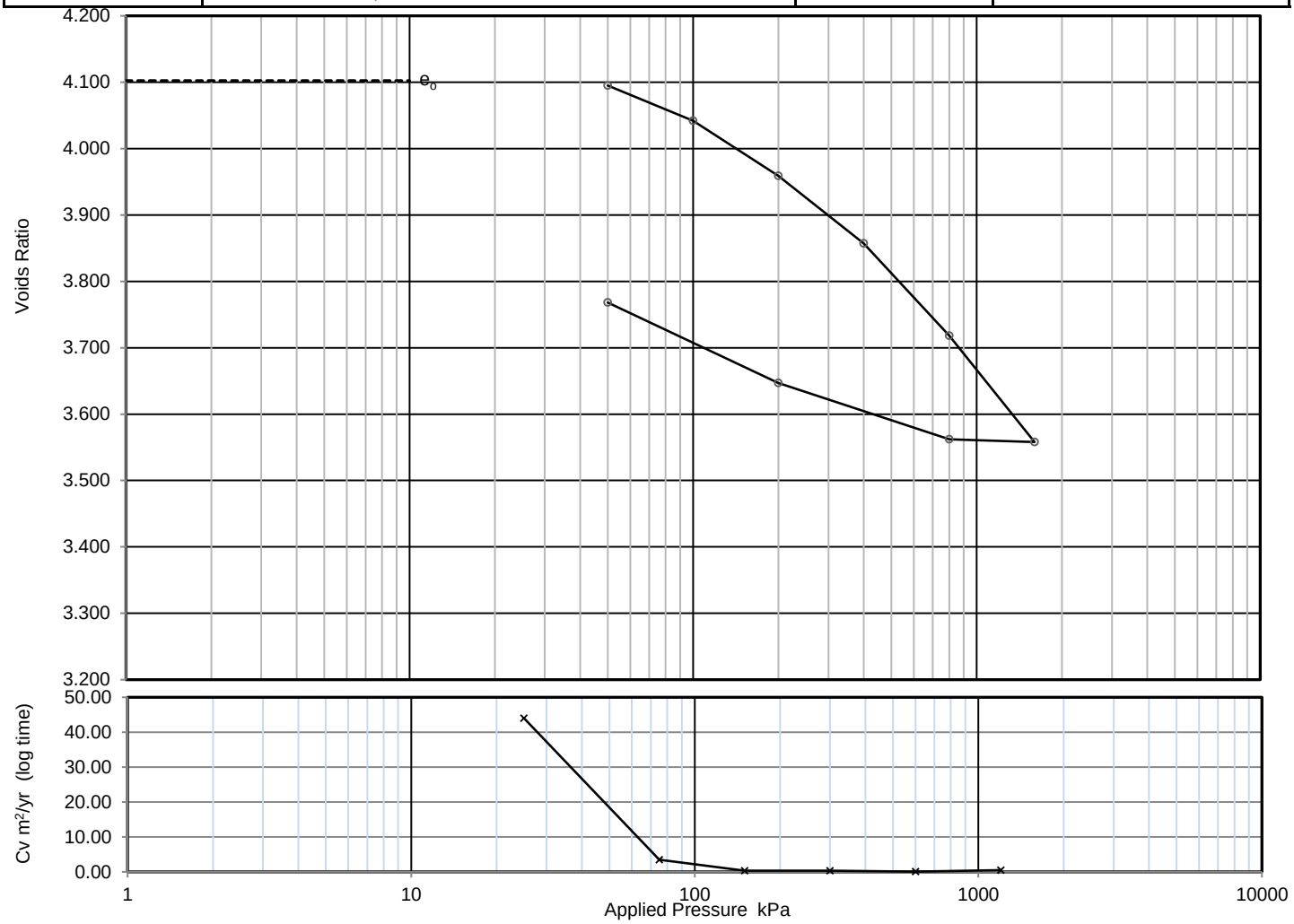
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	18.79	mm
Moisture Content	19.8	22.2	%
Bulk density	1.93		Mg/m3
Dry density	1.61		Mg/m3
Voids Ratio	0.643		
Saturation	82		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH39
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.2
Specimen Reference		Specimen Depth	m	Sample Type	UT
Specimen Description	Firm, brown, slightly gravelly CLAY			KeyLAB ID	SLMK2017091337
Test Method	BS1377:Part 5:1990, clause 3			Date started	21/09/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	4.102	-	-	-	-
50	4.095	0.029	44	64	0.00022
100	4.042	0.21	3.5	160	0.0011
200	3.959	0.16	0.31	220	0.0015
400	3.857	0.1	0.31	130	0.0023
800	3.718	0.071	0.069	37	0.0028
1,600	3.558	0.043	0.54	11	0.0033
800	3.562	0.0011			
200	3.647	0.031			
50	3.768	0.17			

Preparation

Index tests Liquid limit % Plastic limit %

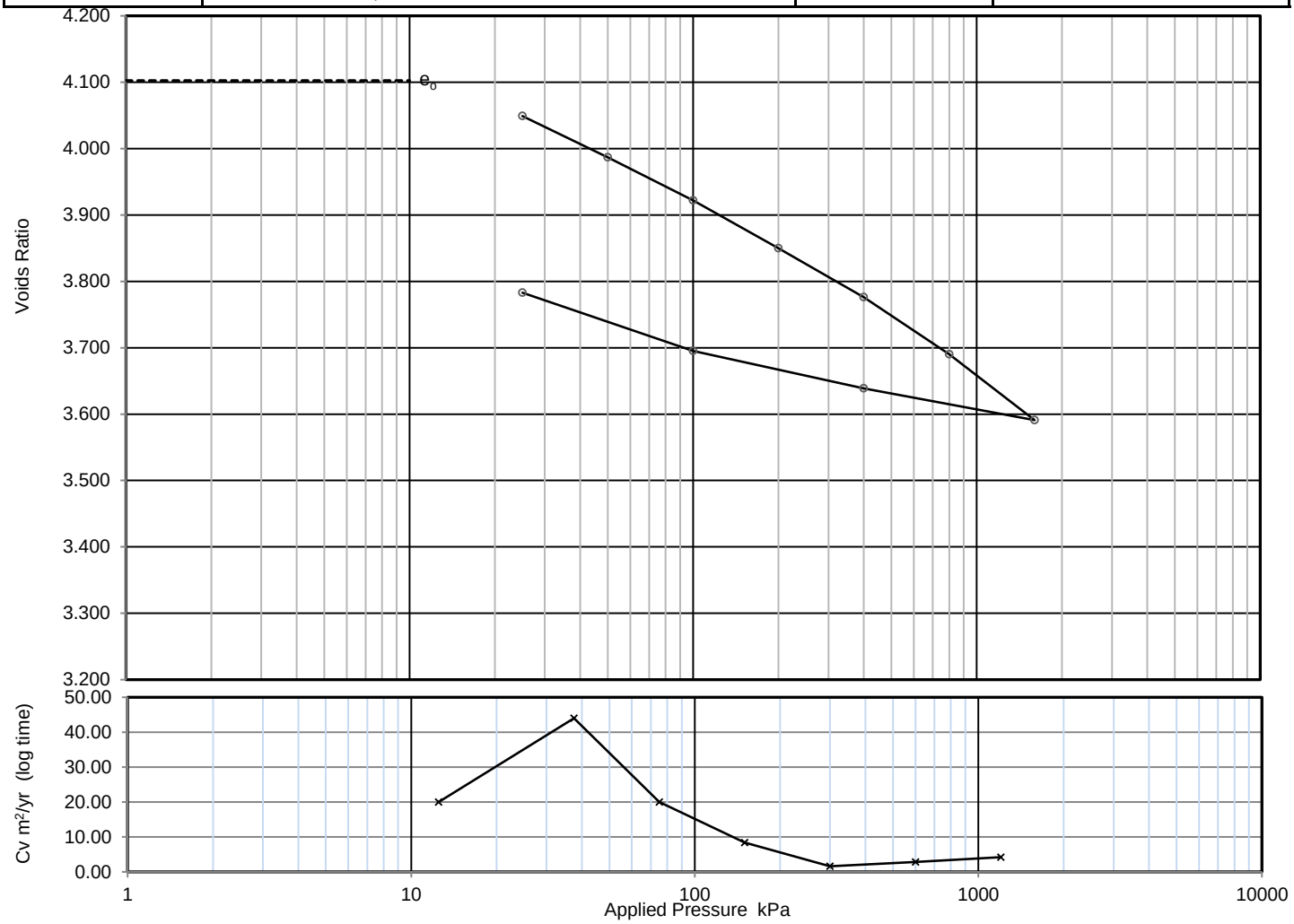
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	18.69	mm
Moisture Content	33.4	38.6	%
Bulk density	0.69		Mg/m3
Dry density	0.52		Mg/m3
Voids Ratio	4.102		
Saturation	22		%
Average temperature for test			oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH40
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	2.2
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Firm, brown, slightly sandy CLAY			KeyLAB ID	SLMK2017091320
Test Method	BS1377:Part 5:1990, clause 3			Date started	25/09/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	4.102	-	-	-	-
25	4.049	0.42	20	25	0.00077
50	3.987	0.49	44	92	0.00073
100	3.922	0.26	20	230	0.00087
200	3.850	0.15	8.4	220	0.0011
400	3.776	0.077	1.6	170	0.0015
800	3.690	0.045	2.8	180	0.0017
1,600	3.591	0.026	4.2	160	0.0018
400	3.639	0.0087			
100	3.695	0.04			
25	3.783	0.25			

Preparation

Index tests Liquid limit % Plastic limit %

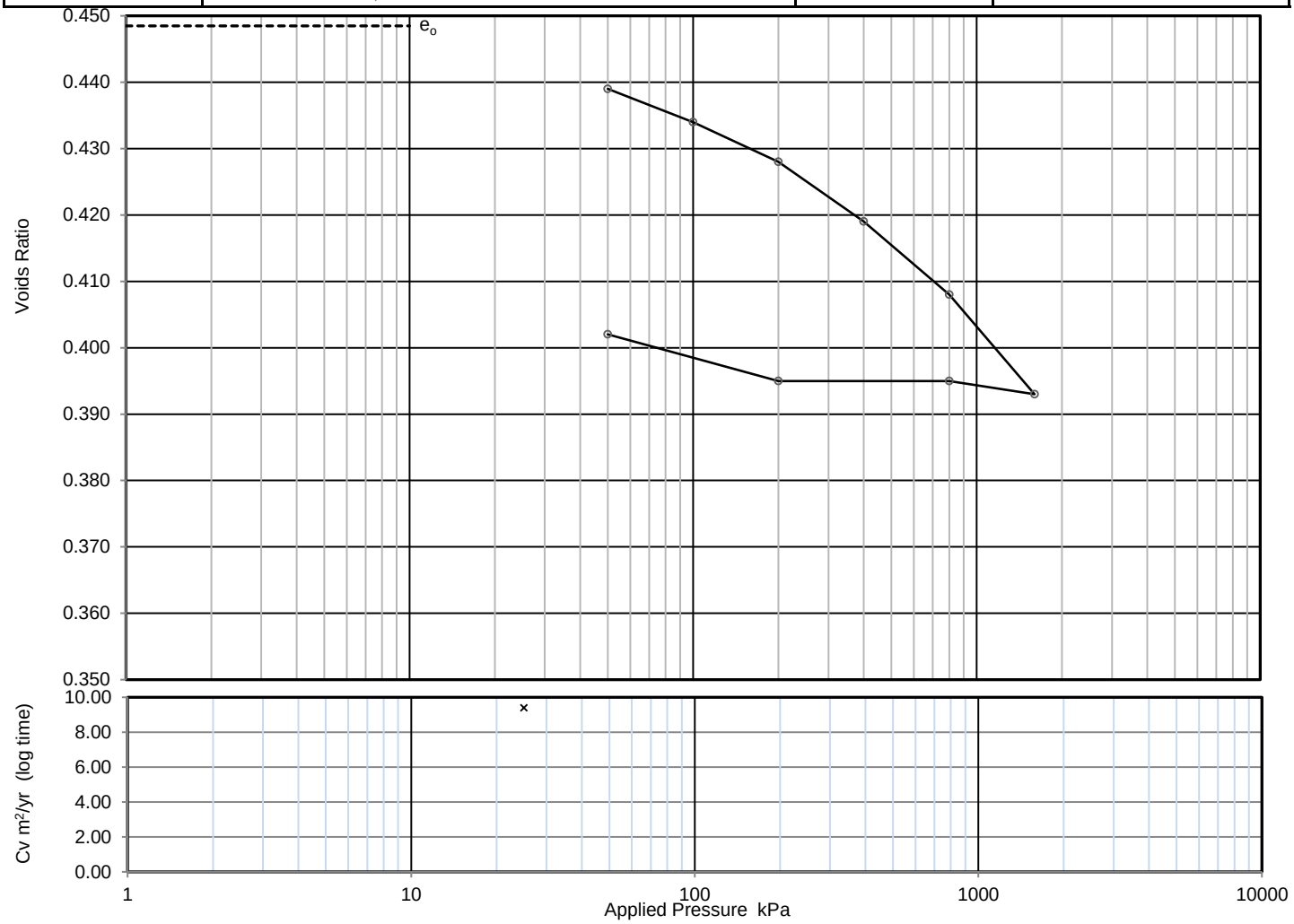
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	18.75	mm
Moisture Content	26.4	38.6	%
Bulk density	0.66		Mg/m3
Dry density	0.52		Mg/m3
Voids Ratio	4.102		
Saturation	17		%
Average temperature for test	19.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH46
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	3.8
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Brown, grey, soft, slightley sandy, gravelly, CLAY			KeyLAB ID	SLMK201709064
Test Method	BS1377:Part 5:1990, clause 3			Date started	06/09/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.448	-	-	-	-
50	0.439	0.13	9.4	76	0.00077
100	0.434	0.064		540	0.0037
200	0.428	0.046		680	0.0037
400	0.419	0.03		1100	0.0037
800	0.408	0.02		1200	0.0037
1,600	0.393	0.013		1100	0.0074
800	0.395	0.0013			
200	0.395	0.00061			
50	0.402	0.033			

Preparation

Index tests Liquid limit % Plastic limit %

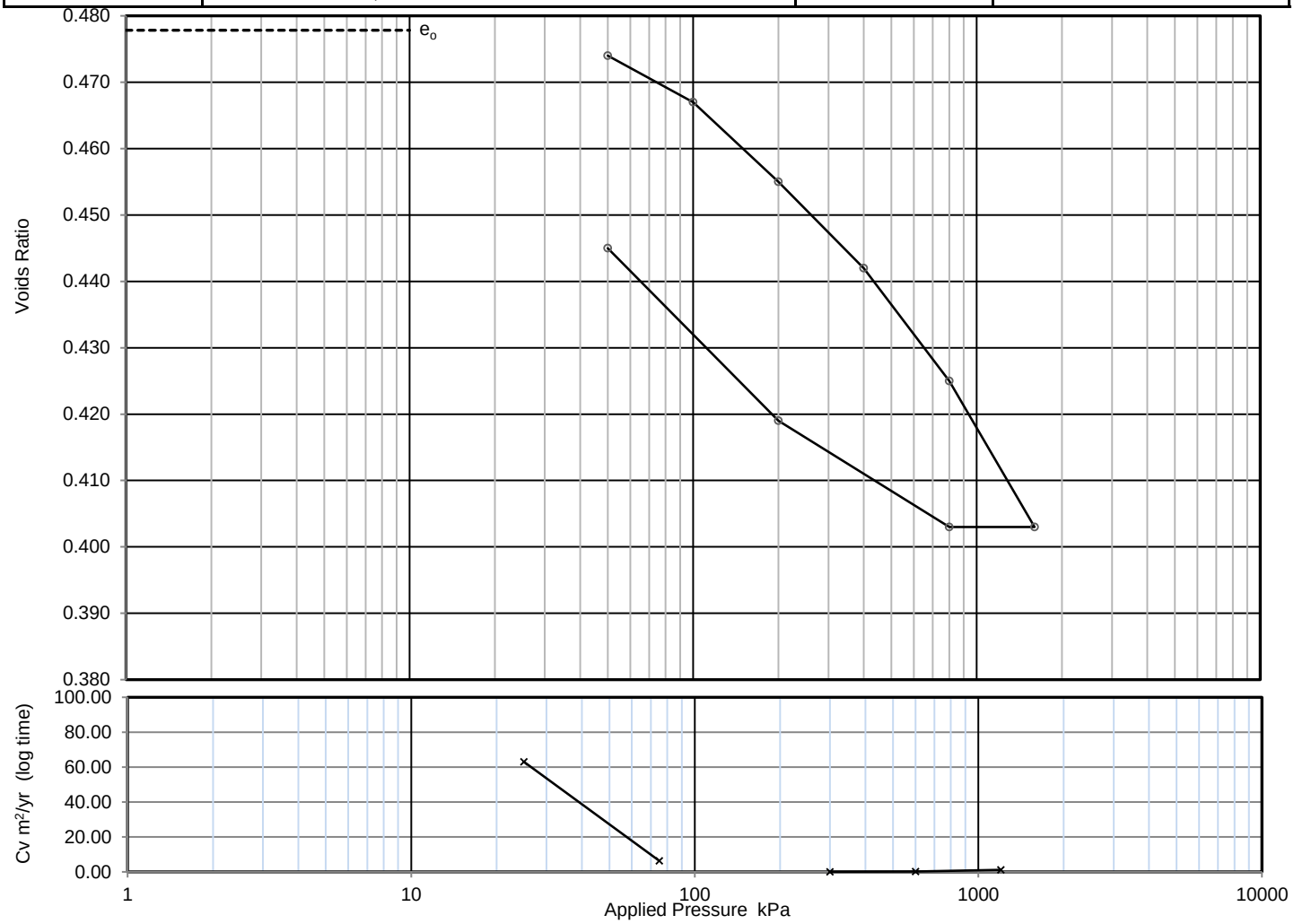
Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	19.36	mm
Moisture Content	16.8	15.3	%
Bulk density	2.14		Mg/m3
Dry density	1.83		Mg/m3
Voids Ratio	0.448		
Saturation	99		%
Average temperature for test	19.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1

	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3			Job Ref	D8044
				Borehole/Pit No.	BH47
Site Name	IAMP Sunderland			Sample No.	
Soil Description				Depth	1.2
Specimen Reference		Specimen Depth	m	Sample Type	U
Specimen Description	Stiff, reddish brown, slightly sandy, slightly gravelly CLAY			KeyLAB ID	SLMK20170824115
Test Method	BS1377:Part 5:1990, clause 3			Date started	30/08/2017



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0.0	0.478	-	-	-	-
50	0.474	0.046	63	160	0.000096
100	0.467	0.1	6.3	240	0.00071
200	0.455	0.078		70	0.00064
400	0.442	0.046	0.07	68	0.00077
800	0.425	0.029	0.17	27	0.0011
1,600	0.403	0.02	1.1	19	0.0017
800	0.403	0.0004			
200	0.419	0.02			
50	0.445	0.12			

Preparation

Index tests Liquid limit % Plastic limit %

Particle density assumed 2.65 Mg/m3

Specimen details	Initial	Final	
Diameter	75.00	-	mm
Height	20.00	19.55	mm
Moisture Content	18.9	19.2	%
Bulk density	2.13		Mg/m3
Dry density	1.79		Mg/m3
Voids Ratio	0.478		
Saturation	105		%
Average temperature for test	20.0		oC
Swelling Pressure			kPa
Settlement on saturation			%

Remarks

Final values should be used with caution Cv plotted at mid point of load increments Cv corrected to 20oC	Tested	Checked	Approved	Printed :	Fig. No
	TT	KW	KW	17/10/2017 14:26	1