



POOLE PARK MINIATURE RAILWAY – BOROUGH OF POOLE

Factual Report

NOVEMBER 2018

Poole Park Miniature Railway – Borough of Poole

Factual Report

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Report Ref	18-96795



Issue Number

Issue	Revision No.	Date Issued	Description of Revision	Reviewed by:
01		15/11/2018		

Site Address
Poole Park Miniature Railway
Poole Park
Poole
BH15 2SF

Client Address
Borough of Poole
Unit 1 New Fields Bus. Park
Stinsford Road
Poole
Dorset
BH17 0NF

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1 INTRODUCTION

1.1 Terms of Reference

ACS Testing Ltd (ACS) were instructed by Cally Barnes from the Borough of Poole (the Client) in October 2018 to carry out a site investigation, laboratory testing and prepare a factual report for a site comprising Poole Park Miniature Railway, Poole Park, Poole, BH15 2SF.

1.2 Site Setting

The 'Site' is located within Poole Park, within the town of Poole, Dorset. The Site comprises a circular narrow-gauge railway of 10¼ inch gauge running for approximately 640m. Part of the railway crosses an ornamental pond over a stone and concrete bridge. In the east of the railway there is a small engine shed with a turntable. The Site is as defined on Figure 1 and Figure 2.

1.3 Objective and Scope

The objective of this study is to provide geotechnical parameters to assist in the design of the proposed structures, and to provide soil geochemical information to inform waste soil disposal. It is understood that this information will be provided to contractors tendering to carry out the proposed development works. To enable this to be tendered an understanding of the ground condition beneath the railway track is required.

The scope of this study is as follows;

- ▶ Thirteen trial pits adjacent to the track and two on either side of the bridge excavated to a maximum depth of 1.00 metres below ground level (mbgl).
- ▶ Eighteen windowless boreholes drilled to a maximum depth of 4.00mbgl
- ▶ In situ geotechnical Standard Penetration Tests (SPT) at 1m vertical intervals within the windowless boreholes.
- ▶ Dynamic probe testing undertaken in boreholes where the proposed depth could not be achieved.
- ▶ Take and submit soil samples for geotechnical and geochemical laboratory testing scheduled by the Client.
- ▶ The preparation of a factual report.

Due to an increase of the initial scope of works, the site investigation works were undertaken over two periods, the first between the 1st to the 5th October 2018 which comprised all the trial pits and thirteen of the windowless boreholes. The second phase was between the 18th and 19th October 2018 and comprised a further five windowless boreholes.

1.4 Proposed Development

We understand that the proposed development may include; ongoing maintenance and improvements of the track and bridge, replacement of the railway track with a similar or larger gauge and the extension of the railway track into a larger loop.

1.5 Limitations

ACS carried out the site investigation, collection of samples and laboratory analysis. It should be appreciated that there may be areas of the Site that have not been investigated where ground conditions may vary from those encountered. The contaminant concentrations or sub-surface features revealed may be more widespread than identified by the investigation carried out by the Client.

This factual report has been produced by ACS in accordance with the instructions received from the Client. The information contained in this report is intended for the use of the Client pursuant to the development described above. The information contained herein may not be appropriate to other development proposals.

We confirm that in preparing this report we have exercised reasonable skill and care as would be expected of a suitably qualified and experienced geoscience consultant working within the limits of the Client's instructions.

No liability can be accepted for information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the Client or other third parties are given in good faith on the assumption that the information is accurate; no independent validation of such information has been made by ACS Testing Ltd.

2 INTRUSIVE INVESTIGATION

2.1 Ground Investigation

An intrusive ground investigation was undertaken by ACS on Poole Park Miniature Railway, Poole comprising thirteen trial pits and eighteen windowless boreholes with in situ standard penetration testing. Dynamic probe testing was undertaken in boreholes where the maximum proposed depth could not be achieved by dynamic sampling to provide data on the ground bearing capacity. The locations of the boreholes are shown on Figure 2. Exploratory hole logs are included as Appendix A.

The positions of the exploratory holes were specified by the Client. Where possible each location comprised a trial pit to 1.0mbgl, followed by a borehole drilled through it or adjacent to the pit. A utility service drawing was provided by the Client and all locations were scanned with a Cable Avoidance Tool. A high voltage electricity cable is located beneath the track in the western part of the site which restricted investigation in this area.

2.2 Geotechnical and Geochemical Testing

In situ Standard Penetration Testing (SPT) was undertaken at regular vertical intervals within all windowless boreholes. Where the windowless boreholes could not achieve the specified 4mbgl depth, Super Heavy Dynamic Probe (DPSH) tests were undertaken within the boreholes to prove the density of material at a greater depth than the windowless sampling.

The following samples, scheduled by the Client, were submitted for testing -

- 9 general chemical suite - metals, benzene/toluene/ethylbenzene/xylene (BTEX), soil organic matter, speciated polycyclic aromatic hydrocabons (PAH), polychlorinated biphenyls (PCB), speciated total petroleum hydrocarbons (TPH), pH.
- 9 Waste Acceptance Criteria (WAC)
- 8 pH and water soluble sulphate.

The geochemical laboratory test result certificates are included as Appendix B.

The investigation sampling and analysis plan are summarised in Table 1. The geotechnical and geochemical testing was scheduled by the Client's senior engineer.

Table 1 Summary of Sampling and Analysis Plan

Exploratory Hole	Reason for Location	Depth of Sample (mbgl)	Testing
DPA	Through southern bridge arch	n/a	n/a
DPB	Through northern bridge abutment	n/a	n/a
TP01/WS01	Adjacent to northern bridge abutment	0.23-0.42	General chemical suite, waste acceptance criteria
		0.65-1.00	pH and water soluble sulphate
WS02	Through southern bridge abutment	n/a	n/a
WS02A	Through central bridge pier	n/a	n/a
WS03/TP02	Adjacent to southern bridge abutment	0.21-0.63	General chemical suite, waste acceptance criteria
TP03	Beside Track (shallow tree roots)	0.42-0.87	pH and water soluble sulphate
TP04/WS04	Beside Track (between points)	n/a	n/a
TP05/WS05	Beside Track	0.00-0.66	General chemical suite, waste acceptance criteria
		0.66-1.00	pH and water soluble sulphate
TP06/WS06	Beside Track	n/a	n/a
TP07/WS07	Beside Track	0.08-0.32	General chemical suite, waste acceptance criteria
		0.47-0.74	General chemical suite, waste acceptance criteria
TP08/WS08	Beside Track	0.29-0.58	pH and water soluble sulphate
TP09/WS09	Beside Track	0.00-0.39	General chemical suite, waste acceptance criteria
		0.76-1.00	pH and water soluble sulphate
TP10	Beside Track	n/a	n/a
TP11/WS11	Beside Track	0.00-0.21	General chemical suite, waste acceptance criteria
		0.47-1.00	pH and water soluble sulphate
TP12/WS12	Beside Track (shallow tree roots)	n/a	n/a
TP13/WS13	Beside Track	0.00-0.64	General chemical suite, waste acceptance criteria
		0.64-1.00	pH and water soluble sulphate
TP14/WS14	Beside Track	0.15-0.60	General chemical suite, waste acceptance criteria
		0.60-0.94	pH and water soluble sulphate
WS15	Beside Track	n/a	n/a
WS16	Beside engine shed	N/A	N/A
WS17	Possible track extension area	N/A	N/A
WS18	Possible track extension area	N/A	N/A
WS19	Possible track extension area	N/A	N/A

3 GROUND CONDITIONS

3.1 Ground Conditions Encountered

The ground conditions encountered during the Site investigation are summarised in Table 2 below. Full details are provided in the exploratory hole logs included as Appendix A and a photographic record of the investigation is included as Appendix C.

Table 2: Summary of strata in trial pits

Strata	Exploratory Holes	Depth to Base of Stratum (mbgl)
Hardstanding (Bound Macadam)	DPB, TP01/WS01, TP02, WS02A, WS02, TP03, WS03 TP07/WS07, TP10, WS16	0.02-0.16 0.42 (sub-layer within TP03)
Hardstanding (Concrete)	DPA, DPB, WS02, WS02A TP01/WS01 & TP02	0.30 (in southern face of TP01) 0.40 (in northern face of TP02) 0.17-0.24 (bridge - deck) 0.87-1.55 (beneath bridge)
Topsoil (TS)	TP09/WS09, TP11/WS11, TP12/WS12, WS18, WS19	0.16-0.56
Made Ground (MG)	All except: TP09/WS09, TP11/WS11, TP12/WS12, WS18, WS19	0.28 -0.87
Tidal Flat Deposits (TFD)	All except: DPA, DPB, TP05/WS05, WS18	0.81-2.42
Peat (part of TFD)	TP01/WS01, TP02, WS02, TP03, WS03, TP04/WS04, WS05, TP06/WS06, TP07/WS07, WS08, TP09/WS09, TP14/WS14, WS15, WS17, WS19	0.74-2.42
Poole Formation (PF)	All except: DPB, WS02A, TP02, TP03, TP11	Proven to 4.00

3.1.1 Hardstanding

Macadam surfacing was recorded in ten of the exploratory holes; DPB, TP01/WS01, TP02/WS02/WS02A, TP03/WS03, TP07/WS07, TP10 and WS16. The depth of the macadam was typically recorded between 0.02-0.16mbgl. A secondary layer of macadam was encountered within TP03 at a depth of 0.42mbgl.

Concrete surfacing was recorded during the investigation of the pedestrian and railway bridge within DPA, DPB, WS02 and WS02A. All four cores recorded between 0.13m and 0.15m of light greyish brown concrete making up the surface of the bridge deck reinforced with 8mm rebar. In DPB, WS02 and WS02A the surface layer comprised an additional 20-40mm of bound macadam. The construction of the bridge and the further concrete encountered at depth is discussed in detail in Section 4.

3.1.2 Made Ground

Made ground was encountered in all exploratory holes with the exception of TP09/WS09, TP11/WS11, TP12/WS12, WS18 and WS19. The made ground was revealed to vary in composition from light brown, dark brown and dark grey very gravelly fine to coarse sand or very sandy fine to coarse gravel of flint, brick, concrete and clinker. Occasional limestone boulders were recorded within TP13 and occasional metal fragments were recorded within TP14. The exploratory holes adjacent to or on the bridge revealed light greyish brown hardcore fill comprising gravel and cobbles of flint, brick and concrete.

3.1.3 Topsoil

Topsoil was recorded in five of the exploratory holes; TP09/WS09, TP11/WS11, TP12/WS12, WS18 and WS19 in the north-west section of the railway. The topsoil was recorded to comprise either a very soft to soft dark brown or grey slightly gravelly sandy silt or a dark greyish brown slightly gravelly silty fine to coarse sand. The gravel is fine to coarse sub-angular to sub-rounded of flint. Frequent roots and rootlets were recorded in all locations except WS18 which had only occasional rootlets.

3.1.4 Tidal Flat Deposits

Tidal Flat Deposits were encountered in all exploratory holes with the exception of DPA, DPB, , TP05/WS05, WS18. The deposits comprised a unit of light brown, greyish brown or brownish grey slightly gravelly silty fine to coarse sand interbedded with dark brown or greyish brown mottled dark grey slightly sandy to sandy pseudo-fibrous peat. Within WS17 a layer of firm dark grey very sandy organic silt with a strong organic odour was recorded. Rare layers of dark grey slightly gravelly sandy organic clays were also recorded. The depth of the Tidal Flat Deposits ranges from 0.81-2.42mbgl with the greatest depths recorded in the south-western and north-eastern sections of the railway.

3.1.5 Poole Formation

The Poole formation was encountered in all windowless boreholes proven to a depth of 4.00mbgl. The unit was found to generally underlie the Tidal Flat Deposits with the shallowest depths encountered being 0.56mbgl. The Poole Formation was found to comprise either a light grey mottled orange, occasionally clayey, fine to coarse sand, a light brown / grey slightly gravelly to gravelly fine to coarse sand, a soft light grey mottled orange very sandy silt or a soft light grey very sandy clay. The gravel was fine to coarse sub-angular to sub-rounded flint.

The presence of running sands within the Poole Formation presented challenging drilling conditions which meant that seventeen boreholes were not sampled to their intended depth.

3.1.6 Groundwater

Table 3 summarises the groundwater encountered during the Site investigation. Full details are provided in the exploratory hole logs included as Appendix A.

Table 3: Summary of Groundwater Observations

Exploratory Hole Reference	Groundwater Strike (mbgl)	Geology of Strike	Rest Water Level After 20 Minutes (mbgl)
WS01	2.00	Sand (PGF)	2.00
TP02	0.65	Sandy peat (TFD)	0.62
WS02	1.00	Cobble sandy gravel (MG)	1.00
TP03	0.64	Gravelly sand (MG)	0.64
WS03	1.03	Sandy peat (TFD)	1.00
WS04	1.08	Sand (PF)	0.62
WS05	0.62	Gravelly silty sand (MG)	0.61
WS06	1.00	Sandy peat (TFD)	0.98
WS07	1.91	Sand (PF)	1.57
WS08	1.00	Clayey sand (TFD)	0.87
TP09	0.73	Sandy peat (TFD)	0.73
WS09	0.60	Sandy peat (TFD)	0.54
TP11	0.84	Gravelly sand (TFD)	0.82
WS11	0.32	Gravelly silty sand (TFD)	0.24
WS12	1.44	Sand (PF)	1.12
WS13	1.00	Silty sand (TFD)	0.99
WS14	1.00	Silty sand (PF)	0.98
TP15	0.93	Silty sand (PF)	0.93
WS15	1.00	Silty sand (PF)	0.78
WS16	1.30	Gravelly sand (PF)	0.48
WS17	1.72	Sandy silt (TDF)	1.05
WS18	0.83	Gravelly sand (PF)	0.62
WS19	1.30	Gravelly silty sand (PF)	0.93

4 BRIDGE INVESTIGATION

The site investigation included the ground conditions on and around the pedestrian and railway bridge situated in the south east of the Site. The bridge comprises concrete and stone construction and provides a crossing between two ornamental ponds. The bridge comprises two arches which appear to be constructed from precast concrete sections. A photographic record of the bridge investigation is included as Appendix C. Reference to 'depth' in this section relates to the depth below the surfacing of the bridge deck.

The coring of DPA, DPB, WS02 and WS02A recorded between 0.13m and 0.15m of light greyish brown concrete making up the surface of the bridge deck reinforced with 8mm rebar. In DPB, WS02 and WS02A the top surface layer comprised an additional 20-40mm of bound macadam.

DPA was progressed through the top of the southern bridge arch. Underlying the deck in this location was a section of dark grey pre-cast concrete. This hole was cored through the shoulder of two adjoining pre-cast concrete segments. Hand held core drilling was undertaken through the core hole/void/water column into the silt below where a secondary slab was encountered at 1.40m and was 0.15m thick. This slab was light grey brown in colour and reinforced with 10mm rebar. Limited sample recovery was achieved below this core to a depth of 2.3m. A further 2.6m of dynamic probe testing was undertaken to a final depth of 4.9m.

DPB and WS02A were cored outside of the arches, DPB through the northern abutment and WS02A through the central pier. The core holes encountered concrete at a depth of 0.66m and 0.67m respectively, underlying granular made ground. WS02A was terminated and moved, DPB was cored successfully however had to be terminated at 0.87m and no further penetration could be achieved and not all the core could be recovered. The recovered core from DPB comprised a greyish brown unreinforced concrete.

The windowless borehole WS02 was drilled successfully through the southern abutment to a depth of 3m. An additional 2m of dynamic probe testing undertaken to a final depth of 5m below the deck level. No concrete was encountered at the 0.66/0.67m depth as in the other cores on the bridge.

At each end of the bridge two trial pits and boreholes were excavated beside the abutments. TP01/WS01 was located to the north and TP02/WS03 to the south. The concrete deck was recorded on the southern face of TP01 with a thickness of 0.30m and on the northern face of TP02 with a thickness of 0.40m suggesting it thickens at the southern end of the bridge.

5 GEOTECHNICAL AND GEOCHEMICAL TESTING RESULTS

The results of the in situ and laboratory geotechnical and geochemical testing is summarised in the section below. Full results can be found on the borehole logs and laboratory certificates included as Appendices A and B.

5.1 Ground Corrosive to Concrete

The results from the pH and water soluble sulphate testing undertaken on soil samples are summarised in Table 4.

Table 4: Summary of pH and water soluble sulphate test results

Borehole Reference (Depth mbgl)	Geology	pH	Water Soluble Sulphate (mg/l)
TP01 (0.65-1.00)	Light grey mottled dark grey silty sand (TFD)	8.2	166
TP03 (0.42-0.87)	Greyish brown gravelly sand (MG)	7.5	133
TP05 (0.66-1.00)	Light grey mottled orange clayey sand (PF)	5.7	13.5
TP08 (0.29-0.58)	Dark greyish brown gravelly silty sand (MG)	6.7	135
TP09 (0.73-1.00)	Brownish grey sandy peat (TFD)	3.9	504
TP11 (0.47-1.00)	Greyish brown gravelly sand (TFD)	6.5	89.5
TP13 (0.64-1.00)	Greyish brown silty sand (TFD)	7.1	3.56
TP14 (0.60-0.94)	Dark grey mottled dark brown sand peat (TFD)	6.3	46

5.2 Standard Penetration Testing

The results from the insitu standard penetration testing undertaken during drilling is summarised in Table 5: Summary of standard penetration test results. The results of the individual tests are shown on the exploratory logs in Appendix A and graphically represented in Figure 4.

Table 5: Summary of standard penetration test results

Depth (mbgl)	Tidal Flat Deposits	Poole Formation
	SPT[N] Range (Number of results)	
1.00	0-31 (15)	9-26 (3)
2.00	14 (1)	0-38 (15)
3.00	n/a	10-18 (4)
4.00	n/a	19-20 (2)

5.3 Dynamic Probe Testing

Dynamic probe testing comprising Super Heavy Dynamic Probe (B) tests which were undertaken in all of the boreholes except WS05 and WS14. Six of the DPSHs commenced at 2.0mbgl and ten commenced at 3.0mbgl and were generally tested to a further 2m depth. The results of the testing varied between 0 to 50 blows per 100mm of penetration.

The results of the testing are shown on the borehole logs presented in Appendix A.

6 WASTE SOIL CLASSIFICATION

The following summarises the results of the soil chemical analysis, solely in relation to classification of waste soil. The results of the soil geochemical testing are included at Appendix B.

6.1 Classification of Waste

Soil samples were tested to classify soil which may be required to remove from the Site as waste. To determine what type of landfill the soil can be disposed of there are two steps involved.

- 1) Testing of the solid fraction to determine if the sample has hazardous properties, enabling a waste code to be associated with the soil in accordance with Technical Guidance WM3. For waste soils there are two entries:
 - ▶ 17 05 03 – soil and stones containing hazardous substances
 - ▶ 17 05 04 – soil and stones other than those mentioned in 17 05 03
- 2) Preparation and testing of a leachate and solid component for comparison against published Waste Acceptance Criteria (WAC) to determine where the material can be disposed of in accordance with The Landfill Directive¹. The soil must be classified as one of the following, or be subjected to further treatment:
 - ▶ A landfill for hazardous waste
 - ▶ A landfill for non-hazardous waste; or
 - ▶ A landfill for inert waste

6.2 Total Solids Testing

The results of the soil chemical analysis (total concentrations) were entered into waste soil characterisation assessment software (CAT Waste) in order to determine whether each sample has non-hazardous or hazardous properties. A summary of the recommended European Waste Catalogue code for each of the samples analysed is summarised in Table 6. The output from the CAT Waste software is included in Appendix D.

¹ Department for Environment Food and Rural Affairs (2010). *Environmental Permitting Guidance The Landfill Directive*. Version 3.1.

Table 6: Summary of Hazardous / Non-Hazardous Waste Assessment

Sample Reference	Geology (Principal Constituent)	Hazardous Substances	European Waste Catalogue Code
TP01 (0.23-0.42m)	Made Ground (Gravel)	n/a	17 05 04
TP02 (0.21-0.63m)	Made Ground (Gravel)	Unknown Hydrocarbon	17 05 03
TP05 (0.00-0.66m)	Made Ground (Sand)	n/a	17 05 04
TP07(0.08-0.32m)	Made Ground (Sand)	n/a	17 05 04
TP07 (0.47-0.74m)	Tidal Flat Deposits (Peat)	n/a	17 05 04
TP09 (0.00-0.39m)	Topsoil (Sand)	n/a	17 05 04
TP11 (0.00-0.21m)	Topsoil (Silt)	n/a	17 05 04
TP13 (0.00-0.64m)	Made Ground (Sand)	n/a	17 05 04
TP14 (0.15-0.60m)	Made Ground (Gravel)	n/a	17 05 04

6.3 Waste Acceptance Criteria Testing

Considering the materials waste code the results of the WAC testing have then been compared to landfill waste acceptance criteria. Table 7 below summarises the type of waste management facility which may be able to receive the soil represented by each sample.

Table 7: Summary of Waste Classification

Sample Reference	Geology (Principal Constituent)	Landfill Waste Acceptance Criteria Specification – Exceedances	Disposal Facility
TP01 (0.23-0.42m)	Made Ground (Gravel)	None	Inert Waste
TP02 (0.21-0.63m)	Made Ground (Gravel)	Mineral Oil(C10-C40)	Stable Non-Reactive Hazardous
TP05 (0.00-0.66m)	Made Ground (Sand)	PAHs	Non-Hazardous
TP07 (0.08-0.32m)	Made Ground (Sand)	None	Inert Waste
TP07 (0.47-0.74m)	Tidal Flat Deposits (Peat)	Total Organic Carbon, Selenium, Sulphate	Non-Hazardous
TP09 (0.00-0.39m)	Topsoil (Sand)	None	Inert Waste
TP11 (0.00-0.21m)	Topsoil (Silt)	Total Organic Carbon	Non-Hazardous
TP13 (0.00-0.64m)	Made Ground (Sand)	None	Inert Waste
TP14 (0.15-0.60m)	Made Ground (Gravel)	Total Organic Carbon	Non-Hazardous

Figure 1 – Site Location Plan



Notes:

Key:



Drawing:
Site Location Plan

Client:
Borough of Poole

Project:	Project No:
Poole Park Minature Railway	18-96795
Whitecliff Road	Figure No:
Poole	1
BH15 2SF	Revision:

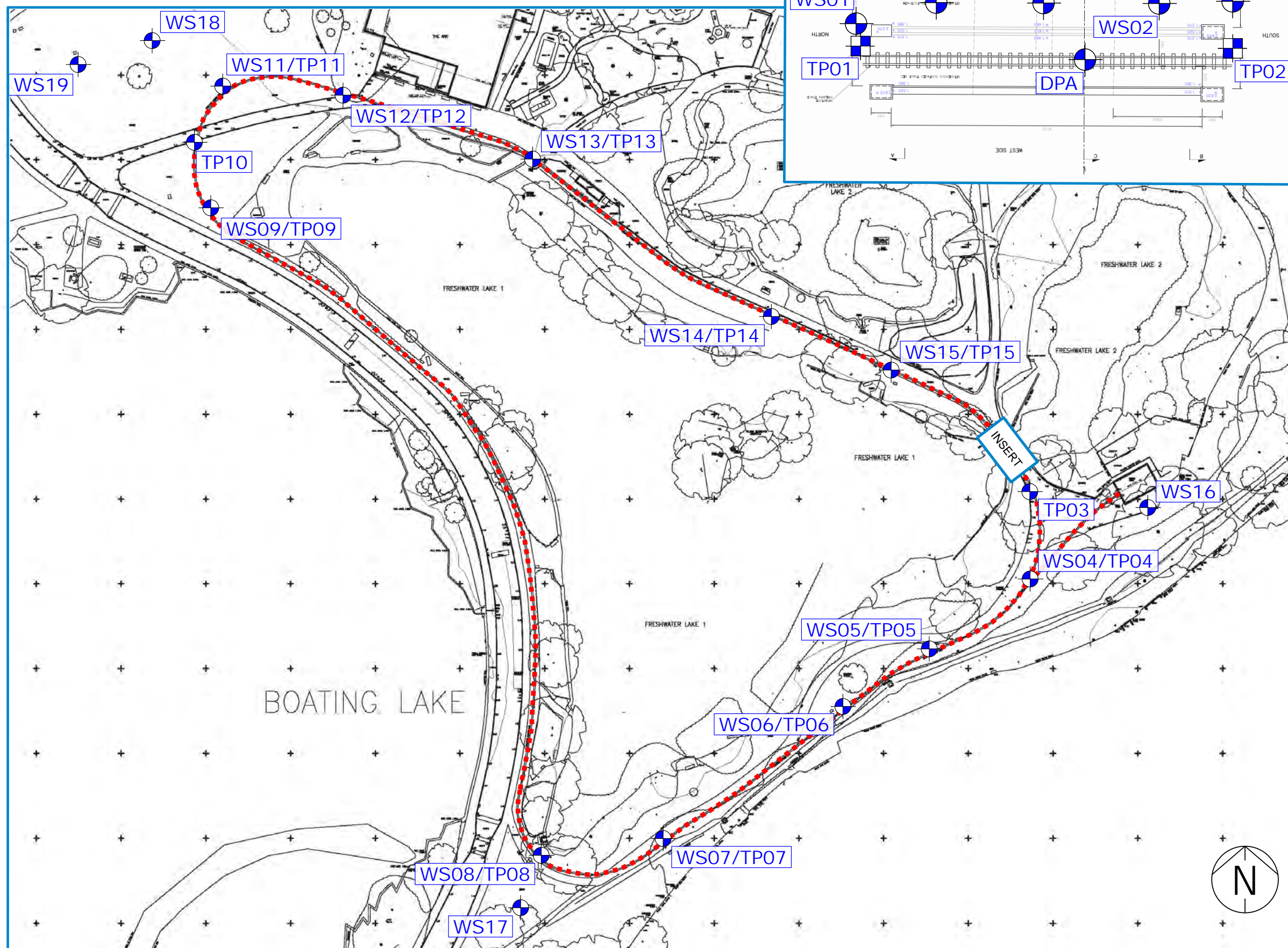
Drawn By:	Date:
DR	2.11.18

Checked By:	Date:
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

Figure 2 – Exploratory Hole Location Plan



Notes:

Exploratory hole locations are approximate and have not been surveyed

DO NOT SCALE

- Key:
-  - Exploratory Hole Location
 -  - Miniature Railway

Drawing:
Exploratory Hole Location Plan

Client:
Borough of Poole

Project:	Project No:
Poole Park Miniature Railway	18-96795
Whitecliff Road	Figure No:
Poole	02
BH15 2SF	Revision:
	02 (14/11/18)

Drawn By:	Date:
AJE	11/10/18

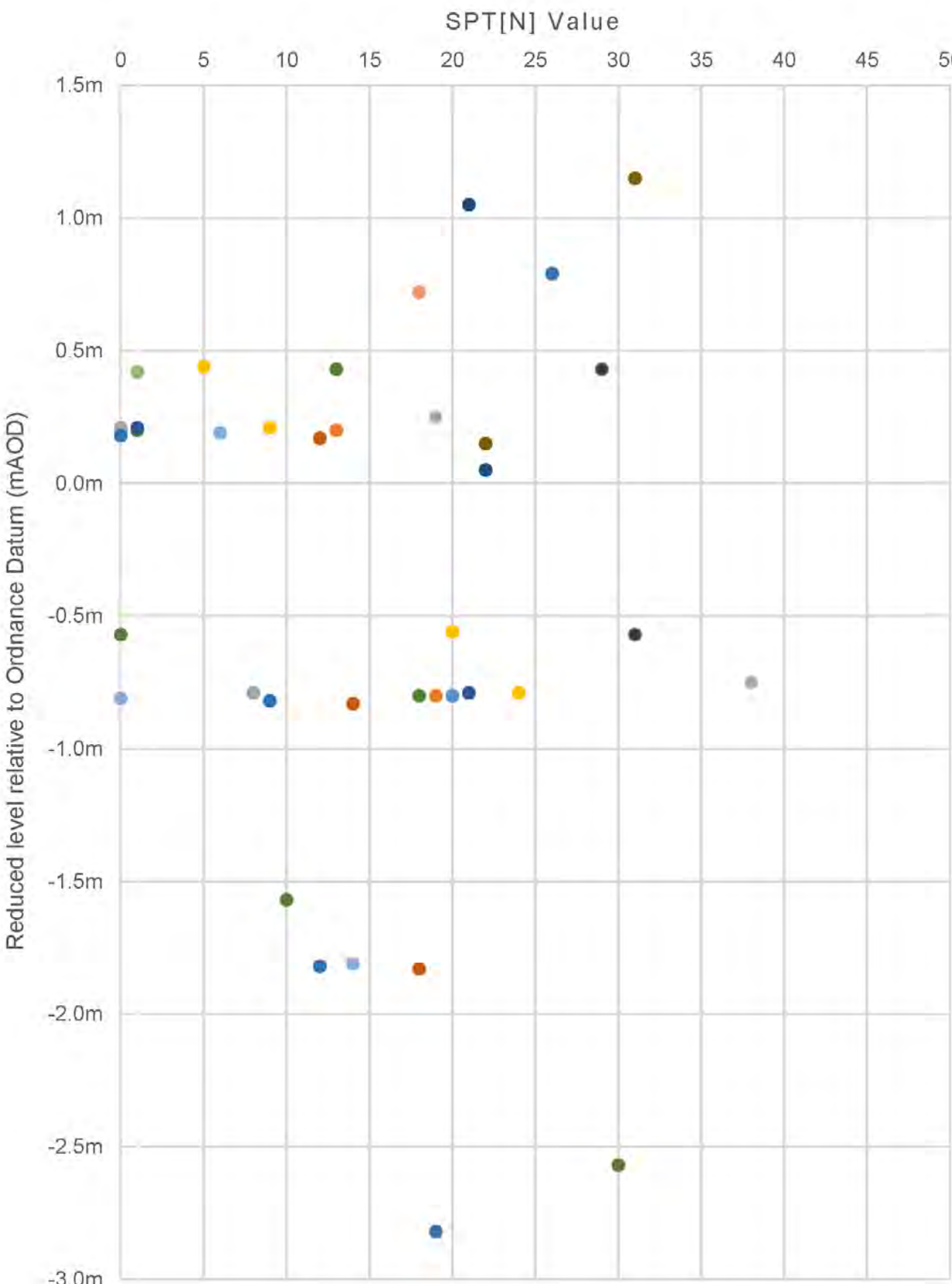
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Figure 3 – Standard Penetration Results vs Depth

Notes:



Key:

- | | |
|--|--|
|  WS01 |  WS11 |
|  WS02 |  WS12 |
|  WS03 |  WS13 |
|  WS04 |  WS14 |
|  WS05 |  WS15 |
|  WS06 |  WS16 |
|  WS07 |  WS17 |
|  WS08 |  WS18 |
|  WS09 |  WS19 |

Drawing:
Standard Penetration Results vs Depth

Client:
Borough of Poole

Project:	Project No:
Poole Park Miniature Railway	18-96795
Whitecliff Road	Figure No:
Poole	03
BH15 2SF	Revision:

Drawn By: AJE Date: 14/11/18


Checked By:	Date:
BG	14/11/18



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APPENDIX A

Exploratory Hole Logs



ACS Testing Ltd
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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

DPA

Sheet 1 of 1

Client: Borough of Poole

Contract: Poole Park Miniature Railway

Location: Poole Park, Poole, BH15 2SF

Lab. Ref: 18-96795

Drilling Equipment: Dando Terrier Mk1 Tracked Dynamic Percission Rig

Hole Type: WLS+DP

Scale: 1:25

Logged By: DW

Ground Level (mAOD): 1.20

Co-ords: DNS

Date(s): 05/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run	
								Depth	Type	Results		
1	Light greyish brown CONCRETE with 8mm rebar. Aggregate is fine to coarse (7-29mm) angular to sub-rounded of flint.	0.14 (1.06)									Core	
	Dark grey pre-cast CONCRETE with 8mm rebar. Aggregate is fine to coarse (4-28mm) angular to sub-rounded. Void and water.	0.24 (0.96)									Depth to water level	
												Water
2	Dark grey very sandy organic SILT. Sample not recovered.	1.20 (0.00)									Pond Bed	
	Light greyish brown Concrete with 10mm rebar. Aggregate is fine to coarse (3-39mm) angular to sub-rounded of flint.	1.40 (-0.20)									Core	
	Light grey clayey fine to coarse grained SAND. (Poole Formation)	1.55 (-0.35)										
3	End of Borehole at 2.300m	2.30 (-1.10)										
4		2.30m	1									
		2.40m	1									
		2.50m	1									
		2.60m	4									
		2.70m	6									
		2.80m	7									
		2.90m	8									
		3.00m	6									
		3.10m	6									
		3.20m	7									
5		3.30m	6									
		3.40m	5									
		3.50m	3									
		3.60m	4									
		3.70m	2									
		3.80m	2									
		3.90m	5									
		4.00m	6									
		4.10m	7									
		4.20m	7									
		4.30m	6									
		4.40m	5									
		4.50m	6									
		4.60m	6									
		4.70m	6									
		4.80m	3									
		4.90m	3									

General Remarks:

Groundwater Observations:

1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574
2.

Date: 05-10-2018


Strike: 0.80m

Casing:

Time Elapsed: 0mins

Standing: 0.00m

Remarks: Depth to water from bridge deck = 0.80m



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

DPB

Sheet 1 of 1

Client: Borough of Poole

Contract: Poole Park Miniature Railway

Location: Poole Park, Poole, BH15 2SF

Lab. Ref: 18-96795

Drilling Equipment:

Ground Level (mAOD): 1.20

Co-ords: Not Surveyed

Date(s): 05/10/2018


Hole Type


WLS

Scale

1:25

Logged By

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run												
								Depth	Type	Results													
<div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div>	BOUND MACADAM. Light greyish brown CONCRETE and 8mm rebar. Aggregate is fine to coarse (2-38mm) angular to sub-rounded of flint.	0.04 (1.16)	(0.49)								Core												
	MADE GROUND. Light brown angular to sub-angular COBBLES and BOULDERS of limestone and concrete.	0.17 (1.03)									Hardcore fill												
	Light greyish brown CONCRETE. Aggregate is fine to coarse (2-28mm) angular to sub-rounded of flint.	0.66 (0.54)									Core												
	End of Borehole at 0.870m	0.87 (0.33)																					
	<div>Remarks:</div> <div>Coring terminated at 0.87mbgl due to concrete obstruction.</div>																						
<div>Groundwater Observations:</div> <table> <tr> <th>Date</th> <th>Strike</th> <th>Casing</th> <th>Time Elapsed</th> <th>Standing</th> <th>Remarks</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								Date	Strike	Casing	Time Elapsed	Standing	Remarks							<div>Technical Notes (where applicable):</div> <div>Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material based on in situ SPT N-values. Chalk descriptions in accordance with CIRIA C574</div>			
Date	Strike	Casing	Time Elapsed	Standing	Remarks																		

 <div> ACS Testing Ltd Tel: 01202 622858 Fax: 01202 625045 Email: testing@acstesting.co.uk www.acstesting.co.uk </div>				<div>BOREHOLE LOG</div> <div>WINDOWLESS SAMPLING</div>				Borehole No. WS02A Sheet 1 of 1	
Client: Borough of Poole				Lab. Ref: 18-96795				Hole Type WLS	
Contract: Poole Park Miniature Railway				Drilling Equipment: Dando Terrier Mk1 Tracked Dynamic Percussion Rig				Scale 1:25	
Location: Poole Park, Poole, BH15 2SF								Logged By DW	
Ground Level (mAOD): 1.20		Co-ords: Not Surveyed		Date(s): 02/10/2018					

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
	BOUND MACADAM. CONCRETE.	0.04 (1.16)									Core
	MADE GROUND. Light greyish brown slightly sandy cobbly fine to coarse sub-angular to sub-rounded GRAVEL of flint and concrete. Cobbles comprise sub-angular to sub-rounded concrete.	0.17 (1.03)	(0.50)								(117mm dia) Rec=100%
	End of Borehole at 0.670m	0.67 (0.53)									
1											
2											
3											
4											
5											

Remarks: Sampling terminated at 0.67mbgl due to concrete sub-slab.				Groundwater Observations:					
				Date	Strike	Casing	Time Elapsed	Standing	Remarks

Technical Notes (where applicable):
Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material based on in situ SPT N-values. Chalk descriptions in accordance with CIRIA C574



Borehole No.

Sheet 1 of 1

Lab. Ref: 18-96795

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale

1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.20

Co-ords: DNS

Date(s): 02/10/2018

<p>General Remarks:</p> <p>1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574</p> <p>2. No sample recovery between 2.00-3.00m due to saturated material. Dynamic probe testing undertaken from 3.00mbgl.</p>	Groundwater Observations:					
	Date	Strike	Casing	Time Elapsed	Standing	Remarks
	02-10-2018	1.00m	1.00m	20mins	1.00m	



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TRIAL PIT LOG

Trial Pit No.

TP01

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.65 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.20	Co-ords:	DNS			Date(s)	01/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	BOUND MACADAM.								
	MADE GROUND. Light brown very gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint and clinker.	0.12 (1.08)				0.12 (D)			
	MADE GROUND. Greyish brown slightly sandy cobbly fine to coarse sub-angular to sub-rounded GRAVEL of flint, brick and concrete. Clasts comprise sub-angular to sub-rounded flint brick and concrete.	0.23 (0.97)				0.23 (B)			
	Dark grey mottled dark brown slightly sandy pseudo-fibrous PEAT. Moderate organic odour noted. (Tidal Flat Deposits)	0.42 (0.78)				0.42 (D)			
	Light grey mottled dark grey silty fine to coarse SAND. (Tidal Flat Deposits)	0.65 (0.55)				0.65 (D)			
1	End of Trial Pit at 1.000m	1.00 (0.20)	(0.35)			1.00			
2									

Remarks: Base of concrete bridge deck measured at 0.30mbgl on southern face of trial pit. Trial pit was excavated beside narrow gauge railway. The track is bedded on granular made ground and partially covered with macadam.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Not encountered



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TRIAL PIT LOG

Trial Pit No.

TP02

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.70 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.21	Co-ords:	DNS			Date(s)	01/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	BOUND MACADAM.								
	MADE GROUND. Light brown very gravelly fine to coarse SAND, Gravel is fine to coarse sub-angular to sub-rounded of flint and concrete. Frequent rootlets and rare sub-angular to sub-rounded flint and concrete cobbles.	0.09 (1.12)				0.09			
	MADE GROUND. Light greyish brown slightly sandy cobbly fine to coarse sub-angular to sub-rounded GRAVEL of flint, brick and concrete. Cobbles comprise sub-angular to sub-rounded flint, brick and concrete.	0.21 (1.00)	(0.42)			0.21			
	Dark grey mottled dark brown slightly sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	0.63 (0.58)	(0.37)			0.63			
1	End of Trial Pit at 1.000m	1.00 (0.21)				1.00			
2									

Remarks: Base of concrete bridge deck measured at 0.40mbgl. on northern face of trial pit. Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground and partially covered with macadam.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Seepage from western face of trial pit. Slow flow rate.



Borehole No.

Sheet 1 of 1

Lab. Ref: 18-96795

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale

1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.20

Co-ords: DNS

Date(s): 02/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
	Refer to TP01 Log.		(1.00)								TP01
1	Light grey mottled dark grey silty fine to coarse SAND. (Tidal Flat Deposits) Very soft grey peaty CLAY. Weak organic odour. (Tidal Flat Deposits)	1.00 (0.20) 1.04 (0.16)	(0.35)					1.00	SPT(C)	N=0 (0,0/0,0,0,0)	
	Dark greyish brown slightly sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	1.39 (-0.19)	(0.61)								(87mm dia) Rec=100%
2	Medium dense light grey fine to coarse SAND. (Poole Formation)	2.00 (-0.80)	(0.38)					2.00	SPT(C)	N=20 (0,1/4,5,6,5)	
	Medium dense light greyish brown very gravelly fine to coarse SAND. Gravel is fine sub-angular to rounded of flint. (Poole Formation)	2.38 (-1.18)									
	Light grey silty fine to coarse SAND. (Poole Formation) <u>Firm grey very sandy SILT.</u>	2.49 (-1.29)	(0.51)								(87mm dia) Rec=71%
3	End of Borehole at 3.000m	3.00 (-1.80)									
			Dynamic Probe (DPSH-B)	3.00m	8						
				3.10m	7						
				3.20m	6						
				3.30m	6						
				3.40m	6						
				3.50m	5						
				3.60m	6						
				3.70m	4						
				3.80m	4						
				3.90m	4						
				4.00m	7						
				4.10m	6						
				4.20m	7						
				4.30m	8						
				4.40m	8						
				4.50m	9						
				4.60m	8						
			4.70m	8							
			4.80m	7							
			4.90m	11							
				Depth (m)	Blows	Blows/100mm					
General Remarks:				Groundwater Observations:							
1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 3.00mbgl due to running sands. Dynamic probe testing undertaken from 3.00mbgl.				Date	Strike	Casing	Time Elapsed	Standing	Remarks		
				02-10-2018	2.00m	2.00m	20mins	2.00m			



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TRIAL PIT LOG

Trial Pit No.

TP03

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.60 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.19	Co-ords:	DNS			Date(s)	01/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	BOUND MACADAM.								
	MADE GROUND. Light brown very gravelly fine to coarse grained SAND. Gravel is fine to coarse angular to sub-rounded of flint. Frequent rootlets and rare sub-angular to sub-rounded flint brick and concrete cobbles.	0.16 (1.03)				0.16 (D)			
	BOUND MACADAM.	0.40 (0.79)				0.40 (D)			
	MADE GROUND. Greyish brown slightly gravelly silty fine to coarse grained SAND. Gravel is fine to medium sub-angular to rounded of flint. Occasional ceramic pipe fragments.	0.42 (0.77)	(0.45)			0.42 (D)			
	Dark grey mottled dark brown slightly sandy pseudo-fibrous PEAT. (Tidal Flat Deposits)	0.87 (0.32)				0.87 (D)			
1	End of Trial Pit at 1.000m	1.00 (0.19)				1.00 (D)			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into macadam.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Seepage from western face of trial pit. Slow flow rate.



Borehole No.
WS03
Sheet 1 of 1

Lab. Ref: **18-96795**

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Date(s): 02/10/2018

Logged By
DW

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
	Refer to TP02 Log.		(1.00)								TP02
1	Dark brown mottled dark grey slightly sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	1.00 (0.21)						1.00	SPT(C)	N=0 (0,0/0,0,0,0)	
	Light grey fine to coarse SAND. (Poole Formation)	1.29 (-0.08)									(87mm dia) Rec=44%
2			(1.71)					2.00	SPT(C)	N=8 (1,2/3,2,2,1)	(87mm dia) Rec=10%
3	End of Borehole at 3.000m	3.00 (-1.79)									
4			Dynamic Probe (DPSH-B)	3.00m	0						
				3.10m	2						
				3.20m	2						
				3.30m	3						
				3.40m	3						
				3.50m	5						
				3.60m	5						
				3.70m	5						
				3.80m	6						
				3.90m	4						
				4.00m	5						
				4.10m	5						
				4.20m	6						
				4.30m	7						
				4.40m	7						
				4.50m	7						
				4.60m	9						
				4.70m	5						
			4.80m	25							
5			4.90m	50							
				Depth (m)	Blows					Blows/100mm	

Groundwater Observations:

Date	Strike	Casing	Time Elapsed	Standing	Remarks
02-10-2018	1.03m	3.00m	20mins	1.00m	



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TRIAL PIT LOG

Trial Pit No.

TP04

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.65 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.21	Co-ords:	DNS			Date(s)	01/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	MADE GROUND. Dark brown gravelly silty fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint.		(0.57)			0.09 (B)			
	Dark brown slightly sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	0.57 (0.64)	(0.43)			0.57 (D)			
1	End of Trial Pit at 1.000m	1.00 (0.21)				1.00			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. Bound macadam was recorded between 0.00-0.09mbgl on northern face of trial pit. The track is bedded into granular made ground.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Not encountered.



Borehole No.

Sheet 1 of 1

Lab. Ref: 18-96795

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic Percussion Rig

Scale

1:25

Location: Poole Park, Poole, BH15 2SF


Logged By
DW

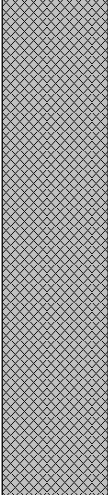
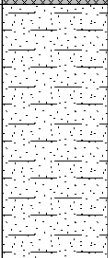
Ground Level (mAOD): 1.21

Co-ords: DNS

Date(s): 01/10/2018

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 <div> ACS Testing Ltd Tel: 01202 622858 Fax: 01202 625045 Email: testing@acstesting.co.uk www.acstesting.co.uk </div>				TRIAL PIT LOG			Trial Pit No. TP05 Sheet 1 of 1		
Client Borough of Poole		Depth (m): 1.00	Dimensions (m): 0.60 0.45	Lab Ref. 18-96795		Hole Type TP			
Site Poole Park Miniature Railway				Plant Used: 2t Tracked Mini Excavator		Scale 1:10			
Location Poole Park, Poole, BH15 2SF						Logged By DW			
Ground Level (mAOD): 1.18		Co-ords: DNS		Date(s) 01/10/2018					

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
1	MADE GROUND. Dark brown slightly gravelly silty fine SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint and brick. Rare roots and rootlets noted.		(0.66)			0.00 (D)			
	Light grey mottled light orange clayey fine SAND. (Poole Formation)	0.66 (0.52)	(0.34)			0.66 (D)			
	End of Trial Pit at 1.000m	1.00 (0.18)				1.00			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground.					Pit Stability: Stable				
Technical Notes (where applicable): Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.					Groundwater: Not encountered				



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS05

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.18

Co-ords: Not Surveyed

Date(s): 01/10/2018


All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
	Refer to TP05 Log.		(1.00)								TP05
1	Loose brownish grey slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)	1.00 (0.18)	(0.37)					1.00	SPT(C)	N=0 (0,0/0,0,0,0)	
	Brownish grey slightly sandy clayey pseudo-fibrous PEAT. Weak organic odour. (Tidal Flat Deposits)	1.37 (-0.19)	(0.57)								(87mm dia) Rec=86%
2	Light grey slightly gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Poole Formation)	1.94 (-0.76)						2.00	SPT(C)	N=9 (0,2/2,2,3,2)	
	Soft light grey very sandy SILT. Frequent rootlets. (Poole Formation)	2.09 (-0.91)	(0.34)								
	Medium dense light grey fine to coarse SAND. (Poole Formation)	2.43 (-1.25)	(0.81)					3.00	SPT(C)	N=12 (1,0/0,3,4,5)	(87mm dia) Rec=62%
3	Soft to firm very sandy SILT. (Poole Formation)	3.24 (-2.06)	(0.37)								
	Light grey silty fine to coarse SAND. (Poole Formation)	3.61 (-2.43)	(0.39)					4.00	SPT(C)	N=19 (2,2/3,6,6,4)	(87mm dia) Rec=59%
4	End of Borehole at 4.000m	4.00 (-2.82)									
5											

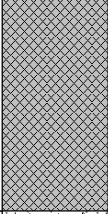
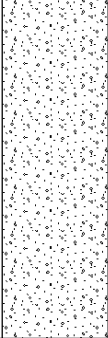

Remarks:

Groundwater Observations:

Date	Strike	Casing	Time Elapsed	Standing	Remarks
01-10-2018	0.62m	0.00m	20mins	0.61m	

Technical Notes (where applicable):
Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material based on in situ SPT N-values. Chalk descriptions in accordance with CIRIA C574

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Client Borough of Poole		Depth (m): 1.00	Dimensions (m): 0.60 0.45	Lab Ref. 18-96795		Hole Type TP			
Site Poole Park Miniature Railway				Plant Used: 2t Tracked Mini Excavator		Scale 1:10			
Location Poole Park, Poole, BH15 2SF						Logged By DW			
Ground Level (mAOD): 1.20		Co-ords: DNS		Date(s) 02/10/2018					

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
1	MADE GROUND. Greyish brown gravelly fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint and clinker.					0.00 (D) 0.28			
	Light brown mottled greyish brown slightly gravelly silty fine to coarse SAND. Gravel is fine to medium angular to sub-rounded of flint. (Tidal Flat Deposits)	0.28 (0.92)	(0.45)			0.28 (D) 0.73			
	Greyish brown mottled dark grey sandy pseudo-fibrous PEAT. Weak organic odour. (Tidal Flat Deposits)	0.73 (0.47)				0.73 (D) 1.00			
	End of Trial Pit at 1.000m	1.00 (0.20)							
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground.					Pit Stability: Stable				
Technical Notes (where applicable): Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.					Groundwater: Not encountered				



Borehole No.

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.20

Co-ords: DNS

Date(s): 03/10/2018

General Remarks: 1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 3.00mbgl due to running sands. Dynamic probe testing undertaken from 3.00mbgl.	Groundwater Observations:					
	Date	Strike	Casing	Time Elapsed	Standing	Remarks
	03-10-2018	1.00m	0.00m	20mins	0.98m	



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TRIAL PIT LOG

Trial Pit No.

TP07

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.70 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.21	Co-ords:	DNS			Date(s)	01/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	BOUND MACADAM.								
	MADE GROUND. Dark brown slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint and brick.	0.08 (1.13)				0.08 (D)			
	Light brown fine to coarse SAND. (Tidal Flat Deposits)	0.32 (0.89)				0.32 (D)			
	Dark brown mottled dark grey sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	0.47 (0.74)				0.47 (D)			
	Light grey mottled dark grey clayey fine to coarse SAND. (Tidal Flat Deposits)	0.74 (0.47)				0.74 (D)			
	Dark brown mottled dark grey sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	0.89 (0.32)				0.89 (D)			
1	End of Trial Pit at 1.000m	1.00 (0.21)				1.00			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground and partially covered with macadam.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Not encountered



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS07

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF


Logged By
DW

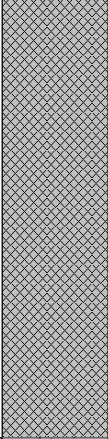
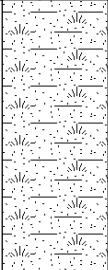
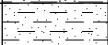
Ground Level (mAOD): 1.21

Co-ords: DNS

Date(s): 03/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
1	Refer to TP07 Log.		(1.00)								TP07
	Dark brown mottled dark grey sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	1.00 (0.21)	(0.32)					1.00	SPT(C)	N=1 (0,0/0,0,0,1)	(87mm dia) Rec=81%
	Light greyish brown peaty fine to coarse SAND. (Tidal Flat Deposits)	1.32 (-0.11)									
	Medium dense light grey fine to coarse SAND. (Poole Formation)	1.47 (-0.26)									
2			(1.53)					2.00	SPT(C)	N=21 (4,6/4,5,5,7)	(87mm dia) Rec=53%
3	End of Borehole at 3.000m	3.00 (-1.79)									
4			Dynamic Probe (DPSH-B)	3.00m	1						
				3.10m	4						
				3.20m	10						
				3.30m	12						
				3.40m	12						
				3.50m	17						
				3.60m	25						
				3.70m	37						
				3.80m	36						
				3.90m	35						
5											
				Depth (m)	Blows	Blows/100mm					
General Remarks:					Groundwater Observations:						
1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 3.00mbgl due to running sands. Dynamic probe testing undertaken from 3.00mbgl.					Date	Strike	Casing	Time Elapsed	Standing	Remarks	
					03-10-2018	1.91m	2.00m	20mins	1.57m		

 <div> ACS Testing Ltd Tel: 01202 622858 Fax: 01202 625045 Email: testing@acstesting.co.uk www.acstesting.co.uk </div>				TRIAL PIT LOG			Trial Pit No. TP08 Sheet 1 of 1		
Client Borough of Poole		Depth (m): 1.00	Dimensions (m): 0.65 0.45	Lab Ref. 18-96795		Hole Type TP			
Site Poole Park Miniature Railway				Plant Used: 2t Tracked Mini Excavator		Scale 1:10			
Location Poole Park, Poole, BH15 2SF						Logged By DW			
Ground Level (mAOD): 1.17		Co-ords: DNS		Date(s) 01/10/2018					

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
1	MADE GROUND. Dark greyish brown slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint and concrete.	0.58 (0.59)	(0.58)			0.29 (D)			
	Brownish grey clayey organic fine to coarse SAND. (Tidal Flat Deposits)		(0.36)			0.58 (D)			
	Soft light grey mottled dark grey slightly sandy CLAY. (Poole Formation)		0.94 (0.23)			0.94 (D) (D)			
	End of Trial Pit at 1.000m	1.00 (0.17)				1.00			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. Kerbstone recorded on southern face of trial pit between 0.05-0.29mbgl. The track is bedded into granular made ground.						Pit Stability: Stable			
Technical Notes (where applicable): Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.						Groundwater: Not encountered			



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS08

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.17

Co-ords: DNS

Date(s): 03/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
1	Refer to TP08 Log.		(1.00)								TP08
	Soft dark grey slightly gravelly sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of flint. Occasional roots and rootlets. (Tidal Flat Deposits)	1.00 (0.17)						1.00	SPT(C)	N=12 (0,0/2,3,3,4)	(87mm dia) Rec=81%
	Dark brown sandy pseudo-fibrous PEAT.	1.21 (-0.04)	(0.48)								
	Soft grey very sandy SILT. (Tidal Flat Deposits)										
	Medium dense grey fine to coarse SAND. (Tidal Flat Deposits)	1.69 (-0.52)	(0.37)								
	Dark brown sandy pseudo-fibrous PEAT. Weak organic odour. (Tidal Flat Deposits)	2.06 (-0.89)	(0.36)					2.00	SPT(C)	N=14 (0,0/2,4,4,4)	(87mm dia) Rec=75%
Light grey mottled dark grey fine to coarse SAND. (Poole Formation)	2.42 (-1.25)	(0.58)									
3	End of Borehole at 3.000m	3.00 (-1.83)						3.00	SPT(C)	N=18 (1,1/2,5,5,6)	
4			Dynamic Probe (DP-SH-B)	3.00m	2						
				3.10m	4						
				3.20m	7						
				3.30m	5						
				3.40m	3						
				3.50m	2						
				3.60m	3						
				3.70m	3						
				3.80m	6						
				3.90m	12						
				4.00m	17						
				4.10m	21						
				4.20m	24						
				4.30m	23						
				4.40m	19						
5				4.50m	15						
				4.60m	13						
				4.70m	12						
				4.80m	9						
				4.90m	8						
				Depth (m)	Blows	Blows/100mm					

General Remarks:

- Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574
- Sampling terminated at 3.00mbgl due to running sands. Dynamic probe testing undertaken from 3.00mbgl.

Groundwater Observations:

Date	Strike	Casing	Time Elapsed	Standing	Remarks
03-10-2018	1.00m	2.00m	20mins	0.87m	



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TRIAL PIT LOG

Trial Pit No.

TP09

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.65 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.43	Co-ords:	DNS			Date(s)	02/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	TOPSOIL. Dark brown slightly gravelly silty organic fine SAND. Gravel is fine to coarse angular to sub-rounded of flint. Frequent rootlets.		(0.39)			0.00 (D) 0.39			
	Multicoloured greyish brown, orange and dark grey silty fine SAND. (Tidal Flat Deposits)	0.39 (1.04)	(0.34)			0.39 (D) 0.73			
	Light brownish grey very sandy pseudo-fibrous PEAT. Weak organic odour. (Tidal Flat Deposits)	0.73 (0.70)			▼	0.73 (B) 1.00			
1	End of Trial Pit at 1.000m	1.00 (0.43)							
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular topsoil.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Seepage from southern face of trial pit. Slow flow rate



Borehole No.

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.43

Co-ords: DNS

Date(s): 04/10/2018

General Remarks:		Groundwater Observations:					
1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 3.00mbgl due to running sands. Dynamic probe testing undertaken from 3.00mbgl.		Date	Strike	Casing	Time Elapsed	Standing	Remarks
		04-10-2018	0.60m	0.00m	20mins	0.54m	



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TRIAL PIT LOG

Trial Pit No.

TP10

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.65 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.54	Co-ords:	DNS			Date(s)	02/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
1	BOUND MACADAM.								
	MADE GROUND. Dark greyish brown very sandy fine to medium sub-angular to sub-rounded GRAVEL of flint and limestone.	0.07 (1.47)				0.07 (D)			
	Multicoloured greyish brown, orange and dark grey silty fine SAND. Occasional pockets of firm greyish brown very sandy silt. (Tidal Flat Deposits)	0.21 (1.33)				0.21 (D)			
	Dark grey silty fine to coarse SAND. (Tidal Flat Deposits)	0.38 (1.16)	(0.43)			0.38 (B)			
	Firm light grey mottled orange slightly gravelly sandy SILT. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Poole Formation)	0.81 (0.73)				0.81 (D)			
	End of Trial Pit at 1.000m	1.00 (0.54)				1.00			
2									


Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground and partially covered with macadam.


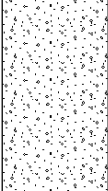
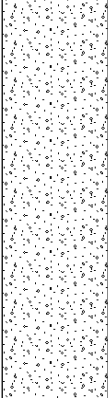

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Not encountered

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Client Borough of Poole		Depth (m): 1.00	Dimensions (m): 0.65 0.45	Lab Ref. 18-96795		Hole Type TP			
Site Poole Park Miniature Railway				Plant Used: 2t Tracked Mini Excavator		Scale 1:10			
Location Poole Park, Poole, BH15 2SF						Logged By DW			
Ground Level (mAOD): 1.97		Co-ords: DNS		Date(s) 02/10/2018					

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	TOPSOIL. Soft dark brown mottled dark grey slightly gravelly sandy SILT. Gravel is fine to coarse sub-angular to sub-rounded of flint. Frequent rootlets.					0.00 (D)			
	Dark grey slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)	0.21 (1.76)				0.21 (D)			
	Greyish brown gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)	0.47 (1.50)	(0.53)			0.47 (B)			
1	End of Trial Pit at 1.000m	1.00 (0.97)				1.00			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into topsoil.		Pit Stability: Stable
Technical Notes (where applicable): Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.		Groundwater: Seepage from south-eastern face of trial pit. Fast flow rate.



Borehole No.

Sheet 1 of 1

Lab. Ref: 18-97184

Drilling Equipment:
Dando Terrier Mk2 Tracked Dynamic
Perussion Rig

Scale

1:25

Logged By
DW

Co-ords: DNS

Date(s): 18/10/2018

[illegible]



Trial Pit No.

TP12

Sheet 1 of 1

Client	Borough of Poole		Depth (m): 1.00	Dimensions (m): 0.45 <input type="text" value="0.65"/>	Lab Ref.	18-96795	Hole Type TP
Site	Poole Park Miniature Railway				Plant Used:	2t Tracked Mini Excavator	Scale 1:10
Location	Poole Park, Poole, BH15 2SF						Logged By DW
Ground Level (mAOD):	2.15	Co-ords:	DNS		Date(s)	02/10/2018	

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular topsoil.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Not encountered



Borehole No.
WS12
Sheet 1 of 1

Lab. Ref: 18-96795


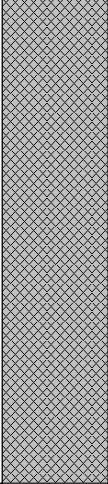
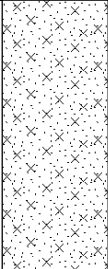
Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Date(s): 04/10/2018

Logged By
DW

General Remarks: 1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 3.00mbgl due to running sands. Dynamic Probe testing undertaken from 3.00mbgl.	Groundwater Observations:					
	Date	Strike	Casing	Time Elapsed	Standing	Remarks
	04-10-2018	1.44m	2.00m	20mins	1.12m	

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Client Borough of Poole		Depth (m): 1.00	Dimensions (m): 0.65 0.45	Lab Ref. 18-96795		Hole Type TP			
Site Poole Park Miniature Railway				Plant Used: 2t Tracked Mini Excavator		Scale 1:10			
Location Poole Park, Poole, BH15 2SF						Logged By DW			
Ground Level (mAOD): 2.05		Co-ords: DNS		Date(s) 02/10/2018					
All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
1	MADE GROUND. Multicoloured dark grey, dark brown and orange very gravelly fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint and brick. Occasional angular to sub-angular limestone boulders and rootlets.	0.64 (1.41)	(0.64)			0.00 (D) 0.64			
	Light greyish brown mottled dark grey silty fine SAND. (Tidal Flat Deposits)		(0.36)			0.64 (B) 1.00			
	End of Trial Pit at 1.000m	1.00 (1.05)							
2									
Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground.						Pit Stability: Stable			
Technical Notes (where applicable): Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.						Groundwater: Not encountered			



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS13

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 2.05

Co-ords: DNS

Date(s): 04/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run			
								Depth	Type	Results				
	Refer to TP13 Log.		(1.00)								TP13			
1	Medium dense greyish brown mottled dark grey slightly gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)	1.00 (1.05)	(0.78)					1.00	SPT(C)	N=21 (1,3/4,5,6,6)	(87mm dia) Rec=99%			
	Medium dense light grey fine to coarse SAND. (Poole Formation)	1.78 (0.27)												
2	End of Borehole at 2.000m	2.00 (0.05)						2.00	SPT(C)	N=22 (1,2/4,6,6,6)				
3			Dynamic Probe (DPST+H)	2.00m	0									
				2.10m	0									
				2.20m	1									
				2.30m	0									
				2.40m	1									
				2.50m	2									
				2.60m	4									
				2.70m	3									
				2.80m	4									
				2.90m	10									
				3.00m	12									
				3.10m	10									
				3.20m	9									
				3.30m	8									
				3.40m	9									
				3.50m	8									
				3.60m	6									
				3.70m	9									
				3.80m	7									
4				3.90m	8									
				4.00m	8									
				4.10m	6									
				4.20m	5									
				4.30m	2									
				4.40m	1									
				4.50m	4									
				4.60m	12									
				4.70m	11									
				4.80m	10									
5														
				Depth (m)	Blows	Blows/100mm								

General Remarks:

- Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574
- Sampling terminated at 2.00mbgl due to running sands. Dynamic probe testing undertaken from 2.00mbgl.

Groundwater Observations:

Date	Strike	Casing	Time Elapsed	Standing	Remarks
04-10-2018	1.00m	0.00m	20mins	0.99m	



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TRIAL PIT LOG

Trial Pit No.

TP14

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.65 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Mini Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.43	Co-ords:	DNS			Date(s)	02/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
1	MADE GROUND. Orange very sandy fine to coarse sub-angular to rounded GRAVEL of flint.	0.03 (1.40)				0.03			
	MADE GROUND. Greyish brown slightly gravelly silty fine SAND. Gravel is fine to coarse angular to sub-rounded of flint.	0.15 (1.28)				0.15			
	MADE GROUND. Dark grey slightly sandy fine to medium angular to sub-rounded GRAVEL of flint and clinker. Frequent angular brick cobbles and occasional metal fragments.		(0.45)			(D)			
	Dark grey mottled dark brown sandy pseudo-fibrous PEAT. Weak organic odour. (Tidal Flat Deposits)	0.60 (0.83)				0.60			
	Light grey mottled dark grey silty fine to coarse SAND. (Poole Formation)	0.94 (0.49)				0.94 (B) (B)			
	End of Trial Pit at 1.000m	1.00 (0.43)				1.00			
2									

Remarks: Trial pit was excavated beside narrow gauge railway. The track is bedded into granular made ground.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater: Not encountered



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS14

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-96795

Hole Type
WLS

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk1 Tracked Dynamic
Percussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.43

Co-ords: Not Surveyed

Date(s): 04/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
	Refer to TP14 Log		(1.00)								TP14
1	Medium dense light greyish brown mottled dark grey silty fine SAND. (Tidal Flat Deposits)	1.00 (0.43)						1.00	SPT(C)	N=13 (0,0/0,3,5,5)	
	Dark grey mottled dark brown sandy pseudo-fibrous PEAT. Moderate organic odour. (Tidal Flat Deposits)	1.14 (0.29)									
	Loose to very loose light grey fine to coarse SAND. (Poole Formation)	1.33 (0.10)									(87mm dia) Rec=97%
2			(1.04)					2.00	SPT(C)	N=0 (0,0/0,0,0,0)	
	Very soft to soft light grey mottled brown very sandy organic SILT. Weak organic odour. (Poole Formation)	2.37 (-0.94)									(87mm dia) Rec=69%
3			(1.04)					3.00	SPT(C)	N=10 (2,1/1,2,2,5)	
	Medium dense light grey silty fine SAND. (Poole Formation)	3.41 (-1.98)									(87mm dia) Rec=91%
4			(0.59)					4.00	SPT(C)	N=30 (2,4/6,7,8,9)	
	End of Borehole at 4.000m	4.00 (-2.57)									
5											

Remarks:

Groundwater Observations:

Date	Strike	Casing	Time Elapsed	Standing	Remarks
04-10-2018	1.00m	0.00m	20mins	0.98m	

Technical Notes (where applicable):
Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material based on in situ SPT N-values. Chalk descriptions in accordance with CIRIA C574



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TRIAL PIT LOG

Trial Pit No.

TP15

Sheet 1 of 1

Client	Borough of Poole	Depth (m):	1.00	Dimensions (m):	0.65 0.45	Lab Ref.	18-96795	Hole Type	TP
Site	Poole Park Miniature Railway					Plant Used:	2t Tracked Miniature Excavator	Scale	1:10
Location	Poole Park, Poole, BH15 2SF							Logged By	DW
Ground Level (mAOD):	1.19	Co-ords:	DNS			Date(s)	02/10/2018		

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Sample (Type) Depth	Testing		
							Depth	Type	Results
	MADE GROUND. Brownish orange very sandy fine to coarse sub-angular to sub-rounded GRAVEL of flint.					0.03 (D)			
	MADE GROUND. Dark grey slightly sandy fine to medium angular to sub-rounded GRAVEL of flint, brick and clinker.	0.17 (1.02)				0.17 (D)			
	MADE GROUND. Orangish brown very sandy fine to coarse sub-angular to sub-rounded GRAVEL of flint.	0.35 (0.84)				0.35 (D)			
	Dark grey mottled brown slightly gravelly silty fine SAND. Gravel is fine to coarse angular to sub-rounded of flint. (Tidal Flat Deposits)	0.47 (0.72)				0.47 (D)			
	Light grey mottled dark grey silty fine to coarse SAND. (Poole Formation)	0.67 (0.52)				0.67 (B)			
1	End of Trial Pit at 1.000m	1.00 (0.19)	(0.33)			1.00			
2									


Remarks: Trial pit was excavated beside narrow gauge railway. Bound macadam was recorded between 0.00-0.03mbgl on western face of trial pit. The track is bedded into granular made ground.

Pit Stability: Stable

Technical Notes (where applicable):

Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Chalk descriptions in accordance with CIRIA C574.

Groundwater:

<div></div> <div>ACS Testing Ltd Tel: 01202 622858 Fax: 01202 625045 Email: testing@acstesting.co.uk www.acstesting.co.uk</div>				<div>BOREHOLE LOG</div> <div>WINDOWLESS SAMPLING</div>				<div>Borehole No.</div> <div>WS15</div> <div>Sheet 1 of 1</div>					
<div>Client:</div> <div>Borough of Poole</div>				<div>Lab. Ref:</div> <div>18-96795</div>				<div>Hole Type</div> <div>WLS+DP</div>					
<div>Contract:</div> <div>Poole Park Miniature Railway</div>				<div>Drilling Equipment:</div> <div>Dando Terrier Mk1 Tracked Dynamic Percussion Rig</div>				<div>Scale</div> <div>1:25</div>					
<div>Location:</div> <div>Poole Park, Poole, BH15 2SF</div>								<div>Logged By</div> <div>DW</div>					
<div>Ground Level (mAOD):</div> <div>1.19</div>		<div>Co-ords:</div> <div>DNS</div>		<div>Date(s):</div> <div>05/10/2018</div>									
<div>All units = (m)</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div>	<div>Stratum Description</div>		<div>Depth (Level)</div>	<div>Thickness</div>	<div>Legend</div>	<div>Water Strikes</div>	<div>Backfill</div>	<div>Sample (Type) Depth</div>	<div>In Situ Testing</div>			<div>Drill Run</div>	
									<div>Depth</div>	<div>Type</div>	<div>Results</div>		
	MADE GROUND. Dark brown slightly gravelly silty fine SAND. Gravel is fine to medium sub-angular to sub-rounded of flint. Frequent wood fragments.		0.12 (1.07)										
	MADE GROUND. Soft greyish brown slightly gravelly sandy SILT. Gravel is fine to medium sub-angular to sub-rounded of flint.		0.34 (0.85)										
	MADE GROUND. Greyish brown slightly sandy silty fine to coarse sub-angular to sub-rounded GRAVEL of flint and brick.			(0.43)									Hand Dug Pit
	Loose dark grey slightly gravelly silty fine to coarse SAND. Gravel is fine sub-angular to sub-rounded of flint. (Tidal Flat Deposits)		0.77 (0.42)							1.00	SPT(C)	N=6 (0,1/2,2,1,1)	
	Dark grey sandy pseudo-fibrous PEAT. Weak organic odour. (Tidal Flat Deposits)		1.09 (0.10)										
	Loose light grey mottled dark grey fine to coarse SAND. (Poole Formation)		1.36 (-0.17)										(87mm dia) Rec=95%
	Very soft to soft grey very sandy SILT. (Poole Formation)		1.72 (-0.53)							2.00	SPT(C)	N=0 (0,0/0,0,0,0)	
	Very soft to soft light grey very sandy SILT. (Poole Formation)		2.57 (-1.38)										(87mm dia) Rec=100%
	End of Borehole at 3.000m		3.00 (-1.81)							3.00	SPT(C)	N=14 (0,0/1,4,5,4)	
				</									



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS16

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-97184

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk2 Tracked Dynamic
Perussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.25

Co-ords: DNS

Date(s): 19/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
1	BOUND MACADAM.	0.06 (1.20)									Core
	MADE GROUND. Dark brown mottled dark grey very sandy fine to coarse angular to sub -rounded GRAVEL of flint, limestone and macadam.	0.09 (1.16)									
	MADE GROUND. Light brown gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to rounded of flint and clinker.	0.21 (1.04)									
	MADE GROUND. Dark grey mottled light brown very gravelly fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint and clinker. Rare pockets of firm light grey very sandy silt.	0.32 (0.93)									
	MADE GROUND. Dark grey mottled light brown very gravelly fine to coarse SAND. Gravel is fine to coarse angular to sub-rounded of flint and clinker. Rare pockets of firm light grey very sandy silt.	0.45 (0.80)									
	Dark greyish brown gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)		(0.63)								Hand Dug Pit
	Dark brownish grey gravelly organic fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)	1.08 (0.17)						1.00	SPT(C)	N=19 (3,4/3,5,6,5)	
2	Medium dense light grey gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Poole Formation)	1.37 (-0.12)									(87mm dia) Rec=95%
	Medium dense becoming dense light grey mottled light brown fine to coarse SAND. (Poole Formation)		(0.83)					2.00	SPT(C)	N=38 (1,4/4,9,9,16)	
3	End of Borehole at 2.200m										
		2.20 (-0.95)									
				2.20m	2						
				2.30m	2						
				2.40m	3						
				2.50m	8						
				2.60m	8						
				2.70m	6						
				2.80m	6						
				2.90m	5						
				3.00m	4						
				3.10m	5						
				3.20m	9						
				3.30m	8						
				3.40m	5						
				3.50m	6						
				3.60m	8						
				3.70m	5						
				3.80m	11						
				3.90m	11						
4											
5											
General Remarks:					Groundwater Observations:						
1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 2.00mbgl due to running sands. Base of final sand layer inferred from SPT results. Dynamic Probe testing undertaken from 2.20mbgl.					Date	Strike	Casing	Time Elapsed	Standing	Remarks	
					19-10-2018	1.30m	0.00m	20mins	0.48m	Groundwater strike inferred due to being struck during 1.00m SPT.	



Borehole No.

WS17

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-97184

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk2 Tracked Dynamic
Perussion Rig

Scale
1:25








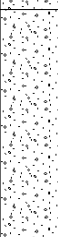








Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.44

Co-ords: DNS

Date(s): 18/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
1	MADE GROUND. Greyish brown gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint and clinker.	0.37 (1.07)	(0.37)					1.00	SPT(C)	N=5 (0,0/0,1,2,2)	Hand Dug Pit
	Loose dark brown mottled brownish grey gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Tidal Flat Deposits)	(0.96)									
	Dark brown sandy pseudo-fibrous PEAT. Firm dark grey very sandy organic SILT. Strong organic odour. (Tidal Flat Deposits)	1.33 (0.11)	(0.43)								
	Medium dense dark grey gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Poole Formation)	1.76 (-0.32)	(0.43)								
2	Medium dense light grey slightly gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Poole Formation)	2.19 (-0.75)	(0.81)					2.00	SPT(C)	N=20 (3,4/5,5,4,6)	(87mm dia) Rec=35%
3	End of Borehole at 3.000m	3.00 (-1.56)	Dynamic Probe (DPSH-B)	3.00m	0						
4		3.10m		0							
		3.20m		2							
		3.30m		4							
		3.40m		6							
		3.50m		6							
		3.60m		8							
		3.70m		6							
		3.80m		5							
		3.90m		6							
				Depth (m)	Blows	Blows/100mm					
General Remarks:					Groundwater Observations:						
1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 3.00mbgl due to running sands. Dynamic Probe testing undertaken from 3.00mbgl.					Date	Strike	Casing	Time Elapsed	Standing	Remarks	
					18-10-2018	1.72m	2.00m	20mins	1.05m		



Borehole No.

Sheet 1 of 1

Lab. Ref: 18-97184

Drilling Equipment:
Dando Terrier Mk2 Tracked Dynamic
Perussion Rig

Scale

1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.79

Co-ords: DNS

Date(s): 18/10/2018

[illegible]



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BOREHOLE LOG

WINDOWLESS SAMPLING

Borehole No.

WS19

Sheet 1 of 1

Client: Borough of Poole

Lab. Ref: 18-97184

Hole Type
WLS+DP

Contract: Poole Park Miniature Railway

Drilling Equipment:
Dando Terrier Mk2 Tracked Dynamic
Perussion Rig

Scale
1:25

Location: Poole Park, Poole, BH15 2SF

Logged By
DW

Ground Level (mAOD): 1.62

Co-ords: DNS

Date(s): 19/10/2018

All units = (m)	Stratum Description	Depth (Level)	Thickness	Legend	Water Strikes	Backfill	Sample (Type) Depth	In Situ Testing			Drill Run
								Depth	Type	Results	
1	TOPSOIL. Dark greyish brown slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. Frequent rootlets.	0.16 (1.46)									Hand Dug Pit
	Light brownish grey mottled dark brown silty organic fine to coarse SAND. (Tidal Flat Deposits)	0.39 (1.23)									
	Dark brown slightly sandy pseudo-fibrous PEAT. (Tidal Flat Deposits)	0.39 (1.23)	(0.51)								
	Medium dense light brownish grey slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse sub-angular to sub-rounded of flint. (Poole Formation)	0.90 (0.72)									
			(1.10)					1.20	SPT(C)	N=9 (2,2/2,2,2,3)	(87mm dia) Rec=100%
2	End of Borehole at 2.000m	2.00 (-0.38)									
3			Dynamic Probe (DPSH-B)	2.00m	0						
				2.10m	3						
				2.20m	3						
				2.30m	4						
				2.40m	4						
				2.50m	4						
				2.60m	5						
				2.70m	5						
				2.80m	6						
				2.90m	5						
				3.00m	6						
				3.10m	7						
				3.20m	5						
				3.30m	5						
				3.40m	9						
				3.50m	7						
3.60m				7							
3.70m				7							
3.80m				8							
3.90m				11							
4											
5											
				Depth (m)	Blows	Blows/100mm					
General Remarks:					Groundwater Observations:						
1. Consistency of fine grained soil assessed by hand worked tests in accordance with BS5930. Densities of granular material, if identified, based on N-Values derived from in situ SPT testing. Chalk descriptions, if identified, are in accordance with CIRIA C574 2. Sampling terminated at 2.00mbgl due to running sands. Dynamic Probe testing undertaken from 2.00mbgl.					Date	Strike	Casing	Time Elapsed	Standing	Remarks	
					19-10-2018	1.30m	0.00m	20mins	0.93m	Groundwater strike inferred due to being struck during 1.00m SPT.	

APPENDIX B

Geochemical Test Results

Certificate of Analysis

Certificate Number : 18-09563-Issue 1-Page: 1

Report Fao: GEO RESULTS
Site Address: Poole Park Minature Railway
Client Order No: 18-97284
Date of Sampling: 01/10/2018
Date Received: 15/10/2018
Report Date: 15/11/2018

Please find your certificates of test attached for your samples received in the laboratory on 15/10/2018 under our laboratory reference 18-09563.

Remarks:

None

Results reviewed by:



Eoin Byrne Technical Supervisor

Test Certificates approved by:



David Redfern Technical Supervisor

*Any opinions or interpretations indicated are outside the scope of our UKAS accreditation.
This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.
Excel copies of reports are valid only when accompanied by this PDF certificate.
Client's Sample Description / ACS Material Description are noted for reference only.*

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**Quality Testing & Materials Consultancy
to the
Construction Industry**

ACSE Sample Number Sample ID	38167 426801 - 18-97284	38168 426802 - 18-97284	38169 426803 - 18-97284
Clients Sample Ref.	TP01	TP01	TP02
Location / Sample Depth (m)	0.23-0.42m	0.65-1.00m	0.21-0.63m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown sandy GRAVEL	Grey silty SAND	Brown sandy GRAVEL
ACSE Material Description (Principal Matrix - As Received)	GRAVEL	SAND	GRAVEL

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Anions									
Water Soluble Sulphate	mg/l	MT/ACSE/204	AD	----		166	*f	----	
BTEX									
Benzene	mg/kg	MT/ACSE/101	AR	0.12	*ef	----		0.13	*ef
Ethylbenzene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----		< 0.10	*ef
m+p-xylene	mg/kg	MT/ACSE/101	AR	< 0.19	*ef	----		< 0.19	*ef
o-xylene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----		< 0.10	*ef
Toluene	mg/kg	MT/ACSE/101	AR	0.12	*ef	----		0.11	*ef
Total BTEX	mg/kg	MT/ACSE/101	AR	< 0.60	*ef	----		< 0.60	*ef
Carbon									
Soil Organic Matter	%	MT/ACSE/102	AR	2.70		----		3.17	
FOC	%	MT/ACSE/102	AR	0.0156		----		0.0184	
TOC (Total Organic Carbon)	%	MT/ACSE/102	AR	1.55	*	----		1.82	*
Loss on Ignition									
Loss on Ignition (440 °C)	%	MT/ACSE/302	AD	2.1	*f	----		2.7	*f
Metals (Soil)									
Arsenic	mg/kg	MT/ACSE/201	AD	11.9	*	----		17.7	
Cadmium	mg/kg	MT/ACSE/201	AD	< 1.00	*	----		< 1.00	
Chromium	mg/kg	MT/ACSE/201	AD	40.8	*	----		51.6	
Copper	mg/kg	MT/ACSE/201	AD	23.1	*	----		18.4	
Mercury	mg/kg	MT/ACSE/202	AD	0.07	*	----		0.10	
Nickel	mg/kg	MT/ACSE/201	AD	12.1	*	----		11.4	
Lead	mg/kg	MT/ACSE/201	AD	89.6	*	----		73.9	
Selenium	mg/kg	MT/ACSE/201	AD	< 6.00	*	----		< 6.00	
Zinc	mg/kg	MT/ACSE/201	AD	289	*	----		70.4	
Chromium III	mg/kg	NAM/ACSE/X11	AD	40.8		----		51.6	
Chromium Hexavalent	mg/kg	NAM/ACSE/X11	AD	< 1.00	f	----		< 1.00	f
Petroleum Hydrocarbons									
Total TPH (C10-C40)	mg/kg	MT/ACSE/105	AR	363	*	----		1000	*
pH and Conductivity									
pH (@ 20 °C)	units	MT/ACSE/301	AD	10.6	*ef	8.2	*ef	10.6	*ef
Poly Aromatic Hydrocarbons									
Naphthalene	mg/kg	MT/ACSE/106	AD	0.14	*f	----		0.22	*f
Acenaphthylene	mg/kg	MT/ACSE/106	AD	0.75	*f	----		1.43	*f
Acenaphthene	mg/kg	MT/ACSE/106	AD	0.11	*f	----		0.34	*f
Fluorene	mg/kg	MT/ACSE/106	AD	0.19	*f	----		0.43	*f
Phenanthrene	mg/kg	MT/ACSE/106	AD	0.71	*f	----		2.36	*f
Anthracene	mg/kg	MT/ACSE/106	AD	0.85	*f	----		2.22	*f
Fluoranthene	mg/kg	MT/ACSE/106	AD	2.69	*f	----		7.78	*f
Pyrene	mg/kg	MT/ACSE/106	AD	3.16	*f	----		7.90	*f
Benzo (a) anthracene	mg/kg	MT/ACSE/106	AD	2.63	*f	----		4.93	*f
Chrysene	mg/kg	MT/ACSE/106	AD	2.71	*f	----		4.55	*f
Benzo (b) fluoranthene	mg/kg	MT/ACSE/106	AD	5.19	*f	----		7.63	*f
Benzo (k) fluoranthene	mg/kg	MT/ACSE/106	AD	1.64	*f	----		2.17	*f

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ACSE Sample Number Sample ID	38167 426801 - 18-97284	38168 426802 - 18-97284	38169 426803 - 18-97284
Clients Sample Ref.	TP01	TP01	TP02
Location / Sample Depth (m)	0.23-0.42m	0.65-1.00m	0.21-0.63m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes Client's Sample Description	ef	ef	ef
ACS Testing Material Description	Brown sandy GRAVEL	Grey silty SAND	Brown sandy GRAVEL
ACSE Material Description (Principal Matrix - As Received)	GRAVEL	SAND	GRAVEL

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Benzo (a) pyrene	mg/kg	MT/ACSE/106	AD	4.04	*f	----		6.20	*f
Indeno (1 2 3-CD) pyrene	mg/kg	MT/ACSE/106	AD	3.60	*f	----		4.38	*f
Dibenzo(a h)anthracene	mg/kg	MT/ACSE/106	AD	0.98	*f	----		1.94	*f
Benzo(g h i)perylene	mg/kg	MT/ACSE/106	AD	3.88	*f	----		4.57	*f
Total PAH	mg/kg	MT/ACSE/106	AD	33.3	*f	----		59.0	*f
Polychlorinated Biphenyls (PCBs)									
PCB (7 Congeners)	mg/kg	IHP-GCMS	AD	----		----		----	
PCB (7 Congeners)	mg/kg	MT/ACSE/104	AD	< 1.00	*	----		< 1.00	*
Speciated BTEX									
MTBE	mg/kg	NAM/ACSE/X12	AR	< 0.05		----		< 0.05	
Hexane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Heptane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Octane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Benzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Toluene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Ethylbenzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
m+p-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
o-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Total BTEX	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Speciated Petroleum Hydrocarbons									
C5-C6 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
>C6-C8 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
>C8-C10 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C10-C12 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C12-C16 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C16-C21 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C21-C35 Aliphatic	mg/kg	NAM/ACSE/X07	AR	35.2		----		150	
C6-C7 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
C7-C8 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
>C8-C10 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		12.0	
>C10-C12 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C12-C16 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C16-C21 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C21-C35 Aromatic	mg/kg	NAM/ACSE/X07	AR	90.8		----		395	
Total Speciated TPH	mg/kg	NAM/ACSE/X07	AR	126		----		557	

ACSE Sample Number Sample ID	38170 426804 - 18-97284	38171 426805 - 18-97284	38172 426806 - 18-97284
Clients Sample Ref.	TP03	TP05	TP05
Location / Sample Depth (m)	0.42-0.87m	0.00-0.66m	0.66-1.00m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown gravelly silty SAND SILT	Brown gravelly silty SAND SILT	Grey mottled orange clayey SAND SILT
ACSE Material Description (Principal Matrix - As Received)			

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Anions									
Water Soluble Sulphate	mg/l	MT/ACSE/204	AD	133	*f	----		13.5	*f
BTEX									
Benzene	mg/kg	MT/ACSE/101	AR	----		0.10	*ef	----	
Ethylbenzene	mg/kg	MT/ACSE/101	AR	----		< 0.10	*ef	----	
m+p-xylene	mg/kg	MT/ACSE/101	AR	----		< 0.19	*ef	----	
o-xylene	mg/kg	MT/ACSE/101	AR	----		< 0.10	*ef	----	
Toluene	mg/kg	MT/ACSE/101	AR	----		< 0.10	*ef	----	
Total BTEX	mg/kg	MT/ACSE/101	AR	----		< 0.60	*ef	----	
Carbon									
Soil Organic Matter	%	MT/ACSE/102	AR	----		2.59		----	
FOC	%	MT/ACSE/102	AR	----		0.0150		----	
TOC (Total Organic Carbon)	%	MT/ACSE/102	AR	----		1.49	*	----	
Loss on Ignition									
Loss on Ignition (440 °C)	%	MT/ACSE/302	AD	----		3.2	*f	----	
Metals (Soil)									
Arsenic	mg/kg	MT/ACSE/201	AD	----		17.8	*#	----	
Cadmium	mg/kg	MT/ACSE/201	AD	----		< 1.00	*#	----	
Chromium	mg/kg	MT/ACSE/201	AD	----		38.8	*#	----	
Copper	mg/kg	MT/ACSE/201	AD	----		143	*#	----	
Mercury	mg/kg	MT/ACSE/202	AD	----		0.40	*	----	
Nickel	mg/kg	MT/ACSE/201	AD	----		18.8	*#	----	
Lead	mg/kg	MT/ACSE/201	AD	----		92.8	*#	----	
Selenium	mg/kg	MT/ACSE/201	AD	----		< 6.00	*#	----	
Zinc	mg/kg	MT/ACSE/201	AD	----		125	*#	----	
Chromium III	mg/kg	NAM/ACSE/X11	AD	----		38.8		----	
Chromium Hexavalent	mg/kg	NAM/ACSE/X11	AD	----		< 1.00	f	----	
Petroleum Hydrocarbons									
Total TPH (C10-C40)	mg/kg	MT/ACSE/105	AR	----		256	*#	----	
pH and Conductivity									
pH (@ 20 °C)	units	MT/ACSE/301	AD	7.5	*ef	7.3	*ef	5.7	*ef
Poly Aromatic Hydrocarbons									
Naphthalene	mg/kg	MT/ACSE/106	AD	----		0.74	*#f	----	
Acenaphthylene	mg/kg	MT/ACSE/106	AD	----		3.87	*#f	----	
Acenaphthene	mg/kg	MT/ACSE/106	AD	----		0.28	*#f	----	
Fluorene	mg/kg	MT/ACSE/106	AD	----		0.65	*#f	----	
Phenanthrene	mg/kg	MT/ACSE/106	AD	----		3.02	*#f	----	
Anthracene	mg/kg	MT/ACSE/106	AD	----		3.70	*#f	----	
Fluoranthene	mg/kg	MT/ACSE/106	AD	----		12.3	*#f	----	
Pyrene	mg/kg	MT/ACSE/106	AD	----		13.1	*#f	----	
Benzo (a) anthracene	mg/kg	MT/ACSE/106	AD	----		8.32	*#f	----	
Chrysene	mg/kg	MT/ACSE/106	AD	----		10.9	*#f	----	
Benzo (b) fluoranthene	mg/kg	MT/ACSE/106	AD	----		20.0	*#f	----	

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ACSE Sample Number Sample ID	38170 426804 - 18-97284	38171 426805 - 18-97284	38172 426806 - 18-97284
Clients Sample Ref.	TP03	TP05	TP05
Location / Sample Depth (m)	0.42-0.87m	0.00-0.66m	0.66-1.00m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes Client's Sample Description	ef	ef	ef
ACS Testing Material Description	Brown gravelly silty SAND SILT	Brown gravelly silty SAND SILT	Grey mottled orange clayey SAND SILT
ACSE Material Description (Principal Matrix - As Received)			

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Benzo (k) fluoranthene	mg/kg	MT/ACSE/106	AD	----		5.99	*#f	----	
Benzo (a) pyrene	mg/kg	MT/ACSE/106	AD	----		14.2	*#f	----	
Indeno (1 2 3-CD) pyrene	mg/kg	MT/ACSE/106	AD	----		13.5	*#f	----	
Dibenzo(a h)anthracene	mg/kg	MT/ACSE/106	AD	----		4.69	*#f	----	
Benzo(g h i)perylene	mg/kg	MT/ACSE/106	AD	----		19.0	*#f	----	
Total PAH	mg/kg	MT/ACSE/106	AD	----		134	*#f	----	
Polychlorinated Biphenyls (PCBs)									
PCB (7 Congeners)	mg/kg	IHP-GCMS	AD	----		----		----	
PCB (7 Congeners)	mg/kg	MT/ACSE/104	AD	----		< 1.00	*	----	
Speciated BTEX									
MTBE	mg/kg	NAM/ACSE/X12	AR	----		< 0.05		----	
Hexane	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Heptane	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Octane	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Benzene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Toluene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Ethylbenzene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
m+p-xylene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
o-xylene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Total BTEX	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Speciated Petroleum Hydrocarbons									
C5-C6 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
>C6-C8 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
>C8-C10 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C10-C12 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C12-C16 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C16-C21 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C21-C35 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		73.1		----	
C6-C7 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
C7-C8 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
>C8-C10 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C10-C12 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C12-C16 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C16-C21 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C21-C35 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		105		----	
Total Speciated TPH	mg/kg	NAM/ACSE/X07	AR	----		178		----	

ACSE Sample Number Sample ID	38173 426807 - 18-97284	38174 426808 - 18-97284	38175 426809 - 18-97284
Clients Sample Ref.	TP07	TP07	TP08
Location / Sample Depth (m)	0.08-0.32m	0.47-0.74m	0.29-0.58m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes Client's Sample Description	ef	ef	ef
ACS Testing Material Description	Brown gravelly SAND	Dark brown mottled dark grey sandy PEAT	Brown gravelly silty SAND
ACSE Material Description (Principal Matrix - As Received)	SAND	PEAT	

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Anions									
Water Soluble Sulphate	mg/l	MT/ACSE/204	AD	----		----		135	*f
BTEX									
Benzene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	0.29	*ef	----	
Ethylbenzene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	< 0.10	*ef	----	
m+p-xylene	mg/kg	MT/ACSE/101	AR	< 0.19	*ef	< 0.19	*ef	----	
o-xylene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	< 0.10	*ef	----	
Toluene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	< 0.10	*ef	----	
Total BTEX	mg/kg	MT/ACSE/101	AR	< 0.60	*ef	< 0.60	*ef	----	
Carbon									
Soil Organic Matter	%	MT/ACSE/102	AR	1.65		7.55		----	
FOC	%	MT/ACSE/102	AR	< 0.0100		0.0438		----	
TOC (Total Organic Carbon)	%	MT/ACSE/102	AR	0.95	*	4.34	*	----	
Loss on Ignition									
Loss on Ignition (440 °C)	%	MT/ACSE/302	AD	2.2	*f	22	*f	----	
Metals (Soil)									
Arsenic	mg/kg	MT/ACSE/201	AD	10.7	*#	21.5	*	----	
Cadmium	mg/kg	MT/ACSE/201	AD	< 1.00	*#	< 1.00	*	----	
Chromium	mg/kg	MT/ACSE/201	AD	28.9	*#	40.1	*	----	
Copper	mg/kg	MT/ACSE/201	AD	10.7	*#	9.98	*	----	
Mercury	mg/kg	MT/ACSE/202	AD	0.09	*#	0.09	*	----	
Nickel	mg/kg	MT/ACSE/201	AD	5.57	*#	9.34	*	----	
Lead	mg/kg	MT/ACSE/201	AD	59.8	*#	79.1	*	----	
Selenium	mg/kg	MT/ACSE/201	AD	< 6.00	*#	< 6.00	*	----	
Zinc	mg/kg	MT/ACSE/201	AD	23.0	*#	28.5	*	----	
Chromium III	mg/kg	NAM/ACSE/X11	AD	28.9		40.1		----	
Chromium Hexavalent	mg/kg	NAM/ACSE/X11	AD	< 1.00	f	< 1.00	f	----	
Petroleum Hydrocarbons									
Total TPH (C10-C40)	mg/kg	MT/ACSE/105	AR	384	*#	114	*	----	
pH and Conductivity									
pH (@ 20 °C)	units	MT/ACSE/301	AD	6.7	*ef	5.7	*ef	6.7	*ef
Poly Aromatic Hydrocarbons									
Naphthalene	mg/kg	MT/ACSE/106	AD	0.11	*#f	0.48	*f	----	
Acenaphthylene	mg/kg	MT/ACSE/106	AD	0.70	*#f	< 0.10	*f	----	
Acenaphthene	mg/kg	MT/ACSE/106	AD	< 0.10	*#f	0.66	*f	----	
Fluorene	mg/kg	MT/ACSE/106	AD	0.14	*#f	0.60	*f	----	
Phenanthrene	mg/kg	MT/ACSE/106	AD	0.30	*#f	0.90	*f	----	
Anthracene	mg/kg	MT/ACSE/106	AD	0.51	*#f	0.20	*f	----	
Fluoranthene	mg/kg	MT/ACSE/106	AD	1.34	*#f	0.39	*f	----	
Pyrene	mg/kg	MT/ACSE/106	AD	1.56	*#f	0.36	*f	----	
Benzo (a) anthracene	mg/kg	MT/ACSE/106	AD	1.51	*#f	0.30	*f	----	
Chrysene	mg/kg	MT/ACSE/106	AD	1.50	*#f	0.23	*f	----	
Benzo (b) fluoranthene	mg/kg	MT/ACSE/106	AD	3.54	*#f	0.40	*f	----	

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ACSE Sample Number	38173	38174	38175
Sample ID	426807 - 18-97284	426808 - 18-97284	426809 - 18-97284
Clients Sample Ref.	TP07	TP07	TP08
Location / Sample Depth (m)	0.08-0.32m	0.47-0.74m	0.29-0.58m
Date Sampled	01/10/2018	01/10/2018	01/10/2018
Time Sampled			
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown gravelly SAND	Dark brown mottled dark grey sandy PEAT	Brown gravelly silty SAND
ACSE Material Description (Principal Matrix - As Received)	SAND	PEAT	SAND

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Benzo (k) fluoranthene	mg/kg	MT/ACSE/106	AD	1.02	*#f	0.14	*f	----	
Benzo (a) pyrene	mg/kg	MT/ACSE/106	AD	2.48	*#f	0.27	*f	----	
Indeno (1 2 3-CD) pyrene	mg/kg	MT/ACSE/106	AD	2.20	*#f	0.27	*f	----	
Dibenzo(a h)anthracene	mg/kg	MT/ACSE/106	AD	0.61	*#f	0.19	*f	----	
Benzo(g h i)perylene	mg/kg	MT/ACSE/106	AD	2.07	*#f	0.23	*f	----	
Total PAH	mg/kg	MT/ACSE/106	AD	19.6	*#f	5.63	*f	----	
Polychlorinated Biphenyls (PCBs)									
PCB (7 Congeners)	mg/kg	IHP-GCMS	AD	< 1.00		< 1.00		----	
PCB (7 Congeners)	mg/kg	MT/ACSE/104	AD	----		----		----	
Speciated BTEX									
MTBE	mg/kg	NAM/ACSE/X12	AR	< 0.05		< 0.05		----	
Hexane	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Heptane	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Octane	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Benzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Toluene	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Ethylbenzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
m+p-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
o-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Total BTEX	mg/kg	NAM/ACSE/X06	AR	< 0.05		< 0.05		----	
Speciated Petroleum Hydrocarbons									
C5-C6 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		< 0.10		----	
>C6-C8 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		< 0.10		----	
>C8-C10 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C10-C12 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C12-C16 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C16-C21 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C21-C35 Aliphatic	mg/kg	NAM/ACSE/X07	AR	29.5		38.7		----	
C6-C7 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		< 0.10		----	
C7-C8 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		< 0.10		----	
>C8-C10 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C10-C12 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C12-C16 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C16-C21 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		< 10.0		----	
>C21-C35 Aromatic	mg/kg	NAM/ACSE/X07	AR	137		39.5		----	
Total Speciated TPH	mg/kg	NAM/ACSE/X07	AR	166		78.2		----	

ACSE Sample Number Sample ID	38176 426810 - 18-97284	38177 426811 - 18-97284	38178 426812 - 18-97284
Clients Sample Ref.	TP09	TP09	TP11
Location / Sample Depth (m)	0.00-0.39m	0.73-1.00m	0.00-0.21m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown gravelly silty SAND	Grey very sandy PEAT	Brown sandy gravelly
ACSE Material Description (Principal Matrix - As Received)	SILT	SAND	SILT

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Anions									
Water Soluble Sulphate	mg/l	MT/ACSE/204	AD	----		504	*f	----	
BTEX									
Benzene	mg/kg	MT/ACSE/101	AR	0.10	*ef	----		0.30	*ef
Ethylbenzene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----		< 0.10	*ef
m+p-xylene	mg/kg	MT/ACSE/101	AR	< 0.19	*ef	----		< 0.19	*ef
o-xylene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----		< 0.10	*ef
Toluene	mg/kg	MT/ACSE/101	AR	0.13	*ef	----		0.14	*ef
Total BTEX	mg/kg	MT/ACSE/101	AR	< 0.60	*ef	----		< 0.60	*ef
Carbon									
Soil Organic Matter	%	MT/ACSE/102	AR	3.53		----		11.4	
FOC	%	MT/ACSE/102	AR	0.0205		----		0.0661	
TOC (Total Organic Carbon)	%	MT/ACSE/102	AR	2.03	*	----		6.55	*
Loss on Ignition									
Loss on Ignition (440 °C)	%	MT/ACSE/302	AD	7.2	*f	----		8.9	*f
Metals (Soil)									
Arsenic	mg/kg	MT/ACSE/201	AD	9.83	*#	----		16.3	*#
Cadmium	mg/kg	MT/ACSE/201	AD	< 1.00	*#	----		< 1.00	*#
Chromium	mg/kg	MT/ACSE/201	AD	14.1	*#	----		21.4	*#
Copper	mg/kg	MT/ACSE/201	AD	78.2	*#	----		67.4	*#
Mercury	mg/kg	MT/ACSE/202	AD	0.17	*	----		0.21	*
Nickel	mg/kg	MT/ACSE/201	AD	6.33	*#	----		12.1	*#
Lead	mg/kg	MT/ACSE/201	AD	144	*#	----		60.8	*#
Selenium	mg/kg	MT/ACSE/201	AD	< 6.00	*#	----		< 6.00	*#
Zinc	mg/kg	MT/ACSE/201	AD	28.6	*#	----		223	*#
Chromium III	mg/kg	NAM/ACSE/X11	AD	14.1		----		21.4	
Chromium Hexavalent	mg/kg	NAM/ACSE/X11	AD	< 1.00	f	----		< 1.00	f
Petroleum Hydrocarbons									
Total TPH (C10-C40)	mg/kg	MT/ACSE/105	AR	< 50.0	*#	----		410	*#
pH and Conductivity									
pH (@ 20 °C)	units	MT/ACSE/301	AD	6.6	*ef	3.9	*ef	6.9	*ef
Poly Aromatic Hydrocarbons									
Naphthalene	mg/kg	MT/ACSE/106	AD	0.10	*#f	----		0.20	*#f
Acenaphthylene	mg/kg	MT/ACSE/106	AD	0.40	*#f	----		0.77	*#f
Acenaphthene	mg/kg	MT/ACSE/106	AD	< 0.10	*#f	----		0.12	*#f
Fluorene	mg/kg	MT/ACSE/106	AD	0.10	*#f	----		0.17	*#f
Phenanthrene	mg/kg	MT/ACSE/106	AD	0.39	*#f	----		0.67	*#f
Anthracene	mg/kg	MT/ACSE/106	AD	0.28	*#f	----		0.61	*#f
Fluoranthene	mg/kg	MT/ACSE/106	AD	1.23	*#f	----		1.79	*#f
Pyrene	mg/kg	MT/ACSE/106	AD	1.07	*#f	----		1.83	*#f
Benzo (a) anthracene	mg/kg	MT/ACSE/106	AD	1.05	*#f	----		1.47	*#f
Chrysene	mg/kg	MT/ACSE/106	AD	0.98	*#f	----		1.46	*#f
Benzo (b) fluoranthene	mg/kg	MT/ACSE/106	AD	1.72	*#f	----		2.67	*#f

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ACSE Sample Number	38176	38177	38178
Sample ID	426810 - 18-97284	426811 - 18-97284	426812 - 18-97284
Clients Sample Ref.	TP09	TP09	TP11
Location / Sample Depth (m)	0.00-0.39m	0.73-1.00m	0.00-0.21m
Date Sampled	01/10/2018	01/10/2018	01/10/2018
Time Sampled			
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown gravelly silty SAND	Grey very sandy PEAT	Brown sandy gravelly
ACSE Material Description (Principal Matrix - As Received)	SILT	SAND	SILT

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Benzo (k) fluoranthene	mg/kg	MT/ACSE/106	AD	0.74	*#f	----		1.06	*#f
Benzo (a) pyrene	mg/kg	MT/ACSE/106	AD	1.28	*#f	----		1.98	*#f
Indeno (1 2 3-CD) pyrene	mg/kg	MT/ACSE/106	AD	0.93	*#f	----		1.53	*#f
Dibenzo(a h)anthracene	mg/kg	MT/ACSE/106	AD	0.31	*#f	----		0.43	*#f
Benzo(g h i)perylene	mg/kg	MT/ACSE/106	AD	0.85	*#f	----		1.43	*#f
Total PAH	mg/kg	MT/ACSE/106	AD	11.4	*#f	----		18.2	*#f
Polychlorinated Biphenyls (PCBs)									
PCB (7 Congeners)	mg/kg	IHP-GCMS	AD	----		----		----	
PCB (7 Congeners)	mg/kg	MT/ACSE/104	AD	< 1.00	*	----		< 1.00	*
Speciated BTEX									
MTBE	mg/kg	NAM/ACSE/X12	AR	< 0.05		----		< 0.05	
Hexane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Heptane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Octane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Benzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Toluene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Ethylbenzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
m+p-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
o-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Total BTEX	mg/kg	NAM/ACSE/X06	AR	< 0.05		----		< 0.05	
Speciated Petroleum Hydrocarbons									
C5-C6 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
>C6-C8 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
>C8-C10 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C10-C12 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C12-C16 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C16-C21 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C21-C35 Aliphatic	mg/kg	NAM/ACSE/X07	AR	29.5		----		59.4	
C6-C7 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
C7-C8 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----		< 0.10	
>C8-C10 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C10-C12 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C12-C16 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C16-C21 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		< 10.0	
>C21-C35 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----		87.5	
Total Speciated TPH	mg/kg	NAM/ACSE/X07	AR	29.5		----		147	

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**Quality Testing & Materials Consultancy
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ACSE Sample Number Sample ID	38179 426813 - 18-97284	38180 426814 - 18-97284	38181 426815 - 18-97284
Clients Sample Ref.	TP11	TP13	TP13
Location / Sample Depth (m)	0.47-1.00m	0.00-0.64m	0.64-1.00m
Date Sampled Time Sampled	01/10/2018	01/10/2018	01/10/2018
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown gravelly SAND	Multicoloured gravelly SAND	Brown mottled sark grey silty SAND
ACSE Material Description (Principal Matrix - As Received)	SAND	SAND	SAND

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Anions									
Water Soluble Sulphate	mg/l	MT/ACSE/204	AD	89.5	*f	----		3.56	*f
BTEX									
Benzene	mg/kg	MT/ACSE/101	AR	----		0.10	*ef	----	
Ethylbenzene	mg/kg	MT/ACSE/101	AR	----		< 0.10	*ef	----	
m+p-xylene	mg/kg	MT/ACSE/101	AR	----		< 0.19	*ef	----	
o-xylene	mg/kg	MT/ACSE/101	AR	----		< 0.10	*ef	----	
Toluene	mg/kg	MT/ACSE/101	AR	----		< 0.10	*ef	----	
Total BTEX	mg/kg	MT/ACSE/101	AR	----		< 0.60	*ef	----	
Carbon									
Soil Organic Matter	%	MT/ACSE/102	AR	----		4.44		----	
FOC	%	MT/ACSE/102	AR	----		0.0257		----	
TOC (Total Organic Carbon)	%	MT/ACSE/102	AR	----		2.55	*	----	
Loss on Ignition									
Loss on Ignition (440 °C)	%	MT/ACSE/302	AD	----		2.1	*f	----	
Metals (Soil)									
Arsenic	mg/kg	MT/ACSE/201	AD	----		12.0	*#	----	
Cadmium	mg/kg	MT/ACSE/201	AD	----		< 1.00	*#	----	
Chromium	mg/kg	MT/ACSE/201	AD	----		15.6	*#	----	
Copper	mg/kg	MT/ACSE/201	AD	----		121	*#	----	
Mercury	mg/kg	MT/ACSE/202	AD	----		0.72	*#	----	
Nickel	mg/kg	MT/ACSE/201	AD	----		10.2	*#	----	
Lead	mg/kg	MT/ACSE/201	AD	----		204	*#	----	
Selenium	mg/kg	MT/ACSE/201	AD	----		< 6.00	*#	----	
Zinc	mg/kg	MT/ACSE/201	AD	----		95.2	*#	----	
Chromium III	mg/kg	NAM/ACSE/X11	AD	----		15.6		----	
Chromium Hexavalent	mg/kg	NAM/ACSE/X11	AD	----		< 1.00	f	----	
Petroleum Hydrocarbons									
Total TPH (C10-C40)	mg/kg	MT/ACSE/105	AR	----		423	*#	----	
pH and Conductivity									
pH (@ 20 °C)	units	MT/ACSE/301	AD	6.5	*ef	7.0	*ef	7.1	*ef
Poly Aromatic Hydrocarbons									
Naphthalene	mg/kg	MT/ACSE/106	AD	----		0.24	*#f	----	
Acenaphthylene	mg/kg	MT/ACSE/106	AD	----		0.45	*#f	----	
Acenaphthene	mg/kg	MT/ACSE/106	AD	----		0.11	*#f	----	
Fluorene	mg/kg	MT/ACSE/106	AD	----		0.14	*#f	----	
Phenanthrene	mg/kg	MT/ACSE/106	AD	----		0.75	*#f	----	
Anthracene	mg/kg	MT/ACSE/106	AD	----		0.46	*#f	----	
Fluoranthene	mg/kg	MT/ACSE/106	AD	----		2.37	*#f	----	
Pyrene	mg/kg	MT/ACSE/106	AD	----		2.15	*#f	----	
Benzo (a) anthracene	mg/kg	MT/ACSE/106	AD	----		1.93	*#f	----	
Chrysene	mg/kg	MT/ACSE/106	AD	----		1.66	*#f	----	
Benzo (b) fluoranthene	mg/kg	MT/ACSE/106	AD	----		3.01	*#f	----	

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ACSE Sample Number	38179	38180	38181
Sample ID	426813 - 18-97284	426814 - 18-97284	426815 - 18-97284
Clients Sample Ref.	TP11	TP13	TP13
Location / Sample Depth (m)	0.47-1.00m	0.00-0.64m	0.64-1.00m
Date Sampled	01/10/2018	01/10/2018	01/10/2018
Time Sampled			
Sample deviating codes	ef	ef	ef
Client's Sample Description			
ACS Testing Material Description	Brown gravelly SAND	Multicoloured gravelly SAND	Brown mottled sark grey silty SAND
ACSE Material Description (Principal Matrix - As Received)	SAND	SAND	SAND

Determination	Units	Method	Prepared As	Result	AS	Result	AS	Result	AS
Benzo (k) fluoranthene	mg/kg	MT/ACSE/106	AD	----		0.93	*#f	----	
Benzo (a) pyrene	mg/kg	MT/ACSE/106	AD	----		2.13	*#f	----	
Indeno (1 2 3-CD) pyrene	mg/kg	MT/ACSE/106	AD	----		1.46	*#f	----	
Dibenzo(a h)anthracene	mg/kg	MT/ACSE/106	AD	----		0.51	*#f	----	
Benzo(g h i)perylene	mg/kg	MT/ACSE/106	AD	----		1.56	*#f	----	
Total PAH	mg/kg	MT/ACSE/106	AD	----		19.8	*#f	----	
Polychlorinated Biphenyls (PCBs)									
PCB (7 Congeners)	mg/kg	IHP-GCMS	AD	----		----		----	
PCB (7 Congeners)	mg/kg	MT/ACSE/104	AD	----		< 1.00	*	----	
Speciated BTEX									
MTBE	mg/kg	NAM/ACSE/X12	AR	----		< 0.05		----	
Hexane	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Heptane	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Octane	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Benzene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Toluene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Ethylbenzene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
m+p-xylene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
o-xylene	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Total BTEX	mg/kg	NAM/ACSE/X06	AR	----		< 0.05		----	
Speciated Petroleum Hydrocarbons									
C5-C6 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
>C6-C8 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
>C8-C10 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C10-C12 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C12-C16 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C16-C21 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C21-C35 Aliphatic	mg/kg	NAM/ACSE/X07	AR	----		49.8		----	
C6-C7 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
C7-C8 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 0.10		----	
>C8-C10 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C10-C12 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C12-C16 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		< 10.0		----	
>C16-C21 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		10.8		----	
>C21-C35 Aromatic	mg/kg	NAM/ACSE/X07	AR	----		212		----	
Total Speciated TPH	mg/kg	NAM/ACSE/X07	AR	----		273		----	

ACSE Sample Number	38182	38183
Sample ID	426816 - 18-97284	426817 - 18-97284
Clients Sample Ref.	TP14	TP14
Location / Sample Depth (m)	0.15-0.60m	0.60-0.94m
Date Sampled	01/10/2018	01/10/2018
Time Sampled		
Sample deviating codes	ef	ef
Client's Sample Description		
ACS Testing Material Description	Grey sandy GRAVEL	Grey mottled brown sandy
ACSE Material Description (Principal Matrix - As Received)	SAND	PEAT

Determination	Units	Method	Prepared As	Result	AS	Result	AS
Anions							
Water Soluble Sulphate	mg/l	MT/ACSE/204	AD	----		46.0	*f
BTEX							
Benzene	mg/kg	MT/ACSE/101	AR	0.10	*ef	----	
Ethylbenzene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----	
m+p-xylene	mg/kg	MT/ACSE/101	AR	< 0.19	*ef	----	
o-xylene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----	
Toluene	mg/kg	MT/ACSE/101	AR	< 0.10	*ef	----	
Total BTEX	mg/kg	MT/ACSE/101	AR	< 0.60	*ef	----	
Carbon							
Soil Organic Matter	%	MT/ACSE/102	AR	26.8		----	
FOC	%	MT/ACSE/102	AR	0.156		----	
TOC (Total Organic Carbon)	%	MT/ACSE/102	AR	15.4	*	----	
Loss on Ignition							
Loss on Ignition (440 °C)	%	MT/ACSE/302	AD	2.9	*f	----	
Metals (Soil)							
Arsenic	mg/kg	MT/ACSE/201	AD	16.2	*#	----	
Cadmium	mg/kg	MT/ACSE/201	AD	< 1.00	*#	----	
Chromium	mg/kg	MT/ACSE/201	AD	46.6	*#	----	
Copper	mg/kg	MT/ACSE/201	AD	233	*#	----	
Mercury	mg/kg	MT/ACSE/202	AD	0.22	*#	----	
Nickel	mg/kg	MT/ACSE/201	AD	28.5	*#	----	
Lead	mg/kg	MT/ACSE/201	AD	193	*#	----	
Selenium	mg/kg	MT/ACSE/201	AD	< 6.00	*#	----	
Zinc	mg/kg	MT/ACSE/201	AD	73.7	*#	----	
Chromium III	mg/kg	NAM/ACSE/X11	AD	46.6		----	
Chromium Hexavalent	mg/kg	NAM/ACSE/X11	AD	< 1.00	f	----	
Petroleum Hydrocarbons							
Total TPH (C10-C40)	mg/kg	MT/ACSE/105	AR	152	*#	----	
pH and Conductivity							
pH (@ 20 °C)	units	MT/ACSE/301	AD	7.2	*ef	6.3	*ef
Poly Aromatic Hydrocarbons							
Naphthalene	mg/kg	MT/ACSE/106	AD	0.60	*#f	----	
Acenaphthylene	mg/kg	MT/ACSE/106	AD	0.45	*#f	----	
Acenaphthene	mg/kg	MT/ACSE/106	AD	0.14	*#f	----	
Fluorene	mg/kg	MT/ACSE/106	AD	0.28	*#f	----	
Phenanthrene	mg/kg	MT/ACSE/106	AD	2.17	*#f	----	
Anthracene	mg/kg	MT/ACSE/106	AD	0.77	*#f	----	
Fluoranthene	mg/kg	MT/ACSE/106	AD	4.71	*#f	----	
Pyrene	mg/kg	MT/ACSE/106	AD	3.96	*#f	----	
Benzo (a) anthracene	mg/kg	MT/ACSE/106	AD	2.82	*#f	----	
Chrysene	mg/kg	MT/ACSE/106	AD	3.12	*#f	----	
Benzo (b) fluoranthene	mg/kg	MT/ACSE/106	AD	4.76	*#f	----	

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ACSE Sample Number	38182	38183
Sample ID	426816 - 18-97284	426817 - 18-97284
Clients Sample Ref.	TP14	TP14
Location / Sample Depth (m)	0.15-0.60m	0.60-0.94m
Date Sampled	01/10/2018	01/10/2018
Time Sampled		
Sample deviating codes	ef	ef
Client's Sample Description		
ACS Testing Material Description	Grey sandy GRAVEL	Grey mottled brown sandy
ACSE Material Description (Principal Matrix - As Received)	SAND	PEAT

Determination	Units	Method	Prepared As	Result	AS	Result	AS
Benzo (k) fluoranthene	mg/kg	MT/ACSE/106	AD	2.23	*#f	----	
Benzo (a) pyrene	mg/kg	MT/ACSE/106	AD	3.30	*#f	----	
Indeno (1 2 3-CD) pyrene	mg/kg	MT/ACSE/106	AD	2.96	*#f	----	
Dibenzo(a h)anthracene	mg/kg	MT/ACSE/106	AD	0.97	*#f	----	
Benzo(g h i)perylene	mg/kg	MT/ACSE/106	AD	2.92	*#f	----	
Total PAH	mg/kg	MT/ACSE/106	AD	36.2	*#f	----	
Polychlorinated Biphenyls (PCBs)							
PCB (7 Congeners)	mg/kg	IHP-GCMS	AD	----		----	
PCB (7 Congeners)	mg/kg	MT/ACSE/104	AD	< 1.00	*	----	
Speciated BTEX							
MTBE	mg/kg	NAM/ACSE/X12	AR	< 0.05		----	
Hexane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Heptane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Octane	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Benzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Toluene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Ethylbenzene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
m+p-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
o-xylene	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Total BTEX	mg/kg	NAM/ACSE/X06	AR	< 0.05		----	
Speciated Petroleum Hydrocarbons							
C5-C6 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----	
>C6-C8 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----	
>C8-C10 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C10-C12 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C12-C16 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C16-C21 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C21-C35 Aliphatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
C6-C7 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----	
C7-C8 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 0.10		----	
>C8-C10 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C10-C12 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C12-C16 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C16-C21 Aromatic	mg/kg	NAM/ACSE/X07	AR	< 10.0		----	
>C21-C35 Aromatic	mg/kg	NAM/ACSE/X07	AR	105		----	
Total Speciated TPH	mg/kg	NAM/ACSE/X07	AR	105		----	

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**Quality Testing & Materials Consultancy
to the
Construction Industry**

Technical Information for Analytical Results

Analysis

* - denotes analysis covered by our UKAS accreditation
- denotes analysis covered by our MCERTS certification
AD = Sample tested in air dried condition.
AR = Sample tested in as-received condition.
D = Sample tested in dry condition.
L = Laboratory prepared leachate
SC = sub contracted
All MCERTS certified test values reported on a dry weight basis.
UKAS uncertainty available on request.
Where results are less than the limit of detection, the value of 0 is used in calculations.

Deviating Codes

Deviating Samples

The use of any of the following symbols indicates that the sample was deviating and it is possible therefore that the results provided may not be representative of the sample taken.

- a – The date and /or time of sampling has not been provided, therefore it is not known if the time lapse between sampling and analysis has exceeded the acceptable holding time(s)*.
- b – The test item was received in a container which has not been recommended*.
- c – On receipt, the temperature of the sample received was found to fall outside the recommendations of BS ISO 18512:2007, Soil Quality. Guidance on long and short term storage of soil samples*.
- d – The sample was received in a container that had not been filled as recommended*.
- e – The delay between sampling and sample receipt is greater than the recommended holding time for the analyte of interest in this matrix*.
- f – The delay between sampling and analysis is greater than the recommended holding time for the analyte of interest in this matrix*.

*In accordance with the requirements of Technical Policy Statement TPS 63; UKAS Policy on Deviating Samples, all UKAS accredited testing laboratories are required to notify their clients that calibration or test results may be invalid where samples are found to be deviating. It is the opinion of ACSE that the term invalid should be interpreted as 'not fully representative of the sample taken at source'.

The following Additional Deviating Sample Codes may also be used.

- I/S – Insufficient sample mass/volume received for accurate quantification of this analyte.
- U/S – The sample received was deemed unsuitable for accurate determination of this analyte using the Test Methods available.

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***Quality Testing & Materials Consultancy
to the
Construction Industry***

Certificate of Analysis Landfill Waste Acceptance Criteria (WAC) (10:1)

Certificate Number : 18-09563-Issue 1-Page: 1

Report Fao: GEO RESULTS
Site Address: Poole Park Minature Railway
Customer Order No: 18-97284
Date of Sampling: 01/10/2018
Date Received: 15/10/2018
Report Date: 15/11/2018

Please find your certificates of test attached for your samples received in the laboratory on 15/10/2018 under our laboratory reference 18-09563.

Remarks:

None

Results reviewed by:



Eoin Byrne Technical Supervisor

Results approved by:



David Redfern Technical Supervisor

*Any opinions or interpretations indicated are outside the scope of our UKAS accreditation.
This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.
Excel copies of reports are valid only when accompanied by this PDF certificate.
Client's Sample Description / ACS Material Description are noted for reference only.*

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**Quality Testing & Materials Consultancy
to the
Construction Industry**



Certificate No. 18-09563-Issue 1-Page: 2
Site Address Poole Park Minature Railway



ACSE Sample Number 38167
Sample ID 426801 - 18-97284
Clients Sample Ref. TP01
Material Source In Situ
Location / Sample Depth (m) 0.23-0.42m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Brown sandy GRAVEL
Principal Matrix (as received) GRAVEL

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	93.3	g	Volume of Leachant Used (L10)	0.897	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	3.6	%	Volume of Eluate (VE10)	0.853	litres
Dry Matter Content (DR)	96.5	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	1.55
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	2.1
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*	As received	363
PAHs (mg/kg)	MT/ACSE/106	*f	Air dried at 30 °C	33.3
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	10.6

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	11.0	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	52.20	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.0909	0.909
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.021	0.207
Copper	MT/ACSE/205	*	0.050	0.499
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0017	0.017
Nickel	MT/ACSE/205	*	0.0030	0.030
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	< 0.006	< 0.060
Zinc	MT/ACSE/205	*	< 0.002	< 0.020
Chloride	MT/ACSE/204	*	8.59	85.92
Fluoride	MT/ACSE/204	*	< 0.01	< 0.050
Sulphate	MT/ACSE/204	*	8.03	80.26
Total dissolved solids	MT/ACSE/304	*	170	1700
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	7.81	78.10

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.

Eluates prepared in accordance with BS EN 12457-3:2002*

ACSE Sample Number 38169
Sample ID 426803 - 18-97284
Clients Sample Ref. TP02
Material Source In Situ
Location / Sample Depth (m) 0.21-0.63m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Brown sandy GRAVEL
Principal Matrix (as received) GRAVEL

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	93.8	g	Volume of Leachant Used (L10)	0.896	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	4.2	%	Volume of Eluate (VE10)	0.847	litres
Dry Matter Content (DR)	96.0	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	1.82
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	2.7
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*	As received	1000
PAHs (mg/kg)	MT/ACSE/106	*f	Air dried at 30 °C	59.0
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	10.6

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	10.7	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	23.10	
Arsenic	MT/ACSE/205	*	0.006	0.0590
Barium	MT/ACSE/205	*	0.108	1.083
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.007	0.068
Copper	MT/ACSE/205	*	0.035	0.351
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0037	0.037
Nickel	MT/ACSE/205	*	0.0053	0.053
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	< 0.006	< 0.060
Zinc	MT/ACSE/205	*	< 0.002	< 0.020
Chloride	MT/ACSE/204	*	7.78	77.80
Fluoride	MT/ACSE/204	*	< 0.01	< 0.050
Sulphate	MT/ACSE/204	*	15.69	156.9
Total dissolved solids	MT/ACSE/304	*	165	1650
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	19.8	197.9

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.

Eluates prepared in accordance with BS EN 12457-3:2002*

Certificate No. 18-09563-Issue 1-Page: 4
Site Address Poole Park Minature Railway



ACSE Sample Number 38171
Sample ID 426805 - 18-97284
Clients Sample Ref. TP05
Material Source In Situ
Location / Sample Depth (m) 0.00-0.66m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Brown gravelly silty SAND
Principal Matrix (as received) SILT

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	96.5	g	Volume of Leachant Used (L10)	0.894	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	7.2	%	Volume of Eluate (VE10)	0.861	litres
Dry Matter Content (DR)	93.3	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	1.49
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	3.2
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*#	As received	256
PAHs (mg/kg)	MT/ACSE/106	*#f	Air dried at 30 °C	134
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	7.3

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	9.2	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	6.59	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.0800	0.800
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.002	0.024
Copper	MT/ACSE/205	*	0.022	0.219
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	< 0.0010	< 0.010
Nickel	MT/ACSE/205	*	< 0.0008	< 0.008
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	0.007	0.071
Zinc	MT/ACSE/205	*	0.020	0.200
Chloride	MT/ACSE/204	*	< 3.00	< 30.00
Fluoride	MT/ACSE/204	*	0.22	2.172
Sulphate	MT/ACSE/204	*	4.66	46.62
Total dissolved solids	MT/ACSE/304	*	70	700.0
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	13.9	139.2

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.
 Eluates prepared in accordance with BS EN 12457-3:2002*

ACSE Sample Number 38173
Sample ID 426807 - 18-97284
Clients Sample Ref. TP07
Material Source In Situ
Location / Sample Depth (m) 0.08-0.32m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Brown gravelly SAND
Principal Matrix (as received) SAND

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	93.4	g	Volume of Leachant Used (L10)	0.897	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	3.7	%	Volume of Eluate (VE10)	0.851	litres
Dry Matter Content (DR)	96.4	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	0.95
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	2.2
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	IHP-GCMS		Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*#	As received	384
PAHs (mg/kg)	MT/ACSE/106	*#f	Air dried at 30 °C	19.6
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	6.7

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	8.7	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	14.54	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.102	1.021
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.003	0.035
Copper	MT/ACSE/205	*	< 0.008	< 0.080
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0012	0.012
Nickel	MT/ACSE/205	*	0.0019	0.019
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	< 0.006	< 0.060
Zinc	MT/ACSE/205	*	< 0.002	< 0.020
Chloride	MT/ACSE/204	*	< 3.00	< 30.00
Fluoride	MT/ACSE/204	*	0.19	1.897
Sulphate	MT/ACSE/204	*	17.97	179.7
Total dissolved solids	MT/ACSE/304	*	130	1300
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	7.99	79.90

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.
Eluates prepared in accordance with BS EN 12457-3:2002*

Certificate No. 18-09563-Issue 1-Page: 6
Site Address Poole Park Minature Railway



ACSE Sample Number 38174
Sample ID 426808 - 18-97284
Clients Sample Ref. TP07
Material Source In Situ
Location / Sample Depth (m) 0.47-0.74m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Dark brown mottled dark grey sandy PEAT
Principal Matrix (as received) PEAT

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	182.3	g	Volume of Leachant Used (L10)	0.808	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	103	%	Volume of Eluate (VE10)	0.795	litres
Dry Matter Content (DR)	49.4	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	4.34
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	22
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	IHP-GCMS		Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*	As received	114
PAHs (mg/kg)	MT/ACSE/106	*f	Air dried at 30 °C	5.63
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	5.7

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	8.5	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	32.60	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.446	4.459
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.004	0.044
Copper	MT/ACSE/205	*	< 0.008	< 0.080
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	< 0.0010	< 0.010
Nickel	MT/ACSE/205	*	0.0016	0.016
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	0.016	0.161
Zinc	MT/ACSE/205	*	0.055	0.548
Chloride	MT/ACSE/204	*	9.96	99.58
Fluoride	MT/ACSE/204	*	0.18	1.810
Sulphate	MT/ACSE/204	*	137.9	1379
Total dissolved solids	MT/ACSE/304	*	220	2200
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	18.5	185.0

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.

Eluates prepared in accordance with BS EN 12457-3:2002*

Certificate No. 18-09563-Issue 1-Page: 7
Site Address Poole Park Minature Railway



ACSE Sample Number 38176
Sample ID 426810 - 18-97284
Clients Sample Ref. TP09
Material Source In Situ
Location / Sample Depth (m) 0.00-0.39m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Brown gravelly silty SAND
Principal Matrix (as received) SILT

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	93.2	g	Volume of Leachant Used (L10)	0.897	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	3.6	%	Volume of Eluate (VE10)	0.843	litres
Dry Matter Content (DR)	96.6	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	2.03
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	7.2
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*#	As received	< 50.0
PAHs (mg/kg)	MT/ACSE/106	*#f	Air dried at 30 °C	11.4
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	6.6

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	8.7	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	6.85	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.0970	0.970
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.003	0.030
Copper	MT/ACSE/205	*	0.026	0.257
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0021	0.021
Nickel	MT/ACSE/205	*	0.0021	0.021
Lead	MT/ACSE/205	*	0.014	0.137
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	< 0.006	< 0.060
Zinc	MT/ACSE/205	*	0.010	0.095
Chloride	MT/ACSE/204	*	3.83	38.28
Fluoride	MT/ACSE/204	*	0.12	1.173
Sulphate	MT/ACSE/204	*	10.88	108.8
Total dissolved solids	MT/ACSE/304	*	45	450.0
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	10.8	108.2

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.

Eluates prepared in accordance with BS EN 12457-3:2002*

ACSE Sample Number 38178
Sample ID 426812 - 18-97284
Clients Sample Ref. TP11
Material Source In Situ
Location / Sample Depth (m) 0.00-0.21m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Brown sandy gravelly SILT
Principal Matrix (as received) SILT

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	102.2	g	Volume of Leachant Used (L10)	0.888	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	13.6	%	Volume of Eluate (VE10)	0.835	litres
Dry Matter Content (DR)	88.0	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	6.55
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	8.9
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*#	As received	410
PAHs (mg/kg)	MT/ACSE/106	*#f	Air dried at 30 °C	18.2
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	6.9

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	8.4	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	11.02	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.170	1.702
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.003	0.031
Copper	MT/ACSE/205	*	0.036	0.365
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0014	0.014
Nickel	MT/ACSE/205	*	0.0058	0.058
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	0.010	0.096
Zinc	MT/ACSE/205	*	0.028	0.276
Chloride	MT/ACSE/204	*	9.12	91.23
Fluoride	MT/ACSE/204	*	0.61	6.124
Sulphate	MT/ACSE/204	*	4.61	46.07
Total dissolved solids	MT/ACSE/304	*	65	650.0
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	17.2	172.1

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

 Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.
Eluates prepared in accordance with BS EN 12457-3:2002*

ACSE Sample Number 38180
Sample ID 426814 - 18-97284
Clients Sample Ref. TP13
Material Source In Situ
Location / Sample Depth (m) 0.00-0.64m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Multicoloured gravelly SAND
Principal Matrix (as received) SAND

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	90.0	g	Volume of Leachant Used (L10)	0.900	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	0.0	%	Volume of Eluate (VE10)	0.846	litres
Dry Matter Content (DR)	100	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	2.55
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	2.1
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*#	As received	423
PAHs (mg/kg)	MT/ACSE/106	*#f	Air dried at 30 °C	19.8
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	7.0

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	8.7	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	4.34	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.0715	0.715
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.002	0.023
Copper	MT/ACSE/205	*	0.015	0.145
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0024	0.024
Nickel	MT/ACSE/205	*	0.0020	0.020
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	< 0.006	< 0.060
Zinc	MT/ACSE/205	*	< 0.002	< 0.020
Chloride	MT/ACSE/204	*	< 3.00	< 30.00
Fluoride	MT/ACSE/204	*	0.52	5.173
Sulphate	MT/ACSE/204	*	< 3.00	< 30.00
Total dissolved solids	MT/ACSE/304	*	< 25	< 100.0
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	7.31	73.10

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

 Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.
Eluates prepared in accordance with BS EN 12457-3:2002*

ACSE Sample Number 38182
Sample ID 426816 - 18-97284
Clients Sample Ref. TP14
Material Source In Situ
Location / Sample Depth (m) 0.15-0.60m
Time Sampled
Date Sampled 01/10/2018
Sample Deviating Codes ef
Client's Sample Description
ACS Testing Material Description Grey sandy GRAVEL
Principal Matrix (as received) SAND

LANDFILL WASTE ACCEPTANCE CRITERIA (WAC)

TEST VALUES

Mass of Undried Test Portion (Mw)	90.7	g	Volume of Leachant Used (L10)	0.899	litres
Mass of Dried Test Portion (Mp)	90.0	g			
Moisture Content Ratio (MC)	0.8	%	Volume of Eluate (VE10)	0.868	litres
Dry Matter Content (DR)	99.2	%			

SOLIDS ANALYSIS

Analyte	Method	AS	Sample Condition for Analysis	Results
Total Organic Carbon (%)	MT/ACSE/102	*	As received	15.4
Loss on ignition (%)	MT/ACSE/302	*f	Air dried at 30 °C	2.9
BTEX (mg/kg)	MT/ACSE/101	*ef	As received	< 0.60
PCBs (7 congeners) (mg/kg)	MT/ACSE/104	*	Air dried at 30 °C	< 1.00
Mineral oil (C10 - C40) (mg/kg)	MT/ACSE/105	*#	As received	152
PAHs (mg/kg)	MT/ACSE/106	*#f	Air dried at 30 °C	36.2
pH (units)	MT/ACSE/301	*ef	Air dried at 30 °C	7.2

ELUATE ANALYSIS

Analyte	Method	AS	Concentration in Eluate (mg/l)	Amount Leached (mg/kg)
Eluate Preparation	LP/ACSE/104			
Liquid : Solid Ratio (L/S)	LP/ACSE/101	*	L/S 10	L/S 10
pH (units)	MT/ACSE/301	*	8.5	
Temperature (°C)	MT/ACSE/301		20	
Conductivity (mS/m)	MT/ACSE/303	*	5.10	
Arsenic	MT/ACSE/205	*	< 0.003	< 0.0300
Barium	MT/ACSE/205	*	0.0730	0.730
Cadmium	MT/ACSE/205	*	< 0.0008	< 0.008
Chromium (total)	MT/ACSE/205	*	0.003	0.027
Copper	MT/ACSE/205	*	0.023	0.233
Mercury	MT/ACSE/202	*	< 0.0001	< 0.0010
Molybdenum	MT/ACSE/205	*	0.0023	0.023
Nickel	MT/ACSE/205	*	0.0020	0.020
Lead	MT/ACSE/205	*	< 0.004	< 0.040
Antimony	MT/ACSE/205	*	< 0.003	< 0.030
Selenium	MT/ACSE/205	*	< 0.006	< 0.060
Zinc	MT/ACSE/205	*	< 0.002	< 0.020
Chloride	MT/ACSE/204	*	< 3.00	< 30.00
Fluoride	MT/ACSE/204	*	0.61	6.137
Sulphate	MT/ACSE/204	*	< 3.00	< 30.00
Total dissolved solids	MT/ACSE/304	*	60	600.0
Phenol index	MT/ACSE/107	*	< 0.05	< 0.50
Dissolved organic carbon	MT/ACSE/103	*	4.54	45.40

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
3 %	5 %	6 %
---	---	10 %
6	---	---
1	---	---
500	---	---
100	---	---
---	>6	---

LANDFILL WASTE ACCEPTANCE CRITERIA SPECIFICATION

BS EN 12457-2:2002 LIMIT VALUES (mg/kg) at L/S 10		
Inert Waste	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15000	25000
10	150	500
1000	20000	50000
4000	60000	100000
1	---	---
500	800	1000

Comments: (comments are beyond the scope of UKAS accreditation)

Key (at clients request):

Individual test result exceeds the landfill waste acceptance criteria limit for inert waste.

The landfill waste acceptance criteria limits are provided for guidance only.

Eluates prepared in accordance with BS EN 12457-3:2002*

Technical Information for Analytical Results

Analysis

* - denotes analysis covered by our UKAS accreditation

- denoted analysis covered by our MCERTS certification

AD = Sample tested in air dried condition.

AR = Sample tested in as-received condition.

D = Sample tested in dry condition.

L = Laboratory prepared leachate

SC = sub contracted

All MCERTS certified test values reported on a dry weight basis.

UKAS uncertainty available on request.

Where results are less than the limit of detection, the value of 0 is used in calculations.

For Phenol index, m- and p- cresol are reported as mixed isomers, calibrated with reference to a p-cresol reference solution.

The individual concentrations of m- and p- cresol cannot be quantified using this method, however, the result reported for the mixed isomers will be an over estimation of the true result in samples where m-cresol is present.

Deviating Codes

Deviating Samples

The use of any of the following symbols indicates that the sample was deviating and it is possible therefore that the results provided may not be representative of the sample taken.

- a – The date and /or time of sampling has not been provided, therefore it is not known if the time lapse between sampling and analysis has exceeded the acceptable holding time(s)*.
- b – The test item was received in a container which has not been recommended*.
- c – On receipt, the temperature of the sample received was found to fall outside the recommendations of BS ISO 18512:2007, Soil Quality. Guidance on long and short term storage of soil samples*.
- d – The sample was received in a container that had not been filled as recommended*.
- e – The delay between sampling and sample receipt is greater than the recommended holding time for the analyte of interest in this matrix*.
- f – The delay between sampling and analysis is greater than the recommended holding time for the analyte of interest in this matrix*.

*In accordance with the requirements of Technical Policy Statement TPS 63; UKAS Policy on Deviating Samples, all UKAS accredited testing laboratories are required to notify their clients that calibration or test results may be invalid where samples are found to be deviating. It is the opinion of ACSE that the term invalid should be interpreted as 'not fully representative of the sample taken at source'.

The following Additional Deviating Sample Codes may also be used.

I/S – Insufficient sample mass/volume received for accurate quantification of this analyte.

U/S – The sample received was deemed unsuitable for accurate determination of this analyte using the Test Methods available.

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Registered in England and
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**Quality Testing & Materials Consultancy
to the
Construction Industry**

APPENDIX C

Photographic Record



Photo 1: TP01 prior to excavation.



Photo 2: TP01 track bed



Photo 3: Bridge deck slab revealed within TP01



Photo 4 TP01 arisings



Photo 4: TP02 prior to excavation



Photo 5: Track bed revealed within TP02



Photo 6: Bridge deck slab revealed within TP02



Photo 7: TP03 prior to excavation.



Photo 8: Groundwater within TP03



Photo 9: TP03 arisings.



Photo 10: Track bed revealed within TP04



Photo 11: TP04 arisings



Photo 12: Track bed revealed within TP05



Photo13: Groundwater revealed within TP05



Photo 14: TP05 arisings



Photo 15: TP06 after excavation



Photo 16: Track bed revealed within TP06



Photo 17: Arisings from TP06



Photo 18: Track bed revealed within TP07



Photo19: Arisings from TP07



Photo 20: Track bed revealed within WS08



Photo 21: TP08 arisings



Photo 22: Track bed revealed within TP09



Photo 23: Alternate view of track bed and ground profile within TP09



Photo 24: Groundwater seepage within TP09



Photo 25: TP09 arisings



Photo 26: Track bed revealed within TP10



Photo 27: TP10 arisings



Photo 28: View of the track bed revealed within TP11



Photo 29: Groundwater seepage within TP11



Photo 30: TP11 arisings



Photo 31: View of the track bed within TP12



Photo 32: General view of TP12



Photo33: Limestone boulder excavated from TP12



Photo 34: View of the arisings from TP12



Photo 35: View of the track bed material within TP13.



Photo 36: View of the arisings from TP13



Photo 37: View of the track bed within TP14



Photo 38: View of the track bed and made ground within TP14



Photo 39: View of the arisings from TP14



Photo 40: View of the track bed within TP15



Photo 41: Groundwater seepage within TP15



Photo 42: View of the arisings from TP15



Photo 43 : Bridge investigation; Drilling of WS02 at southern extent of bridge



Photo 44: Drilling of WS06



Photo 45 : Coring through bridge deck at location DPA



Photo 46 : Underside of bridge arch adjacent to location DPA



Photo 47 : Core through bridge deck at location DPA



Photo 48 : Recovered sample from bridge deck arch at location DPA



Photo 49 : Recovered sample from the sub-slab beneath the bridge at location DPA

APPENDIX D

CAT Waste Output

Site Name	Poole Park Miniature Railway
Location	Poole Park Miniature Railway
Site ID	
Job Number	18-09563
Date	11/9/2018
User Name	edward.davies@acstesting.co.uk
Company Name	ACS Testing Ltd

Hole ID	Sample Depth	Hazardous Waste Y/N	HP1	HP2	HP3	HP4	HP5	HP6	HP7	HP8	HP9	HP10	HP11	HP12	HP13	HP14	HP15	HP16
TP01	0.23-0.42m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP02	0.21-0.63m	Y	No	No	No	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No
TP05	0.00-0.66m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP07	0.08-0.32m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP07	0.47-0.74m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP09	0.00-0.39m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP11	0.00-0.21m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP13	0.00-0.64m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
TP14	0.15-0.60m	N	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

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Hole ID	Sample Depth	Contaminant	Contaminant Concentration (%)	Hazardous Waste Y/N	Hazard Property	Individual Hazard Statements Exceeded	Cumulative Hazard Statements Exceeded	Additional Hazard Statements (see notes section)
38167	0m	pH	0.00000	N				
38167	0m	Benzene	0.00001	N				H225 test
38167	0m	Toluene	0.00001	N				H225 test
38167	0m	Naphthalenene	0.00001	N				H228 test
38167	0m	Acenaphthylene	0.00008	N				
38167	0m	Acenaphthene	0.00001	N				
38167	0m	Fluorene	0.00002	N				
38167	0m	Phenanthrene	0.00007	N				
38167	0m	Anthracene	0.00009	N				
38167	0m	Fluoranthene	0.00027	N				
38167	0m	Pyrene	0.00032	N				
38167	0m	Benzo(a)anthracene	0.00026	N				
38167	0m	Chrysene	0.00027	N				
38167	0m	Benzo(b)fluoranthene	0.00052	N				
38167	0m	Benzo(k)fluoranthene	0.00016	N				
38167	0m	Benzo(a)pyrene	0.00040	N				
38167	0m	Indeno(1,2,3-cd)pyrene	0.00036	N				
38167	0m	Di-benz(a,h,)anthracene	0.00010	N				
38167	0m	Benzo(g,h,i)perylene	0.00039	N				
38167	0m	hydrocarbon/oil with marker	0.03630	N				H225 test
38167	0m	Arsenic	0.00183	N				
38167	0m	Chromium (Total)	0.00596	N				
38167	0m	Copper	0.00580	N				
38167	0m	Lead	0.00000	N				
38167	0m	Leadx	0.00896	N				
38167	0m	Mercury	0.00001	N				
38167	0m	Nickel	0.00319	N				
38167	0m	Zinc	0.00000	N				
38167	0m	Zincx	0.07136	N				
38169	0m	pH	0.00000	N				
38169	0m	Benzene	0.00001	N				H225 test
38169	0m	Toluene	0.00001	N				H225 test
38169	0m	Naphthalenene	0.00002	N				H228 test
38169	0m	Acenaphthylene	0.00014	N				
38169	0m	Acenaphthene	0.00003	N				
38169	0m	Fluorene	0.00004	N				
38169	0m	Phenanthrene	0.00024	N				
38169	0m	Anthracene	0.00022	N				

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38169	0m	Fluoranthene	0.00078	N				
38169	0m	Pyrene	0.00079	N				
38169	0m	Benzo(a)anthracene	0.00049	N				
38169	0m	Chrysene	0.00046	N				
38169	0m	Benzo(b)fluoranthene	0.00076	N				
38169	0m	Benzo(k)fluoranthene	0.00022	N				
38169	0m	Benzo(a)pyrene	0.00062	N				
38169	0m	Indeno(1,2,3-cd)pyrene	0.00044	N				
38169	0m	Di-benz(a,h,)anthracene	0.00019	N				
38169	0m	Benzo(g,h,i)perylene	0.00046	N				
38169	0m	hydrocarbon/oil with marker	0.10120	Y	HP7, HP11	H350, H340		H225 test
38169	0m	Arsenic	0.00272	N				
38169	0m	Chromium (Total)	0.00754	N				
38169	0m	Copper	0.00462	N				
38169	0m	Lead	0.00739	N				
38169	0m	Mercury	0.00001	N				
38169	0m	Nickel	0.00301	N				
38169	0m	Zinc	0.00000	N				
38169	0m	Zincx	0.01738	N				
38171	0m	pH	0.00000	N				
38171	0m	Benzene	0.00001	N				H225 test
38171	0m	Naphthalene	0.00007	N				H228 test
38171	0m	Acenaphthylene	0.00039	N				
38171	0m	Acenaphthene	0.00003	N				
38171	0m	Fluorene	0.00007	N				
38171	0m	Phenanthrene	0.00030	N				
38171	0m	Anthracene	0.00037	N				
38171	0m	Fluoranthene	0.00123	N				
38171	0m	Pyrene	0.00131	N				
38171	0m	Benzo(a)anthracene	0.00083	N				
38171	0m	Chrysene	0.00109	N				
38171	0m	Benzo(b)fluoranthene	0.00200	N				
38171	0m	Benzo(k)fluoranthene	0.00060	N				
38171	0m	Benzo(a)pyrene	0.00142	N				
38171	0m	Indeno(1,2,3-cd)pyrene	0.00135	N				
38171	0m	Di-benz(a,h,)anthracene	0.00047	N				
38171	0m	Benzo(g,h,i)perylene	0.00190	N				
38171	0m	hydrocarbon/oil with marker	0.02560	N				H225 test

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38171	0m	Arsenic	0.00273	N				
38171	0m	Chromium (Total)	0.00567	N				
38171	0m	Copper	0.03592	N				
38171	0m	Lead	0.00928	N				
38171	0m	Mercury	0.00004	N				
38171	0m	Nickel	0.00496	N				
38171	0m	Zinc	0.00000	N				
38171	0m	Zincx	0.03086	N				
38173	0m	pH	0.00000	N				
38173	0m	Naphthalenene	0.00001	N				H228 test
38173	0m	Acenaphthylene	0.00007	N				
38173	0m	Fluorene	0.00001	N				
38173	0m	Phenanthrene	0.00003	N				
38173	0m	Anthracene	0.00005	N				
38173	0m	Fluoranthene	0.00013	N				
38173	0m	Pyrene	0.00016	N				
38173	0m	Benzo(a)anthracene	0.00015	N				
38173	0m	Chrysene	0.00015	N				
38173	0m	Benzo(b)fluoranthene	0.00035	N				
38173	0m	Benzo(k)fluoranthene	0.00010	N				
38173	0m	Benzo(a)pyrene	0.00025	N				
38173	0m	Indeno(1,2,3-cd)pyrene	0.00022	N				
38173	0m	Di-benz(a,h,i)anthracene	0.00006	N				
38173	0m	Benzo(g,h,i)perylene	0.00021	N				
38173	0m	hydrocarbon/oil with marker	0.03840	N				H225 test
38173	0m	Arsenic	0.00164	N				
38173	0m	Chromium (Total)	0.00422	N				
38173	0m	Copper	0.00269	N				
38173	0m	Lead	0.00598	N				
38173	0m	Mercury	0.00001	N				
38173	0m	Nickel	0.00147	N				
38173	0m	Zinc	0.00000	N				
38173	0m	Zincx	0.00568	N				
38174	0m	pH	0.00000	N				
38174	0m	Benzene	0.00003	N				H225 test
38174	0m	Naphthalenene	0.00005	N				H228 test
38174	0m	Acenaphthene	0.00007	N				
38174	0m	Fluorene	0.00006	N				

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38174	0m	Phenanthrene	0.00009	N				
38174	0m	Anthracene	0.00002	N				
38174	0m	Fluoranthene	0.00004	N				
38174	0m	Pyrene	0.00004	N				
38174	0m	Benzo(a)anthracene	0.00003	N				
38174	0m	Chrysene	0.00002	N				
38174	0m	Benzo(b)fluoranthene	0.00004	N				
38174	0m	Benzo(k)fluoranthene	0.00001	N				
38174	0m	Benzo(a)pyrene	0.00003	N				
38174	0m	Indeno(1,2,3-cd)pyrene	0.00003	N				
38174	0m	Di-benz(a,h.)anthracene	0.00002	N				
38174	0m	Benzo(g,h,i)perylene	0.00002	N				
38174	0m	hydrocarbon/oil with marker	0.01140	N				H225 test
38174	0m	Arsenic	0.00330	N				
38174	0m	Chromium (Total)	0.00586	N				
38174	0m	Copper	0.00251	N				
38174	0m	Lead	0.00791	N				
38174	0m	Mercury	0.00001	N				
38174	0m	Nickel	0.00246	N				
38174	0m	Zinc	0.00000	N				
38174	0m	Zincx	0.00704	N				
38176	0m	pH	0.00000	N				
38176	0m	Benzene	0.00001	N				H225 test
38176	0m	Toluene	0.00001	N				H225 test
38176	0m	Naphthalene	0.00001	N				H228 test
38176	0m	Acenaphthylene	0.00004	N				
38176	0m	Fluorene	0.00001	N				
38176	0m	Phenanthrene	0.00004	N				
38176	0m	Anthracene	0.00003	N				
38176	0m	Fluoranthene	0.00012	N				
38176	0m	Pyrene	0.00011	N				
38176	0m	Benzo(a)anthracene	0.00011	N				
38176	0m	Chrysene	0.00010	N				
38176	0m	Benzo(b)fluoranthene	0.00017	N				
38176	0m	Benzo(k)fluoranthene	0.00007	N				
38176	0m	Benzo(a)pyrene	0.00013	N				
38176	0m	Indeno(1,2,3-cd)pyrene	0.00009	N				
38176	0m	Di-benz(a,h.)anthracene	0.00003	N				

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38176	0m	Benzo(g,h,i)perylene	0.00009	N				
38176	0m	Arsenic	0.00151	N				
38176	0m	Chromium (Total)	0.00206	N				
38176	0m	Copper	0.01964	N				
38176	0m	Lead	0.00000	N				
38176	0m	Leadx	0.01440	N				
38176	0m	Mercury	0.00002	N				
38176	0m	Nickel	0.00167	N				
38176	0m	Zinc	0.00000	N				
38176	0m	Zincx	0.00706	N				
38178	0m	pH	0.00000	N				
38178	0m	Benzene	0.00003	N				H225 test
38178	0m	Toluene	0.00001	N				H225 test
38178	0m	Naphthalene	0.00002	N				H228 test
38178	0m	Acenaphthylene	0.00008	N				
38178	0m	Acenaphthene	0.00001	N				
38178	0m	Fluorene	0.00002	N				
38178	0m	Phenanthrene	0.00007	N				
38178	0m	Anthracene	0.00006	N				
38178	0m	Fluoranthene	0.00018	N				
38178	0m	Pyrene	0.00018	N				
38178	0m	Benzo(a)anthracene	0.00015	N				
38178	0m	Chrysene	0.00015	N				
38178	0m	Benzo(b)fluoranthene	0.00027	N				
38178	0m	Benzo(k)fluoranthene	0.00011	N				
38178	0m	Benzo(a)pyrene	0.00020	N				
38178	0m	Indeno(1,2,3-cd)pyrene	0.00015	N				
38178	0m	Di-benz(a,h,)anthracene	0.00004	N				
38178	0m	Benzo(g,h,i)perylene	0.00014	N				
38178	0m	hydrocarbon/oil with marker	0.04100	N				H225 test
38178	0m	Arsenic	0.00250	N				
38178	0m	Chromium (Total)	0.00313	N				
38178	0m	Copper	0.01693	N				
38178	0m	Lead	0.00608	N				
38178	0m	Mercury	0.00002	N				
38178	0m	Nickel	0.00319	N				
38178	0m	Zinc	0.00000	N				
38178	0m	Zincx	0.05506	N				

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38180	0m	pH	0.00000	N				
38180	0m	Benzene	0.00001	N				H225 test
38180	0m	Naphthalene	0.00002	N				H228 test
38180	0m	Acenaphthylene	0.00005	N				
38180	0m	Acenaphthene	0.00001	N				
38180	0m	Fluorene	0.00001	N				
38180	0m	Phenanthrene	0.00008	N				
38180	0m	Anthracene	0.00005	N				
38180	0m	Fluoranthene	0.00024	N				
38180	0m	Pyrene	0.00022	N				
38180	0m	Benzo(a)anthracene	0.00019	N				
38180	0m	Chrysene	0.00017	N				
38180	0m	Benzo(b)fluoranthene	0.00030	N				
38180	0m	Benzo(k)fluoranthene	0.00009	N				
38180	0m	Benzo(a)pyrene	0.00021	N				
38180	0m	Indeno(1,2,3-cd)pyrene	0.00015	N				
38180	0m	Di-benz(a,h)anthracene	0.00005	N				
38180	0m	Benzo(g,h,i)perylene	0.00016	N				
38180	0m	hydrocarbon/oil with marker	0.04230	N				H225 test
38180	0m	Arsenic	0.00184	N				
38180	0m	Chromium (Total)	0.00228	N				
38180	0m	Copper	0.03039	N				
38180	0m	Lead	0.00000	N				
38180	0m	Leadx	0.02040	N				
38180	0m	Mercury	0.00007	N				
38180	0m	Nickel	0.00269	N				
38180	0m	Zinc	0.00000	N				
38180	0m	Zincx	0.02351	N				
38182	0m	pH	0.00000	N				
38182	0m	Benzene	0.00001	N				H225 test
38182	0m	Naphthalene	0.00006	N				H228 test
38182	0m	Acenaphthylene	0.00005	N				
38182	0m	Acenaphthene	0.00001	N				
38182	0m	Fluorene	0.00003	N				
38182	0m	Phenanthrene	0.00022	N				
38182	0m	Anthracene	0.00008	N				
38182	0m	Fluoranthene	0.00047	N				
38182	0m	Pyrene	0.00040	N				

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38182	0m	Benzo(a)anthracene	0.00028	N				
38182	0m	Chrysene	0.00031	N				
38182	0m	Benzo(b)fluoranthene	0.00048	N				
38182	0m	Benzo(k)fluoranthene	0.00022	N				
38182	0m	Benzo(a)pyrene	0.00033	N				
38182	0m	Indeno(1,2,3-cd)pyrene	0.00030	N				
38182	0m	Di-benz(a,h,)anthracene	0.00010	N				
38182	0m	Benzo(g,h,i)perylene	0.00029	N				
38182	0m	hydrocarbon/oil with marker	0.01520	N				H225 test
38182	0m	Arsenic	0.00249	N				
38182	0m	Chromium (Total)	0.00681	N				
38182	0m	Copper	0.05853	N				
38182	0m	Lead	0.00000	N				
38182	0m	Leadx	0.01930	N				
38182	0m	Mercury	0.00002	N				
38182	0m	Nickel	0.00751	N				
38182	0m	Zinc	0.00000	N				
38182	0m	Zincx	0.01820	N				

Notes - Additional Information on Hazard Properties

Hazardous Property	Description	Hazard Statement	Note
HP1	Explosive	H200, H201, H202, H203, H204, H240 and H241	A waste is assessed for HP1 via test methods, rather than a concentration limit. If you have substances or a mixture containing explosive properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP2	Oxidising	H270, H271, H272	A waste is assessed for HP2 via test methods, rather than a concentration limit. If you have substances or a mixture containing oxidising properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP3	Flammable	H220 to H226, H228, H242, H250, H251m H252, H260, H261	A waste is assessed for HP3 via test methods, rather than a concentration limit. If you have substances or a mixture containing flammable properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria. If a waste contains either H220, H221, H260 or H261 a calculation can be performed to identify the minimum amount of that substance that will trigger HP3.
HP5	Specific Target Organ Toxicity (STOT)	H304	Should a waste contain two or more compounds displaying H304 (Asp. Tox 1) and equal or exceed its specific concentration limit of 10%, then a waste will be hazardous by HP5 if its kinematic viscosity exceeds 20.5 mm ² /s. Guidance should be sought from the CLP Criteria.
HP9	Infectious	N/A	A waste is assessed for HP9 via further testing, rather than a concentration limit. In cases where there is the potential for toxins to be present, further testing will be required. For healthcare waste reference should be made to the Department of health guidance: Safe management of healthcare waste.
HP12	Release of acute toxic gas	EUH029, EUH031, EUH032, H260 or H261	A waste is assessed for HP12 via test methods, rather than a concentration limit. If you have substances or a mixture that may release acute toxic gas the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP15	Explosive or explosive properties	H205, EUH001, EUH019 or EUH044	A waste is assessed for HP15 via test methods, rather than a concentration limit. If you have substances or a mixture that may exhibit explosive or explosive properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP16	Persistent organic pollutants	N/A	A waste is considered hazardous if the concentration of one or more compound (persistent organic pollutant) as listed in Appendix C of Environment Agency guidance WM3 is above its assigned concentration limit. For reference for dioxins and furans, this assessment incorporates the use of specific toxicity equivalent factors.