Basement Layout

Basement 2 Plan

----- 1.4m offset

Basement Layout

Basement 3 Plan

----- 1.4m offset

Migration Museum Study

Option 01 - Flatiron Model

Residential (Floors 2 - 9) total 3,330m² (including allowance for balcony spaces) **(37% Affordable Housing provided on site)**

Cultural (Basement - 1st Floor) total 1617m²

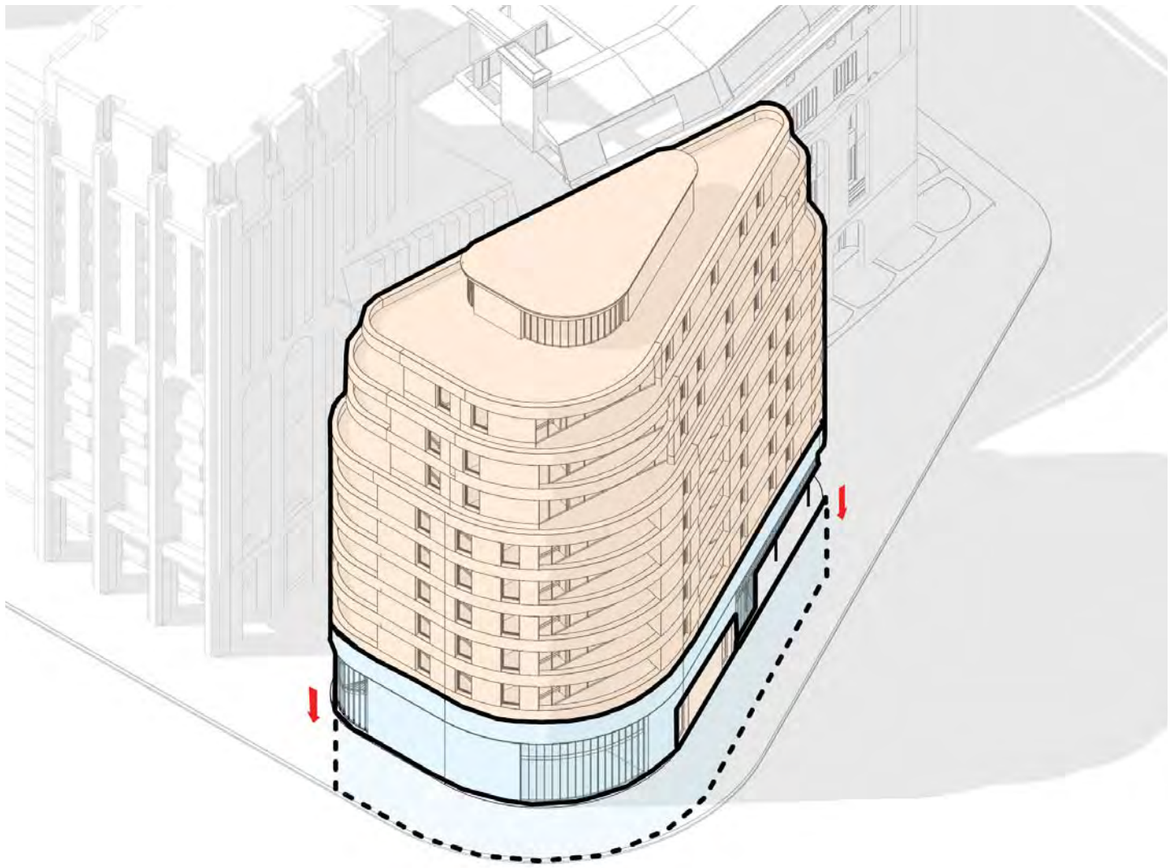
Proposed Migration Museum Area:

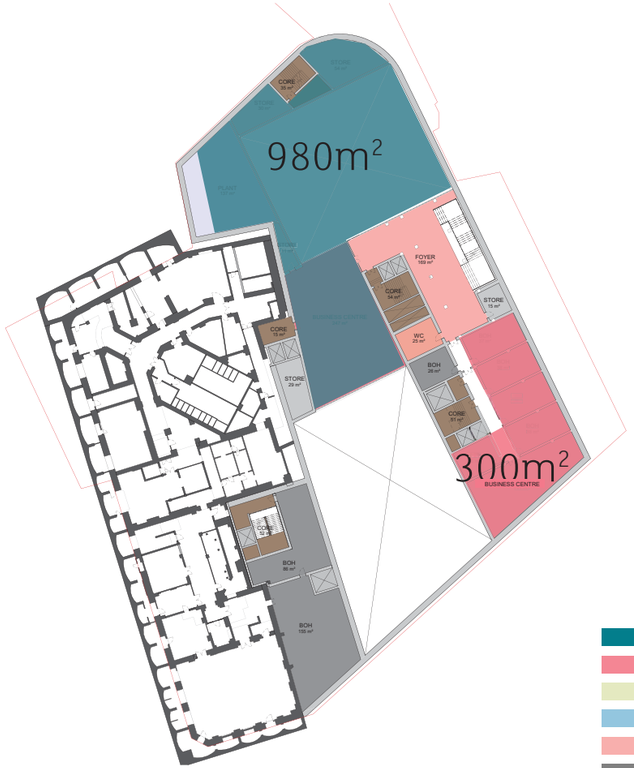
01 :387m²

Grd: 250m²

B01: 980m²

Total: 1617m²





Basement 1 Plan

Migration Museum
Business Centre
Event Spaces
Pool/Spa
Foyer
BOH
Plant

Areas

Conference 1:	400m²
Conference 2:	900 m²
Business Centre:	300m²

Migration Museum Brief:
NIA: 1500 sq m which includes:
- Gallery space (1000 sq m)
- Education space(70 sq m)
- Community and event space (80 sq m)
- Café with street access (250 sq m)
- Shop (30 sq m)
- Storage (30 sq m)
- Office and meeting facilities (50 sq m)

Residential Building
Option 1

Summary

- Total GIA = 4,100m^2 / 44,000ft^2
- Cultural GIA = 660m^2 / 7,000ft^2
- Resi. GIA = 3,300m^2 / 36,000ft^2
- Total number of apartments: 29
- 20% Apartments of 1b 2p (6)
- 11% Apartments of 3b 6p (20)

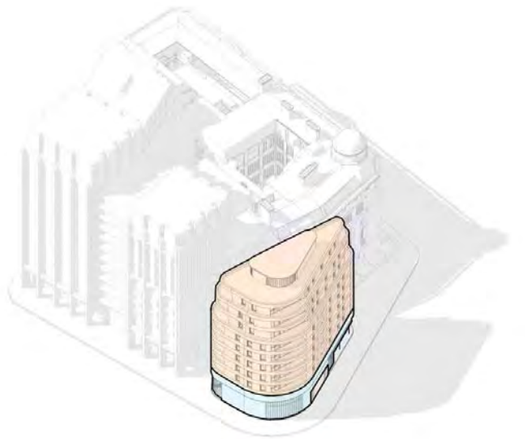
Ground Floor Plan

7th Floor Plan

Roof Floor Plan

First Floor Plan

8th Floor Plan



2nd-6th Floor Plan

9th Floor Plan

Residential Building
Option 2

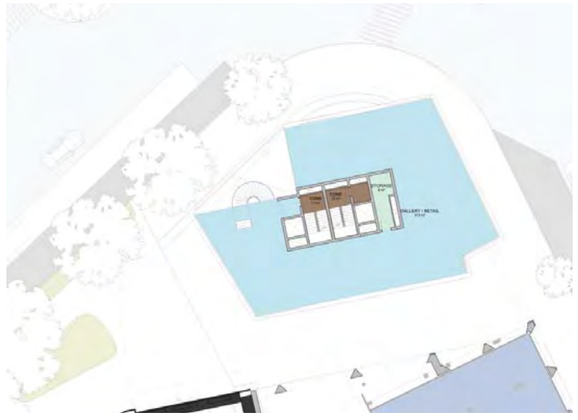
Summary

- Total GIA = 3,600m^2 / 39,000ft^2
- Cultural GIA = 1,000m^2 / 11,000ft^2
- Resi. GIA = 2,500m^2 / 28,000ft^2
- Total number of apartments: 24
- 25% Apartments of 1b 2p (6)
- 37.5% Apartments of 3b 6p (9)
- 37.5% Apartments of 3b 6p (9)

Ground Floor Plan

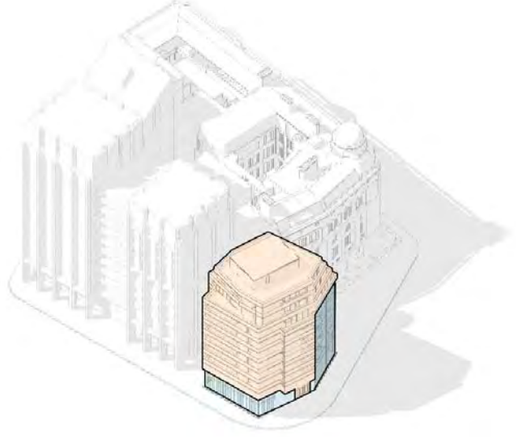
7th Floor Plan

Roof Floor Plan



First Floor Plan

8th Floor Plan



2nd-6th Floor Plan

9th Floor Plan

A-squared Studio

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APPENDIX D
TECHNICAL BACKGROUND

H1 Desk Study

Aquifer designation and Source protection zones

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive' strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

Preliminary risk assessment methodology

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. Under CLR11, three stages of risk assessment exist: preliminary, generic quantitative and detailed quantitative. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution
- likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- severe: short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000)
- medium: chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem
- mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment
- minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the table below.

		Consequences			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**Highly likely**	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required
- high: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term
- moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term
- low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild
- very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.

H2 Site Investigation Methodology

Ground gas monitoring

An infrared gas meter was used to measure gas flow, concentrations of carbon dioxide (CO_2), methane (CH_4) and oxygen (O_2) in percentage by volume, while hydrogen sulphide (H_2S) and carbon monoxide (CO) were recorded in parts per million. Initial and steady state concentrations were recorded. In addition, during the first monitoring round, all wells were screened with a PID to establish if there are any interferences and cross-sensitivity of other hydrocarbons with the infrared gas meter.

Low flow groundwater sampling

Groundwater samples were retrieved using a United States Environment Protection Agency (USEPA) approved low-flow purging and sampling methodology.

The low-flow method relies on moving groundwater through the well screen at approximately the same rate as it flows through the geological formation. This results in a significant reduction in the volume of water extracted before sampling and significantly reduces the amount of disturbance of the water in the monitoring well during purging and sampling. Drawdown levels in the monitoring well and water quality indicator parameters (pH, temperature, electrical conductivity, redox potential and dissolved oxygen) are monitored during low-flow purging and sampling, with stabilisation indicating that purging is complete and sampling can begin. As the flow rate used for purging, in most cases, is the same or only slightly higher than the flow rate used for sampling, and because purging and sampling are conducted as one continuous operation in the field, the process is referred to as low-flow purging and sampling.

H3 Site Investigation Methodology

Statistical assessment

Statistical analysis of the results has been conducted in accordance with *Guidance on Comparing Soil Contamination Data with a Critical Concentration* (CIEH and CL:AIRE, 2008) as detailed in Appendix D.

Statistical analysis is utilised to establish whether the land is suitable for the proposed use under the land use planning system by attempting to answer a key question. For a site being developed the key question is: '*can we confidently say that the level of contamination on this land is low relative to some appropriate measure of risk?*' More specifically, this is expressed as '*Is there sufficient evidence that the true mean concentration of the contaminant (μ) is less than the critical concentration (C_c)?*', where the critical concentration could be the GAC or a site-specific assessment criterion (SSAC). The true mean (μ) is unknown and therefore a conservative estimate, termed the upper confidence limit (UCL), of this value is derived from the data. The UCL is then compared against the GAC.

In statistical terms the question above is handled through the use of a formal hypothesis – the null hypothesis and the alternate hypothesis. The statistical tests are structured to show (with a defined level of confidence, in this case 95%) which of the two hypotheses is most likely to be true, by determining whether the null hypothesis can be rejected.

For consideration under the planning regime, the null (H_0) and alternative (H_1) hypotheses are presented below.

Null and alternative hypotheses

Hypothesis	Equation	Description
Null (H_0)	$\mu \geq C_c$	The true mean concentration is equal to, or greater than, the critical concentration
Alternative (H_1)	$\mu < C_c$	The true mean concentration is less than the critical concentration

Therefore, if the null hypothesis is accepted for a certain contaminant it can be concluded that its concentration is high relative to the critical concentration, which in the case of this assessment is taken to be the GAC/SSAC and as such the whole site may be classed as being contaminated by a particular substance.

In addition, the statistical guidance provides an outlier test (Grubbs' test) that has been used within this assessment for the identification of 'outliers' or 'hotspots'. The 'outlier' test is conducted before undertaking statistical analysis (and 'outliers' may be removed from the dataset) but **only** where the conceptual model supports this.

The statistical tests applied to the dataset are selected based on whether the data is normally or non-normally distributed. The distribution of the dataset has been assessed using the Shapiro-Wilks normality test. Where the dataset has been found to be normally distributed the one sample t-test is undertaken. Where data has been found to be non-normally distributed Chebyshev's theorem is utilised.

Reuse of suitable materials

The Definition of Waste: Development Industry Code of Practice (CL:AIRE, 2011) (CoP) was developed in cons**u**ltation with the Environment Agency and development industry to enable the re-use of materials under certain scenarios and subject to demonstrating that specific criteria are met. The current reuse scenarios covered by the CoP comprise

- reuse on the site of origin (with or without treatment)
- direct transfer of clean and natural soils between sites
- use in the development of land other than the site of origin following treatment at an authorised Hub site (including a fixed soil treatment facility).

The importation of made ground soils (irrespective of contamination status) or crushed demolition materials is not permitted currently under the CoP and requires either a standard rules environmental permit or a U1 waste exemption (see below).

In the context of excavated materials used on-sites undergoing development, four factors are considered to be of particular relevance in determining if the material is a waste or when it ceases to be waste:

- the aim of the Waste Framework Directive is not undermined, i.e. if the use of the material will create an unacceptable risk of pollution of the environment or harm to human health it is likely to be waste
- the material is certain to be used
- the material is suitable for use both chemically and geotechnically
- only the required quantity of material will be used.

The CoP requires the preparation of a materials management plan (MMP) that confirms the above factors will be met. This plan needs to be reviewed by a 'Qualified Person' (QP) who will then issue a declaration form to the EA. As the project progresses, data must be collated and on completion a verification report produced that shows the MMP was followed and describes any changes.

The MMP establishes whether specific materials are classified as waste and how excavated materials will be treated and/or reused in line with the CoP. The MMP is likely to form part of the site waste management plan.

APPENDIX E
EXPLORATORY HOLE RECORDS

BOREHOLE LOG

Contract:	Client:	Borehole:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**BH1**

Contract Ref:	Start: **23.04.20**	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **24.04.20**	**---**	**---**	**1** of **2**

Samples and In-situ Tests				Water	Backfill & Instru-mentation	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Light brown / orange very sandy angular to rounded fine to coarse GRAVEL of flint with low cobble content. Sand is fine to coarse. Cobbles are angular concrete. (PRESUMED BACKFILL)	(1.50)	
1.50-1.95	1	SPT(c)	2,2/2,2,2,4 N=10				1.50	
1.50	1	B				Medium dense light brown / orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (PRESUMED BACKFILL)		
2.30-2.75	2	SPT(c)	2,3/4,5,5,7 N=21				(1.95)	
2.30	2	B						
3.10-3.55	3	SPT(c)	2,4/5,5,6,8 N=24	▼1			3.45	
3.40	3	B				Medium dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse.	(0.55)	
4.00-4.45	4	SPT(c)	3,4/3,4,4,5 N=16				4.00	
4.00	4	B				Medium dense orange brown very gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse of flint.	4.20	
4.30	1	D				Firm brown, locally light brown / orange, slightly sandy slighty gravelly CLAY. Gravel is subangular to rounded fine to coarse of flint. Sand is fine to coarse.	4.60	
4.50	2	D				Stiff to very stiff closely fissured dark grey CLAY.		
5.00-5.45	1	$UT_{(UT100)}$	45 blows 100% recovery					
5.45	3	D						
6.00	4	D						
6.50-6.95	5	SPT	1,2/2,3,4,5 N=14			. . . 6.50m Rare light grey silt partings and rare fine sand sized selenite crystals.		
6.50	5	D						
7.50	6	D				. . . 7.30m to 7.50m Band of light brown / light grey claystone.		

Boring Progress and Water Observations					
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth

Chiselling / Slow Progress		
From	To	Duration (hh:mm)

General Remarks

1. Location cleared by others during trial pitting excavations and prior to backfilling pit to ground level.
2. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals.
3. Borehole drilled in 150mm tools and cased to 4.50m.
4. Groundwater added from 1.50m to 4.20m (200 litres) to assist drilling.
5. Groundwater encountered at 3.40m.
6. Standpipe installed to 4.50m.

All dimensions in metres | Scale: **1:44**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Cable percussion	**Dando 100 (cut down)**	**DR**	**SAlhilly**	

BOREHOLE LOG

Contract:	Client:	Borehole:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**BH1**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**23.04.20** End: **24.04.20**	**---**	**---**	**2** of **2**

Samples and In-situ Tests				Water	Backfill & Instru-mentation	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
8.00-8.45	2	$UT_{(UT100)}$	45 blows 100% recovery			Stiff to very stiff closely fissured dark grey CLAY. *(stratum copied from 4.60m from previous sheet)*		
8.45	7	D						
9.00	8	D				. . . 9.00m Increase in bioturbation, silt and fine sand content. Reduction in fissuring.		
9.50-9.95	6	SPT	3,4/5,6,7,7 N=25					
9.50	9	D					(10.40)	
10.50	10	D						
11.00-11.45	3	$UT_{(UT100)}$	50 blows 89% recovery					
11.45	11	D						
12.00	12	D						
12.80-13.25	7	SPT	3,5/6,7,8,8 N=29					
12.80	13	D						
13.50	14	D						
14.50-14.95	4	$UT_{(UT100)}$	55 blows 89% recovery					
14.95	15	D					15.00	
						Borehole terminated at 15.00m depth.		

Boring Progress and Water Observations					
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth

Chiselling / Slow Progress		
From	To	Duration (hh:mm)

General Remarks

7. Borehole commenced through TP14 undertaken by others. Detailed logging was not possible prior to the location being backfilled. It is understood that prior to backfill the pit was excavated to some 3.45m before encountering groundwater.
8. SPT hammer DR02-2019 (E_r = 63.47%) used.

All dimensions in metres | Scale: **1:44**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Cable percussion	**Dando 100 (cut down)**	**DR**	**SAlhilly**	

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS1**

Contract Ref:	Start: **18.02.20**	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **18.02.20**	**---**	**---**	**1** of **1**

Progress	Samples / Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete.	(0.70)	
								0.70	
							Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to medium. (LYNCH HILL GRAVEL MEMBER)		
							. . . 1.27m Mackintosh Probe: 86 blows for 150mm	(1.70)	
	1.90	1	D				. . . 1.90m to 2.10m Band of light brown find to medium SAND with rare fine to medium subangular gravel of flint.		
							. . . 2.30m Groundwater noted in sample tubes.		
							. . . 2.40m Mackintosh Probe: 100 blows for 75mm	2.40	
							Borehole terminated at 2.40m due to density of materials.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of trial pit TP11.
2. Groundwater encountered at 2.30m depth.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Hand held window sampling	**Hand held window sampler**	**RSK**	**ATyler**	

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS2**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **18.02.20**	**---**	**---**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete.	0.15	
							Very dense light brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is medium to coarse. (LYNCH HILL GRAVEL MEMBER)	(2.15)	
							. . . 1.62m Mackintosh Probe: 120 blows for 150mm		
							. . . 2.30m Mackintosh Probe: 100 blows for 86mm	2.30	
							Borehole terminated at 2.30m depth due to density of materials.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of trial pit TP1.
2. No groundwater encountered.
3. 19mm diameter standpipe (complete with flush protective cover) installed to 2.30m depth on completion. Response zone 0.30m to 2.30m depth.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Hand held window sampling	**Hand held window sampler**	**RSK**	**ATyler**	

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS3**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**26.02.20**	**---**	**---**	**1** of **1**
	End: **26.02.20**			

Progress	Samples / Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete.	0.23	
							Very dense brown very sandy subangular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (LYNCH HILL GRAVEL MEMBER)	(1.37)	
	1.20-1.51	1	SPT(c)	7,13/17,27,6 for 10mm					
							Borehole terminated at 1.60m. Continued with (super heavy) dynamic probe.	1.60	

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of trial pit TP2.
2. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals to 3.00m depth.
3. No groundwater encountered.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Modular Dynamic Sampling	**Modular Dynamic Sampling Rig**	**Dynamic Sampling**	**SAlhilly**	AGS

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS4**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **26.02.20**	**---**	**---**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Paving Slabs.	0.05	
							MADE GROUND: Concrete.	0.13	
							MADE GROUND: Orange brown very gravelly medium to coarse SAND. Gravel is angular to subrounded fine to coarse brick, flint and rare clinker.	(1.37)	
								1.50	
	1.60-2.05	1	SPT(c)	1,0/0,1,0,4 N=5			MADE GROUND: Dark grey brown gravelly fine to coarse SAND. Gravel is angular to roudned fine to coarse brick flint and clinker.	1.70	
	1.60	1	ES				Very dense brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (LYNCH HILL GRAVEL MEMBER)	(0.90)	
	1.90	2	D						
	2.30-2.53	2	SPT(c)	11,14/30,20 for 40mm				2.60	
							Borehole terminated at 2.60m depth. Continued with (super heavy) dynamic probe.		

Drilling Progress and Water Observations

Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of trial pit TP3.
2. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals to 3.00m depth.
3. No groundwater encountered.
4. 42mm diameter standpipe (complete with flush protective cover) installed to 2.50m depth on completion. Response zone 0.50m to 2.50m depth.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Modular Dynamic Sampling	**Modular Dynamic Sampling Rig**	**Dynamic Sampling**	**SAlhilly**	

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS5**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **26.02.20**	**---**	**---**	**1** of **1**

Progress	Samples / Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete.	0.15	
							MADE GROUND: Orange brown very gravelly medium to coarse SAND. Gravel is angular to subrounded fine to coarse flint and brick.	(0.65)	
								0.80	
							Very dense orange brown very sandy angular to subangular fine to coarse GRAVEL of flint. Sand is medium to coarse. (LYNCH HILL GRAVEL MEMBER)	(0.60)	
								1.40	
							Borehole terminated at 1.40m depth. Continued with (super heavy) dynamic probe.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of trial pit TP4.
2. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals to 3.00m depth.
3. No groundwater encountered.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Modular Dynamic Sampling	**Dynamic probe apparatus in**	**SAlhilly**	**SAlhilly**	

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS6**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**26.02.20**	**---**	**---**	**1** of **1**
	End: **26.02.20**			

Progress	Samples / Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Paving Slab.	0.05	
							MADE GROUND: Yellow fine to medium SAND.	0.10	
							MADE GROUND: Concrete.	0.27	
							MADE GROUND: Dark grey sandy GRAVEL of fine to coarse angular limestone.	0.30	
							MADE GROUND: Concrete.	(0.29)	
								0.59	
							Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is medium to coarse. (LYNCH HILL GRAVEL MEMBER)	(1.51)	
								2.10	
							Borehole terminated at 2.10m. Continued with (super heavy) dynamic probe.		

Drilling Progress and Water Observations

Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of trial pit TP5.
2. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals to 3.00m depth.
3. No groundwater encountered.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Modular Dynamic Sampling	**Dynamic probe apparatus in**	**SAlhilly**	**SAlhilly**	

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS7**

Contract Ref:	Start: **27.02.20**	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **27.02.20**	**---**	**---**	**1** of **1**

Progress	Samples / Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete.	(0.30)	
								0.30	
							Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (LYNCH HILL GRAVEL MEMBER)	(1.40)	
	1.20-1.55	1	SPT(c)	5,7/16,19,15 for 50mm					
							Borehole terminated at 1.70m depth. Conitnued with (super heavy) dynamic probe.	1.70	

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals to 2.00m depth.
2. No groundwater encountered.
3. Window sample undertaken through base of trial pit TP7.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Modular Dynamic Sampling	**Modular Dynamic Sampling Rig**	**Dynamic Sampling**	**SAlhilly**	AGS

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS8**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**27.02.20** End: **27.02.20**	**---**	**---**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete.	(0.70)	
								0.70	
							Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to medium. (LYNCH HILL GRAVEL MEMBER)	(1.67)	
	2.00-2.31	2	SPT(c)	16,9/20,17,15 for 75mm					
								2.37	
							Borehole terminated at 2.37m depth.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Window sample undertaken through base of TP11.
2. Down borehole checks for buried ferrous objects carried out during drilling by specialist unexploded ordnance (UXO) officer using magnetometer at regular intervals to 3.00m depth.
3. Groundwater encountered at 2.30m depth.
4. 19mm diameter standpipe (complete with flush protective cover) installed to 2.30m depth on completion. Response zone 0.30m to 2.30m depth.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Modular Dynamic Sampling	**Modular Dynamic Sampling Rig**	**Dynamic Sampling**	**SAlhilly**	AGS

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP1**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	0.15	
						Very dense light brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is medium to coarse. (LYNCH HILL GRAVEL MEMBER)	(1.45)	
1.00 1.00 1.00	1 2	D ES PID	0.0ppm				1.60	
1.60 1.60 1.60	3 4	D ES PID	0.0ppm			Trial pit terminated at 1.60m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**ATyler**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP2**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	0.23	
0.50 0.50 0.50	1 2	D ES PID	0.0ppm			Very dense brown very sandy subangular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (LYNCH HILL GRAVEL MEMBER)	(1.20) 1.43	
						Trial pit terminated at 1.43m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**ATyler**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP3**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Paving Slabs.	0.05	
						MADE GROUND: Concrete.	0.13	
						MADE GROUND: Orange brown very gravelly medium to coarse SAND. Gravel is angular to subrounded fine to coarse brick, flint and rare clinker.	(1.37)	
0.50	1	ES						
0.50	1	D						
0.50		PID	0.0ppm					
0.75	2	ES						
0.75	2	D						
0.75		PID	0.0ppm					
							1.50	
1.50	3	ES				MADE GROUND: Dark grey brown gravelly fine to coarse SAND. Gravel is angular to roudned fine to coarse brick flint and clinker.	1.70	
1.50	3	D						
1.50		PID	0.0ppm					

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**SAlhilly**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP4**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	0.15	
0.50	1	ES				MADE GROUND: Orange brown very gravelly medium to coarse SAND. Gravel is angular to subrounded fine to coarse flint and brick.	(0.65)	
0.50	2	D						
0.50		PID	0.0ppm				0.80	
1.00	3	ES				Very dense orange brown very sandy angular to subangular fine to coarse GRAVEL of flint. Sand is medium to coarse. (LYNCH HILL GRAVEL MEMBER)	(0.60)	
1.00	4	D						
1.00		PID	0.0ppm				1.40	
						Trial pit terminated at 1.40m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**SAlhilly**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP5**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Paving Slab.	0.05	
						MADE GROUND: Yellow fine to medium SAND.	0.10	
						MADE GROUND: Concrete.	0.27	
						MADE GROUND: Dark grey sandy GRAVEL of fine to coarse angular limestone.	0.30	
						MADE GROUND: Concrete.	(0.29)	
							0.59	
0.70 0.70	1	ES PID	0.0ppm			Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is medium to coarse. (LYNCH HILL GRAVEL MEMBER)	(1.01)	
							1.60	
						Trial pit terminated at 1.60m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**SAlhilly**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP6**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	(0.35) 0.35	
0.60 0.60	1	ES PID	0.0ppm			MADE GROUND: Brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse flint, brick and clinker.	(0.95) 1.30	
						Trial pit terminated at 1.30m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**SAlhilly**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP7**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	(0.30) 0.30	
0.50 0.50 0.50	1 2	D ES PID	0.0ppm			Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (LYNCH HILL GRAVEL MEMBER)	(0.92) 1.22	
						Trial pit terminated at 1.22m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**SAlhilly**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP9**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	(0.63) 0.63	
0.90 0.90 0.90	1 2	D ES PID	0.0ppm			Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to coarse. (LYNCH HILL GRAVEL MEMBER)	(0.87) 1.50	
						Trial pit terminated at 1.50m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**SAlhilly**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP11**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	(0.70) 0.70	
						Very dense orange brown very sandy angular to rounded fine to coarse GRAVEL of flint. Sand is fine to medium. (LYNCH HILL GRAVEL MEMBER)	(0.50) 1.20	
1.20 1.20 1.20	1 2	D ES PID	0.0ppm			Trial pit terminated at 1.20m depth.		

General Remarks

1. Trial pit was dry and stable on inspection.
2. Trial pit excavated by others.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools**	**ATyler**	

TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**TP12**

Contract Ref:	Start:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	End: **???**	**---**	**---**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Concrete.	(0.30) 0.30	
0.40	1	ES				MADE GROUND: Brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse brick, flint and concrete.	(0.40) 0.70	
						Orange brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse flint.	(2.00) 2.70	
						Trial pit terminated at 2.70m depth.		

General Remarks

1. Trial pit shored using traditional sheeting and strutting method.
2. Trial pit was dry and stable on inspection.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Hand dug	**Hand tools and shoring**	**SAlhilly**	

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS1**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**18.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/200mm)	DIAGRAM (N200 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
1.5				
2.0				
2.5		Dynamic probe hole terminated at 2.40m depth.		
3.0				
3.5				
4.0				
4.5				

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**			

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS2**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**18.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/200mm)	DIAGRAM (N200 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
1.5				
2.0				
2.5		Dynamic probe hole terminated at 2.30m depth.		
3.0				
3.5				
4.0				
4.5				

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres Scale **1:25**	Method:	Tested By:	Checked By:	AGS

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS3**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**26.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/100mm)	DIAGRAM (N100 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0	2			
	3			
1.5	35 50			
		Dynamic probe hole terminated at 1.60m depth.		
2.0				
2.5				
3.0				
3.5				
4.0				
4.5				

Equipment Information: Type of cone used: **Disposable**. Type of anvil used: **Loose**.

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**	**Eurocode - DPSH (super heavy) [DPSH-A]**	**SAlhilly**	

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS4**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**26.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/100mm)	DIAGRAM (N100 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
1.5				
2.0				
2.5	4 7 50			
3.0				
3.5				
4.0				
4.5				

Dynamic probe hole terminated at 2.60m depth.

Equipment Information: Type of cone used: **Disposable**. Type of anvil used: **Loose**.

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**	**Eurocode - DPSH (super heavy) [DPSH-A]**	**SAlhilly**	

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS5**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**26.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/100mm)	DIAGRAM (N100 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
	50			
1.5		Dynamic probe hole terminated at 1.40m depth.		
2.0				
2.5				
3.0				
3.5				
4.0				
4.5				

Equipment Information: Type of cone used: **Disposable**. Type of anvil used: **Loose**.

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**	**Eurocode - DPSH (super heavy) [DPSH-A]**	**SAlhilly**	

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS6**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**26.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/100mm)	DIAGRAM (N100 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
1.5				
2.0	50			
		Dynamic probe hole terminated at 2.10m depth.		
2.5				
3.0				
3.5				
4.0				
4.5				

Equipment Information: Type of cone used: **Disposable**. Type of anvil used: **Loose**.

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**	**Eurocode - DPSH (super heavy) [DPSH-A]**	**SAlhilly**	AGS

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS7**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**27.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/100mm)	DIAGRAM (N100 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
1.5	10 50			
		Dynamic probe hole terminated at 1.70m depth.		
2.0				
2.5				
3.0				
3.5				
4.0				
4.5				

Equipment Information: Type of cone used: **Disposable**. Type of anvil used: **Loose**.

Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**	**Eurocode - DPSH (super heavy) [DPSH-A]**	**SAlhilly**	

DYNAMIC PROBE LOG

Contract:	Client:	Probe ref:
Grange Central Saint Martins	**Grange St. Martins Hotel Ltd**	**WS8**

Contract Ref:	Date:	Ground Level (m AOD):	Co-ordinates:	Sheet:
372042	**27.02.20**	**---**	**---**	**1** of **1**

DEPTH (m)	READING (Blows/200mm)	DIAGRAM (N200 VALUES) 0 5 10 15 20 25 30 35 40 45 50	TORQUE ON RODS (Nm)	REMARKS
0.5				
1.0				
1.5				
2.0				
2.5		Dynamic probe hole terminated at 2.37m depth.		
3.0				
3.5				
4.0				
4.5				

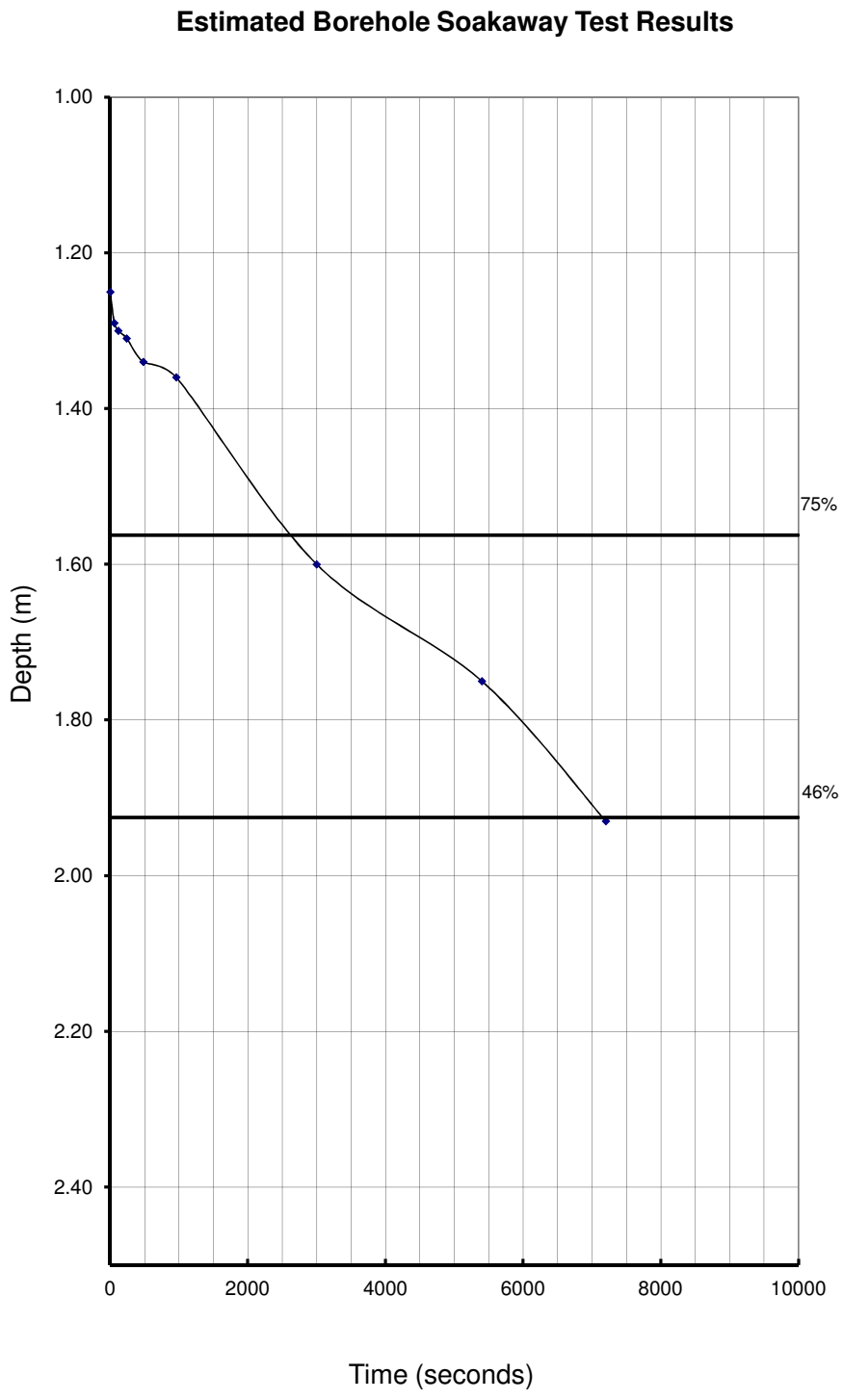
Equipment conforms to apparatus in BS EN ISO 22476-2:2005 + A1 (2011)

All dimensions in metres	Method:	Tested By:	Checked By:
Scale **1:25**			

INDICATIVE BOREHOLE SOAKAWAY TEST

Location	Grange Central St. Martins	**Test No**	1
Client	Grange St. Martins Hotels Ltd	**Internal Borehole Diameter (m)**	0.042
Job Number	WS4	**Water level at start (mbgl)**	1.25
Date	26-Feb-20	**Depth to Base of Test (m)**	2.50
Operator	SA		

Time (Secs)	Water level (mbgl)
0	1.25
60	1.29
120	1.30
240	1.31
480	1.34
960	1.36
3000	1.60
5400	1.75
7200	1.93



Results

Vp 75-46 (m3)	0.000105
ap 60.5 (m2)	0.101
tp 75-46 (s)	4500.00
Infiltration Rate (m/s)	2.31E-07

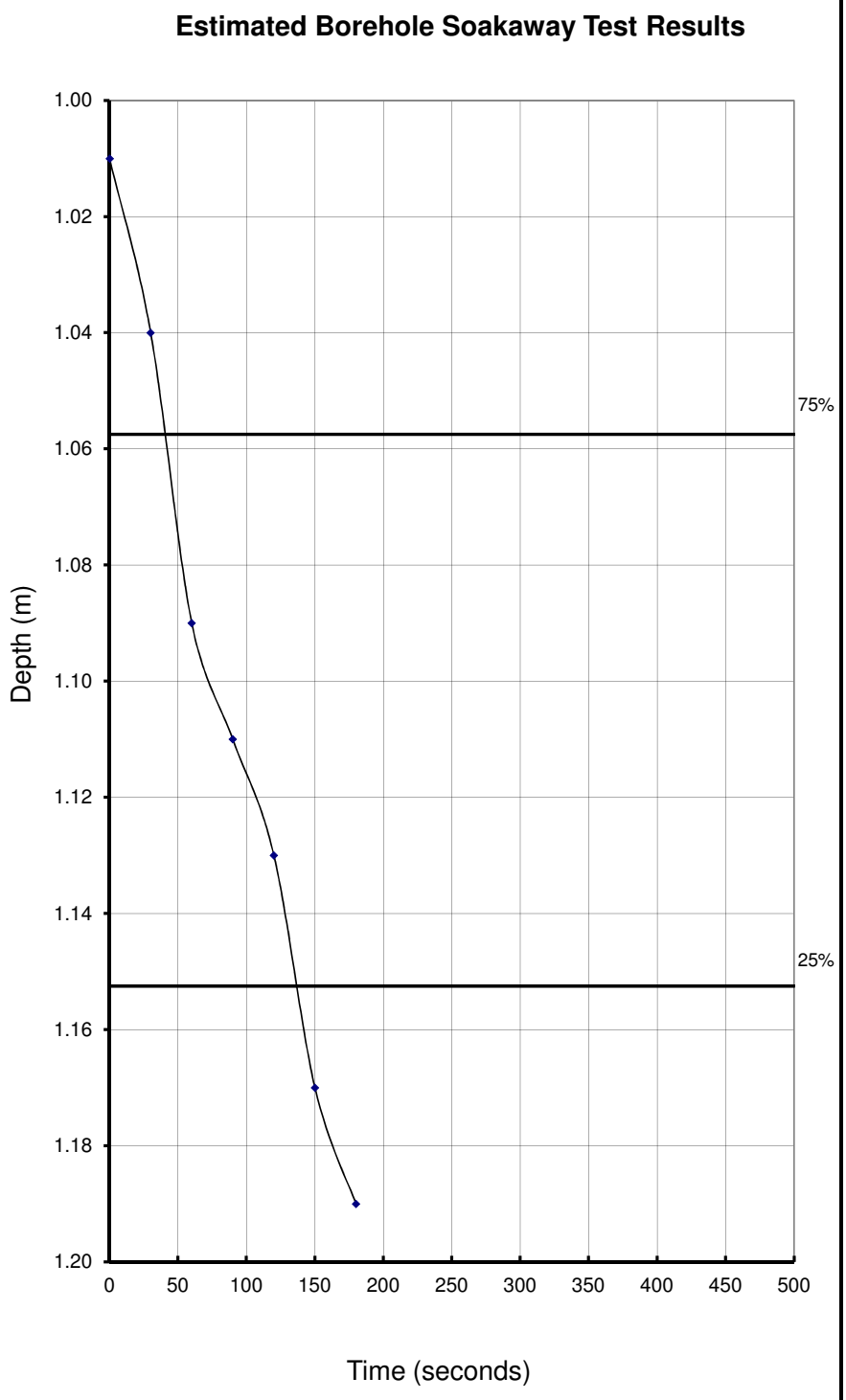
30% porosity assumed for filter

Value to be determined from graph

INDICATIVE BOREHOLE SOAKAWAY TEST

Location	Grange Central St. Martins	**Test No**	1
Client	Grange St. Martins Hotels Ltd	**Internal Borehole Diameter (m)**	0.150
Job Number	TP7	**Water level at start (mbgl)**	1.01
Date	26-Feb-20	**Depth to Base of Test (m)**	1.20
Operator	SA		

Time (Secs)	Water level (mbgl)
0	1.01
30	1.04
60	1.09
90	1.11
120	1.13
150	1.17
180	1.19



Results

Vp 75-25 (m3)	0.000492
ap 50 (m2)	0.062
tp 75-25 (s)	100.00
Infiltration Rate (m/s)	7.88E-05

30% porosity assumed for filter

Value to be determined from graph

APPENDIX F
GROUND GAS MONITORING DATA

IN-SITU WATER MONITORING RESULTS

	Weather	Ground Conditions	Wind Conditions	Air Temperature (°C)	Equipment Used & Remarks
Round 1	-	-	-	-	Dipmeter
Round 2	-	-	-	-	Dipmeter
Round 3	Overcast	Dry	Medium	7	Dipmeter + GA5000
Round 4	Sunny	Dry	Medium	16	Dipmeter + GA5000

Exploratory Position ID	Pipe Ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring	Water Depth (mbgl)	Remarks
TP13	1	32	2 / 1	4.50	4.50	1.00 to 4.50	17/03/2020	3.32	
TP13	1	32	3 / 1	4.50	3.67	1.00 to 4.50	01/04/2020 11:18	3.36	
TP13	1	32	4 / 1	4.50	3.67	1.00 to 4.50	07/04/2020 10:37	3.37	General Remarks: Readings cut short to prioritise samples. Slightly murky becoming clear, no oil, no odour. 48 seconds to fill 40ml vial. Offset = 0.800 m.
TP14	1	32	2 / 1	3.60	3.60	1.00 to 3.60	17/03/2020	3.26	
TP14	1	32	3 / 1	3.60	3.54	1.00 to 3.60	01/04/2020 12:04	3.35	
TP14	1	32	4 / 1	3.60	3.54	1.00 to 3.60	07/04/2020 09:36	3.33	General Remarks: Readings cut short to prioritise samples. Slightly murkey becoming clear, no oil, no odour. 48 seconds to fill 40ml vial. Offset = 0.030 m.
WS2	1	19	1 / 1	2.30	2.30	0.30 to 2.30	10/03/2020	DRY	
WS2	1	19	2 / 1	2.30	2.30	0.30 to 2.30	17/03/2020	DRY	
WS4	1	40	1 / 1	2.50	2.50	0.50 to 2.50	10/03/2020	DRY	
WS4	1	40	2 / 1	2.50	2.50	0.50 to 2.50	17/03/2020	2.46	
WS8	1	19	1 / 1	2.30	2.30	0.30 to 2.30	10/03/2020	DRY	
WS8	1	19	2 / 1	2.30	2.30	0.30 to 2.30	17/03/2020	DRY	

Key: NDA denotes 'no data available'.

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Compiled By	Date	Checked By	Date	Contract Ref:
A. Fyfe	06/05/20			372042

Contract: **Grange Central Saint Martins**

IN-SITU GAS MONITORING RESULTS

	Start Date	End Date	Pressures Previous	Pressures During	Pressures Start	Pressures End	Equipment Used & Remarks
Round 3	01/04/2020	01/04/2020	-	-	-	1022	Dipmeter | GA5000 | Weather: Overcast | Ground: Dry | Wind: Medium | Air Temp: 7°C | Summary: Gas and Water
Round 4	07/04/2020	07/04/2020	-	-	-	1028	Dipmeter | GA5000 | Weather: Sunny | Ground: Dry | Wind: Medium | Air Temp: 16°C | Summary: Gas and Water

Exploratory Position ID	Core run depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	PID (ppm)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
TP13	3.68	01/04/2020 11:18:14	-	1022	$0.0_{(I)}$	3.36	0.1	0.0	20.9	0.1	0	0	
TP13	---	14 secs	-	-	$0.0_{(SS)}$	-	0.1	0.0	21.0	0.1	0	0	
TP13	---	29 secs	-	-	-	-	0.1	0.0	21.0	0.1	0	0	
TP13	---	60 secs	-	-	-	-	0.1	0.0	21.0	0.1	0	0	
TP13	---	91 secs	-	-	-	-	0.1	0.0	21.0	0.1	0	0	
TP13	---	122 secs	-	-	-	-	0.1	0.0	21.0	0.1	0	0	
TP13	---	183 secs	-	-	-	-	0.1	0.0	21.0	0.1	0	0	
TP13	---	243 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	---	303 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	3.68	07/04/2020 09:56:05	-	1028	$0.0_{(I)}$	3.37	0.1	0.0	21.0	0.1	0	0	
TP13	---	15 secs	-	-	$0.0_{(SS)}$	-	0.1	0.0	20.8	0.1	0	0	
TP13	---	30 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	---	61 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	---	92 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	---	122 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	---	182 secs	-	-	-	-	0.0	0.0	20.8	0.1	0	0	
TP13	---	242 secs	-	-	-	-	0.0	0.0	20.7	0.1	0	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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Contract: **Grange Central Saint Martins**

IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Core run depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	PID (ppm)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
TP13	---	302 secs	-	-	-	-	0.0	0.0	20.7	0.1	0	0	
TP14	3.54	01/04/2020 12:04:08	-	1022	$0.0_{(I)}$	3.31	0.1	0.0	20.9	0.1	0	0	
TP14	---	45 secs	-	-	$0.0_{(SS)}$	-	0.1	0.0	21.0	0.1	0	0	
TP14	---	75 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	---	105 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	---	135 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	---	165 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	---	225 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	---	285 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	---	346 secs	-	-	-	-	0.1	0.0	20.9	0.1	0	0	
TP14	3.54	07/04/2020 09:14:42	-	1028	$0.0_{(I)}$	3.33	0.1	0.0	20.8	0.1	0	0	
TP14	---	15 secs	-	-	$0.0_{(SS)}$	-	0.1	0.0	20.8	0.1	0	0	
TP14	---	30 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
TP14	---	60 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
TP14	---	90 secs	-	-	-	-	0.1	0.0	20.7	0.1	0	0	
TP14	---	120 secs	-	-	-	-	0.1	0.0	20.7	0.1	0	0	
TP14	---	180 secs	-	-	-	-	0.1	0.0	20.7	0.1	0	0	
TP14	---	240 secs	-	-	-	-	0.1	0.0	20.7	0.1	0	0	
TP14	---	301 secs	-	-	-	-	0.1	0.0	20.7	0.1	0	0	
WS2	---	01/04/2020	-	-	-	-	-	-	-	-	-	-	
WS2	2.25	07/04/2020 09:44:26	-	1028	$0.0_{(I)}$	DRY	0.1	0.0	21.0	0.4	0	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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A. Fyfe	06/05/20			372042

Contract: **Grange Central Saint Martins**

Page: **2** of **4**

IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Core run depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	PID (ppm)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS2	---	15 secs	-	-	$0.1_{(SS)}$	-	0.1	0.0	21.0	0.4	0	0	
WS2	---	31 secs	-	-	-	-	0.1	0.0	21.0	0.4	0	0	
WS2	---	61 secs	-	-	-	-	0.1	0.0	20.9	0.4	0	0	
WS2	---	92 secs	-	-	-	-	0.1	0.0	20.9	0.4	0	0	
WS2	---	122 secs	-	-	-	-	0.1	0.0	20.9	0.4	0	0	
WS2	---	182 secs	-	-	-	-	0.1	0.0	20.9	0.4	0	0	
WS2	---	242 secs	-	-	-	-	0.1	0.0	20.8	0.4	0	0	
WS2	---	302 secs	-	-	-	-	0.1	0.0	20.8	0.4	0	0	
WS4	2.50	01/04/2020 10:53:28	-	1022	$0.0_{(I)}$	DRY	0.1	0.0	20.8	0.6	0	0	
WS4	---	15 secs	-	-	$0.0_{(SS)}$	-	0.1	0.0	20.8	0.6	0	0	
WS4	---	30 secs	-	-	-	-	0.1	0.0	20.8	0.6	1	0	
WS4	---	61 secs	-	-	-	-	0.1	0.0	20.8	0.6	0	0	
WS4	---	91 secs	-	-	-	-	0.1	0.0	20.7	0.6	0	0	
WS4	---	121 secs	-	-	-	-	0.1	0.0	20.7	0.6	0	0	
WS4	---	181 secs	-	-	-	-	0.1	0.0	20.7	0.6	0	0	
WS4	---	241 secs	-	-	-	-	0.1	0.0	20.7	0.6	0	0	
WS4	---	301 secs	-	-	-	-	0.1	0.0	20.7	0.6	0	0	
WS4	2.50	07/04/2020 09:25:43	-	1028	$0.0_{(I)}$	DRY	0.1	0.0	20.7	0.4	0	0	
WS4	---	15 secs	-	-	$0.1_{(SS)}$	-	0.1	0.0	20.7	0.4	1	0	
WS4	---	31 secs	-	-	-	-	0.1	0.0	20.7	0.4	0	0	
WS4	---	62 secs	-	-	-	-	0.1	0.0	20.7	0.4	0	0	
WS4	---	92 secs	-	-	-	-	0.1	0.0	20.7	0.4	0	0	
WS4	---	123 secs	-	-	-	-	0.1	0.0	20.7	0.4	0	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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Compiled By	Date	Checked By	Date	Contract Ref:
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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Core run depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	PID (ppm)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS4	---	183 secs	-	-	-	-	0.1	0.0	20.7	0.4	0	0	
WS4	---	244 secs	-	-	-	-	0.1	0.0	20.8	0.4	0	0	
WS4	---	304 secs	-	-	-	-	0.1	0.0	20.8	0.4	0	0	
WS8	2.20	01/04/2020 11:32:53	-	1022	$0.0_{(I)}$	DRY	0.1	0.0	20.9	0.1	0	0	
WS8	---	15 secs	-	-	$0.1_{(SS)}$	-	0.1	0.0	20.9	0.1	0	0	
WS8	---	30 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	---	60 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	---	90 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	---	120 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	---	180 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	---	240 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	---	301 secs	-	-	-	-	0.1	0.0	20.8	0.1	0	0	
WS8	2.20	07/04/2020 10:12:49	-	1029	$0.0_{(I)}$	DRY	0.1	0.0	21.0	0.2	0	0	
WS8	---	15 secs	-	-	$0.1_{(SS)}$	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	31 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	60 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	90 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	120 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	181 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	242 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	
WS8	---	302 secs	-	-	-	-	0.1	0.0	21.0	0.2	0	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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Compiled By	Date	Checked By	Date	Contract Ref:
A. Fyfe	06/05/20			372042

Contract: **Grange Central Saint Martins**

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APPENDIX G
LABORATORY CERTIFICATES FOR SOIL AND WATER ANALYSIS

envirolab
Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	20/01781		
Issue Number:	1	Date:	5-Mar-20

Client: RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager:	Andrew Tyler
Project Name:	Grange Central St Martins
Project Ref:	372042
Order No:	N/A
Date Samples Received:	21-Feb-20
Date Instructions Received:	21-Feb-20
Date Analysis Completed:	5-Mar-20

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

Prepared by:

MMarshall

Melanie Marshall
Laboratory Coordinator

Approved by:

IBHaslock

Iain Haslock
Analytical Consultant

envirolab

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	20/01781/1				
Client Sample Number				3		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP3				
Depth to Top				1.5				
Depth to Bottom								
Date Sampled				18/02/2020				
Sample Type				Soil - ES				
Sample Matrix Code				5A				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**8.36**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.55**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.07**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**15.4**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**7.03**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**2.41**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**17**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.049	**0.490**	0.5	2	25
Barium	A-T-025	N	N	0.074	**0.740**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.003	**0.030**	0.5	10	70
Copper	A-T-025	N	N	0.432	**4.320**	2	50	100
Mercury	A-T-025	N	N	0.0132	**0.1320**	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	**<0.01**	0.5	10	30
Nickel	A-T-025	N	N	0.006	**0.060**	0.4	10	40
Lead	A-T-025	N	N	4.358	**43.580**	0.5	10	50
Antimony	A-T-025	N	N	0.005	**0.050**	0.06	0.7	5
Selenium	A-T-025	N	N	0.001	**0.010**	0.1	0.5	7
Zinc	A-T-025	N	N	0.108	**1.080**	4	50	200
Chloride	A-T-026	N	N	15	**152**	800	15000	25000
Fluoride	A-T-026	N	N	0.5	**5.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	34	**335**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	53	**530**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	8.1				
Conductivity (µS/cm)	A-T-037	N	N	106				
Mass Sample (kg)				0.221				
Dry Matter (%)	A-T-044	N	N	79.3				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	20/01781/2				
Client Sample Number				1		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP4				
Depth to Top				0.5				
Depth to Bottom								
Date Sampled				18/02/2020				
Sample Type				Solid				
Sample Matrix Code				7				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**10.18**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.11**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.06**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**2**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**0.15**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**1.68**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**19**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.071**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.015	**0.150**	0.5	2	25
Barium	A-T-025	N	N	0.010	**0.100**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.014	**0.140**	0.5	10	70
Copper	A-T-025	N	N	0.007	**0.070**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	**<0.01**	0.5	10	30
Nickel	A-T-025	N	N	<0.001	**<0.01**	0.4	10	40
Lead	A-T-025	N	N	0.012	**0.120**	0.5	10	50
Antimony	A-T-025	N	N	0.001	**0.010**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.009	**0.090**	4	50	200
Chloride	A-T-026	N	N	2	**18**	800	15000	25000
Fluoride	A-T-026	N	N	0.3	**3.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	10	**97**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	56	**560**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	9.6				
Conductivity (µS/cm)	A-T-037	N	N	112				
Mass Sample (kg)				0.194				
Dry Matter (%)	A-T-044	N	N	90.3				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT
SUPPLEMENT TO TEST REPORT 20/01781/1

Amendments: Request for Additional Analysis

Envirolab Job Number: 20/01781
Issue Number: 2 **Date:** 15 April, 2020

Client:
RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager: Andrew Tyler
Project Name: Grange Central St Martins
Project Ref: 372042
Order No: N/A
Date Samples Received: 21/02/20
Date Instructions Received: 21/02/20
Date Analysis Completed: 15/04/20

Prepared by:

Holly Neary-King
Administration & Client Services Supervisor

Approved by:

Danielle Brierley
Client Manager

Envirolab Job Number: 20/01781

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/01781/1	20/01781/2						Units	Limit of Detection	Method ref
Client Sample No	3	1								
Client Sample ID	TP3	TP4								
Depth to Top	1.50	0.50								
Depth To Bottom										
Date Sampled	18-Feb-20	18-Feb-20								
Sample Type	Soil - ES	Solid								
Sample Matrix Code	5A	7								
% Moisture at <40C$_A$	25.3	8.4						% w/w	0.1	A-T-044
% Stones >10mm$_A$	<0.1	<0.1						% w/w	0.1	A-T-044
Arsenic$_D^{M\#}$	53	12						mg/kg	1	A-T-024s
Cadmium$_D^{M\#}$	<0.5	<0.5						mg/kg	0.5	A-T-024s
Copper$_D^{M\#}$	650	36						mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	18	68						mg/kg	1	A-T-024s
Lead$_D^{M\#}$	4680	225						mg/kg	1	A-T-024s
Mercury$_D$	26.5	0.52						mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	23	49						mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	209	192						mg/kg	5	A-T-024s

Envirolab Job Number: 20/01781

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/01781/1	20/01781/2						Units	Limit of Detection	Method ref
Client Sample No	3	1								
Client Sample ID	TP3	TP4								
Depth to Top	1.50	0.50								
Depth To Bottom										
Date Sampled	18-Feb-20	18-Feb-20								
Sample Type	Soil - ES	Solid								
Sample Matrix Code	5A	7								
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD								A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A								A-T-045

Envirolab Job Number: 20/01781

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/01781/1	20/01781/2						Units	Limit of Detection	Method ref
Client Sample No	3	1								
Client Sample ID	TP3	TP4								
Depth to Top	1.50	0.50								
Depth To Bottom										
Date Sampled	18-Feb-20	18-Feb-20								
Sample Type	Soil - ES	Solid								
Sample Matrix Code	5A	7								
PAH-16MS plus Coronene										
Acenaphthene$_A^{M\#}$	<0.01	<0.01						mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01						mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02						mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	0.10						mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	0.08						mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	0.11						mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	0.08						mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07						mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	0.11						mg/kg	0.06	A-T-019s
Coronene$_A$	0.04	0.03						mg/kg	0.01	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04						mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	0.13						mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01						mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.04	0.07						mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03						mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	0.05						mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	0.10						mg/kg	0.07	A-T-019s
Total PAH-16MS plus Coronene$_A$	0.08	0.86						mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/01781

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/01781/1	20/01781/2						Units	Limit of Detection	Method ref
Client Sample No	3	1								
Client Sample ID	TP3	TP4								
Depth to Top	1.50	0.50								
Depth To Bottom										
Date Sampled	18-Feb-20	18-Feb-20								
Sample Type	Soil - ES	Solid								
Sample Matrix Code	5A	7								
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1						mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C21-C35$_A$	12	3						mg/kg	1	A-T-055s
Total Aliphatics$_A$	12	3						mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Aro >C12-C16$_A$	1	<1						mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	9	<1						mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	129	3						mg/kg	1	A-T-055s
Total Aromatics$_A$	139	3						mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	151	7						mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: RSK Environment Ltd Hemel, 18 Frogmore Road, Hemel Hempstead, Hertfordshire, UK, HP3 9RT

Project: Grange Central St Martins

Clients Project No: 372042

Project No: 20/01781

Date Received: 21/02/2020 (am)

Cool Box Temperatures (°C): 8.3

Lab Sample ID	20/01781/1	20/01781/2
Client Sample No	3	1
Client Sample ID/Depth	TP3 1.50m	TP4 0.50m
Date Sampled	18/02/20	18/02/20
Deviation Code		
F	✓	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	20/01781/1	20/01781/2
Client Sample No	3	1
Client Sample ID/Depth	TP3 1.50m	TP4 0.50m
Date Sampled	18/02/20	18/02/20
PAH (total 17)	✓	✓
EPHCWG	✓	✓
VPHCWG	✓	✓
PAH-16MS plus Coronene	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	20/02615		
Issue Number:	1	Date:	24-Mar-20

Client: RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager:	Andrew Tyler/Sammy Al Hilly
Project Name:	Grange Central, St. Martins
Project Ref:	372042
Order No:	N/A
Date Samples Received:	16-Mar-20
Date Instructions Received:	16-Mar-20
Date Analysis Completed:	24-Mar-20

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

Prepared by:

MMarshall

Melanie Marshall
Laboratory Coordinator

Approved by:

SFrance

Sophie France
Client Service Manager

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	20/02615/1				
Client Sample Number								
Client Sample ID				TP12				
Depth to Top				0.4				
Depth to Bottom								
Date Sampled				27/02/2020				
Sample Type				Solid				
Sample Matrix Code				7				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**9.02**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.13**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.05**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**1.2**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**0.08**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**<0.08**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**<10**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.004	**0.040**	0.5	2	25
Barium	A-T-025	N	N	0.028	**0.280**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.003	**0.030**	0.5	10	70
Copper	A-T-025	N	N	0.007	**0.070**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	**<0.01**	0.5	10	30
Nickel	A-T-025	N	N	0.003	**0.030**	0.4	10	40
Lead	A-T-025	N	N	0.037	**0.370**	0.5	10	50
Antimony	A-T-025	N	N	<0.001	**<0.01**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.074	**0.740**	4	50	200
Chloride	A-T-026	N	N	4	**41**	800	15000	25000
Fluoride	A-T-026	N	N	0.4	**4.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	18	**183**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	27	**270**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	8.7				
Conductivity (µS/cm)	A-T-037	N	N	53				
Mass Sample (kg)				0.179				
Dry Matter (%)	A-T-044	N	N	97.6				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT
SUPPLEMENT TO TEST REPORT 20/02615/1

Amendments: Request for Additional Analysis

Envirolab Job Number: 20/02615
Issue Number: 2 **Date:** 16 April, 2020

Client:
RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager: Andrew Tyler/Sammy Al Hilly
Project Name: Grange Central, St. Martins
Project Ref: 372042
Order No: N/A
Date Samples Received: 16/03/20
Date Instructions Received: 16/03/20
Date Analysis Completed: 16/04/20

Prepared by:

Holly Neary-King
Administration & Client Services Supervisor

Approved by:

Danielle Brierley
Client Manager

Envirolab Job Number: 20/02615

Client Project Name: Grange Central, St. Martins

Client Project Ref: 372042

Lab Sample ID	20/02615/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP12									
Depth to Top	0.40									
Depth To Bottom										
Date Sampled	27-Feb-20									
Sample Type	Solid									
Sample Matrix Code	7									
% Moisture at <40C$_A$	2.2							% w/w	0.1	A-T-044
% Stones >10mm$_A$	<0.1							% w/w	0.1	A-T-044
Arsenic$_D^{M\#}$	5							mg/kg	1	A-T-024s
Cadmium$_D^{M\#}$	<0.5							mg/kg	0.5	A-T-024s
Copper$_D^{M\#}$	8							mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	24							mg/kg	1	A-T-024s
Lead$_D^{M\#}$	15							mg/kg	1	A-T-024s
Mercury$_D$	<0.17							mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	12							mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1							mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	36							mg/kg	5	A-T-024s

Envirolab Job Number: 20/02615

Client Project Name: Grange Central, St. Martins

Client Project Ref: 372042

Lab Sample ID	20/02615/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP12									
Depth to Top	0.40									
Depth To Bottom										
Date Sampled	27-Feb-20									
Sample Type	Solid									
Sample Matrix Code	7									
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD									A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A									A-T-045

Envirolab Job Number: 20/02615

Client Project Name: Grange Central, St. Martins

Client Project Ref: 372042

Lab Sample ID	20/02615/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP12									
Depth to Top	0.40									
Depth To Bottom										
Date Sampled	27-Feb-20									
Sample Type	Solid									
Sample Matrix Code	7									
PAH-16MS plus Coronene										
Acenaphthene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.03							mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.08							mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.05							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.07							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.07							mg/kg	0.06	A-T-019s
Coronene$_A$	<0.01							mg/kg	0.01	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.24							mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.03							mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.16							mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.16							mg/kg	0.07	A-T-019s
Total PAH-16MS plus Coronene$_A$	0.89							mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/02615

Client Project Name: Grange Central, St. Martins

Client Project Ref: 372042

Lab Sample ID	20/02615/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP12									
Depth to Top	0.40									
Depth To Bottom										
Date Sampled	27-Feb-20									
Sample Type	Solid									
Sample Matrix Code	7									
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1							mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Ali >C21-C35$_A$	<1							mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1							mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1							mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1							mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Total Aromatics$_A$	<1							mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	<1							mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: RSK Environment Ltd Hemel, 18 Frogmore Road, Hemel Hempstead, Hertfordshire, UK, HP3 9RT

Project: Grange Central, St. Martins

Clients Project No: 372042

Project No: 20/02615

Date Received: 16/03/2020 (am)

Cool Box Temperatures (°C): 7.9

Lab Sample ID	20/02615/1
Client Sample No	
Client Sample ID/Depth	TP12 0.40m
Date Sampled	27/02/20
Deviation Code	
F	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	20/02615/1
Client Sample No	
Client Sample ID/Depth	TP12 0.40m
Date Sampled	27/02/20
EPHCWG	✓
VPHCWG	✓
PAH-16MS plus Coronene	✓
PAH (total 17)	✓
BTEX (total)	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

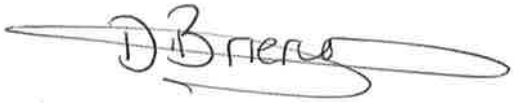
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 20/03264
Issue Number: 1 **Date:** 21 April, 2020

Client: RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager: Andrew Tyler
Project Name: Grange Central St Martins
Project Ref: 372042
Order No: N/A
Date Samples Received: 09/04/20
Date Instructions Received: 09/04/20
Date Analysis Completed: 20/04/20

Prepared by:



Danielle Brierley
Client Manager

Approved by:

John Gustafson
Managing Director

UKAS TESTING
1247

Envirolab Job Number: 20/03264

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/03264/1	20/03264/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP13	TP14								
Depth to Top	4.47	3.56								
Depth To Bottom										
Date Sampled	07-Apr-20	07-Apr-20								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
pH (w)$_A^\#$	7.53	7.43						pH	0.01	A-T-031w
Sulphate (w)$_A^\#$	49	195						mg/l	1	A-T-026w
Arsenic (dissolved)$_A^\#$	<1	<1						µg/l	1	A-T-025w
Cadmium (dissolved)$_A^\#$	<0.2	<0.2						µg/l	0.2	A-T-025w
Copper (dissolved)$_A^\#$	2	4						µg/l	1	A-T-025w
Chromium (dissolved)$_A^\#$	6	6						µg/l	1	A-T-025w
Lead (dissolved)$_A^\#$	<1	<1						µg/l	1	A-T-025w
Mercury (dissolved)$_A^\#$	<0.1	<0.1						µg/l	0.1	A-T-025w
Nickel (dissolved)$_A^\#$	3	4						µg/l	1	A-T-025w
Selenium (dissolved)$_A^\#$	<1	2						µg/l	1	A-T-025w
Zinc (dissolved)$_A^\#$	3	7						µg/l	1	A-T-025w

Envirolab Job Number: 20/03264

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/03264/1	20/03264/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP13	TP14								
Depth to Top	4.47	3.56								
Depth To Bottom										
Date Sampled	07-Apr-20	07-Apr-20								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	0.03	<0.01						µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	0.03	<0.01						µg/l	0.01	A-T-019w

Envirolab Job Number: 20/03264

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/03264/1	20/03264/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP13	TP14								
Depth to Top	4.47	3.56								
Depth To Bottom										
Date Sampled	07-Apr-20	07-Apr-20								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1						µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10						µg/l	10	A-T-006w
Vinyl Chloride$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromomethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Chloroethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Trichlorofluoromethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5						µg/l	5	A-T-006w
Carbon Disulphide$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloroethene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloroethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromochloromethane$_A^\#$	<5	<5						µg/l	5	A-T-006w
Chloroform$_A^\#$	<1	<1						µg/l	1	A-T-006w
2,2-Dichloropropane$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dichloroethane$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloropropene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Benzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Carbon Tetrachloride$_A^\#$	<1	<1						µg/l	1	A-T-006w
Dibromomethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dichloropropane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromodichloromethane$_A^\#$	<10	<10						µg/l	10	A-T-006w
Trichloroethene$_A^\#$	<1	<1						µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^\#$	<1	<1						µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Toluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,3-Dichloropropane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Dibromochloromethane$_A^\#$	<3	<3						µg/l	3	A-T-006w
1,2-Dibromoethane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1						µg/l	1	A-T-006w

Envirolab Job Number: 20/03264

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/03264/1	20/03264/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP13	TP14								
Depth to Top	4.47	3.56								
Depth To Bottom										
Date Sampled	07-Apr-20	07-Apr-20								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
1,1,1,2-Tetrachloroethane$_A$	<1	<1						µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1						µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1						µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3						µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3						µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1						µg/l	1	A-T-006w

Envirolab Job Number: 20/03264

Client Project Name: Grange Central St Martins

Client Project Ref: 372042

Lab Sample ID	20/03264/1	20/03264/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP13	TP14								
Depth to Top	4.47	3.56								
Depth To Bottom										
Date Sampled	07-Apr-20	07-Apr-20								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
TPH CWG (w)										
Ali >C5-C6 (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C5-C7 (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	<5	<5						µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A^{\#}$	<10	<10						µg/l	10	A-T-055w
Total Aromatics (w)$_A$	<10	<10						µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C35) (w)$_A$	<10	<10						µg/l	10	A-T-055w
BTEX - Benzene (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	<1						µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: RSK Environment Ltd Hemel, 18 Frogmore Road, Hemel Hempstead, Hertfordshire, UK, HP3 9RT

Project: Grange Central St Martins

Clients Project No: 372042

Project No: 20/03264

Date Received: 09/04/2020 (am)

Cool Box Temperatures (°C): 10.2

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

APPENDIX H
LABORATORY CERTIFICATES FOR GEOTECHNICAL ANALYSIS

STRUCTURAL SOILS LTD

TEST REPORT

Report No. 584233-01 (00) 1774

Date 19-March-2020 Contract Grange Central St Martins

Client RSK
Address 18 Frogmore Rd
Apsley
Hemel Hempstead
Hertfordshire
HP3 9RT
For the Attention of Sammy Al Hilly

Samples submitted by client	04-March-2020	Client Reference	372042
Testing Started	05-March-2020	Client Order No.	n/a
Testing Completed	18-March-2020	Instruction Type	Written

Tests marked 'Not UKAS Accredited' in this report are not included in the UKAS Accreditation Schedule for our Laboratory.

UKAS Accredited Tests

1.10 Particle Size Distribution wet sieve method BS1377:Part 2:1990,clause 9.2 (superseded)*

* This clause of BS1377 is no longer the most up to date method due to the publication of ISO17892

Please Note: Remaining samples will be retained for a period of one month from today and will then be disposed of .
Test were undertaken on samples 'as received' unless otherwise stated.
Opinions and interpretations expressed in this report are outside the scope of accreditation for this laboratory.

Structural Soils Ltd 18 Frogmore Rd Hemel Hempstead HP3 9RT Tel.01442 416661 e-mail dimitris.xirouchakis@soils.co.uk

TESTING VERIFICATION CERTIFICATE

1774

The test results included in this report are certified as:-

ISSUE STATUS: **FINAL**

In accordance with the Structural Soils Ltd Laboratory Quality Management System, results sheets and summaries of results issued by the laboratory are checked by an approved signatory. The integrity of the test data and results are ensured by control of the computer system employed by the laboratory as part of the Software Verification Program as detailed in the Laboratory Quality Manual.

This testing verification certificate covers all testing compiled on or before the following datetime: **19/03/2020 13:11:27**.

Testing reported after this date is not covered by this Verification Certificate.

Approved Signatory
Sharon Cairns (Laboratory Manager)

(Head Office)
Bristol Laboratory
Unit 1A, Princess Street
Bedminster
Bristol
BS3 4AG

Castleford Laboratory
The Potteries, Pottery Street
Castleford
West Yorkshire
WF10 1NJ

Hemel Laboratory
18 Frogmore Road
Hemel Hempstead
Hertfordshire
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Tonbridge Laboratory
Anerley Court, Half Moon Lane
Hildenborough
Tonbridge
TN11 9HU

STRUCTURAL SOILS LTD	Contract: **Grange Central St Martins**	Job No: **584233**